

West Virginia Department of Transportation

# Workforce Development Report 2014



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# SECTION I: DESIGN OF THE STUDY

## Purpose

The Nick J. Rahall, II Appalachian Transportation Institute (RTI) conducted an initial workforce study for the West Virginia Department of Transportation (WVDOT) in 2007. The purpose of that study was to collect and analyze data concerning the current and projected demographics of the workforce and to recommend strategies which would address critical shortages of workers, reduce turnover and attract the skilled personnel needed by the department to develop a cooperative infrastructure of education.

In 2012, the department of Research and Special Studies, Program Planning and Administration Division published an Evaluation of Salaries of West Virginia Division of Highways (WVDOH), to provide the WVDOT management a detailed description of the WVDOT as it relates to workforce demographics and salaries and to provide recommendations, if necessary, for improvements with those issues.

In 2012, RTI was asked to repeat the 2007 study and report on the state of the current workforce; examine the salaries as compared with contiguous states; examine the retirement trends, education demographics and retention issues. The combination of the three studies over a 7 year time span provide management and planners valuable information on trends and estimates that support policy and budgetary decisions.

## Procedures

Initially, a scope of work was presented to the WVDOT Director of Personnel in 2012. A steering committee of WVDOT representatives was appointed and an initial meeting was held September 7, 2012. The committee recommended that the current study include a brief review of the literature that focused on the effect of the recession and technology trends in transportation [versus the extensive review included in the 2007 study]. RTI was asked to repeat the web-enabled worker survey with some modifications. The 2007 survey questions were designed to test the literature on retirement and retention variables. Several of those questions were deleted from the 2014 study. The committee wanted additional questions on technology use and additional employment.

The survey was submitted to the Marshall University Institutional Research Board (IRB) in accordance with research guidelines to determine if the study could be considered as exempt for the Human Research Protection Program, IRB Research Protocol. The study was ruled to be exempt on March 19, 2014 because the information was to be recorded in such a manner that human subjects could not be identified directly or through identifiers linked to the questions. A major limitation of the study was the open access and lack of identification. The decision was made to allow open access and use statistical levels of significances to control for bias and errors. The survey was field tested by RTI employees and steering committee members.

As in 2007, the survey was web enabled using Select Survey™ software by ClassApps and it was hosted on RTI's servers which ensured the anonymity of the respondents. The survey was field tested with RTI staff and was open to WVDOT personnel from June 6, 2014 to June 30, 2014. Prior to the release RTI presented an overview of the study to district managers to encourage participation. A letter was delivered to every employee and reminder emails were sent each week until the survey closed.

On July 18, 2014, the PI discovered some of the questions were inadvertently omitted. The steering committee was contacted and it was decided to send out a supplemental survey titled "WVDOT Technology Survey". The survey was open from August 1-29, 2014. A copy of the survey instruments may be found in Attachment A.

## Timeline

September 7, 2012	Initial Steering Committee established. Draft scope of work modified.
January 2, 2013	Scope of work submitted to WVDOT
July 2013	Contract awarded
March 7, 2014	Survey questions approved by steering committee
March 19, 2014	IRB approval from Marshall University
June 6-30, 2014	Survey open
August 1-29, 2014	Technology survey open
August 5, 2014	Steering committee reviews survey results

## Steering Committee

**Jeff Black** | Director, Retired May, 2014 Human Resources Division

**Cindy Butler** | Executive Director, WV State Rail Authority

**Keith Chapman** | DOT Business Manager

**Kathleen Dempsey** | Manager of Employment, Human Resources Division

**Perry Keller** | Section Head for Statewide Planning

**Ernie Larzo** | Executive Assistant to the Assistant Commissioner

**Monica Price** | Human Resources Manager, Division of Motor Vehicles

**Alanna Slack** | Section Head Administration/Reporting, Planning and Programming Division

**Donny Williams** | Section Head, Research and Special Studies, Planning Division

## SECTION II: DEMOGRAPHICS OF THE CURRENT WORKFORCE

The workforce demographic data was provided by the WVDOT Information Services Division and reflects the status of the workforce as of October 28, 2013. *Number Rule of 80 Eligible* refers to those employees whose age and years of service, when summed, equal the number 80 or more. *Retirement Eligible in 2014* refers to employees currently eligible to retire either by a strict definition of the Rule of 80 or by the alternate rule of 60 years old and a minimum of 5 years of service. *Retirement Eligible 2014-2018* refers to those employees who will be eligible to retire either by the Rule of 80 or by reaching 60 years old and having 5 years of service at some point between 2014 and 2018.

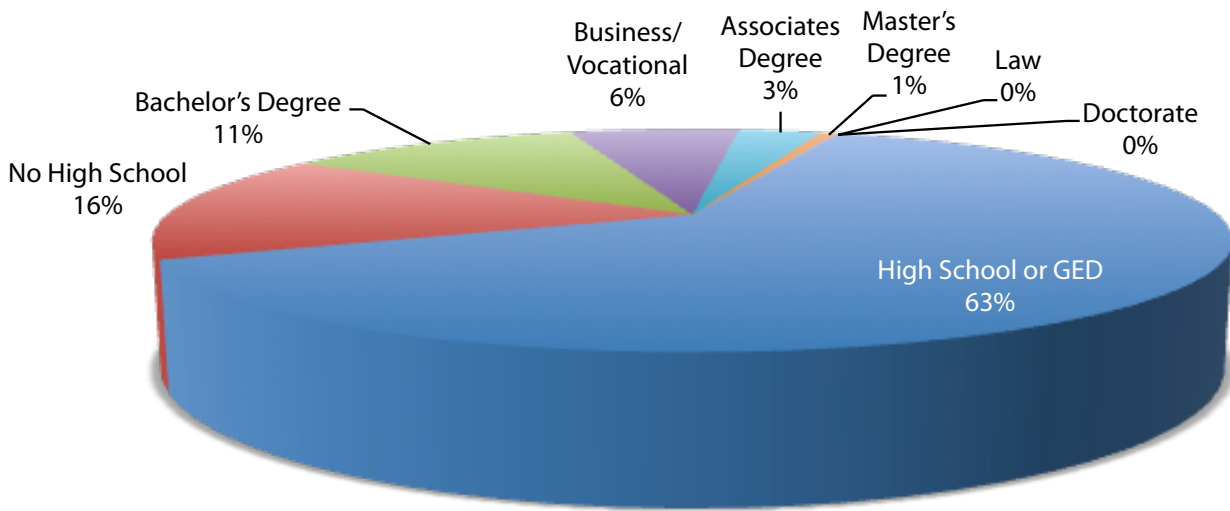
### Key Workforce Demographics

<b>TOTAL NUMBER IN WORKFORCE</b>	<b>5,707</b>
<b>AVERAGE AGE</b>	<b>46.84</b>
<b>AVERAGE YEARS OF SERVICE</b>	<b>11.53</b>
<b>RETIREMENT ELIGIBLE IN 2014</b>	<b>854 (15%)</b>
<b>RETIREMENT ELIGIBLE 2014-2018</b>	<b>1,734 (30%)</b>
<b>WORKERS UNDER THE AGE OF 45</b>	<b>2,318 (40%)</b>
<b>RULE OF 80 ELIGIBLE</b>	<b>635 (11%)</b>
<b>RESPONSES TO SURVEY</b>	<b>2,185 (38%)</b>
<b>GENDER: MALE/FEMALE</b>	<b>4,445/1,262</b>

TABLE 1: Average Years of Service Per Age Group

Age	Average Years of Service
≤ 25	1.3
26-30	3.2
31-35	4.8
36-40	7.2
41-45	9.2
46-50	11.3
51-55	15.8
56-60	17.2
61-65	17.0
66-70	18.2
71-75	16.3
76-80	33.1
81-85	26.5
≥ 86	42.1

**FIGURE 1: Education Demographics**  
(as of October 2013)



Education Level	Count
No High School	818
High School or GED	3,306
Business/Vocational	333
Associates Degree	163
Bachelor's Degree	584
Master's Degree	31
Doctorate	2
Law	4

Education Level	Count
Associate Degree	13
Business/Technical	37
Bachelor's Degree	34
Master's Degree	8
Law	1
College Credits, No Degree	373

The WVDOT database codes individual job duties in such a way that the workers can be organized in a number of different clusters. A cluster consists of various sub classifications (i.e. legal includes lawyer, paralegal, office manager, etc.). Table 4 shows the number of workers in each cluster and the percentage of those workers eligible to retire between 2014-2018. A complete list of the titles by cluster may be found in Attachment B.

<b>TABLE 4: Distribution of Workers Across Job Clusters and Percentage of Retirement Eligible</b>		
<b>Job Cluster</b>	<b>Total Workers</b>	<b>% Eligible to Retire 2014-2018</b>
Acquisition/Purchasing	105	26.67%
Administrative Support	365	21.10%
Community Planning	14	14.29%
Engineering	394	11.68%
Financial	89	22.47%
Information Technology	80	21.25%
Legal	61	16.39%
Physical Sciences	22	18.18%
Program Management	659	19.88%
Real Estate Management	54	20.37%
Safety	106	8.49%
Transportation Industry Analyst	41	4.88%
Transportation Services	3,717	18.97%

### **Trends in WVDOT Demographics 2001-2014**

The data from previous studies in 2007, 2012 and now 2013-14, affords WVDOT an opportunity to identify trends and shifts in the worker demographics. Table 5 WVDOT Employee Demographics 2006-2014 illustrates that the number of employees in the agency is growing and the average age is younger than in previous studies. The data also shows the agency is still supporting a large section of the workforce eligible to retire. There was an increase of 558 employees from 2006-2014, however, the workforce could be reduced by 854 workers today, if those who are eligible decided to retire, bringing the total number of agency employees to 4,853, a number well below the 5,149 workers employed in 2006.

<b>TABLE 5: WVDOT Employee Demographics (2006-2014)</b>			
	<b>2006</b>	<b>2011</b>	<b>2014</b>
Employees	5,149	5,409	5,707
Average Age	48.6	47.2	46.8
≤45 Years	1,753	2,127	2,318
Rule of 80 Eligible	471 (9%)	639 (12%)	635 (11%)
Retirement Eligible	1,390 (27%)	1,136 (21%)	854 (15%)

## **Trend: Did They Retire?**

The 2007 Workforce Development Report showed results from a survey completed by 55 percent of the workforce. The survey aimed to determine the answer to the question, “Just because you are eligible to retire, will you?” Results in 2007:

- I am eligible to retire now (2007) but I will probably stay unless my benefits are threatened.
- I can retire in the next 5 years (2008-2011) and I will probably go.
- I can't retire for a while, but I am dissatisfied and I will probably leave.

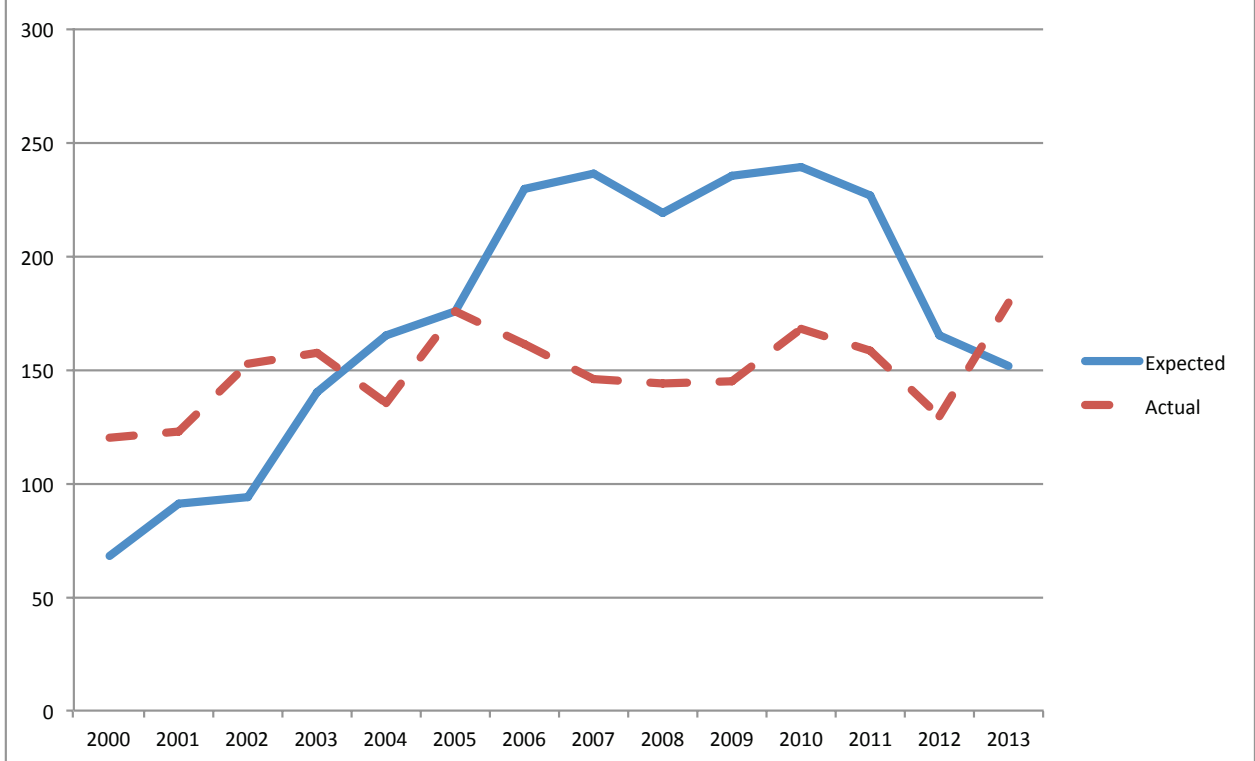
After the report was released the US subprime mortgage financial crisis of 2007-2008 hit (now known as the Great Recession). The Great Recession marked the first time that personal wealth losses exceeded 20 percent over the course of two years, the first time older families had the largest increases in bankruptcy filings, and the first recession with a large number of retirees relying on substantial savings in individual accounts for their retirement incomes (Weller, 2010). At the time, the predictive reliability of the study was hampered because it was not possible to tell who was delaying retirement decisions based on the effects of the financial crisis.

## **Confidence in Retiring**

In a 2012 survey sponsored by the Transamerica Center for Retirement Studies, it was found that the majority of workers (56 percent) expected to work past age 65 or did not plan to retire, including 43 percent who planned to work past age 70 or did not plan to retire. A startling 54 percent of the workers planned to continue working after they retired (Collinson, 2012). In 2007, 59 percent of workers were confident that they would have the ability to retire with a comfortable lifestyle, with only 13 percent being “very confident”. By 2012, this number decreased and slightly over half of workers (51 percent) were confident while only 9 percent considered themselves to be “very confident”. Regardless of economic climate, the long-standing tradition of fully retiring at 65 has changed dramatically.

Retirement confidence wavered for WVDOT employees as the historical retirement data showed that during the financial crisis, the number of WVDOT employees that had reached retirement age and were able to retire (expected retirements) were significantly higher than actual WVDOT retirements. Between 2000-2013, a total of 2,094 WVDOT employees retired. In 2000, sixty-eight WVDOT employees were expected to retire but over 50 percent more (120 employees) decided to actually retire. The pattern of higher actual retirements than expected continued until the year 2006 and into the beginning of the financial crisis. In 2006, 229 employees were expected to retire, however, only one hundred and sixty one (161) employees actually retired. This pattern continued from 2007 through 2009 and while the economy began to improve in 2010, the aftershocks were still felt as many employees who were eligible and expected to retire chose to continue working (Figure 2 and Table 6). In 2013, it appears that some measure of confidence was restored and actual WVDOT retirements exceeded the expected retirements.

**FIGURE 2: Actual vs. Expected Retirements, 2006 Basis**



**TABLE 6: Actual vs. Expected Retirements, 2006 Basis**

Year	Expected	Actual	Difference
2000	68	120	58
2001	91	123	32
2002	94	153	59
2003	140	157	17
2004	165	135	<b>-30</b>
2005	176	176	0
2006	229	161	<b>-68</b>
2007	236	146	<b>-90</b>
2008	219	144	<b>-75</b>
2009	235	145	<b>-90</b>
2010	239	168	<b>-71</b>
2011	227	158	<b>-69</b>
2012	165	129	<b>-36</b>
2013	152	179	27

The research team observed a closer alignment between actual versus expected retirements in 2012 and 2013 after a significant gap in the 2006 to 2011 time period. Additional observations of years will be necessary to determine if 2013 represents a new period of greater actual retirements as compared to the expected figures.

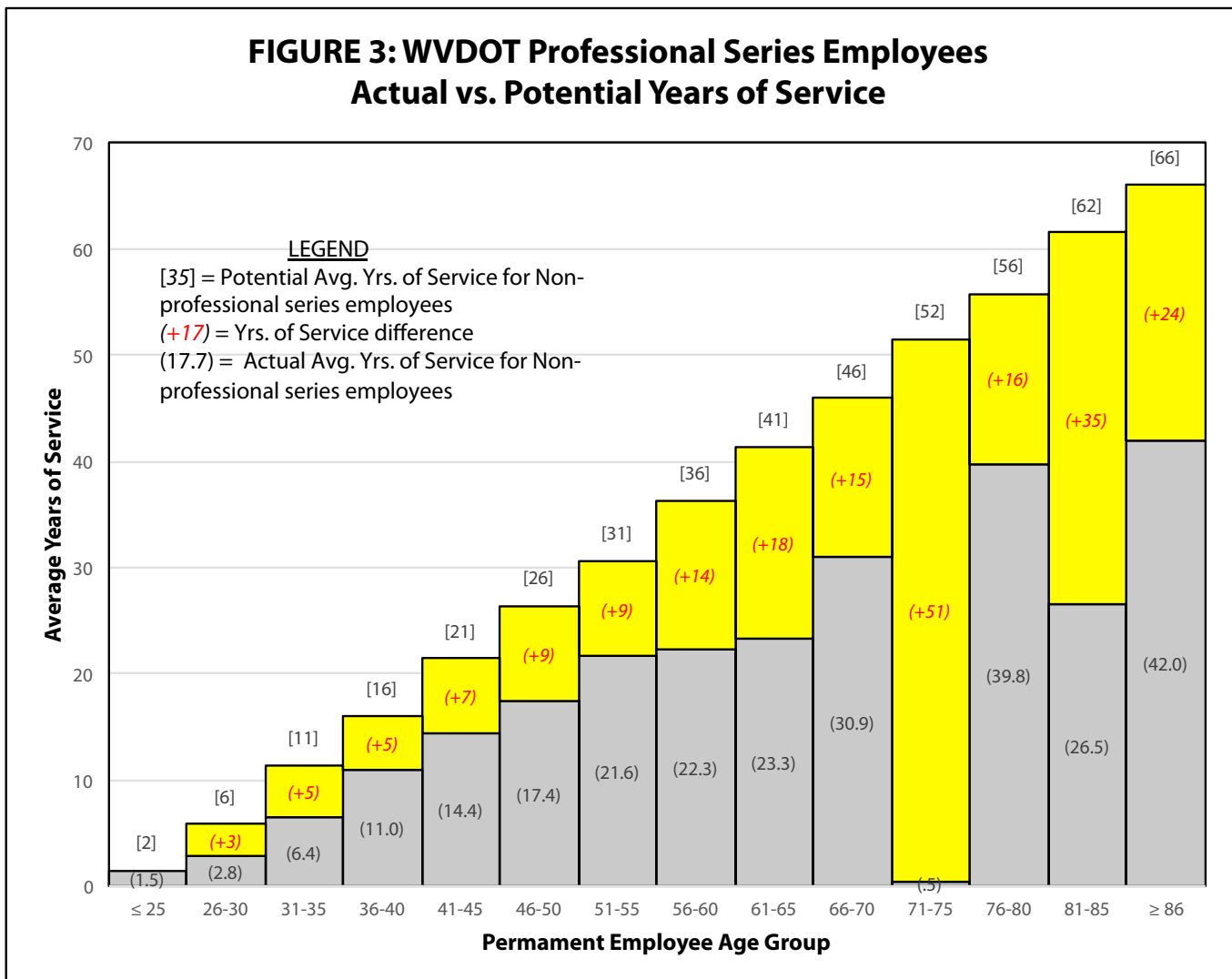
### Trend: Age and Years of Service

The WVDOT employee population is getting younger. Table 7 shows a comparison of employees in 2006, 2011 and 2014. The data illustrates a 22 percent increase of employees under the age of 45 since 2006 while the percentage of workers over 55 has increased more than 18 percent.

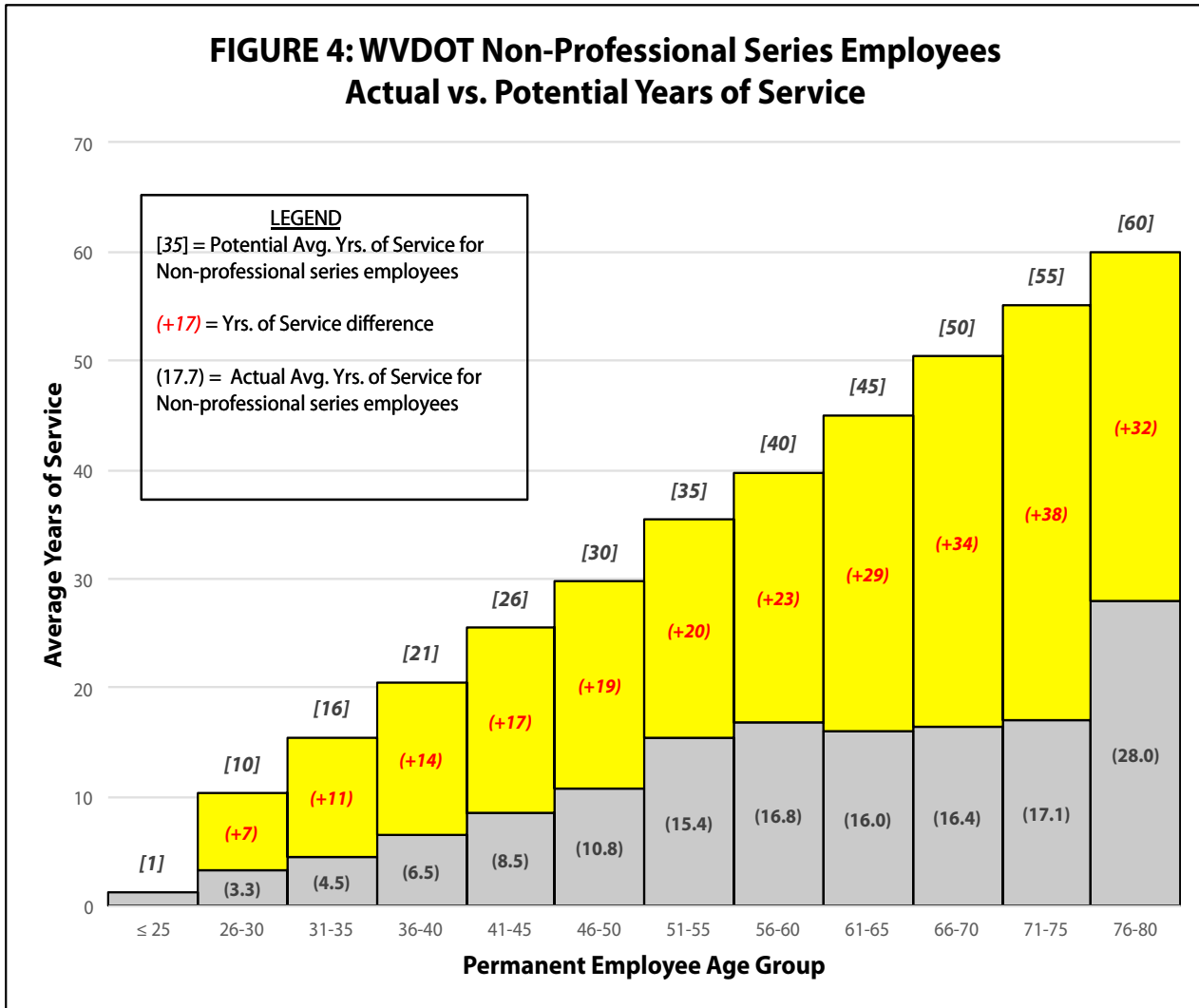
2006		2011			2014			
Employee Age Groups	%	Employee Age Groups	%	Employee Age Groups	%			
≤ 25	82	2%	≤ 25	157	3%	≤ 25	319	6%
26-30	206	4%	26-30	275	5%	26-30	299	5%
31-35	396	8%	31-35	404	7%	31-35	407	7%
36-40	530	10%	36-40	573	11%	36-40	521	9%
41-45	681	13%	41-45	718	13%	41-45	772	14%
46-50	1,009	19%	46-50	971	18%	46-50	921	16%
51-55	1,114	21%	51-55	1,075	20%	51-55	1,070	19%
56-60	805	15%	56-60	816	15%	56-60	878	15%
61-65	282	5%	61-65	322	6%	61-65	398	7%
66-70	65	1%	66-70	66	1%	66-70	89	2%
71-75	16	0%	71-75	23	0%	71-75	22	0%
76-80	11	0%	76-80	6	0%	76-80	7	0%
81-85	1	0%	81-85	2	0%	81-85	2	0%
≥ 86	1	0%	≥ 86	1	0%	≥ 86	2	0%
<45	1,895	36%	<45	2,127	39%	<45	2,318	41%
>55	1,181	23%	>55	1,236	23%	>55	1,398	25%
<b>Total</b>	<b>5,199</b>	<b>100%</b>	<b>Total</b>	<b>5,409</b>	<b>100%</b>	<b>Total</b>	<b>5,707</b>	<b>100%</b>

The 2012 report *Evaluation of Salaries of WVDOT* (WVDOT, 2012) compared the actual institutional experience to the potential institutional experience of the workforce as an indicator of the level of institutional knowledge of WVDOT history, structure, processes, procedures, evolution, etc. Potential institutional experience represented the maximum possible years of WVDOT experience that could have been obtained by an employee if they started with the WVDOT immediately out of high school or college. The comparison showed a difference, or lag, between the potential and actual years of service at WVDOT, i.e., the current workforce worked more years elsewhere than they worked for WVDOT.

Figures 3 and 4 (respectively) graphically illustrate the difference between the actual and potential institutional experience of each age group for “professional series” and “non-professional series” classified employees. Figure 3, illustrating “professional series” employees shows the actual average years of service shown in gray with the corresponding numerical values shown in parenthesis. The chart area illustrating the potential years of service is shown in yellow with the corresponding numerical values shown above the stacked bars. The numerical difference between the actual and potential years of service is annotated in red text within parenthesis.



**FIGURE 4: WVDOT Non-Professional Series Employees  
Actual vs. Potential Years of Service**



Observations from this analysis suggest that:

- For both classifications (professional and non-professional series employees) the actual years of service is less than the potential years of service. In some instances that gap is significant.
- The difference between potential years of service and actual years of service suggest that portions of the current WVDOT workforce have spent fragments of their career outside of WVDOT.
- The analysis of potential versus actual years of service does not allow any inference with respect to related-field experience and should not be used as an indicator of overall expertise. The observation does, however, raise concerns about relevant institutional knowledge.
- Significant gaps, particularly in older cohorts, suggest that those employees may well have joined WVDOT at a later point in their respective careers.
- There is a concern that workers approaching 20 years of service seem to be flat lining with the potential versus actual years of service. This could imply that workers in their prime with departmental history, experience and knowledge, choose to leave and go to work elsewhere.

## Trends: Education

The education profile of the WVDOT has changed little since the 2007 Workforce Development study, although totals by category have changed substantially. Table 8 shows the number of employees with a Master's degree decreased by one-half from 63 employees down to 31. There was an 83 percent increase in people holding an Associate degree and a 24 percent increase of workers holding a Bachelor's degree from 2007 to 2014. It is unclear if this was a result of tenured workers' accomplishments or a higher-level of education in new hires.

<b>Education Attainment</b>	<b>2007</b>	<b>%</b>	<b>2014</b>	<b>%</b>
No High School	674	13%	818	14%
High School or GED	3,455	67%	3,764	66%
Business/Vocational	392	8%	333	6%
Associates Degree	89	2%	163	3%
Bachelor's Degree	470	9%	592	10%
Master's Degree	63	1%	31	0%
Doctorate	0	0%	2	0%
Law	6	0%	4	0%

From 2007 to 2014 there appears to be a shift in focus for those workers reporting "education in progress". Table 9 illustrates the numbers of those workers reporting either Business/Technical or Masters Degrees in progress in 2014 is less than half the figure reporting the same in 2007. Conversely, the research team observed an increase in those workers reporting either Associate Degrees or Bachelor Degrees in progress. How this aligns with the long-term workforce requirements of the WVDOT warrants additional consideration.

<b>Education Attainment</b>	<b>2007</b>	<b>2014</b>
Associate Degree	7	13
Bachelor's Degree	28	37
Business/Technical	72	34
Master's Degree	16	8
Law	0	1
College Credits, No Degree	407	373

There are some disturbing trends that can be found in analyzing education levels and retirement eligibility. First it is possible for 40 percent of the workers with some level of post secondary education can retire in the next four years. Table 10 illustrates education levels and retirement. This is well over 10 percent of the professional series workforce and represents a significant loss of experience and institutional knowledge.

**TABLE 10: Education Level and Retirements**

<b>Education Attainment</b>	<b>Number of Employees</b>	<b>Number Who Can Retire in 2014-2018</b>	<b>Percentage Loss of Population</b>
Less Than High School	818	254	31%
High School or GED	3,764	1,295	34%
Post Secondary / Technical	333	180	54%
Associate's Degree	163	62	38%
Bachelor's Degree	592	205	34%
Master's Degree	31	15	48%
Professional License	6	1	16%

There was a 21 percent increase in the number of workers with less than a high school diploma. Table 8 shows that in 2007, there were 674 employees without a high school diploma or GED. In 2014 that number increased to 818 and the workers were dispersed across all job clusters (Table 11).

**TABLE 11: Percentage of Less than High School by Job Cluster**

<b>Job Cluster</b>	<b>Number in each cluster (2014)</b>	<b>2006</b>	<b>2014</b>
Acquisition/Purchasing	105	5%	14%
Administrative Support	365	7%	10%
Community Planning	14	0%	14%
Engineering	394	1%	3%
Financial	89	3%	7%
Information Technology	80	8%	9%
Legal	61	20%	21%
Physical Sciences	22	6%	5%
Program Management	659	6%	16%
Real Estate Management	54	3%	7%
Safety	106	0%	8%
Transportation Industry Analyst	41	2%	15%
Transportation Worker	3,717	17%	16%
Total Percent of Workforce	-	13%	14%
<b>Total Number of Workers</b>	-	<b>674</b>	<b>818</b>

The number of educated workers who can retire in 2014 when compared with the higher-level of unskilled/uneducated workers warrants additional consideration as to how this trend aligns with the long-term workforce requirements of the WVDOT.

## SECTION III: SURVEY RESULTS

Thirty-eight percent (2,186) of WVDOT employees responded to the online survey. The survey replicated the instrument used in the 2007 study with questions designed to determine retirement intent, career development and retention issues, and job satisfaction. Thirty-four percent of the respondents were female. Females comprise only 23 percent of the total WVDOT workforce. This higher participation rate is attributable to the fact that more females have positions that enable them to have easier access to the electronic format of the survey.

The frequencies of respondents by job groups also support the gender difference. The District Managers were urged to support participation from workers in the field. The transportation workers were 23 percent of the respondents to the survey. This indicates the District Managers provided time and access for the employees to take the survey.

**TABLE 12: Frequency and Percentage of Respondents by Job Group**

	<b>Frequency</b>	<b>Percent</b>
Acquisition/Purchasing	96	4.0%
Administrative Support	586	27.0%
Community Planning	13	0.6%
Engineering	576	26.0%
Financial	108	5.0%
Information Technology	54	2.0%
Legal	52	2.0%
Physical Sciences	13	6.0%
Program Management	72	3.0%
Real Estate Management	34	2.0%
Safety	42	2.0%
Transportation Industry Analyst	27	1.0%
Transportation Worker	513	23.0%

The majority of the survey respondents (66 percent) are not eligible to retire now, or between 2015-2018. The responses to the survey can give WVDOT insight and clues on issues important to the group and help with formulating strategies for recruitment, advancement, and retention. This is important because this is the perception and attitudes of the workforce WVDOT wants to retain.

## Retirement Perceptions Responses

The survey results were grouped into three main categories; 1. those who could retire now (prior to and including 2014); 2. those who could retire 2015-2018 and 3. those who cannot retire until sometime after 2018. The survey asked respondents eight specific questions about factors influencing retirement decisions and asked them to respond to a five point scale with 1 being "Very Likely"; 2 being "Likely"; 3 being "Neutral"; 4 being "Unlikely"; and 5 being "Very Unlikely". The actual means for the responses may be found in the Data Document which accompanies this report.

The workers eligible to retire now expressed similar answers to the survey as did those who responded in the 2007 study.

- Workers who can retire now (2014) are neutral as to whether or not they will retire.
- Workers who are not eligible to retire soon (sometime beyond 2018) are the least satisfied. As in the 2007 study, this supports the theory of job entrapment. Workers who can leave at any time tend to enjoy their job more because they know they can go at any time and turn in their retirement papers. Workers unable to leave due to spouse, location, etc. are often less satisfied.
- Those eligible to retire 2015-18 are the least likely to continue to work for WVDOT and most likely to seek work outside of WVDOT after retirement.
- Working flexible hours and the ability to negotiate job duties and responsibilities may serve as an incentive to get workers to continue to work at WVDOT after retirement. This was consistent between all groups.

Table 13 compares the actual percentage eligible to retire with the respondents "intent" as measured by their response on the survey. For job clusters, see Attachment B.

<b>TABLE 13: Comparison of Actual Percentage Eligible to Retire by Job Cluster to "Intent" Reported on the Survey</b>			
<b>Job Cluster</b>	<b>Total Workers</b>	<b>Percentage Eligible to Retire by Job Cluster 2014-2018 According to WVDOT Data Base</b>	<b>Number/Percentage of Respondents by Job Cluster Indicating They Will Retire 2014-2018*</b>
ACQUISITION/PURCHASING	105	26.67%	96/37.5%
ADMINISTRATIVE SUPPORT	365	21.10%	586/35%
COMMUNITY PLANNING	14	14.29%	13/23%
ENGINEERING	394	11.68%	576/24.7
FINANCIAL	89	22.47%	108/31.5%
INFORMATION TECHNOLOGY	80	21.25%	54/40.7%
LEGAL	61	16.39%	52/26.9
PHYSICAL SCIENCES	22	18.18%	13/15.4%
PROGRAM MANAGEMENT	659	19.88%	72/40.3
REAL ESTATE MANAGEMENT	54	20.37%	34/52.9%
SAFETY	106	8.49%	42/26.2%
TRANSPORTATION INDUSTRY ANALYST	41	4.88%	27/33.3%
TRANSPORTATION SERVICES	3,717	18.97%	513/31.2%

\*Survey respondents self-selected their job cluster.

The Acquisition/Purchasing (37.5 percent), Information Technology (40.7 percent), Program Management (40.3 percent), and Real Estate Management (52.9 percent) groups all have very high rates of planned retirements within the next 4 years. While not quite as high, the Engineering group has a 24.7 percent rate of planned retirement with the next 4 years. There appears to be a significant relationship between job group and the associated retirement plans suggesting a link between the high retirement numbers and professional/non-professional series. These high rates suggest that the WVDOT should take immediate steps to implement succession planning or perhaps provide some incentive to retain these experienced employees beyond 2018.

Table 14 reports the frequency of individuals who say they have another job outside of their employment at WVDOT. The overall rate of holding an additional job outside the WVDOT is 22.1 percent or a bit more than 1 in 5 employees. There is a statistically significant difference between the rates of external employment across the different groups at the WVDOT. For some specific groups, the rate is significantly higher. Specifically, the Acquisition/Purchasing (30.2 percent), Information Technology (27.8 percent), Legal (28.8 percent), Program Management (25.0 percent), and Real Estate Management (32.4 percent) groups all have a very high rate of external employment which may be of concern to WVDOT as succession planning or retention programs are considered.

TABLE 14: Percent of Respondents Who Also Work Outside of WVDOT		
	Frequency	Percent
Acquisition/Purchasing	29	30%
Administrative Support	129	22%
Community Planning	2	15%
Engineering	91	16%
Financial	30	28%
Information Technology	8	15%
Legal	15	29%
Physical Sciences	3	23%
Program Management	18	25%
Real Estate Management	11	32%
Safety	10	23%
Transportation Industry Analyst	7	26%
Transportation Worker	130	25%
Total Responses to Question	1677	22%

## Differences Across Job Groups

There are four variables that show significant differences among the job groups and their plans for and after retirement, 1. the likelihood of retiring in the year eligible; 2. job satisfaction; 3. flex time; and 4. continuing to work for WVDOT after retirement. The first variable is the likelihood of retiring in the year eligible. The responses across the job groups show a trend of a decrease in the likelihood of retiring upon reaching eligibility. Two groups, Physical Sciences and Information Technology are much less likely to retire than the others and one group, Transportation Industry Analysts, avoid the trend entirely and are more likely to retire once reaching eligibility.

## Job Satisfaction Across Job Groups

The second variable of interest is the satisfaction with their current position. The general trend across the respondents is between neutral and satisfied with their current position. There are, however, some groups that are outside this trend. Within the Legal group where those currently eligible for retirement are between satisfied and very satisfied with their jobs. This entire group leans more towards satisfied than many of the others. The next group is the Physical Sciences which lean more towards neutral with the currently eligible to retire reporting between neutral and dissatisfied. The last distinguishing group is the Real Estate Management in which the currently eligible to retire lean towards satisfied much like the general survey population but those further from retirement responded between neutral and dissatisfied.

## Flex Time Across Job Groups

The general response to the question about working flex time is positive with most retirement categories being interested in the opportunity to work flex time. Several groups of currently eligible to retire respondents are more interested in flex time than the others. These groups include Acquisition/Purchasing, Information Technology, Physical Sciences, and Transportation Industry Analysts. Transportation Industry Analysts show a significant difference in response between those eligible to retire and others in that group with non-retirees being much more neutral in their response. Real Estate Management respondents who were further from retirement (2015-2018 and beyond 2018) reported between neutral and uninterested in working flex time.

## Continue Working for WVDOT After Retirement

Most respondents were generally positive about the possibility of continuing work after reaching retirement age with the average responses between likely and neutral. Those eligible to retire in Acquisition/Purchasing, Information Technology, Physical Sciences, and Transportation Industry Analyst were more inclined to continue working after retirement than others. The least interested group were the Transportation Workers who are further from retirement (2015-2018 and beyond 2018) with responses near neutral. As this group reaches retirement eligibility, their responses fall more in line with the survey population.

## Retention Issues - Why Do I Stay?

Respondents were asked to rate variables that were important to their decision to stay at WVDOT on a scale of 1 being "Very Important" to 5 being "Very Unimportant". The respondents in 2014 echoed the responses of those in the 2007 survey. Fair pay, benefits and job security were the most important variables (Table 15).

Retirement Code	2007 Respondent Variable	2014 Respondent Variable
Retire Now	Job Security	Fair pay and benefits
	Fair pay and benefits	Job security
Retire Next Four Years	Fair pay and benefits	Fair pay and benefits
	Job security	Job security
Retire Five Years and Beyond	Job Security	Job Security
	Fair pay and benefits	Fair pay and benefits

What is of least importance? In general, those currently eligible for retirement had the most positive view followed by those with a longer outlook (retiring beyond 2018). This pattern is repeated across several variables including sense of control, exciting/meaningful work, fair pay, and flexible hours. Those who are near to retirement but not yet eligible indicated that cutting edge technology, exciting work, fair pay, family friendly environment, and flexible work hours were not important. Workers who can retire now ranked cutting edge technology and exciting work and challenge as not important. Respondents who can retire 2015-2018 were even less interested in technology, exciting work and challenge.

## Retention Issues - Why Do Others Leave?

Very little has changed since the 2007 study. Pay, benefits, and career growth (lack thereof) are still the reasons others leave. Respondents were asked to identify the variable they believed was the most important issue to others who have left WVDOT (Table 16).

TABLE 16: Why Do Others Leave?		
Retirement Code	2007 Respondent Variable	2014 Respondent Variable
Retire Now	Job Security	Unfair pay and benefits
	Career growth	Career growth
Retire Next Four Years	Unfair pay and benefits	Unfair pay and benefits
	Ineffective management	Career growth
Retire Five Years and Beyond.	Unfair pay and benefits	Unfair pay and benefits
	Career growth	Career growth

Table 17 lists the variables in order of importance of perceptions of workers as to why employees terminated their positions. There was no difference in the rank order of the top 8 variables between retirement groups, suggesting a consistency of opinion across groups.

TABLE 17: Rank Order of Perceptions as to Why Employees Left WVDOT		
Retire Now or 2014	Retire 2015-2018	Retire Beyond 2018
<b>Unfair pay and benefits</b>	<b>Unfair pay and benefits</b>	<b>Unfair pay and benefits</b>
<b>No opportunities for growth</b>	<b>No opportunities for growth</b>	<b>No opportunities for growth</b>
<b>Poor management</b>	<b>Poor management</b>	<b>Poor management</b>
<b>No recognition for work well done</b>	<b>No recognition for work well done</b>	<b>No recognition for work well done</b>
<b>Poor work environment</b>	<b>Poor work environment</b>	<b>Poor work environment</b>
<b>Lack of sense of control</b>	<b>Lack of sense of control</b>	<b>Lack of sense of control</b>
<b>Poor relationship with co-workers</b>	<b>Poor relationship with co-workers</b>	<b>Poor relationship with co-workers</b>
<b>Not being part of a team</b>	<b>Not being part of a team</b>	<b>Not being part of a team</b>
Not family friendly	Not family friendly	No flexibility in work hours
No flexibility in work hours	No flexibility in work hours	Boring work/no challenges
Meaningless work	Boring work/no challenges	Meaningless work
Boring work/no challenges	No use of technology	Not family friendly
No use of technology	Meaningless work	No use of technology
No job security	No job security	No job security
Bad location	Bad location	Bad location

The third question asked respondents which strategies would help to reduce turnover at WVDOT and improve retention. The responses were again, consistent with responses in 2007, suggesting a consistency of opinion across groups (Table 18).

TABLE 18: What Should Be Done to Reduce Turnover?		
Retirement Code	2007 Respondent Variable	2014 Respondent Variable
Retire now or in 2014	Improve pay and benefits	Improve pay and benefits
	Provide recognition	Provide opportunities for growth
Retire 2015-2018	Improve pay and benefits	Improve pay and benefits
	Provide opportunities for growth	Provide opportunities for growth
Beyond 2018	Improve pay and benefits	Improve pay and benefits
	Provide opportunities for growth	Provide opportunities for growth

Table 19 illustrates very little differences between the retirement groups as to which strategies would be the most helpful to reduce turnover.

TABLE 19: Rank Order of Strategies to Reduce Turnover		
RETIRE NOW OR IN 2014	RETIRE 2015-2018	RETIRE BEYOND 2018
<u>Improve pay and benefits</u>	<u>Improve pay and benefits</u>	<u>Improve pay and benefits</u>
<u>Provide opportunities for growth</u>	<u>Provide recognition</u>	<u>Provide opportunities for growth</u>
<u>Provide recognition</u>	<u>Provide opportunities for growth</u>	<u>Improve management skills</u>
<u>Improve management skills</u>	<u>Improve management skills</u>	<u>Provide recognition</u>
<u>Improve work environment</u>	<u>Improve work environment</u>	<u>Improve work environment</u>
Allow flexible work hours	Improve job security	Allow flexible work hours
Make work more challenging and exciting	Increase teamwork and accountability	Allow input in new hire selection
Improve job security	Allow flexible work hours	Increase teamwork and accountability
Increase workers' sense of control	Allow input in new hire selection	Improve job security
Increase teamwork and accountability	Make work more challenging and exciting	Become more family friendly
Provide meaningful work	Increase workers' sense of control	Increase workers' sense of control
Implement cutting edge technology	Become more family friendly	Make work more challenging and exciting
Allow input in new hire selection	Implement cutting edge technology	Implement cutting edge technology
Become more family friendly	Provide meaningful work	Provide meaningful work
Change the location	Change the location	Change the location

## Retaining Workers with 20 Years of Service

WVDOT has described a personnel retention issue in which experienced staff members with approximately 20 years of service leave the department. This is a serious drain of experience and institutional knowledge that this study may be able to document in better detail. To do this, two variables – “search for new job within one year” and “satisfied with current job” – were used as indicators of a respondents intent to look for a new job. The survey population was filtered to respondents with 18 to 22 years of service. Table 20 below shows a cross tabulation of the responses to these two questions.

TABLE 20: Who is Dissatisfied and Likely to Look for a New Job (18-22 Years of Service)								
RTR: Satisfied with Current Position		CAR: Search for a New Job Within Next Year					Total	
		Very Likely	Likely	Neutral	Unlikely	Very Unlikely		
Very Satisfied	Years of Service	18	0		0	3	5	8
		19	2		0	0	3	5
		20	0		2	0	4	6
		21	0		0	1	5	6
		22	2		0	2	1	5
	Total		4		2	6	18	30
Satisfied	Years of Service	18	0	2	6	9	5	22
		19	1	0	2	6	7	16
		20	0	1	3	11	5	20
		21	0	3	4	6	8	21
		22	0	3	3	6	5	17
	Total		1	9	18	38	30	96
Neutral	Years of Service	18	1	2	2	5	2	12
		19	0	5	9	4	3	21
		20	4	4	5	5	2	20
		21	2	3	1	5	1	12
		22	0	2	3	1	0	6
	Total		7	16	20	20	8	71
Dissatisfied	Years of Service	18	1	3	2	3	1	10
		19	0	2	2	3	0	7
		20	1	3	2	1	0	7
		21	2	2	0	3	1	8
		22	1	3	3	3	1	11
	Total		5	13	9	13	3	43
Very Dissatisfied	Years of Service	18	2	1	0			3
		19	3	3	0			6
		20	2	0	0			2
		21	1	1	1			3
		22	1	1	0			2
	Total		9	6	1			16
Total	Years of Service	18	4	8	10	20	13	55
		19	6	10	13	13	13	55
		20	7	8	12	17	11	55
		21	5	9	6	15	15	50
		22	4	9	9	12	7	41
	Total		26	44	50	77	59	256

The shaded areas are the critical zones where respondents were most likely to look for a job but also most dissatisfied with their current position. The two variables were combined geometrically to create an “Intent to Search” synthetic variable and to develop the color legend shown in the table below.

TABLE 21: Legend for Table 20		
Shaded Area is	When (Likely to Search) X (Level of Dissatisfaction) =	Total
Very High Intent to Search	16 to 25	33 (12.9%)
High Intent to Search	12 to 15	33 (12.9%)
Green Neutral to Search	6 to 10	81 (31.6%)
Blue Low Intent to Search	4 to 5	45 (17.6%)
White Very Low Intent to Search	Less than 4	64 (25.0%)

This table shows that over 25.8 percent of respondents with 18 to 22 years of service have a high degree of intent to look for another job within the next year based on their degree of job satisfaction and their likelihood of looking for a new job. Another 31 percent are “neutral” and could either look for another job or not look. The worst case scenario would be over 55 percent of the “Prime” workers could leave.

## Career Growth and Development

Career development questions asked respondents to self-report cross training, movement into new job classifications, college tuition reimbursement, and voluntary participation in training opportunities. The data from the 2014 group reflects the findings of the group responding in 2007. Workers say they value education, training and career growth and that learning and development is important. Workers in 2007 and again in 2014 indicated they see people leave because of the lack of career growth and opportunity. To reduce turnover, the department should provide more opportunities for learning and development.

## Career Questions

There is evidence that individuals are growing within the organization with pay increases, cross-training, and classification changes. Given the concerns about loss of experience and institutional knowledge that occurs when employees retire and leave the department, developing staff through cross-training, college courses, and promoting from within is an important concern. Tables 22-24 below show the frequencies of certain staff career development activities.

<b>Career Activity</b>	<b>2007 Percentage of Respondents</b>	<b>2014 Percentage of Respondents</b>
Pay Grade Increase in Last 3 Years	22.6%	31.5%
Cross Trained in Last 3 Years	28.3%	30.1%
New Job Classification in Last 3 Years	31.7%	31.7%
Some College Courses in Last 3 Years	4.0%	6.6%
WVDOT Training Courses in Last 3 Years	57.0%	56.1%

The number of overall respondents reporting that they have taken some college courses is disappointing especially in light of the self-reported importance of career growth, learning, and development. It should be noted, however, that we also observe slight increases in those respondents reporting 3 or more tuition reimbursable courses over the last three years. Further, the internal WVDOT training courses also appear popular among respondents.

There may be some relationship between some of these career activities and an interesting dichotomy surrounding career growth and opportunity questions from the survey. Specifically, respondents reported that growth and learning were important factors in why they stay with the WVDOT. Younger employees showed a significantly higher level of enthusiasm for growth and career development as might be expected. However, these same groups reported that they considered no opportunity for growth as a reason for why others left. Those eligible for retirement were the most emphatic about the lack of opportunity being a reason people leave.

**TABLE 23: Comparisons of Percentages of Tuition Reimbursable Courses Over the Last 3 Years 2007/2014**

<b>Courses</b>	<b>2007</b>	<b>2014</b>
0	95.9%	89.0%
1-2	2.3%	1.6%
3-4	0.8%	1.4%
4-5	0.3%	0.6%
Over 5	0.7%	0.3%

**TABLE 24: Percentages of WVDOT Voluntary Training Courses 2007/2014**

<b>DOT Training Courses</b>	<b>2007</b>	<b>2014</b>
0	42.4%	40.1%
1-2	21.8%	17.4%
3-4	15.1%	14.1%
4-5	4.7%	5.2%
Over 5	14.2%	19.4%

## Salary Comps

In 2007, RTI researched salaries for specific classifications as compared to our bordering states. The classifications were deemed “mission critical” because of turnover, skill shortages, and/or high unfilled job openings. For the purpose of this study, RTI examined the salary progression from three different data points: 2007, 2010 and 2012. All data was derived from AASHTO Salary Surveys.

Table 25 shows the percentage increase realized over the past 7 years. The classification of E1(1). Transportation Engineer-in-Training has seen the highest growth in salary. This classification requires a Bachelor’s Degree in Engineering with no experience required. The higher salaries increase the chances of recruiting and hiring entry level engineers.

Sixty five percent of the WVDOT workforce falls into the Transportation Services Cluster, represented in Table 25. The Transportation Worker 2, Equipment Operator has realized almost a 13 percent increase in salary. Data was derived from AASHTO 2007, 2010, and 2013 Salary Surveys. The Salary Surveys are prepared to provide job classifications and salary information on positions currently used by the transportation industry. The surveys are to be a tool for human resources administrators and other professionals for the Departments of Transportation (DOTs). Websites for job class specifications, salary information, and a DOT contact list are provided to obtain additional information not part of this survey.

**TABLE 25: Percentage Increase of Average Actual Salaries in WV**

AASHTO CLASS/WV	AVERAGE ACTUAL			Percentage Increase
	2007	2010	2013	
E 2(4) State Highway Engineer	\$90,108	\$92,820	\$108,600	17.0%
G15(1) RW Agent, Senior	\$42,053	\$42,624	\$43,488	3.3%
O3 Customer Service Rep	\$21,331	\$21,474	\$21,709	1.7%
E1(1) HWY Eng In Tr	\$35,200	\$44,873	\$44,581	21.0%
E2(2) HW Engineer	\$67,554	\$74,068	\$75,107	10.1%
M1(1) Tr Worker 2 Equipment Oper	\$21,168	\$24,205	\$24,311	12.9%
M1(3) Tran Crew Supervisor	\$32,184	\$34,078	\$34,034	5.4%
M2(1) Tr Worker 2 Mechanic	\$24,326	\$24,816	\$24,419	0.4%

Table 26 shows the average actual salaries as reported to AASHTO in 2007, 2010 and 2013 and the 2013 border state comparison.

**TABLE 26: WV Average Actual 2007-2013 and Border Comparisons**

AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
E 2(4) State Highway Engineer	\$90,108	\$92,820	\$108,600	\$119,235	\$118,778	\$122,845	\$135,551	\$150,936	\$166,000
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
G15(1) RW Agent, Senior	\$42,053	\$42,624	\$43,488	\$38,183	\$60,463	\$50,854	\$44,384	\$42,998	\$54,061
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
O3 Customer Service Rep	\$21,331	\$21,474	\$21,709		\$41,666	\$45,822		\$39,336	
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
E1(1) HWY Eng In Tr	\$35,200	\$44,873	\$44,581	\$33,865	\$57,433	\$43,253	\$49,932	\$46,470	\$53,200
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
E2(2) HW Engineer	\$67,554	\$74,068	\$75,107	\$74,331	\$96,344	\$95,266	\$104,267	\$96,352	\$96,835
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
M1(1) Tr Worker 2 Equipment Oper	\$21,168	\$24,205	\$24,311	\$22,365	\$31,138	\$33,808	\$31,904	\$20,871	
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
M1(3) Tran Crew Supervisor	\$32,184	\$34,078	\$34,034	\$34,029	\$43,923	\$41,160	\$53,146	\$27,495	\$39,456
AASHTO CLASS/WV	AVERAGE ACTUAL			BORDER STATES AVERAGE ACTUAL 2013					
	2007	2010	2013	KY	MD	OH	PA	TN	VA
M2(1) Tr Worker 2 Mechanic	\$24,326	\$24,816	\$24,419	\$26,656	\$36,079	\$36,236	\$39,521	\$30,040	

For the most part, state and local government workers earn less than their private sector counterparts. Historically, the reduction in the market rate has been countered with the benefits available to state workers. However, as benefits decrease, an analysis of the market rate is needed. States will be unable to attract and retain their employees if the market rate falls too far below the average for comparable jobs. In a study published by the Center for State & Local Government Excellence and the National Institute on Retirement Security, it was found that state and local employees have lower total compensation than their private sector counterparts. On average, total compensation is 6.8 percent lower for state employees and 7.4 percent lower for local workers (Summers, 2010). This is particularly true in West Virginia as there is a 17 percent difference between state employee wages and private sector employees and an overall 19 percent difference in total fringe benefits (Biggs and Richwine, 2014). An American Enterprise Institute (AEI) study also showed that in most states public workers get higher compensation, including benefits that most private sector employees but the salaries lag behind private sector in almost every state. Based on the West Virginia Division of Personnel (WVDOP) schedule of salary grades, minimum salaries are only 61% of market rate and in order to attract/retain employees the total compensation would need to include additional benefits to offset such a low percentage of market. Despite the differences in pay, job security in the public sector is much better.

Education is a major component of pay rates and structure. State government employees with less than a high school diploma receive salaries roughly on par with the private sector but as educational attainment increases, state government salaries fall behind similarly educated individuals working for the private sector. Employees with a bachelor's or above earn salaries 18 to 34 percent lower than those in the private sector. Including benefits, total compensation for less-educated state government employees is 20 percent above private sector levels. Total compensation for employees holding a bachelor's degree is about even with the private sector but professional degree holders such as doctors or lawyers and individuals with doctoral degrees receive total compensation roughly 18 percent below private-sector levels, although unmeasured factors may add to the total compensation (Biggs and Richwine, 2014).

States are realizing that in order to stay competitive in the job market, wage adjustments may be necessary. In 2014, North Carolina announced salary adjustments of over \$7.5 billion to 3,500 employees in order to retain high demand workers. The increases were capped at 10 percent but averaged 4 percent and according to the Governor's office these increases brought salaries to 80 percent of private sector salaries. While \$7.5 million had been set aside in the 2013 budget, total costs exceeded \$8.3 million after factoring in federal funds and other sources used to bring pay closer to market (Frank and Raynor, 2014). Finding the proper balance in pay is key for states as paying a wage lower than the market rate makes it difficult to attract and retain a skilled workforce but paying a wage too high forces unnecessary costs on the taxpayers (Biggs and Richwine, 2014). The average state pays salaries around 12 percent lower than what would be paid by the private sector for similarly skilled and educated workers. The national average varies between states as New Hampshire pays 21 percent below and Connecticut pays 2 percent above market rates (Biggs and Richwine, 2014).

A number of studies have compared market rate by estimating differences in wages between the public sector and private sector by using the Current Population Survey (CPS) for workers with similar traits. The United States Congressional Budget Office (CBO) used this method to compare average hourly wages for private-sector workers who have similar observable traits that affect wages (CBO, 2012). A similar exercise could be performed in West Virginia to determine the extent that wages lag behind the private-sector. The WVDOP currently maintains a schedule of salary grades that compares rates to market (Attachment B), however an analysis of these rates coupled with benefits is preferred to measure the extent total compensation lags. Using measurable and observable factors such as education, occupation, years of service, employer size, geographic location (rural or urban) and demographic information can assist in explaining differences but provide guidance as to where increases should occur and to what extent (CBO, 2012).

## SECTION IV: TECHNOLOGY

Transportation information technology is deployed to maximize safety, mobility and environmental performance. Interest in Intelligent Transportation Systems (ITS) has been growing each year especially with increased traffic congestion, new technologies and communications networks. Some of the growing information technology solutions include but are not limited to the following.

- Wireless communications
- Cell phone triangulation
- Vehicle re-identification
- GPS based methods
- Sensing technologies
- Video vehicle detection
- Vehicle to vehicle communications
- Connect intersection
- Weather responsive traffic management
- Roadway Operations and Maintenance
- Traveler information
- Crash avoidance
- Pavement evaluation technologies
- Embedded data collectors into bridges

As the WVDOT moves into the future, what technology applications will influence the department's core functions and operations and what skill sets will be in demand of the workforce? The technology applications will not only be the technology they deploy to serve the public, but the WVDOT will adopt technology applications to manage the work process of the agencies.

Technology related questions were included in the 2007 survey. During the 2014 study the PI discovered some of the questions were inadvertently omitted. The steering committee was contacted and it was decided to send out a supplemental survey titled "WVDOT Technology Survey" (Attachment C). The survey was open from August 1-29, 2014. While no connection can be generalized between the 5,707 employees who took the initial survey and the 786 employees who also completed the Technology Survey, the data can be compared to results from the 2007 study.

Retirement group responses fell between neutral and important when asked about whether they stayed because of cutting edge technology and also whether others left because of the lack of technology. This suggests that employees see technology use as an important part of their job and a reason to work at the WVDOT. Those nearing retirement (2015-2018) leaned more towards neutral than either younger respondents or those eligible for retirement regarding the use of cutting edge technology. Younger employees reported the strongest concern about others leaving because of the lack of technology.

The data indicates the current WVDOT computer literacy levels are rising. Computer use has increased, more upgrades are being provided, and technology is impacting the way work gets done. The respondents were from the entire WVDOT job groupings as illustrated in Table 27.

**TABLE 27: Technology Survey Percentages of 786 Respondents by Job Group**

<b>Job Grouping</b>	<b>Percentage of Respondents</b>
Administrative Support	30%
Acquisition/Purchasing	4%
Community Planning	1%
Engineering	32%
Financial	4%
Information Technology	3%
Legal	3%
Physical Sciences	1%
Safety	2%
Program Management	3%
Real Estate Management	1%
Transportation Industry Analyst	2%
Transportation Worker	15%

**TABLE 28: Computer Usage**

	<b>2007 Percentage of Respondents</b>	<b>2014 Percentage of Respondents</b>
"I don't use a computer on the job"	33%	1%
"I use a computer over 5 hours a day on the job"	33%	56%

In 2007, one-third of the respondents reported that they never used computers and one third reported they used a computer over five hours a day. In 2014, only one percent of the respondents indicated they never use a computer on the job. Nineteen percent indicated they do not use a computer in their personal life while 65 percent of those surveyed reported they used a computer 1-2 hours a day in their personal life, and 56 percent reported use five or more hours a day (Table 28).

The 2007 study reported that the majority of workers had not utilized new technology in their jobs. The 2014 survey results indicated most of the upgrades were in new and updated software and computer work stations (Table 29).

TABLE 29: New/Upgrade Technologies in the Past Year	
	Percentage of 786 Respondents
Computer work station	21%
Tablet (iPad, Kindle, etc)	4%
Smart Phone (iPhone, Android, etc)	7%
Software, new	21%
Software update	52%
Office equipment (fax, printer, etc)	32%
Other, (cameras, Juno, USV hubs)	10%

Technology has influenced the way we receive and send work related information. Not surprisingly, the workers responded that they are using less paper letters, memos and face to face meetings for communication. Those responding to the technology survey indicated they were using email, the Internet, and text messages more frequently (Table 30).

TABLE 30: Tools for Work Related Communication Percentage of Respondents				
	I do not use for work	I am using more frequently	I am using less frequently	I am using about the same
Email	0.10%	58%	2%	40%
Internet	6%	45%	4%	46%
Texts	50%	25%	6%	19%
Paper letter & memos	7%	11%	41%	41%
Face to face meetings	8%	16%	22%	55%
Webinars	51%	16%	9%	24%
Telephone calls	3%	27%	17%	53%
Conference calls	42%	10%	13%	35%
Virtual/video meetings	69%	6%	7%	18%
Social media	74%	7%	4%	15%

When asked, "If you knew you could have it, what technology, device, application or training would you request to use on the job?" 414 employees out of the 786 responding to the survey entered a response. The workers want tools to help them improve the efficiency of completing the job. A complete list of the responses is contained in the Data Document, but responses can be summarized as a desire for WVDOT to recognize how work gets done today and to equip the workforce with the tools to do so. This includes not only the equipment but also mobile access, WiFi, and policy reforms. Suggestions were made to improve processes, remove obstacles and to update equipment. Specific comments listed below were copied and pasted without editing.

1. The responses indicate that many functions are not performed right at a desk and options and access could be improved with the right tools.

- *Have selected areas within each headquarters for use as a docking station for any individual with a laptop issued by their division for use. The same for a vprt/copier/scanner to increase productivity without having to be setup at each location separately to access these vital components.*
- *Portable laptop with secure wifi to enable me to inspect numerous job sites throughout the work day and still be able to complete information updates and data entry without being chained to a desktop for the majority of my day.*
- *Having an ipad to use for field work as well as getting work emails while out in the field would be very helpful. Being able to load the data forms we use on the ipad fill them out in the field and come back and just print would be great.*

2. The policies governing cell phone access, the use of personal devices to perform WVDOT work were listed frequently. Some examples:

- *When in the field, I sometimes have to use my personal cell/smart-phone. Often the form of communication is texting. I do not pay for that personally and every time I text I am charged for it. Texting is useful, but I don't use it as much as I could. Perhaps would be nice to have office field phones or some type of reimbursable programs for work charges to personal phone*
- *Department of Highways should supply construction employees with cell phones because we are in the field and not always around a phone. We have to use our own for work and do not get reimbursed for it, and we all know we do not make enough money for this to continue.*

3. Internet and social media issue policies are seen as a barrier to efficiency.

- *We work off of a 56K modem, its basically a dinosaur! In this age of technology it is really sad that a state agency has such poor technology. It is a handicap in so many ways! Many of the required trainings are now online and we have to take them at home on our personal computers or spend several days completing in the office. There is no reason for this!*
- *I would like to be able to access my email from my smart phone (personal) as was an option in another state agency. This would help be better connected to the Engineer/District Manager that I work directly for. Also, when given an internet address to visit that pertains to my job directly (and is sometimes a link given on a State site) then being denied access because we are blocked is a hindrance. I understand that some things need to be blocked, but when I get a phone call asking about something on the DOT site (with Facebook for instance) it is not right that I must use my personal smart phone to look up what someone is referring to.*

- *I would recommend the use of Youtube. I work in the environmental dept and there are always videos that are referred to but cannot open.*
- *Internet access for assigned State vehicles. Most of the information used by myself to complete my daily task is transmitted electronically. Having a remote internet access point would prove to be a vital tool to assist in completing my daily task in a more efficient and accurate manner.*

The highest frequency of equipment requests were for tablets and smart phones. Tablets were requested 2:1 ratio over new computer workstations. This reflects the national trend of consumers relying more and more on smart phones and less and less on desk top computers.

Specific software requests were specified, including Adobe, AutoCad, MicroStation, ESRI, Worldox indicating that the workforce knows the specific application they would request given a chance.

Under the topic of training, most of the requests were for Oasis and ERP and general office products. Other training related comments focused on the delivery and access issues.

There were other statistically significant correlations found within the respondents to the technology survey. The job groups represented by the respondents may explain some of the outcomes. The 297 females responding represented Administrative Support and the 488 males were predominately in Engineering.

- Females use the computers on the job more than males but do not appear to have the same access to new computers, software and mobile computing. The exception to this trend is office equipment which would be associated with devices such as printers, scanners, and copiers.
- Males used more text messages on the job than females.
- Men reported more face to face meetings and conference calls.
- There is a correlation between receiving a new smart phone and the use of text messages, webinars, conference calls, virtual/video conferencing, social media and other mobile devices.
- It would appear that smart phones tend to seed and spread new forms of technology use throughout the organization.

The implication for WVDOT lies in their rejection and acceptance of new technologies. If they want to encourage use of video conferencing, on line training, webinars, etc., then restrictive policies, barriers and antiquated devices must be addressed.

# SECTION V: RECOMMENDATIONS

The 2007 study recommended over 20 action items for consideration based on the demographic data analysis and survey responses. 2007 Recommendations may be found in Attachment D. Many of those recommendations are current today. In addition to completed and ongoing efforts related to those recommendations, the 2014 demographic data and survey response analysis suggests WVDOT also consider:

## Retirements

**The data suggests that between 2007-2014, the expected retirements were delayed because of the financial crisis. WVDOT should prepare for 30% of their employees to retire in the next four years.**

*Recommendation: Continue to monitor the Actual Retirements as compared with Expected Retirements to determine if the department can more accurately anticipate impending numbers of retirees.*

**If the expected retirements become actual retirements over the next four years, there will be a significant loss of skills and institutional knowledge. WVDOT needs to maintain a competent and effective workforce through a targeted education and training programs and an employee development program. Not every position is critical; and not every position's function is based on prior history and processes. However, there are some key positions that are critical to the function of the department, not only in the knowledge of "what" they do, but also, "how" they do it and the relationships and dependencies on other positions.**

*Recommendation: Implement a succession planning process to capture key knowledge of mission critical positions (those which require a longer on-the-job-training (OJT) component than other positions).*

*Recommendation: Revise personnel policies to allow for transitional retirements to promote the transfer of knowledge to succeeding positions. Explore options such as flex time, seasonal work, alternative job duties, posting of positions prior to leaving, etc.*

## Wage and Salary

**Based on the WVDOP schedule of salary grades, minimum salaries are only 61% of market rate and in order to attract/retain employees the total compensation would need to include additional benefits to offset such a low percentage of market.**

*Recommendation: Conduct additional research to expand upon existing market rate analysis efforts by the WVDOP to develop an understanding of how total compensation (wages and benefits) compares among similar positions in private firms as well as other state DOTs. This analysis may lead to further insight into WVDOT employee attraction and retention patterns.*

## Recruitment and Retention

**There is a lack of incentive for workers to stay at WVDOT after they reach 20 years of service. These mature, tenured workers have institutional knowledge and demonstrated skills. The data base shows they don't stay. Twenty-six percent of the survey respondents indicated they are not happy and are intending to look for a new job. Another 31 percent are neutral setting up a worst case scenario whereby 55 percent of the "Prime" workers could leave.**

*Recommendation: Establish a task force to explore and recommend strategies to incentivize and retain workers who reach the level of 20 years of service. This task force could also lead the implementation of other accepted recommendations from this study.*

**Tuition reimbursement policies do not foster the development and retention of the workforce. Tuition reimbursement for graduate study which result in no salary increases represents a disincentive for the employee to become better educated, or creates an incentive to seek higher wages from outside agencies. Requiring tuition reimbursement to be limited to current positions does not allow for promotion and growth into new positions.**

*Recommendation: Implement a "Grow Your Own" program and implement policies and procedures to use tuition reimbursement dollars to target the development of tenured workers in key positions.*

*Recommendation: Establish an internal process to identify future skills and abilities which will be necessary and enable staff to identify untapped talent who could be targeted for development.*

**The perception of the workforce has not changed since 2007. Unfair pay and benefits as well as a perceived lack of opportunity for growth are major retention issues. Respondents also indicated "poor management" as the third most frequent retention issue.**

*Recommendation: Conduct further research to determine more specifically the operational definition of "poor management" and develop and implement a supervisory training program to improve skills of supervisors. This could be addressed by the Task Force.*

**"Opportunities for growth and development" is an important factor for retention, but a very small percentage of workers reported training outside of what WVDOT provides. Thirty percent indicated they had received cross training in the last 3 years.**

*Recommendation: In addition to job performance related supervisory training, develop and promote a Train the Trainer course to improve the management and delivery of on the job training skills management.*

## **Education**

**There has been a 21% increase in the number of workers with less than a high school diploma since 2007.**

*Recommendation: Engage WV Department of Adult and Technical Education to assist in developing a program to assist workers in obtaining a General Equivalent Diploma (GED).*

*Recommendation: Provide incentives for workers to obtain a GED within a reasonable time frame.*

**In addition to an increase in the number of workers with less than a high school diploma, it is possible for 40 percent of the workers with some level of post-secondary education to retire between 2014-2018.**

*Recommendation: Take advantage of the statewide disbursement of WVDOT operations and establish internships, partnerships, and/or part time employment etc., with career and technical centers and community colleges so as to provide a source of qualified employees with a minimum of a high school diploma.*

*Recommendation: Review industry recognized credentials which are aligned with WVDOT workforce needs and promote their delivery through career and technical education centers and community and technical colleges. Determine which credentials will result in pay grade improvements and target tuition reimbursement funds for employees seeking those credentials.*

**The personnel database is unreliable. It appears that employee demographics, education status, etc. are entered into the system upon employment and possibly not be upgraded ever again. No database upgrades have been implemented since the 2007 study. The education levels could be much higher than reported.**

*Recommendation: Initiate updates to track education in progress, certification, and/or degree attainment.*

*Recommendation: Conduct demographic analysis every two years to identify trends in critical shortages, retirement eligibility, turnover, and education levels.*

## **Technology**

**The data indicates the computer usage and computer literacy rates are higher than in 2007 and technology is impacting the way work gets done. However, there is no clear strategy in place to integrate specific technology throughout the department. Existing policies are barriers to efficiency, and there is disparity between employees who are provided devices and those that use their own for the purpose of work related actions.**

*Recommendation: Develop a Technology Strategic Plan which would:*

- *Identify obsolete policies and procedures related to technology selection, allocation, and access to Internet and other social media applications.*
- *Recommend new policies to address IT governance to enable employees to utilize technology and applications which would improve their efficiency.*
- *Identify which/what type of technology will bring value to the department.*
- *Establish a flexible technology roadmap that lays out the timing of the strategy implementation as well as “who should have what, when”.*

# SECTION VI: ATTACHMENTS

## Attachment A: Survey Questions

### INTRODUCTION

Thank you for participating in the WVDOT worker survey conducted by the Nick J. Rahall II Transportation Institute (RTI). **PLEASE NOTE, YOU MUST COMPLETE THE SURVEY BEFORE YOUR RESULTS ARE SAVED.**

**PURPOSE:** Over the next 5 years, 30% of the WVDOT will be eligible to retire. The shortage of workers in the very near future is a critical issue which must be addressed. This study will gather data on the likelihood of retirement, and employees' perception of issues with recruiting and retaining workers. The data will be used by the WVDOT to help plan for the next 5-10 years.

**CONFIDENTIALITY:** Your responses are confidential. You are not identified as an individual. WVDOT will not have access to individual responses, nor will they be given individual responses.

**RESULTS:** RTI will provide WVDOT with the results of the survey in the form of statistics, charts, graphs and written reports. All reports will be available on the RTI website for the public.

**DIRECTIONS:** You will be asked your opinion on questions. Please pick the one best answer YOU believe to be the best. When you reach the bottom of the page, click on the "Next" button until you reach the end of the survey. Red asterisks next to a question means that it requires an answer before you will be allowed to progress to the next page.

### Background

1. Select the job group that best describes your job. \*

- Administrative Support
- Acquisition/Purchasing
- Community Planning
- Engineering
- Financial
- Information Technology
- Legal
- Physical Sciences
- Safety
- Program Management

- Real Estate Management
- Transportation Industry Analyst
- Transportation Worker

2. What is your age? \*

3. Years of WV State Service \*

4. Employment Status \*

- Full Time
- Part Time

5. Do you work another job in addition to your employment with WVDOT?

- Yes  No

6. What is your highest level of education? Pick one. \*

- Less than High School Diploma
- High School Diploma
- Post Secondary Career and Technical Certificate or Credential
- Associate's Degree
- Bachelor's Degree
- Professional License
- Master's Degree
- Doctorate
- Other, please specify

7. Gender: \*

- Male
- Female

## Retirement

The next questions focus on your decisions when you are eligible to retire.

8. Please specify the year you will be eligible to retire: \*

- I am eligible to retire
- 2014
- 2015
- 2016
- 2017
- 2018
- Beyond 2018

9. In the year you are eligible to retire, how likely are you to retire? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

10. How satisfied are you in your current position? \*

- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

11. How likely are you to seek employment (other than WVDOT) after your retirement? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

12. How likely are you to work at WVDOT after your retirement? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

13. If you were allowed to work flexible hours after you were eligible to retire, how likely is it that you would continue to work for WVDOT?\*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

14. How likely would you continue to work for the WVDOT after your retirement eligible date, if you were permitted to negotiate your job duties and responsibilities? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

15. How likely will your health affect your decision to retire or not when you are first eligible? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

16. How likely will your financial situation affect your decision to retire or not when you are first eligible? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

Career Development (Part 1)

The career development series of questions focuses on your experiences as an employee at WVDOT.

17. In the next year, how likely are you to search for a new job and leave WVDOT?\*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

18. How likely is it that you will request a transfer to another area in the state? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

19. If your position was available as permanent, part time (prorated pay and benefits) how likely would it be for you to accept? \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

20. Have you moved up in a pay grade over the last 3 years? \*

- Yes  No

21. Have you been cross trained for another position in the last 3 years? \*

- Yes  No

22. Have you moved into a new job classification over the last 3 years? \*

- Yes  No

23. Over the past 3 years how many college courses has the WVDOT reimbursed you for your tuition? \*

- 0
- 1-2
- 3-4
- 4-5

- More than 5

24. Over the past 3 years how many WVDOT training courses (not required) have you taken? \*

- 0
- 1-2
- 3-4
- 4-5
- More than 5

#### Retention: Why Do You Stay?

How important to YOU are the following work conditions as they relate to the reasons you stay employed by WVDOT?

25. A sense of control over my work \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

26. Being part of a team \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

27. Career growth, learning and development \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

28. Cutting edge technology \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

29. Exciting work and challenge \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

30. Fair pay and benefits \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

31. Family friendly \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

32. Flexibility in work hours \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

33. Effective management \*

- Very Important
- Important
- Neutral

- Unimportant
- Very Unimportant

34. Great co-workers \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

35. Great work environment \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

36. Job security \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

37. Location \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

38. Meaningful work \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

39. Recognition for work well done \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

Retention: Why Do Others Leave?

Consider the employees you have known who have quit WVDOT. How important were the following work conditions in their decisions to leave?

40. Lack of a sense of control over their work \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

41. Not being part of a team \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

42. No opportunities for career growth, learning and development \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

43. No use of technology \*

- Very Important
- Important

- Neutral
- Unimportant
- Very Unimportant

44. Boring work/No challenges \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

45. Unfair pay and benefits \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

46. Not family friendly \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

47. No flexibility in work hours \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

48. Poor management \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

49. Poor relationship with co-workers \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

50. Poor work environment \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

51. No job security \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

52. Bad location \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

53. Meaningless work \*

- Very Important
- Important
- Neutral
- Unimportant
- Very Unimportant

54. No recognition for work well done \*

- Very Important
- Important
- Neutral

- Unimportant
- Very Unimportant

### Reducing Turnover

If improvements in the following working conditions were made, how likely do you think it would help reduce turnover?

55. Increase workers' sense of control over work \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

56. Increase team work and team accountability \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

57. Provide more opportunities for career growth, learning and development \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

58. Implement the use of cutting edge technology \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

59. Make work more exciting and challenging \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

60. Improve pay and benefits \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

61. Become more family friendly \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

62. Allow flexibility in work hours \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

63. Improve management skills \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

64. Allow input in new hire selection \*

- Very Likely
- Likely

- Neutral
- Unlikely
- Very Unlikely

65. Improve work environment \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

66. Improve job security \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

67. Change the location \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

68. Provide meaningful work \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

69. Provide recognition for work well done \*

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

## Attachment B: Job Clusters, Descriptions and Wage Codes

Job Cluster	Description	Wage Code	Count	Total in Cluster
ACQUISITION/PURCHASING	HWYSTKP HIGHWAY STOREKEEPER	9804	13	
ACQUISITION/PURCHASING	PURCHAS PURCHASING ASSISTANT	9130	1	
ACQUISITION/PURCHASING	STKPR1 STOREKEEPER 1	9800	2	
ACQUISITION/PURCHASING	STKPR2 STOREKEEPER 2	9801	13	
ACQUISITION/PURCHASING	STKPR3 STOREKEEPER 3	9803	74	
ACQUISITION/PURCHASING	WV HWYSTKP HIGHWAY STOREKEEPER	9804	1	
ACQUISITION/PURCHASING	WV STKPR3 STOREKEEPER 3	9803	1	<b>105</b>
ADMINISTRATIVE SUPPORT	ADSEC ADMINISTRATIVE SECRETARY	9020	34	
ADMINISTRATIVE SUPPORT	BLDMM BUILDING MAINTENANCE MECHANIC	9721	1	
ADMINISTRATIVE SUPPORT	BLDS1 BUILDING MAINTENANCE SUPERV.	9725	4	
ADMINISTRATIVE SUPPORT	BLDS2 BUILDING MAINTENANCE SUPERV.	9726	4	
ADMINISTRATIVE SUPPORT	CUST CUSTODIAN	9710	4	
ADMINISTRATIVE SUPPORT	DEO2 DUPLICATING EQUIPMENT OPER. 2	9811	2	
ADMINISTRATIVE SUPPORT	DRVR1 DRIVER 1	9805	4	
ADMINISTRATIVE SUPPORT	DRVR2 DRIVER 2	9806	1	
ADMINISTRATIVE SUPPORT	EXECAST EXECUTIVE ASSISTANT	9415	5	
ADMINISTRATIVE SUPPORT	EXECSEC EXECUTIVE SECRETARY	9030	6	
ADMINISTRATIVE SUPPORT	MAILPO1 MAIL PROCESSING OPERATOR 1	8299	3	
ADMINISTRATIVE SUPPORT	MAILRUN MAILRUNNER	9000	5	
ADMINISTRATIVE SUPPORT	NURSE4 NURSE 4	9608	1	
ADMINISTRATIVE SUPPORT	OFASST1 OFFICE ASSISTANT 1	9005	26	
ADMINISTRATIVE SUPPORT	OFASST2 OFFICE ASSISTANT 2	9006	46	

ADMINISTRATIVE SUPPORT	OFASST3 OFFICE ASSISTANT 3	9007	144	
ADMINISTRATIVE SUPPORT	PHOTO2 PHOTOGRAPHER 2	9839	1	
ADMINISTRATIVE SUPPORT	PRVSU3 PRINTING SERVICES SUPERVISOR	9832	1	
ADMINISTRATIVE SUPPORT	SEC1 SECRETARY 1	9015	6	
ADMINISTRATIVE SUPPORT	SEC2 SECRETARY 2	9016	57	
ADMINISTRATIVE SUPPORT	TELEOPR TELEPHONE OPERATOR	9004	2	
ADMINISTRATIVE SUPPORT	WV BLDS1 BUILDING MAINTENANCE SUPERV.	9725	1	
ADMINISTRATIVE SUPPORT	WV BLDS2 BUILDING MAINTENANCE SUPERV.	9726	1	
ADMINISTRATIVE SUPPORT	WV EXECSEC EXECUTIVE SECRETARY	9030	1	
ADMINISTRATIVE SUPPORT	WV OFASST3 OFFICE ASSISTANT 3	9007	2	
ADMINISTRATIVE SUPPORT	WV SEC2 SECRETARY 2	9016	3	<b>365</b>
COMMUNITY PLANNING	CDSPEC1 COMMUNITY DEVELOPMENT SPEC 1	8671	2	
COMMUNITY PLANNING	CDSPEC2 COMMUNITY DEVELOPMENT SPEC 2	8672	5	
COMMUNITY PLANNING	CDSPEC3 COMMUNITY DEVELOPMENT SPEC 3	8673	4	
COMMUNITY PLANNING	LDSCAR LANDSCAPE ARCHITECT	8637	1	
COMMUNITY PLANNING	STRHIST STRUCTURAL HISTORIAN	9542	2	<b>14</b>
ENGINEERING	ENGTRNE ENGINEER TRAINEE	8225	1	
ENGINEERING	GISMGR1 GEOG INF SYS MGR 1	8612	1	
ENGINEERING	GISMGR2 GEOG INF SYS MGR 2	8600	1	
ENGINEERING	GISPAN1 GIS PROGRAMMER ANALYST 1	8606	8	
ENGINEERING	GISPAN2 GIS PROGRAMMER ANALYST 2	8609	1	
ENGINEERING	GISPAN3 GIS PROGRAMMER ANALYST 3	8610	1	
ENGINEERING	GISTECH GEOG INFO SYS TECH	8603	3	
ENGINEERING	HWENGAS HIGHWAY ENGINEER ASSOCIATE	8221	81	
ENGINEERING	HWENGCF HIGHWAY ENGINEER CHIEF	8224	3	
ENGINEERING	HWENGNR HIGHWAY ENGINEER	8222	63	
ENGINEERING	HWENGSR HIGHWAY ENGINEER SENIOR	8223	3	

ENGINEERING	HWENGTR HIGHWAY ENGINEER TRAINEE	8220	113	
ENGINEERING	HWYCOT1 HWY CO-OP TECHNICIAN I	8040	16	
ENGINEERING	KY HWENGR HIGHWAY ENGINEER	8222	1	
ENGINEERING	MD HWENGR HIGHWAY ENGINEER	8222	1	
ENGINEERING	NC HWENGR HIGHWAY ENGINEER	8222	1	
ENGINEERING	OH HWENGAS HIGHWAY ENGINEER ASSOCIATE	8221	2	
ENGINEERING	OH HWENGR HIGHWAY ENGINEER	8222	2	
ENGINEERING	PA HWENGR HIGHWAY ENGINEER	8222	2	
ENGINEERING	PN HWENGR HIGHWAY ENGINEER	8222	1	
ENGINEERING	WV HWENGAS HIGHWAY ENGINEER ASSOCIATE	8221	23	
ENGINEERING	WV HWENGCF HIGHWAY ENGINEER CHIEF	8224	1	
ENGINEERING	WV HWENGR HIGHWAY ENGINEER	8222	55	
ENGINEERING	WV HWENGR HIGHWAY ENGINEER SENIOR	8223	3	
ENGINEERING	WV HWENGTR HIGHWAY ENGINEER TRAINEE	8220	6	
ENGINEERING	WV STATEHE STATE HIGHWAY ENGINEER	9898	1	<b>394</b>
FINANCIAL	ACCAUD1 ACCOUNTANT/AUDITOR 1	9205	1	
FINANCIAL	ACCAUD2 ACCOUNTANT/AUDITOR 2	9206	14	
FINANCIAL	ACCAUD3 ACCOUNTANT/AUDITOR 3	9207	2	
FINANCIAL	ACCAUD4 ACCOUNTANT/AUDITOR 4	9208	5	
FINANCIAL	ACCAUDS ACCOUNTANT/AUDITOR SUPERVISOR	9210	1	
FINANCIAL	ACCTEC2 ACCOUNTING TECHNICIAN 2	9201	9	
FINANCIAL	ACCTEC3 ACCOUNTING TECHNICIAN 3	9202	24	
FINANCIAL	ACCTEC4 ACCOUNTING TECHNICIAN 4	9203	16	
FINANCIAL	BUDANA1 BUDGET ANALYST 1	9115	1	
FINANCIAL	COMPTRL COMPTROLLER	9119	10	
FINANCIAL	FRSPEC1 FINANCIAL REPORTING SPEC 1	9170	3	
FINANCIAL	FRSPEC2 FINANCIAL REPORTING SPEC 2	9171	1	

FINANCIAL	WV ACCTEC4 ACCOUNTING TECHNICIAN 4	9203	1	
FINANCIAL	WV COMPTRL COMPTROLLER	9119	1	<b>89</b>
INFORMATION TECHNOLOGY	DEOPTR2 DATA ENTRY OPERATOR II	8291	18	
INFORMATION TECHNOLOGY	DESUPV DATA ENTRY SUPERVISOR	8293	1	
INFORMATION TECHNOLOGY	GRAPHDS GRAPHIC DESIGNER	9828	1	
INFORMATION TECHNOLOGY	IMAGOP1 IMAGING OPERATOR 1	8278	14	
INFORMATION TECHNOLOGY	IMAGOP2 IMAGING OPERATOR 2	8281	3	
INFORMATION TECHNOLOGY	ISASST INFORMATION SYS ASSISTANT	8308	2	
INFORMATION TECHNOLOGY	ISMGR1 INFORMATION SYS MANAGER 1	8313	3	
INFORMATION TECHNOLOGY	ISMGR3 INFORMATION SYS MANAGER 3	8315	1	
INFORMATION TECHNOLOGY	ISMGR4 INFORMATION SYS MANAGER 4	8316	1	
INFORMATION TECHNOLOGY	ISSPEC2 INFORMATION SYS SPECIALIST 2	8318	1	
INFORMATION TECHNOLOGY	MSSSPC2 MICROCOMPUTER SYS SUPPRT SPEC	9246	3	
INFORMATION TECHNOLOGY	PROANL1 PROGRAMMER ANALYST 1	8321	5	
INFORMATION TECHNOLOGY	PROANL2 PROGRAMMER ANALYST 2	8322	7	
INFORMATION TECHNOLOGY	PROANL3 PROGRAMMER ANALYST 3	8323	8	
INFORMATION TECHNOLOGY	PROANL4 PROGRAMMER ANALYST 4	8324	1	
INFORMATION TECHNOLOGY	TELECOM TELECOMMUNICATOR	8850	11	<b>80</b>
LEGAL	ATTY1 ATTORNEY 1	9505	1	
LEGAL	ATTY2 ATTORNEY 2	9506	8	
LEGAL	ATTY3 ATTORNEY 3	9507	10	
LEGAL	ATTYSUP ATTORNEY SUPERVISOR	9504	3	
LEGAL	EEOSPC1 EEO SPECIALIST 1	9317	1	
LEGAL	EEOSPC2 EEO SPECIALIST 2	9318	3	
LEGAL	EEOSPC3 EEO SPECIALIST 3	9319	2	
LEGAL	HEAREX HEARING EXAMINER	9503	12	
LEGAL	INVES2 INVESTIGATOR 2	9792	8	

LEGAL	PARGLD PARALEGAL LEAD	9502	2	
LEGAL	PLEGAL PARALEGAL	9500	9	
LEGAL	WV ATTY3 ATTORNEY 3	9507	1	
LEGAL	WV DIRGLD DIRECTOR LEGAL DIVISION	9518	1	<b>61</b>
PHYSICAL SCIENCES	ARCHEO2 ARCHAEOLOGIST 2	9959	3	
PHYSICAL SCIENCES	CHEM1 CHEMIST 1	9920	1	
PHYSICAL SCIENCES	CHEM2 CHEMIST 2	9921	1	
PHYSICAL SCIENCES	CHEM3 CHEMIST 3	9922	2	
PHYSICAL SCIENCES	ENRSSUP ENVIRONMENTAL RES. SPEC. SUPV	8503	2	
PHYSICAL SCIENCES	ENVRSP1 ENVIRONMENTAL RES. SPEC. 1	8500	2	
PHYSICAL SCIENCES	ENVRSP2 ENVIRONMENTAL RES. SPEC. 2	8501	3	
PHYSICAL SCIENCES	ENVRSP3 ENVIRONMENTAL RES. SPEC. 3	8502	2	
PHYSICAL SCIENCES	ERPMGR1 ENVIRONMENTAL RES PGM MGR 1	8504	2	
PHYSICAL SCIENCES	ERPMGR3 ENVIRONMENTAL RES PGM MGR 3	8527	1	
PHYSICAL SCIENCES	GEOL2 GEOLOGIST 2	9962	1	
PHYSICAL SCIENCES	GEOL3 GEOLOGIST 3	9963	1	
PHYSICAL SCIENCES	GEOL4 GEOLOGIST 4	8529	1	<b>22</b>
PROGRAM MANAGEMENT	ADSVAS1 ADMIN. SERVICES ASSISTANT 1	9404	23	
PROGRAM MANAGEMENT	ADSVAS2 ADMIN. SERVICES ASSISTANT 2	9405	9	
PROGRAM MANAGEMENT	ADSVAS3 ADMIN. SERVICES ASSISTANT 3	9408	16	
PROGRAM MANAGEMENT	ADSVMG1 ADMIN. SERVICES MANAGER 1	9410	15	
PROGRAM MANAGEMENT	ADSVMG2 ADMIN. SERVICES MANAGER 2	9411	8	
PROGRAM MANAGEMENT	ADSVMG3 ADMIN. SERVICES MANAGER 3	9412	6	
PROGRAM MANAGEMENT	ADSVMG4 ADMIN. SERVICES MANAGER 4	9413	3	
PROGRAM MANAGEMENT	CONSPT CONSTRUCTION SUPERINTENDENT	8388	9	
PROGRAM MANAGEMENT	CSVREP CUSTOMER SERV. REPRESENTATIVE	9299	317	
PROGRAM MANAGEMENT	CSVRLD CUSTOMER SERVICE REP. (LEAD)	9298	37	

PROGRAM MANAGEMENT	DEPCOMM DEPUTY COMMISSIONER	8704	1
PROGRAM MANAGEMENT	DEPSEC DEPUTY SECRETARY	9235	1
PROGRAM MANAGEMENT	EATAGHD EXEC. ASST TO THE AGENCY HEAD	8386	6
PROGRAM MANAGEMENT	EEOOFF EQUAL EMP. OPPORTUNITY OFFICE	9320	2
PROGRAM MANAGEMENT	GVNITRN GOVERNOR INTERN	7007	3
PROGRAM MANAGEMENT	HWDEMGR HIGHWAY DISTRICT ENGINEER/MGR	9897	7
PROGRAM MANAGEMENT	HWYADM1 HIGHWAY ADMINISTRATOR 1	8344	7
PROGRAM MANAGEMENT	HWYADM2 HIGHWAY ADMINISTRATOR 2	8345	54
PROGRAM MANAGEMENT	HWYADM3 HIGHWAY ADMINISTRATOR 3	8346	11
PROGRAM MANAGEMENT	HWYADM4 HIGHWAY ADMINISTRATOR 4	8347	11
PROGRAM MANAGEMENT	MD ADSVAS2 ADMIN. SERVICES ASSISTANT 2	9405	1
PROGRAM MANAGEMENT	PERAST PERSONELL ASSISTANT	9305	1
PROGRAM MANAGEMENT	PERSPAS PERSONNEL SPECIALIST ASSOCIAT	9306	7
PROGRAM MANAGEMENT	PERSPEC PERSONNEL SPECIALIST	9310	7
PROGRAM MANAGEMENT	PERSPSR PERSONNEL SPECIALIST SENIOR	9315	1
PROGRAM MANAGEMENT	PUINSP2 PUBLIC INFO. SPECIALIST 2	9351	2
PROGRAM MANAGEMENT	PUINSP3 PUBLIC INFO. SPECIALIST 3	9352	2
PROGRAM MANAGEMENT	RHABCSR REHABILITATION COUNSELOR SR	9676	1
PROGRAM MANAGEMENT	STDVSPC STAFF DEVELOPMENT SPECIALIST	9559	1
PROGRAM MANAGEMENT	SUPV1 SUPERVISOR 1	9420	1
PROGRAM MANAGEMENT	SUPV2 SUPERVISOR 2	9421	43
PROGRAM MANAGEMENT	SUPV3 SUPERVISOR 3	9422	24
PROGRAM MANAGEMENT	WV ADSVMG1 ADMIN. SERVICES MANAGER 1	9410	2
PROGRAM MANAGEMENT	WV ADSVMG2 ADMIN. SERVICES MANAGER 2	9411	2
PROGRAM MANAGEMENT	WV CONSPT CONSTRUCTION SUPERINTENDENT	8388	1
PROGRAM MANAGEMENT	WV DEPSEC DEPUTY SECRETARY	9235	1
PROGRAM MANAGEMENT	WV DOHCOM DOH COMMISSIONER	801	1

PROGRAM MANAGEMENT	WV EATAGHD EXEC. ASST TO THE AGENCY HEAD	8386	3	
PROGRAM MANAGEMENT	WV HWDEMGR HIGHWAY DISTRICT ENGINEER/MGR	9897	4	
PROGRAM MANAGEMENT	WV HWYADM1 HIGHWAY ADMINISTRATOR 1	8344	3	
PROGRAM MANAGEMENT	WV HWYADM2 HIGHWAY ADMINISTRATOR 2	8345	3	
PROGRAM MANAGEMENT	WV HWYADM3 HIGHWAY ADMINISTRATOR 3	8346	1	
PROGRAM MANAGEMENT	WV SUPV2 SUPERVISOR 2	9421	1	<b>659</b>
REAL ESTATE MANAGEMENT	APPRASC APPRAISER, CHIEF	9143	1	
REAL ESTATE MANAGEMENT	APPRASM APPRAISER, MANAGER	9144	1	
REAL ESTATE MANAGEMENT	APPRASR APPRAISER, SENIOR	9142	5	
REAL ESTATE MANAGEMENT	REALMGR REALTY MANAGER	8396	8	
REAL ESTATE MANAGEMENT	TRRLAG1 TRANSPORTATION REALTY AGENT 1	8392	7	
REAL ESTATE MANAGEMENT	TRRLAG2 TRANSPORTATION REALTY AGENT 2	8393	8	
REAL ESTATE MANAGEMENT	TRRLAG3 TRANSPORTATION REALTY AGENT 3	8394	8	
REAL ESTATE MANAGEMENT	TRRLAG4 TRANSPORTATION REALTY AGENT 4	8395	5	
REAL ESTATE MANAGEMENT	TRRLTRN TRANSPORTATION REALTY TRAINEE	8391	3	
REAL ESTATE MANAGEMENT	WV REALMGR REALTY MANAGER	8396	3	
REAL ESTATE MANAGEMENT	WV TRRLAG3 TRANSPORTATION REALTY AGENT 3	8394	2	
REAL ESTATE MANAGEMENT	WV TRRLAG4 TRANSPORTATION REALTY AGENT 4	8395	2	
REAL ESTATE MANAGEMENT	WV TRRLTRN TRANSPORTATION REALTY TRAINEE	8391	1	<b>54</b>
SAFETY	BRSFIN1 BRIDGE SAFETY INSPECTOR 1	8340	19	
SAFETY	BRSFIN2 BRIDGE SAFETY INSPECTOR 2	8341	21	
SAFETY	BRSFIN3 BRIDGE SAFETY INSPECTOR 3	8342	10	
SAFETY	BRSFIN4 BRIDGE SAFETY INSPECTOR 4	8343	21	
SAFETY	INSP2 INSPECTOR 2	9128	10	
SAFETY	INSP3 INSPECTOR 3	9129	12	
SAFETY	OCCSSP1 OCCUPATIONAL SAFETY SPEC 1	8580	1	
SAFETY	OCCSSP2 OCCUPATIONAL SAFETY SPEC 2	8581	9	

SAFETY	WV BRSFIN4 BRIDGE SAFETY INSPECTOR 4	8343	3	<b>106</b>
TRANSPORTATION INDUSTRY ANALYST	TRSYAN1 TRANSPORTATION SYSTEMS ANAL.	8378	8	
TRANSPORTATION INDUSTRY ANALYST	TRSYAN2 TRANSPORTATION SYSTEMS ANAL.	8379	10	
TRANSPORTATION INDUSTRY ANALYST	TRSYAN3 TRANSPORTATION SYSTEMS ANAL.	8380	3	
TRANSPORTATION INDUSTRY ANALYST	TRSYDR1 TRANSPORTATION SYSTEMS DIR. 1	8389	7	
TRANSPORTATION INDUSTRY ANALYST	TRSYDR2 TRANSPORTATION SYSTEMS DIR. 2	8384	7	
TRANSPORTATION INDUSTRY ANALYST	TRSYDR3 TRANSPORTATION SYSTEMS DIR. 3	8385	4	
TRANSPORTATION INDUSTRY ANALYST	WV TRSYAN1 TRANSPORTATION SYSTEMS ANAL.	8378	2	<b>41</b>
TRANSPORTATION SERVICES	CADRFT CARTOGRAPHIC DRAFTER	9840	1	
TRANSPORTATION SERVICES	CADRFT2 CARTOGRAPHIC DRAFTER SENIOR	9842	1	
TRANSPORTATION SERVICES	ELTECH1 ELECTRONIC TECHNICIAN 1	8337	1	
TRANSPORTATION SERVICES	ELTECH2 ELECTRONIC TECHNICIAN 2	8338	7	
TRANSPORTATION SERVICES	ELTECH3 ELECTRONIC TECHNICIAN 3	8339	3	
TRANSPORTATION SERVICES	HES1 HIGHWAY EQUIPMENT SUPERVISOR	8327	7	
TRANSPORTATION SERVICES	HES2 HIGHWAY EQUIPMENT SUPERVISOR	8328	14	
TRANSPORTATION SERVICES	HESPEC HIGHWAY EQUIPMENT SPECIALIST	8326	15	
TRANSPORTATION SERVICES	ITFCO INTELL TRANS FUSION CENTER OP	8331	8	
TRANSPORTATION SERVICES	ITFCS INTELL TRANS FUSION CENTER SU	8332	1	
TRANSPORTATION SERVICES	MACH MACHINIST	8633	2	
TRANSPORTATION SERVICES	MD ELTECH3 ELECTRONIC TECHNICIAN 3	8339	1	
TRANSPORTATION SERVICES	MD HES2 HIGHWAY EQUIPMENT SUPERVISOR	8328	1	
TRANSPORTATION SERVICES	NICEN2 NICET ENROLLEE 2	8360	1	
TRANSPORTATION SERVICES	NICEN3 NICET ENROLLEE 3	8361	2	
TRANSPORTATION SERVICES	NICEN4 NICET ENROLLEE 4	8362	1	
TRANSPORTATION SERVICES	NT TRCRSV1 TRANS. CREW SUPERVISOR 1	8363	1	
TRANSPORTATION SERVICES	RRTECH1 RAILROAD TECHNICIAN 1	8742	1	
TRANSPORTATION SERVICES	RRTECH2 RAILROAD TECHNICIAN 2	8743	11	

TRANSPORTATION SERVICES	SUMWKR SUMMER WORKER	9999	107
TRANSPORTATION SERVICES	TRCRSV1 TRANS. CREW SUPERVISOR 1	8363	255
TRANSPORTATION SERVICES	TRCRSV2 TRANS. CREW SUPERVISOR 2	8364	81
TRANSPORTATION SERVICES	TRET TRANS. ENG. TECHNICIAN	8357	160
TRANSPORTATION SERVICES	TRETAS TRANS. ENG. TECH. ASSOCIATE	8356	118
TRANSPORTATION SERVICES	TRETCNO TRANS. ENG. TECHNOLOGIST	8348	80
TRANSPORTATION SERVICES	TRETN1 TRANS ENG TECH ENROLLEE 1	8360	4
TRANSPORTATION SERVICES	TRETN2 TRANS ENG TECH ENROLLEE 2	8361	1
TRANSPORTATION SERVICES	TRETN3 TRANS ENG TECH ENROLLEE 3	8362	8
TRANSPORTATION SERVICES	TRETSR TRANS. ENG. TECHNICIAN SENIOR	8358	127
TRANSPORTATION SERVICES	TRETRR TRANS. ENG. TECH. TRAINEE	8355	72
TRANSPORTATION SERVICES	TRSVMG1 TRANSPORTATION SERVICES MGR.	8375	41
TRANSPORTATION SERVICES	TRSVMG2 TRANSPORTATION SERVICES MGR.	8376	17
TRANSPORTATION SERVICES	TRSVMG3 TRANSPORTATION SERVICES MGR.	8390	7
TRANSPORTATION SERVICES	TRSVSUP TRANSPORTATION SERVICES SUPER	8377	16
TRANSPORTATION SERVICES	TRTECH2 TRANSPORTATION TECHNICIAN 2	8372	5
TRANSPORTATION SERVICES	TRTECSU TRANSPORTATION TECH. SUPERV.	8374	1
TRANSPORTATION SERVICES	TW1CW TRANS WORKER 1 - CRAFT WORKER	8365	123
TRANSPORTATION SERVICES	TW1EQOP TRANS WORKER 1 - EQUIP OPER	8365	18
TRANSPORTATION SERVICES	TW1LAB TRANS WORKER 1 - LABORER	8365	15
TRANSPORTATION SERVICES	TW1MECH TRANS WORKER 1 - MECHANIC	8365	2
TRANSPORTATION SERVICES	TW2BMW TRANS WORKER 2 - BRIDGE	8366	24
TRANSPORTATION SERVICES	TW2BT TRANS WORKER 2 - BUILD & TRAD	8366	20
TRANSPORTATION SERVICES	TW2CW TRANS WORKER 2 - CRAFT WORKER	8366	165
TRANSPORTATION SERVICES	TW2EQOP TRANS WORKER 2 - EQUIP OPER	8366	1356
TRANSPORTATION SERVICES	TW2MECH TRANS WORKER 2 - MECHANIC	8366	76
TRANSPORTATION SERVICES	TW3BMCW TRANS WORKER 3 - BRIDGE	8367	31

TRANSPORTATION SERVICES	TW3BT TRANS WORKER 3 - BUILD & TRAD	8367	28
TRANSPORTATION SERVICES	TW3CDH TRANS WORKER 3 - CORE DRIL HL	8367	5
TRANSPORTATION SERVICES	TW3CW TRANS WORKER 3 - CRAFT WORKER	8367	26
TRANSPORTATION SERVICES	TW3EQOP TRANS WORKER 3 - EQUIP OPER	8367	354
TRANSPORTATION SERVICES	TW3MECH TRANS WORKER 3 - MECHANIC	8367	185
TRANSPORTATION SERVICES	TW4CD TRANS WORKER 4 - CORE DRIL	8368	3
TRANSPORTATION SERVICES	TW4EQOP TRANS WORKER 4 - EQUIP OPER	8368	6
TRANSPORTATION SERVICES	TW4WELD TRANS WORKER 4 - WELDER	8368	31
TRANSPORTATION SERVICES	WV ELTECH2 ELECTRONIC TECHNICIAN 2	8338	1
TRANSPORTATION SERVICES	WV ELTECH3 ELECTRONIC TECHNICIAN 3	8339	1
TRANSPORTATION SERVICES	WV HES1 HIGHWAY EQUIPMENT SUPERVISOR	8327	3
TRANSPORTATION SERVICES	WV HES2 HIGHWAY EQUIPMENT SUPERVISOR	8328	2
TRANSPORTATION SERVICES	WV HESPEC HIGHWAY EQUIPMENT SPECIALIST	8326	2
TRANSPORTATION SERVICES	WV ITFCO INTELL TRANS FUSION CENTER OP	8331	1
TRANSPORTATION SERVICES	WV RRTECH4 RAILROAD TECHNICIAN 4	8745	1
TRANSPORTATION SERVICES	WV TRCRSV1 TRANS. CREW SUPERVISOR 1	8363	10
TRANSPORTATION SERVICES	WV TRCRSV2 TRANS. CREW SUPERVISOR 2	8364	5
TRANSPORTATION SERVICES	WV TRET TRANS. ENG. TECHNICIAN	8357	3
TRANSPORTATION SERVICES	WV TRETENO TRANS. ENG. TECHNOLOGIST	8348	7
TRANSPORTATION SERVICES	WV TRETSE TRANS. ENG. TECHNICIAN SENIOR	8358	7
TRANSPORTATION SERVICES	WV TRETTR TRANS. ENG. TECH. TRAINEE	8355	1
TRANSPORTATION SERVICES	WV TRSVSUP TRANSPORTATION SERVICES SUPER	8377	2
TRANSPORTATION SERVICES	WV TW2CW TRANS WORKER 2 - CRAFT WORKER	8366	1
TRANSPORTATION SERVICES	WV TW2EQOP TRANS WORKER 2 - EQUIP OPER	8366	4
TRANSPORTATION SERVICES	WV TW3BMCW TRANS WORKER 3 - BRIDGE	8367	1
TRANSPORTATION SERVICES	WV TW3BT TRANS WORKER 3 - BUILD & TRAD	8367	1
TRANSPORTATION SERVICES	WV TW3CW TRANS WORKER 3 - CRAFT WORKER	8367	1

TRANSPORTATION SERVICES	WV TW3EQOP TRANS WORKER 3 - EQUIP OPER	8367	7	
TRANSPORTATION SERVICES	WV TW3MECH TRANS WORKER 3 - MECHANIC	8367	5	
TRANSPORTATION SERVICES	WV TW4WELD TRANS WORKER 4 - WELDER	8368	4	<b>3717</b>
		<b>Total:</b>	<b>5707</b>	<b>5707</b>

## Attachment C: TECHNOLOGY WORKER SURVEY

1. Select the job group that best describes your job.

Administrative Support  
Acquisition/Purchasing  
Community Planning  
Engineering  
Financial  
Information Technology  
Legal  
Physical Sciences  
Safety  
Program Management  
Real Estate Management  
Transportation Industry Analyst  
Transportation Worker

2. Years of WV State service?

3. Gender?

4. How many hours a day do you use a computer for your job?

0  
1-2  
3-4  
4-5  
More than 5

5. How many hours a day do you use a computer for your personal life?

0  
1-2  
3-4  
4-5  
More than 5

6. Over the last year, what new/upgrade technologies have been provided for your use on the job?

Computer work station  
Tablet (iPad, Kindle, etc.)  
Smart Phone (iPhone, Android, etc)  
Software, new  
Software, update  
Office equipment (fax, printer, etc)  
Other, please specify

7. Think about how you receive/send work related information. For each item listed below, indicate if the frequency of use has increased, decreased or stayed the same over the past two years.

Email

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Internet

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Texts

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Paper letters and memos

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Face to face meetings

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Webinars

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Telephone calls

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Conference calls

- I do not use for work communication
- I am using more frequently
- I am using less frequently
- I am using about the same

Virtual/video meetings

I do not use for work communication

I am using more frequently

I am using less frequently

I am using about the same

Social media

I do not use for work communication

I am using more frequently

I am using less frequently

I am using about the same

## **ATTACHMENT D: 2007 RECOMMENDATIONS**

1. Audit data base for accuracy and increase inventory of skill documentation.
2. Conduct an economic impact study to raise mission critical classifications to 90% of market value.
3. Analyze historic overtime payments to determine the impact overtime has had on the base/actual annual salaries for engineers and determine the saving potential if overtime was eliminated.
4. WVDOT should begin succession planning immediately to address transition of the knowledge and history to new project managers. This goes beyond backfilling vacancies, but planning for the skill sets needed in the future. Use the Contingency Operation Plan as a basis for determining initial skills that are mission critical.
5. Calculate the Rule of 80 impact on the WVDOT budget over the next 10 years. Develop transitional or bridge positions, contracts or businesses to allow for step down retirements to recoup some benefit of the benefit liability payment.
6. WV budget should provide the WVDOT a lump sum (example 10 million dollars) as a pilot to buy back sick leave from the 471 people who will become "Rule of 80" retirement eligible over the next 5 years. The payback would be at a percentage less than the current and/or anticipated value.
7. Participate in a web enabled focus group of and policy, legislative representatives and potential retirees in WV and invited DOT personnel representing states featured in the Unique Practices discussions. RTI will host the session which will allow the group to participate from their local office or work station.
8. Restructure tuition reimbursement policies to permit reimbursement of education related not to the employee's current position, but to skills identified by WVDOT as "critical". Building and growing the workforce with current employees is the first and most loyal applicant pool.
9. The skill of the worker is not the skill level required for the job. Underemployed workers within WVDOT and other state agencies are the largest, proven applicant pool. Grow your own. Develop the policies and procedures to develop recruit, select, monitor and eventual placement of internal employees into new classifications.
10. Request a response from the Career and Technical Schools and Community and Technical Colleges as to how they could offer unified, standard curricula for technical skills, including but not limited to apprenticeship models, career pathways, development and implementation of new programs.

11. Participate in a focus group with Unique Practice states to discuss the feasibility of implementing programs most applicable to WV.

12. Determine reasonable and appropriate credentials for classifications and provide advisory oversight to WVDE Career and Technical Centers and Community and Technical Colleges.

13. Utilize WIA funds to provide Individual Training Accounts (ITA) for current workforce who would qualify for tuition assistance because training would qualify them for job upgrades, including both wages and responsibility.

14. Identify through succession planning, the critical skills necessary for future workers. Utilize 3009 Funds to underwrite the development and implementation of new skill programs.

15. Prioritize and formalize K-12 commitments and engage in long range planning with WVDE.

16. Support, as need, RTI efforts to develop and deploy the WV Seamless Transportation Education Portal's (WV STEPS).

17. Offer student loan payoff benefits for new hires.

18. Develop the policies and procedures to develop recruit, select, monitor and eventual placement of internal employees into new classifications "Grow Your Own".

19. Create positions of Recruiters. Job description should include, but not limited to:

a. Liaison to Career and Technical Centers and Community and Technical Colleges to establish training programs to create applicant pools.

b. Prioritize and formalize K-12 commitments and engage in long range planning with WVDE.

c. Establish relationship with military branches of services to recruit technical workforce, with an emphasis on military retirees with WV connections.

d. Develop engineering "icon" to acquaint public with the connections engineering and other DOT professionals have in their everyday life.

e. Attend college functions and recruit graduates and professionals.

20. Request a response from the Career and Technical Schools and Community and Technical Colleges as to how they could offer unified, standard curricula for technical

skills, including but not limited to apprenticeship models, career pathways, development and implementation of new programs.

21. Establish Permanent Part Time Positions with partial benefits, designed with "family friendly" hours.

22. Establish formal career paths with outside agencies utilizing Workforce Investment Act Dollars. Utilize WIA funds to provide Individual Training Accounts (ITA) for current workforce who would qualify for tuition assistance because training would qualify them for job upgrades, including both wages and responsibility.

23. Initiate vocal and persistent input to local WIA boards to target occupations which are critical to the department and push for targeted workforce training.

24. Budget and implement summer orientation positions for high school juniors-college sophomores. Competitive selection based on aptitude and future interest. Include skill technician, IT, finance, etc. Rotation would expose to as many divisions as possible.

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