Washington State
Department of Transportation

WSDOT Employee Telework Pilot Project
Phase 2.2 Report

Executive summary

WSDOT continues to explore the benefits of an expanded telework program and its suitability within WSDOT office cultures. The first two phases of this comprehensive pilot project determined that offering employees the option to telework fosters a more efficient and satisfied workforce, fits their office culture and reduces vehicle carbon emissions, energy consumption and personal leave time. Built on the previous phases, Phase 2.2 further tested how available tools and technology enable productive and accountable computer-based work performed remotely.

Phase 2.2 results

WSDOT's Northwest Region Mt. Baker project offices participated in Phase 2.2 of the pilot for six months (June 1 – Dec. 31, 2012). Managers at the Mt. Baker offices identified 76 of the offices' 99 positions to be telework-eligible. Of those, 18 employees applied for and were approved to telework. Participation in the pilot was voluntary.

The results, *as shown in table 1*, illustrate a six-fold increase in Mt. Baker employees who telework. However, Mt. Baker fell short of the pilot project goal of 22 employees (30 percent) who telework at least once a week. Mt. Baker has the most weekly teleworkers of the three pilot phases with 15 participants reported teleworking weekly compared to seven in Phase 2.1 and 13 in Phase 1.0.

Productivity remained the same or improved for the 17 employees who began teleworking in Phases 2.2, which indicates telework is suitable for Mt. Baker office culture. Additionally, survey results suggest a

Table 1. Number of Mt. Baker employees reported regularly teleworking before and after the pilot phase

Phase 2.2	
Total employees	99
Employees who teleworked at least once a week pre-pilot	1
Employees who teleworked once a month pre-pilot	2
Telework-eligible positions	76
Employees who applied for eligibility	18
Employees approved for telework	18
Monthly telework pilot participants	3
Weekly telework pilot participants	15
Pilot Goal *(Weekly telework by 30 % of approved staff)*	**22**

Brooke Hamilton 360-705-7011
hamiltb@wsdot.wa.gov

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positive shift in opinion of telework among Mt. Baker staff, as it relates to their work duties. Still, some uncertainty and skepticism remained among seven supervisors, even though many supervisors reported telework boosted morale and improved workers' ability to concentrate on complex tasks. Participants reported increased work performance, more satisfaction from their work and better home-work balance. As with previous phases, Phase 2.2 resulted in easing of concerns for telework by both supervisors and employees.

Lessons learned
During this phase, just like the others, lessons were learned along the way including clear messaging from the top down provides an understanding among employees of management support for telework; supervisors need targeted training upfront and need to utilize the reporting tool to be most successful manage remotely; and remote access tools can support heavy computer applications. For more details on phase 2.2 lessons learned see page 8.

Continuing efforts to expand telework
The pilot manager identified additional opportunities for furthering telework and integrated the new expanded program in other areas including

- The NW Region's Everett project office is testing, for the first time at WSDOT, the effectiveness of using a tablet computer equipped with Xendesktop, a virtual desktop, for field work. This test has proved that tablets with a virtual desktop are an effective tool that provides a more efficient, mobile workforce.
- The Human Resources office is using the expanded program as a model to implement telework as a reasonable work accommodation.
- Some Olympic region offices are teleworking as part of the expanded telework program as of December 2012.
- A revised inclement weather policy is now in affect to manage telework as an effective alternative for commuting when weather causes hazardous driving conditions.
- The pilot manger is providing ongoing technical assistance to state and local agencies to help expand effective telework policy throughout state government.

Next steps
The pilot's success at both regional and headquarters offices warrants expanding the program to all eligible employees and offices at WSDOT.

A recommendation to expand the telework program will be presented to the secretary of transportation.

Phase 2.2 Report

Pilot objective

WSDOT has completed the pilot project to explore the benefits of an expanded telework program and its suitability with WSDOT office culture. Results from the previous phases provided evidence that offering employees the option to telework fosters a more efficient and satisfied workforce, fits office culture and reduces vehicle carbon emissions, energy consumption and personal leave time. Built on the previous phases, Phase 2.2 further tested how available tools and technology enable productive heavy computer-application work performed remotely.

Phase 2.2 – Northwest Region-Mt. Baker

The pilot manager recruited the Mt. Baker-area project offices of the Northwest Region to participate in Phase 2.2. Mt. Baker was chosen to fulfill the pilot's need to test telework in a region with a high number of engineering positions that rely on high-bandwidth software. Among Mt. Baker's three project office staff, 97 percent reported no experience with telework compared to 73 percent in phase 2.1 and 46 percent in phase 1.0. Only one Mt. Baker employee reported teleworking weekly prior to the pilot.

Mt. Baker managers determined 76 of 99 positions were eligible to participate. Administrative and inspector positions were deemed ineligible. Survey positions were deemed eligible to telework seasonably but ineligible to participate in the pilot due to construction season conflicts. Of those in eligible positions, 18 employees applied for and were approved to telework. One participant withdrew his agreement after trying telework for one month and deciding it was not a good fit with his work style. Participation in the pilot was voluntary.

Adjusted approach

The pilot approach for Phase 2.2 was generally similar to previous phases. For more information see the Phase 1.0 Report and Phase 2.1 Report. New components were added to Phase 2.2, including:

- The pilot manager met with the assistant regional administrator before phase launch to clearly understand the office culture and the administrator's professional relationship with Mt. Baker project engineers and managers. They also produced and agreed on a communication plan for the pilot phase.
- A new intranet page provided centralized telework and pilot information for employees and supervisors.

- Maximum participation was set at one day a week in some offices where employees were inexperienced with telework and remote management.
- All available WSDOT remote access tools (Citrix XenApp and Virtual Private Network (VPN)), including a new option (Citrix Xendesktop), were tested prior to Phase 2.2 implementation.
- The pilot established a minimum connectivity speed for participants in positions that rely on software requiring high bandwidth for remote use. Management communicated the new requirement prior to the start of Phase 2.2.
- The telework application was revised to capture connectivity requirement and dual monitor needs.

Results

Mt. Baker project offices participated in Phase 2.2 of the pilot for six months (June 1 – Dec. 31, 2012). Managers at the Mt. Baker offices identified telework-eligible employees in 76 of the offices' 99 positions. Of those, 18 employees applied for and were approved to telework. Participation in the pilot was voluntary.

Table 1. Number of employees regularly teleworking before and after the pilot phase

Phase 2.2 - Mt. Baker results	
Total employees before Phase 2.2	99
Employees who teleworked at weekly pre-pilot	1
Employees who teleworked once a monthly pre-pilot	2
Telework-eligible positions	76
Employees who applied for eligibility	18
Employees approved for telework	18
Monthly telework pilot participants	3
Weekly telework pilot participants	15
Pilot Goal *(Weekly telework by 30 % of approved staff)*	**22**

The results, *as shown in table 1*, illustrate a six-fold increase in Mt. Baker employees who telework. Mt. Baker has the most weekly teleworkers of the three pilot phases; however this phase fell short of the pilot project goal of 22 employees (30 percent of those approved for telework) teleworking at least once a week. Of the 18 Mt. Baker participants, 15 reported teleworking weekly compared to seven in Phase 2.1 and 13 in Phase 1.0.

Productivity remained the same or improved for the 17 employees who began teleworking in Phases 2.2, which indicates telework is suitable for Mt. Baker office culture. Participants also reported more satisfaction from their work and better home-work balance. Additionally, survey results suggest a positive shift in opinion of telework among Mt. Baker staff, as it relates to their work duties. Still, some uncertainty and skepticism remained among seven supervisors, even though many supervisors reported telework boosted morale and improved workers' ability to concentrate on complex

tasks. As with previous phases, Phase 2.2 resulted in the easing of concerns for telework by both supervisors and employees.

Data collected from employee surveys and interviews measured the effects of the phase 2.2. Response rates from the surveys varied with fewer responses after the pilot. See *appendix A* for details on evaluation and measurement and survey results.

Based on results, Phase 2.2 was a success, even though it fell short of the pilot's participation goal.

- Fourteen of 17 participants reported they were just as or more productive while teleworking. One participant who self-reported "less productive" determined telework was not a right fit for their work style. The other two participants were unsure, one of which noted he had only teleworked once during the pilot.
- Nine supervisors reported telework employees were just as (8) or more productive (1) while teleworking. One supervisor reported telework employees are less productive. Nine others were unsure.
- In a post survey of 64 of employees, 31 (50 percent) stated an option to telework would make them enjoy their jobs more, while 23 (38 percent) were unsure.
- Of 25 supervisors, 17 (68 percent) reported telework boosts morale, while five (20 percent) were unsure.
- Seventeen supervisors reported telework helps employees concentrate on difficult tasks.
- Eleven of 13 telework supervisors have a positive opinion of telework.
- Ten of 13 telework supervisors reporting using the telework report.
- One participant reported using less leave (Annual, Sick, LWOP and TSRA) due to telework. The rest reported using similar amount of leave as before.
- Participants saved money and time from traditional commuting (see table 2).
- Participants reduced energy consumed in the office and transportation emissions from their commute (see table 2).

Table 2. Results from employees regularly teleworking before and after the pilot

	Pre-survey data	Post survey data
Participant count (18 total approved)	18	16
Telework mode share*	2 percent	15 percent
Total telework days by participants**		214
Total GHG reduced after Pilot*		15 percent

Value of total fuel cost savings during pilot***		$1,272
Value of total time savings during pilot***		$5,919
Energy saved at WSDOT facilities****		36,837 kWh

*Captures the comparison of survey data for the 13 participants who took both surveys. This savings likely is higher, since data represent only some participants.

**Includes participant recorded commute data during the pilot. Participants analyzed as a group rather than individually. Participants were inconsistent in recording trip calendar data. Fuel savings based on $4 per gallon and average trip miles; time savings based $21.90 per hour and average commute time.

*** Based on pilot commute data from 10 participants.

**** Calculation revised from pervious phase (did not calculate hours the equipment was off and therefor underestimated the savings). Captures energy use by monitors, PCs and laptops based on surveys and commute data.

As observed in the previous phases, supervisors generally gained experience in telework management as the phase continued, and most reported less concern for potential issues. Employees generally reported little or no concern of potential issues associated with telework before and after the pilot.

This phase is another success for the Telework Pilot Project due to the observed positive results, the successful test of new and existing IT tools and the valuable lessons learned.

Lessons learned

Clear messaging
The Mt. Baker office culture demonstrated the importance of messaging from the top down for clear understanding among employees of management support for the telework option.

In contrast to the previous pilot phase, the pilot manager in Phase 2.2 met with the assistant regional administrator before the phase began to gain clear understand of office culture of and the administrator's professional relationship with project engineers and managers. They also discussed and agreed on an effective communication plan for the pilot phase.

Upon completion of Phase 2.2, non-participating employees reported that management support at any level was not a factor in their decision not to participate. All but one employee who participated reported feeling encouraged by management, and most reported support from the assistant regional administrator.

Supervisor training is essential
Supervisors will be more informed, have better understanding of the benefits and tools to manage telework employees if they attend information sessions.

Experience from this phase suggests more information for supervisors will improve their ability to effectively manage teleworkers. Prior to launch of Phase 2.2, employees were invited, but not required, to attend telework information and training sessions at two of Mt. Baker's three project offices. Many supervisors did not attend the sessions.

At the end of the phase, seven of 25 of Mt. Baker supervisors reported they were uncertain and/or skeptical of telework. Only two supervisors with telework staff reported increased skepticism. As seen with management groups in the previous phases, targeted training and education for all supervisors could help allay skepticism prior to approving telework in offices where it historically is not used as a management tool. Scheduling information and training sessions during a required managers meeting is the best approach to ensure understanding and support.

The daily reporting tool works
Management should be encouraged to use the daily telework report as a tool to effectively measure teleworker productivity, facilitate dialog among their staff and ensure accountability.

At the end of the pilot, seven participating employees indicated they were more productive when teleworking, while seven others reported little change in productivity. Only one employee reported a drop in productivity. In contrast, just one supervisor reported an employee's productivity increased when teleworking; four reported little or no change in telework employee productivity; and four supervisors said they were unsure. Three of four supervisors who reported uncertainty of productivity changes among their telework employees did not use the telework report. A daily telework report template serves as a management tool; however some supervisors did not require employees to submit telework day reports, nor did some use the reports to measure productivity.

Remote access satisfies computing needs
Employees is positions that rely on high-bandwidth software, such as Microstation and InRoads, had full access to files, network servers and programs with minimal operational disruptions when using all available remote access tools.

Prior to Phases 2.2, the pilot manager believed a single remote network access tool would be preferred over the others for computing-intensive work positions. Phase 2.2 successfully employed three different remote access tools, including a virtual desktop, for remote use of high-bandwidth software, by 15 engineers on a weekly basis. Determining connectivity requirements for engineering type duties from a remote location prior to implementation played an important part in the success of deploying the tools.

Continuing efforts to expand telework

The pilot manager identified additional opportunities for furthering telework and integrated the new expanded program in other WSDOT areas.

- The NW Region's Everett project office is testing, for the first time at WSDOT, the effectiveness of using a tablet computer equipped with Xendesktop, a virtual desktop, for field work. This test has proved that tablets with a virtual desktop are an effective tool that provides a more efficient, mobile workforce.
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Next steps

The pilot's success at these regional offices and the other headquarters offices warrants expanding the program to offices with eligible positions at WSDOT.

A recommendation to expand the telework program will be presented to the secretary of transportation.

Appendix A: Pre-Survey and Post Survey Results

Evaluation and measurement

Data was collected and measured to evaluate the effects of the pilot in various ways:

- 82 out of 99 employees in the division completed a survey before the pilot (see appendix A for survey questions and results).
- 24 out of 27 supervisors/managers in the division completed a survey before the pilot (see appendix A for survey questions and results).
- Feedback via email correspondence was solicited throughout the pilot.
- The pilot manager conducted meetings with all participants and most supervisors at the midpoint of the pilot.
- The post survey was revised to gather more information from the participants including experience with technology tools.
- 67 out of 99 employees in the division completed a survey after the pilot.
- 25 out of 27 supervisors/managers in the division completed a survey after the pilot
- The post survey was revised to gather more information from the supervisors including experience with telework report.
- Commute data for 10 participants was collected in the trip calendar at Ridesharonline.com and analyzed at the end of the pilot.

Telework Survey for Employees

2. What is your job classification?

	Response Count
	82
answered question	82
skipped question	0

3. Do you want to participate in a telework pilot program and commit to one day a week on average teleworking?

		Response Percent	Response Count
Yes		49.4%	40
No		50.6%	41
	answered question		81
	skipped question		1

4. Please check one to indicate your general opinion of teleworking:

		Response Percent	Response Count
Generally negative - suspect telework is a bad idea		4.9%	4
Somewhat negative - skeptical about telework		7.3%	6
Neutral - no opinion		20.7%	17
Somewhat positive - think telework is worth a try		31.7%	26
Generally positive - think telework is a good idea		**35.4%**	**29**
	answered question		82
	skipped question		0

5. Describe why or why not you want to participate in the pilot.

	Response Count
	78
answered question	78
skipped question	4

6. Do you telework sometimes now?

		Response Percent	Response Count
Yes		3.7%	3
No		**96.3%**	**79**
	answered question		82
	skipped question		0

7. Please indicate how often you typically telework now:

		Response Percent	Response Count
2 days a week		2.5%	2
1 day a week		0.0%	0
1 to 2 days a month		1.2%	1
Less than once a month		2.5%	2
Never		**93.8%**	**76**
	answered question		81
	skipped question		1

8. Do you have a telework agreement on file with your current supervisor?

		Response Percent	Response Count
Yes		1.2%	1
No		**52.4%**	**43**
Don't telework		46.3%	38
	answered question		82
	skipped question		0

9. Do you work full-time?

		Response Percent	Response Count
Yes		**96.3%**	**79**
No		3.7%	3
	answered question		82
	skipped question		0

10. Which of the following most fits your normal work schedule?

		Response Percent	Response Count
5 days a week		**47.6%**	**39**
3 days a week		0.0%	0
4 days a week (4/10s)		34.1%	28
7 days in 2 weeks		0.0%	0
9 days in 2 weeks (9/80)		15.9%	13
Other (please explain)		2.4%	2
	answered question		**82**
	skipped question		**0**
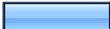
11. Last week, what type of transportation did you use each day to commute TO your usual wo[rk]
DISTANCE -Fill in "Carpooled" only if at least one other person age 16 or older was in the vehic[le]
one-half as far from home as your usual work location. If you teleworked part of the day and th[e]

Type of Transportation

	Drove alone (or with children under 16)	Carpooled (2 or more people)	Vanpooled	Motorcycle/Moped	Took the bus
Sunday	8.1% (3)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Monday	**80.0% (64)**	11.3% (9)	0.0% (0)	0.0% (0)	1.3% (1)
Tuesday	**82.7% (67)**	11.1% (9)	0.0% (0)	0.0% (0)	1.2% (1)
Wednesday	**81.3% (65)**	12.5% (10)	0.0% (0)	1.3% (1)	1.3% (1)
Thursday	**82.7% (67)**	8.6% (7)	0.0% (0)	1.2% (1)	1.2% (1)
Friday	**69.0% (49)**	5.6% (4)	0.0% (0)	0.0% (0)	0.0% (0)
Saturday	2.9% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

12. If you used a carpool or vanpool as partr of your commute, or if you ride a motorcycle, how many people (age 16 or older) are usually in the vehicle, including yourself?

	Response Count
	23
answered question	**23**
skipped question	**59**

13. ONE WAY, how many miles do you commute from home TO your usual work location? - DO NOT use round trip or weekly distance -Include miles for errands or stops made daily on the way to work -If you telework, report the miles from your residence to your worksite - Round off the distance traveled to the nearest mile Miles you commute one way:

	Response Count
	80
answered question	80
skipped question	2

14. Please indicate your degree of concern on the following issues:

	Not Concerned	Somewhat Concerned	Very Concerned	Response Count
Feeling resentment by my coworkers who don't telework.	**86.3% (69)**	13.8% (11)	0.0% (0)	80
My manager not being fully supportive of telework.	**70.0% (56)**	23.8% (19)	6.3% (5)	80
Not being there when my coworkers need my help.	31.3% (25)	**53.8% (43)**	15.0% (12)	80
Not being able to socialize daily with my coworkers.	**76.3% (61)**	21.3% (17)	2.5% (2)	80
Being passed over for promotions because I'm not in the office as much as others.	**78.8% (63)**	15.0% (12)	6.3% (5)	80
Feeling isolated working alone.	**88.8% (71)**	10.0% (8)	1.3% (1)	80
Becoming a workaholic - working too many hours at home.	**81.3% (65)**	16.3% (13)	2.5% (2)	80
Difficulty communicating with my supervisor from home.	**70.0% (56)**	25.0% (20)	5.0% (4)	80
Not having self-discipline to work by myself.	**87.5% (70)**	11.3% (9)	1.3% (1)	80
Being distracted by family and friends that don't understand that I'm working even though I'm at home.	**76.3% (61)**	22.5% (18)	1.3% (1)	80
			answered question	80
			skipped question	2

15. Please indicate your level of agreement with the following:

	Disagree Strongly	Disagree Some	Neutral	Agree Some	Agree Strongly	Response Count
I am satisfied with my job.	4.9% (4)	8.5% (7)	17.1% (14)	**37.8% (31)**	31.7% (26)	82
An option to telework makes me enjoy my job more.	5.0% (4)	6.3% (5)	**38.8% (31)**	30.0% (24)	20.0% (16)	80
Teleworking helps me concentrate on difficult tasks.	6.3% (5)	7.5% (6)	**43.8% (35)**	23.8% (19)	18.8% (15)	80
Teleworking helps increase my productivity.	7.5% (6)	5.0% (4)	**52.5% (42)**	25.0% (20)	10.0% (8)	80
Teleworking helps me to better manage my time.	6.3% (5)	6.3% (5)	**56.3% (45)**	25.0% (20)	6.3% (5)	80
					answered question	82
					skipped question	0