



**Kitsap Regional Coordinating Council**

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# Kitsap Telework Pilot Project

2009 Survey Report



A Project Funded by the  
Washington State Department of Transportation

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As part of the Telework Pilot Project a series of survey instruments were used to provide input for the report and the telework toolkit. Three of the surveys were completed prior to participants beginning telework:

- **A commute history interview:** Each employee that would be teleworking during the pilot was sent an email explaining the survey process and asking them to monitor their commute mileage for several days. About a week later, each employee was interviewed by telephone to obtain an exact description of their commute pattern, including mileage, origin and destination, modes of transportation, vehicle gas mileage, and other details about their commute. Because these participants were volunteers in a pilot project, they were willing to provide this kind of detailed information.
- **An employee baseline survey:** Employees also completed an online survey that, in addition to more commute questions, included questions about their attitudes, opinions, concerns, and expectations concerning telework. Information from the literature review was used to formulate these questions.
- **A manager baseline survey:** Similarly, managers completed an online survey that concentrated on their initial attitudes and concerns about telework.

Once these surveys were completed and employees started teleworking, they received an email each Monday morning with a link to a short **Weekly Diary**. The weekly diary asked how many days the employee teleworked the previous week, reasons for not teleworking (if they didn't), and questions about the experience, such as problems they encountered and how productive they were on their telework day(s). Diaries continued for 15 weeks of the pilot project.

At the conclusion of the project two more surveys were conducted: a follow-up survey conducted among employees and a follow-up survey among Managers. These surveys were designed to see how attitudes may have changed during the course of the project and to capture lessons learned from the experience.

Below is the analysis of these surveys. The primary implications of this analysis relates to the implementation and administration of telework within an organization. These lessons learned have been incorporated into the toolkit.

Survey data tables and supporting documentation can be downloaded from the project survey page on the toolkit website:

[http://www.teleworktoolkit.com/project\\_surveys.html](http://www.teleworktoolkit.com/project_surveys.html)

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# Survey Findings: Teleworkers

Interviews and surveys were used to collect information about the telework experience. Sixty seven employees participated in the pilot by completing surveys or weekly diaries. Not all 67 participated the entire time, some completed the initial interview and survey, but were unable to continue, some joined the project later than others, and a few left the project early. Employee participation included the following:

- Pre-participation interview about the work commute.
- Initial Baseline Survey concerning attitudes and perceptions concerning telework.
- Weekly diaries (15 weeks) that recorded any changes to the commute pattern, days teleworked and days commuted, and any problems related to telework that occurred that week.
- Follow-up survey at the conclusion of the project to see how perceptions may have changed and to capture lessons learned from the employee perspective.

In addition to teleworkers, managers of teleworkers also participated by completing two surveys; an initial Baseline Survey, and a follow-up survey at the end of the project. IT Managers from a cross-section of organizations were interviewed about the challenges of supporting telework.

## Telework Participants

The employees that participated in the project by completing surveys and weekly diaries come from all age groups. 43% are men; 57% are women. 71% have at least a BA degree. They work in a wide variety of positions: vanpool coordinator, program manager, legal consultant, systems tech, graphic designer, for example. 85% are employed full-time; 52% are salary employees and 22% are hourly employees; 8% belong to a union.

The teleworkers in this project almost always work on a computer and frequently online or on the organization’s network. Although nearly half frequently or always collaborate with others, it’s not known how much of that is done electronically, or could be done electronically. The percent that frequently

How Employees Work: Percent Frequently or Always do Each	
Work on a computer	89%
Work online or on network	87%
Collaborate either in person or electronically	46%
Work alone	23%
Work in a team or workgroup	20%
Work on the telephone	16%
Use materials located in the office	14%
Use smart phone or PDA for work	7%
Use equipment (other than computer) located at office	7%
Work without a computer	7%
Interact face-to-face with clients, vendors, public, etc.	2%

collaborate with others is inversely related to level of education:

**Frequently/Always Collaborate:**

- AA Degree or less 63%
- BA Degree 48%
- Graduate Degree 29%

The situation is somewhat reversed for those who say they frequently or always work alone: those with the highest education level are more likely to work alone.

**Frequently/Always Work Alone:**

- AA Degree or less 19%
- BA Degree 18%
- Graduate Degree 35%

**Employee Telework Experience Prior to the Project**

Never teleworked prior to the project	7%
Have teleworked in the past, but not when the project started	9%
Occasionally telework on unscheduled basis (e.g. taking work home when need to concentrate)	29%
Travel in my job and telework from hotels, client offices, etc.	3%
Telework on a scheduled basis, at least one day every two weeks	53%

At the beginning of the project, most employees that participated were already teleworking or had some prior telework experience (Above Table). Only 7% had never teleworked. Within the two weeks prior to starting the project, 87% had teleworked at least one day, with the average being 2.8 days. Only 13% of the employees hadn't teleworked at all in the previous two weeks.

*"I selected an employee whose work is mostly independent of the work of the rest of the Department."*  
Manager

*"One employee was already teleworking one day a week; another was a good candidate because of the online nature of her job duties."*  
Manager

44% of the employees volunteered to participate in the project, 38% say their employer encouraged them to participate, and 13% say their employer insisted they participate. In many cases managers were closely involved in this selection process and they often chose participants for specific reasons, such as: someone who works independently from the department, someone who works online, someone without a lot of face-to-face

client contact, someone with a lot of telework experience. The employees participating in the pilot project may not be the "average" employee in these organizations, but they are probably fairly representative of the employees in these organizations that telework.

Although most teleworkers work from home most of the time, it isn't at all uncommon for teleworkers to take their work with them or to find some other place to work just to get out of the house and to be around other people for a couple of hours. In the Baseline survey, employees were asked if they will be teleworking some of the time from someplace other than home. 55% checked they will only work from home, 16% checked they may sometimes work from a coffee shop or internet café, and 5% checked library. Other places where teleworkers may work some of the time (19% checked "other") include:

- At school (teleworker takes college classes)
- While on travel for their employer
- While on the ferry or bus
- At trade shows
- When on trips or vacations
- In the park or in the car
- From client's offices

Telework really isn't just working in a different location; it's about working from any location.

Of course most teleworkers said at the beginning of the project that they would work from home most of the time. 87% said they already had a home office and another 6% said they would be setting up a home office. All of the teleworkers already had a high-speed internet connection prior to starting the project.

### **Policies & Agreements**

By the end of the project, 57% of the participants reported that they had read their organization's telework policy, plus another 9% said they had scanned the policy. 51% had signed a telework agreement. Employers appear to be less insistent on policies and agreements when teleworkers work less than once a week (or perhaps because they didn't know if they would continue offering telework after the pilot). The use of policies and agreements is much higher among regular and frequent teleworkers. For example, among those that telework at least twice a week, 83% have read the policy and 61% have signed the agreement, compared with 25% and 31% respectively among those that telework less than once a week.

## The Work Commute

Employees participating in the project can be grouped into 4 commute categories:

- **Live West / Work West:** Those that live on the Kitsap side of Puget Sound (most live in Kitsap County, but 2 live in Belfair, 1 in Gig Harbor, and 1 in Sequim) and work in Kitsap County. They make up 49% of the employees in the project.
- **Live West / Work East:** Those that live on the west side of the Sound and work on the East Side. Most of these are Microsoft Employees who work in Seattle, Redmond, or Issaquah. This group makes up 32% of the employees in the project.
- **Live East / Work West:** Three employees (5%) are in this group: one lives in Enumclaw, one in Seattle, and one in Everett. All work in Kitsap County.
- **Live East / Work East:** Nine employees (14%) live and work on the East side of Puget Sound. They are all employees of the Municipal Services and Research Center (MRSC) in the Bell Town area of Seattle and live in various communities surrounding Seattle.

88% of the employees regularly start working between 6 and 9 am; meaning their commute to work occurs during peak hours. This percentage is a little higher for those that live and work in Kitsap County (91%) than for those that live on the Kitsap side but work on the East side of Puget Sound (71%).

Time Begin Commute to Work					
<i>Row Percentages – Read Across</i>	5 am or earlier	5-6 am	6-7 am	7-8 am	8-9 am or later
All employees	6%	17%	34%	28%	14%
Live West / Work West	0%	9%	28%	41%	22%
Live West / Work East	10%	25%	40%	15%	10%

The commute is much shorter for those that live and work in Kitsap; just over an hour commuting each day (33 minutes going to work and 37 minutes going home). Employees that live on the Kitsap side of Puget Sound but work on the East side spend almost three and a half hours commuting to and from work; a commute that involves either a ferry crossing or drive across the Tacoma Narrows.

Average Minutes to Commute to and from Work			
<i>Row Percentages – Read Across</i>	Minutes To Work	Minutes Home From Work	Combined
All employees	58.6	66.2	124.8
Live West / Work West	33.2	36.6	69.8
Live West / Work East	107.0	102.7	209.7

Overall, employees in the project commute an average of 25.8 miles to work. The distance is much greater for those who must cross the Sound or drive around via the Tacoma Narrows.

Average Distance (One Way) from Home to Work		
All employees	N=65	25.8 miles
Live West / Work West	N=32	16.7 miles
Live West / Work East	N=21	38.6 miles
Live East / Work West	N=3*	50.0 miles
Live East / Work East	N=9*	17.9 miles

*\*very small sample size is not reliable*

87% of the employees drive during part of the commute. This includes a few who are driven part of the way by a family member; in other words, the family car is used for the commute. 72% drive alone the entire trip. The remainder give someone a ride during part or all of the commute; usually a spouse or child (16 or older), but in some cases a neighbor or coworker.

There is a significant difference in the commute pattern between those that live and work in Kitsap and those that work on the East side of Puget Sound. For the latter, commutes are not only longer, in both time and distance, but also more complicated, involving multiple modes of transportation.

Among employees that live on the Kitsap side but work on the East side, 48% use two modes of transportation; 38% use three modes; 10% use four modes. The modes of transportation they use are:

Ferry	91%
Drive	81%
Bus	43%
Walk	29%
Carpool	10%

This is in marked contrast to those who live and work in Kitsap: 100% drive to work and most drive alone (one is given a ride by a spouse, and a couple provide rides to others). None of the Kitsap employees use a bus during their commute to or from work. One reason may be land use patterns in Kitsap County, which are not always easily served by bus. The study also discovered that over half (58%) of those that live and work in Kitsap need their car for their job. They mention attending meetings, calling on clients, driving to branch offices, and running errands for their employer. None of those who work on the East side report needing their car for their job.

Overall, for vehicles used on the work commute in this study, gas mileage ranges from 12.5 miles per gallon (mpg) to 47.5 mpg. The average is 24.3 mpg. Employees that live on the West side are more likely to drive vehicles that get lower gas mileage. 41% of these employees drive an SUV, light truck, or van, compared with only 10% of those living on the East side.

Type of Vehicle Used for Commute					
<i>Row Percentages – Read Across</i>	Car	SUV	Light Truck	Van	Motorcycle
All employees	61%	25%	5%	5%	3%
Live West / Work West	56%	31%	3%	9%	
Live West / Work East	53%	24%	12%	0%	12%
Average gas mileage	26.9	18.1	17.3	20.7	40.0

Approximately a third of the employees in the project use a ferry during their commute:

- 62% take the Bainbridge ferry
- 24% take the Kingston ferry
- 10% take the Bremerton ferry
- 5% (1 person) takes the Southworth-Fauntleroy ferry
- 5% (1 person) takes the Annapolis-Bremerton passenger ferry
- Half (52%) drive a vehicle onto the ferry
- 29% walk on
- 10% are part of a vanpool
- 10% drive a motorcycle onto the ferry
- 60% use a Wave2Go pass
- 27% use a monthly pass
- 7% pay per trip
- 50% pay for the trip themselves
- 29% of the time the trip is paid entirely by the employer
- 21% of the time the employer pays a part of the cost

Over a fourth (26%) of the employees in the project ride a bus during part of their commute to work. Almost all use passes of various kinds. For Microsoft employees, Microsoft provides a pass for the King County side of the trip, but not for the Kitsap side. 39% report their employer pays for bus transit and 62% say the employer pays a portion of the fare. None of the employees pay full fare themselves.

Over a fourth (28%) of the employees in the project pay for parking: 22% at work and 6% when taking a bus or ferry. 57% pay for parking on a monthly basis and 43% pay on a daily basis. Most (71%) pay for parking themselves, but 21% report their employer pays the entire parking cost and 7% say their employer pays a portion of the cost.

## Gas Consumption & Carbon Emissions

Participants in the pilot project saved a total of 22,380 pounds of CO<sub>2</sub> by teleworking. This is calculated using the EPA rule of 19.4 lbs of CO<sub>2</sub> per gallon of gas consumed. Without telework, based on the number of days each participant actually worked during this period, CO<sub>2</sub> emissions would have been 87,658 lbs.

If the individuals in the pilot project did not telework at all, emissions for the driving portion of the work commute (round trip) would be 30.2 lbs per person per day. At 240 working days per year, that equals 7,248 lbs of CO<sub>2</sub> per person per year.

In this study the average CO<sub>2</sub> savings for each day teleworked is 27.73 lbs. Assuming a five day work week, if everyone teleworked one day a week (48 days a year), the CO<sub>2</sub> savings would be 1,331 lbs per person per year; twice that (2,662 lbs) if teleworking twice a week on average.

Calculations were made using the following:

- The actual number of days teleworked and actual number of days that each individual commuted to work during the pilot period. (Average work days or average telework days were not used.) Days in which the individual teleworked and commuted to the office (such as to attend a meeting) were counted as commute days. Only days in which the commute was “replaced” by telework were counted as a telework day.
- Sick days, vacation days, other personal days, and days outside the normal pattern (such as days attending an out-of-town conference) were not counted at all.
- Gas consumption is based on actual miles per gallon (MPG) for each individual as reported by the individual. When individuals use more than one personal vehicle during the commute, a prorated average MPG, based on the MPG of both vehicles, was used.
- Mileage for errands that are part of the commute (either to or from work) was included, as were miles driven during the lunch hour.
- Miles driven on telework days, either by the teleworker or by someone else on behalf of the teleworker was included (e.g. discounted from miles saved by telework). This occurs, for example when a teleworker normally drives a child to school as part of the work commute, and still has to make that journey – or a

spouse does – on telework days). There are a few instances when miles on a telework day actually exceed the miles saved by telework, but this is a rare occurrence.

- Miles driven for unpredictable errands, such as for a doctor’s appointment, were not included in the calculations.

All data were updated on a weekly basis using reporting from the weekly telework diaries. When necessary, teleworkers were contacted by phone or email to clarify their statements. This means that the data reflects ongoing changes in the commute, such as a change in work location, a change in commute method, a change in vehicles and resulting change in MPG for that week.

Calculations only reflect miles driven by the teleworker (or a spouse) using their own vehicle. Fuel and emissions by public transportation are not included in any calculations.

It is very difficult to speak in averages because there is no typical commuter. Participants in this project include those with short and simple commutes and those with long and complicated commutes including numerous stops and modes of transportation. Nor are commutes uniform from day to day. The methodology described above did a good job of capturing this diversity, but can never account for the great variability that exists in individual’s lives. In addition, some teleworkers in this project teleworked as little as one or two days during the course of the project – they may have started and then discovered they couldn’t continue. Similarly some individuals dropped-out part way through the project for various personal or work-related reasons, or who were unable to start until the project was well underway. There were others who continued the entire 15 weeks.

Overall, there were 60 teleworkers who participated to some degree by keeping diaries; some teleworked hardly at all during this period while others teleworked full time. In total, participants worked a total of 2,894 days during the project which includes a total of 807 telework days (days in which a commute was replaced by telework): telework accounted for about 28% of the work days. In a hypothetical five day work week, this would be teleworking an average of 1.4 days per week.

On average, the CO2 saved by each participant was 27.73 pounds for each day they teleworked (this includes participants that use transit entirely or for part of their commute).

## Miles & CO2 Emissions – Per Person Averages

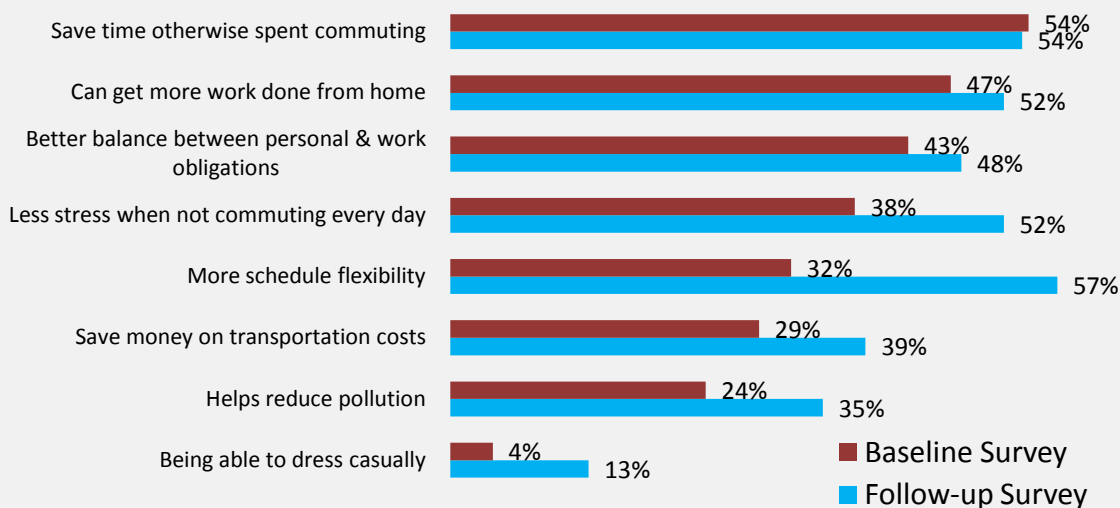
	Impact If No Telework		Actual Commute (Includes Telework Days)		Savings Because of Telework	
	Average Miles Driven Per Person for Each Day Worked	Average CO2 Per Person for Each Day Worked	Average Miles Driven Per Person for Each Day Worked	Average CO2 Per Person for Each Day Worked	Average Miles Saved Per Person for Each Day Teleworked	Average CO2 Savings for Each Day Teleworked
Overall Average	35.6 mi.	30.3 lbs.	26.7 mi.	22.6 lbs.	32.0 mi.	27.7 lbs.
Live West / Work West	35.6 mi.	34.6 lbs.	26.6 mi.	26.0 lbs.	34.6 mi.	33.3 lbs.
Live West / Work East	39.8 mi.	26.8 lbs.	27.6 mi.	17.5 lbs.	33.1 mi.	24.9 lbs.
Drive entire distance	42.4 mi.	37.5 lbs.	32.5 mi.	28.7 lbs.	38.2 mi.	34.1 lbs.
Drive part way	29.6 mi.	21.3 lbs.	20.4 mi.	14.0 lbs.	32.0 mi.	25.7 lbs.

Exhibit “F” includes a link to download the spreadsheet that includes more detailed commute data.

### Benefits of Telework to Employees

Employees rated the importance of eight potential “benefits of telework”. The blue bars in the following chart represent the percent of employees who said each benefit was “Extremely Important” at the beginning of the project; the red bars show ratings 15 weeks later, at the end of the project. All eight benefits gained in importance through the course of the project. By the end, **having more schedule flexibility** was seen as the most important benefit, followed by **saving commute time**, the **ability to get more work done from home**, and **less stress when not commuting every day**.

## Percent of Teleworkers that Rate Each Benefit Extremely Important



In the follow-up survey, employees were asked to describe in their own words what about telework gave them the most satisfaction. Responses tended to focus on the time saved from commuting and particularly how that time translated into greater productivity and more time with family.

Working “uninterrupted”, an element of many of these comments, is often seen as a principal benefit of telework by those that telework a limited amount of time – they reserve their telework day for difficult work that requires quiet concentration.

Teleworkers were asked specifically how their relationships with coworkers, managers, spouses, children, or others

*“Less commute equals more time with family”*

*“Uninterrupted work time. Can concentrate better and get more work done.”*

*“I get a lot more done when I don't have people constantly asking me questions. Being out of the office makes them try and solve their own problems before calling me. I also like not needing to commute and the slightly more flexible schedule.”*

*“No commute. Get right to work in the morning and not have to stop to 'go to the office'. I am a morning person and love to start around 6:30 or 7:00 and get all the nitty gritty out of the way by noon.”*

Comments from Teleworkers

### Impact of Telework on Relationships

Negative impact	2%
Some negative impact	9%
No negative impact	89%
Positive impact	30%
Some positive impact	24%
No positive impact	46%

are affected by telework. The impact is almost entirely positive, and it is the relationships with family where the positive impact is seen.

Telework had few negative impacts on relationships. Two cases where relationships were mentioned both involved Managers who teleworkers felt were not supportive of telework.

For over half of the teleworkers, there was at least some positive impact on their relationships – primarily with family. A sample of comments follows:

*“More quality time with my family since I’m not spending 5 hrs a day commuting on the days I’m telecommuting to work. Allows me to participate in more family activities since I’m available early in the morning and earlier in the evening. Can get more mid-week errands done.”*

*“Spouse and children especially. I am more relaxed at home and I can get out of my ‘work’ bubble more easily.”*

*“The extra time from lack of interruptions on big projects has helped me meet deadlines early and be responsive to other staff and avoid a commute at the end of a workday.”*

*“Closer proximity to my children’s schools for emergencies (instead of being 45 minutes away). Additionally, we eat healthier as I am more apt to prepare a home-cooked meal instead of picking something up on my commuter rush home.”*

*“I am at home when my 11 year old returns from school and I am able to fix and eat dinner with my family, I am home 1 hr earlier than when I commute”*

*“I’m normally away from my kids/spouse 4 days a week. During bridge closure I could attend school events, and help family in evenings.”*

*“My wife also gets extra sleep (doesn’t need to drive me to early ferry) when I telework. And we are able to go to events together at the end of the day.”*

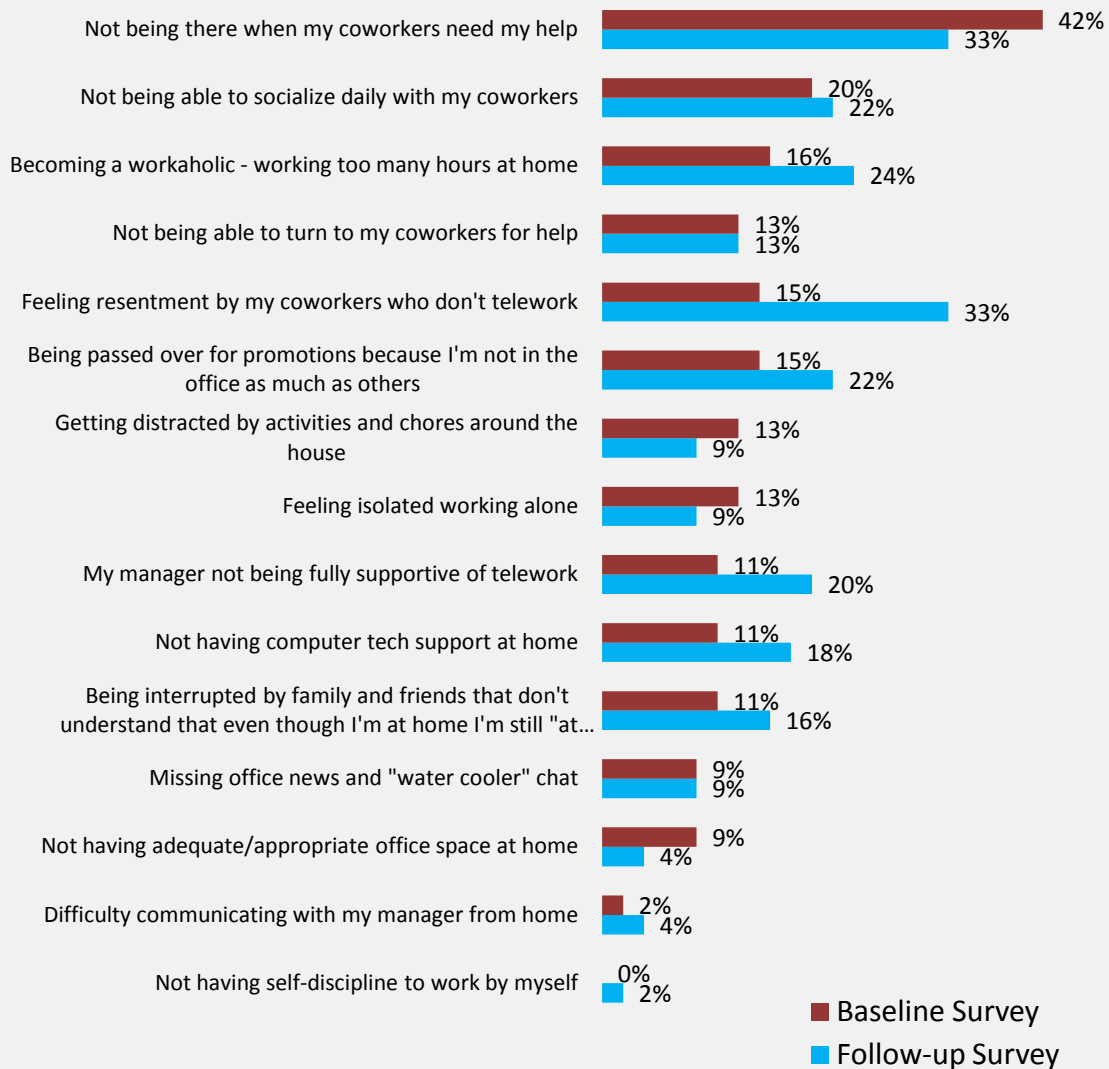
Comments from Teleworkers

The positive impact on family relationships must have a compounding positive effect on the community at large as parents are able to spend more time with their children and each other, and able to attend community and school events.

## Telework Concerns & Challenges

Teleworkers had few concerns about telework at the beginning of the project. What was of concern to the largest number was not being there when coworkers needed them: 38% said they were somewhat concerned about this; 4% were very concerned. Concerns from the beginning of the project are displayed in the blue bars below. By the end of the project, concerns had come much more into focus. Teleworkers were not quite as concerned as before about being there for their coworkers (down from 42% to 33%). Now they were more concerned than before about feeling resented by their coworkers who don't telework (up from 15% to 33%).

### Percent of Teleworkers at least Somewhat Concerned about Each Possibility



*“I’m somewhat concerned that teleworking could result in an ‘out of sight, out of mind’ mentality from co-workers. Also it could eventually place me a bit outside the team circle.”*

Teleworker

*“How to prove I’m doing my work to people who can’t see that I am working. Most of my work goes unnoticed since its day-to-day operations. When I am not getting work done it is noticeable but people don’t always think about that.”*

Teleworker

*“My manager is actively hostile to teleworking and has cut my telework time from 2-3 days a week to one, and routinely undermines that”*

Teleworker

*“Hard to not think about work after hours due to my briefcase and laptop having everything I need to continue working on projects. Takes more discipline to turn your mind off when the office is at home.”*

Teleworker

This difficulty in relationships between teleworkers and coworkers is mentioned a number of times in teleworker comments. It’s unknown how this difficulty is manifest, or even the extent to which it is real versus perceived. Regardless, it is a concern to teleworkers.

Other concerns related to coworkers and socializing showed little change from the beginning of the project.

One of the more significant changes over the course of the project is the percent that say their manager is not fully supportive of telework. Starting with 11% initially, this increased to 20% at the end.

There are teleworkers that worry that they will work too much from home. This percentage increased during the project; from 16% at the beginning to 24% at the end.

In the follow-up survey, when teleworkers were asked what they found most challenging or frustrating about telework, these same themes, along with a few new ones were mentioned:

### **Perceptions by coworkers**

Some teleworkers believe their coworkers think the telework day is really a day off and that the teleworker is doing personal things on that day, even when they have reports about how productive they’ve been.

### **Resistance by managers**

Some teleworkers mentioned managers want to see the worker in the office, or agreeing to telework but not sticking to the agreement.

### **Working too many hours**

A few teleworkers said the biggest challenge is being able to stop working at the end of the day. One said it is a struggle to stop because the project is never really finished. Another said it is difficult to stop when the project isn’t complete.

### Lack of access to office resources

Not being on the company network, not having access to a company phone for business calls, and not having access to data are all mentioned.

### Missing meetings

Teleworkers say it is frustrating when meetings they must attend are scheduled on telework days or when they teleconference to a meeting but there are technical problems. A teleworker feels “out of the loop” when they have to attend an impromptu meeting by phone.

### IT Issues

Remote access problems, like slow or dropped network connections are the most frustrating IT issues.

Other challenges and frustrations include missing the social interaction and finding opportunities in the schedule to be able to telework.

At the end of a 15 week pilot project, teleworkers may not be able to accurately recall the problems they encountered along the way. This is why they were asked in each weekly telework diary if there were

#### Were there any problems with Telework last week? (15 week average)

No problem last week	86%
Minor problem, easily resolved	12%
More serious problem	2%

any problems during the past week. Most of the problems experienced by teleworkers are technological:

- Difficulties with remote access (slow, delays, dropped connections)
- Computer crash
- Internet connection problems
- Problems with remote working software
- IT didn't get access to files set up
- Conference phones don't work well / hard to hear

Examples of non-technology problems include:

- Pre-planning to remember to take everything home since there is no remote access to the server
- Forgot documents and had to have coworker email them home
- Not being supported by the company or treated as part of the team

## The Telework Experience

Based on the weekly telework diaries, the average teleworker in the project teleworked 28% of their employed days (vacations, holidays, and personal days not counted). That would be 1.4 days in a typical 5 day week or around 67 days a year (based on 240 employment days in a year)

Some participants teleworked much more than the average and some much less. During the course of the pilot, not all employees were able to telework as much as originally scheduled while others were able to increase their telework days. As the table below shows, the teleworkers that were scheduled to telework the minimum required for participation in the pilot (1 day every other week) were most likely to end up teleworking less than scheduled. Employees that teleworked weekly were more likely to get to keep to their schedule or even increase it.

### Telework Frequency

Less than once a week	34%
Once a week	28%
Twice a week	17%
3-5 times a week	21%

### Did you actually telework more or less than scheduled?

Column Percentages – Read Down	Days per week scheduled to telework			
	<1 Day	1 Day	2 Days	3-5 Days
N=	9	17	10	7
Teleworked more than scheduled	0%	12%	30%	0%
Teleworked same as scheduled	33%	65%	60%	100%
Teleworked less than scheduled	33%	18%	10%	0%
No longer teleworking*	33%	0%	0%	0%

\*One of these teleworkers would have stayed on their scheduled but was laid off.

From the survey data, the most common reasons that employees give for teleworking less than scheduled are:

- Manager asked me to work in the office
- Special projects required me to be there

Occurring nearly as often:

- I decided on my own that I needed to be in the office that day
- Coworkers want me to be there
- Meetings that I need to attend

From the weekly diaries it is evident that for many employees, taking a personal day off forfeits telework for that week. There are many instances of not teleworking a particular week because the employee took a vacation day, sick day, or other personal day. There were also numerous occasions when the employee attended a conference or other event one or more days during the week and so wasn't able to telework that week. Time in the office is viewed as more sacrosanct than a day working at home. On

the other hand, those that were scheduled to telework 3-4 days a week were never required to alter their schedule. “Regular” teleworkers are more likely to have work that is highly suited to telework, have the tools at home to do it, and to work in a culture that views their telework as just their normal way of working.

### Telework Equipment

Essentially all teleworkers indicate they need an office chair and other furniture, internet connection, antivirus / firewall, voice mail, software, and a computer (more mention a laptop than a desk top). Three-fourths or more also indicate they need a printer, cell phone, VPN or other network connection, and a flash drive or other portable storage device. The percent of employees that say each item is provided by their employer is shown on the left side below.

<b>Telework Equipment Provided by Employers (as indicated by employees)</b>		<b>Telework Equipment Provided by Employees</b>		
		<i>Row Percentages</i>	Employee Already Has	Provided by Employee in order to Telework
Software	77%	Office chair	79%	21%
VPN / other network	64%	Internet connection	81%	13%
Antivirus or firewall	60%	Office furniture	79%	15%
Laptop	49%	Printer	72%	15%
Voice mail	39%	Desk phone	60%	13%
Flash drive / portable storage	36%	Cell phone	60%	6%
Desktop computer	13%	Voice mail	50%	4%
PDA / smart phone	11%	Desktop computer	44%	4%
Desktop phone	9%	Flash drive / portable storage	36%	7%
Cell phone	9%	Antivirus or firewall	32%	9%
Fax machine	6%	Laptop	30%	6%
Internet connection	6%	Fax machine	23%	11%
Separate phone line	2%	Software	15%	6%
Printer	2%	Smart phone	17%	0%
Office chair	0%	Separate phone line	13%	4%
Office furniture	0%	VPN / other network	13%	2%

Note: percentages in this table are based on the number of employees who checked each item and are not representative of the number of employers who provide each.

*Some of the participating employers have only 1 or 2 employees participating as teleworkers, while other organizations have several participating employees. For this reason, answers to questions about what the employer does (as in this question) are not representative of employers. For example, 77% of the employees say their employer provides software, which is not the same as 77% of the employers providing software. It could be that all of the employees from one organization make this statement, which would skew the result.*

Employees provide a great deal of equipment as well. The previous table indicates the percent of employees who already had the equipment and the percent that purchased it in order to telework.

Employees made a number of comments about equipment:

- “Having my employer provide a laptop, software, and file storage device made teleworking much easier.”
- “If I were teleworking more, I'd like employer to pay at least part of my cell phone costs.”
- “I checked Desk Phone, however I use what is called a soft phone. It is an internet connected phone that I use and it has the same office number as I would when I am physically at work. The technology has some progress to make as sometimes I might be a little choppy or delayed, however that has not posed a problem yet.”
- “A separate phone line would be wonderful, and I may talk to my employer about this. My phone is forwarded to my home, and goes to my home voice mail, which is unprofessional. It also ties up my home phone line almost all day. Probably my biggest concern.”
- “Because I already have the office setup I'm not so sure that my department would have been willing to participate if they had to pay for software, furniture or additional equipment to set me up to work from home. Because I made it easy for them they could not say no to me working from home.”
- “I would like my work calls forwarded to my home phone and a headset provided by my employer since I spend a majority of my time on the computer and phone, even at home.”
- “My employer views telework as a privilege and so will not hear of providing an internet or phone connection, much less a computer!”

From these comments, and others, the expectations from both employee and employer about what equipment will be provided are related to telework frequency. Generally, teleworkers appear to be willing to absorb some of the cost, but would expect some reimbursement if they teleworked a great deal, or if they incurred costs outside the realm of telework (such as copying costs). Employers' attitudes about equipment also involve observing minimum security standards or liability considerations. Some employers insist on providing antivirus protection, properly licensed software, and dedicated laptops.

## Communication

All teleworkers report using email to communicate with their manager and coworkers on telework days; and all but one report using the telephone. Nearly half use Instant Messaging (IM) and/or telephone conferencing. Smaller percentages use web conferencing, desktop sharing, or video conferencing.

Frequent telework generally demands better communication and collaboration tools. With the exception of email and phone, which are used by everyone, all of these communication tools are used much more often by those who telework 3-4 days a week. Among these frequent teleworkers, 80% use IM, 80% use telephone conferencing, 50% use video conferencing, 40% use web conferencing, and 30% use desktop sharing.

### Communication: Percent that Use Each to Communicate with Coworkers & Manager

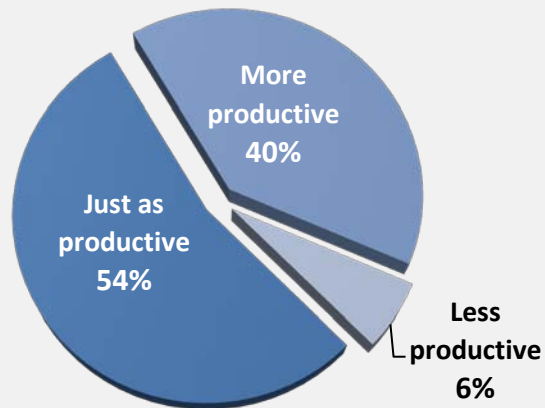
Email	100%
Telephone	98%
Instant messaging	45%
Telephone conferencing	45%
Web conferencing	17%
Desktop sharing	17%
Video conferencing	15%

## Productivity

Repeatedly, studies have shown that teleworkers are more productive. It is not just teleworkers themselves who report this, often managers agree, although not to the same degree. Productivity is often difficult to measure objectively, but there have been

In terms of getting work done, was your telework day (or days) last week ...

(15 week average)



some studies where this has been done and it bears out teleworker claims. There can be many reasons for greater productivity: Teleworkers most often cite fewer distractions at home, but one recent study indicates that some of the time teleworkers save by not commuting is used for work. During this project, teleworkers were asked in their weekly diary if their telework day (or days) were just as productive as a day at the normal worksite, more productive, or less productive – and why.

Reasons provided by teleworkers for less productive days range from tech problems, to household or personal

distractions, to a lack of cooperation among coworkers who would prefer to have the worker back in the office. The list of reasons, included in the data (Exhibit F) can prove useful for training purposes.

## Tech Support

It is evident from employee comments that technology is one of the greatest challenges to implementing successful telework. Understandably, many employers are unwilling to invest in technology infrastructure for occasional telework or when only a limited number of employees telework. When telework consists of working from home in order to write a report, upgrading technology isn't an issue. In addition, employers who are participating primarily for a pilot project may not want to commit resources for technology they may not use long term.

It can also be challenging for teleworkers. 60% of the pilot participants said they needed tech support from their employer during the pilot. Many problems involved initial network connections and software setup. Ongoing problems tended to involve slow and dropped connections or some equipment that didn't function as intended. Among those that received tech support, 71% were very satisfied with the support they received, 16% were mostly satisfied, and 13% were somewhat satisfied. No one was dissatisfied with the tech support they received.

It is also clear that for regular, ongoing, telework, technology is key, and many of the employers in the pilot project have implemented technology solutions over the years to support telework. Nearly two-thirds provide VPN (Virtual Private Network) or another connection to the organization's network. Several also provide specialized software. Learning to use these technologies, and even the interaction with tech support, has benefits for both employee and employer.

## Financial Impact on Teleworkers

Telework can offer a significant savings for some employees, but not for all. There are also some employee costs associated with telework. On the cost side, 33% of the pilot participants cite increased energy (gas / electric) costs, 13% mention office supplies, and 9% mention increased costs for telephone service. The percentage citing increased cost is higher for those who telework frequently. For example, for those that telework two or more days a week, over 60% cite increased energy costs. Estimated expenses by teleworkers ranged from \$4 to \$200 a month. Estimates range so widely because each individual worker has different work requirements. Office supplies alone can be expensive for some; one teleworker estimates \$90 a month in printer ink. Others spend a substantial amount on cell phone minutes; \$20, \$30, and \$150 a month are specifically mentioned. In addition, energy (heating) may vary widely for different teleworkers.

Savings come from many sources; primarily transportation and food, and for those who are able to reduce child care costs, those savings can be substantial. Employees with long commutes can save substantial amounts on gas, auto maintenance, and even auto insurance. These sources, along with

### Where Telework Saves Money

Gas / Auto maintenance	87%
Food / Meals	56%
Public transit	32%
Clothing/Laundry/Dry-cleaning	20%
Auto insurance	14%
Childcare	13%
Parking	13%

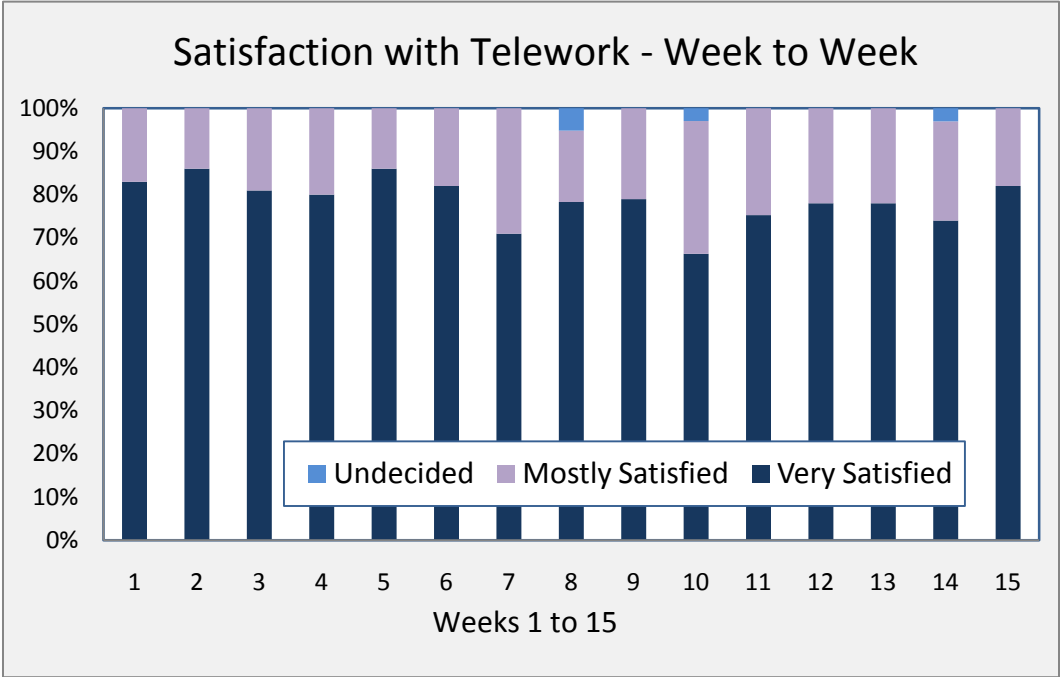
food/meals and childcare are cited more often by those that telework multiple days a week. Monthly savings also vary widely from employee to employee, ranging from \$5 to over \$800. About two-thirds give a figure of \$100 or less, with the majority of those in the \$30-\$60 per month range. About one-third save more than \$100 a month, with most of those citing a figure in the \$200-\$350 range. The following table provides a rough estimate of net monthly savings by comparing individual answers for increased expenses and savings.

Increased Expenses	Savings	Net
\$50/month??	\$30 month on gas	+ \$20 increase
\$50.00	\$50.00	0
\$200.00	\$200.00	0
\$10 in additional electric and water	\$10 savings in gas	0
5.00	10.00	\$5
None	\$5-10 on gas/car maintenance	\$8
\$50.00	\$60.00	\$10
Maybe \$15	\$25	\$10
None	\$5-\$10	\$10-\$15
Paper & ink: \$5.00	Gas & childcare: \$20.00	\$15
\$10.00	\$28.00	\$18
None	Saved around \$20 in gas monthly.	\$20
None	\$30	\$30
None	At least \$30.00	\$30
None	\$30	\$30
None	\$40/month?	\$40
None	\$40.00 - \$50.00	\$45
None	\$50	\$50
None	\$50	\$50
None	Appox \$50.00 a month	\$50
\$4 over a typical month	\$60 a month	\$54
\$20-\$30	\$75-\$100	\$63
\$5	\$100	\$95
\$25 a month (house heat)	\$130 average per month	\$105
cell phone 150/m and 25-50 electric	150 in gas and 200 in food	\$150
None	\$200	\$200
None	About \$200 a month in gas costs.	\$200
\$30 a month for telephone; \$60 for Office supplies	\$150 for lunches, \$100 on gas \$200 on ferry	\$360
\$10-\$15 monthly	\$30 month, \$800 for childcare*	\$815
\$20 a month more for increased cell phone minutes	teleworking 5 days/wk would save me \$1000/month	Unknown
10% to 15% increase in Energy costs	\$300 monthly	Unknown
About \$90/month in printer ink, and software costs	Childcare (unknown amount) and Gas (about \$30/mo)	Unknown
None	\$15.00 per day for gas and lunch.	Unknown

*\* It should be noted that such savings for child care are not typical as not all employers will allow teleworkers to care for children when working from home.*

### Satisfaction with Telework

Each week, teleworkers were asked in their telework diary, taking everything into consideration, how satisfied they were with telework at this point in time. Satisfaction with telework remained high throughout the 15 week project. The 15 week average is 78% very satisfied, 21% mostly satisfied, and 1% undecided.



The Telework Survey Data that can be downloaded from the toolkit website includes teleworker comments related to their level of satisfaction on a weekly basis.

## Future Telework

Teleworkers were asked a number of questions about their possible involvement with telework in the future. They were presented with the following hypothetical question:

*“Imagine for a minute that your employer wanted you to telework as much as possible, and imagine that you had reliable network access and all the tools and equipment you needed at home to do that. Under those conditions, how often do you think you would still need to come into the office?”*

Of course this is only the employee’s perspective, but approximately half the employees say they would only need to come into the office once a week or less; over two-thirds feel they would need to come into the office 2 days a week or less.

Looking at job titles in relation to the answers to this question, it appears that those who feel they seldom need to come into the office are mostly employed working with information and design elements (managing things rather than people). Those that still need to come into the office most of the time interact with other people; managers and Executive Directors are in this group. There doesn’t appear to be any relationship between answers and the work done by the organization as a whole – it is the work done by the individual that is relevant.

In reality, most teleworkers do not want to telework all of the time: over half (56%) want to telework only 1 or 2 days a week. Most employees however, would like to increase their telework days.

- Among those that currently telework less than once a week, 63% would like to telework 1 day a week and 31% would like to telework 2 days.
- Among those that currently telework 1 day a week, 23% would like to stay with once a week, but the remainder would like an increase: 2 days (23%), 3 days (23%), 4 or 5 days (31%).
- 63% of those that currently telework twice a week want to continue at that level. 25% would like to telework 3 days a week and 13% would like to telework 5 days a week.

### Days Required in the Office if Teleworking as Much as Possible

Almost never	9%
Rarely	11%
Less than once a week	13%
1 day a week	17%
2 days a week	28%
3 days a week	17%
4 days a week	0%
5 days a week	4%
Don't Know	2%

### Days Per Week Teleworkers Would Like to Telework

1 day	28%
2 days	28%
3 days	23%
4 days	6%
5 days	15%

20% of the teleworkers in the study say they have missed meetings or other office events that occurred on their telework days. When asked what they think they would miss if they teleworked more often, a common theme emerges. Teleworkers would

*“I would miss out on hearing the office politics (concerns, thoughts, progress reports from others, etc.). Things that cannot easily be communicated via phone or email.”*

Teleworker

miss the social interaction, team building, and in-person collaboration that occur at the office – both work-related and purely social.

As more people telework, it becomes more difficult to maintain team cohesion. Although much collaborative work can be accomplished through new technologies,

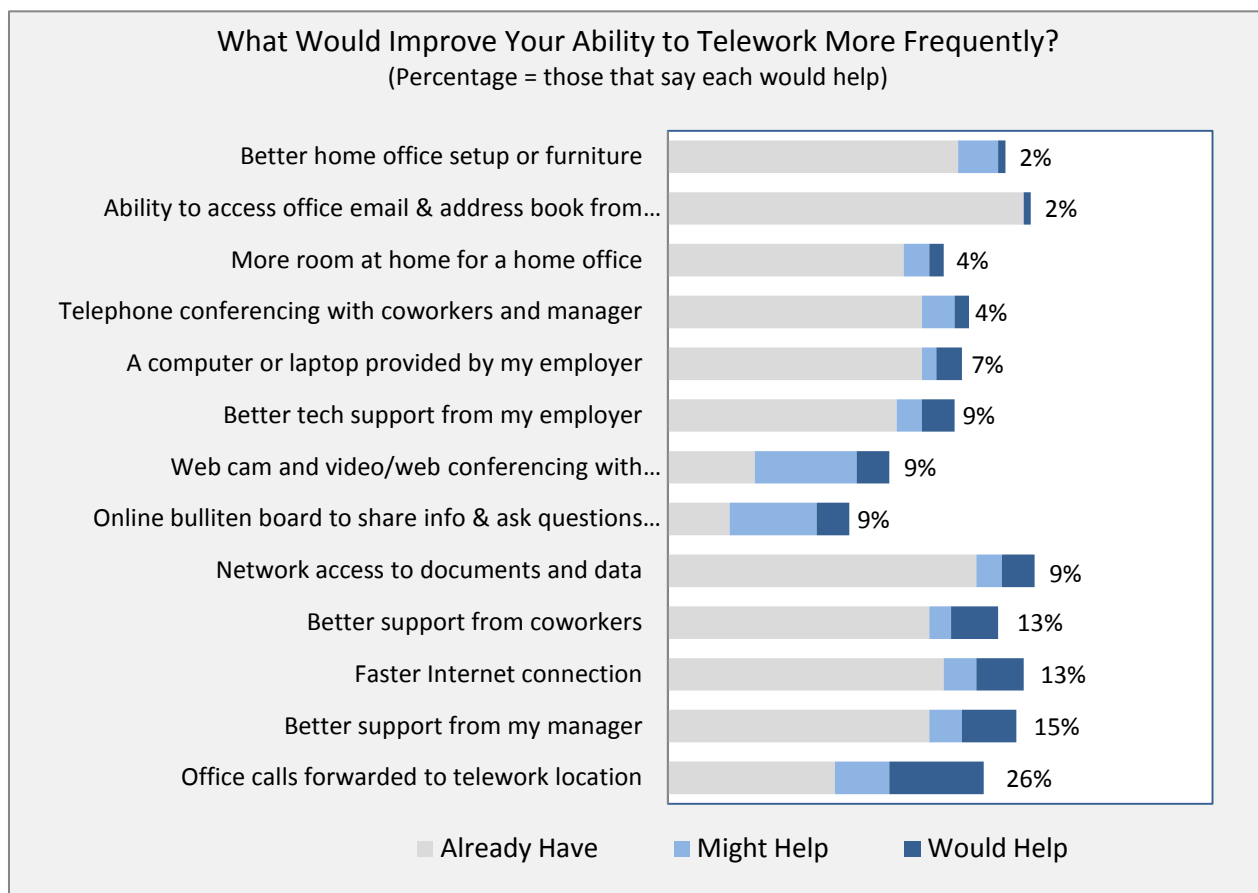
some employers have added a stronger social component to meetings to help preserve teamwork and friendships.

When asked what would improve their ability to telework, 26% of the teleworkers say having office calls forwarded to their home would help.

15% say having better support from their manager would help (note: 72% say they already have their manager’s support); 13% say a faster internet connection; 13% say better support from coworkers.

*“I miss my coworkers but even that has been taken care of, once a month we have an office meeting that I attend, where we have breakfast (we all bring goodies from home).”*

Full-time Teleworker



Teleworkers are not opposed to training, although interest in these training topics is much less among those that already telework 3-5 days a week. There may be other, more advanced, topics that would interest them.

Two topics were of greater than average interest to those that telework 1 day a week or less: Collaboration tools and troubleshooting tech problems.

Most of the teleworkers who participated in the pilot project will continue teleworking: 72% said they will continue; 13% said they probably will. Among these, 78% will continue the same days as now and 13% believe they will be able to increase their number of telework days. 5% think they may be teleworking less.

When asked how telework could be improved in their organization, the most common theme in employees' comments is greater commitment by their employer. Here's a sample of quotes from teleworkers:

- “More support of teleworking on a corporate level, not case-by-case as a 'favor' or perk.”
- “Ensure management commitment to telework. Not just saying they commit, but actually committing.”
- “Have a manager who actually believes in telecommuting rather than one who merely says he does and then does all he can to put up barriers and show distrust of workers who do telecommute.”
- “More support from the manager, and those co-workers who do not also telework. However, the concept is great, and ran smoothly on the days I participated. I had great tech support, and the same amount of access to work while I was at home.”
- “Offer teleworkers a review of our home network setup to see if it can be improved (decrease lost connections, resolve wireless issues, etc.) Also, make sure all conference phones are in top working order.”
- “More phone support, providing a line for work. More communication with IT when remote access is interrupted.”
- “Have a written telework policy, including reimbursement process for expenses incurred at home (e.g. printer ink & paper, office supplies). Enable VPN access and improve email access from home.”

## Teleworkers That Want Training on Each Topic

Collaboration tools, like desktop sharing or web conferencing	28%
Telework best practices	26%
Troubleshooting tech problems	19%
Internet & remote working skills	15%
Understanding the telework policy	13%
Time management skills	11%
Records retention requirements	11%
Ergonomics (posture, furniture, keyboards, monitor height, etc.)	11%
Data security	9%
Home office safety	6%
Setting up a home office	2%

## Survey Findings: Telework Managers

In the telework literature, managers are frequently pointed to as one of the central pillars upon which a telework program rests; either a key to success or a reason for failure. Because telework has little chance of success without the support of managers, it was important they be included in the pilot project. 24 managers participated; each with at least one employee participating as a teleworker. 23 managers completed a baseline survey at the start of the project and 20 managers completed a follow-up survey at the conclusion of the project. Both surveys were conducted online.

Half of the managers are men and half are women. Two-thirds are between 45 and 54 years of age and two-thirds have a BA or Graduate degree. Over half have been with their current employer more than 10 years and over half have been in their present position more than 5 years. The number of employees they manage ranges from 1 to 280; 60% manage fewer than 10 employees.

Many of the participating managers are in fact senior management if not the director of their organization, which is typical of smaller organizations. While this may not be representative of line managers in large organizations, it provides insight into the thoughts and opinions about telework from decision makers. Below are the official job titles of participating managers:

- Principal
- Executive Vice President
- Executive Director (2)
- Fire Chief
- Assistant Superintendent
- Service Development Director
- Public Works Director
- Communications Director
- Director of Military & Continuing Education
- Director of Facilities Service
- Director, Information Technology Services
- Director of Technology & Facilities
- Administrative & Information Services Director
- Human Resources Manager
- Dealer Finance Manager
- Technical Services Manager
- Manager, Library & Information Services
- Information Technology Manager
- Human Resources Consultant
- Senior Legal Consultant
- City Clerk
- Graphic Designer/Webmaster/IT

Almost all of the managers (96%) have teleworked at some time themselves. Because the definition of telework can be extremely broad, this experience may not indicate telework on a regular basis. Roughly half of the managers currently telework, and three participated as a teleworker (as well as a manager) in the pilot project. Many have been managing one or more teleworkers for some time. This prior experience as a teleworker and telework manager is informative to the project. It does mean, however, that “lessons learned” are not necessarily lessons learned only by participation in the pilot project – they are instead lessons learned through experience over some time.

Technology can play an important role in telework; replacing in-person communication between the teleworker and their manager and coworkers. Problems can arise when managers don’t know the technology. Managers in the pilot project are acquainted with many communication technologies, using them at least occasionally. Managers age 55 and older are less likely to have posted messages to an online bulletin board, used a web cam, posted to a social networking site, or contributed to a wiki or other shared web page. On the other hand, they are more likely to check their email on a mobile device.

Percent of Managers That Do Each Occasionally or Frequently	
Participate in telephone conferences	95%
Check email on a mobile device	64%
Participate in web conferences or online meetings	64%
Post messages to online bulletin boards, forums or user groups	50%
Use Instant Messaging or online chat	45%
Post to a social networking site	32%
Contribute to a Wiki or similar shared web page	23%
Use a web cam	14%

Managers gave a variety of reasons for participating in the telework pilot project. Several hoped to learn better ways to manage teleworkers or to make telework more productive. One wanted to learn the impact of the employee teleworking on a regular schedule. Some wanted to learn the real facts about what works, rather than just promotional messages about how great telework is. Several participated so the project could leverage their years of experience with telework.

## Selecting Teleworkers for the Pilot

Almost all of the teleworkers that participated in the project were selected by their Manager. Each manager had his or her own reasons for selecting the employees they did. There were no selection criteria established by the project for participation. There was a requirement for teleworking at least one day every two weeks.

Many managers selected employees with prior telework experience. Over a third of the employees selected were already teleworking on a regular basis.

### Prior Experience of Employees Selected for Pilot

Already teleworking on a regular basis	36%
Teleworked occasionally	42%
Wasn't teleworking when selected, but had previously	7%
Had never teleworked prior to the pilot	16%

Reasons managers give for explaining their selection of particular employees are:

### Reasons Employees Selected for Pilot

(Asked for each individual employee then summarized in table)

Teleworking experience	80%
Employee wanted to participate	77%
Responsible	77%
Competent	74%
Trustworthy/Reliable	74%
Independent worker	74%
Has work that is suitable for telework	68%
Manages time well	61%
Already had equipment	52%
Employees need for a flexible work arrangement	39%
Has a good home office setup	32%
Employee works unusual hours	23%
Goal driven (write-in answer)	3%

Many of the reasons on the above list coincide closely with the advice often given to managers about how to select employees for telework: Select those that are responsible, can work independently, manage time well, etc. This means that in the pilot project, as in real life, employees selected are not “typical” of all employees. They are, however, representative of employees that typically start a telework program.

When programs expand to a broader employee base, management can become more difficult. In the pilot project there were five employees selected that had never teleworked before. In all five cases the managers checked “Competent”, “Trustworthy/Reliable”, “Independent Worker”, “Responsible”, and “Has work that is suitable for telework”. In other words, managers were looking for employees that would be most successful. Interestingly, these reasons were checked much less often as reasons for selecting employees that were already teleworking – those employees had already proven themselves. Instead, managers checked “Already teleworking or prior experience” and “Employee wanted to participate”.

Managers did indicate some restrictions on what teleworkers could or could not do from home:

- No taking financial records out of the office
- Work has to be seamless to the customer
- No visitors to the home on work-related business
- Cannot involve personnel or confidential matter
- Limited to paperwork that does not need to be in the office at all times
- Must list projects being worked on and use VPN connection for work
- Work that can be quantified
- Must track time, must be accessible, must be productive
- Whatever she finds that she can reasonably do from home

52% of the managers say they required teleworkers to sign a Telework Agreement. 17% have a verbal agreement and 17% are not sure they need an agreement.

### Teleworker Schedules

Managers state that over three-fourths of the employees telework one day a week or less. Only employees already teleworking (either regularly or occasionally) at the beginning of the pilot project work more than one day a week. Employees, in their survey, are somewhat more likely to say they telework more than one day a week. Employees, however, may be including the times they telework partial days or on weekends. Part of the nature of telework is that your work is almost always with you and it is tempting, and convenient, to work a few hours on a non-telework day to catch up or complete a project.

Frequency Employees Telework (Estimated by Managers)	
Occasionally	16%
One day every other week	16%
One day a week	45%
Two days a week	13%
Three days a week	0%
Four days a week	7%
Five or more days a week	3%

Each week, teleworkers were asked in their telework diary if they teleworked the previous week. If they did not, they were asked why. Looking at all 15 weeks in total, 39% of the employees didn't telework because they were required at the central worksite. Actually, some of the employees were not supposed to telework the previous week because they were on a 'once every other week' schedule. When those employees are removed from the calculation, the percentage scheduled to telework who said they were required at the office is much higher: 50%. It should be noted that sometimes employees make this decision themselves. It isn't always the manager who requires the telework to be at the office on a scheduled telework day.

Managers were asked about this in the follow-up survey. Three said this did not occur at their office and one said that when it did occur the employee rescheduled their telework to a different day. The remainder explained the situations that led to the employee losing the opportunity to telework that week.

One of the standard pieces of advice found in the telework literature is that employees should be on a regular telework schedule. While there are many sound reasons for this, it is apparent from the pilot study that regular schedules are difficult to maintain in small organizations. Here are some examples provided by managers.

- Important meetings where the employee's presence is required. Examples include meetings to discuss budget cutbacks, staff re-alignment, and other pressing issues, meetings where the schedule is determined by customers or vendors, and meeting in which the employee participates (takes notes, makes a presentation, etc.).
- Presence required for production deadlines when employee must work with material that cannot be viewed online.
- Covering for other employees who are on vacation, sick leave or other absences.
- Project deadlines, sometimes requiring equipment only in the office.

In reading the managers' comments, there does seem to be an unwillingness to alter or reschedule telework to another day when the employee is required to be present on their scheduled telework day. Only one manager said this is done, although one other manager said that whenever possible telework was scheduled around known events.

Employees in small offices wear many hats and it is chaotic to have constantly shifting schedules. This poses a real barrier to the expansion of telework in small organizations or small departments. Extra effort may be required for telework to be 'regular' rather than just 'occasional'.

## Support Provided to Teleworkers

Managers were asked what equipment, software, or support they provide to their teleworkers. It should be noted that the percentages reported are based on the number of managers responding, and don't represent the number of organizations that provide these items. (Some organizations have multiple managers participating.) A similar question was asked of employees (What does your employer provide?) but those answers also do not fairly represent what an organization provides, since there are multiple employees at each participating organization.

The answers given by managers from the same organization do not always agree; for example, one manager may mention VPN while another may not. When some of the equipment or software is provided by the IT department, managers may not really know. It is also possible that the equipment, software and support that is provided varies from manager to manager within an organization based on what the Manager feels the employee needs to do the job.

A better question might have been *“What equipment could be provided to teleworkers?”*

This can be derived by looking at answers from

individual managers within an organization. In 67% of the organizations, at least one manager said VPN (Virtual Private Network) or other network connection was provided (not necessarily to all teleworkers). This was of special concern because VPN is viewed as a solution to some security concerns and provides the teleworker with access to the information they would need for normal work (as opposed to special project work).

### Equipment, Software and Support Provided to Teleworkers

VPN or other network access	65%
Office software	50%
Specialty software	45%
Laptop to check out when teleworking	45%
Tech support	40%
Call forwarding to home	35%
Anti-virus / Firewall	35%
Basic office supplies	35%
Flash drive	30%
Computer or laptop in the home	20%
Financial help for setup or internet connection	10%
Special training for telework	10%
Smart phone or PDA	5%
High speed Internet connection	5%
Cell phone	5%

Note: The percentages in this table are the percent of managers who indicate that each item is provided. Since there is sometimes more than one manager from the same organization participating, these percentages do not represent the percent of organizations that provide each item.

The organizations that provide VPN are not necessarily the larger organizations – it is also offered by small ones. However the decision to offer VPN to teleworkers may have to do with whether or not VPN was already available because of other business needs, rather than simply as a telework solution. For a small organization, purchasing VPN just for telework would signal a commitment to an ongoing telework program.

Also using this revised method of calculating, 50% of the organizations provide office software, specialty software, a laptop that can be checked-out for telework, and/or tech support. 42% provide call forwarding and 42% provide antivirus/firewall protection (in reality this last percentage may be much higher since it is probably preloaded into the laptops and computers. 25% provide a desktop or laptop computer for the teleworker.

Managers mentioned other types of equipment they provide:

- Zero interest loans for ergonomically correct chairs, desks, and computers
- Desktop sharing software
- A Soft Phone (an Internet-based phone) and Instant Messaging
- Remote access to the employers LAN and scan cards for long distance calls

### Opinions & Perceptions about Telework

Overall, managers have a positive opinion about telework – as pointed out earlier many currently telework, or have in the past. A sampling of positive comments includes:

- “It works well for the employee who has to work late but knows that they won't have to make the additional trip into work. Good for morale.”
- “I have a long experience with telework and believe when used in the right way is a very valuable tool for the employee and employer. Employees are more productive on their telework day, builds employee morale, and trust between supervisor and employee.”
- “I have done it myself and know that it can work. The biggest benefits include time to focus on projects, and the ability to get more done without wasting time (and money) commuting.”

<b>General Opinion of Telework</b> (Asked at the beginning of the project)	
Generally negative – suspect telework is a bad idea	0%
Somewhat negative – skeptical about telework	4%
Neutral – no opinion	0%
Somewhat positive – think telework is worth a try	26%
Generally positive – think telework is a good idea	70%

- “Allows employee flexibility/satisfaction and strengthens business continuity plans.”
- “We have a crowded busy office and teleworking is often our only opportunity to have quiet concentration time.”

Even when generally positive, managers have some reservations about telework:

- “Not sure that it is good for the employee 'community.' Not the same as being in the office and participating in team efforts. “
- “Presence in the office has it value.”
- “It may work for some but not others. I think it is worth a try but only 10% of the time for people in my department.”
- “It is difficult to manage - everyone wants it and few have the work load that supports teleworking.”
- “Concern about loss potential of collaboration and sense of entitlement that makes it difficult to schedule office events”

The general opinion about telework shifted slightly over the course of the pilot project; two managers became more positive and one more negative.

Two contrasting explanations illustrate that telework can be an empowering benefit, but doesn't work in every situation:

- We have a number of older workers in our office who would like to retire but who cannot and seem to be using telecommuting as a way to remove themselves from the office. They seem less engaged, less able to participate on a team as a flexible contributor, and more removed from any forward momentum of the office
- I have seen new strengths in my teleworking staff and that opens new doors for their growth and my being able to rely on them even more than before for higher-order tasks - that frees me up too! I appreciate their responsible attitude.

### Has Your Overall Opinion of Telework Changed?

(Asked at the end of the project)

I'm more positive than before	11%
I'm slightly more positive	0%
No change – I was already positive about telework	83%
No change – I was already negative about telework	0%
I'm slightly more negative or skeptical now	6%
I'm more negative or skeptical than before	0%

## Benefits of Telework

At both the beginning and end of the pilot period managers were asked to provide their opinion on the benefits of telework by rating how much they agreed or disagreed with eleven benefit statements.

In both surveys the benefit on which most managers agree is that **telework helps employees concentrate on difficult tasks**: 86% agreed with this statement (strongly or somewhat) in the baseline survey and an even larger percentage (95%) agreed in the follow-up survey. This is how telework is most often utilized by the majority of managers and teleworkers.

Managers also strongly agree that **telework increases employee morale** (82% baseline / 80% follow-up).

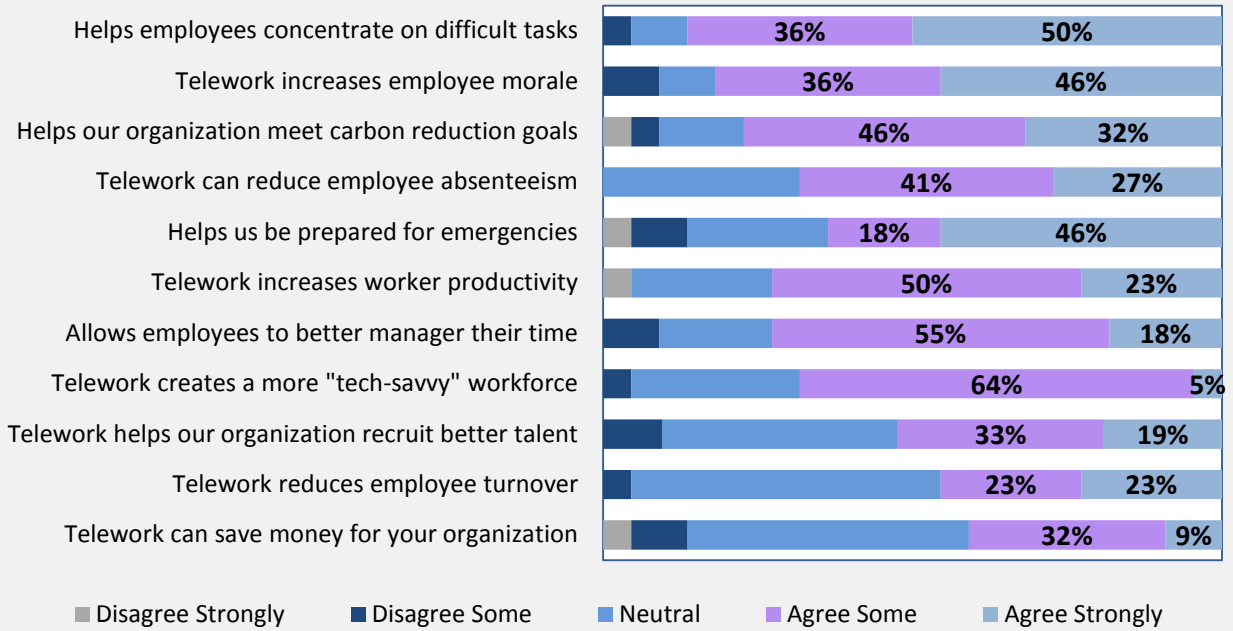
Overall, managers tend to agree with most statements. The only statements managers are more ambivalent about are that telework can **save an organization money**, that it **reduces employee turnover**, or **helps an organization recruit better talent**.

There is little change in opinion between the baseline ratings and follow-up ratings. Exceptions are **concentrating on difficult tasks** (mentioned above) and **telework creates a more “tech-savvy” workforce**; both rated more positively in the follow-up survey. Actually, the latter statement did not have more managers agreeing in the follow-up survey, but a number shifted from “agree somewhat” to “agree strongly”, which raised the average rating.

The positive rating for **telework can reduce employee absenteeism** declined some from the baseline survey (68%) to the follow-up survey (50%).

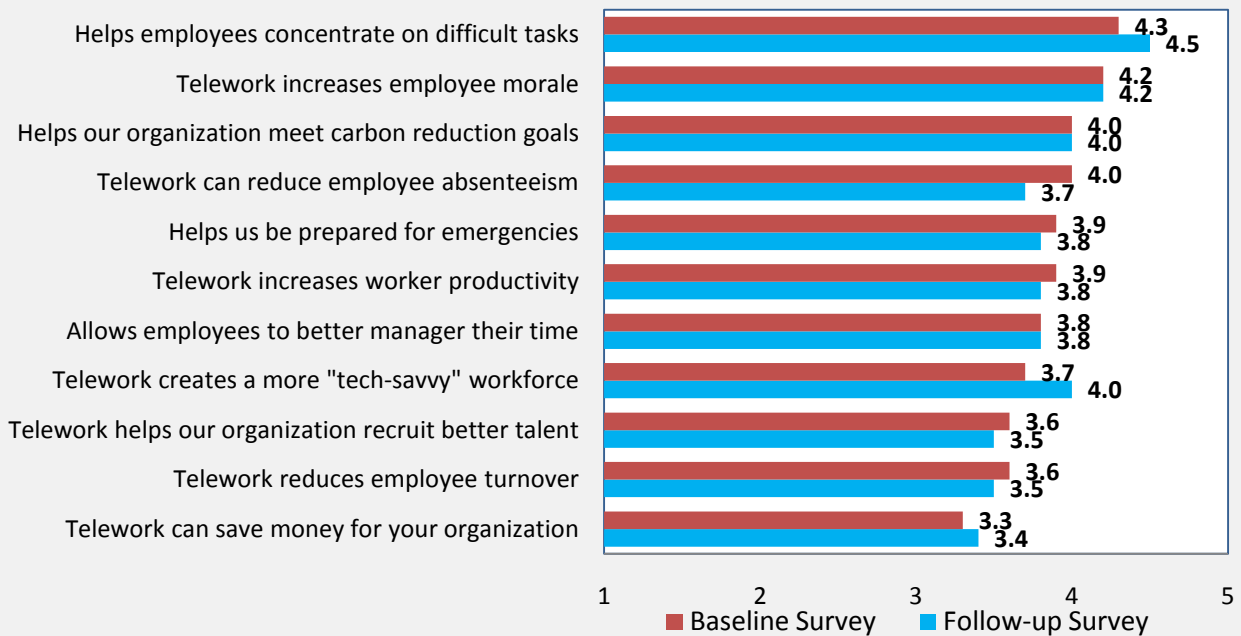
It is interesting that Managers are more likely to believe telework **reduces absenteeism** than that telework **reduces turnover**. It may be that managers see telework as addressing morale issues, probably through greater flexibility for the employee, whereas turnover is caused by situations that telework cannot address as well.

## Benefits of Telework - Baseline Ratings by Managers



## Benefits of Telework - Average Ratings by Managers

(1=Disagree Strongly / 5=Agree Strongly)



## Concerns about Telework

Telework literature constantly warns that telework programs can be scuttled by resistance from managers. From a review of the literature, a list of the most commonly cited reasons for manager resistance was included in the baseline survey and managers were asked to indicate their level of concern regarding each.

In general, managers do not indicate a great deal of concern about any of the issues. When they are concerned, they are more likely to be “somewhat concerned” than “very concerned”.

Managers are most concerned about the effect of telework on non-teleworkers:

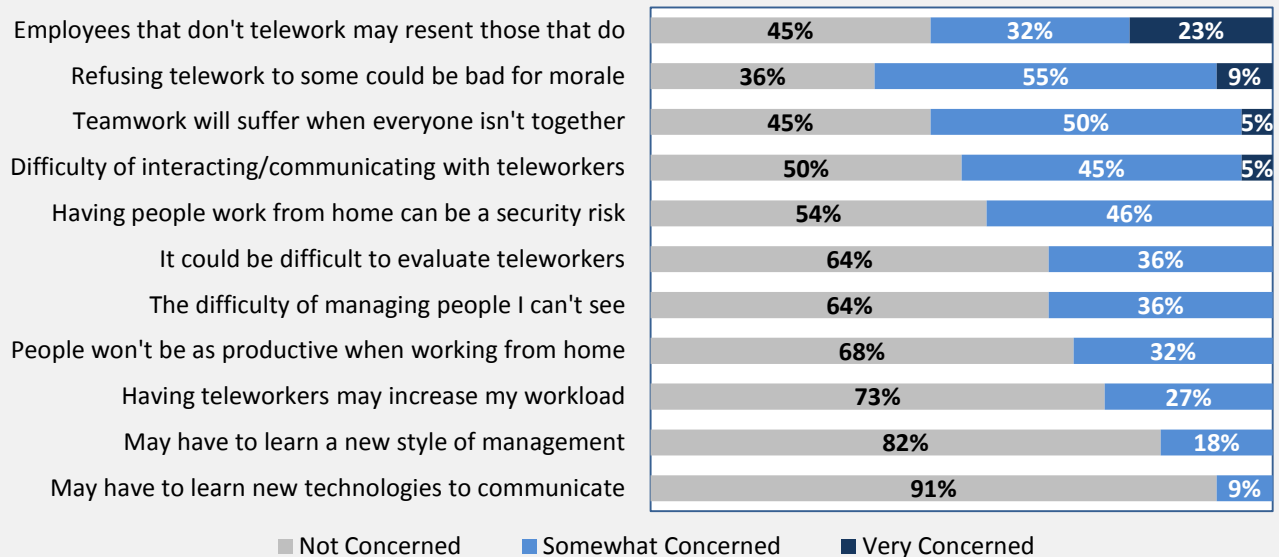
- 23% are very concerned and 32% are somewhat concerned that **employees that don't telework may resent those that do**.
- 9% are very concerned and 55% are somewhat concerned that **refusing telework to some could be bad for morale**.

They are also concerned that **teamwork will suffer when everyone isn't together all the time** (5% very concerned, 50% somewhat concerned). This is of greater concern to older managers than to younger ones.

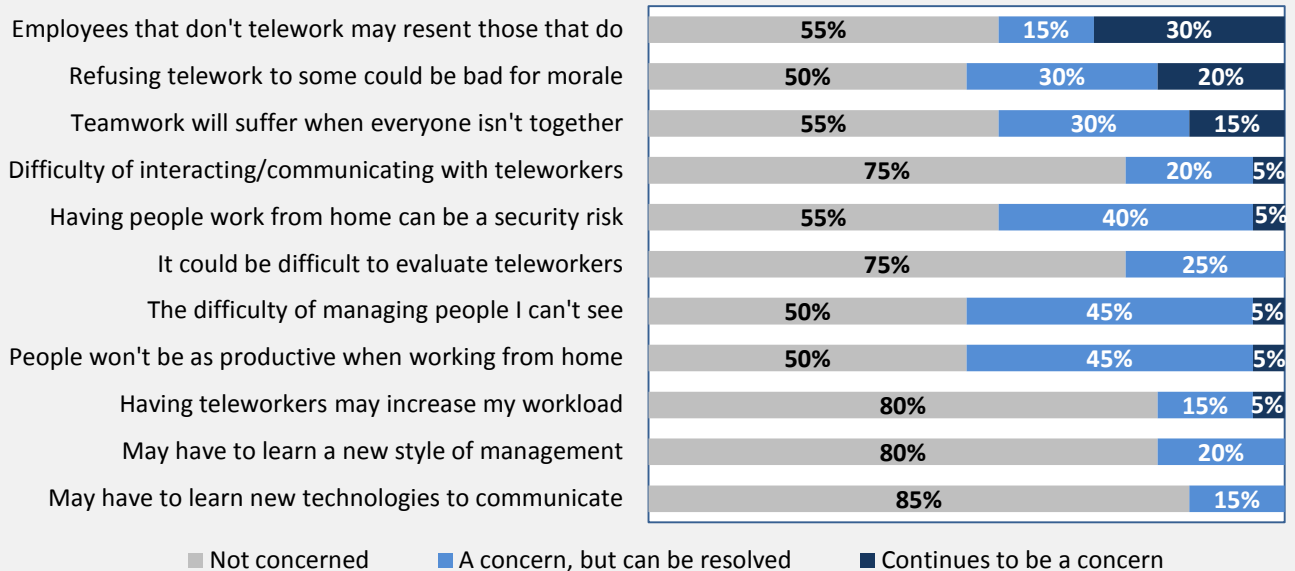
There is almost an equal level of concern that it will be **difficult interacting and communicating with teleworkers** (5% very concerned, 45% somewhat concerned).

For the remaining concerns, more managers say they are “not concerned” than say they are “somewhat concerned”. None of the managers are “very concerned” about the remaining issues.

### Manager Concerns About Telework: Baseline Survey



## Manager Concerns About Telework: Follow-up Survey



In the follow-up survey managers were presented the same list of issues and asked if they were still concerned about each (chart previous page). They remain concerned about the same issues: the effect of telework on non-teleworkers and teamwork.

### ***Employees that don't telework may resent those that do***

Quotes from Managers about why this is an ongoing concern are:

- “Since unqualified personnel may be continuously jealous of teleworking employees, regardless of management efforts to reduce this. Thank goodness it isn't a problem at our job.”
- “Given the large number of on-site people required in our organization, telework will not scale very well and further a perception of unfair treatment.”
- “It gives the perception that some employees receive special treatment. This can be resolved based on job description and requirements of position.”
- “Employees continually asked why they can't telecommute.”

Other managers offer some advice on this situation:

- “Make it plain that the ones teleworking are getting their jobs done. Also we have offered limited teleworking to all employees in the department. Those who don't (telework), do so by choice.”
- “Honest communication with employees. As a manager, you have to be honest with employees where it isn't a good fit and let them know why.”

### ***Refusing telework to some could be bad for morale***

This issue has the second highest level of concern with 20% saying it continues to be a concern because of a perception of special treatment for teleworkers; a benefit that not all employees can enjoy:

- “My perception is that telecommuting creates an entitlement mentality for those working from home. Some jobs can't telecommute.”
- “The perception exists that some employees will receive special treatment.”

30% of the managers say that although this issue is a concern, it can be resolved. They point to having good communication with employees, having the telework option closely tied to job descriptions, and offering at least limited telework to all employees.

### ***Teamwork will suffer when everyone isn't together all the time***

In the baseline survey, only 5% of the managers were “very concerned” about this issue, but 50% said they were “somewhat concerned”. In the follow-up survey, 15% said this continues to be a concern. This issue is closely related to morale and to collaborative work. Many managers work hard to create a productive team, and it is understandable they will have concerns about anything that might disturb the positive atmosphere. Part of that atmosphere is simply that a room full of people looks and feels productive.

- “Some days there are so many vacant offices it feels like the organization has lost its soul. It is harder to schedule team meetings.”
- “Camaraderie in the office I believe has suffered somewhat, but not to offset the value of improved morale and effective time use.”

Managers who say the problem can be resolved talk about communication. They also indicate that the problem doesn't arise if telework is limited. This point is also made by those who say they don't have a concern, suggesting that full-time telework or frequent telework might create a concern:

- “We have conference calls, occasional meetings that bring them into the office.”
- “As a team, we have to be more efficient and effective at our communications with each other. There needs to be at least one day where everyone is together in the office.”
- “This can be resolved with meetings to talk about projects.”
- “People don't exclusively telework and balance the need for team time with think time.”
- “My employee works at home one day a week. I would struggle if she did this more frequently. I feel this is a good balance for her and our department.”
- “Doesn't apply to us as our telework time is limited.”

### ***The difficulty of interacting and communicating with teleworkers***

Managers are not quite as concerned about communication with teleworkers as they were at the beginning of the pilot project. By the end of the project only one Manager said it continues to be a concern, stating that one-on-one communication was OK, but meetings were difficult. It is unclear if the concern is about the teleworker not being present for meetings or if it is difficult to schedule meetings.

Of the remaining managers, 20% said it is a concern that can be resolved and 75% say it is not a concern.

- “Modifying the methods, tools and timing of communications to accommodate teleworking is essential.”
- “Teleworkers expected to be (a) online and fully accessible or (b) offline working on project (similar to a closed office door).”
- “We can exchange email or call on our blackberries.”
- “Took me a little while to realize that it was OK for me to contact teleworkers at home. I was very used to treating away-from-office time as their sacrosanct personal time.”
- “Teleworker is available via email and is fairly prompt.”

### ***Having people working from home can be a security risk***

Only one manager says this continues to be a concern:

- “Using personal computer equipment to work from home without tech support can make the employee's own computer susceptible to viruses which can be sent to work computers during teleworking.”

40% of the Managers say this problem can be resolved:

- “All staff in this department know how to stay secure and I trust them to do so.”
- “Policies restrict what data can be removed from office.”
- “Teleworkers understand the risks to network security and are proactive and making sure proper patch and antivirus measures are taken.”
- “There is plenty work to be done that is not a high risk security issue.”

It should be pointed out that had the survey been completed with IT managers the level of concern could be much greater. Not all managers may be fully aware of security issues and IT may not be fully aware of what teleworkers are doing, which is why it is advisable to have a security policy in place that addresses telework.

### ***It could be difficult to evaluate teleworkers***

There is a fairly low level of concern about this issue: 75% say it isn't a concern. 25% say it is a concern that can be resolved by setting goals, measuring outcomes, and by the quality of work completed.

### ***The difficulty of managing people I can't see***

This concern is mentioned in the literature so often as the source of manager resistance to telework that it is almost cliché. In the follow-up survey only one Manager said this continued to be a concern and their explanation is not so much about "managing" as about "customer service":

- "We respond to inquiries. Volumes are down. Not sure why. One possible explanation is that customers have to leave voice mail for telecommuters. Don't get direct connection to consultant on first call."

In this case there may be other reasons for the low volume of inquiries, but if voice mail is the problem, this organization may need to install call forwarding or a similar telephone service for teleworkers. Seamless customer service becomes more critical as the number of teleworkers and frequency of telework increases.

45% of the managers say managing people they can't see is a concern that can be managed. Their comments, which mention trust, closer communication, and the accountability and responsibility of the employee, indicate changes in management that have been employed:

- "Trust must first be gained by managers for employees that would telework. A qualifications process must be observed to ensure an employee can handle the technology, responsibility, and work-ethics."
- "All our teleworkers also have regular hours in the office. Their performance is based on job accomplishment, not time in the chair."
- "Greater learning about new ways to manage staff."
- "It has helped us to be clear about the metrics that we are measuring, and to be proactive in discussing what tasks are being worked on (more so than with some of my employees in the office)."
- "Accountability of the employee. Answering email consistently and evidence of work being completed on time."
- "I think this depends on the employee. I currently do not have any issues managing the employee participating in this program."
- "We have telecommuters send an email when they log in and off. We can also track computer log in time. Work productivity is also a way to monitor."
- "The key is selecting the right people in the right positions. Teleworking is productive for some people, but not for everyone. And it certainly doesn't work for all positions."

- “Use Instant Messaging to keep in contact and communicate. Set goals for day of what can be accomplished.”
- “My staff is professional and can be trusted to do what is required of them.”
- “This is totally based on the individual who is telecommuting. I trust her work and sense of obligation to stay focused. She supplies me with her to-do list and then what she was able to accomplish.”
- “I have learned to focus more on outcomes than the “what's” of what is being done. This has had the added benefit of enabling me to see the teleworkers as operating at a higher level of competence.”

### ***People won't be as productive when working from home***

Only one manager indicates this is still a concern. Their concern is “... people who are adept at being creative to make it look like they are working when they are not”. If this occurs the employee is clearly not ready for telework. Or, the manager may need to have a system of goals and deliverables in place for their own piece of mind. Most manager say this isn't a concern (50%) or that it can be resolved (45%). Their comments may provide some solutions for the manager who continues to be concerned about worker productivity:

- “Monthly status reports on projects and work are required.”
- “Performance based on jobs completed, that is measurable.”
- “How much a reality, how much just perception? New management skills will determine and manage it.”
- “Again, an open dialog with the employee about the tasks to be accomplished helps raise consciousness.”
- “If the employee and the employer do not have that level or trust, it should be stopped.”
- “It is important to have clear goals, expectations and deliverables.”
- “This concern is based on type of equipment available for employees.”
- “Computer issues and access to computer networks impact ability to be productive at home.”
- “Have specific tasks that need to be done, and check results. Our employees know what is expected of them.”
- “My experience has been just the opposite: my employee is far more productive at home due to fewer interruptions.”

### ***Having teleworkers may increase my workload***

80% of the managers say this isn't a concern. Only one manager said it continues to be a concern, but didn't provide an explanation. 15% say it is a concern that can be

resolved.

- “Methods, tools and timing of communications change to accommodate teleworking.”
- “I do have to answer phones on the day she is teleworking, but her gains far outweigh this small inconvenience. Plus, it helps me stay in touch with the nature of calls we get.”

Most of these managers do not manage very many teleworkers and most teleworkers don't telework frequently. In other situations, the difficulty of managing teleworkers might increase.

***I may have to learn a new style of management***

This is not a concern to most managers. Only 20% say it is a concern, but one that can be resolved.

- “Learning to adapt to the changing environment is a needed skill, as well as planned communications-- including some 'face time' with the teleworking employee.”
- “Managers should be managing in this style anyway - clear, concise, working with employees to set achievable goals, etc.”
- “Most of my staff work in off-site locations, so having someone work from home is similar. I have very independent people working for me so this is a good arrangement.”
- “I have learned new ways to see teleworkers and their competence and outcomes. I had to grow and I think I did!”

***I may have to learn new technologies to communicate with teleworkers***

Managers are even less concerned about this. Learning new technologies may be more valuable as employees telework more frequently. And, as managers have pointed out in their other comments, good communication is critical; the method of communication is less important.

- “We continue to update information needed and pass it along to other staff members.”
- “Employee needs to know how to use remote PC software. It does not impact me.”
- “I am working on my part of this learning area!”
- “The more learned the better.”

## Advice to Other Managers

Managers were asked what advice they would give to a Manager in an organization that was just starting a telework program. Their advice is worth reading and is reproduced here in full. Common themes include **selecting qualified people, constant and close communication**, particularly about expectations and deliverables, and **trusting the employee**.

- “Make sure the employees qualify before attempting to begin. Keep workloads in check. Don't annoy or offend employees by contacting them outside of normal business hours unless pre-authorized by employees.”
- “Create clear expectations up front.”
- “Make sure the teleworker's tasks are clearly listed and that you both understand the priorities that are expected.”
- “Constant and open communication - be available to them and initiate conversations.”
- “Evaluation must be based on outcomes, driven by goals & objectives.”
- “It can be a good tool. Understanding how to manage teleworkers creates some new challenges, but they are not overwhelming.”
- “Start small; pilot with workers you trust and are willing to think outside the box; expect to monitor and adjust.”
- “If an employee thinks that telecommuting will improve morale, then take a close look at the issues that concern the employee. Telecommuting may further distance the employee from the team, further decreasing their morale and ability to function flexibly and effectively as part of team projects. That seems to have been our experience.”
- “Have specific rules (in writing). Have options and alternatives. And have expectations.”
- “Make sure that the work is ready for that person and have time limits to complete the work.”
- “Evaluate the employees work performance on-site before allowing telework.”
- “Telework can be a win-win situation for employer/employee but not everyone is a good teleworker. Have clear policies on who and what qualifies for telework and how that is measured and evaluated.”
- “Constant communication. Deliverables. Specific times to be available.”
- “Provide some time for computer equipment issues if employees are using personal computers at home. Sometimes teleworking schedules must be changed to accommodate work needs in the office.”

- “Telework has not been a problem. The work continues to get done in a timely manner and workers have the opportunity to concentrate without interruption. It has worked well.”
- “I would stress that they have to have complete confidence in the employee to accomplish their work. It's great to trust my staff.”
- “Be clear about what is expected from them at home (task list, reporting in, accessibility, etc.), be sure employees want to work from home, show them you trust them by letting them do it.”
- “It has not caused any problems here. We do go over what was completed while teleworking so again it has not been a problem.”
- “Be candid about your questions of potential teleworkers; that will enable difficulties to be shared if they arise. Ask for a work plan that might seem too detailed in the office, but provides great guidance and clarity as the leash is extended.”

## Future of Telework in the Organization

Managers were asked what will happen to telework after the pilot project is completed. Over three fourths say there will probably not be any changes. A small percentage think telework will be expanded. None think telework will be reduced.

94% of the managers said it would be OK to contact them

in the future to see what has happened to telework in their organization.

### What Will Happen to Telework After the Pilot

Probably reduce or discontinue telework	0%
Probably stay about the same	78%
Probably expand and add more teleworkers	11%
Other Answers:	
Look for opportunities for others to telework, even if not on a regular basis	6%
Don't Know	6%

When asked about each of their teleworking employees, managers say 87% of the employees will continue teleworking at the same frequency. Three employees (10%) may see an increase in telework frequency: One of these employees was already teleworking, but only occasionally, the other two hadn't teleworked prior to the pilot. None of the managers say employees will stop teleworking or that telework frequency will be reduced.

For the organizations participating in the pilot project, telework is generally limited to one day a week or less. There were only a few employees who teleworked frequently. Some of the benefits of telework, such as savings on real estate and energy costs and significant carbon reduction, only accrue when sufficient number of employees telework

frequently. Of course this can't occur with some organizations: Fire fighters won't be taking their ladder trucks home; library books won't stack themselves. Nevertheless, managers were asked to think "outside the box" and speculate about the challenges and obstacles involved if their organization set a goal of 50% telework (e.g. either all employees working from home half the time or half the employees working from home all the time).

Most managers took up this challenge and their responses are included below in full. For some the biggest challenge would be having sufficient staffing to serve the public or their members. Another challenge would be the support of top management for such a radical change, others mention strengthening technology or the technology skills of employees that would be necessary for remote work on this scale. A couple mention the need to cross-train staff to be able to cover for each other and a couple mention the need to find some way to move paper around between locations; either between the office and employees or between employees and customers.

All of this points out the need to be aware that when telework is scaled up to greater numbers and greater frequency, the challenges and obstacles scale up as well.

- "Unknown. Our production department could handle it, but we would need a courier for printed materials that must get to employees and back to the office regularly."
- "Hiring staff with the right skills and aptitudes. I have concluded that we should (and generally do) hire staff who are self starters, have strong work ethic, competent, independent, etc. Strong technology skills are a must since we cannot afford a lot of hand holding. We have had some telecommuters who could not address some very basic tech issues."
- "The main challenge would be providing the customer service coverage if half of the workforce was working from home at any given time. It may not be possible to do the physical work in half of the time needed to be on site."
- "As a financial institution, the type of service we provide would not lend itself to this example. There are a few areas we would be able increase our telework force, with the biggest hurdle to overcome being management perception of the effectiveness of the telework arrangement."
- "Employees wanting financial compensation or a financial commitment to provide high speed internet connection, equipment, & software. Supervision and security of data would be other concerns."
- "We already have over 50% of employees doing some telework. Nearly all of our actual work products could be done by telework - except the contact with members and the public who come to our office for help or use our office for meetings and training. The contact with our members at the office is crucial, and until a time when virtually all of them would comfortable having virtual meetings and on-line training only, the challenge will remain. We will continue

to use telework as a tool that will be used for employees to work on and complete certain tasks and projects.”

- “This wouldn't be feasible for the whole organization. We might say 50% of all ELIGIBLE jobs should do this. Biggest challenge will be trust and management oversight (no surprise).”
- “Main challenges: a)encouraging managers to be creative and to develop progress-oriented work programs for which they hold employees accountable, regardless of where the employees are located or the level of oversight possible and b) guarding against the tendency of people who work at home to become rigid in their thinking and their methods, without a sense of participating in the future of an organization and retaining (developing) the capacity to work in a dynamic flexible environment in order to move the organization forward rather than just responding to existing demands.”
- “My office does not have enough staff to allow for 50% of our work to be done from home. We are an office of four and it is mandatory we have one person at the front counter at all times. In the event of illness, vacation etc. it would pose too large of a scheduling problem. If at such time our office grew, I would definitely consider other employees for telework on an alternating basis.”
- “The main challenge would be the cost versus benefit for investment in technology, i.e. additional equipment, software, training and support that would be needed to expand telework to a handful of support employees. The majority of the employees have jobs that require regular, direct contact with the public in emergency or prevention roles that are not conducive to telework.”
- “Not an option. We are member service - face to face. Humm, I think maybe we could? Main obstacle would be transfer of paper documents that have to happen. Managing the workforce to insure all are working when they are required. Deliverables to be tracked.”
- “Most of our employees provide face to face assistance to the public. It would be difficult for them to do their job from someplace other than the library.”
- “Availability of employees outside the office as well as in the office. At times, other office areas need to contact the teleworking employee - there would need to be a way to contact via telework without overwhelming the employee and interrupting the benefit of telework. The other option would be to do cross training of staff in the office so they can answer similar questions so the teleworking employee can work relatively uninterrupted. The other challenges are computer equipment and access. If remote access is needed to access office files, major internal technology improvements and investment would be needed for 50%. Also, it would need to be clearly established which employees would be allowed to telework while others were not.”
- “We still have a need to interact with the public on a regular basis. We would need to be sure we are available to serve citizens and how we would/could do that. While teleworking works well for some things, it will not work for everything.”

- “Not everyone is suited to work independently (not self starters, need others around them to get energized, etc.); not all tasks are suited to be done off-site (special machinery, need for face to face communication, etc); not everyone wants to work at home; forced teleworkers might take advantage of the situation and not work effectively. Telework is a good solution when three things come together: work ethic, suitability of tasks and desire from employee.”
- “With small staff of 4 (three of whom are part-time), I have to be sensitive to having someone in the office for phone and support coverage. I can't, in the end, make basic office functions servants to staff's desire to telework. If that could be solved, I would do what was necessary to make it happen and make it work. Staff meetings would have a different flavor, would include opportunities for team building on a conscious level (replacing the in-office camaraderie that builds on itself now). Keeping team spirit and some level of cross-knowledge would be a challenge I would anticipate. Less flexibility to take care of issues that come up unexpectedly, if the 'wrong' person, or no person, is available.”

## Use of the Telework Toolkit

The online toolkit was available for managers and employees to use when their participation in the project began. In the baseline survey, 59% of the managers said they had looked at the toolkit and 32% said they planned to. By the time of the follow-up survey, about four months later, 84% had looked at the toolkit and 16% said they still planned to. 74% had reviewed the section designed for managers. Some of the managers made recommendations for improvements to the toolkit during the course of the project.