

# Federal Telework—Return on Taxpayer Investment

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### Introduction

The Telework Enhancement Act of 2010<sup>1</sup> (TEA) requires agencies to annually report their telework eligibility and progress toward participation goals to the Office of Personnel Management (OPM). The Act does not, however, require agencies to measure or report the impact of their programs.<sup>2</sup>

A 2013 report by the General Accounting Office (GAO), chastising OPM for not collecting data from agencies on telework cost savings, was therefore surprising.<sup>3</sup>

Noting that collection of cost savings data was not a requirement of the Act, nor funded by it, OPM's response to the GAO further indicated that many agencies lacked the capacity or resources to capture the requested data.<sup>4</sup>

The GAO report indicated that OPM would "consult with agencies to help them set standards and develop assessment tools." It also noted that OPM was exploring data sources that would help agencies establish and assess some of the more difficult to measure goals such as commuter and energy savings.

Regardless of the public finger pointing, the reality is that setting goals and measuring

progress toward them is simply good management. In the spirit of accountable and transparent government, it's essential.

The purpose of this paper is to: 1) suggest a model for quantifying the triple bottom line impact of federal telework, 2) discuss the qualitative impacts, 3) estimate the value of government-wide telework among the eligible population, and 4) stimulate conversation regarding the need for a standard, yet customizable, method of setting agency goals and measuring results.

A related report, [Federal Telework: Obstacles and Opportunities](#), covers the many barriers to telework success from the perspective of federal leaders.

### Methodology

Employee eligibility and participation numbers in this report are based on OPM's *2012 Status of Telework in the Federal Government*.

The savings estimates in this report were derived from a custom version of our proprietary Telework Saving Calculator™, which, since 2007, has been used, by hundreds of organizations, government agencies,

and community groups worldwide to assess the potential impact of telework and related alternative workplace strategies.

The assumptions behind our models and calculators are continually updated based on the latest studies and industry data. We catalog that data in a library that now includes over 4,000 papers, case studies, articles, and other material on alternative workplace strategies.

For the purpose of this report, we customized our standard model based on data specific to the federal workforce. We recognize that no single model will fit every agency or sub-agency. Each will have its own goals, priorities, costs, and savings potential.

To assist agencies in setting their own telework goals and estimating their results, we are making a 'lite' version of our [Federal Telework Savings Calculator™](#), available at no charge during the 2014 telework data call.

The savings referred to in this report are based on the default assumptions in the Federal Telework Savings Calculator™. They are, we believe, extremely conservative in light of actual telework impacts that have been measured both within and outside government. Those default assumptions, and many of the industry examples that support them, are shared throughout this report.

## Limitations

The annual telework data call takes place in the Fall before OPM's *Status of Telework in Government* report is published. Therefore, the latest Status of Telework in Government report (2012), on which this paper is based, represents data collected in the Fall of 2011. That is nearly two years ago, and less than a year after passage of the Telework Enhancement Act. Since additional employees will presumably have become eligible and begun to telework since that time, our savings estimates may be understated.

It should also be noted that while OPM is planning to roll out a consistent way of counting teleworkers in 2014-2015, at the time the 2012 report was prepared many agencies simply reported the number of signed telework agreements rather than a count of people who telework. This could cause our

estimate of savings from existing telework to be either overstated or understated, depending on how the new method of tracking affects the numbers.

## Scenarios

For each area of telework savings that we quantify in this paper, we present three estimates of federal savings:

- **Existing Teleworkers:** based on the actual telework activity (participation and frequency) as reported in the *2012 Status of Telework*, and using a conservative set of saving assumptions<sup>5</sup>
- **Potential Telework, Low Case:** based on the number of federal employees OPM reported to be *eligible* in 2012 (32%) and the same conservative assumptions
- **Potential Telework, Benchmark Case:** based on the number of federal employees OPM reported to be *eligible* in 2012 and assumptions drawn from a wide range of public and private sector actual telework impacts

## About ROI

While the online [Federal Telework Savings Calculator™](#) may help each agency calculate the return on investment (ROI) of telework, two significant factors prevent us from doing so here.

First, there are vast differences in the cost side of the equation from one agency to the next. Agency A may already equip its staff with laptop computers or has implemented cloud-based storage of data, two essential components of a telework strategy, but Agency B may not.

Second, there's the issue of cost allocation. Much of what is needed to support telework also helps fulfill other mandates and federal priorities. For example, many of the technology upgrades, infrastructure changes, training programs, and cultural changes that enable telework also support alternative workplace strategies related to the government's program to reduce real property holdings. The same could be said about federal programs aimed at migrating to 'the cloud', reducing

technology inefficiencies, ensuring continuity of operations, increasing sustainability, and more (see sidebar).

The reality is that occupancy studies show that federal workers are already mobile. Therefore, many of the costs associated with telework are really a much-needed catch up because of how people are already working.

**Government Mandates and Priorities**

Reducing real property holdings - June 10, 2010, Presidential Memorandum—Disposing of Unneeded Federal Real Estate

Increasing sustainability - October 5, 2009, Executive Order—Federal Leadership in Environmental, Energy, and Economic Performance

Ensuring continuity of operations - 12-9-10, 25 Point Implementation Plan to Reform Federal Information Technology Management, Vivek Kundra, CIO

Migrating to cloud-based technologies - 12-9-10, 25 Point Implementation Plan to Reform Federal Information Technology Management, Vivek Kundra, CIO

Accommodating disabled workers - Rehabilitation Act of 1973 (Rehabilitation Act), *as amended*, 29 U.S.C. Â§ 791 *et seq.*

Providing opportunities for military families - Uniformed Services Employment and Reemployment Rights Act (USERRA)

Modernizing IT - 12-9-10, 25 Point Implementation Plan to Reform Federal Information Technology Management, Vivek Kundra, CIO

Reducing waste - October 5, 2009, Executive Order—Federal Leadership in Environmental, Energy, and Economic Performance

Reducing technology inefficiencies - 12-9-10, 25 Point Implementation Plan to Reform Federal Information Technology Management, Vivek Kundra, CIO

Improving workplace flexibility - March 31st 2010, the Council of Economic Advisers in the Executive Office of the President released a report entitled, "Work-Life Balance and the Economics of Workplace Flexibility."

Competing with private sector employers in attracting talent, particularly younger workers - October 5, 2009, Executive Order—Federal Leadership in Environmental, Energy, and Economic Performance

Promoting Efficient Spending - Executive order 13589 "...agencies are encouraged to devise strategic alternatives to Government travel, including local or technological alternatives, such as teleconferencing and videoconferencing

Whether employees are three blocks, three miles, or three time zones away, they need remote access to files, security protocols, training, and remote work technologies to be effective in their jobs.

So, the question is, how *do* you allocate the costs (and benefits). A 2006 report prepared for GSA by Booz Allen on the ROI of telework, allocated just 20% of the cost (and benefits) to telework.<sup>6</sup> The balance was allocated to continuity of operations and regular replacement cycles.

While each agency will need to answer the question of allocation for itself, it is safe to say that public and private sector ROIs strongly suggest that telework, when properly aligned with Real Estate, IT, and other areas, more than pays its own way.

For example:

- A 2006 report by GSA, estimated the ROI of telework at between 200% to 1,500% depending on agency readiness, individual technology needs, and other issues (all costs and benefits were allocated to telework in that report).<sup>7</sup>
- The Patent and Trademark Office (PTO) reported an ROI on telework of 21% the first year, and 54% in subsequent years.<sup>8</sup>
- Scan Health Plan, a California-based for-profit insurance company, calculated a 40% ROI for its alternative workplace program.<sup>9</sup>
- The Congressional Budget Office's estimated that the five-year cost of implementing telework throughout the federal government would be \$30 million. They also estimated that when snow shuts down federal offices in Washington, DC it costs \$100 million a day in lost productivity.<sup>10</sup> That number was subsequently revised to \$70 million to account for continued productivity of teleworkers.

Of course, there are many intangible benefits to telework that also need to somehow be figured into any analysis. They are discussed in the sections below.<sup>11</sup>

## Bottom-Line Benefits

While methods for calculating the ROI of telework may differ greatly from one agency to another, quantifying the benefits is much more straight-forward.

In total, our [Federal Telework Savings Calculator™](#) estimates that government could save between \$6 billion and \$12 billion a year with a well-integrated telework program. The basic

assumptions behind those savings are summarized in Tables 1 and 2. How we arrived at those assumptions is explained by way of the research and case studies cited in the discussion of each area of calculated savings that follow.

Assumptions All Scenarios	% Eligible	% Interested (of eligible)	Frequency (current)
<b>Potential: Low Case</b> <sup>12</sup>	32%	88%	2 days/week <sup>13</sup>
<b>Potential: Benchmark Case</b>	45% <sup>14</sup>	88%	2.5 days/week

the building, but the lights are still on.

The reality is that technology has forever changed how and where people work, and they are not going back to a cubicle.

Telework programs can help agencies consolidate inefficient space and reduce the capital drain of owning or leasing a building.

Progressive organizations are going a step beyond trying to improve space utilization. Recognizing that their people are increasingly doing concentrative work at home and in third places, they are focusing on optimizing office spaces to encourage collaboration, increase effectiveness, drive desired behaviors, and better support the kind of work that is being done in them.

Through strategies that combine telework with desk sharing, office hoteling, and other changes to office footprint, employers have found they are able to save money and, at the same time, better address the needs of their workforce.

### Industry Data on Telework and Real Estate Impacts

Our estimates of the impact of telework on real estate costs considered a wide variety of research and actual employer experiences including the following:

- Through telework and hoteling programs, the US General Services Administration’s 4,000-plus Washington-area employees will work from a space originally designed to accommodate only 2,000.<sup>16</sup>
- Iometrics reported that Apollo Holdings, one of the nation’s largest private educa-

## Real Estate Savings

The recession reminded industry that offices are expensive, inefficient, inflexible, and difficult to scale—particularly down. As a result, organizations are taking a closer look at how, and how much their space is used. What they’ve found is that it isn’t being used nearly as much as they thought. In fact, 35% to 50% occupancy is the norm.<sup>15</sup> The people have left

Assumptions	Reduction in Real Estate Costs	Increase In Productivity	Decrease in Turnover	Decrease in Absenteeism	Continuity Of Operations	Transit	Healthcare
<b>Existing Low Case</b>	0% to 30% <sup>1</sup>	12.5%	4%	3 days/year	1 day/year	Based on frequency	1%
<b>Benchmark Case</b>	50%	15%	10%	6 days/year	1 day/year	Based on frequency	1%

tion providers, saved \$3 million a year in real estate expenses because of their telework program. The program produced a positive ROI and under one-year payback of upfront costs.<sup>17</sup>

- Research by CoreNet Global found that the average per person space allocation had declined to 150 sq.ft. per person in 2011. Forty percent of the more than 500 companies they surveyed said they expected that number to drop to 100 sq.ft. by 2017.<sup>18</sup>
- Knoll Research shows peak time office space utilization in traditional settings averages 45%, compared to between 52% and 57% in alternative settings.<sup>19</sup>
- Ninety percent of the 40 organizations surveyed by Knoll Research in 2011 offered some form of remote work. The consensus reported a 33% first year cost avoidance over conventional workspaces with consistent savings thereafter.<sup>20</sup>
- Knoll Research indicates that per person office space targets have decreased from 227 sq. ft. to 135 sq. ft. over the past 10 years and are expected to average 100 sq. ft. by 2015. Desk sharing ratios in these new spaces range from 2.3 to 1, to as high as 20 to 1 among sales staff.<sup>21</sup>
- A NewWOW survey of over 100 Fortune 500 respondents found that the percentage of employees with assigned workspaces has shrunk to 66%, a 10% decline from just two years ago. Additionally the survey found that home-based work represented the most popular alternative work approach with 90% of respondents saying they offered it in 2011 (up from 89% in 2009—the only approach that showed an increase over the period.<sup>22</sup>
- Through telework and office hoteling, the U.S. Patent & Trademark Office was able to expand its workforce from 6,000 to 10,000 without increasing their office footprint, thus avoiding \$19.8 million in new real estate costs.<sup>23</sup>
- The Society for Human Resource Management (SHRM) reported that Deloitte LLP allows most of its 45,000 employees to telecommute as many as five days a week. As leases came up for renewal, the consulting firm was able to reduce office space and energy costs by 30%.<sup>24</sup>
- At the Work Anywhere Symposium, TIAA/CREF, a financial services company representing over 8,000 employees, reported real estate savings of \$20 million a year through telework.<sup>25</sup>
- The Partnership for Public Service reported that 40% of the IBM workforce operates without a dedicated office space. The employee to desk ratio is currently 4 to 1. They have plans to increase the ratio to 8 to 1 in field locations. IBM calculates that it saves \$450 million/year in reduced facility infrastructure and associated expenses through telework.<sup>26</sup>
- Unilever, a global consumer products company, reduced its office space by 36% and saved 40% on leases and maintenance through its agile working program.<sup>27</sup>
- Through desk sharing and hoteling, United Way's Detroit office was able to consolidate twelve floors of space into just two.<sup>28</sup>
- The International Facilities Management Association (IFMA) reported that as a result of the workplace transformation and telework at SCAN Health Plan, their space needs declined by 22%, provisioning costs went down by 38%, and provisioning time went from 12 weeks to 3 days.<sup>29</sup>
- DEGW research—which includes survey responses from over 60,000 North American employees and observations of thousands of workers—found the average knowledge worker only sits at their desk about 35% of the time. The balance is spent in meeting rooms, in ad hoc work areas, at colleague's desks and in other office buildings.<sup>30</sup>
- McKesson Health Solutions' telecommuting program saves them \$1 million/year in real estate and another \$ million/year in other costs; 85% of their call center nurses work at home.<sup>31</sup>

Assuming an average office space of 218 s.f./person<sup>32</sup>, an average cost of \$38/s.f.<sup>33</sup>, and real estate savings shown in Table 2, we estimate of the impact of existing and potential telework in the federal government as follows

## Annual Real Estate Savings Summary

Existing Teleworkers	\$194 million
Potential: Low Case	\$876 million
Potential: Industry Case	\$ 3.6 billion

Additional savings, not quantified in this report but included in the full version of [Federal Telework Savings Calculator](#)<sup>TM</sup> include: reductions in energy costs, parking facility costs, furniture, supplies, maintenance, security, janitorial services, insurance, taxes, and other related costs. Telework strategies can also reduce ADA, EPA, and OSHA compliance costs.

## Productivity savings

Almost every telework study cites management resistance as one of biggest obstacles to telework.

The fundamental problem is one of trust. Managers feel that left unmonitored, employees will not work as hard as they otherwise would. Few will outwardly admit this, citing instead the need for office coverage, team dependencies, and other issues.

However, study after study shows that people who telework are either equally or more productive than their office counterparts, rather than less. Contributing factors include:

- Fewer interruptions: Teleworkers are not distracted by the many time drains that take place in a traditional office.
- More effective time management: E-mail and other asynchronous forms of communication can be time-managed more effectively and are less apt to include non-work digressions.
- Feeling like a trusted employee: A sense of empowerment and commitment is consistently shown to be one of the highest contributors to employee job satisfaction.
- Flexible hours: For those who are able to flex their hours as well as their location,

telecommuting allows them to work when they are most productive.

- Increased commitment: Many teleworkers are willing to 'go the extra mile' because they appreciate the extra flexibility telework allows.

## Industry Data on Telework and Productivity

Our estimates of the impact of telework on productivity considered a wide range of research and actual employer experiences including the following.

- The Apollo Group measured 34% higher productivity across 16 objective work performance indicators as a result of its integrated telework program. Participants indicated they saved an average of 49 minutes a day due to fewer distractions and interruptions. Seventy-nine percent of managers reported positive impact on productivity. Sixteen percent reported negative impact on teamwork or cohesion.<sup>34</sup>
- Ninety-five percent of AT&T employees and 98% of managers agree or strongly agree that they are more productive when working at home.<sup>35</sup>
- Fairview Health Services, a regional healthcare network, experienced a 50% decrease in overtime as a result of their workplace flexibility initiative.<sup>36</sup>
- Eighty-five percent of Carver County supervisors reported an increase in employee productivity through telework.<sup>37</sup>
- The Society for Human Resource Management reported that the U.S. Air Force's Central Adjudication Facility, where 95% of employees telework, saw a 55% increase in productivity in the first year of their telework program.<sup>38</sup>
- Following their adoption of a flexible work environment, Hennepin County (MN) Human Services and Public Health Department—a public agency that provides a variety of public assistance, public health, and social services—reported a 9% increase in processed cases and a 77% decrease in unprocessed in-basket items.<sup>39</sup>
- During a one year telework pilot, the City of Ottawa found that case closing time went from 90 days to 15 days.<sup>40</sup>

- The US Patent and Trademark office increased productivity 10% through telework.<sup>41</sup>
- PNC, a large regional bank that operates in 19 states, reported a 50% gain in productivity due to telework and flexible scheduling.<sup>42</sup>
- BT (British Telecom), one of the pioneers of telework, now has 15,000 homeworkers out of 92,000 employees. The company finds homeworkers to be 20% more productive.<sup>43</sup>
- In a study of more than 24,000 global IBM managers, 80% agreed that productivity increases in a flexible environment.<sup>44</sup>
- Scan Health Plan reported an 18% increase in productivity due to its alternative workplace program.<sup>45</sup>
- In a global survey of nearly 2,000 employees, Cisco Systems estimated they could achieve an annual increase in productivity of \$277 million through telework. They found that telecommuters spent 60% of their former commute time working. In addition, about 69% of telecommuters cited higher productivity when working remotely. Seventy-five percent said the timeliness of their work improved, and 67% said overall work quality improved when telecommuting.<sup>46</sup>
- A Work+Life Fit / BDO Seidman survey of CFOs showed 75% felt that flexible work increases productivity.<sup>47</sup>
- The City of San Francisco found that teleworkers gave back 50% of the time they would have otherwise spent commuting.<sup>48</sup>

Many federal agencies operate call centers to provide customer service, answer citizen questions, provide emergency services, and other purposes.

Call centers began moving to the telework model more than a decade ago. Because of the nature of call center work, productivity is particularly easy to measure. Telework has consistently been shown to increase agent productivity. For example:

- Ecolab, a Fortune 500 company, reported a 16% increase in the number of calls answered and a 10% increase in quick call resolution among its teleworkers.<sup>49</sup>
- American Express teleworkers handled 26% more calls and produced 43% more

business than their office-based counterparts.<sup>50</sup>

- Alpine Access, one of the largest all-virtual call-center employers in the US, attributes a 90% reduction in customer complaints to its home-based agents.<sup>51</sup>
- McKesson Health Solutions call center attrition rate dropped 54% with telework.<sup>52</sup>

Based on the average federal employee salary and benefits and the productivity assumptions shown in Table 2, we estimate the impact of existing and potential telework in the federal government as follows:

### Annual Productivity Increase Estimate:

Existing Teleworkers	\$770 million
Potential: Low Case	\$3.5 billion
Potential: Industry Case	\$5.8 billion

### Absenteeism savings

Unscheduled absences cost employers billions. They necessitate staffing redundancies, increase overtime costs, inconvenience coworkers and customers, impact morale, and reduce productivity.

Telecommuters are absent less often because they:

- Are exposed less to sick co-workers
- Are exposed to fewer occupational and environmental hazards
- Avoid driving—something OSHA considers to be the most dangerous part of an employee’s day
- May work when they are not feeling well enough to go to the office
- Are sometimes willing and able to return to work (at home) more quickly following the birth or adoption of a child
- Can often return to work (at home) more quickly than they would have following surgery or extended illnesses
- Are able to handle personal appointments without taking a full day off
- Are less stressed
- Are happier in their job and therefore less apt to take “mental health days”



- Have more time for exercise
- Eat better

The opposite of absenteeism is coming to work when you're sick. A CareerBuilder study of 3,700 workers found that almost three-quarters (72%) go to work when they're sick.<sup>53</sup> They do so because the company culture, benefits, or policies encourage the behavior and the attitude behind it. In fact, more than half of those surveyed (55%) said they feel guilty if they call in sick. In reality, they aren't doing anyone any favors. Allowing employees to telework is a critical factor to preventing the spread of disease and one of the reasons telework in government was implemented in the first place.

#### Industry Data on Telework and Absenteeism

Our estimates of the impact of telework on absenteeism considered a wide range of research and actual employer experiences including the following:

- A study by Hewitt found that 78% of US employees who call in sick at the last minute, really aren't. They do so because of family issues, personal needs, and stress.<sup>54</sup>
- CCH, a subsidiary of Wolters Kluwer, a leading provider of human resources and employment law information and services, found that 66% of employees who call in sick aren't. They found telework to be the second most effective method of reducing absences—flexible scheduling was first.<sup>55</sup>
- The Canadian Department of Labor found that among Canadian companies that have tried to reduce work-life conflict, 84% say telework had a positive impact.<sup>56</sup>
- A 2013 survey of 150 business decision makers by Staples Advantage found that 75% of employers felt telework reduces absenteeism.<sup>57</sup>
- A Wake Forest University study of over 3,000 employees showed that those with flexible schedules were less likely to have health problems that affect their job performance.<sup>58</sup>
- The US federal government's telework cost/benefit model estimates a 63% reduction in unscheduled absences per teleworker.<sup>59</sup>

- Iometrics reported that Apollo Group measured an 88% reduction in unapproved absences and 100% reduction in tardiness among its teleworkers.<sup>60</sup>
- Mercer estimates the total cost of unplanned absences at 6% of payroll and those for extended absences at 3.2% of payroll. Together they add up to more than half of a typical employer's cost of healthcare.<sup>61</sup>
- Addleshaw Goddard, a UK based law firm, found absenteeism 50% lower among its home-based word processing staff.<sup>62</sup>
- According a Towers Watson survey of over 350 human resource professionals, lack of work/life balance is the second highest cause of employee stress, cited by 65% of respondents. Excessive work hours were the highest cause.<sup>63</sup>
- A study by the Hartford Group found that over a six-month period 68% of younger baby boomers have missed work or left early due to eldercare responsibilities.<sup>64</sup> [Many with eldercare issues could continue to work if allowed to telework.]

Based on the lost productivity due to absenteeism, and the assumptions shown in Table 2, we estimate the impact of existing and potential telework in the federal government as follows:

#### Annual Absenteeism Savings

##### Estimate:

Existing Teleworkers	\$212 million
Potential: Low Case	\$955 million
Potential: Industry Case	\$1.3 billion

Additional savings are possible through reductions in 'presenteeism', replacement costs, overtime, and customer impacts.

#### Turnover Impact

The cost of replacing an employee extends far beyond the recruiting process. It includes separation costs, temporary replacement costs, training costs, and lost productivity. A lost employee can also lead to lost co-workers, lost 'organization memory', and lost customers.

Telework enhances retention (and attraction) because it:

- Is among the top non-financial benefits desired by employees
- Expands the talent pool beyond geographic boundaries
- Provides access to disabled, rural, and other difficult-to-employ workers
- Offers alternatives that would have otherwise kept parents and senior caregivers out of the full-time workforce
- Can help keep older workers in the workforce

Voluntary turnover in government is substantially lower than that of the private sector, but the onslaught of retirements coupled with difficulty in attracting young workers to government jobs spells trouble for the future of the federal workforce.

Nearly 60% (59%) of the U.S. federal workforce is over the age of 45 compared to just 43% in the civilian workforce.<sup>65</sup>

Government will have to fight to both retain and attract talent particularly in the decade ahead.

“Consider that the public sector is the employer of choice for a shrinking number of university graduates, even for students graduating with graduate degrees in public policy and public administration,” said the Global Director of Deloitte Public Sector Research. “The situation will not change by tweaking hiring policies or investing a few more dollars into recruiting.”<sup>66</sup>

That same report warned of the difficulty in attracting young talent.

“Certain perceptions of government work, if not reversed, pose a major obstacle to attracting Gen Y into government....To become a choice employer among this emerging workforce, the public sector must appeal to a population insistent upon a sociable, flexible, purposeful, and technologically savvy work environment. Certain perceptions of government work, if not reversed, pose a major obstacle to attracting Gen Y into government. The image of the public sector as a slow-moving, bureaucratic monolith, juxtaposed against a fast-moving, anti-bureaucratic Gen Y, poses a significant challenge.”<sup>67</sup>

### Industry Data on Telework and Turnover

Our estimates of the impact of telework on turnover considered a wide range of research and actual employer experiences including the following.

- The latest Federal Employee Viewpoint Survey showed employee engagement and satisfaction levels among federal teleworkers were 11% higher than non-teleworkers. The gap was widest for those at the lowest end of the wage scale (GS 1 to 6) where telework engagement scores were 22% higher and satisfaction scores were 19% higher.<sup>68</sup>
- A 2013 Gallup survey found that 70% of US workers are not engaged in their work. Those who worked remotely 20% of the time showed the highest level of engagement (35%) and the lowest level of active disengagement (12%)—something Gallup describes as not just unhappy at work, but busy acting out their unhappiness and undermining their co-workers success. More frequent remote work, particularly over 50% of the time, diminished engagement and increased active disengagement suggesting that most employees want a mix of in-office and remote work.<sup>69</sup>
- According to a case study by Iometrics, Apollo Group, Inc. measured 12% higher engagement and 56% lower turnover among telecommuters.<sup>70</sup>
- Research by WorldatWork and the federal government suggests that between 79% and 88% of the workforce would like to telework at least part of the time.<sup>71</sup>
- A MomCorps survey of over 2,000 adults found that 45% of workers say they would take a pay cut in exchange for the opportunity to work from home.<sup>72</sup>
- The Bureau of Labor Statistics reports that only 18% of disabled persons are employed compared to 64% without a disability.<sup>73</sup> Many are unable to work due to transportation issues.
- In a survey conducted by Cisco, more than a third of college students in the US (37%) said they would take a lower salary (up to \$10,000 less) for the option to work wherever they are most productive and happiest. When the same question was put to existing employees, the per-

centage who would take a lower salary was 38%.<sup>74</sup>

- In a Cisco survey of 2,600 worldwide employees, two out of three employees said they would take a job with less pay and more flexibility in device usage, access to social media and mobility than a higher-paying job without such flexibility. Ninety-one percent of respondents said telecommuting was 'somewhat' or 'very important' to their overall job satisfaction.<sup>75</sup>
- In a survey by the Society for Human Resource Management, 91% of HR professionals felt that flexible work arrangements have positive impact on employee morale, satisfaction and engagement. Eighty-six percent felt it increased employee commitment. Seventy-five percent felt it helped them attract employees. And 89% felt it helped them retain employees.<sup>76</sup>
- In a Robert Half/Career Builder survey, 72% of employees said flexible work arrangements would cause them to choose one job over another; 37% specifically cited teleworking.<sup>77</sup>
- That same Robert Half study found that Gen Y workers are more difficult to recruit (as reported by 56% of hiring managers) and to retain (as reported by 64% of hiring managers), but they are particularly attracted to flexible work arrangements (ranked as 8 on a 10 point scale for impact on overall job satisfaction).<sup>78</sup>
- A study by Deloitte at the depth of the recession found that nearly half of employees were looking for a new job or planning to do so when the economy improved.<sup>79</sup>
- A WorldatWork survey found that 85% of employers say telework has a moderate to high impact on employee retention.<sup>80</sup>
- In a nationwide survey, CDW (a leading provider of technology solutions) found that 41% of workers who have the option to telework are 'very satisfied' with their jobs, compared to only 27% of those who are office-bound.<sup>81</sup>
- AARP found that 70% of baby boomers plan to work for pay after retirement by seeking flexible work arrangements and

part-time schedules that allow them to pursue other interests.<sup>82</sup>

- The Patent and Trademark office resignation rate was 9.6% per year before they instituted telework and 3% several years after the program was in place. Ninety percent of staff felt telework influenced their decision to stay.<sup>83</sup>

Call centers have significantly higher turnover than most industries, often well in excess of 100%. Industry data suggests telework can reduce call center turnover by between 30% and 100%.

- Frontier Communications' retention of work-at-home agents is 100% higher than that of traditional agents.<sup>84</sup>
- Marriott Internationals call center turnover declined by 60% due to flex work options.<sup>85</sup>
- Turnover among VIPDesk's home-based customer agents is less than 10%; compared to 100-150% typical in a traditionally staffed call center.<sup>86</sup>
- Turnover among Continental Airlines work-at-home agents was just 5% compared to an industry average of 40%.<sup>87</sup>
- McKesson Medical Health Solutions call center attrition among work-at-home employees is 20%, compared to 37% prior to telework.<sup>88</sup>
- Turnover at 1-800-Contacts is a third below the national average due to their home-based model.<sup>89</sup>

Based on a cost of turnover of 75% of salary<sup>90</sup> and the assumptions shown in Table 2, we estimate the impact of existing and potential telework in the federal government as follows:

### Annual Turnover Savings Estimate:

Existing Case	\$ 22 million
Potential: Low Case	\$ 97 million
Potential: Industry Case	\$137 million

### Transit Subsidy Impact

According to the Department of Transportation, over 250,000 federal employees participate in the Transit Benefit Program.

Based on the assumptions in Table 1 and current allowance, we estimate the potential savings in transit subsidies through telework as follows:

### Annual Transit Subsidy Savings Estimate:

Existing Case	\$ 24 million
Potential: Low Case	\$ 110 million
Potential: Industry Case	\$ 155 million

### Continuity of Operations

Telework plays a crucial role in ensuring continuity of operations (COOP) in the event of a disaster, pandemic, transit strike, or other event that prevents people from reaching an office.

Based on the assumptions in Table 1, we estimate the potential savings from what would have otherwise been lost productivity due to employees not being able to reach the office one day a year as follows:

### Annual COOP Savings Estimate:

Existing Case	\$ 70 million
Potential: Low Case	\$ 314 million
Potential: Industry Case	\$ 442 million

### Healthcare Impact

Telework can increase wellness by:

- Reducing stress
- Mitigating work/life conflict
- Decreasing the risk of a traffic accident
- Decreasing exposure to pollutants, irritants, and germs
- Allowing more time for exercise
- Providing access to better quality foods
- Increasing sleep hours

Consider the following research on employee health.

- According to the Chartered Institute of Personnel and Development (CIPD), stress is the most common cause of long-term absence. It is particularly prevalent

where job cuts are a threat. The report indicated that half of respondents indicated that stress-related absences were on the rise.<sup>91</sup>

- In a government study of over 30,000 employees of medium and large Canadian companies, the data was unequivocal: employees with high levels of work-family conflict are in poor physical and mental health and make greater use of the health care system than those without conflict.<sup>92</sup>

The survey reported that stressed workers are between 1.3 and 2.9 times more likely to:

- Say their health is fair or poor
- Have sought care from a mental health professional
- Spend more than \$300 a year on prescription medicine
- Make more than 8 visits/year to the doctor
- Have received outpatient care
- Have required inpatient or emergency room hospital care
- Research by Wake Forest University School of Medicine shows that employees with flexibility in their work lives have healthier lifestyles. Also, individuals who perceive an increase in their flexibility are more likely to start positive lifestyle behaviors.<sup>93</sup>
- A study by Washington University found that people who commute more than 15 miles a day are more likely (than those with shorter commutes) to suffer from high blood pressure and obesity and the related diseases including diabetes and even some cancers.<sup>94</sup>
- A meta-study conducted by Harvard researchers concluded every dollar invested in wellness yields a \$3 in reduction in medical costs.<sup>95</sup>

On the flip side, employers need to educate teleworkers about how to avoid both overworking and sitting too much as both are common problems among teleworkers.

With the cost of healthcare benefits at 11.7% of salary for government employees<sup>96</sup> (compared to 7.8% in the private sector), we estimate that based on the assumptions

shown in Table 2, the impact of existing and potential telework in the federal government as follows:

### Annual Healthcare Savings Estimate:

Existing Case	\$ 12 million
Potential: Low Case	\$ 55 million
Potential: Industry Case	\$ 77 million

## Technology Costs/Benefits

While the full version of the [Federal Telework Savings Calculator™](#) allows users to enter technology costs and/or savings associated related to telework, we have not included any standard assumptions in this section. There are vast differences between how agencies will deal with allocating and amortizing costs across mandates; allocating hardware costs across refresh cycles; and reimbursing employees for technology and connectivity. Below however, are the major categories of costs and savings agencies should consider in their own ROI analysis.

Hardware and software costs associated with:

- Laptops
- Tablets
- Phones (mobile, cell, VOIP, or smart phone technologies)
- Video-conferencing/teleconferencing
- Virtualization technologies
- Security
- Connectivity
- Cloud based storage

Hardware and software savings associated with:

- Increased efficiency
- Increased connectivity
- Greater ability to substitute technology for travel (virtual meetings, e-learning)
- BYOD (Bring Your Own Device) savings
- Costs based on IT support for a diversity of products and software
- Better tracking of software licensing

The jury is still out on the whether more mobile work will increase or decrease technology costs. For example, while more than half of federal managers surveyed by Gov.AOL.com in 2012 estimated IT savings from a mobile

work strategy in excess of 10%, the majority expecting savings of 10% to 29%. Thirty-percent were not sure there would be any savings at all.<sup>97</sup>

That same survey showed that among those who did anticipate savings, the most common expectation was that the increase in mobile work would reduce:

- Employee hardware costs (cited by 49% of respondents)
- Software licensing costs (cited by 42%)
- Help desk/support costs (cited by 35%)
- Training costs (cited by 27%)

Only 15% felt no aspects of mobility would result in cost savings relative to product provisioning and support.

Among those respondents who anticipated cost increases, the most common expectation was that mobile work would increase:

- Wireless and carrier subscriptions (cited by 72% of respondents)
- The number and cost of employee devices (cited by 68%)
- The cost of securing multiple devices and platforms (cited by 62%)
- Use of help desk/support for mobile devices (cited by 61%)

Clearly, agencies will need to spend money on technology to support telework, but there are still many questions about what the net spend will be.

## Other Costs/Benefits

A broad range of other benefits, though very real, were not quantified in this paper due to an absence of hard data. They include:

### Costs

- Training in technology usage, remote work principles, best practices, culture change, managing remote workers, etc.
- Home office reimbursements if applicable, home safety/ergonomic assessments, etc.

### Benefits

- Higher community citizenship scores for being environmentally and labor friendly
- Avoidance of environmental sanctions

- The impact of performance-based management on engagement, job satisfaction, empowerment, attraction, retention, legal costs
- The impact of improved work-life balance
- Reduced overtime and reduced need for overstaffing to accommodate peak loads
- More effective and less expensive 24/7 global coverage
- Avoidance of local labor burn-out in high turnover jobs such as call center agents
- Increased efficiency
- Greater integration of cross-agency goals

## Employee Savings

One of the reasons telework is popular among employees is that it allows them to save two of their most precious commodities, time and money.

Using federal data on commuter travel (distance, travel time, commute type), work-related spending, and commuting costs, we estimated the employee time and cost savings for the three scenarios described in Tables 1 and 2.

Three other important assumptions were included in our estimate:

- 1) travel on telework days was reduced by only 55% and 75% (depending on telework frequency) to account for extra trips that may be required for errands that are typically done as part of the commute (for example taking the children to school);
- 2) extra home energy costs are deducted from the teleworker savings; and
- 3) not all teleworkers drive to work, some carpool, bike, walk, or take public transit.

## Annual Employee Savings Estimate:

Existing Case	\$450 to \$4,500
Potential: Low Case	\$450 to \$4,500
Potential: Industry Case	\$450 to \$4,500

## Annual Collective Employee Estimate:

Existing Case	\$295 million
Potential: Low Case	\$1.3 billion
Potential: Industry Case	\$1.9 billion

## Annual Employee Time Savings (days):<sup>98</sup>

1 Telework Day / Week:	5 days/year
2 Telework Days / Week:	9 days/year
3 Telework Days / Week:	14 days/year

For the extreme commuters, those who spend more than 90 minutes commuting each day, 2 days a week telework would save them up to 30 equivalent workdays a year.

Some teleworkers can save even more money in:

- Lunch hour shopping sprees
- Office gifts
- After work socializing
- Healthcare
- Car insurance
- Taxes (through home office deductions)

## Environmental Impact

City access fees, environmental penalties, and other sanctions are not yet common in the US, but they are coming. Leading employers are grabbing headlines for their proactive environmental stewardship.

There is simply no quicker or more economical way to reduce an organization's carbon footprint than through a robust telework program.

Based on the assumptions in Table 1 and EPA data on emissions factors, Table 3 shows an estimate of the environmental telework impact across the three scenarios.

Table 3 - Annual Environmental Savings Estimate			
	Existing	Low	Industry
VMT	219 M	988M	1.4B
GhG(mt)	96,000	430,000	605,000
Trees	2.6 M	11.6 M	16.4 M
Oil saved	\$55 M	\$248 M	\$349 M

Additional environmental savings could be achieved through reduced:

- Business travel
- Paper usage
- Printing and print renewables
- Office construction
- Parking lot maintenance
- Fleet vehicle usage
- Traffic congestion
- Use of older, less efficient equipment

## Other Societal Benefits

Beyond the environmental benefits quantified in this report, widespread telework could also:

- Reduce the incidence of asthma and other air quality-related conditions
- Reduce the strain on the nation’s transportation infrastructure
- Improve emergency responsiveness
- Reduce road rage
- Reduce overcrowding
- Revitalize cities by reducing traffic
- Increase productivity by reducing travel times
- Provide portable work options for military families
- Reduce the outbound migration of talent

- Raise the standard of living in rural and disadvantaged areas
- Reduce terrorism targets of opportunity
- Reduce unemployment and underemployment
- Increase workforce mobility
- Improve the quality of life for residents

## Obstacles

To be sure, implementing telework is not without obstacles. In May of 2013 we surveyed over a hundred federal workplace leaders regarding what is successful and what is not in telework. In addition to their multiple choice answers, respondents volunteered over 350, often impassioned, comments. The results of that survey will be made available in a Citrix-sponsored report titled, [Federal Telework: Obstacles and Opportunities](#), later this year.

One thing is clear from that survey, federal leaders care deeply about fulfilling their agency missions. Most are passionate about both the obstacles they face in implementing telework, and the opportunities they see.

The biggest barrier to telework in government (and elsewhere) is management mistrust. This has been the fundamental problem in telework since Jack Nilles first coined the term more than three decades ago.

The root of the problem is that the majority of managers do not manage by results, they manage by presence. Nilles once argued with Tom Peters about Peters’ theory of management-by-walking-around. “That’s fine for crummy organizations that don’t trust their employees,” said Nilles, “but if managers establish goals and criteria for meeting those goals, they can show employees what they want and get out of their way.”<sup>99</sup>

In his bestselling book, [Drive: The Surprising Truth About What Motivates Us](#), Dan Pink observes that despite four decades of scientific research on human motivation, there’s an immense mismatch between what science knows and what management does.<sup>100</sup>

For a technologically adept workforce in a global, mobile workplace those styles do not work at best, and sabotage success at worst.

Leading organizations across the globe have learned that when they give people the flexibility to work where and when they want, the result is a happier, more engaged, and more productive workforce. But letting go of old ways of doing things is not easy.

- Making telework as part of manager goals
- Providing better remote access to files
- Allowing agencies to use their telework savings
- Providing more collaboration tools
- Providing a wide variety of training for managers and others

The key obstacles identified in our federal survey included:

- Manager resistance
- Agency culture
- Lack of and/or ineffective technology

The top solutions proposed by the federal telework leaders themselves were:

## Conclusion

Evidence shows that the benefits of telework far outweigh the costs. And while there are obstacles to be overcome, leading public and only possible, it is an essential strategy for

Annual Federal Employer Impact	Existing	Low Potential	Industry Potential
Real Estate	\$194,483,777	\$875,695,894	\$3,572,304,687
Absenteeism	\$212,120,197	\$955,106,839	\$1,343,118,993
Turnover	\$21,652,390	\$97,493,523	\$137,100,267
Productivity	\$769,588,119	\$3,465,199,852	\$5,847,524,750
Energy (kWh)	\$5,440,292	\$24,495,827	\$78,342,828
Transit Subsidies	\$24,406,551	\$109,894,597	\$154,539,277
Continuity of Operations	\$69,822,316	\$314,386,715	\$442,106,318
Healthcare	\$12,238,307	\$55,105,035	\$77,491,455
<b>Total</b>	<b>\$1,309,751,948</b>	<b>\$5,897,378,283</b>	<b>\$11,652,528,575</b>
<b>Per Person</b>	<b>\$9,671</b>	<b>\$9,671</b>	<b>\$13,589</b>
Annual Environmental Impact			
Vehicle Miles Not Traveled (VMT)	219,380,859	\$987,799,189	1,389,092,609
Vehicle Trips Avoided	14,900,101	\$67,090,209	94,345,607
Greenhouse Gases Savings: Gas Method (metric tons/year)	100,921.9	\$454,418	639,024.7
Greenhouse Gases Savings: EPA Gas/VMT Method (metric tons/year)	95,533.7	\$430,156	604,907.4
Total Air Quality Savings (lbs. per year)	2,336,111	\$10,518,733	14,791,968
Carbon Savings Equivalents:			
Greenhouse Gases Savings: EPA Gas/VMT Method (metric tons/year)	95,534	\$430,156	604,907
Tanker trucks of gasoline	1,312	\$5,907	8,307
Homes powered by electricity for a year	15,138	\$68,163	95,854
Tree seedlings needed to offset (grown over 10 years)	2,583,599	\$11,633,091	16,359,034
<b>Value of Oil Saved (\$)</b>	<b>\$55,137,443</b>	<b>\$248,265,605</b>	<b>\$349,123,507</b>
Annual Employee Impact			
Employee Savings Per Person per year (mid)			\$2,175
Total Employee Savings	\$294,612,580	\$1,326,542,656	\$1,865,450,610
Equivalent Work Days Saved by Not Commuting (average)			9.3
Total Deaths & Injuries (\$)	\$19,050,071	\$85,776,147	\$120,622,707
Total Financial Impact			
Total Impact	\$1,678,552,042	\$7,557,962,691	\$13,987,725,399
Per person impact	\$12,395	\$12,395	\$16,312



## Federal Telework - Return on Taxpayer Investment

21<sup>st</sup> century survival. The most successful telework programs are part of an overall strategy to transform workplaces, work processes, and work practices in a way that improves efficiency, effectiveness, and the overall work experience. As with any new strategy, metrics matter. Without an understanding of the goals, and a way to measure progress toward them, programs will always be suspect. To be sure, not all of the costs or benefits associated with telework can be quantified, but many can and should be.

Naturally, the goals of one agency or sub-agency will differ from others. But unless there is a common framework for measuring success across government—a way to benchmark performance—agencies will be operating in the blind.

Without goals, standards, and consistent methods of measuring success, telework risks becoming just another failed experiment and government risks falling behind the rest of the world.

## Resources

Global Workplace Analytics' [Federal Workplace Savings Calculator \(Lite\)](#)<sup>™</sup>

[Federal Telework: Obstacles and Opportunities](#) white paper

[The State of Telework in the US](#) white paper

[Results-Based Management: The Key to Unlocking Talent and Increasing Productivity](#) white paper

[The Impact of Work and Place on Wellness and Well-Being](#) white paper

[Other white papers](#)

## About the Authors

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Kate Lister is the president of Global Workplace Analytics, a consulting and research firm that specializes in helping organizations and communities create and communicate the business case for agile workplace strategies such as mobile work, telework, flexible work, activity-based work, wellness and well-being, and more.

Her organization's proprietary [Workplace Savings Calculator](#)<sup>™</sup> and Workplace Savings Calculator<sup>™</sup> have been used by hundreds of organizations to estimate the triple bottom line impacts of emerging workplace strategies.

Their research has been cited by [hundreds of media outlets](#) including the *Wall Street Journal*, *Harvard Business Review*, *the Washington Post*, and many other publications.

In cooperation with e-Work.com, a leading producer of web-based training for new workplace strategies, GWA co-authored a web-based course called "The Case For Change." The course and e-Work.com's other programs have been used to train over a hundred thousand employees worldwide, including many in government. Their training has received satisfaction ratings of over 97% from its Federal GSA participants. Courses are available in 11 languages and are 508 compliant.

GWA has created and delivered workshops and webinars for organizations including the US Office of Personnel Management, U.S. General Service Administration, US Department of Agriculture, US Food and Drug Administration, WorldatWork, the Society for Human Resource Management, Citrix, Workshift-Calgary, and many others.

Kate has authored industry-sponsored white papers on results-based management, emerging workplace strategies in the US, UK and Canada, and numerous related topics.

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### Tom Harnish

Tom Harnish is Senior Scientist at Global Workplace Analytics.

Tom's expertise lies in remote work strategies, emerging trends, and technology forecasting. He was a carrier-based Navy flyer, taught information management to senior military and government executives in Washington, managed projects as a Consulting Scientist at Booz Allen & Hamilton, lead brilliant hardware and software engineers as Senior Scientist at the Online Computer Library Center (OCLC), and as a Division Director at Reynolds and Reynolds inspired five of seven innovations cited in the company's annual report. After starting and running several successful companies, Tom and Kate joined forces.

Kate and Tom have co-authored three business books, all published by John Wiley & Sons.

### **Global Workplace Analytics Specialties Include:**

- Making the business case for workplace flexibility, well-being workplace initiatives, mobile work, telework, and other agile workplace strategies
- Developing return-on-investment and balance scorecard analyses of an organization's workplace strategy and well-being programs
- Helping organizations launch or expand their agile workplace initiatives
- Helping communities understand the ROI of workplace flexibility (the Governor of the state of Washington issued an Executive Order based on one of GWA community ROI analyses)
- Customizing e-Work.com's web and learning system-based agile work training for senior leaders, middle managers, and employees.
- Writing custom white papers and conducting custom research and multi-client studies
- Creating custom newsletters and newsfeeds on workplace strategy topics

### **GWA has created and maintains:**

- A proprietary Workplace Savings Calculator™ to quantify the economic, societal, and environmental benefits of alternative workplace strategies (i.e. co-working, telework, hoteling, flexible work, etc.). It includes over 125 variables and over 600 calculations. A [lite version is available here](#).
- [The latest statistics](#) on mobile work
- [Free and fee-based white papers](#) on workplace strategy topics
- A proprietary database of over 4,000 studies, papers, and articles on workplace strategy and related topics
- A subscription-based curated newsfeed that features the latest content on workplace strategy.

For more information [contact Kate Lister](#), President of Global Workplace Analytics.

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Federal organizations, including the Food and Drug Administration, General Services Administration, National Renewable Energy Labs, Depository Trust & Clearing Corporation, Customs and Border Protection, Pacific Northwest National Laboratory, and the Space Telescope Science Institute have also made the e-Work courses part of their workplace change initiatives.

Recently, Gartner recognized e-Work.com in their 2012 Enterprise Mobility report as one of the top "Cool Vendors."

For a free one-week trial of e-Work's courses, please contact Kate North and mention this white paper.

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## Footnotes

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