Executive Summary

LABOR DAY 1999
A REPORT OF THE UNITED STATES DEPARTMENT OF LABOR  ALEXIS M. HERMAN, SECRETARY
Perhaps the best place to gain a glimpse of the future of work is in the newspaper. Not the front page—but the want ads.

A few decades ago, employers were in search of typists, switchboard operators, mimeograph repair technicians, keypunchers and elevator operators. Newspapers even had separate job listings for men and women.

Today’s want ads are seeking Webmasters. LAN operators. Desktop publishers. And many job seekers no longer turn to the want ads but to the Web pages. They find their jobs on the Internet.

Just a few decades ago, business magazines celebrated the latest office technology—cutting edge equipment such as electric typewriters and dictaphones. Today, it is more like digital phones and personal digital assistants.

We are living in a world few could have imagined 50 years ago. What will the workforce and workplace look like half a century from now?

We can begin to tackle that question by examining where we have been, where we are, and where we are going. That is what Futurework seeks to do.

It is designed to inform readers—policy-makers, scholars, employers, workers, trade unionists, and advocates—to provoke questions and to stimulate dialogue.

Futurework also recognizes that even though we are celebrating the last Labor Day of the twentieth century, the twenty-first century workplace is already here.

We are living in a new economy—powered by technology, fueled by information, and driven by knowledge. And we are entering the new century with opportunity on our side.

The American economy is the strongest in a generation—perhaps in history. Unemployment is at a 30-year low. We have created more than 19 million jobs since President Clinton and Vice President Gore entered office. The sea of budget red ink has been turned to black. Wages are up, productivity is rising, and inflation is in check.

**future jobs:**

**some of the fastest growing occupations for the future**

- Computer engineers
- Computer support specialists
- Database administrators
- Data processing equipment repair
- Dental hygienists
- Desktop publishing specialists
- Medical assistants
- Paralegals
- Personal care and health aides
- Physician assistants
- Residential counselors
- Securities and financial sales workers
- System analysts
But amidst this prosperity comes concern. Families are working harder. Parents are stretched for time. According to Bureau of Labor Statistics data, real wages fell through the 1980s and early 1990s, and just recently recovered their average value from 1980. Some Americans have not been brought into the workforce. And workers young and old wonder whether they have the skills to stay ahead in the workplace of the future.

Even in today’s dynamic economy, there are some things that remain important. There are three pillars providing stability in workers’ lives:
- Rising economic security over a lifetime—so a worker can have food on the table, a roof overhead, health care when needed, and a secure income for retirement.
- A work and family balance—the resources and the time to enjoy family life and meet the needs of children and aging parents.
- Workplaces that are safe and fair—free from health hazards and from discrimination and other unfair employment practices.

The ability of workers to meet these needs will be substantially determined by major changes in the workplace and workforce of today and tomorrow. These changes include:

**Diversity**
By 2050, the U.S. population is expected to increase by 50 percent, and minority groups will make up nearly half the population. Immigration will account for almost two-thirds of the nation’s population growth. The population of older Americans is expected to more than double. One-quarter of all Americans will be of Hispanic origin. Almost one in ten Americans will be of Asian or Pacific Islander descent. And more women and people with disabilities will be on the job.

**Technology**
The use of computers and the Internet in workplaces will become more pervasive and the functions performed using computers will dramatically increase. The influence of technology will go beyond new equipment and faster communications, as work and skills will be redefined and reorganized.
Globalization

Increased global competition will continue to affect the type of work being done in American workplaces, creating new high-skilled jobs and lessening demand for low-skilled work. The impact of globalization on all Americans will continue to grow as more of the economy is involved in producing exports or competing with imports.

SKILLED, NOT STUCK

Our nation is enjoying high rates of productivity growth thanks in large measure to technological innovation. As that trend continues, it will lead to higher incomes and improved standards of living—helping more Americans meet the need for economic security.

During the Clinton–Gore administration, more than 19 million new jobs have been created—a rate of growth more than twice that of the previous decade. High-technology industries account for one million of these new jobs. E-commerce generated $300 billion in revenues last year—approaching the size of the automobile industry.

Real average wages in the high-tech industries increased 19 percent since 1990, compared with a 5 percent average increase for the private sector as a whole. The average high-tech job pays 78 percent more than the average non–high-tech job—$53,000 compared to $30,000.

Even for those workers who do not sit in front of a computer or program a robot, more and better technology can mean higher productivity and higher wages.

Technology also has fundamentally changed work as we know it. For instance, assistive technology has opened new opportunities for people with disabilities. From large screen monitors to...
who are the working poor?
More than 9 million working Americans were living in poverty in 1997, and one-quarter of those worked full-time, year round. Nearly 60 percent of the working poor are women—and minority women are more than twice as likely to be poor as white women. Almost 3 million poor workers were in families with children under age 6. Ten percent of people with significant disabilities working full-time fell below the poverty rate.

the ten occupations with the highest earnings
- Physicians
- Dentists
- Podiatrists
- Aircraft pilots and flight engineers
- Lawyers
- Petroleum engineers
- Physicians and astronomers
- Engineering, natural science, and computer and information systems managers
- Optometrists
- Aerospace engineers

Voice recognition software to alternative keyboards and telecommunications systems, technology is removing barriers for people with disabilities. But technology combined with rising globalization is also presenting new challenges. As the number of high-paying jobs increases, well-paid, low-skilled jobs are becoming harder to find. Globalization has made it easier for businesses to choose low-skilled workers at lower pay in other parts of the world. And technology has rendered many jobs obsolete here at home.

New economy, new challenge
All of these factors have contributed to rising inequality in the U.S. labor market. From the late 1970s through the mid-1990s, the gap in earnings between the top and bottom wage earners grew substantially.

Though the trend of rising inequality that we experienced for almost two decades finally began to reverse during the late 1990s, the current earnings gap remains much larger than it was 20 years ago. The top 10 percent of full-time workers now average almost $1200 per week in earnings while the bottom 10 percent average only $275. And according to the Bureau of Labor Statistics, the real earnings of men in the bottom group fell by 22 percent during this period.

Some middle-aged workers are losing the security they once had. During the first half of the 1990s, the job tenure of older male workers declined. Displaced workers with more education fared considerably better than their less-educated counterparts.

Workers who want to climb higher, need skills and training to do it.

Skills are the ticket
In the information-based, skills-intensive economy of the twenty-first century, one thing is clear: knowing means growing.

While many workers will continue to be in occupations that do not require a bachelor’s degree, the best jobs will be those requiring education and training. In fact, the 20 occupations with the highest earnings...
highest earnings all require at least a bachelor’s degree. Throughout the economy, occupations that require a college degree are growing twice as fast as others.

In 1979, the average college graduate earned 38 percent more than the average high-school graduate. Today, it is 71 percent. Less-educated workers of all racial groups—particularly men—are falling behind in earnings.

Real wages for men without post-secondary education have declined significantly over the past 20 years. Men with only a high-school degree have seen their wages fall by nearly one-fifth (from $679 per week to $559) while wages of men without a high-school diploma have fallen by nearly one-third (from $555 per week to $383) since 1979.

Two out of three high-school graduates will enter college this fall. But not everyone has the same opportunity. Fewer than 10 percent of adults with disabilities have graduated from college—a rate achieved by the general population 30 years ago. The percent of adults with disabilities who have not completed high school is more than double that of adults without disabilities.

In 1997, for the first time ever, the high-school graduation rates for young African-Americans and whites were statistically on par at 86 percent and 88 percent, respectively. Asian-Americans have the highest high-school graduation rate—more than 90 percent. High school completion rates were far lower—62 percent—for young Hispanics, the fastest growing segment of the population.

More African-Americans, whites, and Hispanics are attending college. However, African-Americans and Hispanics continue to lag behind in college attendance. This means that these minority groups lack access to many of the skills that higher education provides.

For the three out of four American workers who do not have a bachelor’s degree, skills still play an important role. While most of the fastest growing jobs will require a college degree, the majority of jobs being created today—from home health aides to desktop publishers—require less than an associate’s degree, but often require other skills. Lifelong learning for workers will become more important as a result.
Skills include cognitive (hard) skills and communication (soft) skills as well as education credentials and job-related skills. In many instances, there is a mismatch between the skills jobs require and those that applicants possess. More than 20 percent of adults read at or below the fifth-grade level.

A 1996 American Management Association survey of mid-size and larger businesses found that 19 percent of the job applicants taking employer-administered tests lacked the math and reading skills necessary for the jobs for which they were applying. That percentage increased to almost 36 percent in 1998—probably reflecting tighter labor markets and the rapidly rising demand for skills.

America does not face a worker shortage but a skills shortage. The challenge is to invest in the workers who are already participating in the workforce, and to identify and tap into untapped labor pools.

**Prepared not “jobsolete”**

Whether it is by empowering workers with cutting-edge high-tech skills, providing downsized workers with transition assistance, or helping young people get a foothold on the career ladder—our fundamental challenge is equipping all Americans with the tools to succeed in this new economy. We need to make sure no worker becomes “jobsolete.”

The demand for skills is bringing about changes in the way some unions and employers engage in collective bargaining. Technology, and the skills needed to master it, are taking their rightful place on the negotiating table. In some industries, such as telecommunications, the issue is not job security, but employment security and providing incumbent workers with education and training opportunities to gain the skills they need to stay ahead in the changing workplace.

Regardless of his or her skill level, it is essential to make work pay for every worker. No one who works full time should live in poverty. Raising the minimum wage and expanding the Earned Income Tax Credit are two policies that have helped make work pay.

Collective bargaining historically also has played an important role. In 1998, unionized workers overall earned nearly one-third more than nonunion workers and were more likely to earn health and pension benefits. African-American union workers earned 45 percent more than nonunionized African-Americans. Unionized
Hispanics made more than half again as much—54 percent—as their nonunion counterparts. Unionized workers typically have higher skill levels than nonunion workers, which also contributes to their higher wages. In addition, a 1997 study found that productivity in unionized firms with high-performance work practices was about 10 percent higher than in comparable nonunion firms.

**FLEXIBILITY AND FAMILY**

For the vast majority of working families, Ozzie and Harriet are demographic dinosaurs. For others, they were always a myth. Today, Harriet usually does not stay home. Nearly three out of four women with children are in the workforce. Often, neither Ozzie nor Harriet get home by 5:00 p.m. The time that married women with children spend working outside the home nearly doubled in 30 years—translating into 22 fewer hours per week families can spend with their children.

Workers seeking to balance sufficient earnings with family time are stretched. They are searching for the time and flexibility to be there when the babysitter doesn't show. To make arrangements with the caregivers for their aging parents, to attend the parent-teacher conference or the doctor's appointment. And as we look to the future, the vital challenge of child care and elder care will grow.

In 1996, almost 20 percent of American households provided informal care to a relative or friend age 50 or older. Futurework finds that this percentage is estimated to more than double in the next five years.

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**Futuretime: The Real Workday**

- **5:30 a.m.** get up/get dressed/exercise
- **6:30 a.m.** make: breakfast, school lunches, grocery list
- **7:30 a.m.** get kids up, dressed, and fed
- **8:00 a.m.** drop off kids and dry cleaning
- **9:00 a.m.** on the job . . . 12 e-mail messages waiting for reply
- **1:30 p.m.** meeting at daycare center (your child is biting!)
- **2:30 p.m.** back on the job . . . 8 voice-mails waiting
- **5:00 p.m.** forward office calls to cell phone
- **5:30 p.m.** pick up child from school aftercare
- **6:05 p.m.** pick up other child, pay late pickup fee at daycare
- **7:00 p.m.** make dinner
- **8:00 p.m.** do: dishes, homework, laundry
- **8:30 p.m.** bathe kids
- **9:00 p.m.** read work memos to kids as bedtime story
- **9:30 p.m.** fold laundry/fall asleep

Every day, more working parents are “buying time”—hiring others to perform household services like lawn care, child care, and housekeeping. And it is not just the higher wage workers that are buying. A California agency lists a plumber, a pizza parlor manager, and a cashier among its clients for child care and domestic help.
future office:
In a recent survey, more than 100 engineers were asked to describe—using current technology—the workplace of the future. Their predictions:
- ergonomic keyboards and voice-activated data input/retrieval
- more working from home using teleconferencing and e-mail
- more fingertip control and less brute force
- healthier workplaces friendlier to the environment

future temps:
from kelly girl to kelly chemist
In 1946, Russell Kelly began a business that became Kelly Girls Services, Inc. Nearly 100 percent of its revenues came from placing secretaries and clericals in temporary jobs. Today, as Kelly Services, Inc., the firm comprises a range of temporary help, specialized leasing and contracting companies in 19 countries. In 1998, roughly 20 percent of its revenue was generated by professional and technical placements including biologists, lawyers, accountants, chemists, and computer analysts.

Combined with the responsibilities of child care, these obligations add up. So do the costs to employers. Family caregiving costs the economy more than $11 billion in lost production each year. As baby boomers grow older, and life expectancy rises, more Americans will find themselves “sandwiched”—caring at the same time for their children and their aging parents. While women in particular are affected by this phenomenon, they are by no means alone in the “sandwich generation.”

In the twenty-first century workforce and workplace, there will be no such thing as “women’s issues.” As futurework shows, these are working family issues. Men and women will share equally in the challenges of managing family and worktime. This new mindset will dramatically affect the way we work and the way we view work in the twenty-first century.

Technology: the virtual office never closes
The good news is that technology is allowing workers to take the office everywhere. That’s the bad news, too. With e-mail, pagers, laptop computers, and mobile phones, work is no longer confined to one setting, it is pervasive. The virtual office never closes, opening the potential for abuse if employers require homework above and beyond the normal working hours. We need to make sure that workers use technology—not the other way around.

Technology can give workers flexibility, but access presents another big challenge.

The home office is becoming more common-place. Half of all homes had a personal computer in 1999. But even though the Internet can be accessed anywhere, not all Americans have equal access to the Internet. As information technology expands, the information divide continues to widen.

A July 1999 Commerce Department report found that between 1997 and 1998, the gap in Internet access between those at the highest and lowest income levels grew by 29 percent. Whites are more likely to have access from home than are African-Americans or Hispanics from any location.

As technology continues to spread, questions emerge: What are we losing as a society? What is the effect on social relations? Work, after all, is
more than just a job or paycheck. It is where we meet friends, share ideas, and build a common sense of purpose and a social network. With voice mail, e-mail, and computer networks, how do we preserve the human network and the social interaction that work has helped to facilitate? What takes its place?

"Just in time" workers

Workers want a greater ability to care for their families. Employers want greater flexibility to compete in the global market.

One result is that the traditional work arrangement—a full-time, year-round job where an employer usually provides a worker with benefits, training, and/or a pension upon retirement—is often giving way to something fundamentally different.

In addition to the traditional way of modifying a schedule through part-time work, futurework finds that millions of workers are in alternative arrangements that don't fit the traditional model. The age of "just in time" production has given rise to "just in time" workers—employees whom a business can hire on a moment's notice to fill a moment's need.

Roughly 1 in 10 workers fits into an alternative arrangement. Nearly four out of five employers use some form of nontraditional staffing arrangement.

The majority (8.5 million) are independent contractors. A growing number (1.3 million) are agency temporary workers. The number of agency temps increased by 10 percent from 1995 to 1997, considerably faster than the 2.8 percent growth in traditional employment.

For many employers, these arrangements make sense. They can be less costly, and heighten employers' ability to respond to market forces. Workers, too, may be attracted to the mobility and choice associated with nontraditional jobs. In some cases, these arrangements may provide the flexibility they need to juggle work and family obligations.

Independent contractors 6.1%
On call workers 1.6%
Temporary help agency workers 1.0%
Contract firm workers 0.6%
Traditional arrangements 90.1%

Workers may be less well-off. Roughly one in four independent contractors worked part-time compared to one-in-five traditional workers.

Full-time, independent contractors earned more than average traditional workers, but agency temp workers earned less. Agency temps' average weekly earnings ($329) are the lowest of all nontra-
employment, a majority are not in these arrangements by choice. In fact, 59 percent of agency temps would prefer a traditional job. In addition, many temps who work part time would prefer to work full time but are not offered that option.

Empowering workers with choice
In the twenty-first century, the most successful workers will be those who are able to choose the employment relationship that gives them sufficient wages and benefits, and ability to care for their families. The challenge will come in ensuring that future workers who prefer nontraditional options have on-the-job protections. Today, many do not.

Today’s nontraditional workers receive less training and fewer benefits. Only seven percent of agency temp workers receive employer-provided healthcare benefits, and just one in ten is eligible for an employer-sponsored pension plan.

Nontraditional work arrangements can raise practical and legal questions about the statutory protections available to workers. Workers may be unsure of their rights, and firms may be unsure of their obligations. Government agencies, in turn, will need to understand the nature of a work arrangement before deciding how best to enforce a particular law.

Ensuring access to benefits for nontraditional workers without causing employers to drop coverage for traditional employees may present another challenge. And providing traditional jobs for those nontraditional workers who want them may be the hardest task of all.

The goal is to create a balance between the need to furnish workers with fair wages and benefits and the ability to care for their families, while providing employers the flexibility they need to be competitive in the global economy.

FUTURE TECH: FROM E-MAIL TO V-MAIL
As technology enables workers to decentralize their work, “clocking in and out” may become a thing of the past. Workers may rarely be in the office and work hours may no longer be from 9-to-5 o’clock. Some futuretech products:
- v-mail—image and sound on a wireless computer screen accessible anywhere
- v-phone—real time images along with audio;
- satellite conferencing—with participants from various locations worldwide;
- “drop in” offices for face-to-face meetings and chatter around the water cooler.

DESTINY AND DIVERSITY
In the next century, nearly one out of two Americans will be a member of what today is considered a minority group. America will be many faces and many races with no one majority group in the workforce. The question is not whether there will be change but how we manage that change so that all may benefit. It is not so much a choice as a challenge.

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Closing
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We live in a uniquely multiracial, multiethnic society—and it is becoming more so every day. We find our roots in every corner of the globe—and every existing and potential market throughout the world. Capitalizing on America's diversity will give employers a competitive advantage. We speak every language. We know every culture. And capitalizing on our diversity and immigration trends will position us to compete and win everywhere—from the global marketplace to the corner market.

America's workforce of the future will include more people of color, older Americans, women, and people with disabilities. The availability of larger pools of workers creates the opportunity to maintain economic growth by tapping new human capital resources.

**Closing the gap**
The narrowing of gaps in society shows that we are already making some of the right choices about expanding opportunity for all Americans. Wage gaps between the sexes and across racial groups, for example, have narrowed. As more women enter the labor market and spend longer hours there, the pay gap between men and women has lessened—shrinking by more than one-third in the past twenty years. African-Americans have also made progress, albeit over a longer time period. In 1940, the average African-American man earned only 40 cents for every $1 earned by a white man. Today, it's 76 cents.

These gaps are declining for a number of reasons. Women are spending more time in the workforce and gaining work experience. Both women and people of color are gaining greater skills and attaining higher education levels as more opportunities have been made available. And we have translated our national promise of civil rights into the daily practice of effective antidiscrimination initiatives and affirmative efforts to include everyone in the workplace. But, of course, barriers remain.

**Workers with disabilities are more likely to:**
- have two jobs
- work part-time because they cannot find full-time employment
- be self-employed
- earn less from their own incorporated businesses
- earn less per hour, per month, and per year

**Not there yet**
While the wage gap has diminished, it hasn't disappeared. Women and minorities continue to earn less than their white male counterparts. The earnings of African-American and Hispanic women are only 65 and 55 percent, respectively, of white men's average earnings.

White women earn about 75 cents for every dollar earned by white men. About 40 percent of that pay gap can't be explained by differences in experiences, skills, or the jobs held by men and women. It appears to be largely the product of stubborn discrimination.

Barriers not only affect wages in the workforce, but also the path to becoming a part of it. Even in this booming economy, people are being left behind.

The unemployment rates for African-Americans and Hispanics have declined to historic low levels in the past two years. But the unemployment rate of
African-American men is still twice that of white men. For African-American teens, unemployment has fallen dramatically over the past 6 years but remains around 25 percent or higher. Three out of four working-age people with disabilities who want to work are not working. And half of the total Native American workforce is unemployed.

The demands of the future will require increased efforts to include these workers who have been left behind and have not shared in our prosperity. It will also require successfully integrating millions of immigrants into the workplace.

**Tapping America’s potential**

As we enter the twenty-first century, it is increasingly clear that tapping into the talents of all of America’s available workers isn’t just good values, it’s good business. As our population becomes more diverse—and global competition expands—employers can’t afford to underutilize any segment of the American talent pool. Moreover, people who are ready to work today are consumers who are ready to buy tomorrow. There are billions of dollars in unmet demand in left-out urban and rural areas.

Our nation is in the midst of a period of historic economic progress. The key to continued growth without inflation is in making sure that every American can share in that prosperity. From central cities to rural areas to suburbs to Native American communities—the better more of us do, the better all of us do.

Our diversity is our destiny. Recognizing and capitalizing on that reality may be one of our greatest challenges. But it’s also our greatest opportunity.

**WHAT DOES THE FUTURE HOLD?**

We know that workers need rising living standards over their lifetimes, a balance between the demands of work and family, and workplaces that are safe and fair. We also know that major trends will sweep across and radically change the landscape of workplaces and the makeup of the workforce in the twenty-first century. Futurework details the extraordinary diversification of the workforce, the explosive growth of technology, and the pervasive impact of growing globalization. How will future workers strive for and attain economic security, work-family balance, and safe and fair workplaces?

Futurework does not try to provide all the answers. Instead, it presents the trends, examines their combined implications and asks the questions that we expect will help shape the debate over labor policy for the twenty-first century. Here are some of them:

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**futuretalk:**

“web”sters dictionary

- browser
- digital
- dot
- e-commerce
- e-mail
- e-tailing
- HTML
- hyperlink
- Internet
- java
- link
- search engine
- server
- SMTP
- surfing
- url
- webcasting
- web page
- web site
- www
- XML

*Check futurework’s glossary for definitions.*

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H their f empic ensure not le porary relegal tems and le increa proces

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How do we ensure that workers get the skills they need to succeed in the twenty-first century workplace? Will employers hire and train workers who initially lack skills? What happens to the worker laid off from a manufacturing job at age 55—does he get training in new technologies or is he stuck in lower-wage jobs like groundskeeper, security guard, and warehouse stock clerk? How do we make sure that people with disabilities have access to the technologies that facilitate their participation in the workplace? How will e-commerce impact employment?

How can workers find the time they need for their families, while at the same time ensuring that employers can get the job done? How do we ensure that those with lower educational levels are not left behind by the digital economy? Will temporary and other nontraditional workers be relegated to permanent second-class status, or will temps become more like independent contractors and leverage higher compensation? Will workers increasingly rely on the collective bargaining process to provide higher wages and better benefits?

Will we manage the change in the workforce to society’s advantage? Will global competition lift standards for people working and living throughout the world? Will businesses invest in workers who have been left behind to ensure the nation’s continued prosperity? Will we bring down the barriers to success for all Americans?

The answers to these and similar questions will help map the landscape of the future of work. For future workers, employers, labor unions, and policymakers, preserving the constants for working families is the goal, and managing change effectively is the challenge. Together, we can proceed with confidence.