



Connected Government: Follow Five Imperatives to Thrive in Challenging Economic Times

What You Will Learn

Governments are being squeezed from two directions: revenue shortfalls on one side and escalating demands for critical government services on the other. This white paper, intended for local and national governments worldwide, discusses how governments can thrive in challenging economic times by investing in 21st century network infrastructure to create jobs, save money, and improve quality of life. A single investment, an intelligent network platform, can act as the foundation for multiple applications that help governments follow five strategic imperatives:

- Shape sustainable economies
- Optimize to better serve
- Unlock workforce potential
- Engage citizens
- Enhance safety and security

New Challenges and Opportunities in Government

With diminished funding for critical services like public safety and education, governments seek a bold new approach to service delivery. Success will be measured by economic growth, jobs saved or created, cost savings, and long-term social benefits. Limited funding makes it crucial to identify the investments that will yield the swiftest, largest, and most enduring returns.

Cisco believes that investments in information and communications technology help governments thrive in challenging economic times. The simplest investment, broadband infrastructure for residents and businesses, immediately creates jobs, increases competitiveness, and improves social equity. The economic benefits multiply when governments use the network as the platform for applications that transform business processes. For example, remote meeting solutions save travel time and money that can be invested in citizen services. Collaboration solutions increase productivity and bring faster resolution to citizen inquiries. Web 2.0 tools like wikis and blogs empower citizens to contribute to innovation, increasing citizen satisfaction with government.

Cisco believes that network-enabled applications bring many advantages to government. Agencies around the world are successfully using their network investments to pursue five specific imperatives: shape sustainable economies, optimize service delivery, unlock workforce potential, engage citizens, and enhance safety and security for an improved quality of life.

Shape Sustainable Economies

Innovation and economic growth depend on three ingredients: infrastructure, talent, and investment. Investing in a network platform and networked services provides immediate as well as long-term benefits for local and national economies. In the near term, adding network infrastructure to new and existing buildings and transportation projects (roadways, bridges, airports, and seaports) creates many jobs, nearly all of them skilled jobs that are in high demand, as shown in Table 1.

Table 1. Investing in Network Infrastructure Creates Sustainable Jobs

Immediate Jobs for Network Infrastructure Projects	Long-Term Jobs
Network planners	Network administrators and managers
Laborers for cable trenching and installation	Technical support staff
Technicians to install network devices, videosurveillance cameras, and environmental sensors	Network analysts
Trainers for installation	Project managers

Training for jobs in networking is readily available. For example, Cisco® Networking Academy® is one proven model for 21st century learning that equips students with the IT and networking skills necessary to compete in a global economy. Networking Academy is available in more than 160 countries and has served more than 2.6 million students.

In the long term, investing in network infrastructure and collaboration tools creates social and economic value that will endure after the current economic emergency has been abated. For example, communities with more skilled jobs increase their tax base. They also gain a competitive advantage in attracting employers. The City of Albuquerque, New Mexico, was able to attract Eclipse Aviation partly because of its 21st-century communications infrastructure. Broadband infrastructure gives local entrepreneurs the foundation to collaborate with global partners and customers. Citizens in rural areas or who cannot work outside the home can telework. And community quality of life improves when companies reduce their carbon footprint by using network-based collaboration tools to avoid travel and daily commuting.

Government investments in network infrastructure also set an example for the private sector. Government has the opportunity to lead the way to smart energy, greenhouse gas reduction, climate stewardship, rural sustainability, and more effective education and healthcare.

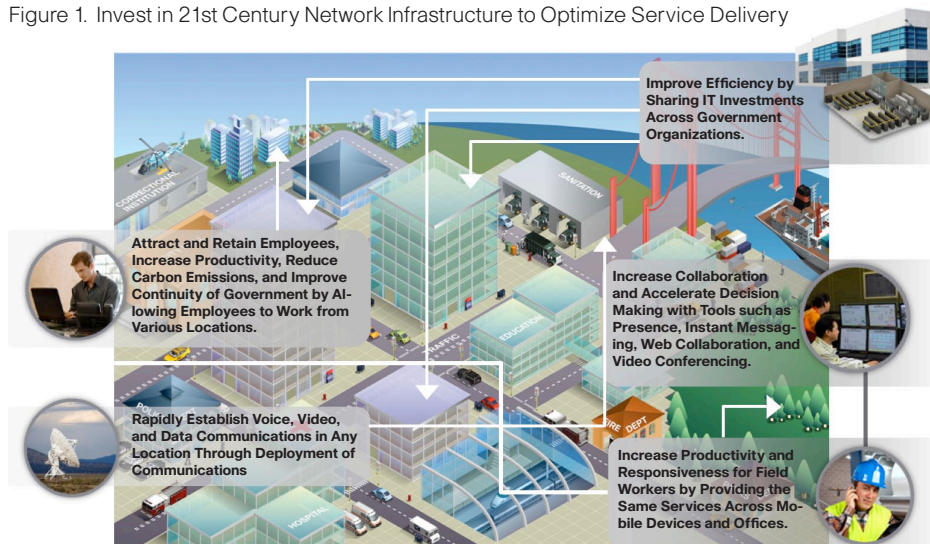
Optimize to Better Serve

Optimizing service delivery means delivering services where and when needed, at the lowest possible cost, and with the least environmental impact (Figure 1). Governments optimize service delivery when they:

- Reduce travel costs and environmental impact: Officers in the North Wales Police Department in the United Kingdom used to drive up to 140 miles to and from the Crown Prosecution Service to determine if a case was prosecutable. Travel requirements kept officers off the street for up to four hours. Now officers collaborate with solicitors without the time, expense, and environmental impact of travel using a videoconferencing system. Personnel in just one division have eliminated 30 hours in weekly travel time by meeting remotely using video solutions, saving US\$68,000 (£39,913) annually. The district reduced carbon emissions by 2.8 tons in the first six months of the pilot program. And officers can spend more time on the streets, reducing crime and fear of crime.
- Conserve energy: The State of Missouri credits its network with helping reduce the energy cost per square foot for one of its buildings by 13.6 percent. Every 15 minutes, the system uses the state's existing network to retrieve information from 250,000 building sensors that report on room temperatures, utility meter readings, whether elevators are turned on, and more. The system automatically sends an email message when something unexpected occurs, such as when an air handler begins operating 24 hours a day. The state reduces consumption by finding out immediately instead of months later, when the bills are analyzed.

- Continuously improve service effectiveness: The City of Rivas, a municipality near Madrid, Spain, built a 21st century infrastructure used for voice communications, the public announcement system, video surveillance, traffic light control, building controls, mobile access for field employees, and free Internet access. Return on investment includes reduced energy and water consumption through real-time visibility into usage, reduced communications costs, lower operational costs, and enhanced quality of life for residents. The California Department of Insurance uses a unified communications solution to improve employee productivity, provide better service to citizens and insurance providers, and save more than \$170,000 annually. The freed-up funds can be used for other projects that benefit citizens.

Figure 1. Invest in 21st Century Network Infrastructure to Optimize Service Delivery



Unlock Workforce Potential

Government increases the value of human capital by giving employees the tools to collaborate from anywhere, anytime, using any device.

- Enable collaboration: Using modern collaboration tools, people can come together from any location with a network connection, including agency headquarters, home, or local government offices near the employee's home or work. The ability to harness the talents of many people from throughout government speeds up decision-making, accelerates resolution of citizen issues, and can foster innovation. For example, with presence technology, employees can simply consult their IP phone display or PC screen to find employees with a certain type of expertise who are currently available and see how they prefer to be reached. Presence technology can save hours weekly by eliminating the need to dial multiple numbers, leave multiple messages, and send multiple emails and instant messages. Collaboration also flourishes with remote meeting solutions. More productivity gains arise when governments develop custom applications to automate and optimize processes. The Arizona Department of Commerce wrote a simple application that lets employees use their networked IP phones to look up each other's travel itineraries, simplifying meeting scheduling and improving service to callers who want to know when an agency representative will be in their area.
- Empower mobile workers: Governments optimize the mobile workforce by giving them the tools to work as productively from the field as they do from their office. Mobile employees who work for the facilities or IT department, for example, can respond to issues more quickly when they can receive calls from anywhere in the building using a wireless IP phone. And with a network-based mobility solution, mobile employees can access the same services on their smartphone as they have on their desktop phone, including directory access, four-digit dialing, and voicemail and unified messaging.

- Support telework: In communities with broadband access, government employees can take advantage of unified communications, collaboration, and security solutions to securely access the same voice, video, and data services they have at home, saving the time, cost, and carbon emissions of commuting. Telework increases productivity and job satisfaction, gives the government an advantage for recruitment and retention, and supports government Continuity of Operations (COOP) programs.

Empower Citizens

Governments also thrive when they empower citizens to easily access services and to work in partnership with government (Figure 2). Steps that governments can take are:

- Provide ubiquitous broadband access: A \$5 billion increase in spending on broadband infrastructure directly creates 97,500 new jobs in telecommunications and IT in the year in which spending occurs. The economic impact of ubiquitous broadband access depends on the number of people that use it as well as the speed of the connection. Governments harvest the biggest and longest lasting benefits from economic stimulus funds when they include wired and wireless broadband network infrastructure in every construction, transportation, and education project.
- Make it easier to access services: The State of Texas Health and Human Services Commission empowers citizens by enabling them to dial a single number, 24 hours a day, to enroll in or obtain information about any service. Calls are routed to the best available agent in any location in the state. The state has increased service levels and is saving an estimated \$400,000 annually compared to a traditional contact center solution. Auckland International Airport in New Zealand also uses a network-based contact center solution to ensure that the 7000 emergency and routine calls it receives each week are directed to the right person, the first time.
- Encourage citizen participation in policy creation and adoption: As an example, the whitehouse.gov site encourages citizen participation in government with video, blogs, and invitations to contact government (Figure 3). Using the network to collaborate with citizens increases transparency, which fosters citizen trust in government.

Figure 2. Use the Network to Deliver Services When and How Citizens Want Them

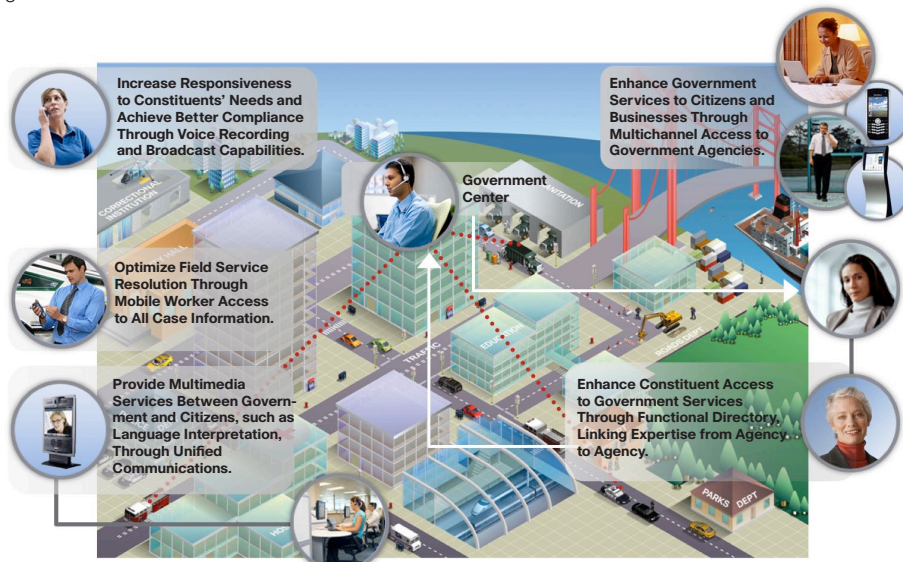


Figure 3. Interactive Web 2.0 Technologies Help Involve Citizens in Government

Enhance Safety and Security

Safety and security directly influence local and national economies because safe, secure communities attract residents, employers, and visitors. What's more, public safety agencies that can effectively prepare for, prevent, detect, assess, and respond to threats can minimize loss at the same time they protect lives and quality of life (Figure 4).

Wired and wireless networks play an increasingly important role in safety and security, enabling government to:

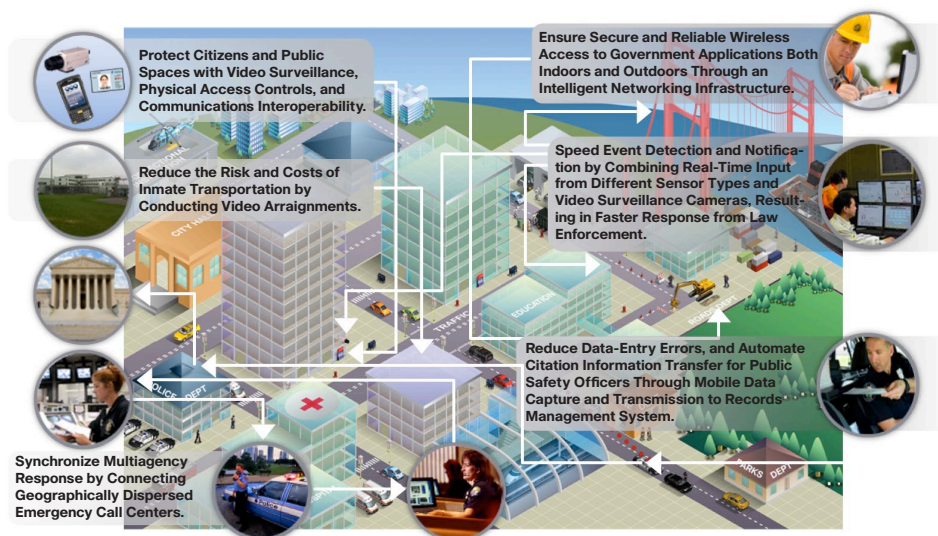
- **Increase speed and precision of decision-making:** U.S. municipalities that deploy an outdoor wireless mesh network can take full advantage of Nlets, the National Justice and Public Safety Information-Sharing Network. State troopers can quickly determine if a driver's license is valid. Police officers can check the criminal history of a suspect being detained in the field. Task force detectives can check the registration of a suspicious aircraft or boat. Public safety agencies can receive interstate Amber alerts as well as Homeland Security alerts. Community police officers can check to see if someone is a registered sex offender.
- **Increase efficiency and effectiveness of first responders:** Access to voice, video, and data in the field increases situational awareness. Firefighters on the way to a hazardous materials spill can consult hazardous materials databases, GC/MS (gas chromatography/mass spectrometry) data, and building blueprints to plan actions for the best outcome. In Boulder County, Colorado, Special Weapons and Tactics (SWAT) teams use a sophisticated interoperability solution to facilitate negotiations with suspects by patching a suspect's PSTN phone or cell phone into an operational or tactical radio channel, and negotiators can communicate using either a radio or cell phone.
- **Enhance citizen-to-authority collaboration:** Public safety answering points (PSAPs) become more effective when they are integrated with the government's IP network. Citizens can contact the PSAP using voice, email, and other means. Interagency and multijurisdictional collaboration increases. Hospitals and trauma centers can collaborate



with existing PSAPs to deliver emergency services. And government can improve emergency response to natural disasters and other emergencies.

- **Create a force multiplier:** Network-attached video surveillance cameras and sensors add more eyes in more places. Examples include chemical, biological, radiological, nuclear, and explosives (CBRNE) sensors as well as gunshot detection, location, and surveillance systems. When citizens call to report urban gunfire, the average delay between the gunfire and the call is 2.5 minutes, and their information is imprecise. Gunshot detection and location systems rely on acoustic sensors and GPS to automatically direct a video surveillance camera in the right direction and automatically alert dispatch and call centers in seconds, providing details including the map location, nearest street address, indications of the number of shooters, number of rounds fired, video of victims and bystanders, and types of weapons discharged. Complete information provides the situational awareness that law enforcement needs to assess the severity of the incident.

Figure 4. Help to Protect Safety and Property by Delivering Voice, Video, and Data Services Anywhere



Why Cisco?

Cisco understands these five imperatives, and every deployment example named in this white paper meets its goals with a Cisco solution. We offer the following advantages to governments that want to use network technology for economic advantages:

- **Complete solutions:** Government can work with a single vendor for infrastructure, collaboration tools, and partner introductions. Avoiding integration issues saves time and money and reduces risk.
- **Firsthand experience:** Cisco is applying the five ways to thrive in our own 67,000-employee global organization. Not only can we provide the infrastructure and collaboration tools for government, but we can also share lessons learned for successful adoption.
- **Breadth of solutions:** Agencies can take advantage of a wide variety of integrated collaboration tools to meet different agency requirements. Integrated tools are more useful than the same tools that are not integrated. For example, with Cisco Unified Personal Communicator, employees can see each other's presence information, click to start an instant message session, and click again to escalate to a collaboration session combining voice, video, and web sharing.

- **Open architecture:** Cisco solutions have open APIs, enabling agencies to integrate them with third-party applications, including customer relationship management databases.
- **Attention to the user experience:** Cisco applications are designed to deliver the excellent user experience that the workers and citizens have come to expect.
- **Comprehensive services:** Cisco offers complete lifecycle services: planning, preparation, design, implementation, operation, and optimization.

Conclusion

The economic stimulus programs of the 1930s funded highways that connected people, enabled mobility, and accelerated trade. This transportation infrastructure paved the way for decades of economic growth. Today we have another opportunity to stimulate economic growth by investing in network infrastructure. Twenty-first century network infrastructure will bring together people and information across public, private, and nonprofit organizations to create a sustainable competitive advantage for the future. The measures of success are shaping a sustainable economy, optimizing service delivery, engaging citizens, unlocking workforce potential, and enhancing safety and security for improved quality of life.

For More Information

To read about Cisco solutions for government, visit: www.cisco.com/go/government



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

CCDE, CCENT, CCSI, Cisco Eos, Cisco HealthPresence, the Cisco logo, Cisco Lumin, Cisco Nexus, Cisco Nurse Connect, Cisco Stackpower, Cisco StadiumVision, Cisco TelePresence, Cisco WebEx, DCE, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn and Cisco Store are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0903R)