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United States' Experience with Public-Private Partnerships Elements of Effective Public-*Purpose* Partnerships

An Overview by

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Executive Summary

Public-purpose partnerships have emerged as dynamic mechanisms for locally-aware, situational governance and management of rapid change. They take the legal form of partnerships or other co-dependent arrangements between public entities at various levels of national, regional and local government.

- ❑ As public-private partnerships, they form between governmental entities and companies, non-profit/NGOs and academic institutions to innovate new solutions using a wider range of capital, technical knowledge and market-based incentives in everything from management of government buildings to incubating high-tech companies (i.e., facility partnerships, BIRD Foundation).
- ❑ As privatizations, they move historically inefficient or undercapitalized governmental operations into the private sector (i.e., private ambulance services, health maintenance organizations (HMOs)).
- ❑ As standards organizations, they remove the cost and risk of component customization and thereby help open markets for commercial-off-the-shelf products and services built with advanced technology, manufacturing and financial transaction processes (i.e., ISO, ANSI, W3C).
- ❑ As communities of trust to effect positive social change, they leverage shared capital and technology to pool their diversity of mutual aid and support for transparent, learned and open societies (i.e., preservation partnerships, FirstGov, OneWorld).

All can be seen as “public-purpose” partnerships or **PPPs**.

PPPs are not new. They have been used by government to supplement available resources, talent and interest in exploiting opportunities for effective economic development, participative democracy and delivery of social services for hundreds of years. Chambers of commerce, [Red Cross](#), [Salvation Army](#), [Medicins sans Frontieres](#) and the [Bank for International Settlements](#) are just a few examples. Establishing a PPP does not assure success. Even PPPs that are part of the systemic infrastructure of modern society compete for users and revenues/profits.

Because of the government’s role in and interest in the safe functioning of financial markets, banking and financial sectors have led successful digital PPPs. Consider the role of the American Bankers Association in operating the CUSIP system to register and code bonds so they can trade more safely and efficiently in our public markets,² and thereby permit rapid oversight of related bank operations by government regulators according to risk-based capital requirements under the Basle Accords. Credit card companies and their bank members

¹ Railroads are examples of PPPs that have become public enterprises. In the 1800s, rights-of-way for railroad use were acquired by railroads’ quasi-governmental condemnation, signifying the public investment and interest in bringing passenger and freight traffic through the town. However, the growth of automobiles several decades later and the subsidy of building highways largely at public expense undermined the profitability of privately-owned railroads, and after bankruptcy, they slipped into public or quasi-public ownership. Today, land condemned by railroads for rights-of-way and since abandoned is being reclaimed for trails and other public and private use. (The current boom in building casinos and sports complexes may follow the railroad pattern as the capacity and social costs for that infrastructure approach the limits of publicly-justified partnering.)

² CUSIP is the abbreviation for the American Bankers Association’s Committee on Uniform Security Identification Procedures. See, Standard & Poors, *CUSIP Service Bureau: What’s CUSIP?*, <http://www.cusip.com/cusip/whats.html>.

also have helped governments improve the safety, speed and security of the world's electronic payments systems, so that an electronic impression of my Mastercard or Visa issued in New York is accepted as payment for my hotel stay this week in Paris.

Digital PPPs exist in other fields of information as well. Consider the role that our National Institutes of Health MEDLARS system plays to index and link privately-published medical articles, thereby creating an online "level-playing field" of knowledge for international research, epidemiology and health administration.

This paper presents an overview of PPPs as adapted in American community, business and heritage settings. Unlike private partnerships, PPPs make social and economic challenges their *raison d'être*, turning those challenges into natural opportunity space for inter-institutional cooperation and individual leadership. Many PPPs are capitalized with private contributions of cash, property or expertise, thus leveraging and extending the effectiveness of scarce government budgets. Increasingly, PPPs proliferate the Web and cyberspace, providing the information and other global resources to put into practice many of the universal themes of our times: freedom of the press, environmentalism, free trade and social equity.

A History of Public Advantage through Private Entrepreneurship

America's size, diversity and economic settings provide fertile ideas, people and capital to leverage through public-private partnerships. Partnerships are not a new idea.

- ❑ 140 years ago,³ pioneering "homesteaders" faced weather, food and health challenges to settle on and own 160 acres of land.⁴ Within 40 years, they had tamed the country's Western Territories – more than half a billion acres everything West of the Mississippi River.
- ❑ Like other modern governments', our Constitution recognizes the value of research and development as engines for economic growth by safeguarding patent, trademark and other protections for intellectual property.
- ❑ The underground conduit network to light New York City with electricity and to run its telephone systems in city streets was laid and is operated to this day under 1880s

³ Homestead Act of 1862, <http://www.prairiepublic.org/features/newpioneers/immigration/homesteaders.html>:

With its promise of free land, the Homestead Act of 1862 opened the doors for "any person who is the head of a family or who has arrived at the age of twenty-one years, and is a citizen of the United States, or who shall have filed his declaration intention to become such" could obtain 160 acres (one quarter section) of land free of charge for cultivating a portion of it for five years and paying a small filing fee. According to the *Ethnic Heritage in North Dakota*, "In crowded European countries where the "seventh son of a seventh son" had no chance of land and little opportunity to make a living, 160 acres seemed like a kingdom." In addition to immigrants from foreign lands, immigrants arrived from the eastern United States looking for the freedom and adventure the new lands in the "west" offered.

More homesteads were granted in North Dakota than in any other state except Montana. From 1868 through 1889, 12,809 homesteads were granted in the Dakota Territory that comprised both North and South Dakota. Between 1890 when North Dakota became a state, and 1920, Bureau of Land Management records show that 44,603 homesteads were granted in North Dakota.

For Nebraska's homesteading experience, see <http://www.rootsweb.com/~neresour/NSHS/NECP/necp0000.html>.

⁴ Consider the PPP origins of the self-funded homesteading land grants issued at the aegis of the Continental Congress:

The Continental Congress set its land disposal policies when it adopted the Land Ordinance of 1785. The deficiencies of that policy, including the requirement that all public lands be paid for in cash, brought wide spread demands for a reform of public land laws. Congress responded. On May 10, 1800, President John Adams signed a new public land law meeting most of the demands of the settlers.

The new Act provided for credit sales of public land, reduced the minimum size of individual tracts that could be sold to 320 acres, and set a \$2 per acre minimum price for public lands. It retained the provision that all public lands were to be sold at public auctions.

Under the credit system, a person buying a tract of land had to pay one-twentieth of the agreed price at the time of the sale and one-fourth 40 days later. A second quarter was due at the end of the second year and the rest during the third and fourth years. The Government charged 6 percent interest on the unpaid balance, but offered an 8 percent discount for payments made before the due date. Land not fully paid for after the fifth year was forfeited and resold at an auction.

Excerpt from Bureau of Land Management, *Our Recordkeeping History*, <http://www.gloreCORDS.blm.gov/Visitors/Recordkeeping.asp>.

street franchise agreements with the corporate predecessors of Con Edison and Verizon.⁵

- ❑ Our food is grown, harvested, distributed and sold through a nested series of cooperative purchasing, finance and technology partnerships.
- ❑ Our forests, parks, rivers and air are stewarded and their health reported by conservancies, river-keepers and air wardens – all self-appointed and self-organized.

Most of our modern public infrastructure systems – transportation, environmental, banking, healthcare – were built, and are maintained and operated through nested business processes that leverage various attributes of responsible public-private partnerships, extending government's role far beyond mere regulators and taxing authorities and tapping the diversity of talent, capital and market-driven accountability that defines American corporations, non-profits, universities and sister governments today.

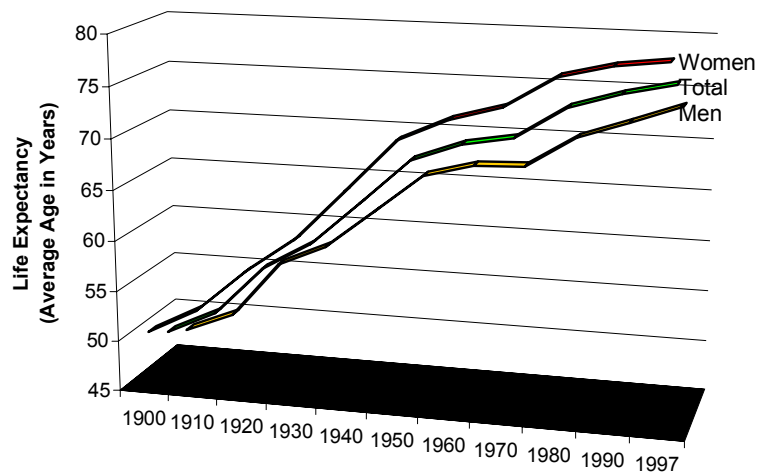
Community health and human services are provided through dozens of PPPs in most regions of the States. Our prepaid health maintenance organizations (**HMOs**), combination of public and private health care insurance plans and tradition of private for- and non-profit hospitals all represent PPPs. The economics of US health-care PPPs have been widely researched and critiqued.⁶ Yet the benefits to Americans appears to be unassailable, as their average lifespan has added 6 years in the past three decades.⁷

⁵ Timothy Reason, *Thesis: Forgotten Rights and Responsibilities: How New York City Can Regain Control of Its Underground Infrastructure* (Columbia University - May 1996), based on franchise research from and edited by Bruce Cahan, thesis advisor.

⁶ For an example of state performance assessment of HMO operations, see Maryland Health Care Commission, *2001 Comprehensive Performance Report: Commercial Health Maintenance Organizations In Maryland* (September 2001) <http://www.mhcc.state.md.us/hmo/comprpt/rpt2001.pdf>. Nationally, see Health & Human Services' Agency for Healthcare Research and Quality, <http://www.ahrq.gov/>.

⁷ Indicator 12: Life Expectancy, <http://www.efmoody.com/estate/lifeexpectancy.html>. Advanced medical treatment, early and school-age childhood food and health programs and other developments have led to Americans living longer. Longevity brings an aging population with new social and economic needs. Unfortunately, this increase in national lifespan has yet to be distributed evenly throughout the US population, as lower income individuals, minorities and immigrants struggle to overcome basic healthcare, housing, diet, exercise, stress, crime and other issues that result in premature death and the onset of medical symptoms.

Figure 1 Increase in Americans' Life Expectancy



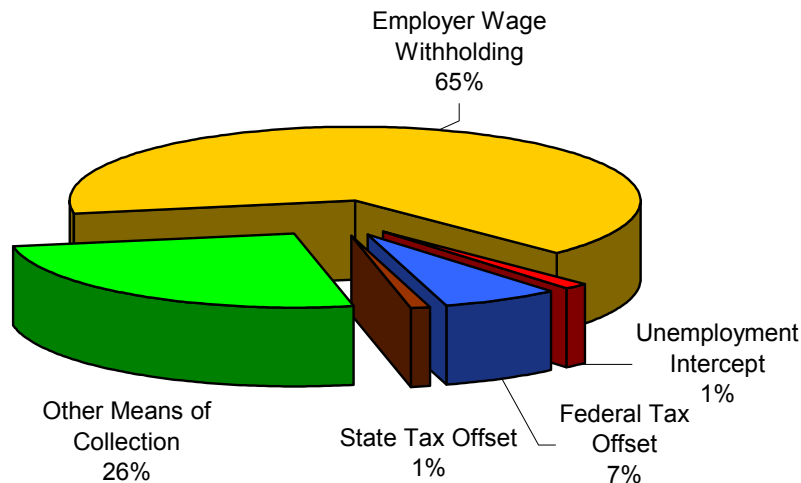
Even in the area of law enforcement, PPPs provide regular public benefits and leverage private entrepreneurial expertise.⁸ Child support is a key ingredient to maintaining a home for growing children after their parents have divorced or one parent has abandoned them. Judicial orders of support are meaningless without the appropriate enforcement and compliance mechanisms and incentives. Maryland's Office of Child Support Enforcement has developed a guidebook for PPPs related to assuring the payment of timely child support.⁹ The PPPs help:

- ❑ Capture the information as to employment and assets of working parents
- ❑ Execute liens and garnish wages of parents in arrears in the payment of support
- ❑ Delivery receipts from support collection activities to families entitled to those funds
- ❑ Work with community employment offices and employers to assist child support parents in finding, learning skills for or keeping a job that pays the wages required to meet their support obligations

⁸ See the role of Business Improvement Districts in modern American cities, *infra*, on page 13.

⁹ Maryland Office of Child Support Enforcement, *A Guide to Developing Public-Private Partnerships In Child Support Enforcement*, <http://www.acf.dhhs.gov/programs/cse/rpt/pvt/contents.htm>.

Figure 2 Sources of Child Support Collections in Maryland



As Figure 2 shows,¹⁰ Maryland has ample reason to see each source of child support collection activity as ripe for effective partnerships with business, government and nonprofit groups. Employer wage withholding and “other” means of collection suggest that more than 91% of the collections derive through arrangements with private sector and non-state sources. Given that \$1.1 billion (5.5%) of the \$19.88 billion child support payments flowing to children come from parents outside Maryland, interstate coordination is required – creating further opportunities for innovative collaborations and PPPs.

The debate over public-private partnerships and privatizations stirs emotional and economic arguments that challenge management and labor to respond with entrepreneurial options for improving the products and services of government. With the professionalism and courage shown by responders to the September 11th terrorist attacks on the World Trade Center in New York and the Pentagon in Virginia, new forces will drive the debate on PPPs to carefully review their “value propositions” and benchmark the performance and quality deliverables promised by private partners. This accountability is healthy, and should serve to improve PPP management and criteria for adopting PPP transactional structures in the future.

¹⁰ Maryland Office of Child Support Enforcement, *FY2000 Data Preview Report*, <http://www.acf.dhhs.gov/programs/cse/pubs/2000/datareport/ch03.html#N79A1>.

A Continental Expanse of Settings and Capital for PPPs

The United States covers 9.6 million square kilometers across 7 time zones, generating 22.8% of global GDP.¹¹

The country is administered and defended by one federal government on behalf of and in partnership with 88,000 state, county, city, tribal and other governments. The federal government owns 30% of the country's entire landmass,¹² with state governments owning another 8.8% of the landmass.¹³

Americans trace their heritage to every continent, speak over 50 different languages¹⁴ and maintain trading relationships with nearly every country on the planet.¹⁵

Our public financial markets concentrate and diversify the world's capital in trillion-dollar trading days.¹⁶

The aggregate of all domestic governments' tax and excise revenues exceed \$2.2 trillion¹⁷ (59% paid federally, 41% paid at state & local levels) – larger than the GDP of 27 of the 30 OECD countries.¹⁸

In technology, governmental units in the US spend over \$85 billion annually, of which \$45 billion is spent federally¹⁹ and \$39.9 billion at state and local levels.²⁰

¹¹ CIA World Fact Book, *GDP by Country*, <http://www.cia.gov/cia/publications/factbook/fields/gdp.html>.

¹² GAO, *Federal Land Management – Streamlining and Reorganization Issues* (June 28, 1996), <http://www.fs.fed.us/servicefirst/tcred96209.pdf>.

¹³ National Wilderness Institute, *State-By-State Land Ownership* (1995), <http://www.nwi.org/Maps/LandChart.html>.

¹⁴ US Census, Detailed Language Spoken at Home and Ability to Speak English for Persons 5 Years and Over --50 Languages with Greatest Number of Speakers: United States (1990 Census) Table 5, <http://www.census.gov/population/socdemo/language/table5.txt>.

¹⁵ US Trade Representative, *World Regions*, <http://www.ustr.gov/regions/index.shtml>.

¹⁶ The US Securities and Exchange Commission (**SEC**) "currently oversees:

- ❑ an estimated 8,000 brokerage firms employing nearly 700,000 brokers;
- ❑ 7,500 investment advisers with approximately \$20 trillion in assets under management;
- ❑ 34,000 investment company portfolios; and
- ❑ over 17,000 reporting companies.

Commissioner Harvey L. Pitt, *Written Testimony Concerning Accounting and Investor Protection Issues Raised by Enron and Other Public Companies Before the Senate Committee on Banking, Housing and Urban Affairs* (March 21, 2002), <http://www.sec.gov/news/testimony/032102tshlp.htm>. The bank regulators at federal and state levels oversee the safety and soundness of trillions saved and overseen as corporate and individual accounts.

¹⁷ President's Budget, <http://w3.access.gpo.gov/usbudget/fy2003/sheets/hist02z1.xls>, and Census, <http://www.census.gov/govs/qtax/table1.xls>.

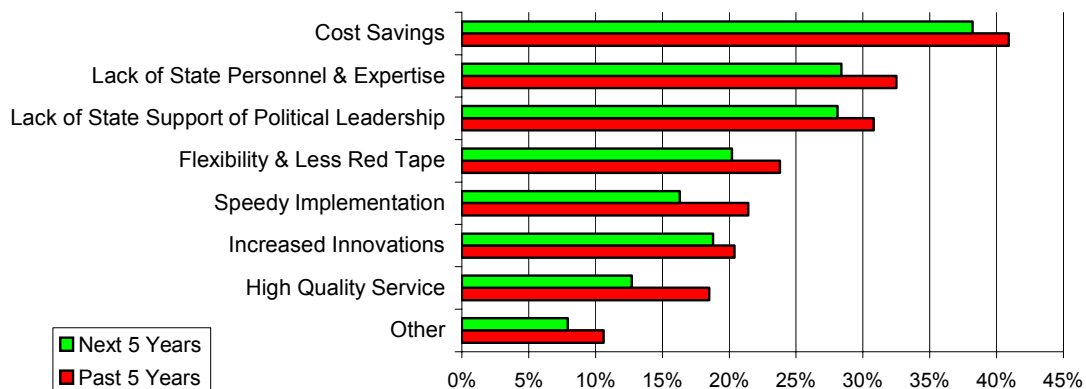
¹⁸ OECD, *Gross Domestic Product of Member Countries: 2000*, http://www1.oecd.org/publications/figures/2001/anglais/012_013_GDP.pdf.

Public infrastructure (such as power, telecommunications, roads, dams, subways, airports, water treatment facilities and other assets) have an in-place historic cost exceeding hundreds of trillions of dollars, and yet are old and require replacement or life-extension strategies in the hundreds of trillions.²¹

This diversity of communities, regional economies and undulating fiscal constraints has caused PPPs to flourish in America. Diversity has made the scale of solutions in one part of the country meaningful elsewhere. Capital constraints have meant that under-capitalized or more risk-averse governmental units have been attracted to PPPs to supplement their resources and diversify their risks of innovation.

Those using PPPs cite many reasons:²²

Figure 3 Reasons Cited for Using Public-Private Partnerships (Past & Future)



The benefits of PPPs are not without a price, and require public vigilance to assure promised levels of performance. PPPs of existing government functions (also known as privatizations) impact public safety and can diminish the economic safety net of public employment. Certainly, the tragic cascade of events on September 11th and the reassertion of federal control over security staffs at Logan Airport in Boston²³ tes-

¹⁹ Joshua Dean and Shane Harris, *President calls for major technology spending increase* (GovExec - February 1, 2002), <http://www.govexec.com/dailyfed/0202/020102h1.htm>.

²⁰ Dibya Sarkar, *New priorities in IT spending mix* (Fed. Computer Week - March 19, 2002), <http://www.fcw.com/qeb/articles/2002/0318/web-fsi-03-19-02.asp>.

²¹ For an overview of current shortfalls in maintenance and risks of infrastructure failure, see Am. Society of Civil Engineers, *National Infrastructure Report Card 2001*, <http://www.asce.org/reportcard/index.cfm?reaction=full>.

²² Council of State Governments, *Private Practices: A Review of Privatizations in State Governments*, 1998, Figure 6, p. 8.

²³ CNN, *Feds Take Control of Security at Logan Airport*, <http://www.cnn.com/2002/TRAVEL/NEWS/02/17/airport.security/>.

tify to the need to see PPPs as public management tools – not permanent arms length commercial contracts.

The pros and cons of PPPs are likely to require further inventorying, analysis and economic scrutiny as management experience and technological and cultural acceptance of PPPs widens.²⁴ Congress' General Accounting Office (**GAO**) has suggested the need for more rigorous study of PPP benefit streams for real property transactions.²⁵

²⁴ For a sampling of contemporary views on PPPs, see:

- ❑ The Reason Public Policy Institute's Privatization.Org, <http://www.privatization.org/database/PrivatizationProsAndCons.html>;
- ❑ The National Council for Public-Private Partnerships, <http://www.ncppp.org/>;
- ❑ AFSME, Privatization: The Public Pays, <http://www.afscme.org/private/index.html> and Talking Points, <http://www.afscme.org/private/tools04.htm#privatization>
- ❑ National Education Association, Privatization and Education Support Professionals, <http://www.nea.org/esp/privatization/privcase.html>.

²⁵ GAO, *Pilot Program Needed to Demonstrate the Actual Benefits of Using Partnerships* (GAO Report GAO-01-906 July 25, 2001), <http://www.gao.gov/new.items/d01906.pdf>. (hereafter, **GAO PPP Benefits Report**).

PPPs Diversify Government Property Risks & Options

Location, Location, Location. The cardinal virtues and pitfalls of real property development are universally explained as Location³. Governments own various property types and interests in them:²⁶

- ❑ Government buildings, ranging from City Halls, to rural post offices and train stations
- ❑ Rights-of-way, ranging from underground fiber and conduits, to street signaling and telecommunications, to railroad easements, navigation rights and air traffic routes
- ❑ Leaseholds and statutory land trusts for preservation and conservation
- ❑ Homes, shopping centers, hotels, commercial and residential mortgages and bonds backed by securitized mortgages fall into government ownership through settlement of bank and other claims in insolvency or other litigation
- ❑ Brownfields, agricultural and contaminated sites that are unmarketable
- ❑ Defense installations, national forests and other property held for sovereign purposes

Renovating & Repurposing Government Buildings

The federal government owns a portfolio of 400,000 civilian and defense real estate buildings (active and surplus) and 500 million acres of land.²⁷ States and other non-federal agencies own or through pension or other investment accounts control another thousands more.

In America, the highest and best use of real property is constantly evolving: Real property markets enter and emerge from economic cycles at different rates. Urban growth changes the value and purpose for buildings and infrastructure once built as homes, offices, shops or other property types. Depreciation and normal wear and tear force constant reinvestment in and redesign and renewal of buildings to accommodate new tenants, technologies and the economics of the Digital Age.

The General Services Administration (**GSA**) manages a diverse portfolio of federal real property. As the landlord for many of the offices occupied by federal agencies, GSA strives to maximize the flexibility of offices to accommodate the reprioritization of inter- and intra-agency missions. GSA estimates that \$4 billion is needed beyond current authorizations to maintain and utilize its buildings.²⁸ A smaller federal workforce, accompanied by new hires accustomed to the modern office conveniences of private sector technology and office environments means that GSA has experimented with PPPs to increase the real property options available to federal users and increase the return on investment (**ROI**) for federal taxpayers. According to Francis McDonough, Deputy Associate Administrator of GSA's Office of Intergovernmental Solutions, "the best PPPs rely on innovative financing and dynamic management" to achieve their goals.

The General Accounting Office recently identified 5 key elements of effective facility PPPs²⁹:

1. Catalyst for Change existed, often a fiscal constraint or policy to leverage resources outside of traditional budgets

²⁶ GAO, Federal Real Property Reform (April 18, 2002), <http://www.gao.gov/new.items/d02622t.pdf>, p. 1.

²⁷ GAO PPP Benefits Report, pp. 4, <http://www.gao.gov/new.items/d01906.pdf>.

²⁸ GAO PPP Benefits Report, pp. 2, <http://www.gao.gov/new.items/d01906.pdf>.

²⁹ GAO, *Public-Private Partnerships Key Elements of Federal Building and Facility Partnerships* (GAO Report GAO/GGD-99-23 February 3, 1999), <http://www.gao.gov/archive/1999/gg99081t.pdf>.

2. Statutory Basis existed or was obtained for entering into the PPP. Nominally, this assured that the public interest was being served through the PPP, but most pragmatically, it permitted the agency partner to retain revenues generated from the PPP for its (the agency's) own use rather than returning them to the general treasury³⁰
3. Detailed Business Plans identified missing statutory or regulatory authority, market conditions and relevant investment and operational factors before settling on the economics and risk-retention characteristics for the PPP
4. Organizational Structure was created and expertise from inside and outside the government was assembled to plan, negotiate and manage the PPP
5. Stakeholder Support from inside the agency moving the PPP as well as the local community and other involved in the PPP implementation

Brownfield Properties: Uniquely Suited for PPP

The more challenging a property's location and condition, the more likely it is that public-private partnership may prove a viable transactional structure for returning the property to productive use.

Brownfield sites in under-developed locations provide a case in point. In Staten Island, Visy Paper, the U.S. division of an Australian company (Pratt Industries), built a paper recycling plant and containerboard mill to process 40% of New York City's residential wastepaper. In 1996, the \$250 million, 475,000 square foot facility was the largest manufacturing investment in New York City in the last fifty years.³¹ The Visy plant was the first site in New York City to be put to productive re-use under New York State's Voluntary Clean-up Program for contaminated industrial sites.³² The transaction required coordination of the City's Economic Development Corporation and Departments of Sanitation and Law, the State's Department of Environmental Conservation and Empire State Development Corporation, as well as various

³⁰ Congress has given the US General Services Administration (**GSA**) authority to expand on this notion of mutual self-interest through its Share-in-Savings program for eliminating waste, reengineering and outsourcing government's business processes and moving to e-government solutions. GSA Federal Technology Service, *What is Share-In-Savings?*, http://www.fts.gsa.gov/share_in_savings.htm.

³¹ NYC Department of Sanitation, *Annual Report 1996: Mixed Paper and Metal Bulk Recycling*, <http://www.ci.nyc.ny.us/html/dos/html/ardos324.html>.

³² Since the early 1900s, the site had been used for an electric utility and other heavy industrial purposes. As a result, contamination and suspected contamination included

[a] large quantity of lime sludge and a large number of acetylene cylinders were buried at the site. Although the cylinders were found to be empty, they presented an explosive hazard. In addition, underground storage tanks containing an oil-water mixture were found on the site. The predominant contaminants found in soil comprised metals (arsenic, beryllium, copper and nickel), polycyclic aromatic hydrocarbons, PCBs and petroleum hydrocarbons. Free phase liquid was observed in several monitoring wells.

New York State Department of Environmental Conservation, *New York State Brownfields Self-Help/Financial Resources Manual - From Environmental and Community Liability To Economic and Community Asset; Case Study: Visy Paper* (July 2001), <http://www.dec.state.ny.us/website/der/bfield/brownmanual.pdf>, pp. 5-24 – 5-25.

federal and local land use and environmental planning processes.³³ In 1997, the project's sponsors projected its benefits as including:³⁴

- ❑ Employing 115 people
- ❑ Creating 1,000 jobs during construction
- ❑ Adding 900 jobs in related industries
- ❑ Adding more than \$107 million in annual direct and indirect economic activity to the region
- ❑ Adding \$2.6 million in annual City taxes
- ❑ The plant consumes 300,000 tons of raw waste paper each year (enough to fill 5,000 rail cars stretching 76 miles)
- ❑ The recycling facility saves the equivalent of 7,200 trees each day
- ❑ By transporting wastepaper to the site by primarily by barge, the plant reduces traffic congestion by 128,000 truck trips annually

Brownfields are uniquely suited for PPPs because of agency roles in applying environmental laws to require “how clean” a site must be for its intended new use. As a member of Mayor Rudolph Guiliani’s Brownfields Task Force, I learned that defining “how clean” and which agencies can agree that a site is “clean enough” needs to be determined up front, so that the full costs of site remediation and ongoing monitoring can be factored into the site preparation and construction budgets. Nothing scares off potential private partners faster than a bunch of government agencies unable or unwilling to speak consistently about the clean-up they expect. In New York City, the Mayor’s Office of Environmental Coordination helps to unravel the clean-up mystery and focuses the federal, state, local and private parties on a set of mutually-agreeable objectives. In Pennsylvania, developers can submit environmental studies of the extent of pollution and get pre-approval of the scope of their clean-up plans.³⁵

Preservation PPPs: New Capital to Save America’s Treasures



We’re not Europe, with centuries of heritage everywhere one turns in great cities like Paris. Yet our young country already has historic structures worth preserving. Perhaps with greater appreciation of Europe’s cultural riches spared by World War II, on January 3, 1949 Congress passed and on October 26, 1949, President Truman signed into law creating the National Trust for Historic Preservation.³⁶ 53 years later, the National Trust is the country’s premier organization for community-based preservation. With \$49 million in annual revenues, the National

³³ Recently, the company announced its intention to construct a \$150 million addition and add a \$40 million high-speed corrugating machine. The expansion would increase add 100 employees to Visy’s current staff of 160 employees. Visy presently handles nearly 40% of the 400,000 tons in residential wastepaper the city picks up annually, paying the City about \$1.5 million plus transportation costs. The biggest issue to be resolved is how much more city paper Visy will purchase, though Visy’s energy costs and a possible rail link to the plant must also be addressed. Crain’s New York Business, *S.I. Recycling Company May Expand*, <http://www.crainsny.com/news.cms?newsId=3045&bt=visy+paper>.

³⁴ Office of New York Governor George Pataki, *Governor, Mayor, Borough President Dedicate New Plant* (Press Release - June 20, 1997), http://www.state.ny.us/governor/press/june20_2_97.html.

³⁵ Pennsylvania’s Land Recycling Program is an integrated mix of incentives, bureaucratic certainty and economic and environmental pragmatism. See National Governors Association, *Pennsylvania’s Land Recycling Program: An Overview*, <http://www.nga.org/cda/files/PAPROFILE.pdf>.

³⁶ Act of Congress of January 3, 1949, http://www.nationaltrust.org/about_the_trust/NTHP_charter.pdf.

Trust innovates tax-credit programs and other financing options to safeguard historic sites from demolition or neglect.³⁷

Specific heritage monuments (like the Statue of Liberty donated by the people of France and the Great Hall of Immigrants at Ellis Island in New York Harbor) have attracted their own preservation PPPs.³⁸

Since its founding in 1982, the Statue of Liberty-Ellis Island Foundation has raised over \$450 million from over 22 million Americans, corporations and foundations to restore Ellis Island, through which passed 22 million immigrant families as they arrived in America.



The Grand Central Station Post Office PPP exhibits both preservation and ROI benefits. By net leasing its building for 99-years, the Postal Service created the means for a private developer (Hines Interests) to undertake demolition, construction

and leasing up of major office and retail space immediately adjacent to New York's Grand Central Station. The Postal Service receives rent and avoided the costs and risks of developing major office space in Manhattan's central business district – a business far afield from the mission of delivering, sorting and transporting mail. The Post Office project, in turn, added to the pedestrian foot traffic for Grand Central Station of suburbanites entering and leaving via commuter rail links. That shopping demographic contributed to the justifications and economics for the restoration of the Great Hall and waiting areas of Grand Central Station, thereby generating development funding for the preservation project, a new food hall and other station infrastructure improvements.

Business Improvement Districts – Supplemental Urban Services

New York City collects more taxes than most urban centers, over 40 different residential and commercial taxes totaling \$21.4 billion³⁹ annually. So why would property owners voluntarily decide to form micro-taxing districts? Concentrating the economic interest of property owners, retailers and office tenants in each business district helps put private security, "clean teams" and other services along Times Square, Wall Street and Madison Avenue. These BIDs – Business Improvement Districts – have limited taxing power to partially fund their operations. The Downtown Alliance (Lower Manhattan's BID) organized a range of grant, lease, loan, tax credit, energy credit, relief and planning efforts to revitalize the Wall Street and World Trade Center areas in the wake of the September 11th terrorist attacks.⁴⁰

³⁷ National Trust for Historic Preservation, *Annual Report 2001*, http://www.nationaltrust.org/about_the_trust/2001ar.pdf.

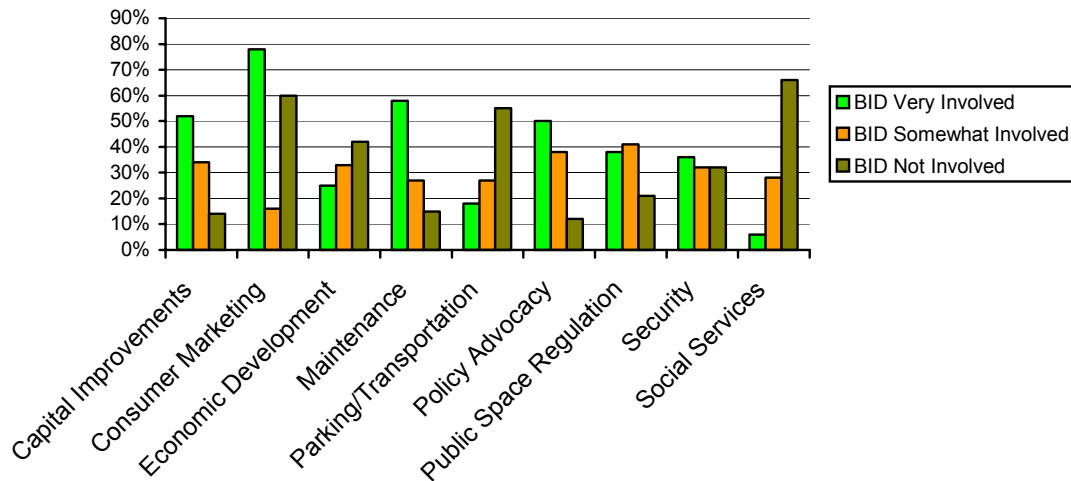
³⁸ See, *About the Foundation*, <http://www.ellisland.org/EIinfo/about.asp?>. For before and after pictures showing the extent of the renovation of Ellis Island, see National Trust for Historic Preservation Library, *The Restoration of Ellis Island*, <http://www.lib.umd.edu/NTL/ellis.html#print>.

³⁹ Independent Budget Office, *IBO Budget Projection: 2002*, <http://www.ibo.nyc.ny.us/iboreports/may2002Revenue.pdf>.

⁴⁰ Generally, Downtown Alliance, *Rebuilding Downtown New York*, http://www.downtownny.com/rebuilding_index.asp.

New York's experience with BIDs⁴¹ is part of a national trend. According to a recent survey,⁴² BIDs exist in 42 states and most large cities. BIDs provide a range of services nationally (Figure 4):⁴³

Figure 4 Services Rendered through Business Improvement Districts (BIDs) in US



Conservation Partnerships for Urban Parks

Visitors to New York's 843-acre Central Park have witnessed a transformation in recent years. The plantings have been landscaped back to their Victorian diversity according to Frederick Olmstead's original design. Statuary, bridges, teahouses, boat-houses and other park buildings have been restored. The Great Lawn is once again lush and green, and used for outdoor summer concerts. Baseball fields, tennis courts, soccer fields and places for quiet contemplation have again found users from dawn to dusk. And safety is better and more integrated with New York Police Department citywide operations.

Olmstead's biographer, Elizabeth Barlow Rogers, had the inspiration to establish the Central Park Conservancy as a PPP.⁴⁴ In her words:

"The three P's of successful partnerships are passion, patience, and persistence...There is nothing more precious than what I call 'the zealous nut.'

⁴¹ For a 25-year retrospective on the evolution of New York's BIDs, see New York City Council Staff Report to the Finance Committee, *CITIES WITHIN CITIES: Business Improvement Districts and the Emergence of the Micropolis* (November 8, 1995), <http://tenant.net/Oversight/BID/bidtitle.html>.

⁴² Jerry Mitchell, *Business Improvement Districts and Innovative Service Delivery* (November 1999), <http://endowment.pwcglobal.com/pdfs/Mitchell.pdf>.

⁴³ Id, Table 3, p. 18.

⁴⁴ Elizabeth Barlow Rogers, *Making Partnerships Work: The Central Park Model* (Urban Parks Institute Online), http://pps.org/topics/pubpriv/whybuild/b_barlow_rogers.

We cannot do this [community improvement of parks] paternalistically. **We need to find the 'civic sparkplugs' -- usually they'll identify themselves - and then capture their energy.** There is nothing more precious than what I call 'the zealous nut.' They are different from the crank. Run away from cranks, and egomaniacal gadflies. But the zealous nut who really, really loves the community, who lives there and understands what the place means - that is a very precious individual. And that precious individual of course is connected to other individuals, and I think that is the way we begin a dialogue and have an energy source to propel a project ahead."

Today, the Conservancy that Barlow's vision and advocacy founded has a multi-year lease and management arrangement from New York City to operate and enhance Central Park. The Conservancy has hired architects, landscapers, security and other specialists whose ingenuity and wages supplement the plans and budgets of the City Parks Department and the National Parks Service. The Conservancy's budget comes from a variety of private, foundation and public sources, that provide 2/3rds of the annual resources to maintain Central Park, and over \$300 million to sustain a 15-year capital program of renewal and rebirth.⁴⁵

⁴⁵ See, National Trust for Historic Preservation, *Manhattan's Urban Oasis Restored - Central Park Conservancy Wins 2001 National Preservation Award*, http://www.nthp.org/news/docs/20011001_awards_centralpark.html; and Alice E. Ingerson, *Public-Private Partnerships for Central Park*, <http://www.icls.harvard.edu/PLACES/CENTRPK.HTM>.

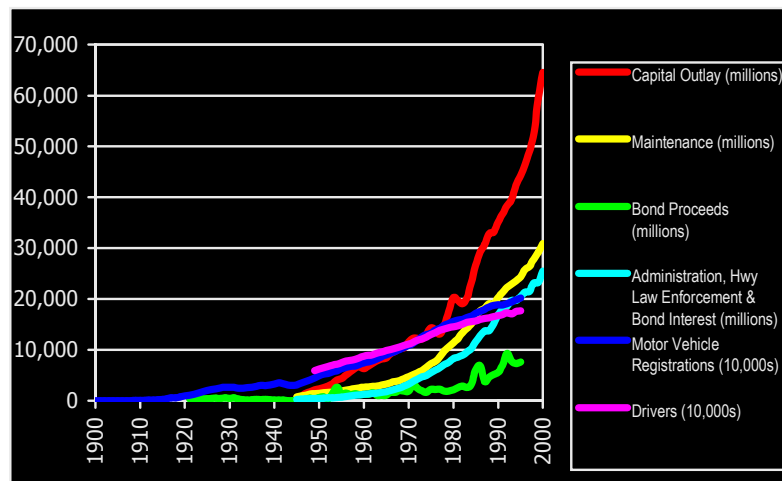
The Conservancy's accomplishments have highlighted a basic urban need for parks and open space, especially in poorer neighborhoods. For the months prior to September 11, 2001, Parks 2001 made the restoration of parks citywide a high-visibility issue in the Mayoral election. Parks 2001, <http://www.parks2001.org/facts/>. Although the terrorist attacks and rebuilding Lower Manhattan soon pushed park-equity from public view, the power of parks to improve neighborhood safety, literacy and health remains a goal for many communities.

Infrastructure PPPs Bring Capital & Expertise to Long-Term Assets

Major infrastructure systems are built, operate and modernized using PPPs.

Water Treatment Infrastructure – In the largest PPP for water in the US, Indianapolis recently entered into a performance-based \$1.5 billion - 20-year arrangement for USFilter Operating Services (a unit of Vivendi Environnement) to manage all operations, maintenance and customer service facets of the City's waterworks system.⁴⁶ The PPP was instrumental in freeing sufficient resources for the City to safeguard its own growth and future by acquiring the water assets being divested by the local energy utility.⁴⁷ In the 1990s, Baltimore established a similar PPP to set up and run the plant in exchange for the County's annual commitments to send water requiring treatment to the plant and the operator's right to resell the treated products as clean "land fill," thus saving the cost of designing, building and financing a new water treatment plant.

New Road Construction – President Dwight D. Eisenhower conceived America's interstate highway system as a civil defense project for overcoming the freight transportation challenges the Allies faced in Europe in World War II.⁴⁸ According to the American Society of Civil Engineers, 50 years later, the national highway system's infrastructure maintenance and new construction costs exceed \$59.4 billion but are claimed to fall far short of the \$94 billion desirable to maintain and grow the system.⁴⁹



Simultaneously, developers and urbanizing areas seeking transportation connectivity for passenger and freight vehicles are turning to toll road PPPs to generate sufficient annual ridership fees to justify issuing bonds to pay for the initial construction. Often, the toll road PPPs use a BOT –

⁴⁶ Water Strategist Community, *City of Indianapolis Selects USFilter to Manage Waterworks System: Public-Private Partnership Agreement, Valued at \$1.5 billion, is Nation's Largest for Water Services / Sets New Standards* (March 19, 2002), http://www.waterchat.com/News/Corporate/02/Q1/corp_020321-02.htm. See also, EPA, Guidance on the Privatization of Federally Funded Wastewater Treatment Facilities (DRAFT September 1999), <http://www.epa.gov/OWM/pdfs/privatiz.pdf>.

⁴⁷ USFilter, *Nation's Largest Water Partnership Begins Operations - City Officials Say Benefits Include Stable Rates, Local Control And Improved Water Quality* (Corporate News Release - April 30, 2002), <http://www.usfilter.com/water/Clean.asp?WID=119&LG=1&NEWSID=216>.

⁴⁸ Richard F. Weingroff, *Federal-Aid Highway Act Of 1956: Creating The Interstate System*, <http://www.tfrc.gov/pubrds/summer96/p96su10.htm> and <http://www.tfrc.gov/pubrds/summer96/p96su10b.htm#17>.

⁴⁹ Am. Society of Civil Engineers, *Infrastructure Report Card: Roads 2001*, <http://www.asce.org/reportcard/index.cfm?reaction=factsheet&page=1>.

Build, Operate and Transfer – model whereby the road reverts to public ownership after amortization of bond debt.

Electronic Toll Collection Systems - Seven states have come together to orchestrate the development of the world's largest seamless electronic toll collection network, bringing E-ZPass to more than 700 toll lanes along 415 miles of roads, tunnels and bridges in the Northeast United States.⁵⁰ The E-ZPass toll collection systems in the Northeastern United States are operated through a \$500 million PPP arrangement with MFS Network Technologies and Chase Manhattan Bank⁵¹ that frees government of the maintenance, technology and billing risks of the system while promoting a uniform digital highway credit system that someday may permit other



commercial uses for drive-through restaurants, information services and other purchases. The E-ZPass systems reduce driver wait lines and idling vehicles at toll booths and minimize the supervision, collection and handling of large sums of cash, thereby improving the safety of public employees serving as toll booth collectors who have historically been the victims of theft or assault.



Intelligent Vehicle Highway Systems - The Intelligent Vehicle Highway System (including electronic toll collection systems) is being pursued through a PPP with major technology, navigation and engineering firms organized first as ITS America and now globally as AccessITS⁵² to set design parameters for and ultimately help certify solutions that improve the roadbed, routing and safety of passenger and truck vehicles.

⁵⁰ E-ZPass Network, *Regional Consortium*, <http://www.ezpass.com/interagency.shtml>.

⁵¹ NJ DOT News, *Agreement on E-ZPass Contract Reached* (March 18, 1998), <http://www.state.nj.us/turnpike/98newsez.htm>. ETM on the Web, *Electronic Toll Collection (ETC) In Focus: The Port Authority of NY & NJ* (May 19, 1999), http://www.ettm.com/focus_pa/etcfocus_panynj.html.

⁵² AccessITS, <http://www.itsa.org/>.

PPPs Speed Implementation of E-Government

As the Internet “changed everything” through out modern society, governments in America began innovating with PPPs to share the risk of

- ❑ developing the Web into a platform for historic government processes
- ❑ using the Web to change how governments fill the gaps in simultaneously changing market processes

The first wave of e-government implementations⁵³ saw a typical city establish a portal as an electronic directory of city departments and services, in essence an online electronic phone-book. Smaller communities found their site designed or hosted by ISPs or telecoms that derived advertising revenues from the associated “hits.”

Then individual departments began to experiment and put their forms for licenses, inspections, tax returns or other paper-based processes online. No longer did the department have to pay staff to hand out forms, printed and warehoused at government expense. Instead anyone with a PC and a printer could print the form in exactly the right quantity for their use.

To eliminate paper altogether, departments moved their transactions online and began accepting electronic filing of taxes, and worked through PPPs to establish a business case for moving away from paper-filings. US Treasury’s Internal Revenue Service has worked with the electronic tax filing and financial software industry, as well as state and local revenue officials to evolve standards for electronic reporting of income and payment of taxes stemming from the same company’s profits or other operations. The ease of filing electronically reduces government data input costs and errors, and speeds the payment of tax refunds. Through the resulting sharing of electronic tax information in a common format, federal, state and local taxing authorities can be better assured of receiving consistent tax returns from individuals and companies, and assist lower income workers in achieving and benefiting from tax compliance.⁵⁴ Flowing the other way, electronic procurement and payments systems for governments (like GSA’s) served to authorized direct deposits to citizens and contractors, providing more widespread participation in public tenders and better cash management and disbursement tracking for individual appropriations and project budgets than paper checks.

PPPs supporting e-government are transforming the means, methods, mechanisms, goals and programs administered by government. They are flattening and broadening how governments leverage their mandates and resources. Citizen self-service is changing governing from a formula to a set of dynamically available resources deployed according to individual,

⁵³ For an international review of e-government trends, see UN Division for Public Economics & Public Administration and American Society for Public Administration, *Benchmarking E-government: A Global Perspective – Assessing the Progress of the UN Member States* (April 2001), <http://www.unpan.org/e-government/Benchmarking%20E-gov%202001.pdf>. The report traces the phases of e-government transformation, id. Box 2, p. 2, and concludes that the United States ranks first in e-government implementation out of 190 UN member states, with Australia, Canada, New Zealand, Singapore, Norway, UK, Netherlands, Denmark and Germany also showing strong implementations. Id, Table 3, p. 3.

⁵⁴ For the several policy considerations relating to e-filing, see Brian Friel, *IRS, private firms try to avoid competing with each other* (GovExec - May 2, 2002), <http://www.govexec.com/dailyfed/0502/050202b1.htm>, and William Welsh, *IRS e-filing plans getting second look - Question remains if government is competing with industry* (Wash. Tech. – January 21, 2002), http://www.washingtontechnology.com/news/16_20/cover/17716-1.html.

regional and seasonal needs. Streets that get more complaints as being dirtier can get swept more often. America Online's [GovernmentGuide.com](http://www.governmentguide.com) exemplify entry-level portals for citizen services demands to be pooled and addressed. Future online community-building activities (through communities of trust or affinity groups) will further define the power of citizens to shape the process and products of governments in ways that mostly ignore the bureaucratic organizational charts responsible for sub-processes or delivering and paying for sub-components of the product or service.

Ultimately, transparency and accountability of government functions drives e-government. Being able to access, query and contradict the information sources officials use to make programmatic decisions will improve the likelihood that managers address real-world problems in light of the neighborhood and regional context that exists. E-FOIA (Electronic Freedom of Information Act) is an example of America's embrace of digitally transparent government processes.



FirstGov - the major search engine for finding government services and processes on the Web – improves the transparency of government operations. Transparency lets citizen and business demands as agency “customers” define agency implementation of e-government. FirstGov was a PPP that came from humble beginnings and a computer scientist's desire to repay some of the government's sponsorship of pioneering search engine research. In essence, Inktomi's co-founder Eric Brewer said to the country *“Here's a gift of my search software. See if you can use this as the rudiments for meta-tagging, indexing and creating public access to relevant government websites.”* The Federal Search Foundation's pioneering 18 month PPP to initiate and populate a ubiquitous architecture for searching government Web pages and documents led to indexing over 50 million pages at 26,000 separate sites.⁵⁵ The next generation of FirstGov will be based on an international partnership to search an anticipated 200 million indexed pages in less than ½ second. By not locking itself into a long-term arrangement and retaining rights to content and other intellectual property generated through the use by Fed Search of Inktomi technology, FirstGov was a successful experiment in interoperability. It also furthered the goals of e-government and electronic freedom of information statutes.

According to a recent poll,⁵⁶ Americans see even more compelling reasons for e-government investments now:

Since September 11th, the public sees additional reasons for investing in e-government. The threat of further terrorism has put domestic preparedness at the forefront of Americans' consciousness and the public believes that e-government has a critical role to play. By improving communication and coordination between government agencies and federal, state, and local government, the public believes that e-government can enhance the government's ability to apprehend terrorists and respond to public health threats.

E-government spending in the United States is expected to increase from \$1.5 billion annually in 2001 to \$6.2 billion by 2005 (Figure 5).⁵⁷

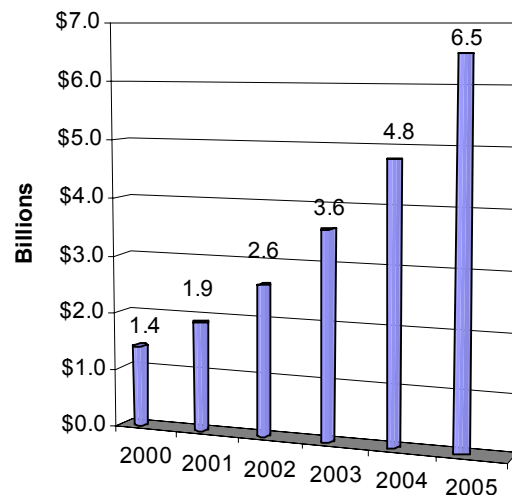
⁵⁵ FirstGov, <http://www.firstgov.gov>.

⁵⁶ Hart-Teeter, *E-GOVERNMENT: To Connect, Protect, and Serve Us* (November 2001), <http://www.excelgov.org/techcon/0225poll/report.PDF>.

⁵⁷ Emarketer, *US E-Government: Present and Accounted For* (March 12, 2002), http://www.emarketer.com/estatnews/estats/edemographics/20020312_hart.html.

Figure 5 Estimated Spending on E-Government in the United States at All Levels

Hardware, Software, Internal & External Services



And yet 60% of all e-government initiatives are likely (and perhaps expected) to fail or fall short of their initial goals.⁵⁸ Such a high failure rate may be a function of five factors:⁵⁹

- ❑ focusing on the goal,
- ❑ establishing leadership,
- ❑ finding the appropriate skills and financial resources,
- ❑ investing in the building blocks, and
- ❑ continuing to keep the pressure on for ongoing progress

Such high failure rate and the entrenched institutional cultures designed to avoid or ignore cross-cutting synergies⁶⁰ are inconsistent with maximizing the value of growing e-

⁵⁸ William Mathews, *Study: E-gov prone to failure* (Fed. Computer Week – May 6, 2002), <http://www.fcw.com/fcw/articles/2002/0506/web-study-05-06-02.asp>.

⁵⁹ Judith Carr, *GartnerEXP Says a Majority of E-Government Initiatives Fail or Fall Short of Expectations - GartnerEXP Analysts Discuss E-Government at Gartner Symposium/Itxpo* (April 30, 2002), http://www4.gartner.com/5_about/press_releases/2002_04/pr20020430b.jsp.

⁶⁰ According to Gartner's Judith Carr:

The governance structures of many governments are not designed to support multidepartment initiatives such as e-government. To complicate matters, some still view them as information technology projects rather than business initiatives. E-government can require new legislation, new procurement processes and new civil service rules -- which are all difficult to change. It's critical that governments groom a new generation of endeavor managers to head these complex, expensive and risky initiatives.

William Mathews, *Study: E-gov prone to failure* (Fed. Computer Week – May 6, 2002), <http://www.fcw.com/fcw/articles/2002/0506/web-study-05-06-02.asp>.

Notwithstanding the public's demand for a government that works smarter and better and is open 24/7, analysts describe the challenges facing e-government as follows:

government investments and citizen and business requirements for e-government. Making e-government happen requires more flexible and adaptive methods of implementation and funding.

Procurement and funding options inherent in PPPs can serve to accelerate e-government. The Intergovernmental Advisory Board of the Federation of Government Information Processing Councils' survey of financing information technology initiatives⁶¹ highlights many examples of PPPs providing robust financing options, including:

- ❑ Federal: Interagency Public Key Infrastructure
- ❑ Georgia: Research Partnerships, Cable Franchise Agreements
- ❑ Maryland: Technology Investment Fund
- ❑ Massachusetts: Billing & Accounts Receivable and Information Technology Bonds
- ❑ New York: Technology research
- ❑ Pittsburgh Pennsylvania: Recycling of Used Computers
- ❑ Texas: Wireless Communications Network, Orthoimagery & Info/Texas
- ❑ West Virginia: Cellphone Surcharge

As the 1990s DOT.COM, bubble floated higher and "web eyeballs" were the currency du jour, many governments found that they were offered "too good to be true" PPPs with young companies flush with venture capital, whereby arrangements to put government data and services online in exchange for service fees or web advertising revenue were commonplace.

The average national government has 160 different departments. Digital government initiatives, spanning multiple agencies and possibly multiple levels of government, require more political capital, complex governance structures, multilevel funding mechanisms and relationship skills than projects contained in a single organization.

The many levels of government, each with its own laws, codes and policies, add to the complexity, resulting in large, and thus risky, e-government endeavors that try to cover too much ground. It's critical that governments groom a new generation of endeavor managers to head these complex, expensive and risky initiatives.

GartnerEXP says many of these e-government failures are attributed to government agencies failing to understand and manage the differences between endeavors, programs and projects.

According to GartnerEXP, the differences between endeavors, programs and projects are extensive and must be recognized and understood before setting expectations and embarking on e-government initiatives.

"Digital government initiatives spanning multiple agencies and possibly multiple levels of government require more political capital, complex governance structures, multilevel funding mechanisms and relationship skills than projects contained within a single organization," said Chuck Tucker, vice president and research director with GartnerEXP.

The critical differences between endeavors, programs and projects pertain to factors such as whether the initiative is contained within a single organization, the number of organizations involved if the initiative includes various government agencies, the length of the initiative, the various levels of government participating and the overall complexity.

Depending on how the initiative is categorized, there are different pressures and needs for each. However, all e-government initiatives are risky and complex.

Judith Carr, *GartnerEXP Says a Majority of E-Government Initiatives Fail or Fall Short of Expectations - GartnerEXP Analysts Discuss E-Government at Gartner Symposium/Ixpo* (April 30, 2002), http://www4.gartner.com/5_about/press_releases/2002_04/pr20020430b.jsp.

⁶¹ Intergovernmental Advisory Board of the Federation of Government Information Processing Councils, *Innovative Funding Approaches for Information Technology Initiatives – Federal, State & Local Government Experiences* (January 1998), <http://it.ojp.gov/fund/files/Innovative-Funding.pdf>.

Some DOT.COMs survived by offering enterprisewide integration services through open architectures that speed flexibility and implementation.⁶²

⁶² See, EZGov, *What We Do*, http://www.ezgov.com/what_we_do_flash.jsp; and Federal Computer Week, *Surviving the dot-com bust - EzGov, NIC report improved financials, opportunities for growth* (May 20, 2002), <http://www.fcw.com/fcw/articles/2002/0520/tec-dotcom-05-20-02.asp>.

Technology Incubators, Standards & Implementation PPPs

On an international and regional basis, governments, industry and academic institutions also use PPPs to establish a shared environment for accelerating research into manufacturing and process improvements.

- **Manufacturing Process PPPs** - By the 1980s, Japanese DRAM chip production and aggressive pricing threatened the competitive position and retooling investment strategies of US chipmakers. An industry-led, government-sponsored consortium, SEMATECH,⁶³ organized the research and has advanced the competitiveness of US chipmakers. Japan's vertically integrated manufacturing, supply, financing and joint ownership traditions (keiretsu) responded by forming their own version of SEMATECH, thereby improving the speed and production techniques for memory chips even further.
- **High-Tech Incubator PPPs** - In 1977, coincident with the Camp David Peace Accords, the United States and Israel formed the BIRD Foundation to promote the migration of commercializable technologies from their university research incubators in Israel to the mass consumer and business markets dominated by US manufacturers.⁶⁴ The way it works is that the National Institute of Standards and Technology in Washington, D.C., and the Office of the Chief Scientist in Israel, come together to review proposals. Then BIRD collects repayment in the form of royalties only if and when the project actually materializes. BIRD often funds partnerships in which the larger American partner becomes the sales and marketing arm for a product resulting from an Israeli-partnered R&D.⁶⁵ BIRD has been uniquely successful in leveraging its \$110 million starting capital (contributed in equal shares by US and Israel) into investments of over \$180 million in 600 projects that have resulted in sales exceeding \$7 billion and the creation of more than 20,000 American jobs. These US-Israeli joint ventures produced such commonplace items as Intel's Pentium chip and Check-Point's firewall software.
- **International Standards PPPs** - In 1992, the federal government and several software companies formed OpenGIS Consortium to evolve standards for interoperability in the hardware, software and data handling constituting spatial technologies.⁶⁶ The scope of their activities span satellite, sensor, aerial photogrammetry, cartography, natural and physical sciences and the military and intelligence communities. The Consortium has grown to 240 members and operates internationally, using testbeds to innovate and prove solutions to the persistent problems of legacy proprietary formats, multi-platform data collection and access needs and the need for web-enabled catalogue and registry services.

⁶³ SEMATECH, *History of SEMATECH*, <http://www.sematech.org/public/corporate/history/history.htm>. Hamburg Institute for Economic Research, Kiel Institute for World Economics and National Research Council, *Conflict and Cooperation in National Competition for High Technology Industry* (National Academy Press 1996), Supplement A: High Technology Competition in Semiconductors, <http://books.nap.edu/books/0309055296/html/131.html#pagetop>.

⁶⁴ BIRD Foundation, *What is BIRD?*, <http://www.birdf.com/what.html>.

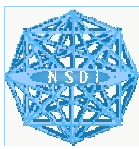
⁶⁵ California CEO, *Eye on Israel* (December 2001), <http://californiaceo.com/archive/1201/09israel.html>.

⁶⁶ OpenGIS, *History of GIS*, <http://www.opengis.org/pressrm/summaries/20011127.TS.OGChist.htm>.

The inherent risk and rapid pace of technological innovation, adoption and interoperability often drives government – as conservative investor – to partner with private companies. Government brings an institutional set of “use cases” forward for the technologists to improve through the emerging “value proposition” of a particular device, software or dataset. Technologists shoulder the risk of innovation/failure. Proving the value proposition in a design joint venture PPP creates a marketing buzz that drives other institutional sales, consulting assignments and more lucrative PPPs.

GAO has identified 5 factors that reduce the number, longevity or effectiveness of technology transfer partnerships between the government research and development labs and private sector firms:⁶⁷

1. Lack of Government Funding for the partnership
2. Reduced Funding to identify and move government research needs and innovations into PPP
3. Increased Reliance on non-government partner’s financing of the PPP
4. Growth of Private Sector “work-for-other” agreements whereby the government research laboratory performs research for the private sector
5. Uncertainty of Long-Term Funding patterns for PPPs and difficulty of obtaining commercially available funding for the PPP enterprise



My research for the Federal Geographic Data Committee (FGDC)⁶⁸ has led to forming especially effective PPPs for information consortia. They locally and thematically plan and implement the growth of our National Spatial Data Infrastructure (NSDI) in new ways. We call these information consortia “I-

Teams”, and they are now active in 39 states and 5 metropolitan regions.⁶⁹ These diverse public-private groups are strategically planning, building and committing capital to their portion of the NSDI. Because the I-Teams use interoperable standards for their systems architecture and national standards for their data and metadata development, federal agencies and technology companies have incentives to align and leverage their individual programs and projects in further partnership with I-Teams to build better sharable data once, and reuse it many times. In essence, the I-Teams assure and help share the economies of scale savings inherent in bottom-up implementation of the NSDI.

⁶⁷ GAO, *Technology Transfer: Several Factors Have Led to a Decline in Partnerships at DOE's Laboratories* (GAO-02-465 April 19, 2002), <http://www.gao.gov/new.items/d02465.pdf>.

⁶⁸ Bruce Cahan, *Financing the NSDI*, <http://www.fgdc.gov/I-Team.html>.

⁶⁹ The I-Team Website for the OMB GeoSpatial Information Implementation Initiative, <http://www.fgdc.gov/I-Team>.

The National Spatial Data Infrastructure – A Digital PPP

Everything happens somewhere. The complex interdependencies of modern life converge in cities and regions. Legacies of populations and natural resources treated badly pollute the health of our social and economic fabric. So much of our language, arts, commerce, natural resource, infrastructure, environment, community and jurisdictional settings for identifying and resolving problems take on meaning by the place where we want change to occur.

Maps put change in its place. President Thomas Jefferson's father was a surveyor, and when he ordered Lewis and Clark's expedition to map our Western Territories in 1804, Jefferson intended to open up that land for development and settlement. Today, environmental groups and archeologists work to map virgin forests and natural heritage areas with the goal of safeguarding them from unwarranted development. And inner city communities use maps to work with local energy companies to prove the value of "in-fill" housing to leverage existing utility infrastructure, and with mortgage lenders through Fannie Mae to prove the advantages of location-efficient mortgages.

80% of all government information has a geospatial component – a street address, city, road segment or latitude/longitude. Regardless of the software format for the information – text, numeric, graphic, multimedia – location provides a way to link disparate information within and across institutions. Our land use planning and environmental impact statement processes draw on hundreds of datasets to give needed perspective to authorizing and modifying projects for development. This same spatial data is at the heart of 22 of President Bush's 24 e-government initiatives, and emerged from a federal government advisory process as the most requested area for collaborations with state and local governments.

50% of information technology spending occurs at state and local government, with the other 50% split evenly among federal civilian, military and intelligence agencies.⁷⁰ If they are being outspent 3:1, is it any wonder that federal civilian agencies should want to partner with state and local governments to increase the range and amount of their access to better data?

The National Spatial Data Infrastructure (**NSDI**) has been an embracing vision for explaining the goal of solving the technical and political challenges inherent in maintaining systems that supply sharable spatial data. Development of the NSDI is stewarded by the Federal Geographic Data Committee pursuant to executive order of the President. Because the NSDI would simplify and unify spatial data collection and maintenance activities of federal agencies, and would increase reliance on larger scale (more granular) state and local spatial data holdings, the NSDI is a strategy for realizing the statutory and regulatory roles of the Office of Management Budget (**OMB**) to leverage and align technology options intergovernmentally.

Early on, my nonprofit research organization, Urban Logic, recognized that the NSDI faced two recurring challenges unrelated to technology or computing power in realizing and allocating its obvious economies of scale:

- How to organize the institutional momentum to create and sustain the informal and formal agreements to build the NSDI?

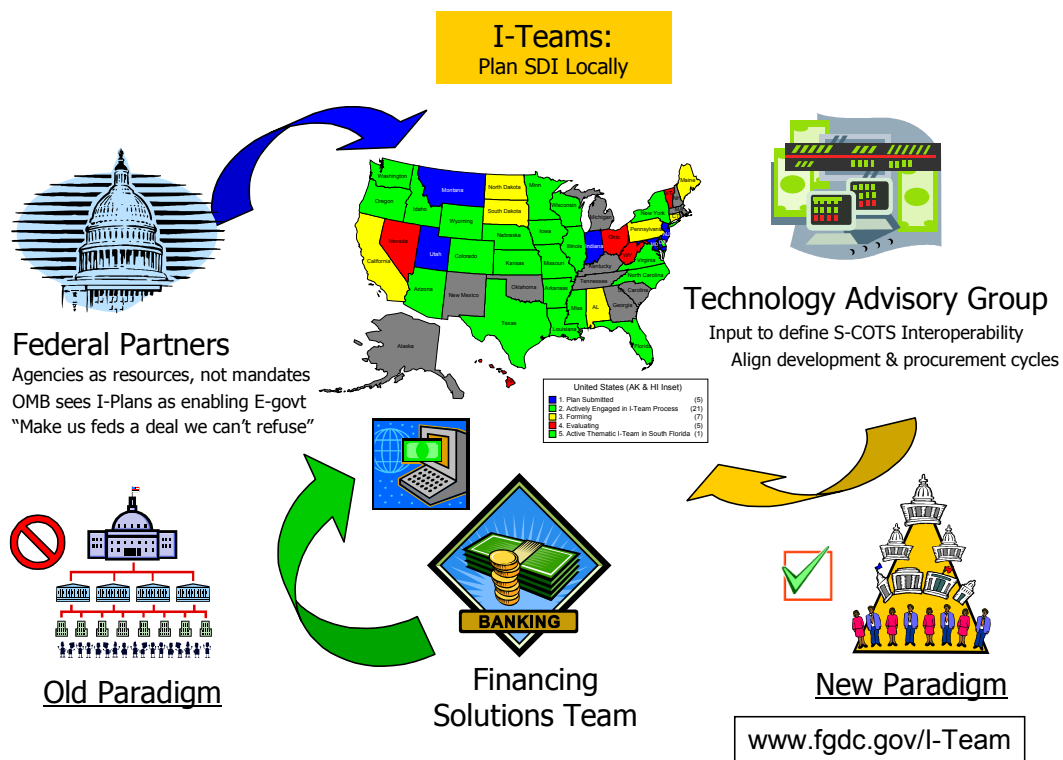
⁷⁰ Thomas M. Meagher, Business-to-Government/Government-to-Consumer Internet - *E-Government—The Revolution Continues* (BB&T Capital Equity Research - August 22, 2000), <http://www.centre-for-egovernment.com/images/pdf/EGOVConference.pdf>, p. 14.

- How to finance those agreements and the mutual obligations of parties relying on those agreements?

In 1998-9, I researched those challenges for the FGDC and submitted a report entitled *Financing the NSDI*, which quickly became the most downloaded document on FGDC's web-site.

Starting 18 months ago, a novel PPP with OMB and FGDC grew out of Urban Logic's research and the discussions with OMB and other government technology leaders. The PPP is known as the *OMB Geospatial Information Implementation Initiative*, or "I-Team Initiative," for short.

Figure 6 The OMB Geospatial Information Implementation Initiative (Components)



Through it,

- 39 states and 5 regions have organized information consortia (**I-Teams**) to strategically plan, build and ultimately finance their portion of the NSDI according to nationally-consistent data and metadata standards and using open international interoperability specifications,
- a Federal Partners Team works with OMB to align the needs across federal agencies for state- or region-specific data and to co-invest in the strategic plans (**I-Plans**) generated by the I-Teams,
- a Technology Advisory Group, hosted by OpenGIS Consortium, brings technology vendors and researchers more directly in contact with the use cases and user requirements of I-Teams to create a greater appreciation of the settings in which interoperability needs to work and the standards that must evolve to permit standards-

based commercial off the shelf software and solutions to meet those needs as effectively as possible, and

- ❑ the Financing Solutions Team (that I chair) seeks to find existing and new financing options for sustaining the I-Plans.

Already amazing synergies have emerged that would not otherwise have arisen or been utilized:

- ❑ Major federal programs for modernizing US Geological Survey's maps, FEMA's flood maps and for administering the statistically-derived annual census can enter into memoranda of understanding with the I-Teams to rely on and co-invest in their I-Plans
- ❑ I-Team capital plans registries can be used to align investments in spatial data and leverage the impending annual forecasts of federal spatial data requirements in areas covered by I-Plans
- ❑ FGDC can seek and leverage the interest of I-Teams in designing national standards for spatial data so that a given state or region can be assured compatibility and comparability of data for environmental, transportation or other shared purposes with bordering jurisdictions
- ❑ Technology vendors and integrators can use the Technology Advisory Group process to create a more informed range of choices for "best practice procurements" to speed the authorization and funding of I-Plan purchases

The I-Team Initiative is working certain transformational changes in the way that federal agencies seek to build networks of communities that depend on a given agency's specifications for compiled data. Maintaining a national network of data partners to collect environmental, transportation, agricultural or health data can be costly and has historically ignored the parallel networks built by other agencies. The stovepipe of data use is matched by the stovepipes of networks to supply data for that use. This has hindered inter-disciplinary scientific and social research, and made it harder to collaboratively seek and sustain funding for composite datasets. Through the Federal Partners Team, federal agencies see the process of building data sharing networks as a shared set of intergovernmental and public-private activities, and can use the I-Teams as highly-efficient "hubs" to bring disparate data sharing networks together around common standards.

Perhaps the most radical change brought about by the I-Team Initiative is also the simplest: We have distinguished between the *products* forming the NSDI and the *processes* by which those products are created.

Products. I often imagine that on any given day, there must be a chartered surveyor on every street corner of Manhattan generating 4 separate views of that intersection. But when you boil it down, New York or any entity dealing with New York needs only one very accurate measurement of the width of Fifth Avenue and the street addresses on the Avenue. Multiple applications, users and datasets could survey or interpolate that width measurement or address system, and some have the budgets to justify collecting and building those data elements over and over again. But in truth, all users need the City's official measurement and address range, and need to tap into the datasets maintained as part of the City's basemap (**NYCMAP**). Datasets are products. Each use case – even new ones like homeland security and critical infrastructure protection – can claim unique (albeit, overlapping) products as essential to their mission. It is very expensive, risky and ultimately hard to align investments in data products justified to fulfill single missions.

Processes. In contrast, the I-Team strategic plans lay out the architecture for the essential process of designing, building, financing and sharing highly accurate spatial data corresponding to the NSDI framework data layers and others. Having designed a sustainable process, the I-Teams are in a position to organize data about their state or region that can be recombined to generate an infinite variety of data products – those required by data mandates to fulfill existing government missions, those required for e-government transparency and accountability and those yet to be assembled to explore the complexities of modern society.

day-care so parents and care-givers could make the rounds of the services offered and general creating an embracing place for grieving and remembering with other families to support and help each other cope;

- ❑ The Association of the Bar of The City of New York organized its 18,000 member attorneys to guide the distraught families and survivors from all walks of life and speaking different languages through a rapid education in their rights under applicable estate, inheritance, workers compensation, disability, insurance and other laws on a pro-bono (no fee) basis, generating a handbook that served to guide those in need to the right place at the least cost, delay and avoiding the risk of ignorance of the law being an expensive mistake in losing essential time-limited rights;
- ❑ Con Edison, Verizon and other utilities organized convoys of generators, cable, pipe, spare parts and union and management labor to stabilize and restore power and telecommunications networks of Lower Manhattan;
- ❑ Real estate industry executives worked through brokers and the State and City economic development and licensing agencies to keep the rental for temporary and replacement space at levels resembling the market before September 11th to prevent gouging or scaring off businesses going through massive disaster mitigation;
- ❑ Wall Street financial exchanges worked with the Federal Reserve and Securities & Exchange Commission to close and reopen without causing additional panic or irregularities in the financial markets and stock and bond clearing-houses;
- ❑ Public airports around the country worked with airlines, unions and the governments in Canada, Mexico and abroad to safely close American airspace, ground all airplanes in the air on September 11th and then reopen American airspace and resume normal flight operations;
- ❑ Civil engineers and structural architects worked with investigators and engineers from the Federal Emergency Management Agency (**FEMA**), the Federal Bureau of Investigation (**FBI**), federal Environmental Protection Agency (**EPA**), Department of Defense (**DoD**), NYC's Department of Design and Construction, Buildings Fire and Police and private insurers to
 - ascertain the exact sequence of events leading to the collapse of the World Trade Center towers,
 - recommend how to monitor and stabilize the “bathtub” of landfill that keeps the Hudson River from seeping into the World Financial Center and the World Trade Center sites, and
 - propose suitable design criteria and considerations for rebuilding on the emotionally significant WTC site.
- ❑ Private insurers as a group met to agree upon streamlined claims reporting and processing forms and procedures and then worked with the State Insurance Commissioners to implement these expedited solutions to speed payments to victims of the tragedy;

- ❑ Private foundations and nonprofits worked with the State's Attorney General to create a database of victims and survivors as well as relief workers to make sure that the billions of dollars in public and private relief ended up in the hands of those most deserving of aid as soon as possible without multiple qualification forms, interviews and procedures; and
- ❑ To avoid the bottleneck of bandwidth restrictions and avoid the incidence of computer hackers and viruses overwhelming the Pier 92 Command Center, CBS News and other news organizations hosted imagery, maps and other vital information on their servers through which the world's media organizations and the Internet received up-to-date status information on the rescue and recovery.

Hundreds of other partnerships formed locally, nationally and internationally. Space here limits my retelling them, and perhaps the majority may never be fully listed. Consider the cost, delays and ultimate fiefdoms of bureaucracy that would have resulted in responding to 9/11 had the City not embraced public-private partnerships as effectively at every opportunity. Consider the significant fiscal efficiencies and savings for homeland security, critical infrastructure assurance and emergency response available by fully institutionalizing reliance upon and pre-qualification of effective public-private partners.

Sustainability PPPs

Population growth, global economic independence and environmental stewardship. Democratizing principles of fiscal discipline, transparency in government operations and citizen self-service. E-governance. G- or geo-governance. These will likely open new paths for future PPPs and modify the benchmarks for judging and reauthorizing past partnering models.

Sustainability Accounting for Governments

One area of PPP that Urban Logic is investigating relates to sustainability accounting.⁷² What if governments could compare the flood prevention services of (A) building replacement seawalls lasting 30 years, vs. (B) restoring wetlands that last 100 years? If 3 seawalls have to be planned, built and financed before you equal the lifecycle of restoring a wetland, would the government that chooses to restore wetlands (natural capital) receive credit from its bond underwriters for doing so? How much sustainability management would it take to earn a few basis points reduction in the government's cost of borrowing? How could such proactive decisions – the ones that make it cheaper to maintain a city next year than it cost this year – be reported and understood by Wall Street and the public financial markets and bourses?

Recent changes in the rules for government financial reporting require fuller disclosure of the cost, maintenance and development of public infrastructure assets.⁷³ The independent body known as GASB promulgated these rules in their Statement 34 (**GASB-34**). The Government Accounting Standards Board (**GASB**) represents the interests of issuers and holders of public bond indebtedness in the United States, and its rules aim to improve the transparency that citizens, investors and policymakers can exercise in prioritizing government expenditures as reflected in government financial statements. The rules apply to all state, county, city and quasi-public entities, and arguably influence the financial reports generated for federal budget activities. Preliminary discussions with GASB and a cross-section of issuers and users of government financial reports led me to believe that sustainability accounting may open the door to a network of PPPs that:

- ❑ Assemble GASB-34 financial reporting information;
- ❑ Spatially-enable and disaggregate the composite government-wide financial reports (and through freedom of information laws, the agency reports that are precursors to the GASB-34 financial portrayal of agency operations and investments) to correspond to particular neighborhoods and assets;
- ❑ Functionally reference actual and projected expenses to agency budgets and core missions;
- ❑ Through visualization and other technologies, generate viable policy options by changing and evolving underlying engineering, public health and other assumptions;
- ❑ Globally share and index performance of government investments to benchmark their marginal “sustainability index” as compared to other governments; and

⁷² I recently briefed the President's Council on Environmental Quality on these ideas (May 20, 2002). Urban Logic is pursuing this GASB-34 research in collaboration with the Center for Neighborhood Technology in Chicago, a leading expert on transportation and transit infrastructure investment policy. See, <http://www.cnt.org>.

⁷³ GASB, *Statement 34 New Reporting Model*, <http://www.gasb.org/repmodel/index.html>. CNN Third Watch, *Special Report: GASB Statement 34*, http://www.gasb.org/repmodel/CNN_clip_Str_sm.avi.

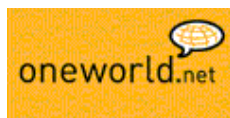
- Underwrite and package the bonds of governments that seek to proactively use “sustainability accounting” and the accompanying indices of sustainability performance to achieve business process reengineering, ISO 14001 environmental management and e-government goals simultaneously.

Ultimately, the scalable sustainability methodology would use market forces – the global fixed income/bonds markets – to establish advantages for proactive environmental and public health choices. Any savings in bond interest payable by the proactive government would fund the sustainability project generating the pledged benefits.

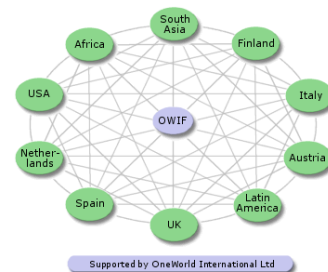
Personal Shopping Devices that Reward Sustainability

Another growth area for PPPs that mirrors and uses the government financial sustainability reports is my concept of establishing the information interoperability specifications for creating a global sustainability impacts service – *The Means Meter* – that delivers sustainability information to the point-of-purchase and rewards consumer choices that tend toward sustainability values. This would create a new age system of global commerce where consumer could better understand and act on the links between buying a product and impacting community sustainability. The key feature of establishing such a network of information and transactions processing would be that the definition of what constitutes *sustainability* would be known and left up to each consumer. Manufacturers promoting products that enhance sustainability and NGOs critiquing manufacturing processes and practices and host governments that compromise sustainability would each have “channels” through which their information could be weighed and acted on by the consumer considering a particular product. Time does not permit a further discussion of the Means Meter, but again, it represents a series of information networks – manufacturers, growers, retailers, the Web – linked to produce and foster PPPs whose missions are related to selling, financing or exchanging goods, services and investments that derive value by promoting sustainability and stewardship of natural and social resources.

Already, the digital society and the Internet’s ubiquity have permitted rapid deployment of sustainability PPPs at small cost.



OneWorld⁷⁴ is an online confederation of 1,250 international environmental and human rights journalists, media outlets and NGOs in 120 countries. Although search and indexing protocols and country affiliations are overseen by OneWorld International, its members are largely autonomous and take responsibility for operating 10 centers, each in charge of a specific country, continent or region. OneWorld, is a powerful, administratively elegant example of PPPs that operate across national boundaries and functional domains to assemble a real-time picture of trends in Third World and other development settings. The United Nations Secretary General Kofi Annan, included One World in his list of sites that support his belief that “information and communications technologies are enormously powerful tools for development. One of the most pressing challenges is to harness this extraordinary force, spread it throughout the world, and make its benefits accessible and meaningful for all humanity, in particular the poor.”⁷⁵



⁷⁴ OneWorld, <http://www.oneworld.net/about/governance/>.

⁷⁵ Foreign Policy, *Expert Sitings:* Kofi Annan, http://www.foreignpolicy.com/issue_mayjune_2002/expert_sitings.html.

Earth 911 MAKING EVERY DAY EARTH DAY!



Earth911 is a model for pulling together the environmental information and action options available at local, regional and national scales. Earth's 911 is the United States and now Canada's official network for the environment.⁷⁶ By making a toll-free phone call to 1-800-CLEANUP, or logging on to www.earth911.org, Americans can access community-specific environmental information by simply entering a postal code twenty-four hours a day, year round. Earth's 911 has consolidated thousands of publicly funded environmental hotlines, Web sites and other resources into one nationwide network responding effectively to the public's need for readily accessible resources. The millions of inquiries handled by Earth's 911 provides a public service at no cost to municipalities and callers. To date, Earth's 911 has saved cities and communities hundreds of millions of dollars from running and promoting their own networks and hotlines. With the savings, these government agencies can redirect resources into public awareness, education, infrastructure development and habitat protection.

Earth's 911 provides local control over community-specific data, allowing local agencies to upload and maintain system data through a password protected browser-based User Interface. While the information presented on 1-800-CLEANUP / www.earth911.org varies by community, access to the system and name recognition to this single call-to-action remain the same throughout the United States. Thus, the promotion of Earth's 911 by one entity inherently benefits other agencies and organizations. Additionally, private sector companies promote 1-800-CLEANUP and www.earth911.org through consumer labeling on products like motor oil containers, as well as television, radio and print advertisement, and in retail stores, promoting this public service to countless American consumers. State and local agencies enjoy the benefits of each other's promotions, achieving tremendous leverage and economies of scale.

⁷⁶ This description of Earth911 is excerpted from the *Nomination of Earth's 911 for The Stockholm Challenge 2001*, pp. 1-2. For additional information on Earth911, see <http://newyork.earth911.org/usa/master.asp?s=about&a=aboutus/aboutus.asp>.

Future PPPs: Use Your Imagination & Explore New Ideas

This paper reviewed many settings where PPPs successfully launched and grew in the United States.⁷⁷

Often the “seed” for the PPP was an external catalyst, common ideal or struggling sense of community need or purpose. Public guidance and openness to responsibly migrate appropriate social, economic and heritage assets and programs into a PPP is essential. Shrinking budgets and increased public acceptance of private sector advantages in rendering certain services and building and maintaining certain assets set up the “tipping point” for experimenting with PPPs. Notwithstanding enthusiastic private sector leadership and ingenuity, public oversight and accountability must persevere as part of the PPP’s leadership to assure continuity and accountability.

As with e-government and technology ventures generally, PPPs are organic and require assertive management, strategic planning and sources of capital to grow with the opportunities and requirements within their core competencies. Real property held by governments for office or other generic purposes may better be financed, renovated, retenanted and managed through a PPP than selling or retaining the asset. Careful financial analysis of the viability of the business case for the PPP, the extent of the government’s continuing role (retained interest) and the private partner(s) entrepreneurial capacity and interest in making the PPP work can improve the likelihood of success. Because of their situational opportunism, an a priori requirement that the PPP be replicatable elsewhere may not be an appropriate criterion.

Management science⁷⁸ needs to assist PPPs and their participants in benchmarking the appropriate use and operation of PPPs as the right alternative for fully public or fully private (for-profit and nonprofit) forms of ownership or outsourcing of government requirements. As PPPs conduct international operations or attract cross-border alliances, international bodies may render additional guidance on “best practices” and shared governmental policies to reduce formal and informal barriers to synergies and constructive transfer of PPP mechanisms and methodology.

Building networks (and often new markets) of users, suppliers and funders that trust and depend on the PPP to meet shared needs appears to be one of its “positive externalities” – growing communities of interdependency to achieve multi-dimensional economic development, e-government, sustainability and other objectives.

E-government presents a special opportunity for considering PPPs. PPPs engender a natural organizational synergy among their “customers and suppliers” that most e-government applications strive to achieve: diverse, distributed, Web-enabled and with direct benefits and accountability to the community. PPPs and e-government may reinforce each other and automatically build ties of interdependency to the same communities desiring their services.

Ultimately, the choice for e-government and technology users to consider using PPPs may just be a way of beating the odds: With \$6.5 billion expected to be invested in e-government

⁷⁷ A recent example of the growing literature inventorying American PPP is National Council for Public-Private Partnerships, *For the Good of the People: Using Public-Private Partnerships To Meet America’s Essential Needs: A White Paper on Partnerships*, <http://www.ncppp.org/>.

⁷⁸ CIO Council, *Measuring E-Gov* (April 8, 2002), http://www.cio.gov/Documents/measuring_egov_fcw_article.html.

by 2005 and with 40% of those projects estimated to fail in meeting their objectives, PPPs may diversify government's risk of technology and implementation hurdles, engender market-driving standardization of technology components and interfaces, and fulfill citizens' growing chorus for online e-government transaction and transparency environments. Without PPPs, governments may expect to reinvent more wheels, retrace more learning curves and reinvest in each agency's lack of shared experience with e-government solutions. Through PPPs, governments may find viable commercial and NGO partners to speed e-government solutions, standards and financing.