



Informed and Interconnected: A Manifesto for Smarter Cities

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Informed and Interconnected: A Manifesto for Smarter Cities*

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Abstract

The need for a fresh approach to U.S. communities is more urgent than ever because of the biggest global economic crisis since the Great Depression. Through examination of the barriers to solving urban problems (and the ways they reinforce each other), this paper offers a new approach to community transformation which calls for leaders to use technology to inform and connect people. We need to convert the social safety net into a social safety network through the creation of smarter communities that are information-rich, interconnected, and able to provide opportunities to all citizens. This process has already begun through such programs as Harlem Children's Zone, Baltimore's CitiStat, Elevate Miami, and others. And they can be replicated. But technology alone is not the answer. Realization of the vision requires leaders to invest in the tools, guide their use, and pave the way for transformation. Perhaps the urgency of the current economic crisis can provide the impetus to overcome resistance to change and turn problems into an opportunity to reduce costs, improve services to communities, and make our cities smarter.

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A Smarter Planet = Smarter Cities; Smarter Cities = Smarter Communities

INTRODUCTION: THE FUTURE PROMISE OF SMARTER CITIES

This is the vision: Someday soon, leaders will combine technological capabilities and social innovation to help produce a smarter world. That world will be seen on the ground in smarter cities composed of smarter communities that support the well-being of all citizens.

A smarter city infuses information into its physical infrastructure to improve conveniences, facilitate mobility, add efficiencies, conserve energy, improve the quality of air and water, identify problems and fix them quickly, recover rapidly from disasters, collect data to make better decisions and deploy resources effectively, and share data to enable collaboration across entities and domains. Its operations are instrumented and guided by performance metrics, with interconnections across sectors and silos.

But infusing intelligence into each subsystem of a city, one by one – transport, energy, education, health care, buildings, physical infrastructure, food, water, public safety, etc.—is not enough to become a smarter city. A smarter city should be viewed as an organic whole – as a network, as a linked system. In a smarter city, attention is paid to the connections and not just to the parts. Civic improvement stems from improved interfaces and integration. And that means a smarter city understands that the most important connectors across multiple subsystems are the people who give to the city by turning it from a mechanistic bundle of infrastructure elements into a set of vibrant human communities.

Communities are the human, emotional, and cultural nodes of the complex system of systems that comprise a city. They are where the city’s systems – transportation, commerce, food, energy, safety, education, health care – are organically fused. They are where integrated novelty is created every day out of radical complexity. They are where safety, prosperity, innovation, and social cohesion can arise out of diversity of cultures and of use, as Jane Jacobs argued in her classic book.¹

A smarter community within a smarter city strengthens human bonds and services – communication, relationships, health, education, economic opportunity, timely assistance for those in need, disaster preparedness and relief, quality of neighborhoods, quality of life (sports, arts, entertainment), and the ability to create and maintain jobs. In a smarter community, technology is used to enhance the human infrastructure just as it can enhance the physical infrastructure. Some of that smarter infrastructure is visible, used by people to make connections to jobs, to services, or to one another. Other aspects of this technology are “back-end” connections invisible to community members, who simply experience a higher quality of life in a healthier community with better outcomes on dimensions the public cares about. A smarter community achieves a balance between integrating information for the common good and protecting privacy.

A smarter community with the involvement of many stakeholders that communicate across domains has a strong “infrastructure for collaboration” – that is, it can develop high impact goals and find integrated systemic solutions.² That leadership capability is joined and supported by abundant use of information and communication technology. Depending on the issue, technology can be a major enabler or a bit player. But it is always available as a tool that can be used by visionary, innovative leadership to create sustainable solutions that reduce costs, focus resources on those items high on the public agenda, forge connections among organizations and agencies with similar goals or dealing with pieces of the same puzzle, and turn a city into a human life-enhancing community. That means less poverty and more prosperity, less exclusion of racial or ethnic groups and more equality of opportunity.

A smarter community is composed of not only a more integrated, collaborative, and inclusive “whole” but also of multiple neighborhoods and communities of interest and of kind. These are not in conflict. Indeed, what knits the whole together are the various threads connecting people within and across groups. When cities are only monoliths, they could threaten to exclude segments of the population. When cities are segregated by group (e.g., by race, ethnicity, or language), and members of subgroups have no connections with others, they can become vulnerable to symptoms of social disorder (such as illness and crime), which threaten everyone’s quality of life, not just that of the at-risk population. Thus, smarter cities should help find the “unity” in community.

Note also that communities cannot be deconstructed into constituent parts that work as though they are independent of one another, even though institutions sometimes operate as though all of life is contained within their boundaries. A schoolteacher can also be a neighbor, a patient in a health clinic, a weekend tennis player and park-user, a member of a play reading group, a taxpayer, a donor to the United Way, a board member of a non-profit, a friend to people outside the neighborhood, and a parent of children in another school.

Today, the need for a new approach to communities is an urgent imperative because of the biggest global economic crisis since the Great Depression. Between January 2008 and February 2009, unemployment in the U.S. climbed from 4.9% to 8.9%. Experts project that those numbers could continue to grow, bringing with them a wide range of needs for the families of those who have lost their jobs and for the communities where they reside. A study by the U.S. Conference of Mayors notes a 12% increase in the demand for emergency shelter and an 18% increase in the need for emergency food assistance across the country. And while there are geographic differences, it is clear that the situation overall is bad and getting worse, especially in major urban areas. In New York City, for example, the demand for emergency food alone is expected to increase by 28%. The current economic crisis is putting intense financial pressures on the collection of human services that comprise the “social safety net.” Its survival is critical to the individuals and cities struggling to recover and to the U.S. economy overall and is closely connected to jobs and economic growth.

We need to convert the social safety net into a social safety network. Such networks will help actualize the vision of smarter cities with smarter communities that are information-rich, interconnected, and able to provide opportunities to all citizens.

Having sketched this vision, we next outline eight challenges facing cities and the communities they encompass, based on experience in the United States. We will then provide compelling examples of practices and programs led by both government and non-profit organizations, many of them technology-enabled, which point the way to solutions. (**Exhibit 1** summarizes the problems and some simple ways technology could address them.) We conclude with a call for leaders to embrace an agenda for change.

HISTORICAL TRENDS AND CURRENT CHALLENGES

With the shift of populations from rural to urban areas, accelerated after World War II, there have been many waves of attention to the improvement of cities. Urban renewal was physically-focused, aiming to replace decaying parts of cities with modern buildings, often displacing vibrant communities of lower-income people in the process, as in the well-known story of the West End in Boston, told in Herbert Gans's ethnography, *Urban Villagers*.³ An effort was mounted in the 1960's to develop and fund "Model Cities" with the idea there was one model for an effective city and a social safety net, but it bogged down in arguments between community organizations and various levels of government, was interpreted narrowly as consisting only of social services rather than job creation and economic development, and did not address the interconnected nature of organizations that make cities great. Although there were notable changes in declining cities such as Cleveland in the 1980s, when physical redevelopment occurred, more difficult-to-tackle educational systems continued to deteriorate as the more affluent continued to move to the suburbs.

Philadelphia's turnaround in the 1990s under Mayor Edward Rendell (now Governor of Pennsylvania) was much-heralded as a success in saving the city, fiscally as well as in terms of downtown economic development.⁴ Major coalitions were established to work on improving public education in the city. Civic leaders also realized that the city's fate depended on the region, and the Greater Philadelphia Chamber of Commerce developed a regionalization strategy that acknowledged the interconnected nature of the entire metropolitan area.⁵

Today, the acute crisis of economic recession exacerbates the problems plaguing all cities, including the quality of public education, gaps in health care, crime rates, transportation, and preparation for a globally competitive digital future. Historical trends have made it increasingly difficult to address these problems and to enhance community life without a serious rethinking of the urban system as a whole – as civic leaders in New Orleans are trying to do in not merely rebuilding the flood-devastated city but transforming it into a twenty-first century community.

Among the significant barriers to solving urban problems are: geographic sprawl, residential mobility, the location of jobs, the organization of government departments and the contracting

process, non-profit fragmentation, lack of overarching strategic impact goals, weakened civic leadership, and social isolation. By examining each in turn (and the ways they reinforce each other), we will begin to see the opportunities for significant transformation if communities could become “smarter,” with technology helping spread information and facilitate interconnections. After reviewing these challenges, we will provide stories from cities working on getting smarter, such as New York, Miami, Boston, and Baltimore.

Geographic Sprawl and the Problem of Jurisdictions

Perhaps we should entitle this paper “Smarter Metropolises.” According to 2008 U.S. Census estimates, 84 percent of the U.S. population lives within 363 metropolitan areas that spill over focal city boundaries and, in some cases, over state lines.⁶ The New York City-anchored metropolitan statistical area, the largest at 19 million people, sprawls to include New Jersey and a piece of Pennsylvania. The Greater Boston area, tenth largest with 4.5 million people, includes southern New Hampshire.⁷ Bruce Katz at the Brookings Institution is a leading proponent of “MetroPolicy” because of this phenomenon. Brookings data show that while 65 percent of the U.S. population overall lives in the 100 largest metropolitan areas, those metropolises are home to 77 percent of the nation’s minorities and 85 percent of its immigrants.⁸

Over the last two decades of the twentieth century, growth of the hundred biggest urban areas in the continental U.S. eliminated 16 million acres of rural land, while over 70% of population growth occurred outside of metropolitan areas, according to Brookings’ analyses.⁹ Geographic sprawl affects carbon emissions, ecosystem health, infrastructure needs, and the cost of providing public services. But political jurisdictions can make it difficult to find solutions. There are 87,000 local governments in the U.S., if we include 3,000 county governments; 13,500 school districts which do not always correspond to municipal governments; and 35,000 special district governments.¹⁰ Yet, there are few overarching entities to connect and govern issues that spill over jurisdictions or do not correspond exactly to them. There are public authorities such as the Port Authority of New York and New Jersey, because air and water transportation require interstate cooperation in that densely-populated region. But there is no Human Services Authority or Public Health Authority for that metropolitan area, even though people and problems cross city and state lines on a daily basis. While transit authorities are defined by the crossing of boundaries, other public services remain locally-based, making it more difficult to communicate or share data or back office services.

Location of Jobs

Metropolitanization has been accompanied by changes in residential patterns and job locations, which have put less-advantaged at-risk populations at further risk of unemployment, poor schooling, and family crises. Jobs within central business districts have been declining, while jobs outside a ten-mile ring have been growing, and vehicle miles traveled have increased twice as fast as population growth, the Brookings data show.¹¹ The public services provided by

central cities began to decline with the growth of suburbs and exurbs, as the upwardly mobile and more affluent moved out of central cities, commuting in for work, and at higher income levels, buying private services rather than using public ones, even voting against funding for public services such as schools. In recent years, in some places, the affluent have been returning to central cities (often with the conversion of industrial or commercial property into high-end residential property), and though the poor often remain in decaying inner cities such as in Cleveland and Detroit, many have also been displaced to older suburbs at the edge of the city, bringing so-called urban problems with them. (This is not just a U.S. phenomenon; the sparkling new city of Dubai is surrounded by slums occupied by immigrant workers in low-wage service jobs for affluent tourists and residents.) After welfare reform was enacted in 1996, companies throughout the U.S. signed up to provide jobs for former welfare recipients through the Welfare-to-Work partnership, described in Harvard Business School case studies.¹² But one barrier that had to be overcome was the long “reverse commutes” from inner cities to jobs in distant exurbs and the absence of inexpensive, convenient transportation.

Transportation alone is not the solution. If it is difficult for people to get to the jobs, work must start be done where the people are – via remote work or work-at-home options – which technology can help enable. Through IBM’s dynamic workplace model, about 40 percent of its U.S. work force works virtually on any given day.

Residential Mobility

Geographic mobility is a fact of life in and around U.S. cities. Between 2000 and 2005, according to U.S. census data, nearly 40 percent of Americans five years old or higher moved to new residences.¹³ But note that half of them moved within the same county. The poor – who are often renters rather than owners and even as owners are more likely to be subject to foreclosure and displacement in the current economic crisis – change residences more often, sometimes entering the homeless population. Although mobility has slowed during the recession, individuals and families still have the opportunity to move at high rates, giving them the chance to follow job prospects, find a better school for children, seek out common interests, or make a new start.¹⁴

However, there are real costs as well. Urban school districts have to contend with this mobility of families, which often means that teachers do not have full information about the children entering their classes.¹⁵ Individuals without family and community ties often require more assistance in emergencies and have to rely on public services rather than personal support networks. Neighbors who are strangers do not cooperate in the same way. Residents who are transient do not invest in improvements that have a longer term horizon. And neither public nor private services can keep up with the changes in a neighborhood’s profile. They struggle to provide the right mix of services and facilities (day care and soccer fields for young families or home delivery of meals and emergency responders for health care in “naturally occurring

retirement communities”) before the demographics change once more. Real time data and trend analysis are essential.

Disjointed Public Services

Concomitant trends over several decades have changed the context for public services. Large cities, like states, have developed a range of departments and agencies that have become isolated from one another, operating in their own silos with less coordination of information than desirable for integrated planning and goal achievement. Many levels of government and government agencies have overlapping goals, but public sector resources and requirements can be difficult to coordinate – as the U.S. discovered with shock after the terrorist attacks of September 11, 2001, which led to the formation of the new federal Homeland Security department, and after Hurricane Katrina in 2005, which made clear the lack of coordination across federal, state, and local levels and within government bureaucracies at each level, let alone the extensive response from the private and voluntary sectors.

As the economic crisis worsens, financial pressures grow. A National League of Cities survey conducted in December 2008 and January 2009 found the most negative assessment by city fiscal officers since the survey began in 1985.¹⁶ The figures are sobering: 84 percent said their governments are less able to meet citizen needs than a year ago – the lowest figure on record; 83 percent had already cut expenditures and services; and 80 percent see further cuts in the year ahead. Nearly half said they would raise fees for services; none planned to raise income taxes, and only 6 percent said they would raise sales taxes. One way that local governments cope with reduced resources is to squeeze contractors.

Problems with Government Contracting Processes

Over the past four decades, pressures to reduce the size of government increased without a decrease in government spending, with the result that many human services once provided by government were contracted-out, sometimes to large for-profit entities (such as defense contractor Lockheed Martin, which runs job training and welfare services), but often to a wide range of small and mid-sized non-profit organizations.¹⁷ These contractors must meet government procurement requirements that might differ across departments, with few or no mechanisms to transfer information and a resulting waste of time and resources. Furthermore, according to interviews with city and state officials, the zenith of this siloed system is manifested in financial and administrative pressures that encourage each department to think short-term, cutting contracts or helping cash flow by dragging out payments to vendors and contractors.

If a vendor sells paper or pens to a government agency there is no need for them to have access to data or performance of other vendors, but for someone in children or family services the need for data and collaboration is key. The contracting system used to channel funding to these organizations, with some exceptions, is not really a coherent system at all. Instead, human

services providers are working with a vast array of silos originally developed for other government vendors. This means that contracts are unique to the specific service that is purchased, tend to run for only one fiscal year in duration, where a premium is placed on accountability for process and input rather than results, audit-ability and cost containment. In addition, because in many cases, the vendor system is built on layers and layers of tradition and precedent, with many of the driving issues and concerns long-forgotten and outmoded. The result is a system that is too jerry-rigged to respond quickly to current needs and opportunities and especially difficult to connect to the broader set of contracted services in health care, housing and economic development.

A portion of the 2009 \$800 billion federal stimulus spending package is targeted toward “social safety net” services. Unfortunately, these funds are currently destined to be funneled through this labyrinth of outdated allocation and contracting processes at the state and local levels before reaching the people who need it. And, according to the Center for Budget and Policy Priorities, stimulus money targeted to avoid layoffs in the public sector will only offset 40 percent of losses in state revenues.¹⁸ At least 34 states are still planning to cut safety net services as a result of decline in tax revenues despite escalating demands for services. Without further restructuring and the introduction of new decision-making tools, such cuts will continue to be the norm, with long term, often unanticipated costs. As government officials grapple with difficult budget decisions, an integrated view of data leading to more effective and more efficient service delivery would avoid hatchet-like, across the board cuts for services and target a budget scalpel making surgical slices. With the current set of silos in place and dearth of good information, the kind of transformative significant improvement in productivity, efficiency, or service delivery that is so clearly needed is unlikely to occur.

Non-Profit Fragmentation

Non-profits that deliver many human services and create community life have noble missions. Some are even consistent high performance organizations, yet they are often fragmented and disconnected. Though considered to constitute the “voluntary sector,” some have come to rely less on volunteers over the past decades than on paid professional staff.¹⁹ This can sometimes mean fewer staff with intimate knowledge of or connections with the populations they serve. There is a very large number of small, single-site not-for-profits that chase the same donors, duplicate back office functions which are often not state-of-the-art, and rely on staff (and volunteers) varying in capabilities but without sufficient resources to train them. Fragmented services reinforce the barriers that have historically made it difficult to share standards, compare best practices, reduce duplication, or reward top performers across service systems or geographies.

There has been a significant growth in non-profit organizations in recent decades, with 316,000 founded in the 1990s and another 410,000 from 2000-2007, resulting in a total of 1.5 million agencies.²⁰ When religion, hospitals, and higher education are excluded, that still leaves nearly 1.3 million non-profits, most of them small, but in the aggregate constituting a big sector,

one that is even more critical at this time of financial crisis. Almost 900,000 unique non-profit organizations in the U.S. deliver human services ranging from emergency food and shelter to programs for children and seniors, healthcare, job training, foster care, adoptions, and management of functions connected to infrastructure, such as housing, and economic development. Together they employ over 11 million people and have total revenues of \$1.5 trillion in 2008. A large portion comes from government contractors.

But aggregate data mask the fragmentation of the sector. The nature of non-profit organizations makes them want to remain independent even at the price of size or efficiency, and indeed, to continue to operate even if their initial mission has been accomplished (the classic case is the March of Dimes, which shifted focus when polio was eliminated) and to remain small and independent. The rate of mergers among non-profits with budgets over \$50 million (which is one measure of viability and growth potential) has been 1/10 of the rate of for-profit entities.²¹ Boston Foundation CEO Paul Grogan is among many leaders who have called for more mergers, citing a glut of non-profits following two decades of rapid growth. Philanthropy publications have repeatedly stressed this theme.²² Child and family services have been more amenable to mergers, and mergers have come onto the radar screen for non-profit executives in recent years, especially in the current economic crisis. The Humane Society has acquired animal advocacy groups; the Peninsula Foundation merged with the Community Foundation of Silicon Valley; and in 2007, the Hands-On Network merged with the Points of Light Foundation, creating a combined organization of 370 affiliates claiming to work with 80 percent of the Americans who volunteer on a part-time basis.²³ The Boston merger of the Florence Crittenden House (for unwed mothers) with the Women's Educational and Industrial Union (for low-income women) created a stronger organization, Crittenden Women's Union, dedicated to eliminating barriers to economic self-sufficiency for less-advantaged women and girls.

A report by the Bridgespan Group calls for merger intermediaries that search for opportunities to bring organizations together, suggesting that grant makers could play that role.²⁴ Lodestar Foundation, founded in 1999 in Phoenix, has emerged as an intermediary. It underwrote the acquisition costs for Arizona Women's Education and Employment, Inc., a well-established women's job-training organization, to absorb Women Living Free, a newly-formed agency, which provided women leaving the Arizona prison system with tools and support to break the recidivism cycle yet was having difficulty developing the infrastructure to survive as an independent agency. In 2009, the Lodestar Foundation gave an award, perhaps a first, for the best collaborations; Crittenden Women's Union was a finalist, and the top winners included a museum collaboration and the merger of the Jewish Community Center and YMCA in Toledo.²⁵ The collaborations Lodestar honored were among organizations of the same or similar type trying to gain strength in combination.

While mergers are more apparent than they used to be, and they are increasingly urged by foundations and philanthropy analysts, they still are few and far between, and may well remain so. When they occur, they often do not produce the cost or productivity savings anticipated any more than do corporate mergers. A large portion of all corporate mergers fail to produce value in the first two years, even with abundant resources, because merger integration is a difficult

managerial task.²⁶ For non-profit organizations, there are legal issues, difficulties of combining boards, and resistance from donors and other stakeholders out of sentimental attachment, which is a more important factor than in the corporate world. And mergers are notoriously difficult when they occur between weak organizations as a way to prevent outright failures, yet mergers seem more appealing to non-profits precisely when survival is at stake.

Clearly mergers alone will not solve deep-rooted problems. For non-profit agencies as well as small government entities, merging can create some savings by eliminating some management positions and introducing economies of scale. But given that the major expense for human service programs are direct service staff, there will be modest or no savings below the top administrative level. What is needed is significant reengineering and restructuring – i.e., a smarter approach that includes coordinated data, staff collaboration, and performance accountability. The Miami-Dade Community Foundation is among those giving grants to pay for facilitators to fund intermediaries ranging from mergers to partnerships and to help non-profit organizations collaborate by convening them to discuss overarching issues.

Strategic partnerships offer a compromise and an opportunity. For example, activities of Safe Space in New York City, the Children’s Village, and Inwood House combined their fundraising activities while remaining independent. Umbrella organizations such as the United Way are another classic solution. United Way organizations trace their history to 1887 in Denver, when a priest, two ministers, and a rabbi planned the first united campaign for ten health and welfare agencies, creating the Charity Organizations Society to serve as a collection agent, to coordinate relief services, and to refer clients to cooperating agencies. In 1913, Cleveland created the first Community Chest, another precursor. In 1918, executives of 12 fundraising federations formed the predecessor to United Way of America, a national association which local and regional United Ways can join. By 2002, there were 1400 United Way sites, loosely connected with United Way of America; by 2007, through their own mergers, including one of over 50 entities in Chicago as well as the integration of United Way of Tristate and the United Way in New York City. Yet despite this, 1300 regional United Ways remained.²⁷ Some United Ways focus marketing and fundraising on outcome-oriented goals, such as the Birth to Work Agenda, which can be achieved by linking activities of affiliated agencies. But otherwise, non-profit organizations manage on their own, often duplicating back-office functions that are often required by government funders but not mission-critical for serving clients, tying up resources that could be deployed in better ways if there were more tools available to them. Some functions could be provided through cloud computing linkages, but the capability has not been applied to the sector.

Lack of Strategic Impact Orientation

Traditionally, many human service providers, whether public sector or non-profit organizations, tended to be delivery-oriented rather than strategic. According to some observers, many agencies attempt to alleviate problems but not address the underlying root causes nor operate as change agents for their communities. For various reasons outlined above,

effectiveness tends to be measured in terms of inputs or actions easy to quantify (and thus report to government funders) rather than in terms of broader community outcomes. They often “own” a territory as the traditional neighborhood provider and are protective of their own constituencies. There is often little comparison across activities and programs to see which work. They operate independently or in silos, one field or approach at a time; systemic approaches that combine fields are rare. There can be poor or inadequate communication among entities serving the same individual or family, which has two important consequences: people can fall through the cracks or disappear from view, while the connection among problems is largely unexamined or unaddressed (e.g., the effects of inadequate health services on education or employment). There are many reasons for this – under-financing, lack of professional development, and government regulations

To produce solutions with impact, there is a need for non-profits to combine issues as well as operations and work much more closely with the government as a partner. On a global stage, there are renewed calls for single organizations to scale up in terms of impact, regardless of size, by tackling issues that cut across sectors and institutions. This would respond to the economic downturn, in which non-profits compete for shrinking philanthropic dollars. Some analysts urge NGOs to work on the nexus between the environment and poverty (which would reverse the early emphasis of the conservation movement, which seemed to some to undercut economic development for the poor). A Financial Times writer has argued that human development programs help the environment, and vice versa.²⁸ For example, better educated girls have lower reproduction rates, thus lessening energy demands. Investment in alternative energy helps the environment and creates jobs. Oxfam claims that climate change will arguably hurt the poor the most, through natural disasters or global food crises. The World Wildlife Fund has begun to link environmental issues to poverty reduction; e.g., child may be motherless because the family lost their land, suffered from poor water quality, a flood decimated their holdings, or a forest was cut down. The Alliance for Water Stewardship created by the Nature Conservancy combines its land conservation and other environmental capabilities with social issues of water use. Still, there are gaps to be filled and barriers to be overcome before local non-profits venture outside of their territory or field or welcome newcomers.

Social entrepreneurs can fill gaps by creating new cross-sector programs, but most remain small. For example, the Edible Schoolyard (ESY) contributes to children’s health and education with a green agenda to improve the environment.²⁹ ESY, a program of the Chez Panisse Foundation started by a well-known California chef and restaurateur, began as a one-acre organic garden and kitchen classroom for urban public school students at the Martin Luther King, Jr. Middle School in Berkeley, California. At ESY, nearly 1,000 students participate in all aspects of growing, harvesting, and preparing nutritious, seasonal produce. Classroom teachers and Edible Schoolyard educators integrate food systems concepts into the core curriculum. Students’ hands-on experience in the kitchen and garden fosters a deeper appreciation of the natural world and promotes the environmental and social well being of the school community. The first affiliate program was launched in New Orleans in 2005, and ESY has grown to a few other cities. This is a laudable effort and a useful demonstration, but without public sector leadership and involvement, the scale and impact will remain small.

But when public officials with specific impact goals combine forces with social entrepreneurs to support the application of imaginative new integrated solutions, the results have enormous potential. For example, The Children's Aid Society has scaled its activities across New York and nationally in areas of child health and education. Philadelphia, New York, Cleveland, Boston, and Miami, cities mentioned throughout this paper, are among the 19 U.S. sites where City Year, a national and community service program for 17-24 year olds, works with the school districts to offer Whole School/Whole Child, to link classroom services such as teachers' aides with outside-of-the-classroom tutoring and leadership development activities. School officials in many cities have joined with City Year to support team focused on potential dropouts, including in Providence, Philadelphia, New York City, and Washington D.C. The Chancellor of the Washington, D.C. public schools awarded nearly \$10 million (over a five-year period) to City Year in late April 2009 to reach 50% of all students at risk of dropping out.

Weakened Civic Leadership

One reason for the lack of systemic solutions is that the public sector cannot address all the issues without collaboration across sectors and consensus on desirable outcomes. Visionary mayors and governors with high aspirations are limited by jurisdictional boundaries and the need to deliver specific services, as we have said, as well as by the electoral process, which is designed to produce turnover.³⁰ In any case, government cannot do everything, and private sector action is needed, such as providing the jobs that induce students to stay in school. The 10,000 new summer jobs for at-risk youths that the Commonwealth of Massachusetts can support under the federal stimulus cannot be filled unless private-sector employers offer job training.

In most cities, civic associations and business leadership once filled gaps because they could convene leaders from many sectors across government boundaries, defining a regional agenda and acting on it, and some civic leaders had longer tenure than elected officials. But globalization is among the big forces that has reduced big business leadership in most communities.³¹ Although there are many notable exceptions such as the New York City Partnership, on average many observers complain that civic agenda-setting can be weak, diffuse, skewed, and contentious. Many single-issue groups operate in isolation – advocacy groups are the counterparts of service programs in the non-profit sector. In some cities, there are too few conveners or occasions that can attract diverse people to the table to dialogue. Magnets that attract new people to some older cities (such as higher education) often fail to hold them. There has been a growth in the number of civic leadership programs. But there is still a need for systematic development everywhere.

Is consensus around a few major civic goals even possible? There are so many divides, including partisan and racial. There can be tension between social entrepreneurs who create organizations from scratch and officials responsible for established institutions, as seen in the charter school debate. Media fragmentation contributes to difficulty forging public consensus. Local newspapers are dying, and they are no longer the wellspring of shared public agenda.

Local ethnic or neighborhood media are growing, but they strengthen separate groups rather than connect diverse populations across sprawling geographies. The Internet, heralded as the death of distance, makes it as easy to connect with a community of interest spanning the world as with a community of proximity in one's neighborhood. But local listing services and meet-ups are thriving on the Internet and could be tapped by smarter communities.

"Dying Alone": Problems of Social Isolation

The costs of cities are raised, in both human and financial terms, when all the trends just catalogued, from metropolitanization on, including transience and fragmentation, reduces what has been called "social capital" – the benefits that accrue from dense networks of social ties that forge human connections. Social isolation has been increasing in the U.S., and it might account for low national happiness scores.³² Perhaps isolation, among populations where it is more extreme, also accounts for lower academic achievement, persistent unemployment, poor health, and increased crime. But the most alarming consequences can lie in the vulnerabilities this produces for everyone in downturns and disasters.

Even if bowling alone (Robert Putnam's image for the loss of social capital) might not strike observers as particularly consequential, dying alone certainly does.³³ "Dying Alone" was the provocative but accurate title of an interview with the author of *Heat Wave*, an account of the death of 739 people, mostly elderly and poor, in Chicago in 1995. (Heat waves kill more American per year, on average, than other weather-related events combined.) The deaths were attributed to social isolation in an African-American neighborhood, which stood in stark contrast to an adjacent Mexican-American neighborhood with many fewer deaths, attributed to more and better community connections. Those dying generally lived alone and were out of contact with neighbors or family and unassisted by public agencies or community groups.³⁴

After Hurricane Katrina devastated the Gulf Coast states and especially New Orleans, many of the problems of disconnection outlined above converged. There were communication, command, and coordination difficulties both within local, state, and federal government and between them. The Gulf coast communications infrastructure was fully destroyed, e.g., 3 million telephone lines knocked out of service, with over a quarter million still out a month after the storm; 38 911 centers down, two call centers remained inoperable a month afterward; two telephone company switches destroyed in New Orleans, incapacitating the entire city; and 37 radio stations could not broadcast, among other things covered in a Congressional report.³⁵ Lack of social connections made local situational intelligence hard to gather. The storm hit rich and poor alike, destroying 275,000 homes and causing the evacuation of the entire city. As in Chicago and many other natural disasters, the poor without social connections or physical connections were the hardest hit, including African-Americans and the elderly. But for those who possess social capital – that is strong networks of relationships – the recovery process is faster and smoother. In New Orleans, one of us visited homes rebuilt quickly by people with strong civic ties; those with social capital were often the first to return, because of the strength of their commitment and their

access to the resources needed to rebuild, such as relationships with relief groups, building contractors, and labor.

IN SEARCH OF SMARTER SOLUTIONS: THE POTENTIAL FOR SMARTER CITIES AND COMMUNITIES

Today's difficult economy makes many problems more visible and trends more disturbing, but the federal stimulus package, with its emphasis on health and education as well as green technologies of the future, provides an opportunity for transformative action. President Obama's stated intention is not to spend money doing the same things but to invest in change. The potential for significant and positive transformation and impact exists.

It is time for systemic solutions, enabled by technology, to build smarter cities that can reduce financial and human/social costs while increasing quality of life. But while technology can be the spur or spark, it cannot solve problems without a vision and commitment for new ways of working together in communities. It is time to build on new technology capabilities and models of integrated, interconnected, intelligent solutions that have been developed by visionary leaders – on a big scale by public officials and on smaller scales but with big potential by social entrepreneurs and community leaders.

New technology capabilities – such as data warehousing, data mining, automatic language translation, voice recognition, and cloud computing – could provide data to inform decisions and enable professionals and providers, with data in hand, to better serve people, from the at-risk to the affluent. Networks could provide interconnectivity, offer databases of best practice information, enable e-government and e-procurement to flourish, connect people to job training and job opportunities, including professional development and even make it possible for people to work remotely rather than commute every day, saving energy and time, which helps the environment and family life. Many companies are shifting toward a variety of work-at-home and mobility options; Best Buy, through its ROWE program (results oriented work environment) joins IBM as a pioneer in new work systems; as indicated, about 40 percent of IBM's U.S. employees work virtually.

Social media increase the capacity for informal learning across silos and a variety of other applications are available to assist with system-wide training and development to enhance service delivery. Use of this technology has the potential to drive immediate returns, e.g., teachers and administrators in one part of the country can learn from their counterparts across the country in real-time. And residents can build the communities of interest and tap the support they need to succeed.

Online collaboration can also move cities beyond better diagnosis and understanding of problems to more effective remedies. Once data is better integrated and more readily available, Web 2.0 tools are essential to share best practices and bring people with a range of experience and expertise to bear on the issues. Social networking tools can also be used to individualize

services, focusing a practice on those situations where it will be most effective, avoiding trial and error at the client's expense and insuring investments by developing human resources.

What possibilities would be unleashed if there was one smarter system which was fully instrumented, more intelligent, and significantly more interconnected? What if online collaboration and the use of social media were widespread? Technological breakthroughs have played this role in the past – electric lighting, the automobile, the telephone and the Internet. And it can be transformative again.

Getting Smarter in Public Services: From Policing to Preventing to Planning

One of the best-known current examples of technology-enabled solutions in cities involves smarter policing, which has proven to be effective in reducing crime in major U.S. cities. While U.S. murder rates increased nationally by 7 percent between 2000 and 2006 and robberies also increased during this period, those rates declined in New York City, Chicago, and Los Angeles, and most dramatically in New York, which pioneered the new data-rich CompStat model used by the three cities.³⁶ In the mid-1990s, under Police Commissioner William Bratton, who later brought his approach to the same job in Los Angeles, the NYPD began to use IT to map crimes, allocate officers accordingly (“putting cops on the dots”), and hold local commanders accountable for crime in their area. Community connections, which also helped Boston reduce the rates of violent crimes (through the StreetSafe neighborhood based violence interruption programs and related services), enabled cities to use few police officers and use gang intelligence, adding another cost-efficiency while improving results.

It is important to note that new technologies have additional potential to make communities smarter by combining sets of data and making them available not only to immediate decision makers but to a much wider network of officials and agencies so that they can make more informed decisions. Within the limits of privacy constraints, for example, some public education officials might improve performance if they saw CompStat crime and policing data, and some police officials might improve performance if they saw certain student data, such as truancy. Such integrated platforms and access are a next step and new frontier.

Real-time analytics and data visualization vastly improve administrators' view of micro and macro data for early intervention and decision making. Imagine the possibilities if leaders could see a map of recent unemployment and incoming demands for services in the same way that police departments track and respond to neighborhood crime and to use that information to improve the deployment and productivity of staff. These same technologies increase visibility to system-wide liabilities or entitlements that could create exposures and impact the financial rating of the city, the county or the state. An integrated system also increases transparency to the public that is demanding it and it enables shared standards for metrics and performance-based incentives such as efforts to provide incentives for better teaching, better non-profit agency management, improved job placement and cost avoidance.

There is an embryonic model for this in Baltimore. Inspired by the crime mapping effort, officials created CitiStat, an award-winning mapping initiative in 2000 with the Bureau of Solid Waste and expanding to other functions.³⁷ In addition to crime mapping, overgrown grass/weed, cleaning, and graffiti requests are logged for all to see, showing exactly where services are absent. Publicized performance metrics create accountability. The initiative grew quickly to cover nearly two dozen agencies and the city's 311 call center for citizens. Charts, maps, and graphics make data come to life in regular briefings that adjust resources to better fit needs and encourage higher performance. Services are provided faster, at lower cost and with better coordination; e.g., a backlog in uninspected food establishments was cleared; violent crime dropped; complaints about lead paint decreased. By 2003, according to O'Malley's office, CitiStat had already saved \$100 million through cost reductions, new revenue streams, and efficiencies such as the competitive outsourcing of security, health clinic, and custodial services. There are other applications to transportation, housing, parks, and water. Using off-the shelf software, CitiStat has low startup and annual operating costs: \$20,000 to create and equip a briefing room, about \$350,000 a year for the first three years of activity.

Visionary public officials can combine solutions and use technology to provide opportunities for all citizens, particularly the most vulnerable populations. Under the leadership of Mayor Manny Diaz, Elevate Miami is a comprehensive approach focused on the accessibility and affordability of technology and training for youth, teens, parents, workforce, senior citizens and small business entrepreneurs. The initiative encompasses:

- *eSeniors* centers for computer training, to help seniors stay connected to family as well as opportunities;
- *eParks* computer labs, which includes public access to computers, online tutoring for school children, and a portal for parents to use to assist their children with schoolwork;
- the Rites of Passage Initiative with Miami-Dade Public Schools, which includes a sixth grade curriculum integrating computers and life skills and a high school internship program to provide employment opportunities using technology;
- the Access Miami program, through which the City works with local partners on a customized basis to offer to residents online financial seminars, workshops, free tax sites, training, and information about employment opportunities;
- NEToffices, which are one-stop shops for people to access city services in their neighborhood.

Many public-private partnerships and partnerships across city and county departments support Elevate Miami. It is inherently a cross-sector collaboration with a shared civic agenda.

Throughout America, there is no shortage of great ideas for interconnection across silos, both physical and virtual. But barriers to collaboration must be overcome. In Boston, Mayor Thomas Menino is promoting a "community learning strategy" in which the city's schools, libraries, and community centers form a cluster of caring adults to guide children all day and evening. It is not clear, the Boston Globe editorialized, whether city agencies are willing to give up autonomy and collaborate on outcomes. Outcomes will depend on how well school officials integrate library

branches and community centers into a high school. There are issues of access – e.g., for children to use school gyms after hours under community center auspices – and conflicts over which of the three entities will maintain shared faculties.³⁸ Mayor Bloomberg has developed and implemented a comprehensive out of school transition initiative accessing a network of programs and services, as well as private and foundation funding.

In the UK, the Blair government has mounted an integrated effort to improve efficiencies and service delivery. The transformation agenda began slowly, with three reviews of UK government issued between July 2004 and March 2007. The separate studies culminated in an integrated initiative known as Leaner, Keener, and Greener (for the three reports' agendas of efficiencies, transformation, and government environmental commitments).³⁹ Implementation, carried out with the involvement of IBM consulting teams, has faced classic challenges of mobilizing resources across departments that lack experience with cross-department activity. But in some local areas, national government initiatives have been combined for efficiency and impact. The Somerset County Council and Taunton Deane Borough Council worked together to manage social welfare, health, and other citizen supports along with security and police. IBM expertise integrated HR, payroll, and other services on the back-end, and for citizens offered front-end integrated access to services and information through a web portal providing one-stop shopping for vehicle licensing, social welfare and other services information. It is hoped that this could extend across the region, bringing in 32 government bodies – police forces, county districts, and city and borough councils.⁴⁰

Smarter communities can extend across wide areas and bring new services that promote well-being by providing platforms to inform and interconnect. The Navajo Nation, which consists of 250,000 people strewn across 27,000 square miles in New Mexico, Arizona, and Utah, mobilized its IT department, to build an integrated network that would enable any government division, school or library to communicate seamlessly via voice, video and data. The objective is to connect the 110 Chapter Houses that serve as central community centers so citizens could access a Web portal for e-government, e-commerce, job searching, medical support, training, voting, distance learning and video broadcasts, as a ComputerWorld case study described it.⁴¹ It would provide connectivity to families in remote areas through networked Chapter Houses and traditional Navajo dwellings called the Hogan. The network enables:

- distance learning via teleconference with classes from the major universities near the Navajo Nation, including Arizona State University, the University of Arizona, the University of New Mexico and the University of Utah;
- telemedicine for citizens to receive superior health care via access to doctors in large medical facilities in urban areas;
- after-hours access to the Internet for school children who travel up to four hours daily on a bus to attend school to complete homework assignments; access to information on agriculture for the elderly in their native language, as many of them only speak the Navajo dialect;
- central government services, such as housing, children's health insurance, e-government, job listings and voting as close as the nearest Chapter House, versus hours away or even unavailable for citizens with no access to vehicles;

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- expanded communications for citizens, including free phone calls between Chapter Houses across three-state Navajo Nation.

Consider how many issues such technology-enabled solutions can address simultaneously and strategically: public health and health care; education at all ages; job training and opportunities; and strong social ties.

A Web of Activities: Opportunities for Cross-Sector Information and Interconnection

Every day in every city, opportunities arise to improve performance dramatically if health, education, or other human service providers could be better informed and interconnected. For example:

- The local emergency room staff identifies a new infection that is rapidly moving through the community. If this information could be immediately available to school staff, placing the cafeteria staff on alert to implement extraordinary sanitary practices, information is circulated by backpack to all parents with special translations, and the special education teachers can take action to protect vulnerable students with disabilities. Sharing information can limit the impact; otherwise, serious health issues and high rates of absenteeism will ensue;
- A fourth grade teacher is puzzled when one of the class leaders becomes distracted and is late every morning. If the teacher had immediate information that the family had been evicted from their home and was now seeking housing assistance while living with an aunt in another part of town, he could have intervened quickly with transportation assistance and preventive services for the student;
- A counselor at a senior program processes an order for new home health care services for a 70 year-old grandmother who has returned home with a cast on her leg after a bad fall. Unfortunately, this information is not also used to generate a child care request from the job training/placement program where the woman's daughter has just been offered a new job with health benefits, but misses the final interview because her mother's fall has also left her without child care;
- A kindergarten teacher is overwhelmed the first day of school when she realizes that fully one-third of her students are recent immigrants whose parents do not speak English well and the school district has no translators who speak the native language. However, the local day care providers had seen this trend for two years as had the local emergency rooms. The opportunity to prepare was lost as was much of the children's first year of school.

Investments in economic development also require a broad view of connections among issues with analysis of disparate data. How can information on student achievement or challenges at neighborhood schools be leveraged to identify potential issues for job training and the connection to job opportunities? What might the numbers on student transfers indicate about the stability of a neighborhood and demographic trends in its residents? What can be learned from waiting lists for day care about working parents and their needs? Can public investments in rent subsidies or mortgage restructuring to keep families in their homes be supported by adding to

existing service programs classes in financial planning, English-as-a-second language training, or career skills?

The Intelligent Community Forum of the World Teleport Association has identified numerous examples of “wired communities” using technology to work across sector boundaries in collaborations that benefit regions rather than single government jurisdictions.⁴² For example:

- Westchester County, New York, a relatively affluent area outside of New York City, partnered with community organizations to create the Westchester Telecom Network in 1999 to pool the resources of schools, a library system, public safety providers, healthcare institutions, and 43 local governments to enlist a private company to wire the 500-square-mile area. A Westchester Information Technology Cluster, a partnership between the county government and business associations, later formed to create a database linking technology experts with small and medium-sized companies in the area, benefiting over 3,500 companies. A Westchester Not-For-Profit Technology Council started a matching service connecting nonprofits with IT needs to knowledgeable volunteers;⁴³
- OneCommunity, a Cleveland-based nonprofit, began serving Northeast Ohio in 2003 to connect public and nonprofit organizations via one digital network platform. In partnership with multi-sector stakeholders, it supports education, health care, government, and green-computing projects. A OneCommunity health initiative utilizes the region’s medical expertise, working with 50 hospitals in 22 counties to connect them – and the abundant information contained within them – to provide more seamless care for patients. Another solution aimed at both education and environmental cleanup improves the low student-to-computer ratio in public schools by recycling used computers, thus creating a cost-effective and environmentally-friendly way to dispose of potentially hazardous electronic parts;⁴⁴
- Vancouver, British Columbia used its unique role as host of the 2010 Winter Olympics to drive community collaboration through its web portal. An online education initiative allows the area’s schools to develop projects on the specific curricular topics relating to the Olympics, interview leaders, and share content through webcasts. Classrooms throughout Canada are invited to contribute to the learning, connecting teachers and student. The “Cultural Olympiad,” a three-year digital arts initiative done in partnership with a telecommunications sponsor, included such programs as CODE (Cultural Olympiad Digital Edition), an innovative digital scrapbook which allows Canadians to contribute to and build content online. The organizing committee has also used the site to receive feedback and inform about its innovative sustainability initiatives, helping them win accolades from CERES, an international watch group, for its corporate reporting. The United Nations has recognized Vancouver’s efforts with an e-Government award.⁴⁵

Smart social entrepreneurs are demonstrating the value of interconnections that can link non-profit and public services where there is physical proximity – producing “smarter neighborhoods” as building blocks of smarter communities. A widely-praised example of integrated solutions singled out by President Obama for national scale-up is Harlem Children’s

Zone (HCZ), founded by Geoffrey Canada as a one-block program in the early 1990s and then expanding to a 24-block area network in 1997.⁴⁶

HCZ operates 20 programs under one umbrella in a dense geographic area, many of them connecting across institutions and addressing vulnerable populations at vulnerable moments, including new parents and early childhood services, job-readiness training for high school students, public health programs such as asthma services in collaboration with Harlem Hospital and a smoking cessation program. Reducing truancy and school dropouts, helping with the transition to middle school, and helping parents are coupled with neighborhood revitalization and community programs involving the arts and exercise. Improved results include high student performance on achievement tests, higher school completion rates, and college entry and graduation.

Smarter neighborhoods can revitalize communities and improve education while serving children and adults alike. Outside the U.S., Escola Aprendiz is a leading example. Gilberto Dimenstein, a well-known Brazilian journalist, has created a model from the grass roots that has improved education by embedding it in a more connected community. By the late 1990s, residents of Sao Paulo had, literally, built walls in their communities to protect themselves from urban crime and violence. In Vila Madalena, an older urban neighborhood, Dimenstein and a group of artists, journalists, educators, and residents became concerned with the negative effects of this physical separation. To combat this trend, they created a community art project – *Sem Muros* or Without Walls – which sought to bring people together to paint the concrete dividers and symbolically tear down the walls that separated them. The initiative led to the birth of Projeto Aprendiz and the concept of the “neighborhood as school,” which took education beyond a physically enclosed school and placed it in the surrounding community where it could connect the neighborhood's numerous stakeholders around a shared purpose. By 2009, the project consisted of over 40 programs, including technology training, arts initiatives, and “school in the square.” Student achievement in schools has improved, and the neighborhood has become safer and more desirable. UNICEF, Microsoft, and the Bank of Brazil have provided grants for the model (it does not take government money directly) and encouraged its replication, while IBM has provided teams to support technology development.

Imagine the opportunities to increase the scale and impact of models like Escola Aprendiz or HCZ – Obama’s envisioned national “Promise Neighborhoods program is based on HCZ – through a shared technology capability used by all of the partner organizations, including public schools, to make better, faster, more informed decisions and to communicate in real-time. This would allow strategic alliances to form, without waiting for the largely impossible solution of mergers among non-profit organizations. In a system that currently spends hundreds of billions of dollars on a currently disjointed set of services, the potential for increased efficiency and cost-savings through shared services is potentially very high. Via information sharing and collaboration tools, agencies with multiple contracts could have access to simplified case management systems, shared services, one-stop billing, a single audit, and common accounting systems. Hundreds of agencies in the public sector and even more businesses in the private sector have embraced this kind of back-office integration and reaped substantial rewards in

improved productivity and significant cost savings. Better information and better access to best practices would also aid agencies in effective training and deployment of the unprecedented number of volunteers and the expanded use of community service staff empowered by the dramatic expansion of AmeriCorps members envisioned in the Edward M. Kennedy Serve America Act of April 2009.

Exhibit 1 summarizes a few of the opportunities to use technology to address the issues and challenges facing cities and their human communities. Technology offers the potential for solutions, as we have just seen, but it is merely a set of tools. It takes leadership to invest in the tools, guide their use, and pave the way for transformation.

THE LEADERSHIP AGENDA

There is enormous variation in the state of America's – and the world's – cities. They differ in prosperity, infrastructure, the health of the people, the quality of schools, the degree of public safety, the ease of transportation, the quality of culture and the quality of the air and water. There are even great differences within urban communities in the same city or metropolis. Some are more favored by location and access to resources than others, including centers of learning and innovation as well as natural resources. But wherever cities reinforce and strengthen human bonds and shared commitment to take care of one another, cities become magnets for talent and gain the social glue to generate and spread ideas and innovations that holds communities together and ensures adapting to a changing world (or creating that change).

Community transformation will require leaders coming from many sectors and disciplines to define goals and collaborate on ensuring execution. Technology by itself is an enabler and facilitator; but leadership creates the context for effective use and policy level transformation. In the 1970s, Barbara Mikulski, now the long-serving U.S. Senator from Maryland, was a social worker whose political awakening came when she organized to stop a highway that would have destroyed a strong neighborhood community. Today, in 2009, we must use the knowledge of both social workers and civil engineers, activists and professionals, affluent commuters and vulnerable reverse commuters.

Of course, while technology makes many of these goals physically possible, a number of significant barriers stand in the way of this reality. A web of rules currently exists, some with their roots in legislation or regulation that need to be sorted through. Issues like privacy and shared accountability must be discussed. There are a variety of political, economic, and cultural challenges and legacy systems which all have to be addressed within the web of legislation, regulation and administrative guidelines that got us into the system in which we currently exist. And the human side of change must be taken into account to increase collaboration instead of competition or turf-protection and to create a shared sense of mission across fragmented organizations and populations. Social capital must be accumulated.

Civic leaders can develop an “infrastructure for collaboration”⁴⁷ in major metropolitan areas, through which leaders join their efforts across boundaries of jurisdictions and sectors. For example, Portland Metro, which oversees a three-county area in Oregon, evolved over several decades from a regional planning body to a full, elected service delivery system, including the management of waste disposal and recreational facilities, including parks, sports, convention, and other centers.⁴⁸ This regional governance has allowed the Portland area to limit sprawl, reduce racial segregation, and create jobs. This case highlights the positive benefits from unified, integrated efforts in a region but also suggests that collaboration across boundaries can take time to cultivate. We propose that technology can accelerate this process, because a shared platform that permits information exchange and interconnectivity can be a first step toward collaboration while local governments, schools, or neighborhood groups maintain identity and ostensible autonomy.

Interests can be aligned and new collaborations achieved even in areas where stakeholders seem inherently at odds, such as school segregation, but it takes leadership vision able to build coalitions of geographically and demographically separated stakeholders. The “Choice Is Yours” program grew out of a Minnesota lawsuit which claimed, under the state constitution, that segregation had denied Minneapolis city school children a fundamental right to public education. A settlement in 2000 resulted in an inter-district transfer program – Choice Is Yours – which gave a group of poor children the opportunity to enroll voluntarily in suburban schools. Studies by Myron Orfield, executive director of the University of Minnesota’s Institute of Race and Poverty, who also served as a state Senator, have shown that the program not only improved student achievement, but aligned the interests of suburban school districts and poor urban families.⁴⁹ Suburban schools, many of which had declining enrollment, were able to keep their schools open while receiving additional funding per student. They also felt proud that they had done social good. Poor urban families likewise celebrated the program. When the program’s legal decree expired in 2005, community support kept the initiative going in eight suburban districts. When the Minneapolis school district sought to close the program in 2009 – despite its small size – the move met with staunch resistance from a unique urban-suburban coalition of educators and parents who came together around an unlikely shared agenda – school *desegregation*.

Real reform and community transformation will require that a new model be built, and built from the ground up. Every type of stakeholder, from those who plan and deliver services to those who receive them needs to be involved in the design. Government officials at the federal, state, and local levels and experts from the private and voluntary sector must be intimately engaged. Professionals who spend their days delivering services need to be at the table along with the people who receive those services. What might be possible through access to key data for reductions in administrative and operational costs or increases in accountability and return on investment? Nothing short of a revolution.

Where will leadership come from? Who has a stake in systemic solutions? Mayors? Governors? Congress? The White House? Civic organizations? Community foundations? Businesses? Throughout this paper are examples of leadership coming from each of these

players. How do they work together? That is the challenge before us. To make our cities and communities smarter, we must become a little smarter ourselves, seeking information and an agenda to forge connections enabling collaboration.

The current economic crisis makes action more essential than ever. Perhaps the urgency of the situation can provide the impetus to overcome resistance to change and turn problems into a big opportunity to reduce costs, improve services to communities, and make our cities smarter.

Exhibit 1. Examples of smarter solutions to address problem areas by taking advantage of technology

Community Problem: *Multiple jurisdictions in metropolitan regions with cross-cutting issues*

Smarter Solutions: --common platforms and information sharing for cross-cutting issues
--“sensors” that alert jurisdictions of issues in other jurisdictions

Community Problem: *Mismatch between location of people & location of jobs*

Smarter Solutions: --more opportunities for remote work
--virtual satellite offices
--on-line job training & certification

Community Problem: *Disjointed public services when same people/families served*

Smarter Solutions: --integrated data shared across schools, organizations, agencies
--use of data to pinpoint at-risk areas or people & deploy resources

Community Problem: *Inefficient government contracting*

Smarter Solutions: --common platforms and common standards across departments
--data retained and used for several purposes
--one-stop data entry about contractors

Community Problem: *Non-profit fragmentation, duplicative costs*

Smarter Solutions: --shared back office services via cloud computing solutions
--on-line professional staff training & certification
--social networking sites to exchange data and useful practices

Community Problem: *Lack of strategic impact orientation by service providers*

Smarter Solutions: --regional community indicators & data about progress toward outcomes
--linkages & referrals for shared goals carried out by independent groups

Community Problem: *Weakened civic leadership*

Smarter Solutions: --virtual dialogues to augment in-person conferences
--frequent citizen polls & widely communicated results
--community indicators & self-organizing to make progress

Community Problem: *Social isolation*

Smarter Solutions: --in-home monitoring for health status
--neighborhood information & social networking sites
--neighborhood e-auctions & bartering sites
--public libraries as information portals
--e-learning via cell phones

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- ²⁵ For details go to <http://www.thecollaborationprize.org/Home.aspx>, accessed April 14, 2009
- ²⁶ A Boston Consulting Group study of over 3,000 mergers between 1992 and 2006 found that deals above \$1 billion destroyed twice as much value as those below that figure. The relative size of the target and the acquirer also mattered. The mergers of targets with half or more of the acquirers' value destroyed twice as much value as mergers of targets with 10% or less of the acquirers' value. See Kees Cools, Jeff Gell, Jens Kengelbach, and Alexander Roos, "The Brave New World of M&A: How to Create Value from Mergers and Acquisitions," Boston Consulting Group (July 2007). Interestingly, the role of M&A size seems to have risen in importance over time. A study of the 50 largest U.S. mergers between 1979 and 1984 found value creation. See Paul Healy, Krishna Palepu, and Richard Ruback, "Does Corporate Performance Improve after Mergers?," *Journal of Financial Economics* vol. 31, no. 2 (1992): 135-175
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