

Five Changes Shaping Stamford's Competitiveness

Kip Bergstrom, August 2008

Stamford has never been content to let the waves of economic change crash over it. Rather, Stamford has surfed each wave, exploiting its energy to drive the city's prosperity. Before and after World War II, Stamford morphed from "The Lock City" of the industrial era to "The City of Research". In the 1970's, it became one of the nation's top locations for Fortune 500 headquarters, without ever bothering to officially change its name to "The Headquarters City". Then in the 1990's it began to attract major investment banks and hedge funds, such that it would be appropriate today to call it "The Financial Services City".

Each of these new economic identities layered over rather than replacing the one before, while the sectors of the previous eras continued to evolve. Stamford is still a manufacturing city, but a very specialized, high tech one. It is still a research city, but the focus of research has changed from chemicals and electronics to embrace information technology. It is still a headquarters city, but the headquarters are just the strategic core, with all other functions out-sourced. And the current turmoil in the financial markets will undoubtedly change the nature of Stamford's financial services industry.



Stamford must become something new again, as there are new waves of change coming at us, bigger and faster than ever before. In fact, this time we need to surf five different waves simultaneously: globalization; foreign immigration; climate change; the failure of the Administrative State; and the increasing importance of quality of place. This paper summarizes each of these emerging conditions and their implications for Stamford.

My colleague Joe Cortright reminded me that in the book "Anna Karenina" Leon Tolstoy noted that all families are alike in their happiness and unique in their misery. But Joe argues that with cities it's just the opposite: we are the same in our problems and unique in our paths to success. Understanding emerging conditions is the first step towards finding our path to success. Our goal should not be to imitate best practice, but rather to define next practice, to be the first and best at something.

Globalization

We stand on the threshold of a fundamental economic transformation, perhaps as significant as the shift from custom work to the factory system two centuries ago. Like then, there are powerful new forces that require a new way of thinking about work, education and the structure of both business and government.

Twin revolutions in technology and information have made it possible to distribute work, capital and ideas worldwide. As columnist Tom Friedman has highlighted, the world is now flat in competition for routine functions, including many manufacturing and back-office service operations. But as the creative economy analyst Richard Florida has also observed, the world is still very peaked in capabilities required for innovation and for the planning and management of complex global networks—research universities, experienced entrepreneurs and managers, venture capital, innovative workers and innovation services firms.



Stamford is situated in the world's highest peak of these capabilities—the Northeast Corridor, the megaregion of shoulder-to-shoulder metros that stretches from Boston to Washington, D.C. *A key principle of Stamford's economic strategy must be to exploit this position to our competitive advantage.*

It's a very good thing that the Northeast Corridor has deep innovation capabilities; there's no other way for us to achieve competitive advantage. We don't have low cost land, low cost labor, low cost energy, low taxes, abundant natural resources, a great climate or a particularly favorable location on the global logistics

system. Our options are essentially to innovate or die. We have faced this challenge before; our history is the triumph of ingenuity over natural disadvantage(1).

It is actually a blessing that it is so clear that we have no choice but to innovate. Other U.S. regions with lower costs than ours may be seduced into thinking that they can create sustainable competitive advantage based on cost. They can't because there will ultimately be someone with even lower costs. The manufacturing jobs that the Northeast lost to the Southeast, and that the Southeast is now losing to China, are already moving from China to Vietnam, and will then move again to an even lower cost location.

But What Exactly Is Innovation?

At its core, innovation is *problem solving*. It is not just the province of elites; it occurs in all workplaces, from the front line to the corporate suite. And it is not exclusively an imperative for business; it applies equally for government and the non-profit sector. *The capacity for innovation needs to be pervasive throughout the Stamford workforce.*

The Long Tail

In the past, much of the innovation in the economy was the result of a slow, steady stream of product refinement by large, established firms. According to Clayton Christensen of the Harvard Business School, the future lays in disruptive innovation, which either creates new markets or reshapes existing markets by delivering relatively simple, convenient, low cost innovations to a set of customers who are ignored by industry leaders.

Collectively, these innovations increase the differentiation in an industry, such that over time the niches in total represent more of the market than the



dominant product or service, the internet-enabled phenomenon which Chris Anderson calls *The Long Tail*, in his book of the same title. Using the examples of powerful new distribution channels like Amazon and eBay, Anderson argues that future business success will come from selling less of more. *The Long Tail* means exploiting new distribution channels to sell niche products and services to a global market.

Immigration

Eighty percent of projected U.S. net population growth from 2005 to 2050, and 100 percent of the growth in the working age population, will be the result of foreign immigrants and their U.S.-born children.(2) Stamford is already living in that future...*all* of our net population growth in the 90's was from foreign immigration.(3)

Foreign immigration is bipolar in terms of educational attainment. Many foreign immigrants are college-educated. In fact, in New England, net foreign immigration of college-educated young professionals more than likely offsets net domestic out-migration of young professionals, turning what would be a deficit in our trade in young talent into a surplus(4).

The other part of foreign immigration is made up of individuals with both low literacy levels and limited English fluency. They join a significant native-born population of adults with low literacy levels who were able to get by in our former industrial economy, but who do not have the skills required for new higher wage jobs, or for those which are also starting to be vacated as college-educated or technically-skilled Baby Boomers start to retire.

While the number of knowledge and innovation jobs is growing, Stamford (and New England as a whole) faces a *decline* in workers with post-secondary education and an *increase* in workers without a high school diploma, due to the low current and projected educational attainment rates of Latino immigrants and their children(5). *Unless there is focused intervention to change these trends, we will not have the workforce we need to help create our future.*

Climate Change

Global warming is no longer a matter of policy debate; it is an "inconvenient truth". The question now is how much sea levels will rise before global warming can be slowed or reversed, and how extreme weather will get in the meantime.

Rising sea levels have particular relevance for Stamford as a coastal city. Development is concentrated along our coastline; a rise in sea level and more frequent and more dangerous storms will affect us disproportionately. *The wave of climate change is not just a metaphor; we could literally face a tidal wave that could sweep over the existing hurricane barrier. We need to make our waterfront less vulnerable and more resilient. This may also represent a major new business opportunity: the solutions we develop can be exported to other coastal states.*

To reduce global warming and rising sea levels, it now appears probable that there will ultimately be a carbon trading system, carbon taxes, or both. Any changes in carbon policy will be coupled with rising oil prices: In 1998, regular gasoline was \$1.30 a gallon and oil was \$20 a barrel *in 2008 dollars*. Regular gasoline is now flirting with \$4.50 a gallon and oil with \$140 a barrel. The high cost of gasoline is starting to change behavior. Train and bus rider-ship is up. Condos and rentals within walking distance of workplaces are in demand. Sales of SUV's have fallen off a cliff.

Rising fuel prices and carbon taxes will produce hardship for us. At the same time, there is economic opportunity, as both conditions will advantage transit-oriented development. Stamford could be one of the places that define transit-oriented development for small cities for the next century, given the decisions made over several city Master Plans to concentrate development in the downtown within walking distance of the train station.

As significant as the impact of rising oil prices and possible carbon taxes may be, they could be eclipsed by the growing problem of water scarcity. In fact, water may become the new oil as a driver of economic fortunes. It is hard to imagine how places like Phoenix and Las Vegas could support the population growth for

the next 50 years that they experienced over the past 50 years, because they are running out of water. Already, over the past five years, there has been a decline in the population growth rates of Nevada and Arizona, the fastest growing states(6). The Sun Belt is being unmasked for what it really is: a desert.

We in Stamford are fortunate to live in a place of relative water abundance, if we do not squander it. *In the long term, managing Stamford's water supply wisely is one of the most critical competitive strategies we can undertake.*

The Administrative State Fails

The nation was stunned by the glaring incompetence of federal, state and local government in preparing for and responding to Hurricane Katrina, and in the rebuilding effort afterwards. Prior to Katrina, many Americans had the illusion that government services really didn't matter much. Katrina taught us, by negative example, that they do. It is a lesson that reverberates beyond emergency services and disaster-resilient construction.



The need for innovation in all government services is now obvious, if it wasn't before. What's required is not just greater efficiency, but rather a whole new "business model" for government where our agencies are better networked and where our government workers are empowered to be problem solvers, and have the support and systems necessary for success. This need holds at all levels of government—federal, state and local—but it is at the local level where there is perhaps the best combination of resources, authority and willingness to act. *Stamford needs to become a leader of government innovation. It is not possible for Stamford to sustain a position as a center of business innovation unless it is also a*

center of government innovation, as it would have an ethos in conflict with itself.

Transparency and the Rule of Law

Innovation is enabled by a legal and cultural framework that values transparency, fairness, efficiency, the rule of law, and high ethical standards. Trust in this framework enables collaboration and dynamic change. Differences in legal and cultural frameworks have given Silicon Valley (e.g. non-enforcement of non-compete agreements) a competitive advantage over most metros in business innovation and continue to give the United States a competitive advantage over China, where the rule of law is still nascent and where regulators can be bribed.

Replacing the Administrative State

The Administrative State is the universal model by which government is organized at the federal, state and local level. This model, characterized by clearly defined agency missions and structures, was a necessary shift in the early 20th century when we were governed by municipal and state kleptocracies. It has served us well in remedying many of the problems that we faced; it created accountability and transparency, two critical ingredients to successful governance.

The question we must ask ourselves now is this: How do we take the values that underly the Administrative State and apply them to a more nimble and networked approach that fits for Stamford in these dynamic times?

A Test Bed for Government Innovation

We need a different government structure which delivers *higher* quality service at *lower* cost. The key idea is to increase initiative at the organizational level and for individual employees, replacing the current command-and-control structure of silo-d agencies. This does not mean creating mega departments or secretariats; that would be an intensification of the command-and-control model. We need a networked structure where organizational units have autonomy and incentive to collaborate in ways that improve government services *and* reduce costs.

This effort should honor and preserve the accomplishments of the Administrative State—the rule of law and transparency—while overcoming its rigidity and stifling of initiative. We will be breaking new ground. There are no proven models that we can import from other states. We will be the pioneers.

Quality of Place

Place is where all of the pieces come together. We need to design places that do not just respond to real estate market demand but also to the rising cost of oil, the growing scarcity of water, the impacts of global warming, and the probability of high carbon taxes to mitigate them.

Place has to be as much about human development as it is about physical development. To paraphrase the African proverb, *it takes a neighborhood*. Successful upward mobility is the result of a mutually reinforcing network of relationships that link individuals in a neighborhood. School reform, neighborhood revitalization, parent leadership development, home ownership programs, adult education and skill training should not be separate efforts, but rather parts of a whole.

Our purpose is to create *whole places*—that is places that are: dense, mixed-use, mixed income and walkable; full of life, distinctive and diverse in their built form, natural environment and social networks; empowering of their people; water and energy efficient; transit and digitally connected; and disaster resilient.

Whole places are the natural environment for innovation because they preserve and enhance the diversity of people that is an essential enabling condition for effective innovation networks. And they are magnets for talent: college-educated young people and entrepreneurs want to live and work in whole places(7). Quality of place is increasingly a differentiator in today's mobile society. *Stamford can achieve competitive advantage by making whole places.*

Implications of the Changes

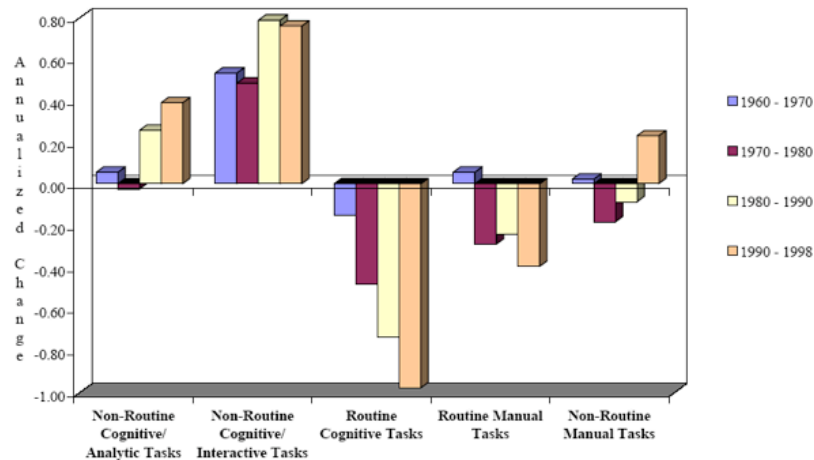
Leveraging Human Capital

Today's innovation is about leveraging *human* capital, rather than *physical* capital. We are now primarily a service, rather than a manufacturing, economy. In a service economy, innovation will not result solely from technical workers in labs and corporate offices. It requires an innovation-capable workforce at all levels of firms and institutions, with a particular focus on

increasing the innovation skills of customer-facing front line workers. In the typical service company, the front line worker has 100 times more customer contact than the CEO(8). The front line worker *is* the product. A service company cannot successfully innovate unless the front line workforce has the problem-solving skills to improve the customer experience.

These skills are based on the cognitive process of *pattern recognition*. In *The New Division of Labor*, Richard Murnane and Frank Levy ask two questions: What do computers do better than people? What do people do better than computers? The answers: Computers are better at *rules-based thinking* and people are better at *pattern recognition*. Their research shows that two pattern recognition skills, *expert thinking* (the ability to generate solutions that are not rules-based using technical knowledge) and *complex communication* (the ability to communicate across multiple situations and cultures), are now the skills most in demand in the U.S. for jobs at *all levels* and in *all sectors*. They are the two

Figure 2. Bivariate Relationships Between Recent Industry Computerization 1984 - 1997 and Decadal Industry Task Change: 1959 - 1998



key skills in an innovation-driven economy. There are three other complementary skills that are necessary to fully develop these two pattern recognition skills: learn-on-demand—the ability to construct and apply new knowledge from work activities; interdisciplinary design—the ability to integrate content from multiple disciplines, including both the arts and sciences; and mobility—the ability to transition across projects, disciplines, and work/learning experiences.

All five of these skills are based on a foundation of

fundamental decision-making, communication, interpersonal and lifelong learning skills, which have been well defined by *Equipped for the Future*. This 10-year research project of the National Institute for Literacy identified a common core of 16 crucial skills that adults need to succeed in their roles as workers, parents, citizens and life-long learners.

EFF Standards for Adult Literacy and Lifelong Learning



In spite of this, our K-16 education system (in Stamford, in the U.S. and globally), as well as both the adult education and skill training systems, are still focused on developing rules-based skills. *We must refocus our education and workforce training systems on developing pattern recognition skills.*

Expanding Experiential Learning

A reporter once asked the famous hockey player, Wayne Gretzky, "What is the secret of your success?" Gretzky told the reporter "most other hockey players skate to where the puck *is*, while I skate to where the puck *is going to be*." In the K-16 education system, we have a 17-year production cycle. We would do well to skate like Wayne Gretzky. In fact, to stretch a metaphor, we need to skate to where the ice has not yet even formed, as many of the jobs which high school freshman (let alone kindergartners) will have when they are 25 are not yet invented. We need to think *today* about how to create the innovation-capable workforce that will define our future. The focus of even our most enlightened education and workforce development initiatives is about skating to where the puck *is now*...for example,

meeting a current shortage of science, technology, math and engineering talent.

Meanwhile, much of the K-16 and workforce development systems are actually skating to where the puck *was*. They are producing talent for an industrial-era, rules-based economy of managers and semi-skilled workers that no longer exists. It's not that our schools and training programs are doing a worse job of educating their students than they use to. In fact, the opposite is true. Math and reading scores on national standardized tests have gone *up* over the past two decades.

It's the *economy* that's changed dramatically, not the schools. Over the past three decades, there has been a sharp *decline* in middle wage jobs in manufacturing and administrative support functions that were accessible with a high school diploma and basic arithmetic and reading skills, coupled with a sharp *increase* in two kinds of jobs: high wage jobs that typically require at least some college preparation; and very low wage jobs that require little or no preparation. The education strategy that worked for an industrial economy does not work for the economy we have today. Unless we make some fundamental changes, students will not be able to access the kind of jobs that can support a family and our city will not have the kind of workforce that will enable it to stay competitive.

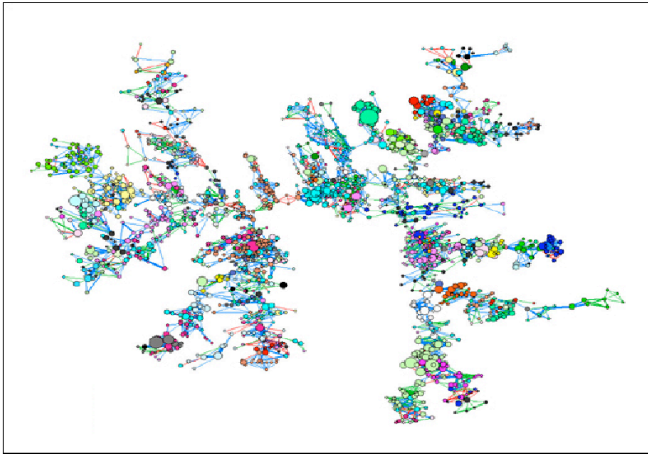
The changes that are required are not just in the schools, but also in the workplace. The burden of change does not fall just on teachers, but equally on parents, employers and the larger community. Some of the most important skills that students need to learn cannot be taught in a classroom; they are gained through experience at home, at work and in the community.

Pattern recognition skills are a fundamentally different cognitive process than rules-based thinking. It does not lend itself to formalized instruction or book learning. It is based largely on tacit knowledge... you learn to recognize patterns by actually doing it in the company of someone who is already very good at it. It's the essence of good experiential learning and mentoring, which can no longer be thought of as a luxury in the education system. *If we want to produce the workforce we need for an innovation economy, we need to make experiential learning a part of every K-12, college and workforce development experience.*

Embracing Churn

Innovation is not usually the result of one entrepreneur working alone; more often it comes from a network of entrepreneurial collaborators. Human networks are leveraged by the Internet but they cannot just exist in virtual space; again, too much of the knowledge required for innovation is tacit and therefore difficult to communicate electronically. Michael Polyani put it this way: *we know more than we can tell.*

Network of New England Inventors



As described in the work of Lee Fleming at the Harvard Business School, collaboration among the same group of people over time actually stifles innovation. Truly breakthrough innovation comes from face-to-face interaction among a diverse *and changing* group of people. A face-to-face innovation network is typically created as a result of movement of workers among firms and institutions within a labor market.

The mobile worker brings to the new firm the relationships he or she had at the previous firm or institution, thereby linking the two. The innovation power of large and dynamic networks advantages labor markets with a lot of worker churn among firms and institutions or a high rate of in- and out- migration of talented workers. For example, Silicon Valley has a very high rate of labor market churn and New England has a high level of trade in young talent. *Stamford has both. That is a tremendous advantage, not a problem.*

Integrating Local and Regional Transit

The need for face-to-face interaction to drive innovation is the primary source of regional competitive advantage. The larger and deeper the innovation networks within a region, the greater the region's potential for innovation. Currently, the largest

functional unit of economic geography is the metro region because it is the limit of a labor market. Most people commute to work using the interstate highways and commuter rail networks that form the skeletal structure of metro regions.

Stamford is not just a city of 119,000 people; it is the business center of a two-state, two-county region, and as such, one of major hubs of the tri-state New York Metro. At 22 million residents, the New York Metro is the largest in the U.S.

Because of our connection to the New York Metro, Stamford firms have access to a deep and broad pool of talent, Stamford residents have access to a large and rich mix of jobs, and Stamford innovators have access to a world class set of collaborators. The regional advantage works in both directions: we are as important to New York as New York is to us. The highly specialized and highly paid work that characterizes Manhattan exists only because it can tap through an extensive commuter rail network a labor pool stretching to Long Island, Northern New Jersey and Connecticut. Likewise, Stamford is advantaged by commuter rail connections that give it access to a labor pool that stretches to Danbury, Waterbury and New London within Connecticut, and to Manhattan and Westchester County in New York.

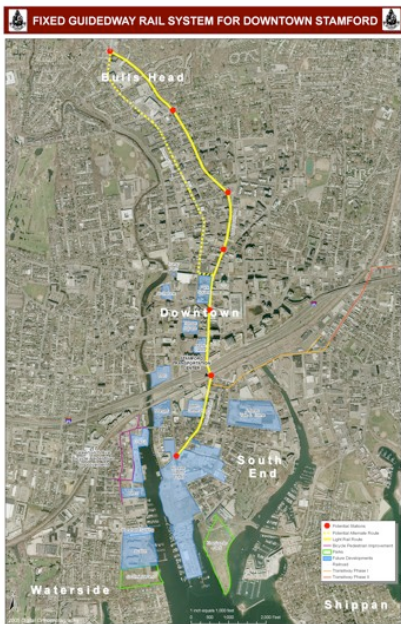
In the Northeast, there is a tantalizing prospect of extending the reach of face-to-face innovation networks to the megaregional scale, aggregating the unmatched capabilities of the five metros in the Boston-Washington corridor through high speed commuter rail that creates overlapping labor markets between adjacent metros. High speed commuter rail would put Hartford the distance in time from New York that Stamford currently is, and from Boston that Providence currently is. Few other regions in the U.S. or the world have this opportunity because in most other regions, metros are islands separated by seas of rural space, such that the labor markets of the metros would be very difficult to integrate. *Stamford is as superbly positioned as any city in the Northeast Corridor to exploit this emerging megaregion and should play a lead role in bringing the megaregion into being through rail and transit advocacy.*

The foundation of the transportation system is people walking on the vibrant, pedestrian-empowering sidewalks of well-designed downtown and neighborhood centers. It's easy to forget that one of the results of a good public transit system is a lot of people

walking the streets.

Stamford has the potential for a seamless transit system from the sidewalk to the megaregion. It has the density of development to support public transit in many areas, and even has many walkable centers. What's missing is a good system of public transit. It would not be hard for us to put one in place. Much of the current built fabric of Stamford was developed initially around the streetcar. It will be much easier for us to reinvent a public transit system here, than it will be for areas with lower density than ours, which grew up almost entirely around the automobile, to invent a public transit system for the first time.

This seamless transit system would reduce carbon emissions, insulate us from rising oil costs, expand the reach of face-to-face innovation networks across the Northeast, and strengthen our downtown and



neighborhood centers. *The future of both Stamford and the Northeast as a whole lies in an integration of local transit and regional transit along the entire corridor, with a higher speed Amtrak service and overlapping higher speed commuter rail systems strongly linked to reinvented local transit.*

Forging A New Public/Private Partnership

Creating new sites for business prospects, new housing and new retail space in a way that contributes to the wholeness of a place requires a much closer partnership between the public and private sectors. It is a proactive process of market making for the kinds of development we want.

We need a team that includes: real estate experts; architects; landscape architects; urban designers; transportation and communications experts; people who understand new approaches to energy efficiency, water recycling, waste treatment, and flood avoidance; and folks who understand social networks, including the networks that create innovation, the networks that enable upward mobility and the networks and stories that give meaning and life to a place.

Harnessing this diverse set of capabilities and bringing them to bear on specific local projects represents a new kind of interaction between the public and private sector. It is a more fluid integration of planning, design, and implementation. Rather than simply denying the kind of growth we don't want, this approach involves imagining the kind of growth we desire and partnering with private developers to create it.

End Notes

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⁸*Moments of Truth*, Jan Carlzon, 1989. See also *McKinsey Quarterly*, December 2006 for contemporary context.