COMMUNITIES AND LEADERS AT WORK IN THE NEW ECONOMY:
A COMPARATIVE ANALYSIS OF AGENTS OF TRANSFORMATION IN
PITTSBURGH, PENNSYLVANIA AND HAMILTON, ONTARIO

by

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Without change, stagnation is inevitable. Never has this truth been more obvious than during the current epoch of industrial decline in North America. This research provides two economic narratives that exemplify the struggles of industrial communities as they strive to regenerate. The research involves a comparative analysis of the transformation of two steel cities, Pittsburgh, Pennsylvania, and Hamilton, Ontario, from 1970 to 2008. For cities in which one major industry has formed the foundation of the local economy, job losses can result in massive dislocation and devastating consequences for individuals, families, and communities. Pittsburgh and Hamilton are among many cities striving to diversify and strengthen their economies as manufacturing diminishes and Western sunset industries rise in the East. Transformation has been much more extensive in Pittsburgh than in many cities because Pittsburgh was so largely dominated by the steel industry and faced a virtual collapse of that industry. Hamilton has also experienced a steep decline in steel and related manufacturing jobs.

Based on 55 interviews with city leaders, including a pilot study in Welland, Ontario, this research examines eight critical factors that collectively influence development: transformational leadership, strategic development planning, civic engagement, education and research, labor, capital, infrastructure, and quality of life. The study looks at how city leaders drive these factors in the context of global economic forces to revitalize their communities. Together, these
elements combine to create the new economy of cities. To achieve successful transformation, the elements must function as part of an integrated system—a *community economic activity system* (CEAS).

This research is grounded in MacGregor-Burn’s (1978; 2003) transformational leadership theory and positions local leadership as the central driver of economic regeneration. It highlights the importance of enduring social relations among leaders for creating an organized, yet dynamic, base of power that is necessary to mobilize resources and execute development policies to achieve qualitative change. Moreover, it points to the importance of inclusiveness and openness in engaging local citizen groups in order to build trust and confidence that recovery will happen. Pittsburgh and Hamilton offer many examples of successful partnerships that increasingly involve *public-private-nonprofit-academic* collaboratives.
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*The journey of a thousand miles starts from beneath your feet.*

Tao Te Ching, Verse 64
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Chapter One:  
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Introduction  

Businesses. Schools. Hospitals. Parks. Airports. Arenas. These are the traditional building blocks of cities. If the blocks are incorrectly placed, or the materials are of poor quality, or the builders don’t know their craft, the structure will not hold. Far beyond these physical assets, cities support all aspects of everyday life: intellectual, financial, medical, social, cultural, and recreational. In recent decades, many cities across North America have experienced decline in the traditional smokestack industries that once defined them and provided their economic foundation. One of the principle challenges of city leaders is to ensure that their communities thrive. This involves creating new strategies to diversify and grow their economies. It requires facilitating re-employment of displaced labor so that people can remain in their community. It also involves building a new foundation of sustainable development by addressing and surmounting barriers to social equity and environment health.  

For cities in which one major industry has formed the foundation of the local economy, with employment largely concentrated in that industry and its supporting network of suppliers and customers, job losses can result in massive dislocation. Frequently, laid-off workers are unable to find work near their homes. They face tough issues. For example they move hundreds of miles from home to work at a minimill in Alabama or take a position in a local call center, if they are considered qualified. Often, call centers require a high school education, a qualification that some workers in traditional heavy industries are lacking. These consequences of dislocation are a truer measure of the human impact of job losses in a city. As Hoerr (1988, p. 3) suggests, the paths of “industrial detritus” are marked with human adversity – disrupted lives stripped of dignity – their knowledge and skills, and their sense of identity ushered into the backdrop of the new economy. Similarly, Charlesworth (2000, p. 5) observes,  

[d]uring a period of mass unemployment, in which work becomes more atomized and more precarious, insecurity has become the condition of too many. Elementary solidarities of family, work and place, once consolidated by the culture of the trade union and tertiary education, have been washed away by the corrosive cleansing of *laisser faire* economic practice; the logic of financial
markets sacrificing for profit the cultural configurations that human decency requires.

This research provides a comparative analysis of the economic trajectories of two “steel cities,” Pittsburgh, Pennsylvania, and Hamilton, Ontario from 1970 to 2008. Its central focus is the relations among local agents of transformation within these cities and the economic region surrounding them, as they strive to overcome industrial decline and navigate local and global forces of economic change. A multitude of factors influence local economies. Initially, six key factors of economic development activity were selected through a literature review: transformational leadership; strategic planning; civic engagement; education and research; capital (public and private); and quality of life. Later, based on interviews conducted with city leaders, two additional factors were incorporated into this analysis, labor and infrastructure. These eight factors are referred to in this study as “local factors.” Leadership is the central factor driving transformation. Leaders foster development through collaboration among stakeholders involved in the other factors. Strategic planning and civic engagement are the two process factors through which leaders establish a shared vision for achieving common goals. The remaining factors are critical resources that, combined, contribute to synergistic outcomes, particularly economic revitalization.

Community economic development occurs within a broad context. A multitude of macro forces also influence the trajectories of local economies. Global market conditions, scientific discovery, technological innovation, demographic shifts, (Bluestone & Harrison, 1982; Rifkin, 2004; Torjman, 2002; Wolfe, 2007) and other forces within the “natural environment” and the “macroeconomic, regulatory and policy environment” (Wolfe, 2007) all impact the direction and intensity of economic transformation. Although local leaders may not be able to control these forces, they must respond to them or integrate them into local economic activity, as in the case of new technology. The performance of the steel industry, for example, has been significantly impacted by excess global capacity, process technology, material substitution, and capital mobility. These global forces are considered as the context in which cities navigate their transformation.

An important part of this comparative analysis involves an examination of inter-organizational relationships among the local community leaders. Empirical evidence of these
relationships is provided by identifying “interlocking directorships” (Porter, 1992, p. 220), partnership initiatives, and collaborative strategies involving community leaders or their organizations.

Local factors and global forces combine to form the essential elements of prosperous economies. Leaders energize these interactions. The local factors, global forces and leadership collaborations blend to form economic currents. A community economic activity system is the result of many economic currents interconnecting within the city.

**Scope and Standpoint**

Historically, community development and economic development have been viewed as two distinct concepts (Shaffer, Delier, & Marcouiller, 2006). For the purpose of this research, local and community economic development are seen as related processes aimed at improving individuals’ standard of living and community sustainability (or resilience).

Local economic development encompasses efforts to create and distribute wealth, primarily through job creation and retention. Work is not only an important source of livelihood; it is a crucial source of identity and community. This understanding is key to bringing the economic, social and cultural dimensions of community economic development together. Pittsburgh and Hamilton share a similar history as their nations’ steel capitals – industrial heartlands that provided the backbone of North America’s manufacturing industry. Steel has defined their social and economic histories, spurring the settlement of thousands of immigrants in both cities and generating a blue collar culture of hard work and proud people. The decline of the steel industry in Pittsburgh and Hamilton has challenged local leaders to build on historical strengths while cultivating new economic drivers to alleviate their dependence on steel.

Community development efforts encompass issues relating to economic growth, as well as social equity and environment health, and are often concerned with public policies and institution building (Christenson & Robinson, 1989; Powell, 2004). Christenson, Findley and Robinson (1989, p. 14) define community development as “a group of people in a locality initiating a social action process (i.e., planned intervention) to change their economic, social, cultural, and/or environmental situation.” Interdependencies exist among all four dimensions.
Moreover, cause and effect relationships exist between factors, institutions and dimensions. This is illustrated in the trajectories of Pittsburgh and Hamilton traced through this research.

This study provides insights about economic transformation from the standpoint of community, business, and labor leaders. As drivers of transformation, these leaders are instrumental in the developments that shape Pittsburgh and Hamilton. A total of 55 local leaders participated in interviews for this research. Their experiences give them both a depth of understanding and a bias with respect to the factors essential for development because they have been fully invested in the process. Leaders from community organizations who are specifically charged with development mandates provide examples of strategies and partnership initiatives including infrastructure projects and programs targeting specific groups such as displaced workers and youth. Business leaders offer perspectives regarding the key factors influencing their firms and industries. Labor leaders also share their views regarding the impact of economic change, particularly with respect to dislocated employees and the changing role of unions. Voices from the population at large are represented through interviews with local media reporters who provided coverage of plant closures and layoffs during the periods of massive displacement since 1970.

**Decline in North American Steel Cities**

Steel has been described as “the heart and soul of industrial power…the king of the smokestack industries” (Rifkin, 2004, p. 132). Andrew Carnegie sat at the throne of America’s steel empire. Throughout the latter part of the 1800s and early 1900s, Pittsburgh and adjacent communities along the Monongahela River (Mon Valley) became a major steel making region, with Carnegie Steel at the forefront. Carnegie opened the Edgar Thomson Works plant in Pittsburgh in 1875. In 1901, Carnegie Steel was the biggest of ten companies that merged to create the U.S. Steel Corporation. The epitome of big business, this conglomeration, capitalized at $1.4 billion (Apelt, 2000, p. 47), formed the largest corporation in the world. The assets of this massive, vertically integrated company included “213 steel mills and transportation companies, 41 iron ore mines, a fleet of 112 ore barges, 57,000 acres of coal and coke properties” (Alpelt, 2000, p. 49). United Steel Corporation brought together more than 50% of American steel workers under one company (Fitch, 1989, p. 5). It employed 168,127 workers in 1902.
throughout its total operations. At its peak in 1943, U.S. Steel employed 340,498. For the next 60 years, employment declined steadily, reaching 19,353 in the U.S. Steel Group in 2000 (Warren, 2001, p. 363).

In the decade that followed U.S. Steel’s incorporation, other new mills were built in the Pittsburgh region. For example, Jones and Laughlin (J&L) opened Aliquippa Works and Crucible Steel launched Midland Works. However, beyond 1911 little new plant construction occurred in the local industry (Lubove, 1995, p. 5). Pittsburgh assumed great importance as steel became the primary material for war armaments and for the nation’s economic growth infrastructure. Pittsburgh’s steel industry prospered through most of the twentieth century until it collapsed in the 1980s. Through the 1980s, U.S. Steel closed several plants in the Mon Valley area of the Pittsburgh region, including Homestead, Duchesne and finishing facilities at Clairton. Between 1997 and 2002, 33 American steel companies went into bankruptcy (Heenan, 2004, p. 6).

Employment dislocation has profound implications for individuals and communities (Bell, 1999; Bensman & Lynch, 1987; Bluestone & Harrison; 1982; High, 2003). Beginning in the 1970s, steel manufacturing employment in western Pennsylvania plummeted by over 150,000 jobs, most of which were based in the Pittsburgh region (Porter, 2002b, p. 23). Many indirect jobs supporting the industry have also vanished. Employment in the steel mills of Allegheny County, which encompasses the City of Pittsburgh, held between 50,000 to 55,000 from 1975 to 1980, then plunged to about 3,500 by 2005 (U.S. Bureau of Labor Statistics, 2007). No integrated steel mills remain operating in the City of Pittsburgh today. Along with its head office, U.S. Steel’s Mon Valley Works, which includes Carnegie’s first steel mill, Edgar Thomson Works and Irvin Works, is the only integrated steel plant still operated by U.S. Steel in Allegheny County. U.S. Steel Corporation remains the largest steel producer in the United States. It is the seventh largest steel company in the world today, with annual raw steelmaking capability of 31.7 million net tons (U.S. Steel Corporation, 2008).

For Pittsburgh and its surrounding mill towns, the steel industry collapse in the 1980s has had long-term, devastating effects. With a population of 312,819 in 2006 (U.S. Census Bureau, 2006), the City of Pittsburgh is less than half of its 1950 peak size of 676,806 (U.S. Census
Bureau, 1950). While some residents moved to surrounding suburbs, many others moved further away in search of a new livelihood. As Bluestone and Harrison (1982, p. 99) suggest, “the standard prescription in free enterprise economies has always been: move.”

Canada’s steel industry, while substantial, has historically been much smaller than its U.S. counterpart. Employment in Canada’s steel industry has been declining rapidly in recent years. Employment in the broader Canadian steel industry, including steel production, steel product manufacturing, and metal service centers peaked at 71,190 in 1988 and declined to 54,014 in 2004 (See Table 4, p. 157). Canada’s steel sector directly employed over 30,000 in the province of Ontario as of 2004, with the majority of that occurring in Hamilton (Tmej, 2004, p. 3). Canada’s “steel city” is home to Stelco and Dofasco. At its peak in 1981, Stelco employed 26,263 employees (Stelco Inc., 1982). Of these workers, about 13,000 were hourly employees at Stelco’s Hilton Works in Hamilton (Livingstone, 1993, p. 30). By 2009 employment at the Hamilton plant had plummeted to about 1,700 and in March 2009, the workers were placed on indefinite layoff (Powell, 2009a). Dofasco contracted from about 12,700 workers in the 1980s to 6,500 as of 2009 (ArcelorMittal Dofasco, 2009). Ontario accounts for $9 billion annually in sales, 80% of Canadian steel production (Tmej, 2004, p. 3).

Although the number of steel jobs lost in Hamilton was not as large relative to Pittsburgh, the loss of thousands of steelmaking jobs has taken a huge toll on the city, its displaced workers and their families. Many have relocated or have taken on significant commutes to work outside the city. While several communities were amalgamated in 2001 to form the new city of Hamilton, the area encompassing the former city of Hamilton contracted slightly from 331,121 in 2001 to 329,820 as of 2006 (as cited in City of Hamilton, 2009b). Overall, the new amalgamated city has grown steadily, reaching a population of 504,559 in 2006. Outward commuting has increased substantially as more and more people travel outside the city to work (City of Hamilton, 2005b).

Far-reaching social and economic implications are often associated with even the most successful economic transitions. In particular, unskilled and semi-skilled blue collar workers have been affected by destabilized work structures resulting from industrial decline in North American communities (Bell, 1999; Livingstone, 2002a; 2002b; Rifkin, 2004; Sawchuk, Duarte,
& Elhammoumi, 2006; Winson & Leach, 2002). Laid-off blue collar workers experience challenges such as limited local employment prospects, especially for jobs at comparable levels of pay. Along with the outward migration of people, capital flight has left behind an albatross of industrial refuge with substantial environmental costs and damaging images of decline – brownfields, as they are so aptly described. Increases in human service expenditures have mounted as the effects of displacement have rippled through the communities, manifesting in personal bankruptcies, marital break ups, and physical and mental illness.

Today, a smaller number of firms control the lion’s share of the North American steel industry, and competition continues to intensify. As the biggest steel firms grow bigger, their market reach extends further into major markets around the world. Over the past decade, much consolidation has occurred among steel companies. In the United States, for example, ISG acquired LTV Steel, Acme Steel, Bethlehem Steel, and Weirton and Georgetown, constituting a $2.16 billion investment. U.S. Steel Corporation acquired National Steel for $1.05 billion (Considine, 2005). In Canada, India-based Essar Global Ltd. purchased Algoma Steel Inc. for $1.8 billion and Arcelor Mittall purchased Dofasco for an estimated $4.9 billion (Bobak, 2007). In 2007, U.S. Steel Corporation purchased Canada’s last large independent steel producer, Stelco, for $1.1 billion (Bobak, 2007). All three of Canada’s large integrated steel mills are now foreign-owned.

Across North America there has been a shift in the proportion of workers employed in the goods-producing sector relative to the service sector. At the beginning of the 20th century the majority of workers were employed in goods-producing industries such as manufacturing. Today, that situation is reversed with over 70% of North American workers employed in service jobs (Statistics Canada, 2009c; U.S. Bureau of Labor Statistics, 2008a). Losses in manufacturing have been particularly severe. Steel cities like Pittsburgh and Hamilton have experienced increased employment in service industries, with significant growth in managerial, professional and semi-professional occupations (See Table 15, p. 186 and Table 27, p. 209).

Policy makers at all levels of government generally advocate the emergence of a “knowledge-based economy” (OECD, 1996a), also referred to as the “new economy” (Beck, 1995), the “information economy” (Godin, 2003) or the “post-industrial” economy (Bell, 1999).
According to the Organization of Economic Co-operation and Development (OECD) (1996b), knowledge-based economies generally exhibit “growth in high-technology investments, high-technology industries, more highly-skilled labor and associated productivity gains” (p. 7). However, as Livingstone (2002a) suggests, the original advocates of a knowledge economy assumed a much greater centrality of these high-technology occupations. Bell (1999, p. xciv) proposes that the “post-industrial society” does not displace an industrial society, just as the industrial society did not displace agrarian sectors: “Like palimpsests, the new developments overlie the previous layers, erasing some features and thickening the texture of society as a whole.” Bell (1999, p. xciv) posits that, “Every society has always existed on the basis of knowledge, but only now has there been a change whereby the codification of theoretical knowledge and materials science becomes the basis of innovations in technology.”

Modern information and communications technology plays an important role in facilitating the creation and distribution of knowledge. The costs associated with accessing and transmitting knowledge across the world have declined substantially. With the proliferation of the Internet and the new era of open source, vast amounts of knowledge are free. Seccombe (Personal Communication, June 24, 2009) asserts, “This is genuinely new, without precedent in world history – the microchip, the net, google, and the social platforms, facebook, twitter and so on. You can be anywhere; hence, location doesn’t really matter for most knowledge work.”

Productivity improvement is another standard prescription for economic renewal. In the steel industry, the drive for productivity gains has manifested in the substitution of technology for labor, global consolidation, and relocation of investment to foreign countries with low cost labor (D’Costa, 1999). The Council on Competitiveness (2005) in the United States suggests that investment in knowledge creation, innovation and increased productivity is critical to the future prosperity of advanced nations. Canada’s Innovation Strategy (Government of Canada, 2002a) promotes the adoption of local strategies directed at increasing research and development activity among firms and advocates the need for highly skilled, well-educated workers to drive productivity and innovation across industries. Unfortunately, there is limited space in this “lean” solution for older dislocated workers who lack the ability to adjust to this restructured workplace. Livingstone and Scholz (2006, p. 20) suggest, “[a] large segment of the working population remains outside the boundaries of “knowledge work,” which continues to constitute less than a
quarter of all jobs [in Canada].” Other viable alternatives are necessary to diminish employment dislocation, including restructuring traditional industries, supporting labor force development and renewal programs, and creating new configurations of worker-owner relations.

One key factor that influences both production and transportation costs is rising oil prices. The rising costs of shipping heavy goods over long distances could alter the ‘globalization’ paradigm whereby the heavy goods industries such as steel would all migrate to new, fast-growing, cheap labor economies. As Seccombe (Personal Communication, June 24, 2009) suggests, “the new reality of high oil prices could potentially put a floor beneath the steel decline in North America.”

A principal challenge for cities striving to achieve economic diversification and community sustainability is to provide conditions that generate and support new industries and new employment opportunities. Cities can no longer assume the centrality of traditional, goods-related location factors in a service-based and increasingly knowledge-intensive economy. They must be attuned to critical factors that attract “new economy” investment. Another challenge is to create viable alternatives for restructuring traditional industries in ways that avoid worker dislocation and facilitate re-integration into the changing workplace. Successful economic transformation means that cities are able to support the employment needs of their full population base. To move forward successfully, leaders must assimilate the cultural historical remains of the city’s economic life.

**Research Questions**

As cities attempt to navigate their economic transformation from a dominant industry base to a more diversified, resilient economy, three primary questions arise in this challenge:

1. What are the critical factors impacting the economic trajectories of cities?

2. How do local agents of economic development drive these factors in the context of global economic forces?

3. How do the relationships among community leaders influence economic development and community resilience?
My research suggests that eight factors (inter-dependent variables) essential for successful economic development include:

1. transformational leadership,
2. strategic planning,
3. civic engagement,
4. education and research resources,
5. capital,
6. quality of life resources,
7. labor, and
8. infrastructure.

As drivers of transformation, leaders act upon the other factors. They utilize two key process factors, strategic planning and civic engagement. Central to these processes are the formal and informal community organizing practices and relationships among local economic actors.

Although additional factors may influence the trajectories of cities, modern, local economies require all eight essential elements. Dependent variables which measure economic development outcomes include employment, income levels and poverty rates among other measures. It is important to note that quality of life may be viewed as both an independent variable (for example, affordable housing may attract people and businesses) and a dependent variable (for example, the ability to afford a house may be an outcome associated with good employment opportunities). Local leaders act within the context of global forces, ranging from technological innovation to environmental regulations.
Purpose and Significance of Research

A substantial body of literature identifies key ingredients for successful economic development of cities; however, much of this research focuses on traditional factors of goods-producing economies. As well, what is often missing in the literature is an understanding of the interconnections among formal and informal leaders impacting the scope and direction of economic transformation and community prosperity. My research underscores the importance of these social relationships. It provides an original analysis of the lived experiences of community, business, and labor leaders in two North American steel cities. These leaders have been directly involved in navigating the transformation of their cities to more diversified, sustainable economies. They offer critical insights about the factors essential for transitioning to knowledge-based and other service-oriented economies. They share experiences about their involvements in formal and informal community organizations. Their accounts of failures and successes contribute a rich source of information about leading recovery efforts and sustaining communities. This comprehensive, primary research is enhanced by a review of the documentation of economic development strategies in Pittsburgh and Hamilton and statistical profiles of each city. The primary and secondary research, considered in relation to dominant theories of local economic development, leadership and community organization is set against a backdrop of globalization, technological innovation and demographic change.

This analysis of leadership perspectives forms the basis of two significant original contributions:

1. a **Community Economic Activity System** which is grounded in transformational leadership theory (Bass, 1985; MacGregor Burns, 1978, 2003) and which synthesizes the fundamental elements driving local economic transformation, and

2. an analysis of the lived experiences of community, business and labor leaders in Pittsburgh and Hamilton in shaping their cities’ trajectories.
Methodology:
Comparative Analysis of the Economic Transformation
of Pittsburgh and Hamilton

My research involves a comparative analysis of the economic trajectories of two “steel cities,” Pittsburgh, Pennsylvania, and Hamilton, Ontario. My methodology combines quantitative and qualitative analyses. The primary unit of analysis for this research is the city. Each city is supported by local economic activity. Many factors interact to influence the cities’ development trajectories. Each city can be viewed as a community economic activity system – a complex composite of elements that integrate across multiple dimensions. The interaction of local factors, global forces and relationships among leaders shape the economic trajectories of each city.

Economic activity crosses political and geographic boundaries. The research focus extends beyond the municipal boundaries of the two cities to encompass the regions surrounding them where steelmaking and related economic activity was highly concentrated. This city-region approach includes the city of Hamilton within the Regional Municipality of Hamilton Wentworth and the city of Pittsburgh within Allegheny County. In 2001, the six municipalities within Hamilton Wentworth, including Ancaster, Dundas, Flamborough, Glanbrook, Stoney Creek, and Hamilton amalgamated to form the new city of Hamilton. The former city was by far the largest of the six municipalities. The city of Pittsburgh forms the nucleus of the Allegheny County. The county has a total of 130 municipalities (Deitrick, Briem, & Williams Foster, 2005, p. ii), including many small steel communities such as Braddock, Clairton, Duchesne, Homestead, and McKeesport.

Pittsburgh and Hamilton were selected based on their similar historical industrial compositions. Once thriving steel capitals, both cities have directed substantial economic development efforts towards stimulating alternate growth activity in industries such as advanced manufacturing and professional service industries, especially health and education services.

The quantitative analysis measures and compares the employment decline in the steel industry in each city-region; the timing, pace and depth of the contraction. Secondly, it measures and compares the recovery: the timing, pace and extent of employment diversification; and the capacity of the cities’ economies to replace steel jobs lost with other jobs of comparable or
superior quality. An examination of documentary evidence includes economic development strategies and macro level data on the work and learning aspects of life in the two cities. For this research, successful economic development is measured based on the degree of economic diversification, new job creation, re-employment of displaced workers, commuting activity, population change, individual and family income levels, poverty levels and various other quality of life indicators.

The qualitative research applies the comparative method and elite interview process. Information was collected from local leaders who were identified as agents of economic transformation based on an initial six factors that were identified through a literature review as enablers of economic transformation. Two additional key factors were indicated by interviewees. The selection of interviewees was also informed by a pilot study undertaken in Welland, Ontario. Initially, the research plan included Welland as part of the comparative analysis. Limitations arose, however, relating to accessibility of comparable historical data for quantitative analysis, partly due to confidentiality constraints in data for smaller communities. Steelmaking was also more concentrated on the production of specialty steel products. The city served as an effective pilot for testing the selection of key informants and the interview guide. A total of 17 semi-structured interviews were conducted in Welland; then 19 leaders were identified in Pittsburgh and 19 in Hamilton. Highlights from the Welland interviews are included in Appendix B. In total, the study involved 55 interviews with local leaders from the three cities.

A thematic analysis for Pittsburgh and Hamilton was based on interviewees’ responses to questions relating to local economic development. This analysis validated the significance of the initial six factors and indicated two additional key factors influencing development. It pointed to the role of leadership as a central, integrative aspect that ignites and sustains activity relating to all of the eight factors studied. The elements of economic development are synthesized in a community economic activity system (CEAS). The system also encompasses contextual global forces of economic development, such as trade and environmental policies.

Specific issues such as environmental sustainability have increasingly become part of the policy framework for economic development in Pittsburgh and Hamilton. Initiatives such as brownfield redevelopments are important for these older cities. Downtown revitalization and
cultural developments such as film studios and museums have become important components of economic development strategies. Transportation services and infrastructure such as investment-ready land and highways also rank high on leaders’ priorities for development.

The actions undertaken by leaders of various cities are never exactly the same and therefore are not necessarily directly comparable. This study provides numerous examples of how leaders foster significant change in Pittsburgh and Hamilton through their relations with stakeholders involved with the key factors identified.

Input derived from the interviews serves as a basis for identifying and examining interconnections among community, business, and labor leaders participating in local economic development. Interconnectivity among community organizations is examined through interlocking Board memberships, strategic development initiatives, and partnership activities. This examination of leadership interaction contributes another important element to the CEAS in each city. This integrative concept of a community economic activity system is a qualitatively new approach to the study of local economic development.

Community, Business and Labor Leader Perspectives on Economic Development

My research examines the perspectives of local leaders involved in economic development activity. It seeks to gain insights from individuals and organizations charged with the task of navigating their city’s economic transition. Public and private sector leaders were selected for this study based on their roles in economic development identified through my literature review and my pilot study in Welland. The leaders represent various organizations involved in economic development and transformation processes, including political councils, public and private institutions, local businesses, labor organizations and non-profit agencies.

Limitations of the Study

My choice of local leaders includes key economic decision-makers and individuals and organizations with substantial resources and influence. It also limits my research to the perspectives of “local elites” (Molotch, 1976). The inclusion of several nonprofit agencies helps
to achieve perspectives from individuals who are directly connected to less privileged members of the community. The inclusion of labor leaders provides representation of workers. As well, broader perspectives from community members are drawn from local media coverage of economic development activity.

This comparative analysis includes only two cities. More extensive research including other cities or towns in North America or an international study involving cities from various countries around the world experiencing the decline of a major industry would provide a more thorough analysis from which generalizations could be drawn.

**Theoretical Framework for Leading Economic Transformation**

A substantial body of literature describes “new” economies that have undergone transformation from an industrial base. Dominant theories include the post-industrial society (Bell, 1999, Bluestone & Harrison, 1982); the knowledge-based economy (Cortada, 1998; Machlup, 1962; OECD, 1996b; Reich, 1992); the post capitalist society (Drucker, 1993); and informational capitalism (Castells, 1996). In this cluster of theories, I include human capital theory (Schulz, 1961; Becker, 1993) because of its strong influence on current public policy.

I also examine three dominant theories of economic development, including location theory; economic base theory; and cluster theory. The principles advanced by these theories strongly influence traditional approaches to local economic development. They are grounded in notions of agglomeration, capital accumulation, and cost minimization (Porter, 1998; Shaffer, Delier, & Marcouiller, 2006). Theories of cluster development (Porter, 1998) are especially popular among economic development leaders in Pittsburgh and Hamilton.

Neither Pittsburgh’s transition nor Hamilton’s is an obvious progression from an industrial to a post-industrial economy. Despite substantial decline in manufacturing, a concentration remains in both cities, especially in Hamilton. Nor have these cities clearly transformed to knowledge-based economies (or information economies), although some growth in high technology industries and other knowledge-intensive industries such as health care and education has occurred. Both cities have experienced significant growth in services, especially
nonprofit and public sector services. Both cities have a more diversified mix of employment industries relative to 30 or 40 years ago. However, no one theory accounts for the composite of economic activity that exists within these local economies. This research draws upon several theories of economic change.

Since 1970, much of the economic development activity has centered on business attraction, retention, and expansion, and related supporting activities within targeted industry clusters. Bradford (2002, p. 220) suggests that, “[t]raditional economic strategies based on low-cost, mass production of standardized goods or natural resource exploitation hold little promise for creating quality jobs and sustaining living standards.” Instead, productivity improvement and innovation strategies are positioned at the forefront of much of the current literature on local economic development. Recent strategies developed in Pittsburgh and Hamilton share these notions.

As my research progressed, one of the themes that became apparent was the central importance of leadership and social cohesion among city leaders, including traditional economic development organizations and “grassroots” organizations such as Community Development Corporations and coalitions of citizens interested in local issues. In this study, I explore ways in which leaders organize, pool resources, negotiate positions, and resolve inherent tensions that occur throughout the transformation process. The theories of leadership and community organization selected for this research include catalytic leadership (Luke, 1998), collaborative leadership (Crislip & Larson, 1994, Gray, 1989), and transformational leadership (Bass, 1985; MacGregor Burns, 1978; 2003), all of which focus on democratic processes. As well, three traditional leadership approaches include community power structure (Hunter, Schaffer, & Sheps, 1956; Hunter, 1963), growth machine theory (Molotch, 1976; Mollenkopf, 1983; Ferman, 1996) and urban regime theory (Stone, 1998, 2004, 2006).

As well, social capital theory addresses the interconnections between leaders and their organizations. Putnam (2000) popularized the concept of “social capital” to describe relationships that link individuals and organizations together to achieve benefits such as mutual cooperation and collective action. Much of the current literature on social capital suggests that local economies can be shaped by the nature and extent of social relations that occur within and
outside communities (Bourdieu, 2001; Coleman; 1988; Granovetter, 2005; Putnam, 2000; Woolcock & Narayan, 2000).

I propose that the elements examined in this study, including eight key local factors and additional global forces, combine to form a community economic activity system (CEAS). I also suggest that community and economic development is best achieved when transformational leadership is the core ingredient. My reading indicates that few studies have examined transformational leadership in the context of urban renewal (Rada, 1999) and economic development (Couto, 1978). Social capital also plays an important role in facilitating interaction among leaders. The selection of the constitutive elements of my CEAS model is grounded in the literature review and lived experiences of leaders in Pittsburgh and Hamilton.

Transformational leadership is the lever - the distinguishing factor that is essential for successful regeneration. Transformational leaders act intentionally, purposefully, inclusively, collaboratively, and enduringly through a process of co-development to drive qualitative change. Transformation is an organic process that involves building on existing strengths and bridging from old economy processes and technologies to systems of new economic activity. In the 20th century, industrial growth occurred with the deterioration of the natural environment. In order to achieve positive, sustainable, qualitative change, economic growth must occur concomitantly with social and environmental renewal. Transformational leaders create associations and structures and organize pooled resources to propel revitalization efforts. Decision making involves active civic engagement to achieve broader participation and ownership of problems and solutions. In this way, transformational leadership contributes to more holistic and integrative solutions than strategies created through fragmented leadership. MacGregor Burns (2003, p. 240) suggests that

In the broadest terms, transforming change flows not from the work of the “great man” who single-handedly makes history, but from the collective achievement of a “great people.” While leadership is necessary at every stage, beginning with the first spark that awakens people’s hopes, its vital role is to create and expand the opportunities that empower people to pursue happiness for themselves.
City leaders must take this challenge a step further to encourage not only individual benefit, but community well-being, which can be measured by such outcomes as reduced poverty and crime rates.

**Personal Interest in Community Leadership and Economic Development**

I grew up in an industrial town. An immigrant Irishman, my father had a strong work ethic and a commitment to family and community. The last time I saw my father, before he died of lung cancer, we danced at the local steelworkers’ hall in Sudbury, Ontario. It was a place where we had attended many functions, from Christmas parties to dances like this one. He pushed aside his walker and shuffled his way around the dance floor, smiling and singing. Surrounded by friends – his fellow workers and their families – he was at home here.

Like my father, I worked at INCO. It was my first job. Many of the people employed at the smelter also had relatives working there. This created an “extended family culture.” Company and community life were closely interwoven. When the lay-offs hit in the 1980s, many of us moved away, especially the younger workers. Leaving meant disconnecting from not only the work environment but from personal relationships as well – the fabric of everyday life.

For about 20 years, I worked in the field of economic development. I spent much of this time in the Niagara Region, an area that has experienced significant transformation from a predominantly manufacturing economy to a service-based economy. At Niagara College Innovation Centre, I focused on new business development. Later, I managed an international trade center and worked as an economic development consultant. In these capacities, I came to appreciate the challenges of industrial communities to achieve economic diversity, sustainability, and growth. I also experienced the challenges of fragmented leadership. Through informal networks with colleagues in Canada and the United States, I learned about various strategies and practices to develop local economies. I became especially interested in community leadership and the nature of relationships among local leaders involved in development processes. This research underscores the importance of economic development leadership and the organizational dynamics among local leaders. My interest in future research centers on examining multiple
perspectives of community leadership as well as the application of cultural historical activity
theory to community economic development.

Outline of Dissertation Chapters

Subsequent chapters for my dissertation are outlined here. Chapter Two presents a
literature review of theories of the new economy and theories of economic development. It
includes a distillation of factors critical for transforming local economies. One important reason
to identify and examine critical factors for successful economic development is to help economic
actors to understand where they can best focus their energies and resources to achieve progress.
Chapter Three focuses on leadership and community organization literature. This chapter
explores theories of leadership in relation to local economic development. It also encompasses
theories of community organizing and considers the role of social capital in community
leadership and organizing processes. Chapter Four provides an overview of the history of steel
work in North America, industry and corporate restructuring, labor process changes, and
implications for economic restructuring in steel communities. Chapter Five describes my
methodology, which involves both quantitative and qualitative analyses. The emphasis of my
research is qualitative and involves interviews conducted with corporate, community and labor
leaders in Pittsburgh and Hamilton, as well as pilot interviews conducted in Welland.
Perspectives of Welland leaders are provided in Appendix B. The Welland pilot was an
important process to validate the critical factors involved in economic development that were
drawn from the literature. It also informed the selection of interviewees in leadership positions
and organizations in Pittsburgh and Hamilton. Chapter Six provides a statistical analysis of the
changing nature of steel work. Chapter Seven provides a statistical profile of the local economies
of Pittsburgh and in Hamilton. Chapter Eight describes major strategies undertaken in Pittsburgh
and Hamilton to regenerate the city and regional economies. Chapter Nine provides an
introduction to city leaders in Pittsburgh and Hamilton and identifies relationships among
leaders, including interlocking Board memberships and strategic partnerships. This chapter
includes an examination of social relations and power dynamics among leaders. Chapters Ten
and Eleven present interviews with leaders in Pittsburgh and Hamilton respectively. Leaders’
experiences mediating critical local factors and global forces contribute to a community
economic activity system for each city, presented in Chapter Twelve. Here the elements are
combined to illustrate how local leaders organize and build relationships to influence the economic transformation of their cities. Chapter Thirteen provides a summary of research findings and directions for future research.
Chapter Two:  
Literature Review:  
Economic Development and the New Economy of Cities

Introduction

Fundamentally, economic development is a purposeful process which aims to improve the standard of living in a society. Local economic development involves organized efforts to build local institutional capacity and to develop policies that support the development and growth of cities (and city-regions). Researchers sometimes distinguish “community economic development” or “community development” from other forms economic development activity by the inclusion of community actors in directing local projects or championing a cause to which they are committed (Christenson & Robinson, 1989; Douglas, 1994). My research encompasses community economic development within the broader concept of economic development.

Local economic development encompasses a wide range of activities, for example investment attraction, downtown revitalization, brownfield development, and industry-specific initiatives such as the creation of a biotechnology research park. As well, it encompasses local infrastructure projects, including social housing developments, recreational parks, and community centers. Christenson and Robinson (1989, p. 209) argue that different leaders draw upon specialized skills, resources and networks to achieve development, which “underscores the need to expand the pool of potential leaders in order to ensure a sufficiently broad base of leadership skills available to the local community.”

Geography (or place) matters, partly because it defines the physical location in which economic activity and development resources are concentrated. Cities provide scope for examining patterns of interaction among agents of economic activity. The first section of this chapter explores concepts of economic development at the city level and focuses on the role of community leaders as agents of economic transformation. For the purpose of this research, the terms community and city are used interchangeably.

Park and Burgess (1967, p. 1) describe the city as
something more than a congeries of individual men and of social conveniences—streets, buildings, electric lights, tramways, and telephones, etc.: something more, also, than a mere constellation of institutions and administrative devices—courts, hospitals, schools, police, and civil functionaries of various sorts.

They view the city as “a state of mind, a body of customs and traditions, and of the organized attitudes and sentiments that inhere in these customs and are transmitted with this tradition.” Cities are complex systems, planned and organic, which serve vital functions. They are habitats, recreational centers, educational centers, and hubs of economic activity. Cities are the embodiment of what goes on there. They are shaped by the patterns of social relations among living agents who make it all happen.

Hillery (1955, p. 118) undertook an extensive review of 94 definitions of community. Sixty-nine of the definitions can be distilled into four main characteristics: they involve people, social interaction, a common attachment or psychological identification, and geographic place or territory, such as a city or neighborhood. Through their social interactions at work, home and play, people forge their identities and their views of the world.

The urbanization of the world’s population has occurred over centuries, but accelerated throughout the 20th century with the growth of industrial cities. In 2007, 81.3% of the North American population was living in urban areas compared with 63.9% in 1950 (United Nations, 2008, p. 7). Over the past few decades, the outward diffusion of population and manufacturing operations into suburban areas has posed significant challenges for industrial North American cities. Moreover, in recent decades, many North American cities have experienced substantial losses of manufacturing industries to other countries (Gertler, 2001; Mollenkopf, 1983). Cities have changed from centers of industrial activity to hubs of business services (Mollenkopf, 1983).

This chapter focuses on dominant economic development theories of the present epoch and seeks to identify and examine critical factors that influence emergent forms of economic activity and, in turn, the economic transformation of cities. This review includes theories from the early 1940s to the present, with emphasis on reigning paradigms and modern theories of economic development. Each theory is viewed in terms of its contribution to understanding how cities can effectively respond to changes taking place in their local economies and broader environments. The theories are organized into two sets: those conceptualizing the “new”
Nineteenth and 20th century scholars such as Marx, Weber, Durkheim, Schumpeter and Polanyi acknowledge economies as an integral part of society. Interconnections frequently exist between economic and social issues, giving rise to the field of “economic sociology” (Smelser & Swedberg, 1994, p. 4). Schumpeter (2005), a leading scholar in the field of economic development during of the first half of the twentieth century, proposed that

> [t]he social process is really one indivisible whole. Out of its great stream the classifying hand of the investigator artificially extracts economic facts” (p. 1)...The economic state of a people does not emerge simply from the preceding economic conditions, but only from the preceding total situation. (p. 58)

Schumpeter (2005, p. 66) identifies types of economic development processes which “propel the capitalist engine,” including the introduction of a new good or quality of good; the introduction of a new method of production or distribution, the opening of a new market, the conquest of a new supply source, and the restructuring of an industry. For Schumpeter (2005), these innovations are the essential transformative ingredients of capital - the means by which capital transforms itself from within through a process of “creative destruction” (Schumpeter, 1975, p. 83). According to Schumpeter (1975, p. 83),

> the history of the productive apparatus of a typical farm, from the beginnings of the rationalization of crop rotation, plowing and fattening to the mechanized thing of today – linking up with elevators and railroads – is a history of revolutions. So is the history of the productive apparatus of the iron and steel industry from the charcoal furnace to our own type of furnace, or the history of the apparatus of power production from the overshot water wheel to the modern power plant, or the history of transportation from the mailcoach to the airplane. The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation – if I may use that biological term – that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating the new one. This process of Creative Destruction is the essential fact about capitalism.
For Schumpeter (2005), economic development is internally generated and depends on the decisions and actions of many people acting within a community. He distinguishes quantitative growth such as population growth from qualitative development. Qualitative changes in capitalism fundamentally transform the nature of economic activity and labor processes required. The impacts of these changes extend from small retailers to global enterprises. Schumpeter (2005) also characterizes economic development as a discontinuous process. Developments do not occur in an even, linear progression. Obstructions and setbacks, some of which may be beyond local control, can render even relatively new developments obsolete or non-competitive, and co-developments may converge to impact economic activity. Qualitative changes result from developments such as transportation technologies and information and communications technologies, which have enabled the global integration of entire supply chains and markets for a vast array of products and services. Sophisticated networks of economic activity involve complex and dynamic relationships between individuals, firms, and governments. For example, nowhere is technological innovation more pervasive today than in the cultural industries, in which interactive technologies (Web 2.0) enable consumers to engage globally in online social networking, file-sharing, and user-led, collaborative content production—a powerful coalescence of economic and social interests.

Like Schumpeter, Jacobs (2001) suggests that development involves qualitative change, while expansion or growth entails quantitative change. Development and growth may operate together; for example, improving the quality of research capabilities at a local university may lead to new product developments and more spin off companies and employment opportunities. Jacobs (2001) also views development as a non-linear process. For Jacobs (2001, p. 19) economic life operates as “a web of interdependent co-developments,” analogous to an ecosystem. As products are being developed, so are new technologies for transporting them and communications systems for marketing them. Development requires supporting structures, from public transit systems to educational institutions, which improve quality of life. Jacobs (2001) cautions that a cause-and-effect exploration of interacting variables of economic development presents a formidable challenge: “The difficulty is that one variable may affect one or more of the other variables, which may then affect the others, including the variable at the start of the process, bewilderingly tangling causes and effects into complex webs” (p. 134). These reciprocal effects and multi-directional feedback loops are not always planned or predictable, and can lead
to unintended consequences that impact economic, social, and environmental wellbeing. For example, the construction of a new highway may carve a path out of the city instead of into it. There is, in any process as complex as the economic transformation of cities, multi-causality. All of the factors in play cannot be captured in a single model of change. Moreover, any one or more factors can play out differently in one city relative to another. No two cities are exactly the same, although they may have a great deal in common. Even when cities have similar leadership structures, the leaders themselves are different from one another. My research focuses on eight variables. Transformational leadership is the central driver, and strategic planning and civic engagement are principal process drivers. The remaining five variables are essential resources for the economic development toolkit: labor, capital, education and research, infrastructure, and quality of life resources (which are both inputs and outcomes of economic development).

Christenson and Robinson (1989, p. 9) distinguish three types of development: “development as improvement,” “development as growth” and “development as change.” In their view, improvement is directed at “social and psychological transformations of societies and communities.” An example is greater openness to population diversity. Growth focuses on “technological and economic transformation.” Growth may occur through market expansion, capital investment in business enterprises, increased productivity, and skills development. Change often involves societal norms. For example, as societies become more aware of and concerned about environmental issues, they are more likely to exert pressure on firms and governments to control or eliminate pollution and to recycle goods.

According to Douglas (1994) development may be either qualitative in nature as in the improvement of health care or quantitative in nature as in employment growth or new housing developments. However, Douglas (as cited in Douglas, 1994, p. 5) suggests that “growth may not be a necessary condition and is certainly not a sufficient condition for development.” Economic growth may occur, for example, from having more people living in a city, while per capita income actually declines for the city as a whole, or for large groups of constituents such as visible minorities, immigrants or individuals with low educational attainment.

Douglas (1994) suggests that a community needs to understand its past and recent development in order to gain a sense of where market forces and public policies will take it over
the next 5, 10, or even 25 years. For Douglas (1994, p. 243), a critical question is “[g]iven the most likely course of market forces and given the community’s present condition and its resources, what will it take to close the gap between where the community might go, and where it wants to go?” The challenge for community leaders is to ascertain what factors they can influence or control and to take action that balances urgent demands with the need for long-term economic structures. There is no simple formula for doing so.

The economies of cities are not passive consequences of forces acting within a free market system, as laissez-faire doctrine might suggest. Economic development requires agency (Christenson & Robinson, 1989; Douglas, 1994; Jacobs, 1993, 2001; Polanyi, 1957; Schumpeter, 2005). According to Polanyi (1957), a market economy assumes that the goal of people (and corporations) is to maximize their individual monetary gains. Polanyi (1957, p. 3) suggests that the idea of a self-regulating market is a “stark utopia” that ultimately will lead to “annihilating the human and natural substance of society”. He perceives key elements of the market - labor and land as “no other than the human beings themselves of which every society consists and the natural surroundings in which it exists” (p. 71).

For Polanyi, the major issue with a market system is the juxtaposition of economy over society: “[i]nstead of economy being embedded in social relations, social relations are embedded in the economic system” (p. 57). Rather, Polanyi posits that economic actions are actually embedded within social structures and that such actions become destructive when they are not politically controlled or governed in order to protect society from individuals acting out of self interest. Polanyi (1957, p. 46) argues that

the outstanding discovery of recent historical and anthropological research is that man’s economy as a rule is submerged in his social relationships. He does not act so as to safeguard his individual interests in the possession material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only in so far as they serve this end. (p. 46)

Polanyi (1957) proposes that two principles of behaviour (also referred to as forms of integration) work to stabilize the economy: reciprocity and redistribution. These principles apply to small primitive communities and large, wealthy empires. Reciprocity involves the give-and-take of goods and services among members of a society, for example among family members or
members of a neighbourhood community. Redistribution involves the allocation of goods and services through a central organization such as the state. In addition, goods and services are distributed through markets (or exchange). Polanyi suggests that economies involve a mix of all three forms of integration and the institutions through which they function. Significantly, it is the social configuration of institutions within societies that distinguishes them and determines the nature and success of their economic actions. Polanyi (1957, p. 250) maintains that “the congenital weakness of nineteenth century society was not that it was industrial but that it was a market society [author’s italics].”

Christenson and Robinson (1989) suggest that planned intervention finds its philosophical roots in the works of Smith, Weber, Marx, Durkheim, Toennies, and others. For Douglas (1994), economic development involves “purposeful intervention” (p. 3) aimed at social, environmental or economic transformation, or all three since these transformations frequently occur together. Consider, for example, Spencer Village, a retirement community constructed on a brownfield site in Hamilton. This development resolves a need for seniors’ housing, involves environmental remediation of a former steel foundry, and generates economic wealth for the developer and the community. The city’s Environmental Remediation and Site Enhancement (ERASE) program was established to provide support for this type of economic development (City of Hamilton, 2008).

Perlman and Gurin (1972, p. 49) describe planning as “a deliberate, rational process that involves the choice of actions that are calculated to achieve specified objectives at some future time” [authors’ italics]. Effective economic development strategies explicitly define actions to be taken in order to achieve and sustain improved economic conditions, timelines for implementation, and roles for the individuals or organizations responsible for them. Planning should be a continuous process – not an episodic event that occurs every 5 years or so. In some cities, it involves extensive community consultation or civic engagement. It often involves developing strategic linkages between internal and external resources necessary for improving the city’s economy. This has led many communities in recent decades to consider a broader “regional” approach to development through the establishment of regional development authorities (or alliances). Holbrook and Wolfe (2002) stress the importance of a regional mindset and policies and programs that encourage regional innovation and collaboration. They suggest
that economic development is concerned with an area’s unique local characteristics, including workforce skills and knowledge and research assets that support the development of regional innovation systems. Wolfe (2002) notes that cities and regions enable a concentration of knowledge and that proximity facilitates sharing of knowledge.

In addition to involving key stakeholders in strategic planning and development processes, the broader population within the community also needs to be informed and given the opportunity to provide input. Civic engagement recognizes the capacity of citizens to strengthen the quality and effectiveness of policy decisions. Unlike provincial, state and national governments, municipalities do not have an official, organized opposition, although major decisions are often subject to a vote by city council. Democracy in local economic development activity is achieved by engaging and valuing people who live and work in a community. Effective civic engagement in economic development hinges on the capacity of leaders to inspire and sustain trust and confidence, which is achieved in part by evaluating the inclusiveness of civic engagement efforts and the extent to which leaders actually take citizens’ views into account. Engagement may occur at an individual level, through local networks and through existing institutions.

Civic engagement is a way of building important social interconnections among individuals and groups within a community, which generate instrumental value (Charbonneau and Simard, 2005). The dynamic process of social interaction helps to create and strengthen trust. Instrumental value is derived through enhanced capacity to assemble and mobilize resources as a result of these established relationships. Civic engagement can take many forms. It involves civic leaders organizing and planning together; business leaders establishing associations or networks; citizens rallying collectively behind a common issue; and all of these groups collaborating in economic development. Charbonneau and Simard (2005, p. 163) emphasize the importance of “a strong sense of belonging that motivates the participants in these [civic] alliances, a precondition for the success of their actions”.

Phillips and Orsini (2002) suggest that civic engagement should be both interactive and iterative as opposed to one-way and episodic. It should be seen as an integral part of policy processes. According to Phillips and Orsini (2002, p. 3),
In recent years, a new term, citizen engagement, has entered the lexicon of ways to describe how citizens might be involved in policy processes. It is a self-conscious term and the shift in language is both intentional and meaningful. First, it is meant to be less state centered by embodying both government-and citizen-convened involvement processes. More importantly, it emphasizes the importance of genuine two-way dialogue among citizens, and between citizens and governments.

OECD (2001) identifies three levels of citizen involvement and influence on policy-making, including absorbing information, responding to consultation and active participation. Information generally entails a one-way relation in which leaders produce and deliver the content of communications. Information may be provided in press releases, annual reports or brochures. Citizen involvement is two-way in the sense that leaders expect citizens to absorb the information, understand it, interpret leaders’ actions on the basis of it and potentially change their own behaviors in light of it. Consultation involves two-way relations which invite citizens to provide input or feedback to leaders regarding policy proposals. Consultation with a broader group of community stakeholders is becoming more prevalent in the development of economic development strategies in North American cities, especially the use of on-line surveys and e-mail lists. Face-to-face consultations regarding economic development strategies often limit involvement to those citizens selected by leaders, and presume that the broader population of the city does not possess the interest or ability to contribute effectively. They also control the agenda. Active participation in economic development policy-making by citizens outside of a selected group of leaders is less common and generally requires skilled facilitation and increased commitment of time and other resources, but generates an increased level of participation and trust. OECD (2001, p. 1) suggests that strengthening relations with citizens is a sound investment in better policy-making and a core element of good governance. It allows government to tap new sources of policy-relevant ideas, information and resources when making decisions. Equally important, it contributes to building public trust in government, raising the quality of democracy and strengthening civic capacity.

According to Woolcock and Narayan (2000), economic growth can be shaped by the nature and the extent of social interactions that occur between communities and institutions within and outside the community. Likewise, a community that has forged strong linkages with government organizations is more likely to garner support, including funding for community
development projects and infrastructure initiatives. All levels of government play a critical role in community economic development. For example, they provide financial support to hospitals, colleges, universities, museums and community development corporations.

Bradford (2003) suggests that active engagement of community citizens provides an opportunity for building a “learning community” through shared ideas and experiences, and by strengthening the quality of interconnectivity among members. Engaged citizens are not only better informed, but because they actively participate in the development of policies or strategies, they are more likely to accept and support them.

Based on a literature review and case studies of 11 cities and regions in Canada, the U. S. and Europe, Bradford (2003, p. 9) identifies seven key ingredients that contribute to community-based innovation. They include “local champions who initiate the process and drive it forward…institutional intermediaries who help manage and sustain local partnerships…equitable participation within local partnerships and with associative governance…a civic culture of creativity…adequate financial and technical resources…accountability [and] assessing progress.” Bradford (2003) also observes that collaboration among many people and organizations is important for building local capacity for innovation. One of the case studies is Pittsburgh. Bradford (2003, p. 30) describes the city of Pittsburgh as “an exemplar of public-private partnerships directing development in the context of a highly-fragmented local political administration with weak capacity for strategic planning.”

Ongoing investment is essential to the economic development process. Even the best leaders require capital to mobilize their efforts. Capital investments in new enterprise development and growth, technology adoption and advancement, institutions of education, research and innovation, municipal infrastructure such as transportation and broadband networks all contribute substantially to the economic progress of cities and regions (Bradford, 2003; Porter, 1998; Holbrook & Wolfe, 2002). Recent approaches to economic development increasingly recognize the importance of investment to support intellectual, social, cultural and environmental infrastructure as well as physical infrastructure (Bradford, 2002, 2003; Gertler & Wolfe, 1998).
An important consideration for economic development organizations is, “What makes money flow?” Clearly, collaboration on strategies which help to bring together components of a fragmented community is helpful for instilling confidence and trust, and attracting investment. In this way, social relations serve as a powerful means for mobilizing economic capital, including funding from local and external governments and private investment from local and external sources.

A growing body of literature recognizes the importance of culture and creativity for spurring economic development by attracting firms and talented individuals (Florida, 2002; Landry, 2004). Quality of life is a multi-dimensional concept presented in the literature as both a means and a product of prosperous economies. Florida (2002, p. 15) argues that creative people have always gravitated to communities that provide “the stimulation, diversity and a richness of experiences that are the wellsprings of creativity.”

The cultural dimension of quality of life has received heightened attention in recent literature. Landry (2004) suggests that culture has moved to center stage in the economic development arena because cultural evolution shapes urban development: It strengthens social cohesion, affects openness to diversity, and helps to define local identity. Culture provides rich sources of entertainment, leisure activities and enriching experiences, ranging from performing arts to sports. According to Landry (2004, p. 7), “[c]ultural resources are the raw materials of the city and its value base; its assets replacing coal, steel or gold. Creativity is the method of exploiting these resources and helping them grow.”

The Federation of Canadian Municipalities (FCM) (2005) assesses quality of life based on measures such as availability of public transportation, the cost of quality housing, rates of home ownership, and access to affordable housing. As well, personal and commercial bankruptcy rates are among the indicators used to measure the economic dimension of quality of life. Factors such as educational attainment, opportunities for employment, income levels and poverty levels are also used to measure whether prosperity is shared equitably across all members of the community.

Attention to the environmental dimension of quality of life has also heightened in recent decades. According to The Conference Board of Canada (2007a, p. 49),
Public interest in the environment has been growing steadily during the past decade, vying with health as one of the top two priorities of Canadians, according to pollsters around the country. A Decima survey released in January 2007 showed Canadians put the environment at the top of the public policy agenda, ahead of health, while an Environics poll at the end of 2006 placed environment as the second priority, just after health. Either way, driven by concerns about climate change and its potential effects on our way of life, Canadians are looking for cleaner, healthier environments in which to live, work and play.

Mass pollution was a high price that accompanied mass production of steel. Dirty business leaves lasting impressions and those impressions impact communities’ ability to attract people and other businesses. In Pittsburgh, during the height of steel production, street lamps were lighted until mid morning and sometimes into the afternoon as black smog and grime permeated the city (Lorant, 1964). Similarly, Hamilton continues to be plagued with perceptions of a polluted steel city. Two large integrated steel mills continue to pump billows of grey smoke into the city sky. A study initiated by a community-based group in Hamilton, the Hamilton-Wentworth Air Quality Initiative (HAQI, 1997) identified that air quality continues to be perceived as a serious problem. Given the importance of a clean environment for quality of life, branding will not wash over these issues.

In all its dimensions – cultural, economic, social and environmental, quality of life represents those things which people value most and strive to achieve, for example, health, safety, security, equity, justice, social cohesion, education, and prosperity. These are the aspects of life that provide personal enjoyment and fulfillment.

Scholars of economic development generally agree that there is no “magic bullet” or “cookie cutter approach” for developing the economies of cities; however, some common principles may apply (Bradford, 2003, p. 9). Leadership, collaboration, sustained energy and commitment are required. Development should correspond to the needs of the people within the whole community. Influencing the attitudes of people and finding ways to motivate them may be as important as changing material circumstances (MacGregor Burns, 1978). This is especially challenging for cities like Hamilton and Pittsburgh which are characterized by a long period of dependence on a dominant industry. In such communities, traditions of work are historically and culturally embedded.
In addition to internal factors, external forces can significantly impact growth trajectories. Frequently, changes in socio-economic life are spurred by technological innovations and global market conditions. For example, minimills that recycle scrap metal have transformed the global steel industry by removing the substantial entry barriers that exist for integrated mills, huge capital start-up costs in particular. Labor processes in minimills are highly mechanized and automated. Therefore, these investments generate far fewer jobs relative to those lost with the closing of an integrated steel mill. At the same time, government interventions in other countries may impact global industries such as steel. Considine (2005, p. vi) notes that

[while prospects are bright for North American steel, the industry remains vulnerable to non-market interventions in world steel markets. Many governments around the world are subsidizing a significant expansion of world steel production capacity of nearly 25% over the next five years.]

To synthesize the concepts presented here, the economic development of cities generally occurs intentionally, purposefully and continuously. Cities are products of history, in particular the history of economic development. They are continuously transforming, some rapidly, others more gradually. Development is influenced by a multitude of factors and actors, not solely economic in nature, which intersect to create a composite effect. Substantial interdependencies exist between social, cultural, environmental and economic investments. Many transformational ingredients are essential, beginning with leadership. The capacity of community leaders to organize effectively to propel local trajectories is critical, especially for initiatives requiring long-term commitment, substantial resources, and innovative approaches. Community capacity building involves the ability to mediate factors that are potentially beyond local control (for example, trade regulations that impact the location of production).

**Theories of the New Knowledge-Based Economy**

An important question facing communities is how best to create the conditions necessary to achieve sustainable economic development—to strengthen, diversify, or expand economic activity and improve living standards among community members. A substantial body of literature describes how global, national and local economies have transformed into something “new.” Dominant theories suggest that advanced, industrial economies are transforming into knowledge-based economies. This literature review presents a range of theories that address such
transformations, including the post-industrial society (Bell, 1999; Bluestone & Harrison, 1982), the knowledge-based economy (Cortada, 1998; Machlup, 1962; OECD, 1996b; Reich, 1992); the post-capitalist society (Drucker, 1993); and informational capitalism (Castells, 1996). Along with this growing focus on knowledge-based economies, much of the recent economic development literature includes human capital theory (Schulz, 1961; Becker, 1993).

**The Post-Industrial Society**

Bell’s (1999, p. 116) seminal work, *The Post Industrial Society*, proposes that societies may be divided into three categories: “pre-industrial, industrial, and post-industrial.” A pre-industrial society draws its resources from extraction industries such as agriculture and fishing. It is characterized by unskilled work and low productivity. In an industrial society, the natural environment is transformed into a technical environment for the production of goods through the use of machinery, energy and semi-skilled workers. Bell (1999, p. 117) suggests that “[i]n the 19th and early 20th centuries, the strength of nations was their *industrial* capacity, the chief index of which was steel production.” Industrial society focuses on problems of capital: “how to institutionalize a process of creating sufficient savings and the conversion of these monies into investment areas” (p. 116). Primary institutions include equity markets and banks. Technology is central to increasing productivity and management control over work processes. In an industrial society, conflicts between employer and worker emerge as a major social problem.

A post-industrial society is based on information. The primary institution is a university or research institute where science is carried out by professional and technical workers and scientists. The strength of nations is measured by their scientific capacity, including their capacity to innovate and increase productivity (Bell, 1999). Bell (1999, p. 14) identifies five dimensions of the post-industrial society: the shift from mass-produced goods towards information and services; the rise of professional and technical occupations; the future orientation of technology, that is, its application to forecasting; the creation of new intellectual technology; and the centrality of theoretical knowledge as the source of innovation and policy formation for society. This latter point is pivotal to Bell’s theory. Bell (1999, p. xciv) suggests that “[e]very society has always existed on the basis of knowledge, but only now has there been a change, whereby the codification of theoretical knowledge and materials science becomes the basis of innovations in technology.” The use of theoretical knowledge to direct innovation gives
rise to new social structures and economic relationships. Commercialization, for example, often depends on the interplay between theoretical breakthroughs and practical application. The introduction of minimills led to new location choices for steel mills, different inputs such as scrap metal, more computer-controlled work processes, and different skill requirements relative to integrated mills. All of these changes impact social and economic structures of older industrial cities where employees are dislocated. They also impact new industrial locations where economic growth occurs.

The shift in mass-produced goods towards information and services is evident in both the United States and Canadian national economies, and in most cities in North America. In the early 1900s, 7 out of every 10 workers in the United States were engaged in the production of goods; however, by 1980, close to 7 out of every 10 were engaged in service work (Bell, 1999, p. 129). Subsequent to 1920, industrial employment continued to increase, but its share of total employment declined relative to employment in services. By the late 1950s, the goods-producing sector provided less than 42% of all jobs in the United States, and at the time of his writing in the early 1970s, Bell projected further decline to 31.7% by 1980 (U.S. Bureau of Labor Statistics cited in Bell, 1999, p. 132). His foresight was prescient. Bell (1999, p. 131) notes that structural changes to employment have also included the rise of the public sector, with government being the most substantial growth area since 1947, especially state and local government. Bell (1999, p. 133) concludes that, “if an industrial society is defined as a goods-producing society – if manufacture is central in shaping the character of its labor force – then the United States is no longer an industrial society.”

Similarly, in 1901, 7 out of 10 workers in Canada were engaged in goods-producing industries, with 40.2% of workers engaged in agriculture, 12.0% in building trades, 1.5% in fishing and hunting; 0.9% in forestry; 15.4% in manufactures, and 1.6% in mining (Canada Year Book, 1920, p. 524). Following the early 1900s, industrial employment grew significantly. It peaked at 26.5% of total employment in 1949 (Canada Year Book, 1962, p. 711) and remained between 25.3% and 26.5% throughout the 1950s. By 1959, the number of jobs in the goods producing sector overall, including agriculture (11.8%), other primary industries (3.4%), manufacturing (25.5%), and construction (7.5%), accounted for only 48.2% of the employed labor force (Canada Year Book, 1965, p. 724). By the 1980s, 7 out of 10 workers were employed
in service industries. In 2007, 76.3% of all workers were employed in services (Statistics Canada, 2009c, p. 38). As in the United States, overall in Canada a substantial rise in public sector employment and a huge drop in agricultural employment occurred. During the 1980s and 1990s, overall employment in manufacturing fluctuated nominally, although some manufacturing industries such as primary metal experienced significant decline. In the new millennium, however, manufacturing in both Canada and the U.S. has fallen. Moreover, the Conference Board of Canada (2008) reports that “newly emerging economic powers are taking over a growing share of the world’s high-and medium-technology manufacturing”.

The nature of work in terms of occupations has also shifted. Bell (1999) notes significant growth in professional and technical occupations such as teachers, professional health workers, scientists and engineers, and engineering and science technicians. In 1900, white-collar workers in the United States, including professional and technical, managers, officials and proprietors, clerical and kindred, and sales workers accounted for 17.6% of workers (p. 134). By 1974, these white-collar occupations accounted for 48.6% of workers (p. 135). Bell (1999) suggests that the shift towards white-collar employment is largely due to technological developments such as computers and automation, as well as advances in productivity. According to Bell (1999), technology has been the chief engine for raising the standard of living around the world by enabling the production of more goods at less cost. Bell (1999) also observes that conditions of work, including the control of pacing, and the assignments and the design and layout of work are still outside the control of the worker, although workers often contribute to process improvement through the practical knowledge they develop through experience. Bell (1999) suggests that technology has created a new class of workers (especially engineers and technicians) involved in planning and forecasting work. Technology has increased focus on cost efficiency and productivity. In particular, transportation and communication technologies are creating new economic interdependencies and social interactions.

These changes are clearly evident in the shifts in the production of steel globally. Transportation technology is one of the key factors, for instance, that enabled Japan to become more competitive as a steel producer. Continuous casting technology substantially increased productivity in steel mills around the world. Minimill technology reduced barriers to entry into the steel industry. They require far less capital investment than large integrated mills. Together
transportation and communication technologies have greatly influenced the global integration of industries.

Bell (1999) identifies several demographic trends, including higher levels of formal education among workers in the labor force, with a much larger proportion attending and completing high school and post-secondary education, and increasing numbers of women working in paid employment. Bell (1999) projects that the major problem for the post-industrial society will be insufficient numbers of skilled and professional workers, especially in science-based industries such as engineering and in social disciplines such as education.

Bluestone and Harrison (1982) concur that de-industrialization is occurring on a massive scale in the United States. Plant closing and declining manufacturing employment are key indicators of this transformation. In the United States, between 1969 and 1976 private investment in new plants created about 25 million jobs. However, by 1976 plant closings and out-migrations (plants that close in one area and reopen elsewhere) had wiped out 39% (22 million) of the jobs that had existed in 1969 (p. 29). From 1969 to 1976, with variations by region and industrial sector, between 15% and 35% of establishments with 500 employees or more closed their doors, with manufacturing plants most dramatically affected (p. 32). In 1979, for example, on Thanksgiving Day, U.S. Steel Corporation announced it was closing 14 plants and mills, and laying off 13,000 employees (p. 36). During the 1980s, the collapse of the steel industry in North American cities such as Buffalo, Gary, Chicago, and Pittsburgh wiped out hundreds of thousands of high-paying manufacturing jobs. Likewise, the downturn in the automotive industry in the early 1980s resulted in substantial job losses among domestic automobile and parts manufacturers (p. 36). This downward trend in North American manufacturing employment continued through the 1990s, into the 21st century, and persists today as massive lay-offs in the automotive sector are currently taking place.

Based on an 11-industry study, Jacobson, Holen et al. (as cited in Jacobson, Lalonde, & Sullivan, 1993, p. 17) found that the loss of earnings among displaced workers varied substantially across industries, but losses were especially large for steel and automotive workers. The estimated loss of earnings for displaced prime-age male steel workers was 43.6% during the first 2 years following their layoff and 12.6% for the subsequent 4 years. The estimated loss of
earnings for displaced prime-age male automotive workers was 43.4% in the first 2 years and averaged 15.6% in the subsequent 4 years. In about half of the overall cases studied, losses became negligible or even became gains in the long term (p. 16). Jacobson, Lalonde et al. (1993) suggest that displaced workers from a wide range of industries incur large, persistent losses after displacement resulting from downsizing and plant closures. They argue that policies such as trade liberalization may bring net benefits to society that are “divided among the many,” but “the costs are borne mainly by the relatively few who lose their jobs” (p. 169).

Zimmerman and Beal (2002, p. 17) report that in 1999, manufacturing workers in the U.S. received average pay of $37,485, while retail workers earned $19,448. Of the 21 major industries comprising the U.S. manufacturing economy, just four—machinery, transportation equipment, computers and fabricated metal products—accounted for nearly half of the nation’s industrial payroll (p. 17). The loss of well-paying manufacturing jobs impacts individuals and communities significantly. Plant closures, workplace downsizing, and production off-shoring to low-wage countries have devastating results for displaced workers, families and communities. The loss of manufacturing jobs creates a ripple effect, leading to job losses in other sectors of the economy. Lost wages result in reduced purchases of goods and services such as food and retail. Declining tax bases challenge the capacity of municipalities to support social programs, public services and infrastructure needs.

The period of decline of major North American industries such as steel and automotive has also been described as post-Fordism (Amin, 1994). At their peak, large industrial plants like U.S. Steel’s Homestead Works employed over 30,000 workers (Lorant, 1964, p. 210) and the Ford automotive factory in Detroit employed over 40,000 workers on one site (Webster, 2006, p. 65).

Post-industrial theory does not account for investment growth in education in countries such as China and India where hundreds of thousands of engineers graduate annually. It does not account for the increased mobility of capital and workers throughout the world. Further, it does not account for the impact of trade liberalization and globally integrated production systems. Today, with the globalization of markets and production, steel and automotive manufacturing, like a growing volume of other industrial work, has been distributed in plants around the world,
especially in countries with low-cost labor. Giant multinational corporations such as ArcelorMittal hold the lion’s share of capital’s wealth. Just as they did in North America, steel and automotive manufacturing underpin the industrial development of countries like China, Korea and India. *Industrialism hasn’t disappeared; it has found a new home.*

**The Knowledge Economy**

In developed nations, policy makers at all levels of government advocate the emergence of a “new,” “knowledge-based economy” (Organisation for Economic Co-operation and Development (OECD), 1996b). According to OECD (1996b, p. 7), knowledge-based economies are “directly based on the production, distribution and use of knowledge and information” and exhibit growth trends in “high-technology investments, high-technology industries, more highly-skilled labor and associated productivity gains.” Concepts such as “knowledge economy,” “post capitalist economy” (Drucker, 1993) and “informational capitalism” (Castells, 1996) all point to a fundamental change in the nature of work and the rise of the knowledge worker.

As early as the 1940s, Hayek argued that “the economic problem of society is not merely a problem of how to allocate given resources….It is a problem of the utilization of knowledge not given to anyone in its totality” (Hayek as cited in Amin & Cohendet, 2004). The term “knowledge worker” was first coined by Machlup in the 1950s and popularized by Drucker in the 1960s (Cortada, 1998). Knowledge workers are generally portrayed as highly-educated and creative, self-directed and autonomous. While knowledge work is not new, popular concepts of knowledge work have generally been associated with information and technology (Drucker, 1993, Machlup, 1962; OECD, 1996a; 1996b).

Machlup (1962) contends that, increasingly, everyone is becoming a knowledge worker as the amount of information and skill required to perform work steadily rises. Based on an analysis of occupations in the U.S., Machlup (1962, p. 87) suggests that the notion of an information society has been emerging since the end of World War II, and notes a trend in employment patterns “from manual to mental, and from less to more highly trained labor.” Between 1900 and 1959, the number of white-collar workers in the American labor force increased from 5 million to 27 million (p. 73). In this category of white-collar worker, Machlup groups professional; technical-managers, officials and proprietors (except farm); clerical workers
and sales workers. A second group, classified as manual and service workers, consisting of craftsmen, foremen, operatives, private household workers, service workers (except household) and laborers, increased from 13 million to 31 million, while farm workers decreased from 11 million to 6 million (Machlup, 1962, p. 73). Based on these groupings, Machlup (1962, p. 73) argues that, as a percentage of the total labor force, white-collar workers increased from 17.6% in 1900 to 42.1% in 1959, while all manual laborers including industrial and agricultural decreased from 82.4% to 57.9% in that time period. Among the white-collar workers, Machlup (1962, p. 75) estimates that workers in “knowledge-producing” occupations, which he further categorizes as “transporters, transformers, processors, interpreters, analyzers, and original creators of communications of all sorts” increased from 10.7% of the labor force in 1900 to 31.6% in 1959.

One advantage of this occupational approach is that it considers the nature of work performed by individuals versus industries. Another is that it captures knowledge-producing occupations within manufacturing and other industries. However, Webster (2006) notes that a difficulty with an occupational approach to analysis is the wide variations over time in occupational definitions and systems of categorization. For example, with the increase in multi-disciplinary functions such as multi-crafts, and an increase in the number of small businesses that require multi-functional entrepreneurs who perform many “jobs,” the distinctions between “white” and “blue” are blurring.

Reich (1992) examines knowledge-producing occupations, using a different set of criteria for categorizing workers. For Reich (1992), traditional job categories such as managerial, secretarial and sales are no longer useful for organizing modern work. Reich (1992, p. 180) describes three functional categories of work, routine production services, in-person services and symbolic-analysts, which combined represent at least three quarters of all jobs in America. Routine production services typically involve repetitive tasks, standard procedures, simple computations, codified rules, and group work. These jobs include traditional blue-collar work and routine supervisory work in many industries, including high technology. By 1990, routine production services comprised about one-quarter of the jobs performed by Americans (Reich, 1992, p. 175). According to Reich (1992, p. 175),
contrary to prophets of the “information age” who buoyantly predicted an
abundance of high-paying jobs even for people with the most basic of skills, the
sobering truth is that many information-processing jobs fit easily into this
category. The foot soldiers of the information economy are hordes of data
processors stationed in “back offices” at computer terminals linked to world-wide
information banks.

In-person services also entail simple and repetitive tasks requiring at most a high school
education. This work is distinguished from routine production services by the need for person-to-
person interaction. By 1990, these occupations (including retail clerk, waitress, hospital
attendant, security guard and others) accounted for about 30% of American jobs. In the 1980s in
the United States, well over 3 million new in-person service jobs were created in fast-food
outlets, bars, and restaurants, “more than the total number of routine production jobs still
existing in America by the end of the decade in the automobile, steelmaking and textile
industries combined” (Reich, 1992, p. 177).

Reich (1992, p. 177) describes symbolic-analytic services as work that involves
“problem-solving, problem-identifying and strategic-brokering” activities. Symbolic analysts
solve, identify and broker problems by manipulating symbols using analytical tools such as
mathematical or scientific principles and psychological insights. Their work (and their income) is
based largely on quality and originality, and to some extent speed or productivity. This category
of workers includes scientists, engineers, planners, investment bankers, architects, lawyers,
university professors and others. Generally, they are highly mobile, so their services are often
traded globally. They are highly educated and often work autonomously. Reich (1992, p. 182)
suggests that what distinguishes these workers in terms of value is their “capacity to effectively
and creatively use knowledge.” Symbolic analysts account for 20% of jobs. Overall, they have
increased in number since the 1950s, but the pace of growth for this category is slowing.
According to Reich, once the majority of workers in industries or occupations can be classified
as knowledge workers or information workers, society will be transformed.

The majority of workers are not knowledge or information workers based on Reich’s
definitions – not from a global perspective. Through the late 1990s, the industrialized world
experienced substantial growth in the high-tech sector (defined as computer and
telecommunications (CT) industries); then in 2001, the “new economy” experienced a meltdown
(Frenette, 2007 p. 25). In Canada, in 2000, for example, the high-tech sector accounted for 4.6% of the Canadian workforce. Average high-tech earnings in Ottawa-Gatineau, Canada’s advanced technology capital, were $78,000 (in constant 2003 dollars) in 2001, substantially higher than for the rest of the country (Frenette, 2007, p. 7). However, within high-tech service industries that include workers that Reich (1992) describes as “symbolic analysts,” the permanent layoff rate almost doubled from 2.2% in 2000 to 4.2% in 2001. The permanent layoff rate in the high-tech manufacturing sector in Canada more than quadrupled, from 1.9% in 2000 to 7.7% in 2001 (Morisette, as cited in Frenette, 2007, p. 13). Canada’s high-tech sector has since experienced a rebound, with employment in Information and Communications Technology (ICT) industries reaching 592,636 in 2007 (Industry Canada, 2007b). Based on an occupational analysis of information technology jobs across all sectors of the economy, employment hit a similar level of almost 600,000 in 2006 (O’Grady, 2006, p. 2). Employment within the ICT sector as a percentage of Canadian employment is 3.5%, just slightly up from 3.2% a decade ago (Industry Canada, 2007a). Similarly, there has been growth in information technology employment across sectors. While there is clearly growth in such industries in Canada, they represent a relatively small proportion of the overall economy.

The “high tech bubble” also occurred in the United States and the rest of the developed world. A study by Srivastava and Theodore (2004, p. 4) found that unemployment rates for Information Technology (IT) jobs in the United States peaked at 5.7% in 2002. They include software publishers, ISPs, Web search portals and data processing, and computer systems design and related services in their study. Metropolitan areas considered to be major IT hubs experienced huge losses in IT industry employment (Srivastava & Theodore, 2004, p. 2). The American Electronics Association (2003, November 19), the largest high tech trade association in the United States, suggests that high-tech losses reached 540,000 in the U.S. in 2002 alone, with half of the loss attributed to electronics manufacturing jobs. Despite the more recent technology rebound in the U.S. (American Electronics Association, 2006, 2007), the new economy bust has presented some cause (and some pause) for speculation.

**The Post-Capitalist Society**

Drucker (1993, p. 7) suggests that capitalism has occurred throughout the ages, and has been the dominant economic and social reality from the second half of the eighteenth century
until just after World War II when the “post-capitalist society” began. A hallmark of this new society is the shift in basic economic resources from capital to knowledge. For Drucker (1993, p. 8) “[v]alue is now created by ‘productivity’ and ‘innovation,’” both applications of knowledge to work. Drucker (1993) credits Fredrick Taylor for inspiring the “productivity revolution” (p. 32), in the latter part of the 19th century with his exercises in “scientific management” (p. 35). Taylor’s scientific management, also referred to as “taylorism” focused on breaking down jobs into individual tasks, and dividing labor according to those tasks in order to speed up work processes. Taylorism sparked significant controversy among workers and their unions because of its consequent de-skilling of workers and dehumanization of the workplace. The dehumanizing effects were twofold. Increasingly machines replaced workers, especially for routine jobs, and increasingly the division of labor into simplified tasks caused work to become repetitive, monotonous, and unfulfilling.

Drucker (1993, p. 72) points to the transformation of steel work as an example of the transformation of manual labor processes to knowledge work. In 1980, United States Steel Corporation employed 120,000 people in steel production. In 1990, the company employed less than 20,000 in steel production, yet produced almost as much steel tonnage. Aside from mill closures and investment in new technologies, according to Drucker (1993), the increase in productivity was largely due to re-engineering work flow and tasks which enabled U.S. Steel’s best integrated mills to become the most productive in the world. Even greater productivity improvements were achieved with minimills, which are three to four times as productive as the most productive integrated mills. Drucker (1993, p. 73) asserts,

[it] is not the process that is the main difference between the integrated steel mill and the mini-mill. Workers in the mini-mill are not blue-collar workers making and moving things; they are knowledge workers. The mini-mill changes steelmaking from applying muscle and skill to work to applying knowledge to work: knowledge of the process; of chemistry; of metallurgy; of computer operations. The workers whom U.S. Steel laid off need not apply at the mini-mill.

Evidence suggests, however, that a key factor driving employment practices in new minimills was companies’ interest in escaping union representation. Arthur (1999) notes that new minimills in the U.S. tend to be located in rural areas, characterized as low union-density. For example, LTV, the first large American steel producer to switch to minimills from integrated
plants, located its new nonunion minimill in Alabama, in “the heart of right-to-work country” (Holusha, 1995). LTV, British Steel and Sumitomo Metals entered into a joint venture to create Trico. According to Arthur (1999, p. 33), “[f]orty of the 175 new hires have four-year college degrees and another 135 have two-year degrees. Only two, however, had ever seen steel made before being hired.” Apparently Trico did not recognize the value of experiential knowledge, or consider steelworkers’ knowledge relevant.

**Informational Capitalism**

Castells (1996) proposes that a new global information age has emerged in the last two decades underpinned by the development of information technology networks that link people together. According to Castells (1996, p. 18),

> the most decisive historical factor accelerating, channeling and shaping the information technology paradigm and inducing its associated social forms was/is the process of capitalist restructuring undertaken since the 1980s, so that the new techno-economic system can be adequately characterized as informational capitalism.

Castells (1996) includes microelectronics, computing, telecommunications, optoelectronics as well as genetic engineering in his definition of information technology. He argues that reforms are aimed at increasing the productivity of both capital and labor and globalizing production and markets. Investment in technology, however, can only pay off if workers have the training and skills to operate the new machinery and equipment effectively and only if the firms making such investments position themselves in the market and pursue contracts that allow them to exploit their productive people and equipment.

According to Castells (1996, p. 80), the way in which a society increases productivity defines its economic system and technology is the major “productivity-inducing factor.” Information technology serves as a means to expand capitalism to achieve a global reach and intensify competition among nations. Castells (1996, p. 32) suggests that the information technology revolution is characterized by the “application of knowledge and information to knowledge generation and information processing/communication devices, in a cumulative feedback loop,” in other words, the convergence between development and application. Users may become part of the development process. Examples of such convergence are Linux, an open
source operating system and Wikipedia, an open source, online encyclopedia, which millions of users contribute to. Wikipedia can be edited by anyone with access to the Internet. The Internet, itself, spawned industries related to the provision of connectivity, then enhanced networking capacity and speed, followed by applications that utilize the technology backbone.

Integrative trends can also be seen in the growth of global value networks that entail integrated business processes and knowledge exchange. Allee (as cited in CONNECTUS Consulting, 2007, p. 8) defines value networks as “any web of relationships that generates both tangible and intangible value through complex dynamic exchanges between two or more individuals, groups or organizations.” Information systems have enabled the internationalization of production and trade and the global integration of financial markets. In a globally-integrated economy, productivity is an important driver influencing comparative advantage, and thus, business location. Foreign direct investment (FDI) is also a critical driver, providing access to technology, knowledge and capital. Increasingly, FDI and business relocation follow the trail of supply of workers and availability of education and training capacity. Castell (1996, p. 58) suggests that

the metropolitan character of most sites of the Information Technology Revolution around the world seems to indicate that the critical ingredient in its development is not the newness of the institutional and cultural setting, but its ability to generate synergy on the basis of knowledge and information, directly related to industrial production and commercial applications. The cultural and business strength of the metropolis (old or new – after all, the San Francisco Bay Area is a metropolis of about 6 million people) makes it the privileged environment of this new technological revolution, actually demystifying the notion of placelessness of innovation in the information age.

Human Capital Theory

Throughout the past half century, human capital has gained substantial recognition as a critical factor contributing to economic growth. The pioneering work of Schulz (1961) emphasizes that investment in knowledge and skills is a form of capital and that its growth “may be the most distinctive feature of the economic system” (p. 1). Schulz (1961) argues that both the magnitude and the rate of increase in the stock of education in the labor force have been important factors in economic growth. Schulz (1961) suggests that several important activities improve human capabilities including on-the-job training, formally-organized education,
extension programs, health care services and migration of people in response to employment opportunities. Schulz (1961) cautions that when human capital becomes idle, it deteriorates. Long-term private and public loans to students and tax reforms are among the strategies suggested by Schulz for improving the stock of human capital.

Kerr, Dunlop, Harbison, & Myers (1964) suggest that a skilled workforce is not a condition arising only recently from a new economic base; rather, it has always been essential for industrialization. For Kerr et al., the process of industrialization develops and even depends upon “a concentrated, disciplined industrial work force with new skills and a wide variety of skills, with high skill levels and constantly changing skill requirements” (p. 17). Within industries such as steel, often specialized skills are acquired informally through an exchange of knowledge among workers as opposed to formal education.

Becker (1993) attributes the economic growth of the United States, Japan and many European countries to the expansion of scientific and technical knowledge and its contribution to productivity growth. Becker suggests that

the systematic application of scientific knowledge to production of goods has greatly increased the value of education, technical schooling, and on-the-job training as the growth of knowledge has become embodied in people – in scientists, scholars, technicians, managers, and other contributors to output. (p. 24)

Denison (as cited in Becker, 1993, p. 24) suggests that the increase in schooling of the average worker in the United States between 1929 and 1982 explains about 25% of the rise in per capita income during that period.

Human capital theory has largely influenced government policy in advanced nations in recent decades. Canada’s Innovation Strategy, for example, places the development of knowledge and skills at the top of the priority list for improving national competitiveness. Much of the recent economic development literature includes “human capital” or “talent” as primary assets for attracting businesses (Becker, 1993; OECD, 1996a; Florida 2002). Increasingly, highly-educated labor forces have been added to the economic development toolkit.
Formal education is seen as the major source for developing knowledge and skills to enhance productive performance of work. Studies of human capital generally use measures of formal educational attainment and adult literacy to estimate economic returns for individuals and economies (Becker, 1993; Denison, as cited in Becker, 1993; Coulombe & Tremblay, 2006; OECD, 1996a, 1996b, 1998, 2007). In most OECD countries, employment rates rise with educational attainment, earnings increase, and higher educated individuals experience greater employment stability than lower educated individuals (OECD, 2007). In all countries, females overall earn less than males with similar levels of educational attainment. Females earn between 50 and 80% of what males earn (OECD, 2007, p. 141). Employment patterns are attributed to several factors:

This is principally due to the larger investment in human capital made by higher-educated individuals and the need for these individuals to recoup this investment. However, between countries variation in employment rates often reflect cultural differences and, most notably, differences in the labor participation rates among female workers. Similarly, unemployment rates are generally lower for higher-educated individuals, but this is typically because higher educational attainment makes an individual more attractive in the labor markets. Unemployment rates thus include information on the individual’s desire to work, as well as on the attractiveness of the individual for potential employers. (OECD, 2007, p. 126)

Livingstone (1997) suggests that the increased rates of school participation during the post-war expansion lent support to the view that more schooling leads to economic success. However, since the 1970s, school enrolment rates have continued to grow substantially, while average incomes have stagnated, unemployment rates have risen, and underemployment of highly educated people has become a serious social issue. Between 2000 and 2006, full-time university enrolment increased 31% (Association of Universities and Colleges of Canada, 2007, p. 5). Women account for two-thirds of full-time enrolment growth since 1971 (p. 5). In recent decades, employers have increased formal educational requirements for many occupations, even for menial jobs. In effect, an increase in credential requirements may not necessarily reflect an increase in the complexity of work. Credentials have become essential for access to many jobs despite performance requirements. Livingstone (1997) suggests that, despite several “retooling efforts” (p. 9) proposed by human capital advocates, for example, raising standards of education in terms of quality and relevance, human capital theory falls short of explaining the “breakdown in the learning-earning connection” (p. 10), the gap between individuals’ investments in learning
and the numbers of jobs in which to apply their knowledge investments. In effect, underemployment of credentialed knowledge and skills has emerged as an important challenge to human capital theory. Livingstone (1997) also notes that human capital theory advocates have historically given little attention to informal learning and suggests the need to recognize the multifaceted character of formal and informal learning and to focus research and policy efforts on reorganizing work in ways that make better use of people’s learning.

Innovation is a related concept identified as a driver of economic development. Alasia (2005, p. 15) refers to innovation as “a process of generating, introducing and extracting value from ideas,” for example, the creation of a new product or process. Innovation is often associated with technological advancement; however, the concept has much broader applications, such as innovative policies and strategies. Innovation is particularly appealing in economics as a potential source of productivity improvement and reduction of human capital costs. Grant (as cited in Alasia, 2005, p. 16) links skills and knowledge directly to innovation, defining it as “a process through which value is extracted from skills and knowledge by generating, developing and implementing ideas to produce new or improved products, processes and services.”

Measures of innovation include research and development spending, number of R&D personnel, and number of patents achieved, although these measures do not capture all dimensions of innovation and are generally limited to large firms. Alasia (2005, p. 8) suggests that the diffusion of new information and communications technologies is evidence that “knowledge, and more generally human capital attributes, have achieved new relevance in all sectors of the economy.”

The literature suggests that innovation has both sectoral and spatial dimensions (Fischer, as cited in Alasia, 2005). Technological innovation, for example, is often industry-specific. Various industries have different levels of intensity of technological application, generally categorized as low, medium and high. The degree of technology intensity influences the nature of work and the specific knowledge and skills required within industries. Holbrook and Wolfe (2002) suggest that factors such as access to a skilled pool of labor, institutional support for innovation and the interactive learning effects that emerge in a local setting, all contribute to strengthening local agglomeration effects. According to Alasia (2005, p. 4), “[t]he declining cost
of communication and transportation, combined with scale and agglomeration economies, have reinforced the process of geographic concentration of physical, technological and human resources mainly in favor of large agglomerations.” On the other hand, in smaller communities, low density of economic activity, lack of education and research institutions, and mobility of high-skill workers all contribute to a lack of incentives to investment and limited opportunities for networking (Alasia, 2005). Alasia (2005, p. 21) points to another important development with respect to technological innovation:

> Knowledge and technology are an output resulting from investment in human capital (education and training), employment of specialized labor (R&D personnel), equipment and material inputs. The new approach is called “endogenous” growth theory, because it internalizes technology change into a model of how markets function. As a result, growth is associated with the strength of the incentives to invest in physical and human capital.

In a context of limited resources, investments in education and research capacity to support local economic activity should focus on supporting strategic growth potential. Wolfe (2002) notes that the cost and complexity of innovation renders resource pooling across regions essential for many jurisdictions. Holbrook and Wolfe (2002) point to a need for developing new approaches to business organization, effective approaches to training and education that ensure the local workforce acquires the skills needed to work with the new technologies, the provision of infrastructure to support innovation, as well as access to financing.

While the concepts of human capital and innovation are not new, they have gained prominence in recent decades as critical factors for a “knowledge-based economy.” They are also dominant themes within current research on regional economic development (Cooke, 2003; Gertler, 2001; Holbrook & Wolfe, 2002), suggesting that geographic scale and local context are important considerations for the development of a knowledge-based economy.

**Creative Class Theory**

The concept of cities as important hubs of creativity was raised by Jane Jacobs several decades ago. Jacobs (1993, p. xviii) suggests that “wherever and whenever societies have flourished and prospered, rather than stagnated and decayed, creative and workable cities have been at the core of the phenomenon.” For Jacobs, an important function of cities is to bring together the energies or synergies of people.
Florida (2002) asserts that creativity is the source of innovation and competitive advantage of nations and cities. Although knowledge has always been important for economic competitiveness and prosperity, for Florida (2002, p. 44), “knowledge” and “information” are “the tools and materials of creativity”. According to Florida (2002, p. 68), the “creative class consists of people who add economic value through their creativity.” Florida (2002, p. 9) suggests that in the U.S., the “creative class” grew ten-fold over the twentieth century and has doubled since 1980 alone. Approximately 38 million Americans, 30 percent of all employed people in America belong to this new class. They include scientists, engineers, architects, designers, educators, artists, musicians and others whose economic function is to create new ideas, technology or creative content. As well, a broad range of creative professionals such as lawyers and health care professionals support core creative functions. Creative workers are generally highly-educated, respect individuality, difference and merit, and work relatively autonomously (Florida, 2002).

Florida’s (2002) creative class theory encompasses 3 T’s: technology, talent and tolerance, all of which must co-exist. Concentrations of creative capital lead to innovation, especially high technology business formation which, in turn, leads to jobs and economic growth. However, in order to retain talent, cities must also offer more than jobs. They must be open to people – to diversity, for example, women, various ethnicities, and gays and lesbians. Florida indicates that creative people locate in places that are centers of creativity and diversity and that offer high quality of life, such as San Francisco, Austin, San Diego, Boston and Seattle. Such places also attract venture capital. In the case of Pittsburgh, Florida suggests that technology and talent are strengths that have been well developed, but tolerance – openness to diversity is lacking. Pittsburgh has been very successful at bringing together corporate research capabilities and university research capabilities, with funding from federal and state governments and local foundations. Its high technology council is a world class model. However, Pittsburgh is a traditional, family-oriented community that struggles to retain young people, and has become an exporter of talent.
**Dominant Themes for a New Economy**

Bell, Machup, Reich, Drucker, Castells, Schulz, and Becker all point to knowledge exchange as the motor of new economic activity in advanced nations. Developed nations such as Canada and the U.S. are increasing their share of work that is based on higher cognitive processes, advanced technological processes that enhance productivity, and personal service, while low-skilled work is shifting to less developed, low-wage nations such as China and India. Overall, however, the global economy is not deindustrializing. In fact, industrial development in China, India and other developing nations has grown rapidly in recent decades, largely through their acquisition and application of western technologies.

Throughout history, economic activity has been grounded in social interaction that facilitates knowledge exchange and heightened levels of consciousness. Bell and Drucker, in particular, emphasize that knowledge in itself does not drive economic development. Economic development results from knowledge exchange among people and from the reciprocal interaction between knowledge and innovation. Economic activity is driven by the diffusion and sharing of knowledge. It is driven by formal education as well as learning derived through experience. It is driven by the development and application of knowledge in work processes. Economic activity is also driven by learning from others’ previous experiences. While formal education is important for economic progress, learners’ must have the opportunity to apply their knowledge in order to generate economic gains for themselves and for society as a whole. Moreover, opportunities to engage in informal learning through discussion and problem-solving with others enhances individuals’ learning and strengthens organizational absorption of new knowledge. Knowledge exchange takes place not only between individuals within organizations, but between organizations as well. Participation in sector councils, trade associations, strategic alliances and online networks, for example, all contribute to knowledge exchange and the potential for innovation. Forums that bring together firms from different sectors provide exposure to knowledge rooted in various disciplines. Learning occurs when participants share common objectives or interests.
A fundamental limitation of theories that focus on classifying work into occupational categories or other classifications, like those proposed by Machup and Reich, is that the nature of work and the structure of jobs are always changing, as are skill and knowledge requirements. Globally no standards exist for occupational classifications (as evidenced through issues relating to prior learning assessment for immigrants). In addition, Livingstone (2002a) suggests the original advocates of the knowledge economy assumed a much greater centrality of high-technology occupations. Growth is not exclusive to technology-based firms. The substantial growth of the public and nonprofit sectors in Canada and U.S. cities demonstrates this clearly.

Since the 1980s, policy responses to declining economies in North American cities, especially manufacturing-based economies, have centered on increasing levels of education, advancing technologies, improving productivity, promoting creativity and innovation, and supporting attraction of knowledge-intensive industries such as information technology, biotechnology and environment technology (Government of Canada, 2002a; Penn State University & Economic Development Administration, 2005). Many economic developers accept that a new, knowledge-based economy has emerged, as evidenced by the plethora of economic development strategies published on city web sites across the continent, targeting clusters such as ICT, biotechnology and more recently, clean energy. This epoch of economic transformation is clearly marked by the increasing importance of notions of knowledge, information and innovation and creativity as the lifeblood of economic activity.

Quantitative indicators, including Gross Domestic Product (GDP) per capita, employment, and productivity are generally used by economists to measure changes in the economic performance of various sectors and industries. GDP per capita measures the total income divided by population for the area of study. Employment and income largely determine individuals’ standard of living. For many economists, productivity is considered the ultimate measure of wealth-creating capacity. Sharpe (1999, p. 2) suggests that “only through increased productivity can there be sustained increases in real income and rising levels of economic well-being for Canadians.” Labor productivity measures the quantity of goods and services produced per unit of labor (Baldwin, Harchaoui, Hosein & Maynard, 2001).
Over the past 50 years, the goods-producing sector in both Canada and the United States has declined. In particular, manufacturing as a share of GDP has plummeted (Strauss, 2006, p. 12). In the United States, manufacturing share of the economy measured by GDP declined from about 25% in the 1950s to 12% in 2005 (National Association of Manufacturers, 2006, p. 11). In Canada, the manufacturing sector share of GDP was 13.3% in January 2009 (Statistics Canada, 2009a) (2002 chained dollars; seasonally adjusted at annual rates). Compared to other industries, manufacturing remains an important wealth creating industry in North American economies. For example, in Canada, the information and communications technology (ICT) sector accounted for 4.7% of Canadian GDP (in 2002 constant dollars) in 2007 (Industry Canada, 2007a), and the culture sector accounted for 3.8% of Canada’s GDP (Statistics Canada, 2007, p. 8).

Manufacturing employment as a share of national employment has declined substantially in both countries. Over the past two decades alone, manufacturing share of total employment in Canada fell by over 5%, from 16.6% in January, 1987 to 11.5% in March, 2008 (Canadian Auto Workers, 2008, p. 1). In the United States, a steep decline in manufacturing employment has occurred. The U.S. manufacturing economy employed 14.3 million people in 2004, down from 19.4 million, manufacturing’s historical peak in 1979 (Reynolds, 2006, p. 189).

Manufacturing productivity has grown significantly in recent decades. Between 1991 and 2001, labor productivity in the manufacturing sector in Canada increased 22% compared with 45% for the United States (Canadian Manufacturers & Exporters, 2004, p. 20). Manufacturing output also increased. In effect, in both Canada and the United States, more goods are being produced, but with far fewer people. As Strauss (2006, p. 8) suggests, “[w]hat took 1,000 workers to produce in 1950 takes about 200 today.” Here again is evidence of creative destruction. Improving labor productivity has the effect of displacing workers. When wages are high, employers look to machinery and equipment and information and communication technologies to achieve productivity gains – persistent substitution of capital for labor.

The service economy in North America has experienced tremendous growth. Herzenberg, Alic and Wial (2000, p. 23) report that, within America’s services sector, the two largest growth industries in terms of employment are professional services and retail services. Professional services, the largest category, grew from 17.9 million jobs in 1979 to 27.4 million in 1996, while
the second largest service industry, retail trade, grew from 13.9 million jobs in 1979 to 19.3 million in 1996. In 2007, for example, Wal-Mart ranked as the largest company in the United States for the fifth time in 6 years among the Fortune 500. The retail giant employs 1.9 million people worldwide (Tkaczyk, 2007).

As with manufacturing, information technology industries are also shifting. This is occurring, in part, because these jobs are often created to support manufacturing activity. Today, the real value-add in ICT comes from creating information technology solutions for all types of firms. These services need not be centralized at all. They too will follow the trail of supply of workers and availability of education and training capacity – trails that increasingly lead offshore to countries like India, China and Brazil.

In summary, what is different in the current economy relative to economies of four decades ago when steel reigned as the powerhouse of industry is that capital is increasingly mobile. There is a growing redistribution of capital enterprises. Workers are also increasingly mobile. Basic manufacturing enterprises locate where labor is cheap and knowledge-intensive enterprises locate where education and training capacity is available to support specialized work. This trend is likely to increase as companies become more vertically disintegrated and specialized. Moreover, information and transportation technologies enable people to have greater choice in terms of where they live and work (which often entails two different places). Quality of life factors are likely to play a greater role in these choices. Transformation is an uneven process and potentially results in mismatches between the knowledge and skills of local residents and the demand (or contraction) that exists among local enterprises. The challenge for cities is not simply to create knowledge, but more importantly, to put knowledge to work locally. One way to achieve this is by creating capacities and incentives for innovation, commercialization and entrepreneurship. Another is to make use of the existing knowledge and skills resident in the local labor market.

**Theories of Local Economic Development and Growth**

The next section of this literature review looks at three prominent theories of local economic development: location theory (Weber, as cited in Beckmann, 1968); economic base theory (Klosterman, 1990; Shaffer et al., 2006); and cluster theory (Cooke, 2001, Porter, 1998,
2002a; Holbrook & Wolfe, 2002). These theories offer insights about how economies develop and grow.

**Location Theory**

As the economic structures of communities change, so do the factors impacting their ability to retain and expand established firms and create or attract new ones. Weber’s location theory (as cited in Beckmann, 1968) works well for heavy industries such as steel. It works particularly well for vertically integrated firms such as U. S. Steel, which owns coal mines, which feed coke processing plants, which supply steel mills. Weber (as cited in Beckman, 1968, p. 9) proposes that an integrated steel mill is likely to locate where transportation costs for coke (processed coal) and iron ore are minimized. Substantial input costs are incurred for both materials in order to produce steel. Processing of coal into coke decreases the weight. Therefore coke processing plants generally locate close to the coal mines, and the processed coke is then transported to steel mills. Iron ore must also be transported to the steel mills. Weber (as cited in Beckmann, 1968, p. 16) developed a mathematical analysis, a “Weberian triangle,” which he used to determine the point at which the greatest saving in transportation costs for both materials is achieved – the optimal location for the steel mill.

Both Pittsburgh and Hamilton benefited from their proximity to the coal mines in Pennsylvania and West Virginia and to Lake Superior iron ore. Access to multi-modal transportation, particularly water ports, was an important location advantage, enabling efficient and relatively low cost access to materials and to markets. It continues to be an important factor for the integrated steel industry. Energy prices affect transportation costs, especially for heavy industrial products. Through the 20th century, as the economies of North American cities shifted from predominantly goods-producing to service-producing industries which do not require heavy material inputs, these factors have become less critical in location decision-making. For instance, for high technology firms producing cell phones or micro computer chips, the cost of transportation is a less critical factor than specialized labor.

Heavy industry typically occupies large blocks of land. In Pittsburgh and Hamilton, massive steel plants spanned over many acres. Similarly, automotive manufacturers traditionally have required large parcels of land and buildings for production and assembly. Over time,
Pittsburgh and Hamilton have experienced shortages of developed land which has hindered expansion of local manufacturing companies and the cities’ ability to attract new firms. These land shortages have also contributed to urban sprawl as manufacturing firms located (and re-located) in suburban greenfield areas. Many communities invest in “employment-ready” or “construction-ready” sites to encourage business location.

The changing nature of manufacturing work has reduced the need for massive industrial sites. The vast majority of businesses today are small- to-medium-size firms. Over the past few decades, many firms have opted to outsource work or shed non-core activities and have become more specialized. This has created new industries such as metal service centers which focus specifically on customized products, and warehousing and distribution services. Storper and Scott (1986, p. 11) suggest that “there are powerful trends in the direction of disintegration of the production processes of many once vertically integrated industries.” The automotive industry is a prime example of vertical disintegration. Large automotive plants have been replaced by specialized parts manufacturers located throughout the world. These fragments are linked globally into an integrated supply change. The automotive industry encompasses an extensive supply chain that includes design firms, parts companies, systems integrators, and assembly plants located throughout the world. Even computers are made up of components that are manufactured and assembled around the world. Storper and Scott (1986, p. 11) indicate that “disintegrated functions will have different locational possibilities and limitations from their (integrated) predecessors.” Fewer geographical constraints exist for component manufacturers relative to large, vertically integrated operations. Similarly, many service functions are not bound by geography and are increasingly outsourced or moved to low cost nations.

New technologies can also impact location decision-making. For example, today, much of the world’s steel is produced in minimills that require significantly less property than integrated mills. The raw material used in minimills is scrap metal; therefore, nearness to coal and iron ore deposits is not a critical location factor for them. Communication technology, such as the Internet, facilitates the exchange of knowledge and use of specialized labor globally. Increasingly, access to communication infrastructure such as broadband networks has become an important location factor for many firms.
Proximity to markets is also an important location factor for many industries. For example, restaurants, cultural amenities, and businesses that perform personal services generally locate where there is a sufficient population mass to consume their services. Professional services such as financial, legal and engineering services typically locate in urban commercial centers in proximity to clients, although communication technologies enable some services to be delivered from a distance. Competition is yet another important consideration. Many competitors within an area may saturate local markets, but they also attract skilled labor. Government incentives such as tax reductions, loan guarantees, and grants are often used to attract firms. Incentives are given based on the premise that the firms serve as anchors for suppliers and customers and generate jobs and spending in the city.

Proximity to an abundant labor supply has traditionally been, and continues to be, an important location factor for most industries. Industries, such as manufacturing, that require large numbers of low-skilled or semi-skilled workers tend to concentrate in locations where they can access cheap labor. Glaeser, Kallal, Scheinkman, & Shleifer (1992, p. 1151) suggest that often, “industries grow where labor is cheap and demand is high.” Even for heavy industry, as the cost of labor increases in a particular location, this may outweigh the cost of transportation, and businesses may decide to relocate.

With increased emphasis on developing a knowledge-based economy, an educated and skilled workforce is of prime importance for firms’ location decisions. Employers are more likely to locate where they can benefit from an abundant supply of educated and skilled workers. As more companies become vertically disintegrated and specialized in terms of their functions, they seek specialized knowledge and skills. As a result, high quality education and research institutions are an important resource for knowledge-intensive firms and industries, and as such they have become an important location factor.

In a study conducted by ICF International (2008, pp. 8-9) six Ontario communities, including Hamilton, identify key challenges in meeting “core investment readiness” priorities of businesses. The five challenges include “next generation workforce” which is concerned with communities’ ability to meet future labor supply and skill needs; “enabling innovation,” which involves the capacity to cultivate and finance entrepreneurial growth; “advanced infrastructure,”
Economic Base Theory

The economic base theory (also referred to as export base theory) is widely applied in local economic development. This approach assumes that there are two general sectors, basic and non-basic (Klosterman, 1990). A basic sector is made up of businesses that are dependent upon export markets. Traditionally, these have included industries such as mining, manufacturing, especially “smokestack” industries and tourism. Economic base theory asserts that the growth of local economies is driven by the expansion of their export base, that is, basic industries that sell their products outside the boundaries of the community (Klosterman, 1990; Shaffer, Delier & Marcouiller, 2006). Basic industries are not constrained by the size of the local market because they export much of their production and the revenue derived from exports adds wealth to the local economy.

The non-basic sector has traditionally included service industries and has generally been considered less important. For example, non-basic firms include grocery stores and personal service providers that are dependent on local customers. Basic elements may be found in non-basic industries; for example, retail stores, restaurants and car dealerships attract customers from outside the community. Basic firms also stimulate the growth of local industries through the direct purchases of goods and services locally and through their payrolls which contribute to local purchasing capacity.

Carvalho (2001) notes that location quotients are often used to measure the relative importance of an industry to a locality. Location quotients measure the concentration of an industry in an area, for example a city or region relative to a reference area such as a province, state or country. A location quotient greater than one indicates that the region has a higher concentration of an industry relative to the reference area. Additional measures such as shift
share analysis are used to measure whether the industry is growing or shrinking (Carvalho, 2001). Communities often use these measures to assess whether their economic base is sufficiently diversified, with basic industries providing a means for insulating the locality from economic downturns. As with location theory, traditional competitive factor inputs supporting an economic base include cheap land, direct and indirect subsidies such as tax reductions and development incentives, and location advantages such as just-in-time access to markets and raw materials (Shaffer et al., 2006).

Economic base theory has significant limitations for understanding economic development. A focus on developing basic industries such as manufacturing without a sufficient balance of non-basic industries may actually increase a community’s volatility. Communities that are dependent on one or two predominant basic industries such as automotive or steel may be especially vulnerable as more and more manufacturing jobs are relocated to lower-wage nations. Often, in their quest for productivity improvements, traditional basic industries have increased levels of mechanization and automation and reduced employment. Improved productivity may enable a firm to become more competitive and generate greater wealth, but the company may also cut local jobs. Closing plants is one indication of economic transformation, both as a result of the creative destruction of manufacturing and business failure.

What often happens in the local labor market is that people have to retrain in order to participate in an economy that is undergoing constant transformation, or face more serious consequences. The issue is not as straightforward as plants closing or relocating to where there is cheaper labor. Such closures occur against the backdrop of integrative trade, where production processes and their requisite services follow the trail of labor productivity. Investment in education and training, ICT and transportation innovations have enabled the rise of global capitalism in both goods and service-producing sectors. As Aronowitz (2005, p. 97) notes,

Indian and Chinese computer scientists and technicians can perform advanced as well as ordinary research and development tasks in computer, laser, and digital technologies for a fifth to a tenth of the salaries of U.S. computer people. Globalization has come not only to material production but also to knowledge work and given its mobility, perhaps even more so.
Beyond the firm level, the creative destruction of communities requires the creation of new opportunities for increased self sufficiency such as import replacement (Jacobs, 2001) in addition to opportunities for producing and exporting new and higher value added products and services. As the labor market adjusts, displaced workers must have the opportunity to develop current employability skills. It is not enough to build on past strengths and current growth trends. Communities must be able to reliably forecast and resource future engines of growth and create the conditions for igniting and sustaining them. The city of Hamilton once had a thriving appliance industry. Appliances are no longer made in Hamilton. Pittsburgh once had a thriving steel industry. Basic steel is no longer produced in the city of Pittsburgh. Steel technology services are, however. Increasingly service industries comprise a substantial portion of the local economic base of most North American cities. Increasingly cities are targeting new economy industries such as information technology, biotechnology, education, and health services. Pittsburgh and Hamilton, for example, have both increased their reliance on health and education sectors, and view these sectors as primary, not secondary. Health care is the new basic. Pittsburgh and Hamilton are transforming from “internationally-oriented industrial economies” into “regionally-oriented service economies” (Dietrick, 1999, p. 4). Economic base theory has been turned on its head.

Canada is one of the most trade-dependent nations in the industrialized world; however, Canada’s services trade represents only 12.8% of its total trade (Canadian Services Coalition, 2008, p. 1). The services sector is the largest component of the U.S. economy. It accounted for 83% of private-sector GDP and 85% of private-sector employment in 2005, while cross-border service trade accounted for only 21% of the value of total U.S. international trade in 2005 (United States International Trade Commission 2007, p. 2). According to economic base theory, with the majority of exports in the declining goods-producing sector and a relatively small portion of exports in its new basic economy – the service-producing economy – opportunity for growth is largely dependent the capacity for service enterprises to increase their export activity. Similarly, at a local level, communities that fail to develop their export capabilities in the service economy may fall short of generating growth or stability.

Douglas (1994) suggests several shortcomings of economic (or export) base theory. The approach often ignores broad community participation and fails to appreciate the potential for
local actors to innovate. Further, he suggests that it overlooks the needs of indigenous businesses that contribute most to economic growth and well-being. Douglas argues that the export base approach falls short of identifying a place for displaced workers. Attracting new firms does not necessarily mitigate employment displacement in others. Creative destruction is at work again.

**Cluster Theory**

Contributions to cluster theory date back well over a century. Alfred Marshall (1997), one of the founders of neoclassical economics, suggests that the concentration of firms in cities fosters economic growth by facilitating knowledge diffusion. Weber (as cited in Andersson, Serger, Sorvik, & Hansson, 2004) proposes that the location decisions of producers have traditionally been driven by benefits such as minimizing production and delivery costs. Schumpeter (as cited in Andersson, Schwaag Serger, Sorvik, & Wise Hansson, 2004) stresses the role of entrepreneurs, technological advancement and innovation of products, processes and management as critical change agents in the process of creative destruction, a process inherent in the life cycle of industry clusters. In recent decades, economic development strategies in the United States and Canada, as well as Europe, have been widely based on creating clusters of economic activity and local innovation systems (Cooke, 2003; Holbrook & Wolfe, 2002; Porter, 1990, 1998; Storper & Venables, 2004; Wolfe & Gertler, 2004).

Porter (1998, p. 199) defines a cluster as “a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities.” Clusters are not necessarily sector-based; rather they include a range of related industries that do not conform to standard industrial classification codes. Similarly, they do not conform to municipally-defined boundaries of geography. Porter (p. 205) suggests that “clusters align better with the nature of competition and the sources of competitive advantage.” Cluster theory asserts that firms and industries enhance their competitiveness through mutually-reinforcing relationships among suppliers and customers and by drawing upon specialized institutions that contribute to innovation, productivity and a quality business environment. A steel cluster, for example, may include integrated steel producers, mining operations, forging companies, metal service centers, metal fabricators, a university-based steel research center, chemical laboratories, trade contractors, an industry association of steel producers, a local port authority, as well as customers such as automotive parts.
manufacturers and assemblers. Cluster relationships may even involve firms sharing workers, co-operating on the development of training programs, and agreeing mutually on the level of environmental certification or other quality assurance necessary to be part of the supply chain.

According to Porter (1995, p. 57),

*every location – whether it be a nation, a region, or a city – has a unique set of local conditions that underpin the ability of companies based there to compete in a particular field…Clusters represent critical masses of skill, information, relationships, and infrastructure in a given field.*

Clusters are more likely to develop successfully when they build on the strength of existing local firms or industries, especially if several strong firms serve as anchors or leads, for example Stelco and Dofasco in Hamilton and U.S. Steel Corporation and LTV in Pittsburgh. Cluster theory posits that firms strengthen their competitiveness when they are geographically concentrated because their proximity increases and accelerates knowledge flows, innovation diffusion, productivity growth and new business formation (Porter, 1990). In this context, competitive factor inputs such as specialized institutions that contribute to innovation, productivity and the overall quality of the business environment are more important than traditional advantages such as cheap land and financial development incentives. Successful clusters are magnets for entrepreneurs and talent. While traditional location theory stresses cost minimization as a result of proximity to inputs and markets, Porter (1990) notes that globalization of markets, technological advancement, and lower transportation and communication costs have trumped these advantages.

In addition to the economic determinants of cluster performance, Porter (1990) emphasizes that the social structure is of central importance because most of the cluster elements have a relationship component. Trust relationships are fundamental to the cluster’s functioning. Firms identify themselves as members of the cluster and develop a sense of community. They are often involved in community-level associations such as trade organizations and networking organizations that promote interaction and co-operation. In this context, skill capacities relating to business collaboration are becoming increasingly important. Companies that are not engaged in the community, or those that become disengaged, do not benefit from the knowledge exchange and innovations that are shared among active cluster participants.
Porter (1998) identifies four stages of economic progress: factor-driven economies, investment-driven economies, innovation-driven economies, and wealth-driven economies. Porter cautions that when the sole source of advantage derives from basic factors of production only, such as natural resources or abundant, low-cost labor, then the range of industries that can successfully compete internationally is limited. A key difference between factor-driven economies and investment-driven economies is the ability of firms and industries to invest in modernization, including absorbing foreign technology. In an innovation-driven economy all of the determinants of competitive advantage interact to generate new competitive industries. Porter (p. 544) suggests that economic progress is achieved when firms achieve “higher-order competitive advantages” such as product and process innovations that enable them to successfully compete in “high productivity segments and industries.” At the local level, within cities and regions, the upgrading process spreads among firms within clusters (p. 544). Factors such as supporting institutions of education and research become increasingly important for an innovation-driven economy. The continued transition to more sophisticated competitive advantages enables a wider range of industries to compete successfully, ultimately leading to a wealth-driven economy.

In a study focusing on industrial clustering, Nordicity Group Ltd. (1996) (as cited in Wolfe, 2002, p. 30) found eight factors that contribute to successful development. They include the presence of local champions and the existence of strong science and technology knowledge infrastructure including research universities, government laboratories and cooperative research centers. Additional factors include the source of motivated learners and technology, knowledge and skills; the presence of at least one exporting firm; involvement by local networking facilitators; local sources of innovation financing; development strategies by local institutions and governments; and a supportive business climate and policy conditions favorable for innovators.

Storper and Venables (2004) emphasize the importance of face-to-face communications in cluster activity. Information associated with physical transactions such as deal-making and evaluation are heavily dependent on face-to-face contact. Interrelationships between firms in the cluster are an important source of local knowledge and potentially provide access to a global pipeline of information. From the workers’ perspective, clustering provides enhanced
opportunities for sharing knowledge, developing specialized skills, and gaining access to a larger employment base and cluster-sized career ladder.

As part of its “Innovation Strategy,” the Government of Canada (2002a, p. 76) proposed the development of at least 10 internationally-recognized technology clusters. The strategy recognizes several ingredients that are critical for success, beginning with the commitment of local stakeholders and champions. Additional factors include research and development capacity; knowledge-sharing infrastructure; technology transfer capacity; highly qualified people, including entrepreneurs, creators and strong managers; sources of venture and investment capital; industrial research parks, incubators, and other partnership-based research facilities; mentors to nurture new enterprises; partnerships at many levels; and complementary government, academic and industrial contributions (p. 73).

Cooke (2003, p. 3) reports that “[b]y the turn of the millennium, governments practically everywhere in the advanced economies were promoting regional innovation and cluster-building policies as ways of boosting national competitiveness.” Many public-private partnerships were formed to establish innovation centers and technology centers, frequently in association with local universities. Community growth funds and venture capital funds were established with public and private sector investment. Solvell, Lindqvist, and Ketels (2003, p. 81) undertook a survey of close to 250 cluster initiatives around the world, most of which were perceived to generate a positive impact on the competitiveness of their cluster, although the results also suggest “signs of fragility” in some instances. Munn-Venn and Voyer (2004, p. 2) assert, “[t]he billions of dollars being invested by governments worldwide suggests they are betting heavily on the potential of clusters.”

The Core Cities in the English Regions comprise Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, and Sheffield. The mission of the Core Cities (Parkinson, Hutchins, Simmie, Clark, & Verdonk, 2004) is to work in partnership with government and other key stakeholders to regenerate the core cities as drivers of regional and national competitiveness. The alliance has undertaken extensive research to develop the evidence base regarding causes of regional disparities in economic competitiveness of the Core Cities in comparison with selected leading cities across Europe. Based on research involving 50 cities, six critical factors were
identified for the competitiveness of cities, including economic diversity; a skilled workforce; internal and external connectivity; innovativeness in firms and organizations; strategic decision-making capacity at a community level; and quality of life (Parkinson et al., 2004, p. 6).

According to the study, diverse cities such as Munich with “strength in global and local firms, large and small, manufacturing as well as services, the old as well as the new economy” are most successful in responding to economic change (p. 57).

The Core Cities found that a skilled workforce is critical for developing modern economies, especially knowledge intensive sectors, even within manufacturing. Connectivity as a factor of competitiveness includes physical infrastructure such as transportation and electrical infrastructure such as telecommunications. It also includes cultural connectivity, which is essential for international networking and business activity. Innovation in firms and organizations is particularly crucial for local economies. This encompasses investment in modern machinery and equipment, research and education, and labor productivity. As well, strategic capacity is essential for mobilizing and implementing long-term development strategies.

Members of the Core Cities alliance note that

> [t]he narrative from our individual cities constantly generated the same themes: the significance of networks and relationships between key players in the public and private sectors; the importance of crucial politicians in shaping strategies or influencing key programmes; the significance of having allies to influence the decisions of regional and national government. (Parkinson et al., 2004, p. 59)

Wolfe and Gertler (2004) caution that serious analysis of factors that support cluster development is a prerequisite for any community adopting a cluster-based approach to economic development. Clusters cannot be brought into existence “by political fiat” (Holbrook & Wolfe, 2002, p. 5), although the basic conditions can be supported through appropriate public policies. For Wolfe (2002, p. 29), the key question for local policymakers is “how to generate the growth of cluster-based development within the context of dynamic innovation systems or learning regions.”

Just as the reliance on a dominant industry can lead to substantial risks, so can reliance on a single cluster increase a community’s economic volatility. The steel industry provides a clear case of how such dependency on one cluster led to severe economic consequences for Pittsburgh. The Pittsburgh region also provides an example of how “technological discontinuities” (Porter,
1990, p. 244), among other factors, can threaten a cluster's competitiveness. If a region is not able to respond quickly or sufficiently enough to major changes in technology, then clusters may diminish. On the other hand, clusters that adopt new technologies may retain or even improve their competitiveness, but reduce jobs. Porter (1998, p. 245) suggests that

[...]he competitive decline of a cluster should not be confused with reductions in employment or total revenue that may result from upgrading. Rising local wages and profits reflect economic success. This means that less skilled and less productive activities should move to other locations.

The theories of economic development and growth presented in this research support the dual need for diversification and specialization. Economic diversification, that is, distribution of employment across several industries or clusters, is generally considered to provide a “safety net” when a particular industry experiences contraction. It also provides a greater range of opportunities for employment. However, at the same time, cities must also identify opportunities to develop niche markets or specializations in key industries or clusters, in order to develop comparative advantages relative to other places. Measures such as location quotients are employed to measure the degree of concentration of industries and clusters of industries. However, these measures are based on Standard Industrial Classification codes or the North American Industrial Classification System which measure industry sectors rather than clusters of firms. Storper and Venables (2002, p. 4) suggest that these techniques do not measure the strength of ties between firms or the quality of the institutional infrastructure. They do not capture the knowledge flows among cluster participants – the “local buzz” and “global pipelines.” Nor do they recognize the importance of trust that extends beyond leaders to include a workforce that is willing to work with leaders through the process of creative destruction to develop ever higher value added economic activities that enable the sustainability of communities.

Regional innovation systems are closely related to cluster theory. The regional innovation systems approach (RIN) is used to analyze the network of relationships that develop within a region among firms and the institutions that support their innovative activities and competitive dynamics (Wolfe, 2002). Nauwelaers and Reid (as cited in Holbrook & Wolfe, 2002, p. 15) define a regional innovation system as “the set of economic, political and institutional relationships occurring in a given geographical area which generates a collective learning
process leading to the rapid diffusion of knowledge and best practice.” This notion of collective learning embodies the dominant themes of knowledge economy theories. It places factors such as education, research and development and innovation at the heart of economic transformation.

The analytical framework for a regional innovation system typically entails mapping local assets, networks and cultural characteristics (Council on Competitiveness, 2005). Asset mapping also includes an assessment of traditional criteria such as transportation infrastructure, cost of doing business and proximity to customers. Assets include human, intellectual, financial, physical, and institutional capital. Innovation inputs such as the technological capabilities of firms and investment in research and development form a critical part of the asset mapping exercise. Networks include relationships among firms, supply chains, professional associations, social networks, and others. Culture encompasses the degree to which business leaders are willing to collaborate and share ideas. It also encompasses local attitudes toward risk, appreciation of people from diverse experiences and ethnicities, and willingness to adapt to change (Council on Competitiveness, 2005).

Wolfe (2007) suggests that cities and regions can gain competitive advantage through access to a skilled pool of labor, specialized institutions and services supporting local industries, and of central importance, trust relationships that develop among cluster members. For Wolfe (2007), these ingredients are critical for fostering the acquisition and utilization of codified and tacit knowledge. Cluster members learn new skills and competencies and adopt common practices and values from each other by “learning-through-interacting” (Lundvall, as cited in Holbrook & Wolfe, 2002, p. 14).

The social learning process within clusters reinforces a common culture of innovation among participants. Innovation is generally measured by the amount of money invested in research and development, the number of employees in research and development positions and by the number of patents generated by an area or firm. Such activities may take place across the organization. Wolfe (2002) observes that there is an increasing degree of specialization and interdependence among firms which contributes to inter-firm learning and influences the way in which work is organized and performed, and for whom it is performed.
New steel clusters.

While many communities have targeted high technology industries such as information technology and biotechnology in their economic development strategies, all cities or regions are not well-positioned to attract or compete in these industries. Giarratani, Gruver, and Jackson (2007) suggest that clusters involving more traditional, heavy industries such as steel processing can be developed successfully under the right conditions. However, the process of creative destruction and regeneration may create a need for new structures and labor processes in the transforming industry.

Giarratani et al. (2007, p. 149) undertook a study to examine the factors associated with the development of industry clusters in the localities of ten new steel minimills established in the United States between 1989 and 2001. In the 1980s, minimills entered the steel industry with electric arc furnaces that use recycled steel and casting technologies that restricted their production to long products, that is, rods, bars, and rails. Integrated steel producers, which use basic oxygen furnaces, retained their comparative advantage in flat products such as sheet and plate steel. With the introduction of minimills, the steel industry was restructured based on these two rival technologies and their product streams.

Beginning in 1989, new casting technologies enabled minimills to produce flat products. This new thin slab technology triggered a new competitive position for minimills, which already benefited from substantially lower start up costs (Giarratani et al., 2007, p. 149). Ten new minimills were launched across the United States over the subsequent 12-year period. Giarratani et al. (2007, p. 150) note that in 1982 integrated plants in the United States had 95.9 million tons of steel making capacity using basic oxygen technology and 13.6 million tons using electric arc technology, but a decade later, the integrated plants had reduced their basic oxygen capacity to 56.6 million tons and had only 0.5 million tons of electric arc capacity. In 1982, minimills had 34.1 million tons of capacity which increased to 59.6 million tons by 2002.

Giarratani et al. (2007) found that variation in locations provided a rich context for examining variations among the associated industry clusters. Some of the new mills were located in established agglomerations, while others were located in greenfield sites with little or no prior steel making activity. The minimills were also distinguished based on product, with seven of the
mills specializing in steel sheet and three in steel plate. Four sheet producers located where a major concentration of integrated steel producers were already established, in and around Indiana and Ohio in the regional core of Midwest manufacturing; three sheet-producing minimills located in the South near manufacturing industries; and the three steel plate producers selected locations that were peripheral to traditional steel-producing areas. Two chose coastal locations and the third located along the edge of the Midwestern manufacturing region (p. 151).

Giarratani et al. (2007) noted several factors influencing the location decisions for the minimills and the agglomeration effects that resulted. In contrast to integrated steel mills, their location was not restricted by the need to locate close to coke plants, sinter plants and huge blast furnaces. Giarratani et al. (2007) found that the agglomeration economies related to upstream linkages including ferrous scrap and slag processing. Service providers such as maintenance, transportation, and materials handling sometimes located in close proximity or even onsite. Access to multimodal transportation was considered important. However, downstream purchasers were most important for minimill location decisions (Giarratani et al., 2007). The corporate strategy for each mill influenced the types of relationships developed. Compared with larger multi-plant operations, autonomous plants were driven more to invest in relationships with service centers and other intermediaries that could help the mill establish its base load, diversify its product line and develop higher value-added grades (Giarratani et al., 2007).

Nucor-Crawsfordsville, the first minimill to use thin-slab casting located in an area that was dense with steel users and took on the challenge of building customer confidence in their sheet product. Nucor-Hickman located in Mississippi County, Arkansas, in 1992 with a small local market and strategically set out to build a local agglomeration to facilitate its market entry (Giarratani et al., 2007, p. 155). The Nucor-Yamato bar mill was operating nearby, but few of their customers required sheet product. Nucor-Hickman was successful in attracting intermediaries such as Huntco, Friedman Industries, and Maverick Tube Corporation to the area. By 1997, the County experienced an increase of 1,551 jobs in steel-related industries and the addition of 365 jobs in the blast furnaces and steel mills industry. Jobs in steel and related industries increased from 18.3% of total county employment to 34.6% during that time period (p. 155).
Based on their study of the 10 minimill localities, Giarratani et al. (2007, p. 161) developed four conclusions relating to regional economic development. Most important, thorough knowledge of the company, including its organizational structure and operational strategy is essential. Single plant establishments are more likely to develop interfirm linkages, especially those that help secure its base load and opportunities for product diversification. Manufacturing firms that serve differentiated product markets with high value-added goods may be more likely to build linkages with local firms. The economic geography of product markets may have a significant effect on co-location decisions associated with a new plant. Dense markets are naturally more attractive than dispersed ones. While agglomerations associated with minimills are considerably smaller than the earlier massive clusters associated with the traditional integrated steel mills in regions such as Pittsburgh, they present significant opportunity for new economic development.

**Distillation of Critical Factors for Transforming Local Economies**

North American cities are building new economic foundations. They are undergoing a transition towards a predominantly service-oriented economy, but they include a composite of many types of businesses and industries. In Canadian and American cities, there has been decline in work that requires manual labor and physical resources, and growth in employment that requires intellectual and practical knowledge. Manufacturing industries continue to be important wealth generators for North American cities, despite the fact that they account for a declining proportion of jobs. Prospects for building or rebuilding an economic base by attracting manufacturing firms are declining in North America as developing nations with low-cost labor provide competitive locations. This is especially true for basic manufacturing industries requiring low levels of skills. As a result, while traditional location factors such as land and transportation infrastructure remain important for basic manufacturing, other factors take precedence in a new economy that is increasingly service-oriented and, to some extent, more knowledge-intensive and information-intensive. Attracting business and professional service industries and high technology firms involves a different set of location factors.

Six essential factors of economic development emerge from this literature review. They are transformational leadership, strategic planning, civic engagement, education and research
resources, capital, and quality of life. The most important of these is transformational leadership. It is the dynamic that addresses the need for recovery and new growth. Two “process factors” are closely associated with leadership - strategic planning and civic engagement. These processes are used to identify and map strategic directions for collaborative action. Building relationships externally with multiple levels of government and other custodians of power and resources is key to these processes. Education and research resources are fundamental for supporting strategic growth industries and helping to sustain existing industries. Development generally requires capital investment. These investments range from public infrastructure to firm-level technologies. Quality of life factors are a means and a product of economic development.

Inherent in the concept of economic development is the assumption that planned change in local economies is possible through purposeful intervention. Based on this premise, economic development requires leadership, specifically transformative leadership that brings together the powers, capacities, and relationships necessary to plan, resource and implement development. Change is driven by leaders such as entrepreneurs, educators, researchers, and community and political leaders who form relationships either formally or informally to map the direction and scope of economic development. The quality of these relationships is important because inherent within them are feelings of trust, legitimacy, and unity with respect to purpose. These elements enable relationships to endure beyond episodic interventions. Because of the multidimensional nature of local economies, transformation requires broad-based leadership that takes into account the needs and interests of all residents and the processes for engaging them. No one person or organization can amass all of the knowledge and resources necessary to sustain effective transformation. A community of leaders is needed.

Economic change occurs within a context that is embedded with historical and cultural properties. In order to achieve community resilience, old-to-new economy transitions are essential. Economic transformation involves concurrent processes of stabilizing existing industries (or phasing them out) and innovating to create new work. Economic change frequently involves the transformation of existing industries, not simply a replacement of old industrial enterprises with new knowledge-based ones. Clearly, within local economies, there is evidence of the process of “creative destruction” (Schumpeter, 1975, p. 38) as new technologies and other innovations transform the nature of work and the mediating instruments of labor processes.
Economic development involves a process of assimilation, incorporating new concepts into existing schemes of economic activity. Often these transitional processes are missing from strategic plans for economic development, which typically focus on new target industries and projects.

Engaging the community in economic development is paramount. People must be informed about what is happening in their community and they must have opportunities to contribute ideas, voice concerns, and influence policy. Civic engagement contributes to a more level economic playing field for all city residents. It helps to address the imbalance of power among prosperous individuals and businesses and the working class and the poor. It encourages more equitable distribution of city resources and the revitalization of poor neighborhoods. Many forms of public engagement contribute to community and economic development policy formulation, including donations, petitions, town hall meetings, city forums, as well as direct consultations with stakeholders such as associations, chambers of commerce and other interest groups. Increasingly, in both Pittsburgh and Hamilton nonprofit community groups have become an integral part of leadership structures. Civic engagement also involves embracing grassroots coalitions such as environmental advocacy groups, youth coalitions, and neighbourhood development organizations to ensure that interest groups within the city have a voice in development.

Global competition continuously drives the need for creating higher value-added products and services. Cities gain competitive advantage through access to skilled labor and specialized institutions. New economy industries such as advanced manufacturing, information technology, biotechnology and health care, require new sets of knowledge and skills. Cities require resources directed at creating an educated and skilled labor market and building capacity for innovation. However, in addition to formal educational attainment, communities must take into account the rich base of experiential knowledge that exists within the local labor force. Industries such as steel technology producers and metal service centers, for example, benefit from technical knowledge developed through steel manufacturing. Livingstone and Sawchuk (2004, p. 2) indicate that “careful assessments of the changing occupational composition of the employed labour force and of specific vocational preparation requirements for the aggregate array of jobs
in countries like Canada and the United States have found only very gradual net upgrading of the actual skill requirements of jobs over the past few generations.”

Even in the most knowledge-intensive industries, such as health care, doctors cannot function effectively without technicians, cleaners and other support workers. Some modern industries are more knowledge-intensive relative to the industrial era; however, many occupations do not require high levels of skill. Many service occupations, for example, in retail industries, food services, and accommodations are not considered knowledge-intensive. This balance of high and low skills enables employment of workers with a range of skill levels and abilities.

Cities must strike a balance between the extent to which they invest in specialized resources and the extent to which they spread their investments across a range of resources that enable a diversified economic base. Cities generally cannot afford to invest substantial resources in a multitude of industries. They must decide where their investments can contribute most to local economic development. This involves extensive research and strategic planning in order to identify sectors or clusters in which cities can achieve competitive advantage and effective economic transitions.

Other factors contribute to clusters of related economic activity. In addition to education and research institutions, trade associations and other networking organizations that promote interaction among firms contribute to cluster development by facilitating knowledge exchange and diffusion of innovation. So do trust relations that develop among suppliers and buyers within a local setting. Wolfe (2002) suggests that the need for collaboration is rooted in the substantial costs of economic development, including physical and institutional infrastructure. Trust and confidence are essential preconditions for effective collaboration, not just among leaders, but also among other economic actors. Stone (2006, p. 37) suggests that “successful [economic] reform must rest on a foundation of sustainable interactions.”

Economic development requires financial investment. Financial resources are needed for creating new enterprises and institutions to support the new work that they generate. Cities also require investment in infrastructure to support new development, including broadband networks
for communications technology. As well, investment is needed for social infrastructure such as unemployment programs for displaced workers and neighborhood revitalization.

Quality of life is largely a product of economic success. Quality of life factors depend largely upon municipal financial resources and contributions from public, private, and nonprofit sectors. Public transit systems, police services, schools, and community recreation centers all depend on tax revenues paid by local businesses and residents. Other critical aspects of quality of life, such as quality health care and affordable housing also require funding from multiple levels of government and private and public contributions. Quality of life encompasses environmental conditions. Incentive programs for brownfield redevelopment and green building contribute to improving the environment in which people live and work. Cultural resources and experiences contribute to learning and leisure activity and help to encourage openness to diversity. All of these quality of life factors are important for attracting and retaining people and businesses. People choose to live in communities that are clean, safe, interesting, and inviting.

This chapter focuses primarily on local factors of economic development. Other external forces such as trade liberalization, political climates, energy policies, and global environmental conditions all impact the economic development of cities. Transformational leadership is an integrative factor that facilitates inter-organizational approaches to development. These elements combined form a *community economic activity system*. This concept is an original contribution of this research and will be developed further in subsequent chapters.
Chapter Three:
Literature Review: Community Leadership and Organization

Introduction

This research focuses on the interaction among community leaders involved in the economic transformation of two “steel cities,” Hamilton, Ontario, and Pittsburgh, Pennsylvania. It explores ways in which local leaders in these two cities organize to effect economic transformation, including their efforts to develop inter-organizational relationships, mediate tools and resources, and resolve inherent tensions that occur throughout the transformation process. A key assumption of my research is that collaboration among community stakeholders leads to more holistic and integrative strategies, and enhanced solutions for achieving community economic wellbeing.

Economic activity occurs in a broad context of social, political, economic, environmental, and cultural forces. Many factors within localities and beyond contribute to the process of economic transformation and growth, for example, political conditions, technological advancements, and labor market dynamics. Communities act and are acted upon.

Economic transformation crosses stakeholder and jurisdictional boundaries. The responsibility for economic transformation is distributed among numerous public, private, and non-profit sector organizations within the city and at regional, state, national, and even global levels. Formally and informally, community actors engage in initiatives directed at strengthening, diversifying or expanding the economic base of firms and industries, and improving local conditions that support development, growth, and community well-being (Christenson & Robinson, 1989; Douglas, 1994; Jacobs, 2001).

The development of cities is inextricably linked to all levels of government through a multitude of interdependencies. The economic well-being of communities is influenced by provincial policies, legislation, social programs, investment in education, and physical infrastructure expenditures. At the same time, the viability of a province or state is determined largely by the economic and social health of its constituent cities. Similarly, national
macroeconomic policies and regulatory frameworks set the stage for economic activity at the local level.

In addition to governments or political officials, institutional leaders such as corporate presidents, university presidents, executives of the local chamber of commerce, and leaders of nonprofit agencies provide “functional specialization” (Porter, 1992, p. 209). This study of economic transformation in Pittsburgh and Hamilton includes an investigation of the leaders who participate in economic development organizations, and the relationships among these “incumbents of power roles” (Porter, 1992, p. 207). Local elites exercise power by directing economic development through strategic planning and by co-ordinating major developments or projects such as building a technology center. They do this through organizations such as the Allegheny Conference on Community Development and the Urban Redevelopment Authority in Pittsburgh, and the Hamilton Chamber of Commerce and the Economic Development Department of the City of Hamilton. Porter (1992, p. 208) proposes that “there must be some social mechanism by which the power activities of the various elites become meshed in the power system of the total society.”

Within cities, interchanges among community (including government), business and labor leaders involved in economic development help shape the direction of local economies. In Pittsburgh and Hamilton, steel industry leaders have historically played a critical role because they have dominated local economic activity. Frequently, these individuals have held executive positions on local chambers of commerce or other influential community groups. Porter (1992, p. 264) refers to these major corporate decision-makers as the “economic elite.” Educational elites have also frequently held positions of power in these communities. Porter (1992, p. 218) indicates that control over recruitment into influential social organizations is an extension of elite power.

My research examines local representation on Boards of Directors of economic development organizations to determine whether power shifts to reflect the new mix of industries dominating local economic activity. As well, this research explores whether “interlocking directorships” (Porter, 1992, p. 220) exist among the Board members of economic development organizations. It also examines partnerships among economic development organizations to
determine whether leadership collaboration is a factor that impacts successful economic transformation.

As economies transform over time, the relative importance of actors changes. For example, in recent decades, the emphasis on a “knowledge-based economy” (Organisation for Economic Co-operation and Development, 1996b, p. 9) has emphasized the role of universities as agents of economic development, especially research-intensive universities. Post-secondary educational institutions, as sources of talent and innovation, play an increasingly important role in attracting business investment, while factors such as access to skilled labor, specialized support services for industry, trust relations among networks of suppliers and buyers, and the interactive learning effects that develop in a regional or local setting, all contribute to strengthening local agglomeration effects and interdependencies among local economic actors (Wolfe & Gertler, 2004).

**Theories of Community Leadership and Organization**

Major economic transformation is initiated and sustained through many different organizational structures, associations and processes. However, based on the literature, there are constitutive elements that are common to successful transformations, and leadership is one of them. Economic transformation requires effective leaders who actively engage with others, including institutions, community groups, labor organizations, and local citizens; draw upon their ideas and insights to create holistic, integrated strategies; and implement purposeful action and decisions (Bass, 1985; MacGregor Burns, 1978, 2003; Chrislip & Larson, 1994; Luke, 1998). Moreover, the process requires sustained investment of financial, technical, physical, and human resources to build new economic capacities. Economic development leaders must be attuned to the dynamic needs of local firms and residents, and to the broader national and global economic environment.

A principal challenge for community leaders is to identify the nature of desired economic development or growth, plan how it will be achieved, and determine who will lead the development process and planned initiatives. Economic transformation is not only a matter of industry replacement. It involves many concurrent processes, including innovating and
stabilizing existing industries and infrastructure supports, and creating new ones that present opportunities for community economic growth.

Two sets of theories are presented in this chapter. The first group of theories focuses on how community leaders influence economic transformation. These theories include transformational leadership (Bass, 1985; MacGregor Burns, 1978, 2003), catalytic leadership (Luke, 1998), and collaborative leadership (Chrislip & Larson, 1994). Additionally, three theories of community organization and power are presented, including community power structure theory (Hunter, Schaffer, & Sheps, 1956; Hunter, 1963), growth machine theory (Molotch, 1976; Mollenkopf, 1983; Ferman, 1996) and urban regime theory (Stone, 1998, 2004, 2006). These theories address organizational motives and power relations among community leaders within public, private and non-profit sectors, who are engaged in significant economic development efforts.

**Community Leadership Theories**

Although a substantial body of literature exists relating to organizational leadership, few theories specifically focus on leading complex, multi-stakeholder issues such as the economic transformation of a city. Community leadership involves both formal and informal structures. As corporations, cities have elected political leaders—mayors and councilors, who serve as formal leaders. They establish policy priorities and make decisions on behalf of their constituents. As well, hired managers of the “city as a corporation” perform important functions within the context of economic development, often subject to council’s approval. For example, they build physical infrastructure such as roads, water and sewer systems, and parks and arenas. In addition, they promote business development. Local leaders include elected officials from higher tiers of government, such as Members of Provincial Parliament (MPPs) or governors who represent broader interests and who are able to attract resources to develop and sustain economic development programs and projects. Leaders also include individuals who are able to control important resources or operations within the community such as the local newspaper. Executives of large corporations control economic resources that are used for direct investment in business operations as well as contributions to foundations and charities. Labor leaders influence large numbers of workers. University and college presidents influence substantial investment in the current and future labor market. Heads of trade associations, directors of voluntary organizations,
and civic leaders also control local resources and influence members’ opinions. Frequently, informal community groups such as the Hamilton Civic Coalition, Clean Air Hamilton, and Allegheny West Civic Council become engaged in economic development issues. Sometimes these groups begin as informal networks, such as the Allegheny Conference on Community Development in Pittsburgh, and then subsequently develop into formal entities. To achieve substantial economic transformation, city leaders must find ways to engage formal and informal groups as well as the individuals who live and work within the city to commit to initiatives that are directed at a core, shared outcome—community prosperity.

**Transformational leadership.**

MacGregor Burns (2003, p. 24) defines transformation as “a qualitative change in the very condition or nature of a thing, a change into another substance, a radical change in outward form or inner character.” MacGregor Burns (p. 25) suggests that transformational leaders tend to have a “big picture” perspective and are therefore effective at addressing large issues such as economic decline. Transformational leaders seek to arouse and engage the motives of followers and satisfy their higher needs. The premise is that, as they interact, leaders and followers raise one another to higher levels of motivation and morality, become united around a common purpose, and develop a sense of collective identity (MacGregor Burns, 2003). As a result, transformational leaders tend to be effective in situations that appeal to social values and require collaboration. Collective transformation is achieved as participants develop new perspectives, opinions, beliefs, attitudes and emotional reactions. In contrast, “transactional” leaders enter exchange relationships with followers, for example, by trading jobs for votes or subsidies for campaign contributions (MacGregor Burns, 1978, p. 4). Exchanges may be political, economic, or psychological in nature.

Transformation involves change that is comprehensive and often gradual. In the case of transforming economies, old industries co-exist with new ones; traditional work processes often continue in organizations as new technologies and skills are introduced in others. Conflicts or tensions arise as organizations downsize or close, workers become displaced, and leaders seek new development opportunities for their communities. MacGregor Burns (2003) promotes a democratic process that engages broad, sustaining participation:
Traditional conceptions of leadership tend to be so dominated by images of presidents and prime ministers speaking to the masses from on high that we may forget that the vast preponderance of personal influence is exerted quietly and subtly in everyday relationships (p. 442).

Like MacGregor Burns, Bass (1985) also distinguishes between transformational and transactional leadership. According to Bass (1985), over a half century of leadership research has focused on the effects of autocratic versus democratic leadership, task orientation versus relationship orientation. Bass (1985) describes transactional leaders as those who focus on the roles and tasks that followers need to perform in order to attain specific designated outcomes. Transactional leaders work within the existing organizational structures and culture, and are generally ineffective in achieving “higher order” change, involving peoples’ attitudes, beliefs, and values (p. 31).

Bass characterizes transformational leaders as charismatic, with the ability to inspire motivation, loyalty, and trust relationships. They are considerate of individuals and intellectually stimulating. Transformational leaders have the capacity to articulate visions, provoke imagination, generate insights, and enhance the problem-solving capabilities of associates (Bass, 1985). They achieve transformation by raising consciousness about the importance of shared outcomes, ways of achieving them, and the need to transcend parochial self interests for collective well-being. Transformational leaders encourage stakeholders to bring forth their contradicting agendas, striving in the long-term to achieve a synthesis of perspectives. Long and difficult processes, such as developing and implementing economic development strategies and action plans generally call for transformational leadership.

Rada (1999) provides a comparison of urban renewal efforts in two California towns, Colton and Redlands. According to Rada, Colton’s top-down approach to urban renewal was unsuccessful, with several failed redevelopment projects undertaken by the city, including a mobile home park and a low-income housing project. Both resulted in significant financial loss to the city. Rada (1999) contrasts Redland’s community-based approach to renewal, citing several successful projects such as a weekly “Market Night” (p. 25):

These were not projects mandated by city officials. Rather, they were developed by businesspersons that perceived needs, often in response to customers’ comments and concerns. The common denominator in these projects, which is
missing in the Colton projects, is that persons affected by the projects are involved in the dialogue and planning. Further, coalitions were established between various interested groups.

Rada (1999) points to two factors influencing Redland’s success, including the community’s entrepreneurial approach to development from within and the effectiveness of transformational leadership. A focused, shared vision and collaboration among participants were important features of the entrepreneurial projects.

In a complex, multi-stakeholder process such as economic transformation, there are many leaders and many stakeholders from across multiple sectors or jurisdictions, who bring legitimate concerns and ideas to the process. In North American cities, final “approval” of economic development strategies generally rests with city council or a representative agency that sets policy regarding land use and controls substantial resources. This power regime potentially undermines leaders’ claims regarding “community-based” decision-making, as the council retains the power to “veto” recommendations. Despite their role as elected officials representing the interests of their individual constituencies, as they engage in economic transformation processes, formal city leaders must be willing to commit to strategies that are co-constructed by participants. Equally important, leaders from business and other community organizations must commit to a high-trust process of interaction with each other as associates. Stakeholder participants need assurance that individual business leaders are not representing their own interests.

Local organizations, such as agricultural co-operatives, social planning councils, training authorities, immigration councils, and community development corporations are all important for community capacity building. These organizations play a key role as intermediaries between local citizens and all levels of government, providing critical information about community needs and priorities. Local organizations gather, mobilize, and manage resources such as the labor and capital needed to sustain development efforts. They represent communities of interest, values, and beliefs and as a result, their participation draws support and lends legitimacy to collective action. Similarly, informal groups such as civic alliances or advocacy groups formed around a common interest contribute to community development and reform efforts.
A fundamental challenge for leaders is to engage all key stakeholders in the transformation process in authentic ways that inspire motivation, instill trust, and satisfy needs for active and inclusive participation. In practice, however, formal city leaders such as city councilors may choose to engage exclusive participation in economic development processes, avoiding “cogs in the wheel.” For example, public leaders may deliberately exclude labor organizations from stakeholder consultations for fear that they might bog down the process. On the other hand, public leaders may fail to recognize the scope of influence of key stakeholders. Even where strong relationships of trust exist, conflicts arise between various stakeholder groups and individuals, including between leaders. Transformational leaders must be open to diverse opinions and adept at managing differences rather than avoiding them. While consensus is not guaranteed, overcoming fragmentation is essential for moving forward with implementation of actions.

**Catalytic leadership.**

Luke (1998, p. 33) describes effective public leadership as a “transorganizational” process, that is a function of collaboration as opposed to followership. He suggests that, “catalytic leadership” is necessary to stimulate collaboration and action among people from cross-jurisdictional and functional boundaries (p. 33). According to Luke (1998, p. 33), catalytic leadership involves four interrelated tasks, each of which has a catalytic effect that is amplified when the tasks occur together.

The first task requires focusing public attention on the important issue (or purpose) by increasing awareness and visibility of the issue, and by arousing interest and emotional concern in order to raise the problem to a priority status.

The second task involves bringing the right balance of stakeholders and subject experts together to address the problem. This generally entails a lengthy process, especially for a large community of interests. Multiple tiers of participation may be required, for example, consultation forums to engage the broader community in substantial issues. However, while consultations with large numbers of stakeholders may be preferable in the early phases, smaller working groups with a core of committed people that represent the interests of the community are also needed to address the issues in sustained ways. Luke (1998) suggests that a core working group
or several groups should be established, including key decision makers; individuals with credibility and a history of committed action with respect to the issue; people with expertise and fresh ideas; and individuals with the capacity to mobilize resources. All must have an interest or stake in the issue and acknowledge its urgency. As with transformational leadership, trust is integral to building a strong team of leaders who can work together effectively.

The third task involves “stimulating multiple strategies and options for action” through a structured process that is “custom-tailored to the context or situation” and allows for shared leadership that may shift among individuals based on the specific problem facing the group and the relevant expertise of members (Luke, 1998, p. 89). Strategy development involves identifying desired outcomes and exploring options for pursuing them. Often it involves agreeing upon multiple strategies for achieving successful outcomes. Luke (p. 116) suggests that strategies may be “interwoven, but not necessarily centrally coordinated.”

The fourth task, often the most difficult, involves implementation of the strategies and sustaining coordinated action, which depends largely on the continuity of funding, human and technical resources, and sustained relationships among participants. Enabling mechanisms must be established to support, align, and measure achievement of defined outcomes.

As with transformational leadership, successful catalytic leadership depends largely on leaders’ recognition of the importance of inter-organizational interaction and their capacity to develop and sustain trust relationships as part of the fabric of local economies. There are a number of challenges to these processes, not the least of which is that public leaders change frequently, especially those subject to electoral processes. Business leaders of transnational firms may be relocated to other cities or countries. Leaders who own or operate small business often face substantial time constraints that limit their involvement in civic alliances. An important challenge is the time necessary to build stable trust relationships. A culture of competition has been engrained within North American businesses. Even non-profit organizations compete locally for resources and recognition. Tensions often exist between business leaders and labor leaders, and between classes within society. As Cooke (1995, p. 245) suggests,

[r]ustbest regions often inherit a culture of defensiveness and dependence from long years of class-based solidaristic struggle. Culture change in the mentalities of members of civil society, their elected representatives and managers of business
enterprises is a prerequisite for securing the gains that have been made in the recent past in several Rustbelt regions.

Collaborative leadership.

While relatively little research has been published that “systematically analyses” the nature and role of leadership in local economic development, many scholars have pointed to the importance of “collaborative action” (Heenan & Bennis, 1999; De Santis & Stough, as cited in Stimson, Stough & Roberts, 2004, p. 328). Stimson, Stough & Roberts (2004) suggest that collaboration among leaders is essential for mediating the ongoing adjustments that will occur in regional economies. They propose that leadership for regional economic development will not be based on traditional hierarchical relationships; rather, it will be a collaborative relationship between institutional actors encompassing the private, public and community sectors – and it will be based on mutual trust and cooperation. (p. 328)

Chrislip and Larson (1994) propose a theory of collaborative leadership that involves individuals who “have the credibility to get the right people together to create visions, solve problems, and reach agreements about implementable actions” (p. xx). Leaders serve as conveners and catalysts of collaboration. Chrislip and Larson (1994, p. 5) define collaboration as “a mutually beneficial relationship between two or more parties who work toward common goals by sharing responsibility, authority, and accountability for achieving results.” Gray (1989) suggests that collaboration provides opportunities for parties who see different aspects of a problem to seek solutions beyond their individual limitations.

Chrislip and Larson (1994, p. 169) base their collaborative leadership theory on an in-depth study of six cases of community collaboration (the Phoenix Futures Forum, the Baltimore Commonwealth, the Newark Collaboration Group, Citizens for Denver’s Future, Roanoke Vision, and the American Leadership Forum) and additional research involving 46 cases of successful community collaboration. The criteria used for selecting cases included clear need; strong stakeholder groups; broad-based stakeholder involvement; credibility and openness of the collaboration process; commitment of high-level, visible leaders such as mayors, city council members, chief executive officers, and executive directors of community organizations; and support of established authorities or powers such as chambers of commerce and city councils.
The study found that through successful collaboration people are empowered and energized by their engagement in issues that they care about. They discover that they can be heard, make a valuable contribution, and achieve tangible results. They also experience the opportunity to connect with other organizations, build trust, develop relationships, and reduce fragmentation. Chrislip and Larson (1994) note that getting results is the point at which many collaborative efforts fail, despite the creation of excellent strategies. They emphasize that successful collaboration requires detailed action plans and a management structure to guide implementation and evaluate results over time.

Transformational leadership, catalytic leadership, and collaborative leadership, theories all point to the importance of locally-driven systems of economic development and the potential for civic alliances to complement and directly interact with formal structures such as city councils or development agencies. Fundamental conditions for successful economic transformation include trust, especially in those leading the process and those with the power to decide on strategic action; inclusiveness of key stakeholders; frequent engagement with the broader community population; and confidence among participants that mechanisms are in place to support the implementation of strategic plans and assessment of outcomes.

All three theories of leadership point to the need for collaboration in meaningful ways, beyond regular meetings in council chambers. This requires an integrative approach, including policy co-ordination among various government departments and agencies locally and with other tiers of government. Stakeholder roles need to be well-defined and jointly developed. Levels of engagement are heightened over time through information and education, consultation and dialogue, and collaboration among key stakeholders and with the broader community. Low levels of engagement provide limited opportunities for leaders to understand important issues; however, they do not secure commitment to action. Through ongoing consultation and dialogue, business leaders, policy makers, researchers, and community groups share ideas, embrace and resolve conflicts, and help each other to understand the implications or consequences of actions. Collaborative processes generate new or enhanced understanding about the relationships among economic actors, reduce fragmentation, and increase opportunities for inclusiveness, synergies, and integrated policies and strategies.
Community Organizing Theories

Planned economic transformation is not a single act or event; it is a process that extends over time and requires organization or structure. In practice, city leaders are sometimes reluctant to take the time required for extensive civic engagement. Moreover, they are reluctant to relinquish decision-making power. Perlman and Gurin (1972) suggest that much of the literature on community organization deals with centrally planned change. Top-down models, such as council-driven models, usually involve either a consensus approach or “cooptation,” which they describe as “the type of structure in which representatives of a minority view or interest are included within an organizational framework dominated by others but render legitimacy to the latter’s purposes” (p. 69). The following section presents three theories of community organization that reflect traditional approaches to organizing planned economic transformation.

Community power structure.

Local business owners and managers as well as professionals such as bankers have generally dominated as community leaders (Hunter et al., 1956; Hunter, 1963). Floyd Hunter is credited with developing one of the first studies focusing on the analysis of local power structure in 1953. For Hunter (1963) power is “the acts of men going about the business of moving other men to act in relation to themselves or in relation to organic or inorganic things” [author’s italics] (p. 2). While his study does not focus directly on economic transformation, it provides valuable insights regarding participant selection in community organization.

Hunter (1963) examined how community leaders operate in relation to each other, looking specifically at the power relationship patterns of 40 leaders in Regional City (Atlanta). Using a new “reputational method” (Domhoff, 2005, p. 2), Hunter asked 14 upper-middle-class professionals who were highly knowledgeable about the city to identify the top 10 leaders from a list of 175 leaders of organizations throughout the city. The list included leaders of government, civic, business, professional, and labor organizations, and individuals from among wealthy society. Hunter then requested interviews with the 40 leaders with the most votes. The 27 leaders who agreed to participate were each asked to select the top 10 leaders in the city from the list of 40. There was high consensus among the mutual choices made by leaders: “Over and over, the same persons were named as influential and consequently able to “move things” in Regional...
City” (Hunter, 1963, p. 73). All 10 were male. None were Black. Regional City’s Black population was segregated. Hunter also interviewed 34 leaders from the Black community and 14 city planners and welfare workers (Domhoff, 2005, p. 2).

Business leaders were found to be most powerful: “Business men are the community leaders in Regional City as they are in other cities. Wealth, social prestige and political machinery are functional to the wielding of power by the business leaders in the community” (Hunter, 1963, p. 81). The most powerful leaders, who were the policy makers, held positions as presidents of companies, senior board appointments, or professional positions, and represented the major economic interests of the community. Local institutions and associations such as a Chamber of Commerce were found to be subordinate with respect to power relations. Leaders overwhelmingly indicated that the top issue for the community was the city’s growth plan. When Hunter undertook a second study in Atlanta in 1970, the findings were similar (Hunter, as cited in Domhoff, 2005, p. 4) with leaders’ concerned primarily with issues relating to economic growth.

Institutional leaders were generally not considered among the city’s most influential power brokers. However, Hunter (1963) suggests that an economic institution compared with other institutions may increase its power and become a primary influence by drawing upon leaders of the other institutions to become directly involved within it, as with board members. In this way, community leaders achieve a “composite of activity” (p. 5).

Hunter (1963) proposes that power is a function of social relationships in the community. New policies introduced in Regional City frequently originated through informal discussions among the business associates, including several on Hunter’s list of powerful elite, who attended the same social clubs. Ideas were sometimes brought forward to two formal community organizations, the 49 Club and the Committee of 101, which were “not generally known to the community at large but which are considered quite influential by the men of power” (p. 84). Membership in these clubs was very exclusive, expensive, and often inherited.

For Hunter (1963), an important challenge for community power brokers is to establish policies and undertake actions that take into account the interests of the largest number of people in the community, rather than the interests of a small number of elites. Addressing this challenge
requires thorough and inclusive civic engagement processes, including engaging individuals beyond elite ranks in leadership roles. Hunter (1963) suggests that,

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\text{[i]f the basic issues which confront individuals and groups in the community are to be adequately met, it would seem necessary for the citizenry to be fully aware of who their real leaders are and how they are chosen. This would seem to be a first order of business for any individual who is interested in civic issues. Otherwise, responsibility cannot be properly lodged when decisions of individual leaders fail to meet the expectations of the underlying groups. (p. 254)}
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**Urban regime theory.**

Collaboration among local actors may take the form of an urban regime, “a set of arrangements or relationships (informal as well as formal) by which a city is governed” (Stone, as cited in Stone, 2006, p. 27). A City Council is one type of formal arrangement. However, frequently, a much broader range of public and private actors participate in community organizing and decision-making. Local elites are often part of such coalitions. According to Stone (2006), urban regimes bring together public bodies and private interests, including for example, business, labor, and church groups, in order to make and carry out governing decisions. The structure and composition of urban regimes vary from city to city, as do the patterns of interaction among participants. Local government and business possess resources needed to govern, including policy-making authority and capital, which give them the power to act. Stone (2006) distinguishes the urban regime as a model of social production as opposed to social control—as a vehicle for co-operation as opposed to coercion.

Stone (2006) notes that the concept of a regime should be understood, not simply as a coalition of actors, but in terms of the consultation processes, terms of cooperation, commitments of participants, and their capacity for regular and sustainable interaction. Naturally, membership in the regime may change over time, for example, as a result of city elections. Membership also changes as a result of transforming economies, as the relative importance of firms and industries shifts over time. The prominence of an urban regime, itself, may also change over time.

Regimes are not always governing coalitions, nor are they always pro-development. Anti-development coalitions also exist within cities to serve social and environmental interests, or neighborhood interests. They may promote equitable distribution of economic benefits, protect agricultural lands, or preserve cultural and historical assets (Mossberger & Stoker, 2001). As
“activists,” they are sometimes viewed negatively. Their efforts are often emotionally charged as a result of their passion toward a cause they represent. Their challenges encourage critical analysis of strategies and actions, and contribute to a better understanding of the implications or consequences of action (or inaction).

Mossberger and Stoker (2001) suggest that the participants in an urban regime may not share common beliefs or values, but they must agree on and commit to a common purpose, despite individual interests or private agendas. By coming together, they can achieve synergies and outcomes that are greater than those that could be realized individually. Moreover, the partners in an urban regime must understand the beliefs and values of those people whose interests they represent and be open to listening to others. The common purpose which they agree on and work towards must benefit the overall community population. In reality, some urban regimes are far more progressive or inclusive than others. While there is no “ideal” solution that will serve everyone’s needs equally, consideration must be given to potential negative consequences of economic transformation for individuals in the community. Purposive and sustained coordination of efforts are among the core properties that distinguish urban regimes from other forms of “networks” or “interorganizational collaboration” (p. 831).

**Growth machines.**

Growth machines are a form of urban regime. They are typically rooted in economic crisis (Molotch, 1976). According to Molotch (1976), a city often functions as a growth machine, driven by the interests of local elites. Property represents the primary interest of traditional growth machines. Land owners, developers, realtors, and investors all share a motivation to increase economic activity within the locality in order to raise their property values and profit potential. Walton (as cited in Molotch, 1976, p. 314) found that, on the basis of 39 studies of 61 communities, “the proportion of businessmen found in the leadership group is high irrespective of the type of power structure found.” Retail business owners, for example, share an interest in urban development projects, downtown revitalization projects, local transit improvements, and tourism promotion strategies, all of which aim to increase consumer traffic.

Typically operating in coalitions rather than independently, local elites use their positions of power to influence local governments in order to gain resources that contribute to the growth
potential of their properties (Molotch, 1976). They use city governments to negotiate action and resources required from higher levels of government, including development incentives and municipal infrastructure funds for roads, bridges, highways, port developments, and broadband networks. Clusters of cities may work together to achieve greater impact, although they frequently compete with each other for limited provincial, state, or national resources (Molotch, 1976). For example, organizations such as the Pittsburgh Regional Alliance (PRA) strive to develop a regional approach to economic development in order to create a common focus and pool resources among the hundreds of individual municipalities in the region.

Molotch (1976) suggests that local institutions and associations, even the local newspaper, have interests anchored in economic growth. University and college presidents, and newspaper publishers tend to be regarded as ‘‘statesmen’’ rather than advocates of a certain type or intralocal distribution of growth” (p. 316). While branch-plant managers are generally regarded as power brokers, especially those with large operations, their interest in the local economy is typically not as strong as local entrepreneurs or managers of autonomous plants. As a result, cities that are largely based on branch plant economies sometimes struggle to engage industry leaders in community economic development. This raises concerns for communities such as Hamilton in which the major firms within the steel industry (which dominates their economy) have become foreign owned.

According to Molotch (1976), because the city as a growth machine tends to draw business owners with “parochial interests” (p. 317), social and environmental issues may not receive the attention they deserve. Molotch (1976) points out, for example, that problems of increased air and water pollution often accompany growth. Traffic congestion increases. Physical infrastructure requires upgrading to accommodate increased utilization. Sewer systems become inadequate. Doctor shortages and emergency wait times increase. Many of these issues are critical for residents’ quality of life.

Molotch (1976) cautions that local growth may not create net new jobs; instead it may redistribute jobs. Aggregate employment at a regional, state, or national level does not necessarily increase as the employment in a city increases. Growth frequently entails shifts from one industry to another or from one sector to another. For example, a decline in steel
manufacturing jobs may be offset by metal service jobs. Regional growth may involve relocation from the urban core to suburban areas. Workers may choose to commute to other areas or may be forced to relocate to other communities to take advantage of employment opportunities and to earn livable wages. Growth takes many forms. Growth in employment may involve an increase in low-paying service jobs. It may contribute to increased levels of contingent and part-time employment, underemployment, and decreased job security (Livingstone, 2003, 2004; Saunders & Maxwell, 2003; Winson & Leach, 2002).

Mollenkopt (1983) suggests that, subsequent to World War II, the postindustrial transformation of cities in the U.S. was a “profoundly political phenomenon” (p. 16). According to Mollenkopt (1983), the “New Deal Democrats” (p. 16) were largely responsible for pro-growth coalitions established through federal urban development programs as a means to build their political base. They encouraged new industries, such as electronics and aircraft production, to establish their operations in suburban and new metropolitan locations through government interventions such as financial incentives. Central cities were transformed into institutional economies, as old, crowded manufacturing plants relocated to greenfield locations in the suburbs along with large proportions of urban populations, while institutions such as hospitals and universities, predominantly funded by government, remained clustered in the urban core. Governments grew their primary services such as social services, and their political offices in the city core. The presence of non-profit agencies, which also derived substantial operating funds from government, expanded significantly in central city locations. Mollenkopf (1983, p. 138) proposes that to a large extent, the Democrats operated indirectly as “a kind of ‘banker government’, funding local agencies to conduct national programs.”

At the same time, central cities developed a core of commercial business services, including banking and legal services. Corporations also tended to establish their head offices in large urban areas, such as New York, Chicago, Houston, and Dallas. By 1980, central U.S. cities accounted for only 25% of industrial employment compared with 74% in 1930 (Mollenkopf, 1983, p. 37). Similar corporate trends occurred in Canada with head offices locating primarily in major city downtown locations, such as Toronto, Montreal, Calgary, and Vancouver.
Pittsburgh’s powerful growth machine, led by financier and Republican, Richard Mellon, brought the city’s most wealthy business leaders together with politicians such as Mayor David Lawrence, to create the Allegheny Conference on Community Development (ACCD) (Ferman, 1996). David Lawrence had previously been elected as Chairman of the Allegheny County Democratic Party and was a strong influence in the rise of the Democratic Party in local and state-wide politics. He remained Mayor of Pittsburgh from 1946 until 1958 and then went on to serve as the Democratic Governor of Pennsylvania (Ferman, 1996, p.48).

According to Ferman (1996), ACCD was a potent alliance. The organization was created in the 1940s at a time of crisis, when Pittsburgh was suffering from severe pollution, crumbling infrastructure, and frequent floods. Steel, the dominant local industry, had already begun its decline, and corporate head offices such as Westinghouse, Alcoa, and even U.S. Steel were contemplating relocation. These were devastating conditions for the city and for Mellon’s business interests. Mellon controlled most of the corporations participating with ACCD, all of which provided funding to support the organization. ACCD established the Urban Redevelopment Authority of Pittsburgh (URA) in 1946 as the “institutional base for the growth machine” (Ferman, 1996, p. 49). This public authority, chaired by Mayor Lawrence, was given primary responsibility for Pittsburgh’s revitalization. Despite their political differences, Mellon and Lawrence enjoyed tremendous success working together. ACCD set in motion a renaissance that involved 1,000 acres of land and $632 million, of which over $500 million was derived from private sources (p. 50). Throughout more than 60 years of civic reign, ACCD expanded its reach throughout the city. The organization facilitated the creation of several major economic development strategies and numerous public-private partnerships, mostly focused on infrastructure development. ACCD also played a role in establishing many of the private nonprofit institutions in the city. Throughout much of ACCD’s existence, a constant criticism has been its exclusive corporate membership. In recent years, several nonprofit sector leaders have joined ACCD’s Board of Directors, reflecting the changing economic structure of the community.

In contrast to Pittsburgh’s powerful and sustaining economic leadership organization, Hamilton has had many civic alliances which formed around specific issues or projects. None have operated with the enduring influence or financial resources of ACCD. Throughout the city’s
history, local government, specifically City Council and the local economic development department, has been responsible for creating and implementing growth strategies, although, until the 1970s, economic activity in the city was dominated by the steel companies and a few other industrial powers. Weaver (1982, pp. 161-162) suggests that

[t]he introduction of urban planning and regional government to the contemporary city have been less significant in terms of shaping the city [of Hamilton] than the elements of modern capitalism….after the war, the steel companies did more than expand; they exploded into new product lines and searched for additional land to place mills and furnaces employing state-of-the-art technology. The unprecedented expansion of one industrial sector and the comparative or absolute decline of others allows a new description of Hamilton: a company town.

Hamilton’s steel industry continued to expand into the 1960s, while other industries remained relatively static. Dofasco increased its production of steel 400% from 1945 to 1960 (Weaver, 1982, p. 162), and Stelco grew its steel output 200% between 1950 and 1962 (p. 164). The city’s focus on economic development heightened in the 1970s as Hamilton’s steel industry and other major manufacturers such as Westinghouse, Firestone, and International Harvester began to stagnate (Weaver, 1982, p. 167). With the industrial machine gearing down, economic development began to take priority.

Much of the growth in population in the Hamilton area in the 1950s and 1960s occurred in suburban areas surrounding the city. In 1974, the City of Hamilton and neighboring municipalities in Wentworth County combined to form the Regional Municipality of Hamilton-Wentworth, creating a two-tier municipal system of government. It failed to establish a cohesive leadership environment. In 2001, the Region was disbanded and the City amalgamated with five smaller municipalities into a one-tier city called Hamilton. Since that time, substantial work has been undertaken by City Council and its economic development office, in consultation with other community leaders to create a new economic development strategy based on “clusters of innovation.” The strategy focuses on a blend of manufacturing and service industries (City of Hamilton, 2002). The strategy was updated in 2005 with enhanced emphasis on education and quality of life factors (City of Hamilton, 2005a).
Community leadership and organizing theories presented in this chapter highlight the importance of trust, cooperation, and collective, purposeful action. For many years, but increasingly since the 1980s, scholars have used the term “social capital” to conceptualize ties among community members (Bourdieu, 2001; Coleman, 1988; Granovetter, 1985; Putnam, 2000). The concept of social capital was popularized by Putnam (2000) in his study of economic development of regions in northern and southern Italy. Putnam (2000, p. 19) defines social capital as “connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them.” Putnam (2000) distinguishes between two types of social capital: bonding social capital which involves social relations that build unity within homogeneous groups, and bridging social capital which involves interactions that span heterogeneous groups and operate at multiple levels. For Putnam (2000), social capital can be developed among organizations or communities as well as among individuals. Workers develop bonding capital through their interaction with co-workers. Families develop bonding capital through participation in church, school committees, volunteer groups, and other community organizations. Employers develop bonding social capital through industry associations. Individuals and groups develop bridging social capital through relationships with different communities. For example, regional economic development agencies interact with multiple sectors and municipalities.

Putnam (2000, p. 345) attributes the quality of government and economic well-being of northern Italy to the presence of social capital: “Social and political networks are organized horizontally, not hierarchically. These “civic communities” value solidarity, civic participation, and integrity. And here democracy works.” For Putnam, the region’s ability to function effectively is driven largely by local leaders’ capacity to develop social capital, and to engage actively and purposefully with local citizens.

Bourdieu (2001, p. 102) defines social capital as “the aggregate of the actual or potential resources that are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.” For Bourdieu (2001), social capital is the product of purposeful action directed at building collective power and resources to achieve a
common purpose or mutual benefit. Organizations are often formed as a result of strategic planning. Social capital is measured by the size of the network and the volume of capital possessed by the members of the network. According to Bourdieu (2001, p. 103), “the profits that accrue from membership in a group are the basis of the solidarity that makes them possible.” Social capital is also measured by the strength and durability of relationships.

Coleman (1988, p. S98) defines social capital as “a variety of different entities having two characteristics in common: they all consist of some aspect of social structures, and they facilitate certain actions of individuals who are within that structure.” Central to Coleman’s theory is the notion that social capital “inheres within the structure of the relations between actors and among actors” (p. S98). The relationships serve as the productive mechanism that enables collectives to accomplish ends that members would not be able to achieve individually.

Economic activity occurs through a process of collective action. The central thesis proffered by social capital theorists is that the social relations developed among actors enable them to function collaboratively. Growth coalitions can pool resources such as knowledge, technologies, and financial capital to achieve mutual benefits. Social networks that cut across various sectors, levels of governments, and geographies help to promote broader perspectives and to catalyze collaborative action in a more holistic manner.

Economic development agencies, city councils, and civic alliances are all participants of urban regimes and growth coalitions through which social capital develops. For example, the Allegheny Conference on Community Development benefits from bridging social capital that accrues through multi-sectoral representation across industries and across private, public, and nonprofit sectors. Economic development agencies benefit from social capital in several ways. Often their boards, advisory groups, or members include representatives from business, government, and other community organizations. The relationships that develop provide access to information and financial resources. Frequently board members hold positions on more than one local organization, creating ties between them. As well, through corporate calling programs and strategic planning exercises, economic development agencies engage stakeholders across the community, for example through consultation forums and roundtable discussions. The relationships developed through these interactions are important for establishing legitimacy and
gaining support for development initiatives, not only from key decision makers or power brokers, but from the local population. Trust and legitimacy are central to these relationships.

Associates with common economic or political interests are often invited to participate among the economic elite. Molotch (1976) notes, local business elites may use their positions to influence direct and indirect investments supporting their firms or industries. For example, transportation infrastructure such as a port is an important asset for steel companies. International airport services are also important for many local businesses. The presence of these assets is critical for their ability to operate in a global marketplace. While these assets are important to the local economy, economic development must address the needs of the whole community. Citizens must be fully aware of who is actually making decisions on their behalf and how these leaders are selected. Through civic engagement processes, local citizens can gain confidence that their interests are fairly represented (or take action to ensure that they are).

Just as economic organizations use their collective power and resources to attract business elites, they may also exclude individuals or groups. Trust issues often exist between business and labor, and therefore, labor unions are often excluded from economic development organizations. Hoerr (1988, p. 3) suggests that the steel industry is “the best example of what has gone wrong with union-management relations in the United States.” It is not surprising that labor leaders have generally been excluded from major community organizations that historically have been dominated by business elite (Williams, Personal Communication, October 9, 2007).

Labor continues to be under-represented in economic development in Pittsburgh and Hamilton today. For example, very few labor leaders hold board level positions in key organizations identified in both cities as agents of economic transformation. Historically, environmental activists have also been among the under-represented groups. Environmental activists are often viewed as anti-development. They raise concerns, for example, about destroying agricultural lands for industrial development purposes or about pollution emissions from industrial operations. Involvement of these groups within high profile community organizations would heighten attention towards such issues.

Hunter (1963) argues that policies that focus solely on the interests a small number of elites cannot adequately address important issues that confront individuals. Historically,
nonprofit community agencies have been under-represented on economic development boards or growth coalitions. Today, the nonprofit community in Pittsburgh has greater representation in economic development because it has become a larger part of the local economy. Education and healthcare, for example, are among the leading employment sectors in both Pittsburgh and Hamilton. Business leaders continue to hold the greatest number of Board positions. An analysis of inter-connectivity among community organization members is presented in more detail in subsequent chapters.

Decisions by formal and informal economic organizations are sometimes influenced by gender bias, ethnic bias, and class bias. Historically, city councils, economic development boards, and other growth coalitions have been predominantly male. Many economic development organizations, formal and informal, continue to have a gender bias with respect to membership. As a result, women remain largely excluded from critical processes and decisions impacting the future of work in cities, despite the growing number of women in the work force. This poses a risk that the types of firms and industries that communities choose to pursue may not reflect the interests of women. In 2008, in Pittsburgh, the 50-person board of the Allegheny Conference on Community Development (Allegheny Conference on Community Development, 2008), whose mandate is to stimulate economic growth, comprises 10% women, 90% men. All 7 of the executive officers are male. In Hamilton, the 16-person city council comprises 2 women and 14 men, including the city Mayor. The local economic development department reports directly to City Council.

Bradford (2003) suggests that cities that demonstrate the capacity to “engage diverse actors in collaborative planning processes” (p. 2) benefit from a more holistic understanding of community challenges and potential solutions and are most likely to be adaptive and innovative. For Bradford (2003), economic development requires leadership, collaboration, and commitment from institutions, associations, and other organizations that share responsibilities for enhancing quality of life for all members of the community. Recent local economic development policy places emphasis on purposeful and planned community capacity building by local champions. It also calls for more extensive and equitable civic engagement (Bradford, 2003). Capacity building includes focus on innovation and knowledge resources such as universities, colleges, and research centers.
Social interaction among economic actors is more prevalent today than in the past. Gertler (2002, p. 13) suggests that

it is now widely acknowledged that for economic actors social processes of learning have become considerably more important than before. This is based on the recognition that a very large and growing proportion of innovation occurs through the process of interaction between economic actors.

Networks supporting innovation include businesses, post-secondary institutions, research parks, unions, nonprofit agencies, and others. As institutional actors play a heightened role in emerging economic activity, they are also likely to be in higher demand in leadership collaborations. In Pittsburgh and Hamilton, for example, university and college leaders have been actively involved in leading stakeholder consultations for local economic development strategies.

**Conclusion**

Several important factors essential for economic transformation emerge from this literature review. Communities require leaders with the credibility to represent stakeholders’ interests and willingness to make sustaining commitments to building trust, resolving issues, and championing strategic action. The importance of collaboration among agents of economic transformation within and between communities is highlighted in all three leadership theories. Beyond information sharing, consultation and dialogue, collaboration must entail policy coordination and enduring commitment by community, businesses, and labor leaders (including private, public, and nonprofit sectors) who are willing to take responsibility for the creation and implementation of inclusive economic development strategies. This involves building relationships of trust and reciprocity – building social capital.

Effective leaders of community and economic development take into account the needs and interests of the larger community, not solely the needs of a small group of elites. Because of the multi-dimensional nature of local economies, transformation can be achieved through collaboration among a multitude of organizations, not necessarily through the creation of one wholly representative body. It can involve large-scale projects as well as small, entrepreneurial ventures promoted by local coalitions. MacGregor Burns’ theory of transformational leadership embodies such democratic processes for achieving qualitative change.
Many leaders contribute to economic transformation. Multiple levels of government play a key role. They provide institutional support. They are largely responsible for the physical infrastructure that supports economic activity, and for establishing the policy environment to help drive economic transformation. They also address quality of life needs, including neighborhood revitalization, recreational assets, environmental needs, as well as public safety services. Business leaders are the primary source (or control) of capital. Their financial resources are needed, not only to support economic activity, but to contribute to community assets and social programs. Their intellectual capacity is just as critical. New work is often rooted in past experience, and in creativity and innovation. Nonprofit leaders play an important role in economic development today, partly because of their role in addressing quality of life issues and partly because they have become a growing component of economic activity. Changes in labor organizations also reflect the transformation of economies in which they participate. Labor unions are more diversified today relative to 30 or 40 years ago. They represent the interests of thousands of workers in retail, healthcare, education, and manufacturing sectors for example. They are important participants in decisions impacting local economies; therefore, they should be actively engaged in leadership collaboration involving economic development. Community leaders, for example, those representing nonprofit organizations ensure that issues such as economic segregation and poverty, and the costs of urban sprawl are addressed. They advocate for neighborhood revitalization and training programs for unemployed or displaced workers. They raise awareness of rising poverty rates and the need for employment support mechanisms for single parents, including child care and transportation.

The knowledge, experience and insights of government, business, labor, and other community leaders are critical for achieving a holistic understanding the city’s strengths and challenges. Many aspects of inclusion need to be considered, for example, gender, ethnicity, class, and neighborhood representation. Inclusion in decision-making should be based on legitimate representation of interests.

In addition to agency, economic activity requires direction, which is often guided by an economic development strategy that defines development objectives, actions, and desired outcomes. City leaders must have a vision that is strategically developed, well-coordinated, and sustainable. Their plan must address how they will drive key factors of community and economic
development. They must also address the potential consequences of actions for the whole community. As cities navigate economic transitions, they must effectively manage the impacts of declining activities and emerging opportunities to ensure community stability. Economic history does not have an off switch. At any point in time, economies simultaneously embody historical, current, and potential capabilities. In addition to developing new work opportunities, communities must also consider the needs of individuals who become displaced from their jobs as local economies change. Effective economic transformation involves bridging processes that enable individuals, firms, and local institutions to transition from old to new economic activity systems.

Citizen engagement is a critical process factor in community economic transformation. The importance of including the community population in economic development processes is well established. Citizens require information about what is taking place in the local economy and should have input into the change processes. In particular, they require information about how economic change impacts their current employment situation and prospects for the future. They also need information about major local investments and their impact on quality of life in the city. In practice, citizen engagement often takes the form of a few town hall meetings. Processes should encourage citizens to participate actively and democratically. Multiple approaches may be needed to engage community interest. On the other hand, many initiatives are created at the grassroots level, by local individuals and coalitions. Rada (1999, p. 18) stresses that “anyone can be a transformational leader”: “[MacGregor-Burns] postulated that transformational leadership is not the purview of a few, select individuals but occurs at all levels of organizations and in the routine tasks of everyday life.”

The economic theories presented in the previous chapter point to growing recognition of knowledge exchange as a key driver of innovation. Institutions of education and research – knowledge generation - are primary stakeholders in local economic development. The means to educate and train potential employees in skills that are relevant to local economic sectors are important for development. As well, much of the knowledge and skills that individuals develop occurs informally through work and through other social interactions. Knowledge and skills are human capacities that are embodied in labor. The quality of the local labor force is important for
new and existing businesses. Frequently firms choose to locate and stay in a community based on the availability of workers, especially where employers require specialized knowledge and skills.

Financial resources are also essential for investments in new business formation, new technology and facilities, and education, training, and retraining. Public-private partnerships that involve shared investment in development projects have been especially popular in Pittsburgh and have also been used in Hamilton. Changes in economic structure also create changes in city tax revenues. The decline of manufacturing industries has challenged cities to find new sources of revenue and new approaches to municipal taxation to fund public services and infrastructure needs.

Quality of life factors, including schools, hospitals, community centers, and cultural amenities contribute to the well-being of local citizens. People who are fortunate to have choices generally choose to locate where they can earn a living, where their children can participate in good schools, and where they can enjoy safe, clean, inviting communities. This is the common purpose of transformation – community well-being.

While there is no single model that addresses the specific economic development needs of all cities, six essential factors emerge from the literature on economic development and community leadership:

1. Transformational leadership is essential for guiding and directing development processes and resources and for building confidence and enduring trust relationships among community members.

2. Economic development strategies provide a road map for transitioning to a stronger, more diversified economy. Strategic planning should build upon established local strengths and encourage innovation in order to create new strengths. Strategies must address transitions from old to new economic activity. They must address the need for programs to support old-to-new economy transitions, including education and training for displaced workers, child care supports, and transportation issues.
3. Broad community engagement is important for ensuring that the needs of the whole community are addressed and that potential consequences of actions are carefully considered.

4. Education and research institutions are fundamental sources of knowledge and innovation. They are critical for new development and for ensuring that displaced workers have opportunities for new learning. They are essential drivers of new economic activity.

5. Cities must have funding for services and infrastructure. Financial resources are also essential for investments in new business formation, new technology, and facilities. As well, funding for social infrastructure is critical.

6. Quality of life factors, including schools, hospitals, housing, and cultural amenities contribute to the well-being of local citizens. Quality of life is both a means to and a product of economic prosperity.
Chapter Four:  
History of Steel Work in North America  

Introduction  

For well over a century, steel has been the infrastructure of industrial development. Throughout Canada and the United States many communities developed around steel mills, especially around the Great Lakes, in North America’s industrial heartland. Often they were one-industry towns. Generations of steel makers – grandfathers, fathers and sons – worked in the same mills, passing on traditions of hard work and pride. For these steel workers, the mill is an integral part of their history, their culture, their everyday lives. Just as the workers are dependent on the mill for their livelihood, so is their community dependent on the mill for its economic stability. Even where other major industries co-exist with steel, when a large integrated mill shuts its doors, the impact on workers, their families, and their communities is monumental. For steel workers in these cities and towns, notions such as “deindustrialization,” “knowledge economy,” and “information economy” are more foreign than the steel imports for which they attribute their job losses. When a plant closes in a one-industry mill town, or when major layoffs occur, the alternatives for work are limited and the challenges to create and attract new, diversified economic activity are substantial.  

Steel is an alloy of iron, and is stronger and more flexible. It is produced by driving carbon out of the iron. Early methods involved manually pounding the carbon out of the iron. It was later discovered that heating the iron to a very high temperature would drive out the carbon more effectively and produce a better quality steel. The coal mines throughout western Pennsylvania gave the Pittsburgh region a commanding position in the steel industry. The Allegheny, Monongahela, and Ohio rivers all converged in Pittsburgh, offering an excellent transportation channel for moving both raw materials and steel products. Hoerr (1988, p. 85) describes the development along the Monongahela River:  

Flowing out of the “mountains” of West Virginia and cutting a 128.73 mile, winding gorge northward to Pittsburgh, the river became nature’s equivalent of an assembly line. Outfitted with bridges, locks, dams, and a nine-foot channel, its banks lined with railroads, mills, furnaces, coal mines, gravel pits, coal docks, tipples, trestles, pipelines, tanks, cranes, conveyor belts, and practically every
other item of industrial equipment known to man, the Monongahela enabled entrepreneurial capital to use and exploit the valley’s minerals and men on an awesome scale.

Industry growth was also fuelled by a large inflow of immigrants, originating primarily from Europe. As America became the world leader in steel production, Pittsburgh reigned as the nation’s steel capital. By the turn of the 20th century, Carnegie steel mills alone reached annual production of 4 million tons, only a million tons less than the entire steel production of England (Lorant, 1964, p. 178).

The rise of steel in Hamilton began in the 1890s subsequent to the high tariffs and federal bounties for steel production introduced by the Sir John A McDonald government (United Steelworkers, 2007a). Hamilton’s proximity to raw materials and major markets made it an ideal location. Like Pittsburgh, Hamilton benefited from its proximity to the coal mines in Pennsylvania and West Virginia, and to Lake Superior iron ore. Also, as in Pittsburgh, water and rail transportation were critical locational advantages for Hamilton. The area known as Hamilton Harbour became an industrial multi-modal corridor. The Hamilton Harbour Commission formed in 1912 after city council petitioned the Federal Government to fund the independent agency (Hamilton Port Authority, 2008). The harbor also served as an entry point for immigrants, many of whom possessed skills and knowledge accumulated first in the iron industry, then in steelmaking in Europe.

Palmer (1979) notes that, by the turn of the century, Hamilton had proclaimed its likeness to Pittsburgh. Hamilton became known as “steel city,” a manufacturing hub for steel-based products such as farm implements, sewing machines, hardware, and stoves. In 1910, Hamilton Steel and Iron Company merged with Canadian Screw Company and several iron and steel finishing plants throughout Ontario and Quebec to form the Steel Company of Canada (later named Stelco). The company undertook several large expansions of its steel production facilities, adding new open-hearth furnaces, a new rolling mill, and later a mill for the production of sheet metal. The Steel Company continued to increase its production capacity to meet the munitions requirements of World War I. Following the War, the Steel Company mechanized its blast furnace production, which had the combined effect of reducing labor requirements and increasing output substantially. According to Heron (1986, p. 74), “[U]nder the old style it took
150 men per 24 hours to operate a 200 ton furnace and the output was 1.33 tons per man turn,” however, by 1924, “[U]nder the modern style it [took] only 60 men per 24 hours to operate a 550 ton furnace, and the output is 9.17 tones per man turn.” By the 1920s the Steel Company of Canada had taken a leadership role in the nation’s steel industry.

Companies like United States Steel Corporation and the Steel Company of Canada became powerhouses, driving the Industrial Revolution, literally shaping the economies of North American societies (Gordon, 2006). Mass production of steel fueled urban growth. It was a better material than iron for railroads and bridges, compared to iron. Steel acquired substantial use value because of its strength and versatility. It became the primary material for transportation equipment such as ships, trains, and automobiles. The steel mills were a leading source of material for armaments and weaponry during the American Civil War and World Wars I and II. Massive plant expansion to support war efforts contributed to the growth of the Pittsburgh and Hamilton steel industry.

Steel also became an important product for the commercial preservation of food. Founded in 1869 and based in Pittsburgh, Heinz food processing company has grown into a multi-billion dollar global entity. Also founded in 1869 in New Jersey, Campbell Soup Company grew rapidly, producing 500 million tin-plated steel cans per year by the 1920s. By the end of the 1950s, 85% of all manufactured goods contained some type of steel (A&E Television Networks, 1997).

Over time, revolutionary changes have occurred globally in the steel industry. Through hundreds of years of steelmaking and continuous pursuit of profit-making and productivity, reconfigurations of capital and labor have transformed steel work into a highly mechanized process. D'Costa (1999, p. 12) suggests that “[s]uccessful capital accumulation proceeds either through low wages and long hours of work or by introducing new innovations that increase labor productivity.” In the case of steel, both strategies – cheaper labor and new technology – play a significant role in the global redistribution of steel production.

In recent decades, the North American steel industry has experienced massive restructuring and consolidation. Globalization and technological innovation have been instrumental to labor process changes and employment dislocation. New world leaders among
steel-producing countries have expanded their steelmaking capacity, creating mounting pressures for improved productivity. Labor-saving technology such as continuous casting has increasingly become a powerful tool facilitating greater management control and cost reduction in the steel industry.

This chapter provides a historical overview centering on the technological evolution of steelmaking processes that have enabled the globalization of production and intensification of competition among powerhouses in the industry. The chapter also touches on the turbulent history of North American union-management relations as workers sought to improve their conditions of employment, protect their livelihood, and build their sense of community.

*Making History Making Steel*

There is a strong tradition of pride among steelworkers. Historically man’s work, steelmaking was tough, hot, and dirty. The scale of operations was huge and the product weighed in tons. Fitch (1989, p. 10) provides a graphic description of steelworkers in a Pittsburgh mill:

To understand these men you must first of all see them thus at their work; you must stand beside the open-hearth helper as he taps fifty tons of molten steel from his furnace; you must feel the heat of the Bessemer converter as you watch the vesselmen and the steel pourer; and above the crash and roar of the blooming mills you must talk with rollers and hookers, while five- and ten-ton steel ingots plunge madly back and forth between the rolls. You must see the men working in hoop mills and guide mills, where the heat is intense and the work laborious; you must see them amid ladles of molten steel, among piles of red hot bars, or bending over the straightening presses at the rail mills …To really know them you must see them at home. There the muscular feats of the heater’s helper and the rough orders of the furnace boss are alike forgotten, and you find them kindly, open-hearted, human.

The Bessemer furnace, introduced in England in 1856, transformed the steel labor process into mass production. Britain was producing 30 million tones of steel each year by the end of the 1800s (Fitzpatrick, 2007, p. 1). The process involved introducing air to molten iron to remove the carbon and make it more malleable. The liquid iron was poured into molds to make ingots, which were subsequently reheated and rolled into various shapes. This innovation was introduced in the United States in 1864 and strengthened Pittsburgh’s position as the nation’s steel capital. The Bessemer process required types of iron ore that were plentiful throughout the
West, particularly around Lake Superior. In addition, Pittsburgh had immediate access to the coal fields of western Pennsylvania (Lorant, 1964, p. 146). Abundant rich iron ore and coal deposits and cheap water transportation helped spur the development of North America’s steel industry in the Great Lake states and in Hamilton, Ontario, where companies like Hamilton Steel and Iron Company had been established. That company later became the nucleus of the Steel Company of Canada (Government of Canada, 2000a).

The Bessemer process triggered the rise of Pittsburgh’s steel industry. In 1870, Jones and Laughlin’s American Iron Works covering 20 acres along the banks of the Monongahela River converted to Bessemer steel (Lorant, 1964, p. 147). Four large steel mills, Homestead, Edgar Thomson, Duquesne, and Clairton, all ultimately coming under the ownership of Carnegie Steel, were built specifically to make steel (Fitch, 1989, p. 88). Pittsburgh and the Mon Valley became America’s major steel production center.

Only a few years after the introduction of the Bessemer furnace to North American steelmaking processes, the more efficient Open Hearth method was developed. It became the predominant steelmaking technique for much of the 20th century. By 1915, close to three quarters of global steel production operations used Open Hearth furnaces (D’Costa, 1999, p. 31). This technology allowed the use of local ores. Molten pig iron and scrap were packed into a wide, shallow hearth with a low roof and heated by overhead gas burners using preheated air. The molten steel was then poured into ingots, which were subsequently reheated and rolled.

Between 1880 and the turn of the century, U.S. steel production increased exponentially. At the beginning of the Civil War, steel output for the entire United States was about 11,000 tons, and 20 years later, one plant in Pittsburgh produced that amount in a single month (Lorant, 1964, p. 178). By the close of the century, the Pittsburgh area had become the largest steel producer in the North America.

In 1901, the United States Steel Corporation was created as the largest industrial corporation in the world, the first to be capitalized with over $1 billion (Apelt, 2000). Headquartered in Pittsburgh, Pennsylvania, this single company controlled 60% of the entire American steel market (Gordon, 2006) and remained the leading producer of steel beyond World War II. It brought together under one corporation the assets of several steel producers and more
than 50% of the steel workers in the United States (Fitch, 1989, p. 5). Most of its capacity was established with Open Hearth furnace technology.

Shortly thereafter, in 1910, the Steel Company of Canada (Stelco) was formed in Hamilton Ontario, also as a consolidation of five existing companies. In 1912, Dominion Steel Castings Limited (Dofasco) was established. Hamilton became renowned as the steel capital of Canada.

The new production methods introduced into North American steelmaking with the Bessemer furnace and Open Hearth furnace were more highly mechanized and required fewer skilled workers. The pace of technological change rendered their skills obsolete as the captains of industry built their empires, persistently substituting capital for labor and ultimately locking in processes too expensive to replace. Fewer laborers and craftsmen were needed and a new “semi-skilled” work force emerged, a large percentage of whom were machine operators (Heron, 1986, p 82). Heron (1986, p. 87) notes,

Though hard evidence is lacking, it might be argued that the new work force in steel plants, filling the new specialized, semi-skilled jobs, were beginning to identify themselves as steelworkers, with distinct experience and steadier commitment to a specific industry in a specific community.

In 1935, the Steel Company of Canada reported that 88% of its employees had at least 5 years of service with the company (Heron, 1986, p. 87).

Just as steel was the backbone of North American industrial development, immigrant workers were the lifeblood of the steel industry, providing essential human resources. Many immigrants came from the British Isles, but as the supply of immigrant workers tightened, increasingly unskilled labor was acquired by attracting peasant immigrants from Eastern Europe. African Americans were also recruited in large numbers and worked as unskilled laborers for low wages. According to Lorant (1964, p. 187),

Carnegie placed a value of $1500 on each adult because “in the former days an efficient slave sold for this sum.”

Crowded in tenement houses without proper sanitation facilities, the immigrants started their life at the bottom of the ladder. The wooden shanties at the Point and
on the hill, at Skunk Hollow or Painter’s Row were crammed with humanity; a single room housed a dozen or more people. (p. 189)

As Hamilton’s steel industry grew in the latter part of the 19th century, the labor force was boosted with large scale immigration from the British Isles, but Hamilton also experienced labor supply constraints. Immigration increased well into the 20th century, especially among Black Americans, Italians, and Hungarians (Weaver, 1982). Labor agents were used to help recruit foreign workers to fill the growing demands. The integration of immigrants into the steel work force and the Hamilton community was not a smooth process. As Heron (1986, p. 80) notes,

[These were men from peasant backgrounds whose ties were usually stronger with family and village across the Atlantic than with fellow workers a few blocks away. Their presence, moreover, was deeply resented by many of Hamilton’s Anglo-Canadian workers, who feared that the newcomers could bring about the degradation of work and living standards in Canada.]

Both the work place and the community became ethnically stratified, with marked disparities in economic opportunity between immigrants and their Canadian-born counterparts. Language barriers and racial discrimination towards foreign workers often marginalized their capabilities and consigned them to subordinate social groups.

The next wave of new technology in the steel industry in North America and most of the world was the Basic Oxygen furnace, which offered significantly improved fuel efficiency. Raw materials including iron ore, limestone, and coke are melted in a blast furnace to create liquid iron. The molten metal is tapped from the blast furnace into a huge ladle. Magnesium and other materials are added to the molten metal to reduce impurities, then the liquid is poured into the BOF vessel. Pure oxygen, rather than air, is blown at supersonic speed through a lance into the bath of liquid iron and scrap (the charge) in a steel furnace with a heat-resistant refractory lining called a converter. The process reduces the carbon content and other elements to produce molten steel for casting or rolling into primary shapes such as plates or bars (International Iron and Steel Institute, 2006a).

The adoption of Basic Oxygen technology by industrializing countries enabled them to compete with established North American firms that were relatively slow to adopt this
Following World War II, several countries including Japan, Germany, and Korea grew their steel industries using Basic Oxygen Furnace (BOF) and continuous casting technologies. Most integrated steel mills in North America have now replaced their Open Hearth process with BOF technology (D’Costa, 1999). New rolling mills spanning an acre or more were installed to increase efficiency and enable a continuous, electrically-driven system of production (Heron, 1988).

Continuous casting is a relatively new process that began to gain widespread use in steelmaking in the mid 1960s and is now used to produce over 90% of steel in the world (Thomas, 2001, p. 1). The introduction of continuous casting virtually rendered the production of steel ingots obsolete. It is the most efficient method for casting large volumes of steel into various shapes because it requires less rolling and reheating, representing significant savings in energy and labor. Molten steel is cast on a continuous basis directly into semi-finished shapes such as slabs, blooms, or billets. Computer controls used in the continuous casting process have eliminated many labor positions and increased the need for technical support.

Minimills facilitated the globalization of steel production even further by significantly reducing capitalization requirements. They also enabled more strategic location in growth areas within North America. Modern minimills are highly-automated, continuous operations and much less expensive to run than integrated steel mills. Minimills feed recycled steel scrap from automobiles, appliances, and other steel containing products into Electric Arc furnaces to re-process them into finished steel. They are generally more cost-effective, requiring less capital investment, energy, and labor. On average, they are four to five times more energy efficient than integrated mills that use virgin iron (Steel Manufacturers Association, 1997).

With the proliferation of minimills, steel has become the most recycled material on earth (Steel Manufacturers Association, 1997). They are more highly environmentally sustainable operations compared to integrated steel mills because their main material input is scrap steel. The U.S. industry recycles more than 60 million tons of steel per year (USGS, Mineral Information Service, as cited in Considine, 2005, p. 31). More than half of all steel produced in North America now comes from consumer and producer durable equipment and structures that are recycled at the end of their useful life (Considine, 2005, p. 2).
Integrated producers are exposed to rising input costs including coke, iron ore, and energy. The rising cost of scrap is now a major issue for both integrated producers and minimill operations. Raw materials and energy costs account for 75% of total costs for steel production in North America and about 90% in China (Surma, 2006, p. 7). As production in newly industrializing countries increases and demand for scrap increases, the margins between integrated production and minimill production are narrowing. Labor and capital requirements are substantially less in minimills compared to integrated mills. According to Rifkin (2004, p. 134), “[w]ith its computerized manufacturing process, the mini-mill can produce a ton of steel with less than one twelfth the human labor of a giant integrated steel mill.” Some companies such as Dofasco in Hamilton now combine both integrated and minimill technologies. Because they are smaller, more flexible, and far less capital intensive, minimills have made entry into the steelmaking business much easier.

In recent years, thin slab casting technology integrated with the hot rolling mill has made flat rolling accessible to minimills. This is a significant development that has enabled them to compete directly with integrated steel producers to make products such as plate and strip used in the automotive industry. Thin slab casting provides savings in capital costs, energy, and labor.

Integrated processors are still predominant in world steel production: 63% of steel is produced using this method, while minimills produce 33.8% (International Iron and Steel Institute, 2005, p. 6). Older Open Hearth methods, still operating in countries such as Russia and the Ukraine, produce only 3.2% of the world’s steel. In North America, however, production volume in minimills has surpassed integrated operations: 54.4% is processed through minimills and 45.6% is processed through integrated operations (p. 6). This “creative destruction” of the North American steel industry has important implications for economic renewal in older steel cities like Pittsburgh and Hamilton. Local factors that contributed to the establishment of integrated steel industries in these cities are not the same factors that attract minimills. Minimills are not restricted by proximity to raw materials because they process scrap metal. Some minimills actually gain advantages by having multiple locations, for example, negotiating with different power suppliers and accessing different sources of capital and talent (Toto, 2002).
Material design has been another important aspect of technological innovation in the steel industry. The International Iron and Steel Institute (2006a) suggests that steel is the most important engineering and construction material in the world, despite competition from other materials such as plastics, wood, aluminum, and copper. Long steel products such as hot and cold rolled bars and rods, wire rods, and structural tubing are used in construction, and automobile and parts manufacturing. Structural shapes such as plates are used in manufacturing bridges and heavy equipment. Tubular products are used in the energy sector and municipal water and waste treatment. There are more than 3,500 different grades of steel, but approximately 75% of modern steels have been developed in the last 20 years (International Iron and Steel Institute, 2006a). Sixty percent of advanced high-strength steels used today for manufacturing automobiles did not exist 5 years ago (International Iron and Steel Institute, 2008a). Substantial investments have been made to improve the quality and flexibility of steel and to ensure that it remains the “material of choice” for a wide array of North American manufacturers. The NAFTA countries, United States, Canada, and Mexico have made a $44 million investment in Ultra Light Steel Auto Body (ULSAB) initiatives (Canadian Steel Producers Association, 2004, p. 10).

Aylen (2004) observes that computers have had an important impact on work processes in steel. According to Aylen (p. 465), “[n]ew capital equipment called for new control techniques, forcing developments in machine drives and controls, sensors, and data acquisition technologies, all vital to exploitation of the growing power of electronic computing.” By 1970, computers were extensively used in rolling mill operations (p. 475). New plants were designed for computer-controlled work processes that minimize the human factor.

D’Costa (1999, p. 4) suggests that technological innovations in the steel industry have been driven by “commercial motives” and have been aimed primarily at reducing costs, improving quality, and providing cheaper raw materials. Integrated steel mills are especially capital intensive, and investments in new technology can require millions of dollars and represent substantial risk. Furthermore, innovation does not guarantee success. Some of the technological innovations implemented in steel work have been less effective than others. Smith (Personal Interview, April 18, 2006), who is past president of Local 1005 United Steelworkers at Stelco’s Hilton Works, provides an example:
It’s capitalism. I mean, like the plate mill right. All this new equipment was acquired and installed specifically to produce this new standard of steel plate which was going to be demanded for this new pipeline. We were going be ahead of the market. And the shit didn’t work. Think about this. They borrowed over $80 million to do the upgrade of our plate mill. They were doing this upgrade specifically to be able to produce plate to a new international standard because they believed the big oil pipeline from Mackenzie Delta was going to be built. And they were going to be the first ones to have the right standard of steel ready to produce large diameter pipe for that pipeline. Before the construction could even begin, they knew the government needed a billion tons of pipe, so they spent all this money. They bought this American concept; they hired an American company to install it. They went way over budget and in the end we were making plate that they were making $6 a ton off of when the cost of a ton was $700. So think about the margin on that. Your cost is say $700 a ton and you can make $706. Where you can roll hot rolled steel and make $200 to $300 a ton on it, right. So, after importing all this new technology, installing it all in the mill, doing a few test runs – which were difficult – they just took the loss. They didn’t even want to go through the teething pains; they just shut the thing down. They just took the loss and shut it down. It’s a storage facility. And what does that have to do with technology?

The plate mill assets at Stelco’s Hilton Works were sold in June, 2005, with gross proceeds of $25 million (Stelco Inc., 2005, p. 13).
For the most part, process innovations have enabled dramatic reductions in the steel labor force, while improving productivity and increasing management control. In 1980, for example, United States Steel Corporation employed 120,000 workers and by 1990 it was producing about the same output with 20,000 workers (Rifkin, 2004, p. 134). According to the International Labor Organization, between 1974 and 1989, in the Organization for Economic Cooperation and Development (OECD) nations, while finished steel output decreased only 6%, over one million jobs were lost in the steel industry (Rifkin, 2004, p. 135). Over 20 countries were members of OECD at that time, including Canada, the United States, and the United Kingdom. The International Labor Organization attributes this reduction in employment primarily to improvements in productivity.

Work processes in the steel industry have unequivocally been shaped by capitalists’ quest for ever-increasing mechanization of work. Livingstone (2003, p. 3) suggests, “[C]apital intensification in extractive and manufacturing industries has put an increasing premium on human mediation of expensive machinery over the last century.” Cost cutting measures have also been achieved through consolidation and globalization of production. Together, these powerful forces interact within a complex market system, collectively and incessantly seeking the technological means to reshape labor processes.

Organizing Steel

Allegheny County is sometimes referred to as “the birthplace of organized labor” (Hoerr, 1988, p. 25). The latter part of the 19th century was a significant period of labor organizing in Pittsburgh’s steel industry. In 1876, the National Amalgamated Association of Iron, Steel, and Tin Workers (AA) was founded with the merger of several smaller bodies.

Homestead was the first of Carnegie’s four big steel mills to be organized by the Association. Krause (as cited in PBS Online, 2007) suggests, “[t]ens of thousands of American workers came to believe in the late 1860s and early 1870s that upward mobility would not be open to them…they therefore saw their status in American society as wage slaves.” In 1892, a bitter strike over wages ultimately broke the union at Homestead when Carnegie’s partner, Frick, discharged the entire labor force of 3,800 workers. The price of rolled steel products had been declining, and Frick was determined to cut wages and break the AA, which had grown to become
one of the strongest craft unions in America. With Carnegie’s approval to slash wages and a stock pile of armor plate in reserve, Frick responded to the union’s strike action by constructing “Fort Frick,” a three-mile long fence around the steelworks (PBS Online, 2007). He also brought in the Pinkerton private police to keep the workers out. Krause (as cited in PBS Online, 2007) explains the workers reaction:

The workers believed because they had worked in the mill, they had mixed their labor with the property in the mill, they believed that in some way that property had become theirs. Not that it wasn’t Andrew Carnegie’s, not that they were the sole proprietors of the mill, but that they had an entitlement in the mill.

In the bloody riot that ensued, three detectives and nine workers were killed and many more injured. Authorities charged the strike leaders with murder and the entire Strike Committee was arrested for treason. None were convicted (PBS Online, 2007).

After 4 months, depleted of financial resources, the workers returned to the mill. Subsequently, the union was ousted from most mills in the Pittsburgh area. Several wage reductions were imposed on the Homestead workers, including one in February 1908 of up to 30% (Lorant, 1964, p. 474). Twenty years after the Homestead strike, working conditions remained poor. The majority of U.S. Steel employees worked 6 days a week, or 72 hours; some even labored 7 days, or 84 hours a week (Hoerr, 1988, p. 49).

Forty-six years after the Homestead strike, in June 1936, the Amalgamated Association of Iron, Steel and Tin Workers became an affiliate of the Committee for Industrial Organization (CIO) and an agreement was struck setting forth the procedures and organization for the Steel Workers Organizing Committee (SWOC) representing the eight CIO unions, with national headquarters in Pittsburgh (Steel Workers Organizing Committee, 1937a, p. 20). At its first Wage and Policy Convention held December 1937, SWOC Chairman Philip Murray announced the following developments:

Had one ventured to predict a year ago today that twelve months later representatives of 1,080 newly-organized local lodges would assemble in convention prepared to discuss the revision and renewal of contracts already entered into with 445 steel manufacturing, fabricating and processing concerns - that person would have been called an incorrigible optimist or an impractical dreamer.
Eighteen months ago hundreds of thousands of employees in the steel industry were just so many individual wage earners, each acutely conscious of his own individual helplessness and the superior economic power exercised by his corporation-employer. These wage earners were governed and directed in their employment by an outworn system of discipline imposed by an industrial dictatorship.

Today more than a half million wage earners in the iron, steel and tin industry are united together in a great industrial union of which you delegates here assembled are the democratically elected representatives. The old system of individual relationships with the employer is gradually but definitely being replaced by a modern democratic system of collective bargaining, and discipline by dictatorship is being replaced by a system of discipline by collective consent. In short, for the first time in the history of the industry a measure of democracy has been introduced, based upon the growing out of the organization of the workers into a free democratically functioning industrial union. (Steel Workers Organizing Committee, 1937a, p. 19)

In 1937, the United States Steel Corporation and its subsidiaries recognized the Steel Workers’ Organizing Committee as the bargaining agent for its members. (Appendix A is a copy of the first Agreement between the Steel Workers Organizing Committee and Carnegie-Illinois Steel Corporation, a subsidiary of US Steel, dated March 17, 1937.) The Agreement helped set the stage for collective bargaining in the North American steel industry. It established a $5-a-day minimum wage, a 40-hour week, and vacations with pay. It also established seniority rights for the purposes of labor force increases and decreases, and for promotions. The agreement set out a procedure for the adjustment of grievances and for the provision of safety equipment. At a convention held in May, 1942, SWOC and the Amalgamated disbanded and the United Steelworkers was established as a constitutional body (Mangum & McNabb, 1997, p. 32).

Unified collective bargaining among the major steel companies was formalized in 1956 through the Coordinated Committee Steel Companies (CCSC) representing management and the Basic Steel Industry Conference (BSIC) representing the union. Through this coordinated bargaining process, industry-wide master agreements were negotiated. The terms of the master agreement were often applied to non-member firms which traditionally accepted the wage pattern set by the major steel companies. Both the union and the companies saw significant benefits in this approach. The labor market demand for skills in the American basic steel industry
was identical across each mill. In fact, Mangum and McNabb (1997, p. 5) note, “[m]aking steel could be learned nowhere but in a steel mill.”

In order for industry-wide bargaining to succeed, a major hurdle had to be overcome with respect to wage inequalities, which existed across companies and regions, and even within firms, across plants. Stieber (1959) recalls that issues relating to wages were the predominant source of grievances in the industry, long before the industry was organized. Both the union and the companies stood to benefit from a joint evaluation of production and maintenance jobs. According to Mangum & McNabb (1997), through coordinated bargaining, the union aimed to structure internal labor markets and remedy wage inequities, while the companies aimed to ensure that competitors were unable to gain advantage through cheaper labor rates. Smaller firms wanted to eliminate the threat of individual strikes. The elimination of wage rate differentials was not achieved easily given the number of steel companies, the tens of thousands of jobs, and the multitude of collective agreements that had been negotiated with unique contract language for various companies and their subsidiaries. However, Mangum and McNabb (1997, p. 33) explain that the oligopolistic nature of the steel industry, its common technology, and with the exception of maintenance craft skills, “[s]teelmaking processes lent themselves to a hierarchy of job classifications, each differing modestly in skill from the one below and the one above and all learnable informally on the job by observation and by temporary assignment during absences.”

The 1937 agreement between Carnegie-Illinois and the Steel Workers Organizing Committee did not provide for a common job classification system and wage structure. Section 11 of the agreement stated that “[w]here alleged inequalities in wage rates prevail, the matter may be taken up for local plant adjustment, and settlement made on a mutually satisfactory basis” (SWOC and Carnegie-Illinois Steel Corporation, 1937b, p. 2). Subsequent to this agreement, elimination of wage-rate inequities and differentials became a major focus of negotiation between SWOC and the steel industry; however, initial efforts were unsuccessful. In 1942, a joint committee was established with equal representation by the union and U.S. Steel to discuss strategies for addressing wage rate differentials. In 1943, 12 of the largest steel companies in the United States agreed to participate in a joint labor and management commission, which established the Cooperative Wage Study program (CWS) (Mangum & McNabb, 1997, p. 37). CWS involved the creation of a formal job evaluation program for
production and maintenance jobs, with wage structures based on job descriptions and classifications, which were negotiated by the steel companies and the United Steelworkers of America. With the guidance of a War Labor Board decision in 1944, the program was implemented by these companies and by 1947, CWS had been adopted by 51 companies, resulting in an unprecedented level of industry-wide cooperation and a high degree of uniformity in steel wage rates (Mangum & McNabb, 1997, p. 37). The CWS program became the union’s primary mechanism for negotiating wage rates for the basic steel agreement for most of the steel industry. According to Stieber (1959, p. xvii) as of December 1957, an estimated 180,000 jobs had been classified in 450 basic steel plants. While the CWS program was modified over the years, it was never replaced in spite of significant technological changes in the steel industry.

In 1959, the first industry-wide bargaining in the U.S. took place among the steel industry’s largest producers, with U.S. Steel assuming leadership among the companies. Deadlocked over disagreements relating to wages and management control, the United Steelworkers shut down the entire steel industry for 116 days. The strike involved 519,000 steelworkers (Hoerr, 1988, p. 101). The 1959 strike opened the door to foreign competition. Between 1959 and 1980, the steel industry underwent substantial restructuring on a global scale, with countries like Japan aggressively entering the export steel market. Companies began to opt out of industry-wide bargaining until the early 1980s, when the remaining members disbanded and independent bargaining resumed. Mangum and McNabb (1997) point out that the disappearance of technological uniformity and product homogeneity were important factors, along with new foreign competition in steel and steel-based products, which contributed to destroying industry-wide bargaining.

Through the fractious period of the early 1980s, several wage reductions were granted by the United Steelworkers, setting the stage for case-by-case concessions. By October, 1982, the steel industry in the entire Mon Valley was operating at only slightly more than 30% capacity (Hoerr, 1988, p. 2). The departure from the uniform wage policy eroded the United Steelworkers’ position as the industry’s “enforcer of a common labor rate” and damaged them severely in the eyes of many of their members (p. 67). At the time, Dick Grace was president of the United Steelworkers Local 1408 at National Tube Division in McKeesport. He recalls the tension over demands for wage concessions.
We, that’s myself and a couple of the others, they called us militant presidents. We balked at that. We didn’t want to give them nothing because they were not giving us any guarantee that they were going to keep the plants open. We spent hours and hours in Pittsburgh, sometimes until two in the morning. The international wanted to bend a little. They used to call us together and say, “Do you guys still want to be here?” (Personal Interview, January 25, 2007)

During the latter part of the 19th century, the iron and steel industry became well established in Hamilton. Labor organizations such as the Hamilton Knights of Labor had developed strong bonds among the city’s skilled workers, bonds that “were to prove less malleable than the iron forged in its foundries, more resilient than the steel smelted in its mills” (Palmer, 1979, p. 31). While embracing the city’s artisans and craft workers – molders, carpenters, printers, engineers, and masons; however, the Knights of Labor initially excluded the growing masses of unskilled laborers employed in the city’s factories, many of whom were immigrants who had come to Hamilton with high hopes for a better quality of life. In south-central Ontario, the Knights of Labor peaked 1886, then deteriorated (Kealey & Palmer, 1986, p. 44). As large numbers of unskilled workers poured into Hamilton’s industrial plants during the early 1900s, bitter resentments persisted between Hamilton’s distinct skilled and unskilled labor classes for many years (Palmer 1979, p. 231).

Labor organizations became a major political force in Hamilton when, in 1872, they gathered together in a mass protest, the 9-hour movement. On May 15, 1872, virtually “every workman in the city” had left his work to join in a parade to protest for shorter working days (Palmer, 1979, p. 141). Workers across the country engaged in similar protests. Few of them realized their goal. Forty-four years later, during World War I, machinists and toolmakers in Hamilton’s munitions industry initiated a strike that lasted almost a year and a half, and about half of the workers secured a 9-hour day (Palmer, 1979, p. 152).

The Hamilton steel industry encountered a revival in unionization in the decade before World War I, through aggressive organizing efforts by the Amalgamated Association of Iron,
Steel and Tin Workers (AA). The AA, which embraced all occupations and ethnic groups, appealed to the large masses of unskilled workers as well as craft workers. As new machines displaced skilled workers, those who remained endured continued pressure to speed up work processes, which resulted in intensified and often dangerous conditions. The depression of the early 1920s virtually crippled the AA’s efforts (Heron, 1986, p. 86).

In Canada, the Steelworkers Organizing Committee (SWOC) began its organizing drive from the Labour Temple in Hamilton. Steelworkers at Dominion Steel and Coal Corporation, later known as Sydney Steel in Nova Scotia, were the first to sign contracts, followed by workers at Algoma Steel in Sault Ste Marie. When Local 1005 was first organized at Stelco in 1936, management refused to recognize the union (United Steelworkers, 2007a). In 1942, SWOC was renamed as the United Steelworkers of America (USWA) and Local 1005 became officially chartered. In 1946, the Steelworkers pursued a common set of contract demands from the three big Canadian steel companies they had unionized. After a founding 81-day strike in 1946, Stelco agreed to recognize the union (United Steelworkers, 2007a). Across Canada, as the steel industry and other manufacturing and mining operations grew, unions organized thousand of workers. The United Steelworkers of America became the largest, representing most of Canada’s steel industry.

Dominion Steel Casting Company (Dofasco) was established in 1912. It has never been unionized. The company became Dominion Foundries and Steel in 1917 when it merged with its subsidiary, Hamilton Steel Wheel Company. In 1938, the company was the first Canadian manufacturer to introduce profit sharing which has been a key element of its labor relations package (Dofasco, 2006). The company officially changed its name to Dofasco Inc. in 1980. Dofasco has recently been purchased by ArcelorMittal, the world’s largest steel producer, a global giant with 320,000 employees in 60 countries and an output of over 118 million tonnes of steel in 2006 (ArcelorMittal, 2007). The company is now called ArcelorMittal Dofasco.

As of 1942, the United Steelworkers had become an international union, representing 700,000 members in Canada and the United States. Their 1972 convention brought together 4,000 delegates whose decisions affected the lives of 1.4 million members (USWA, 1972). They had become the largest industrial union on the continent. In 30 years, members’ wages had
grown from $5 per day to well over $5 per hour, plus a long list of benefits that few other industries could boast. They were riding high through the peak production years for the North American industry. Almost a century earlier, Carnegie had severely underestimated the power of unions and the workers’ desire to belong to a union. In a note to British statesman William Gladstone, Carnegie wrote:

This is the trial of my life (death’s hand excepted). Such a foolish step – contrary to my ideals, repugnant to every feeling of my nature. Our firm offered all it could offer, even generous terms. Our other men had gratefully accepted them. They went as far as I could have wished, but the false step was made in trying to run the Homestead Works with new men. It is a test to which working men should not be subjected. It is expecting too much of poor men to stand by and see their work taken by others. (PBS Online, 2007)

Today, we are far more “civilized.” It is not other human beings but machines that take the place of workers. Such is progress.

**Steel Production**

As Table 1 indicates, overall throughout the half century from 1950 to 2000, domestic steel production in the United States and Canada grew little, averaging close to 100 MMT annually in the United States and about 14 MMT annually in Canada. While a significant proportion of production from integrated mills shut down in the 1980s and 1990s, minimill producers such as Nucor and IPSCO increased their output substantially. Today, over 60% of steel production in the United States occurs in minimills and the balance is produced in integrated mills (Steel Manufacturers Association, 2009, p. 6).
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In Canada, two Hamilton-based companies produced more than half of the nation’s steel output of 16.3 MMT in 2005. Stelco produced 4.5 MMT and Dofasco produced 4.2 MMT of crude steel (International Iron and Steel Institute, 2006b, p. 2). Dofasco is recognized as Canada’s most successful steel producer and the most profitable steel company in North America (Tmej, 2004). The company has a long history of exemplary leadership, and investment in technology, workforce development, and community. In 2006, Dofasco was purchased by Arcelor, the world’s second largest steel company, which in turn was purchased by Mittal Steel, the world’s largest steel producer. The company was renamed ArcelorMittal Dofasco. For almost a century, Stelco was Canada’s largest steel producer, but in recent decades the company experienced significant downsizing. After 2 years of restructuring, in 2007 Stelco was purchased by Pittsburgh-based United States Steel Corporation and was renamed U.S. Steel Canada Inc. In addition to the steel mills, many local companies provide products and services related to the steel industry in Hamilton (City of Hamilton, 2000).

United States Steel Corporation is headquartered in Pittsburgh. The company operates plants in the United States, Canada, and Central Europe and has an annual raw steelmaking capability of 31.7 million net tons. Near Pittsburgh, U.S. Steel continues to operate Mon Valley
Works, which includes the Edgar Thomson Plant and the Irvin Plant (U.S. Steel, 2008). No other major integrated steel mills operate in the city of Pittsburgh today.

Despite extensive restructuring, the steel industry in Canada and the U.S. continues to make a substantial economic contribution. In Canada, the industry contributes over $3.57 billion in 2001 constant dollar terms to the nation’s GDP through primary steel production and an additional $1.8 billion from steel manufacturers and ferrous foundries combined (CSTEC, 2005, p. 10). In the United States, the steel industry produces over $60 billion worth of steel (U.S. Energy Information Administration, 2006). The American Iron and Steel Institute (2009) estimates that the combined direct and indirect contribution of steel production to the American economy is more than $350 billion annually.

**Going Global**

Since the 1950s, steel production has become more geographically dispersed within North America and globally. The United States has been displaced from its reign as the world’s leading steel-producing country, first by Japan and then China. In the 1950s, Japan’s Nippon Steel trumped the US Steel Corporation as the world’s largest steel producer. Japan built its industry adjacent to deepwater ports and produced massive ships to haul iron ore and coking coal. Japan grew its industry with more modern technologies, including basic oxygen furnaces and continuous casters, and by 1969 had become the world’s largest exporting country. Other countries such as South Korea were also growing their steel industry. The South Korean government formed Pohang Steel Company (POSCO) in 1968, with Japanese capital, and expanded output through a joint venture with USX (formerly US Steel Corporation) (Magnum & McNabb, 197, p. 56).

Western “sunset industries” are rising in the east. The steel industry has grown exponentially in China. In 2007, the top steel producing countries were China, Japan, United States, Russia, and India, in that order (World Steel Association, 2008b, p. 11). South Korea ranked sixth. In 2007, China produced 489.2 MMT, more than triple the amount produced by NAFTA countries combined, which was 131.4 MMT. The United States produced 98.2 MMT, Canada produced 15.6 MMT, and Mexico produced 17.6 MMT of crude steel in 2007 (p. 11).
China’s share of world crude steel production has grown from 13.6% in 1997 to 36.4% in 2007, while NAFTA countries share has declined from 16.1% in 1997 to 9.8% in 2007.

China’s steel consumption has also grown exponentially. In 2007, China consumed three times as much finished steel products as the NAFTA countries combined (33.8% compared to 11.7%) (World Steel Association, 2008b, p. 17). As it has in all industrialized nations, steel is playing an essential role in the economic development of China and other Asian economies.

While the global steel industry restructured its operations with labor-saving technologies, during the 20-year period from 1950 to 1970 global steel production grew steadily. It tripled from 189 million metric tons (MMT) to 595 MMT. From 1970 to 2007 world crude steel production more than doubled again, from 595 MMT to 1,344 MMT (World Steel Association, 2008b, p. 9). As Figure 1 illustrates, however, from 1970 to the late 1990s, steel industry production growth was relatively stagnant and uneven. Production levels dipped in 1975 and in 1982 to about 645 MMT, and declined again in the early 1990s; then production levels grew steadily until 2007. From 2000 to 2005, the average growth rate for world crude steel production accelerated to 6.2%. From 2005 to 2007, growth accelerated even further to 8.3% (p. 9). In 2008, world production of steel declined for the first time (in the latter half of the year), as the global economic crisis hit (World Steel Association, 2008b).
As Figure 2 illustrates, steel production levels fluctuated in Canada since 1970. Production dropped from a peak of 16.9 MMT in 1979 to 11.9 MMT in 1982 and rebounded to 16.3 MMT in 2004; then declined again slightly to 15.6 in 2007. In the United States, production fluctuated much more dramatically, plummeting from a high of 136.8 MMT in 1973 to 67.7 MMT in 1982 and has since experienced steady growth to 99.7 MMT in 2004, then dropped slightly to 98.2 in 2007. Mexico, the third NAFTA country, experienced steady growth throughout the three decades (World Steel Association, 2008b, p. 11; Haine, Personal Communication, May 5, 2005). Although North American steel production has rebounded somewhat, the U.S. has yet to reach the volume achieved in the early 1970s and a long way to go to regain top place in market share. Canada has always had a much smaller steel industry and is a
much smaller market, and therefore, was not on the radar screen of major competitors at that time.

The implementation of the Canada-US Free Trade Agreement (FTA) in 1988 and the North American Free Trade Agreement (NAFTA) in 1994 resulted in significant growth in intra-NAFTA steel trade and steel related-trade (Rubio, 2005, p. 15). In Canada, in the decade following the NAFTA implementation from 1994 to 2004, apparent domestic consumption (industry estimate of use) rose from 12.9 MMT to 17.4 MMT. Imports increased substantially from 3.9 MMT to 8.1 MMT in the same time period. As a percent of market share, imports into Canada increased from 30.2% to 46.2%. The United States accounted for much of the increase, with imports from U.S. growing from 14.6% of market share to 25.7%. Canadian steel exports rose from 4.4 MMT to 5.4 MMT, mostly destined for the United States (Fife, Personal Communication, February 20, 2006).

According to Fife (Personal Communication, February 20, 2006), a Senior Steel Sector Specialist with Industry Canada, one reason for rising import levels relates to the capacity of the Canadian steel industry to meet demand. The Canadian steel industry is geared to supply the average demand over a steel cycle, therefore, in strong markets the domestic industry is not capable of meeting total demand from domestic sources and this leads to surges in import levels. Fife suggests that the success (or failure) of trade actions is also a factor impacting steel import levels in Canada. Most Canadian imports of U.S. steel are not unfairly traded (i.e. dumped or subsidized), yet they are taking an increasing portion of the Canadian market.
Figure 2. Crude steel production for NAFTA countries, 1970 to 2007.

In the United States, between 1994 and 2004 apparent domestic consumption grew considerably from 110.3 MMT to 127 MMT. Imports rose from 27.3 MMT to 32.5 MMT, while exports grew from 3.5 MMT to 7.2 MMT. Canadian imports as a share of the U.S. market have remained relatively small but constant, between 3 and 4% (Fife, Personal Communication, February 20, 2006).

Several large steel-producing countries outside the NAFTA region, including China, have expanded their steelmaking capacity with foreign government support and they export their steel
into North America. Steel that is unfairly traded (dumped or subsidized) creates downward pressure on steel prices, which negatively impacts the profitability and sustainability of domestic firms. Bilous and Hon (2004) suggest that, for Canada, imports have increased at a proportionately higher rate than production, with import growth due largely to the Canadian government’s reluctance to implement actions against unfair trade practices. By the late 1990s, imports exceeded exports. In the United States, imports also surged in the late 1990s.

Non-NAFTA imports originating from countries such as Japan, Korea, Germany, and increasingly China, represent a considerable volume of North American consumption. In the United States, steel companies have lost considerable market share to imports of cheaper foreign steel. In 1990, 17.6% of U.S. steel consumption was attributed to imports compared with 31.4% in 2006 (Industry Canada, 2009). During the recession of 2001, falling steel demand and excess production capacity led to substantial financial losses in the North American industry. According to the American Iron and Steel Institute (as cited in Considine, 2005, p. 14), net income losses of nearly $4 billion were experienced in the United States in 2001, with further decline in 2003 as the industry restructured. By 2004, however, net income reached $6 billion as steel prices rebounded. Between 2001 and 2004, high prices for steel and raw materials were triggered by accelerated demand. In particular, Chinese production and consumption of steel have greatly affected the world steel market (United Nations Trade and Development Board, 2005, p. 10).

The central argument among proponents of free trade is that “global production reduces labor costs and consumers benefit by the resulting lower prices and the reduced threat of inflation” (Aronowitz, 2005, p. 52). In both Canada and the United States, there is growing concern regarding the loss of related manufacturing jobs to low-wage labor countries. Low Chinese labor costs, estimated at $1.75 US per hour, except in Shanghai where they are approximately $5 US per hour, have attracted some of the steel industry’s major customers to China (CSTEC, 2005, p. 14). Lower labor costs in China have more than offset lower labor productivity, and as a result, their production costs are significantly less (United Nations Trade and Development Board, 2005, p. 12). In China, 90% of steel is produced using basic oxygen furnaces and 10% using electric furnaces (minimills), compared with 41% using oxygen furnaces and 59% electric furnaces in NAFTA countries (World Steel Association, 2008b, p. 15).
Varied strategies have been undertaken to address foreign competition. Some corporations have shifted assets to other industries, while others have entered into joint ventures with foreign steel producers. Both Canada and the United States have called for import restrictions. Import restrictions and surtaxes also have important implications for steel users, including potential steel price increases. Steel price increases could in turn trigger employment downsizing among steel consumers such as automotive and construction industries, and in extreme cases, trigger relocation of steel consumers.

The North American Steel Trade Committee has been established to address challenges such as unfairly traded imports from producers elsewhere in the world (Canadian Steel Training and Employment Congress, 2005). Canadian steelmakers, in partnership with government and industry associations, have established the Canadian Steel Partnership Council to address trade-related issues. As well, organizations such as the Canadian Producers Association, the Canadian Steel Caucus, the American Iron and Steel Institute and the Senate Steel Caucus bring together key stakeholders including steel producers, labor organizations, suppliers, customers, and federal, state, or provincial governments, with a key focus on steel trade. In the United States, complaints of unfair trade practices induced the Bush administration to impose tariffs on imported steel in March 2002; however, they were suspended after 18 months (Considine, 2005, p. 17). Canadian steelmakers were exempt from these tariffs. In January 2009, the new Obama administration is considering a $US 819 billion economic stimulus package to spur economic activity. The package is expected to include infrastructure projects such as highways and bridges. The American steel industry is demanding a “buy America” clause that will force American firms to buy American steel for construction projects funded by the stimulus package (CTV, 2009, January 31). Steel companies in Canada are hoping to receive an exemption from the protectionist legislation, as they have in the past. Without the exemption, the proposed legislation will impact the Canadian steel industry’s $7 billion in annual exports, much of which is produced in Hamilton (CTV, 2009, January 31). Once again, the city’s prevailing dependence on steel has made the community vulnerable to a vicious circle of uncertainty. Given the large percent market share comprised of American imports, Canadian producers may consider the current situation an opportunity for import substitution. However, because steel products vary in form and quality, domestic production is not necessarily a direct substitute for imported steel.
Aronowitz (2005, p. 96) describes the strategies employed by developing nations to improve their competitiveness in the global marketplace, pointing to the articulating role of higher education and technological innovation:

Even as the United States entered its prosperity bubble, China and India, the largest countries in the developing world, were in different ways undertaking a major historical experiment: They entered the global market both in the production of intermediate-technology consumer products and in knowledge industries. In the 1970s, both the Chinese and Indian governments established extensive educational, scientific, and technological institutions within universities and as independent institutions. From 1990 to 2003, each country’s universities and technical institutes graduated hundred of thousands of scientists, engineers, computer analysts and programmers, and technical professionals. From 2000 to 2003, each graduated some two hundred thousand students in these fields. While the media obsessed about globalization, Indian nationals answered the technical – support lines of computer companies and made marketing calls. Americans have begun to wake up to the reality that Indian and Chinese computer scientists and technicians can perform advanced as well as ordinary research and development tasks in computer, laser, and digital technologies for a fifth to a tenth of the salaries of U.S. computer people. Globalization has come not only to material production but also to knowledge work.

The Resurrection of the Steel Oligopoly

Faced with growing international competition from developed and industrializing countries, the North American steel industry has undertaken continuous restructuring. In addition to experiencing technological displacement of labor, the industry has undergone extensive consolidation, corporate restructuring, and job compression - strategies directed at growing demand, cutting costs, improving productivity, and increasing management control. D’Costa (1999, p. 7) explains the process of restructuring in the steel industry as

a ceaseless process of capitalist expansion in which strategies and institutions interact to diffuse technologies by combining the macro dimensions of capitalist development with the institutional aspects of late industrialization, focusing on technological change and the on-going evolution of the industry.

Between 1997 and 2004, more than 44 North American steel makers, representing over half of the industry capacity, entered bankruptcy protection (CSTEC, 2005, p. 17), including major players such as Bethlehem Steel, LTV Corp, National Steel, Stelco, Ivaco, Weirton Steel, and Wheeling-Pittsburgh Steel. Some emerged under new management, others under new
ownership. The Chair of the American Iron and Steel Institute, Surma (2006, p. 4) suggests, “the sound of those companies hitting bottom was no death knell, however. On the contrary, it was the turning point for a rebirth of our industry.” It cleared the way for intensified concentration of wealth and power, enabling powerhouses like U.S. Steel to absorb the assets of distressed companies like National Steel. In 2006, the three largest American producers represent nearly 47% of total steelmaking capacity in the U.S. market (Surma, 2006, p. 4).

Indeed, mergers and acquisitions have become so rampant that it’s difficult to keep abreast of the changes. In recent years, for example, Nucor Steel acquired Trico and Birmingham Steel, and later, Corus Tuscaloosa. U.S. Steel Corporation acquired National Steel. International Steel Group (ISG) purchased LTV Steel, Bethlehem Steel, Acme Steel, Weirton, and Georgetown (Considine, 2005). In 2005, Mittal Steel acquired ISG and Ispat to become the world’s largest steel company. In Canada, in 2006, Dofasco agreed to an estimated $5.6 billion takeover by Arcelor (Bobak, 2007). The company was subsequently consolidated into ArcelorMittal to become ArcelorMittal Dofasco. IPSCO was acquired by Sweden’s SSAB Svenskt Stal AB in 2007, while Algoma Steel was recently acquired by India-based Essar Global Ltd for $1.85 billion. Hamilton-based Stelco Inc., Canada’s last independent integrated steel producer was purchased in 2007 by the U.S. Steel Corporation, headquartered in Pittsburgh (Bobak, 2007). All major integrated steel mills in Canada are now foreign-owned.

Intrinsic to the merger process, substantial technology transfer has occurred through internationalization of companies and through joint ventures. Globally, more than 100 million tons of steel making capacity has been closed since 1998, while investment in new plant and equipment has grown considerably and overall world steel making capacity continues to expand (Hubner, 2005, p. 7). The North American steel industry experienced renewed growth over the past decade, with the upturn in the global steel market and corresponding steel prices. Shipments and revenues increased and productivity has risen sharply. Process and product innovations range from steel recycling and improved energy efficiencies to new stronger, lighter, and more durable steels (Considine, 2005). An increasing proportion of North American steel is made in minimills rather than in integrated mills.
Buyouts and consolidations have produced massive international conglomerations, with intensified focus on competitiveness – increased market share, higher productivity, greater profitability, and exploitation of global labor markets. While globalization is not a new phenomenon, what is distinct in the emerging economic paradigm is the increasingly transient nature of investment, a principal driver of growth, and marked increasing inflows to developing countries (The Conference Board of Canada, 2007b).

Capital’s primary mediating instruments include technological innovation (and diffusion), trade liberalization, regulatory frameworks, capital mobility, and labor mobility. The ties that bind companies to communities have loosened their grip. While many local factors remain critical to location decision-making, both capital and people are on the move as never before.

The Conference Board of Canada (2007b, p. 45) notes that world inflows of foreign direct investment (FDI) grew by 29% in 2005. According to The Conference Board (2007b, p. 46), “[o]f the 141 economies benchmarked in the 2006 WIR [World Investment Report], Canada ranks 97th on the Inward FDI Performance Index.” The United States also performed poorly based on this index. At the same time, emerging economies such as China and India are becoming increasingly attractive destinations for FDI. Milway (as cited in Olive, 2007, p. 2) believes that “Canada needs more foreign takeovers because foreign owned firms make domestic ones more competitive.” The nature of the industry also factors into the debate, however. In the case of steel, it is the primary material for munitions. Historically, North American steel industry expansion was fuelled by the demand for armaments and weaponry during several wars.

While consolidation does not necessarily mean major job losses for North American steel companies, it raises concerns for workers and their union. The United Steelworkers list 17 plants in North America owned by ArcelorMittal where employees are members (United Steelworkers, 2007b). A recent article published by District 6 of the United Steelworkers states,

For the business media, and for players on the stock market, these are exciting times. But for workers these are tumultuous and insecure times…Corporate consolidation is driven by strategies that consider the entire global industry and market to chase efficiencies, cut costs, eliminate the competition, and win preferred access to both booming steel markets and cheap labor. Growth is focused on selling to regions with high growth potential and producing in regions
with low cost potential. Being competitive in this kind of fast-paced, globally-oriented steel industry demands that the companies [and workers] be ever more efficient, and ever more flexible. (United Steelworkers, 2007b)

As corporate titans expand their power base to an ever-widening global reach, they set an immensely challenging context for local economic development. In this context, national policy makers will need to consider the economic, political, and moral implications of a new global steel oligopoly. Local economic developers will need to dig deep into their toolkits for mechanisms that lock in long-term investment and jobs within industries they wish to develop, retain, and grow. This includes developing mechanisms to promote domestic as well as foreign investment.

**Employment Dislocation in the North American Steel Industry**

While bankruptcies and mergers have narrowed the list of North American players, and technological change has largely diminished manual work and speeded up production processes, the steel industry has experienced enormous contraction in employment. The magnitude of employment decline has been huge in terms of direct jobs generated by the production of steel and steel products. The impact has been nothing short of catastrophic in terms of indirect jobs throughout the industry supply chain. For every one job formed in the steel industry, an additional seven jobs are created in other economic sectors (Considine, p. 43, 2005). It stands to reason that the multiplier effect would similarly impact job losses.

Canada’s three integrated steel makers, Stelco, Dofasco, and Algoma together accounted for over 60% of total national output of steel (Industry Canada, 2005). As of 2005, the industry employed about 54,000 people directly and many more in secondary industries. Of the direct jobs, 47% are in iron and steel mills and ferrous alloy manufacturing, 20% in steel products manufacturing from purchased steel, and the balance of 33% in metal service centers (Statistics Canada, 2005) (and see calculations of employment in the steel industry in Canada and the United States presented in Chapter Six). Total employment in the three steel sub-sectors is down considerably from its peak of 71,190 in 1988, although employment in metal service centers has grown significantly.
The U.S. steel industry employed over half a million workers in 1970 (SIC331) then charted a continual decline, plummeting through the 1980s and 1990s to 187,000 workers in 2003 (U.S. Department of Labor, 2007a). During the 1978 to 1988 period, nearly 46 MT of steel capacity was phased out, a third of it in the Pittsburgh region alone (D’Costa, 1999, p. 1). The magnitude of the employment losses in the American steel industry was substantially greater than in Canada. Relative to peak years, employment losses in the American steel industry have approached a half million jobs.

While the North American steel industry experienced many plant closures and layoffs during the last three decades, they have achieved substantial gains in labor productivity and management control over work processes. Increased levels of productivity enables firms to become more efficient and profitable, but often results in fewer jobs. Further details regarding productivity in the North American steel industry are provided in Chapter Six.

The spill over effects of employment displacement impacting other firms and industries has been significant also. Typically, as employment and payroll numbers decline, a chain reaction is set in motion, extending across a range of economic sectors and consumer spending activity. For workers, the personal and economic consequences are often devastating.

Knowledge creation and innovation are fundamental to industry and to society. Industrial transformation takes place largely through the integration of new technologies, new work structures, new products, and new learning. Livingstone (1993, p. 14) notes, “[I]n short, all productive capitalist enterprises are at least periodically impelled to invest in new technologies and new product lines, and to undertake a related intensive reorganization of their workforces in order to survive” (p. 14). Once technological innovations are introduced into an industry, the effects on employment can also be negative for companies that fail to innovate and lose their ability to compete effectively. D’Costa (1999, p. 38) suggests that this was apparent in the American steel industry where, during the immediate postwar period, government invested $2 billion in older Open Hearth furnace technology, and in effect hindered the diffusion of new BOF technology. Global competitors in Japan, Korea, and other countries opted for the latter. D’Costa (1999) points out that, ironically, during the 1950s and 1960s, technical staff from newly formed nations received their training at Carnegie Mellon University in Pittsburgh.
What is also apparent in the steel industry is the failure to proactively plan collaboratively with workers, their representatives and management to address the impact of transformative technologies on labor processes. Strategies are needed to minimize worker displacement and maximize their transformative capacities to develop knowledge and skills through on-the-job experience and through training. The absence of such planning reduces labor to a “current asset” or “dispensable commodity.” In the case of the steel industry, as tens of thousands of jobs grew over the years, and then diminished, little if any long-term planning was undertaken to mediate the impact of technological and global economic forces.

The Changing Nature of Steel Work

As steel companies navigate the world-wide, industry-wide restructuring, radical changes are taking place in both the nature of work and the organization of work. Steel making was once considered a highly-skilled craft. Much of workers’ knowledge was developed on the job, through years of experience and mentoring. Pankhurst and Livingstone (2005, p. 8) provide an example of the cognitive knowledge developed by a rolling mill operator at a Canadian steel mill:

Reading the tolerances in molten steel is all eyeball because we burn wood against it, it makes an impression, and each mark on the impression dictates what you need to do. That was the hardest part about the job, learning how to read that wood…But that’s the learning process figuring out what the steel is doing, or what grade, or what your tolerances are, and how it reacts with different types of wood…The guy who trained me told me that sound would save my life there one day….I hear things now that I shouldn’t hear…That [M]ill, when it changes speed, I know. I know where it changed speed, if the bar is loose somewhere I can hear it, if it breaks out somewhere – the sound plays that much of a role.

Today, most of the jobs in American steel mills are classified as operators, maintenance and repair (or service) workers, transportation and material moving occupations, and supervisors and managers. Machines have replaced much of the manual labor. In the United States, approximately 78,000 steel production workers remain in steel manufacturing, accounting for approximately half of all employment in the steel manufacturing industry; however, the U.S. Department of Labor Statistics (2009) projects that these occupations will further decline by 25% by 2016. In recent years, some production work has shifted back to occupations requiring higher skill levels, including salaried work. Proportionately, engineers, chemists, and computer
specialists are playing a larger role in steel mills (U.S. Department of Labor, 2009). In many plants, job classifications have been compressed, in one instance (LTV-Sumitomo) to as few as three in the entire plant. Management hierarchies have been restructured – generally flattened. At some plants, self-managed work teams have been given greater control, while supervisory and management roles have been reduced (Rifkin, 2004). Particularly in recent years, industry consolidation has targeted reduced management layers.

For steelworkers who often gain their knowledge on the shop floor, the impact of displacement has been dramatic. The situation has been exacerbated by massive decline in the primary metal manufacturing sector overall in both the United States and Canada. Displaced steel workers have been forced to seek alternative work, participate in retraining programs for other occupations where demand remains high (although wages may not), commute to other locations, and in many cases uproot their families and move to other communities where jobs are available.

Knowledge transfer issues have emerged in the steel industry both as a result of employment displacement, and more recently as a result of significant numbers of retirements. For example, according to the Canadian Steel Trade and Employment Congress (2005, p.37), in 2001, almost 55% of those employed in primary steel production in Canada in 2001 were 45 years or older, while only 14% were between the ages of 15 and 34. High rates of retirement projected over the next decade pose serious concerns for the industry. Shortages in several occupations have been projected by both management and unions for specific occupational groups, with the most critical shortages anticipated for skilled trades (CSTEC, 2005, p. 52), yet steel companies have become increasingly reluctant to carry permanent trades people for repairs and maintenance. Steel work is becoming more contingent as a growing number of contract employees take on work that was once performed by full-time employees.

Strategies aimed at productivity improvement generally advocate more formal education and training, increased mechanization, fewer job classifications, and workforce reduction. Pankhurst and Livingstone (2005) note that labor processes can also benefit from conditions that stabilize employment, improve job design, and recognize workers’ competence acquired through practical experience. Proponents of a “knowledge economy” often fail to recognize the extensive
“cognitive reserves” that workers have accumulated through years of experience and their capacity to “modify, reorganize and extend cognition, both consciously and intuitively” to productive work environments (Pankhurst & Livingstone, 2005, p 10). In the face of world-wide major structural demographic changes, strategies aimed at recognizing workers’ informal learning and investing in workforce development and labor process design are essential.

**Implications for Industry Restructuring and Economic Sustainability**

World production of steel has doubled over the past 35 years, while huge numbers of North American steel workers have been displaced from their jobs. The unrelenting challenges of the past few decades continue to plague the industry and invite further industry and corporate restructuring. While steel remains one of the most essential industrial materials in the world, producers will continue to develop new technologies, innovative processes, and new materials to drive the future of work in the steel industry.

Substantial work restructuring in the steel industry has been aimed at minimizing man hours per ton and pressing for record numbers on equipment. Wider application of labor-saving computerized processes and controls has resulted in significant reductions in the work force, and redistribution of decision-making and problem-solving functions to salaried positions such as engineers and to contractors who assume risk management for their work. Automated systems have enabled management to achieve more centralized control over work processes.

Considerable investments are needed to sustain and improve research and development and workforce development in order to achieve labor force renewal within existing firms and successful adaptation to new ones. Labor market strategies must offer new opportunities that build on the strong foundation of experience, knowledge, and skills within the workforce – talents that have enabled North American steel to endure its history. At this crossroad between the old and the new lies the path to the way forward.
Chapter Five:
Research Design and Methodology

Introduction

This chapter introduces the methodology used to conduct the empirical research for this thesis. The first section of the chapter describes the rationale for conducting a comparative analysis of the economic transformation of Pittsburgh, Pennsylvania, and Hamilton, Ontario. It addresses key challenges in designing and conducting a comprehensive mixed approach involving qualitative and quantitative research and analysis. The second section focuses on the qualitative analysis, beginning with the selection of key informants (elites) as interview participants, the interview process, and the analysis. This section includes a description of a pilot study conducted in Welland, Ontario, which supplemented the literature review as a means to identify key factors of economic transformation. The third section describes the process undertaken to map the interaction among community leaders in each city. The final section presents the methodology for the quantitative analysis involving a statistical profile of Pittsburgh and Hamilton.

Rationale for Research Design: Comparative Method

My research employs the comparative method of analysis which is recognized as a core method in social science for identifying and examining similarities and differences across societies (Ragin, 1987). A distinctive feature of the comparative method is its usefulness for examining “historically, culturally or geographically defined social phenomena” (Ragin, 1987, p. vii). Ragin (1987) suggests that qualitative researchers tend to focus on whole cases, which may be analyzed in terms of specific variables. In my research, the factors relating to the economic transformation of cities are viewed in the context of a whole community economic activity system. The factors do not exist in isolation or in a simple aggregate form. Central to this research is the composite effect of the variables which interact to effect the transformation of cities. Also of central importance are the ways in which leaders organize to act upon the factors of transformation. The comparative method provides a framework for identifying similarities and
differences among economic trajectories and local leadership structures that play a key role in community and economic development in each city.

The comparative method may employ both qualitative and quantitative analysis, or in other words, mixed methods research. In recent years, there has been growing acceptance of mixed methods research design by the professional research community, especially in the social sciences (Ragin, 1987). My thesis emphasizes a qualitative approach, but also utilizes quantitative research to produce comprehensive results. Alexandrea (as cited in Greenhalgh and Taylor, 1997, p. 740) suggests that researchers who use qualitative methods aim to “study things in their natural setting, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.” The methods adopted in my research include elite interviews and secondary analysis of documentary evidence including strategic development plans, organizational reports, articles and events. The quantitative research component includes statistical data used to measure changes in employment in the steel industry in Pittsburgh and Hamilton. Statistical data is also used to identify and examine changes in their local economies from 1970 until 2008. Data was obtained from national, state and provincial statistical agencies, in particular the U.S. Census Bureau, Statistics Canada, the Pennsylvania Department of Community and Economic Development, Ontario Rural Economic Development Data and Intelligence, as well as regional and municipal sources.

The comparative method is well suited for addressing my research questions. It enabled me to identify and examine the similarities and differences relating to the critical factors impacting the economic trajectories of Pittsburgh and Hamilton. The design is a good fit for investigating how leaders of economic transformation in these two cities mediate local factors in the context of global economic forces. Relationships among community leaders influencing economic development and community sustainability are also compared in this study. Pittsburgh and Hamilton were selected as the cities for this comparative analysis because they share a common history as their nations’ steel capitals. Given that the steel industry is widely recognized as a foundation of the industrial economy, these steel cities are ideal units of analysis for studying the economic transformation of older cities that have historically been dominated by one industry.
**Qualitative Analysis of Economic Transformation**

This research initially examines six factors identified in the literature that enable communities suffering from the decline of a dominant industry to navigate the transition to a more sustainable economy. The factors include transformational leadership, strategic planning, civic engagement, education and research resources, capital resources, and quality of life (Arora, Florida, Gates, & Kamlet, 2000; Bradford, 2003; Douglas, 1994; Holbrook & Wolfe, 2002; Hunter, 1963; Maxwell, 2003, 2005). Although additional factors may influence the trajectories of cities, the literature suggests that modern, local economies require these six essential elements. Leaders act upon these factors within the context of broader, global forces. Subsequently, based on interviews conducted for this study, two additional factors, labor and infrastructure are added to the economic development mix.

**Elite Interviews**

Interviewing provides an efficient yet rigorous means for identifying similarities and differences regarding interviewees’ perceptions about critical factors of economic transformation. Holstein and Gubrium (1997) suggest that interviews follow a planned process that is theoretically guided and influenced by the literature. At the same time, the interview process can be open to evidence that shapes and reshapes the research framework.

Interviews are interactional. Hostein and Gubrium (1997, p. 113) describe interviews as “special forms of conversation” that vary from “highly structured, standardized, quantitatively oriented survey interviews, to semi-formal guided conversations and free-flowing informational exchanges.” In this research, the interviews are semi-formal guided conversations. This approach helped to ensure that specific topics were addressed, particularly factors of economic development and local leadership involvement in economic transformation. Open questions invited participants to share their insights and experiences as transformational leaders.

Strauss and Corbin (1998, p. 73) point out that asking questions is “an analytic device used to open up the line of inquiry and direct theoretical sampling.” They define theoretical sampling as “[d]ata gathering driven by concepts derived from the evolving theory and based on the concept of ‘making comparisons’, whose purpose is to go to places, people, or events that will maximize opportunities to discover variations among concepts and to densify categories in
terms of their properties and dimensions” (p. 201). Comparisons must be made systematically to ensure that interviewees stay within the theme, but the interviews must also provide sufficient flexibility to probe for in-depth information. The use of semi-structured interviews that include both open questions and closed questions generally achieves this result. Structured questionnaires tend to limit responses specifically to what is asked, rather than inviting interviewees to voice their own views of what is important (Strauss & Corbin, 1998).

Elite interviewing is an effective means for identifying local leaders and examining relevant social configurations or relationships. Elite interviewing focuses on individuals who are influential within a community or organization. Participants are selected to participate based on their roles and their relevant knowledge (Marshall & Rossman, 1999). They hold positions of power and can represent organizational perspectives. They make decisions that relate to the factors which influence economic transformation.

Elite interviewing can also have disadvantages. Elites’ time is in high demand, so they are difficult to access. Marshall and Rossman (1999, p. 114) suggest that elites are often “quite savvy” and want “an active interplay” that does not necessarily follow an interview guide. The interviewer must demonstrate the ability to balance the need to keep the interview focused on critical areas of inquiry, while inviting insights and tapping into original input that is important but not necessarily planned or foreseen. Another potential issue is that interviewees are biased with respect to the factors essential for development because they have been fully invested in the process. Additionally, they may have financial investments at stake, which can influence their judgements and decisions.

My qualitative analysis relies on information collected from leaders identified as agents of local economic transformation. With purposive sampling (also called discriminate sampling), the researcher selects interviewees that will enable a comparative analysis to be made. The selection of community, business and labor leaders is a deliberate part of my research design. Strategic interviewee selection offers an efficient means of collecting critical data. I also utilized snowball sampling (Marshall & Rossman, 1999) which involves interviewees identifying other elites or key informants that were not initially considered in the research plan. This approach to sampling enables the possibility of in-depth local knowledge of development activities and
relationships among agencies. However, this research does not attempt to represent all power relations influencing economic policy and decision-making within each of the two cities. Such an endeavor is beyond the scope of this thesis.

Interviewees were identified through exploratory visits to the economic development department in each city, through references from other interviewees, and through a scan of organizational reports and internet research. All interview candidates were selected based on their leadership roles in organizations that directly relate to one or more of the initial six factors indicated above. This strategy enabled comparisons of interview responses relative to all six factors across the communities. The study aimed to obtain representation of leaders for each of the six factors in both cities. A total of 55 interviews were conducted including 17 interviews performed for the pilot study in Welland, 19 interviews in Pittsburgh, and 19 in Hamilton. The interviewees for the Welland pilot are identified in Appendix B. The interviewees for Pittsburgh and Hamilton are introduced in chapter nine of this thesis.

**Pilot study: Welland, Ontario.**

A pilot study was conducted in Welland, Ontario to validate the key factors identified through the literature review as those which significantly influence the economic transformation of old industrial communities. The pilot study also identified the types of organizations that play an important role in local economic development policy and decision-making.

Welland is a city of about 50,000 people within the Regional Municipality of Niagara. Like Hamilton and Pittsburgh, Welland has historically possessed a strong concentration of manufacturing, including steel production, forging industries and transportation equipment manufacturing. In recent decades, manufacturing has contracted substantially, but remains the largest wealth-generating sector in Welland. It contributes about 5,000 well-paying jobs in the city (Degazio, Personal Communication, September 1, 2006). The decline of Welland’s steel industry led to several plant closings, including Welmet, Newman Steel, Shaw Pipe, Ennis Steel, and Atlas Specialty Steels, which has resulted in the loss of hundreds of good-paying jobs (DeChellis, Personal Communication, October 10, 2006). The decline of traditional manufacturing industries has left the city searching for new business development and economic regeneration. It has also resulted in significant hardships for displaced workers and their families.
A preliminary set of six factors was drawn from the literature review, including transformative leadership; strategic development planning; civic engagement; education and research resources; capital; and quality of life. These factors drove the initial selection of interviewees in Welland. The process was an iterative one, involving an initial set of interviews with local leaders whom I identified from my economic development consulting work in the City of Welland. As well Dan Degazio, Manager of Economic Development for the City also provided suggestions for interviewees. The interviews triggered a snowball sample of local leaders who actively participate in local economic development. Seventeen leaders in Welland participated in interviews, including representatives from city government, economic development, business, labor, education, and local media.

The interview questionnaire for the Welland pilot is included as Appendix C. Interviews conducted with local leaders in Welland show how economic development drivers come to sight and play out in a local setting. Details of the interview process are described below for Pittsburgh and Hamilton.

During the interviews, each of the 17 leaders in the Welland pilot study was asked whether they consider the six factors identified in the literature to be important or not for successful economic development. They were invited to suggest other factors that they considered to be important. They were then asked to identify those factors which they considered to be most important for economic development. Perspectives of Welland leaders are provided in Appendix B.

**Selection of interviewees in Pittsburgh and Hamilton.**

The following process was implemented for each interview:

1. Interview candidates in the two cities were identified based on their roles in relation to six factors of economic transformation identified in the literature.

2. Interview candidates were invited to participate in this research by written letter as attached in Appendix D. Letters were followed up with a telephone call to request an interview appointment of up to an hour to allow time for greetings and questions.
about the research. Because the research topic was relevant to the candidates, almost all of the leaders approached agreed to participate in the interviews.

3. To minimize travel costs, appointments were scheduled in blocks of two or three days. Most of the interviews were conducted in person between November 2006 and February 2007. Most of the interviews were conducted in the interviewees’ place of work. Three interviews were conducted in participants’ homes because the individuals were retirees. Three interviews were conducted by telephone to accommodate interviewees’ schedules and to minimize travel requirements.

4. Each interviewee was given the option to remain anonymous or to provide written permission for their name and the name of their organization to be published along with their direct responses to interview questions and additional comments. The key benefit of publishing participants’ names is the credibility which they give to this very real conversation about economic transformation and local leadership. This option was clearly stated in the consent form which is provided in Appendix E. All interviewees were asked to carefully assess any risks associated with their participation in this research. Of the participants interviewed, the vast majority responded openly, allowing their names to be published. Only 2 of the interviews were conducted anonymously.

5. Permission was requested to tape each interview. Interviewees were advised that they could refuse to answer any question or withdraw from the study at any time prior to publication of my thesis. This was especially important for interviewees opting to allow their names to be published.

6. Participants were given the opportunity to vet their interview transcripts, remove any content they wished to have excluded, and were requested to provide written authorization for their final transcript. No interviewee’s name or the name of the organization they represent was used without written authorization. Participants were asked explicitly if they have the authority to represent their organization with respect to this research study.
7. The comparative framework dictates “discipline of theme” (Seccombe, Personal Communication, December 5, 2005). Semi-structured interviews were guided by a set of thematically-oriented questions. An interview guide was developed, with slight modifications made to accommodate some specific questions relating to community leaders, business leaders and labor leaders. The questions focus on economic transformation and relate to the six key factors identified in the literature. Questions are also included to elicit input regarding additional factors and free flow conversation.

8. For Pittsburgh and Hamilton, most of the questions in the interview guide were identical to those used in the guide for the Welland pilot. A question was added to address collaboration among leaders. The interview guide for Pittsburgh and Hamilton is included as Appendix F.

9. Rapport is an essential element in the art of interviewing. Interviews were designed to progress from open to closed questions to allow participants to voice their responses freely and to ensure that respondents’ views of what is important were acknowledged and appreciated.

10. Interview transcripts were transcribed verbatim to ensure accuracy. This was essential because the published conversations are attributed to the interviewees.

11. All interviewees were given the opportunity to review their transcripts prior to the publication of my thesis. This involved follow up communication with many of the interviewees to revise content and, where necessary, to clarify information provided by the participant. This part of the research design was as challenging and almost as time-consuming as the interviews because it required gaining additional access to the participants through emails and telephone conversations to ensure that they reviewed their transcripts.

12. All interviewees were asked to provide written authorization by hard copy or email for their final transcript. All of the interviewees who agreed to have their names
published approved their full transcripts or a transcript extraction. The Consent for Final Interview Transcript form is included as Appendix G.

**Qualitative data analysis.**

Interviews were audio taped and transcribed using word processing software, Microsoft Word. Transcripts were organized based on the roles of the leaders – community, business and labor, then analyzed to identify similarities and differences among each of these groups in the two cities. The interpretive analysis involved a narrative of leaders’ perspectives regarding critical factors and leadership roles and relationships. Common themes were tracked using a highlighting feature. The interviews were then analyzed to compare the key factors identified by the interviewees. The analysis included the addition of two key factors, infrastructure and labor, identified through my ongoing literature review.

This analysis was supported by secondary data analysis, particularly by reviewing strategic development plans created by local leaders over the 38 year timeframe covered by this research. The strategic plans identified priorities for development including industry sectors, infrastructure projects, policy and programs. As well, newspaper articles, organizational reports and other relevant documents were reviewed to determine what events, attitudes, practices and policies significantly influenced leaders’ choices with respect to economic development decisions.

Finally, the analysis included the creation of a graphical representation (map) of the interlocking Board relationships among community leaders in each city in order to show how they are linked with one another. This involved a review of the web sites of the community and economic development organizations involved in the interviews in order to identify interlocking relationships. These patterns pointed to the interacting power dynamics among agencies. This analysis complemented the information about leadership relationships which was offered during the interviews.

The composite of this interplay of factors and actors forms the original, significant contribution of my research, a *Community Economic Activity System* for each city. This
integrative concept is a qualitatively new approach to the study of community and economic development.

**Addressing potential issues in qualitative research.**

Issues can arise in qualitative research and strategies must be developed to minimize their influence. Threats to the validity and value of qualitative research can arise when the key variables investigated are not representative of the central question to be addressed by the research inquiry (Mittman, 2001). A thorough review of the literature provided guidance for the overall research design and the development of the interview guides.

The design of this research relies heavily on individual respondents and their own perceptions relating to the interview questions. All interviewees hold leadership positions within their organization and pose a potential class bias. Leaders are unlikely to be representative of all community voices. The community leaders are drawn from community and economic development agencies. Business leaders were selected based on their experience in the steel industry, banking or investment industry, and in private development. Chamber leaders represent their membership, which is made up predominantly of private businesses, most of which are small-to-medium size enterprises (SMEs). Labor leaders selected for this study represent the voices of workers in the steel industry. Public responses to economic transformation were drawn from interviews with local newspaper reporters and from newspaper articles.

Leaders change positions over time. Individuals who occupy leadership positions today may not have personally experienced historical events that are significant for the community’s developmental trajectory. Where possible, interviews were conducted with individuals who had direct experience acting upon factors of economic transformation over several years (and in some cases decades) in order to capture their accounts of changes taking place over time. Quantitative research and community documents complement the historical accounts provided by interviewees.

The availability of elites to participate in interviews cannot be guaranteed, especially leaders occupying comparable positions in two cities. Obtaining agreement among 19 leaders in Pittsburgh and another 19 leaders in similar positions in Hamilton was no small task. It required persistence, communication skill, and several interactions with each leader. Every interview
involved at least one letter, a phone call, an email confirmation of appointment, a detailed transcript of the interview and follow up communications involving multiple phone calls and emails to confirm interpretations and to obtain final written approval of each vetted transcript. Written approval is important because the interviewees were requested to have their names published along with their perspectives.

The majority of interviews were conducted in person. In only 3 instances, interviews were conducted by telephone to accommodate schedules and distance. The personal-to-person interviews enabled me to build rapport with the local leaders. I have several years of experience working in the field of community and economic development, which gave the background and confidence to interact with the participants.

An important issue that needed to be addressed was that the development trajectories of Pittsburgh and Hamilton have taken place over different time periods. This “periodicity” was addressed in the analysis by covering a period of 38 years that encompassed the collapse of steel in Pittsburgh and later significant decline in Hamilton’s steel industry.

Critics of qualitative research view this approach as “spongy.” This form of inquiry does not use the kind of hard statistical data that informs quantitative research. Merriam (2002, p. 3) points out that, “[t]he key to understanding qualitative research lies with the idea that meaning is socially constructed by individuals in interaction with their world. The world, or reality, is not the fixed, single, agreed upon, or measurable phenomenon that it is assumed to be in positivist, quantitative research.” The orientation of qualitative research is interpretive. In this instance, it focuses on the experiences of community leaders in their roles as agents of economic transformation.

An important issue for this research is the “causal complexity” (Ragin, 1987, p. 20) that potentially arises in comparing several factors across two cities. Because the factors do not simply exist as absent or present, but form a composite effect through interactions among agents of economic activity, this issue presents a challenge for my research and is considered carefully in the analysis.
Finally, this comparative analysis includes only two cities, although it provides a rich, in-depth investigation of the processes of economic transformation in these cities. Research involving many cities in North America or internationally would provide a more thorough analysis from which generalizations could be drawn. The findings drawn from my study provide direction for such future research.

**Quantitative Analysis**

Extensive data was collected to provide a historical analysis of the steel industry in Pittsburgh and Hamilton, with emphasis on the employment trends in the industry from 1970 to 2008. The quantitative analysis measures and compares the decline in employment in the steel industry in Pittsburgh and Hamilton, including the timing, pace and depth of the contraction. The quantitative analysis also involves the development of socio-economic profiles for Pittsburgh and Hamilton in order to measure and compare structural transitions taking place within the local economies. This part of the analysis measures and compares the recovery taking place in each city, particularly, the extent of employment diversification. An important measure of successful transformation is the capacity of each city to replace lost steel jobs with others of comparable or superior quality and to facilitate the transition of ex-steelworkers into them. Other factors (dependent variables) examined include population change, income, educational attainment and quality of life. Attention is focused on employment changes, including transformations in the local mix of industries and commuting patterns.

Significant hurdles were encountered in building comparable profiles for the cities. A major issue is the availability of similar data sets, especially employment data by industry at the city level. The census data provided by national statistical agencies is not necessarily measured in the same way or in the same aggregates. Measurements vary across countries and definitions change over time. Multiple sources at the national, provincial, state and municipal level were accessed. Several individuals from statistical agencies provided data and assistance including Rachel Hongtong from the U.S. Bureau of Labor Statistics, Sylvie Picard from Statistics Canada, Michael Florio from the Ontario Ministry of agriculture, Food and rural Affairs, and David Fife from Industry Canada. References to Pittsburgh and Hamilton were carefully checked to determine whether they were attributed to a city or region (or various configurations of region).
Details regarding the quantitative analysis are presented in Chapters 6 and 7. The statistical profiles provided in Chapter 7 cover the period 1970 to 2006, which captures the latest available census data.
Chapter Six: Working in Steel

Introduction

Dramatic changes are taking place in the North American steel industry and in manufacturing industries throughout the world. As a mature industry, the steel sector faces a number of labor force challenges, including accelerating rates of retirements, a below-average level of workforce education, and changing skill requirements. The industry also continues to have a negative image resulting from its history of tumultuous labor relations, frequent layoffs, and in the past decade, numerous bankruptcies. Perceptions of steel as a dirty, polluting industry also persist. North American steel companies face relentless pressures to improve efficiencies and develop innovative processes and products to remain competitive. This chapter provides an original statistical overview of employment changes in the steel industry.

Steel Industry Employment

Globally, steel industry employment declined significantly over the past few decades. For example, during the period 1975 to 1996 the combined steel industry employment in the United States, United Kingdom, Japan, Brazil, and South Africa plummeted in half from a total of over 1.2 million to less than 0.6 million (International Labour Organization, 2009). However, employment declines stemmed from issues that began much earlier. In the 1960s, cheaper steel imports had already become a problem for the North American steel industry (Mueller, 1982). While large integrated mills such as U.S. Steel and Bethlehem Steel continued to dominate through the 1970s, significant growth occurred internationally as governments invested in national steel companies and a growing number of minimills contributed to domestic and international competition. The American steel industry was slow to react to intensifying global competition, or as Mueller (1982, p. 75) suggests, investments were “piecemeal” and “inefficient” and the U.S. became an attractive steel market for foreign imports. Bensman and Lynch (1987, p. 87) suggest that,

American steelmakers were trapped in a double bind. Small profits made modernization bad business. But failure to modernize increased vulnerability to imports. Caught in a double bind, U.S. steel companies responded
schizophrenically; they have sought protection from imports, allied themselves with foreign steel producers, demanded wage concessions from employees, initiated new experiments in labor-management cooperation, modernized some old facilities, shut some modern ones, and diversified out of the steel industry altogether. But all along there has been one constant in these varied and contradictory strategies: an attempt to escape from the new competition.

Over the past few decades, excess global steel capacity, trade issues, and several economic recessions contributed to layoffs, plant closures, and bankruptcies among numerous major steel companies.

**Steel Industry Employment Decline in United States, Pennsylvania, and Allegheny County**

Employment in the American steel industry peaked in the 1960s, then declined steadily as competitive pressures intensified during the 1960s and 1970s from Japanese and European imports. World steel prices began to stagnate (Mueller, 1982). American steel companies were slower to implement Basic Oxygen Furnace (BOF) technology and were less efficient than some of their international competitors. The greatest job losses in the U.S. occurred during the 10-year period from 1976 and 1986, when steel industry employment was slashed in half from 550,878 to 274,000 (U.S. Bureau of Labor Statistics, 2008a). As steel production continued to shift geographically, from 1978 to 1988, nearly 46 million tons of steel capacity was phased out in the U.S., a third of it in the Pittsburgh region alone (D’Costa, 1999, p. 1). Steel and related industries made up a huge component of the overall manufacturing sector in the Pittsburgh Region. During the 20-year period from 1970 to 1990, the Pittsburgh MSA lost 54% of its manufacturing jobs, the largest percentage loss of any major region in the United States (Mehrabian & O’Brien, 1994, p. 36).

In 1975, over 55,000 workers earned their living in steel plants in Allegheny County and many more worked in major steel plants throughout the broader Pittsburgh region (U.S. Bureau of Labor Statistics, 2007). Through the 1980s, 1990s and into the new millennium, steel employment continued to decline. As Table 2 indicates, as of 2007, there were about 160,000 steel jobs remaining in the U.S., about one quarter of the industry’s peak employment.
Table 2

*Employment, United States Steel Industry, 1975 to 2007*

<table>
<thead>
<tr>
<th>Year</th>
<th>SIC 3311</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>547,951</td>
</tr>
<tr>
<td>1976</td>
<td>550,878</td>
</tr>
<tr>
<td>1977</td>
<td>554,152</td>
</tr>
<tr>
<td>1978</td>
<td>558,190</td>
</tr>
<tr>
<td>1979</td>
<td>571,128</td>
</tr>
<tr>
<td>1980</td>
<td>514,518</td>
</tr>
<tr>
<td>1981</td>
<td>506,113</td>
</tr>
<tr>
<td>1982</td>
<td>397,165</td>
</tr>
<tr>
<td>1983</td>
<td>340,023</td>
</tr>
<tr>
<td>1984</td>
<td>336,250</td>
</tr>
<tr>
<td>1985</td>
<td>305,763</td>
</tr>
<tr>
<td>1986</td>
<td>274,013</td>
</tr>
<tr>
<td>1987</td>
<td>267,177</td>
</tr>
<tr>
<td>1988</td>
<td>279,294</td>
</tr>
<tr>
<td>1989</td>
<td>281,016</td>
</tr>
<tr>
<td>1990</td>
<td>276,571</td>
</tr>
<tr>
<td>1991</td>
<td>264,303</td>
</tr>
<tr>
<td>1992</td>
<td>248,868</td>
</tr>
<tr>
<td>1993</td>
<td>239,536</td>
</tr>
<tr>
<td>1994</td>
<td>238,730</td>
</tr>
<tr>
<td>1995</td>
<td>240,109</td>
</tr>
<tr>
<td>1996</td>
<td>239,374</td>
</tr>
<tr>
<td>1997</td>
<td>235,178</td>
</tr>
<tr>
<td>1998</td>
<td>231,640</td>
</tr>
<tr>
<td>1999</td>
<td>226,945</td>
</tr>
<tr>
<td>2000</td>
<td>224,688</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>NAICS 3311</th>
<th>NAICS 3312</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>121,243</td>
<td>67,924</td>
<td>189,167</td>
</tr>
<tr>
<td>2002</td>
<td>106,899</td>
<td>61,981</td>
<td>168,880</td>
</tr>
<tr>
<td>2003</td>
<td>101,542</td>
<td>59,647</td>
<td>161,189</td>
</tr>
<tr>
<td>2004</td>
<td>95,365</td>
<td>60,141</td>
<td>155,506</td>
</tr>
<tr>
<td>2005</td>
<td>94,888</td>
<td>59,641</td>
<td>154,529</td>
</tr>
<tr>
<td>2006</td>
<td>95,581</td>
<td>60,347</td>
<td>155,928</td>
</tr>
<tr>
<td>2007</td>
<td>99,441</td>
<td>60,942</td>
<td>160,383</td>
</tr>
</tbody>
</table>

It is important to note that, over time, the U.S. Bureau of Labor Statistics and Statistics Canada have changed their systems for measuring employment statistics from the Standard Industrial Classification System (SIC) to the North American Industrial Classification System (NAICS). As well, within each system of measurement, changes have been made in the classification of employment data by industry. Because of these changes, caution must be taken in comparing industry figures directly from one year to the next (Hongtong, Personal Communication, June 18, 2007). Employment statistics for the United States included in Table 2 were provided directly by the U.S. Bureau of Labor Statistics and have not been adjusted to ensure concordance between SIC and NAICS or other changes over time. The employment data presented for the United States steel industry is intended to show general trends over time.

As of 2007, for the entire state of Pennsylvania, employment in steel mills (NAICS3311) had declined to about 14,000 and employment in purchased steel product manufacturing had declined to 7,647 (Pennsylvania Department of Labor and Industry, 2008). The steel industry contributed substantially to the prosperity of the Pittsburgh MSA for much of the 20th century, until the steel industry collapsed throughout most of the region in the 1970s and 1980s. As of 2007, a total of 7,300 steel jobs remain in the iron and mills and ferroalloy manufacturing (NAICS3311) industry in the entire Pittsburgh MSA (U.S. Bureau of Labor Statistics, 2008a). From January 1, 1982 to July 1, 1984 alone, 52 manufacturing plants closed in Southwestern Pennsylvania. Six of them were in the city of Pittsburgh and an additional 11 were in Allegheny County (Levdansky, Ahlbrandt, & DeAngelis, 1984, p. 5). As Table 3 indicates, in one decade, from 1975 and 1985 well over 35,000 steel jobs were eliminated in Allegheny County. Allegheny County’s steel industry employed about 3,500 workers in the iron and steel mills and ferroalloy manufacturing industry and fewer than 500 workers in steel product manufacturing from purchased steel in 2005 (U.S. Bureau of Labor Statistics, 2007). While steel continues to be an important industry for the region, the city of Pittsburgh, which once reigned as the leader in American steel production, no longer operates a single integrated steel mill. The basic steel industry in the city of Pittsburgh has virtually collapsed.
Table 3

*Steel Industry Employment, Allegheny County 1975 to 2005*

<table>
<thead>
<tr>
<th>Year</th>
<th>Primary steel industries (SIC and NAICS)</th>
<th>Number of employees</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>SIC 33</td>
<td>55,086</td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td>SIC 33</td>
<td>54,047</td>
<td>-1.9</td>
</tr>
<tr>
<td>1977</td>
<td>SIC 33</td>
<td>55,047</td>
<td>1.9</td>
</tr>
<tr>
<td>1978</td>
<td>SIC 33</td>
<td>54,919</td>
<td>-0.2</td>
</tr>
<tr>
<td>1979</td>
<td>SIC 33</td>
<td>55,067</td>
<td>0.3</td>
</tr>
<tr>
<td>1980</td>
<td>SIC 33</td>
<td>51,355</td>
<td>-6.7</td>
</tr>
<tr>
<td>1981</td>
<td>SIC 33</td>
<td>49,521</td>
<td>-3.6</td>
</tr>
<tr>
<td>1982</td>
<td>SIC 33</td>
<td>36,906</td>
<td>-25.5</td>
</tr>
<tr>
<td>1983</td>
<td>SIC 33</td>
<td>29,273</td>
<td>-20.7</td>
</tr>
<tr>
<td>1984</td>
<td>SIC 331</td>
<td>22,010</td>
<td>n/a</td>
</tr>
<tr>
<td>1985</td>
<td>SIC 331</td>
<td>17,721</td>
<td>-19.5</td>
</tr>
<tr>
<td>1986</td>
<td>SIC 331</td>
<td>13,284</td>
<td>-25.0</td>
</tr>
<tr>
<td>1987</td>
<td>SIC 331</td>
<td>11,935</td>
<td>-10.2</td>
</tr>
<tr>
<td>1988</td>
<td>SIC 331</td>
<td>12,780</td>
<td>7.1</td>
</tr>
<tr>
<td>1989</td>
<td>SIC 331</td>
<td>13,063</td>
<td>2.2</td>
</tr>
<tr>
<td>1990</td>
<td>NAICS 3311 &amp; 33122</td>
<td>5,510</td>
<td>n/a</td>
</tr>
<tr>
<td>1991</td>
<td>NAICS 3311 &amp; 33122</td>
<td>5,512</td>
<td>0.0</td>
</tr>
<tr>
<td>1992</td>
<td>NAICS 3311 &amp; 33122</td>
<td>5,047</td>
<td>-8.4</td>
</tr>
<tr>
<td>1993</td>
<td>NAICS 3311 &amp; 33122</td>
<td>4,880</td>
<td>-3.3</td>
</tr>
<tr>
<td>1994</td>
<td>NAICS 3311 &amp; 33122</td>
<td>4,534</td>
<td>-7.1</td>
</tr>
<tr>
<td>1995</td>
<td>NAICS 3311 &amp; 33122</td>
<td>4,680</td>
<td>3.2</td>
</tr>
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<td>1996</td>
<td>NAICS 3311 &amp; 33122</td>
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</tr>
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<td>NAICS 3311 &amp; 33122</td>
<td>4,448</td>
<td>-6.2</td>
</tr>
<tr>
<td>1998</td>
<td>NAICS 3311 &amp; 33122</td>
<td>4,580</td>
<td>3.0</td>
</tr>
<tr>
<td>1999</td>
<td>NAICS 3311 &amp; 33122</td>
<td>4,535</td>
<td>-1.0</td>
</tr>
<tr>
<td>2000</td>
<td>NAICS 3311 &amp; 33122</td>
<td>4,425</td>
<td>-2.4</td>
</tr>
<tr>
<td>2001</td>
<td>NAICS 3311 (3312 ND)</td>
<td>3,968</td>
<td>n/a</td>
</tr>
<tr>
<td>2002</td>
<td>NAICS 3311 (3312 ND)</td>
<td>3,634</td>
<td>-8.4</td>
</tr>
<tr>
<td>2003</td>
<td>NAICS 3311 (3312 ND)</td>
<td>3,355</td>
<td>-7.7</td>
</tr>
<tr>
<td>2004</td>
<td>NAICS 3311 &amp; 3312</td>
<td>3,507</td>
<td>4.5</td>
</tr>
<tr>
<td>2005</td>
<td>NAICS 3311 &amp; 3312</td>
<td>3,527</td>
<td>0.6</td>
</tr>
</tbody>
</table>

*Note.* Source: Rachel Hongtong, Personal Communication, June 18, 2007 *n/a change in definition.*
Steel Industry Employment Decline in Canada, Ontario, and Hamilton

Canada’s steel industry has always been much smaller than the U.S. steel industry. As Table 4 indicates, employment in Canada’s iron and steel mills and ferroalloy manufacturing industry shrunk by 40% from the industry’s peak level of 59,770 jobs in 1981 to 35,404 in 1990. Throughout the 1990s job losses continued, but cuts were not as deep as in the previous decade. Canada’s mills experienced additional employment losses between 2000 and 2007, falling to 20,311 for the entire nation.

Table 4
Derived Employment for the Canadian Steel Industry, 1961 to 2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Iron and steel mills and ferroalloy manufacturing</th>
<th>Steel product manufacturing from purchased steel</th>
<th>Total primary steel industry</th>
<th>Metal service centers</th>
<th>Total for broader steel industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>35,876</td>
<td>n/a</td>
<td>35,876</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1962</td>
<td>38,208</td>
<td>n/a</td>
<td>38,208</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1963</td>
<td>40,504</td>
<td>n/a</td>
<td>40,504</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1964</td>
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<td>Year</td>
<td>Iron and steel mills and ferroalloy manufacturing</td>
<td>Steel product manufacturing from purchased steel</td>
<td>Total primary steel industry</td>
<td>Metal service centers</td>
<td>Total for broader steel industry</td>
</tr>
<tr>
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<td>Year</td>
<td>Iron and steel mills and ferroalloy manufacturing</td>
<td>Steel product manufacturing from purchased steel</td>
<td>Total primary steel industry</td>
<td>Metal service centers</td>
<td>Total for broader steel industry</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------</td>
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<td>-------------------------------</td>
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<td>2002</td>
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<tr>
<td>2007</td>
<td>20,311</td>
<td>9,776</td>
<td>30,087</td>
<td>19,092</td>
<td>49,179</td>
</tr>
</tbody>
</table>

Note. (See explanation of calculations of Derived Employment Estimates for the Steel Industry in Canada and Ontario, 1961 to 2007 in this chapter).

Employment data obtained for the steel product manufacturing from purchased steel industry is limited to 1983 and more recent years (Picard, Personal Communication, November 23, 2005). The decline in employment in steel product manufacturing from purchased steel in Canada since 1983 was not as dramatic as the decline in steel mills. Nationally, steel product manufacturing employment fell from a high of 15,150 in 1985 to 9,776 in 2007. Combined these two steel industry segments employed 30,087 in Canada in 2007.

In contrast, metal service centers is the only steel industry segment in Canada that experienced increased employment, doubling from 9,455 jobs in 1983 to 19,092 in 2007, offsetting some of the employment loss in other steel segments. According to Warrian (2001, p. 29), steel service centers are becoming “sophisticated and highly adaptable actors in the steel-auto supply chain.” Total employment for the three subsectors combined in the broader steel industry in Canada was 49,179 in 2007.

The classification system for industry employment within countries changes over time. This presents challenges when researchers attempt to measure trends in employment nationally or locally. Another significant challenge exists for comparing industries across different countries because the systems of measurement can be significantly different. As part of this research, with support from the Statistics Canada Labour Division (Picard, Personal Communication, November 23, 2005), I have derived employment estimates for the steel
industry in Canada from 1961 to 2007 to achieve concordance over time. These calculations take into account the changes to the Standard Industry Classification (SIC) codes and North American Industry Classification System (NAICS) codes for the steel industry sub-industries. The calculations provided in Table 4 (see p. 157) were made using the following steps.

1. The Canadian Steel Training and Employment Congress includes the following sub-industries in the steel industry:
   
   NAICS 3311 Iron and Steel Mills and Ferro-Alloy Manufacturing  
   NAICS 3312 Steel Product Manufacturing from Purchased Steel  
   NAICS 4162 Metal Service Centres.

Data for the Canadian and Ontario steel industries was obtained based on their representation in Statistics Canada Employment, Earnings and Hours Conversion Table Comparing from the Standard Industrial Classification 1980 (SIC 1980) to the North American Industrial Classification System (NAICS) (April, 2000). The data conversion process includes:

1960 SIC 291 Iron and Steel Mills and SIC 292 Steel Pipe and Tube Industry;  
1960 SIC 561 Metal and Metal Products, Wholesale.

1980 SIC 291 Primary Steel Industries and SIC 292 Steel Pipe and Tube Industry;  
1980 SIC 561 Metal and Metal Products, Wholesale.

NAICS 3311 Iron and Steel Mills and Ferro-Alloy Manufacturing, NAICS 3312 Steel Product Manufacturing from Purchased Steel; NAICS 4162 Metal Service Centres.

2. Employment indices for 1961 to 1983 were provided by Statistics Canada Labour Division. Calculations were based on 1960 SIC data from Statistics Canada Survey of Employment, Payrolls and Hours (SEPH), All Employees (Table 281-0200).

   For 1983 only 3 months of data was available to determine the average monthly employment for the year.

   For 1974, for Ontario SIC 291 the average monthly employment was based on 11 months of data. February was not available.

3. Employment for 1961 to 1983 was estimated by Statistics Canada Labour Division. Using 1961 as a base year, derived employment estimates for each year were calculated by multiplying the annual indices for each SIC code by the 1961 employment, then dividing by 100.

4. With guidance from Sylvie Picard, Statistics Canada, the adjustment factor was calculated to convert 1960 SIC employment data to 1980 SIC employment. This
factor was calculated by dividing the 1983 employment for the 1980 SIC code by the 1983 employment for the 1960 SIC code.

5. Derived employment estimates for the years 1961 to 1982 were multiplied by this factor to convert them to 1980 SIC employment.


8. An adjustment factor was calculated to convert 1980 SIC employment data to 1991 NAICS employment. This factor was calculated by dividing the 1991 NAICS employment by the 1991 figure representing 1980 SIC employment.

9. The 1980 SIC data estimates from 1961 to 1990 were multiplied by this factor to convert them to NAICS employment data. This data along with the 1991 to 2007 NAICS data from the Survey of Employment, Payrolls and Hours -2612 (Table 281-0024) provided a complete set of employment estimates for the period 1961 to 2007.

Figure 3 shows that Ontario’s steel industry experienced a pattern of employment decline similar to the nation as a whole over the past half century. Ontario now accounts for about 80% of Canada’s employment in the iron and steel mill and ferroalloy manufacturing industry segment; about 50% of Canada’s employment in steel product manufactured from purchased steel; and 46% of employment in metal service centers. Hamilton accounts for about half the nation’s steel employment.
At a local level, in 1981 Hamilton-based Stelco Inc. reached its peak employment. That year, the company employed 26,263 workers (Stelco Annual Report, 1981, p. 23). Between 1981 and 1991, the company shed over 13,000 jobs. By 2005, Stelco’s employment had declined to about 7,500, less than one third of its peak employment level (Stelco Annual Report, 2005, p.3). These employment figures are for Stelco’s wholly owned business units and wholly owned subsidiaries, and may also include joint ventures. Stelco’s Hilton Works in Hamilton employed 13,025 hourly workers in 1980 (Livingstone, 1993, p. 30). The work force at the Hamilton plant plummeted to 3,723 by 2005 (Stelco Inc. Annual Report, 2005, p. 3). Subsequent to being purchased by U.S. Steel, the hourly workforce fell to 1,700 in 2009 (Powell, 2009a).

Hamilton’s second major integrated mill, Dofasco, maintained relatively steady levels of employment in the 1980s. Dofasco also experienced significant contraction in employment, from
about 12,700 in the early 1990s to 6,884 in 2005 (Mullen, Personal Interview, 2006). Most of the employment contraction at Dofasco occurred prior to 1997. Since that time, employment declined at a much slower pace, from 7,175 in 1997 to 6,884 in 2005. Current employment at Dofasco is about 5,400 (ArcelorMittal Dofasco, 2009). The company’s Director of Human Resources, Brian Mullen, described the situation at Dofasco:

We recognized that we needed to be smaller. We had to get rid of some of the technology that was dated and we needed to shut down some of our facilities. We sold off a foundry that we had. We stopped making some products and we went from between 12,500 to 12,700 down to about 7,000 in 3 or 4 years. We ran 3 early retirement programs and voluntary severance programs. We had a layoff and set up an entity to look after people. Some of them found other jobs. A number of them went back to school. (Mullen, Personal Interview, 2006)

By 2006, only 10,215 people were employed in iron and steel mills and ferroalloy manufacturing, and 820 were employed in steel products manufactured from purchased steel in Hamilton (based on NAICS) (Florio, Personal Communication, August 14, 2008). As well, several metal service centers are located in Hamilton, including Russell Metals, Taylor Steel, and others. Collectively, they employed 1,560 people in 2006. The steel industry remains one of the largest employment industries in Hamilton, with a substantial cluster of related companies located in the city and in close proximity.

**Earnings**

Steel workers’ earnings are among the highest in the Canadian and U.S. manufacturing sector. In 2007, in Canada, employees in the iron and steel mills and ferroalloy manufacturing industry received an average hourly wage of $26.88 excluding overtime pay, and workers in the steel product manufacturing from purchased steel industry earned $25.47 per hour on average. As Table 5 indicates, this compares to an average hourly wage of $27.23 for the broader primary metal manufacturing industry, $21.66 for the overall manufacturing sector, and $19.13 for all

Table 5
Hourly Earnings for Employees in Selected Manufacturing Industries, Canada and United States, 2007

<table>
<thead>
<tr>
<th>Industry</th>
<th>Canada Average hourly earnings for employees paid by the hour ($C)</th>
<th>U.S. Mean hourly wage estimate ($US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron and steel mills and ferroalloy manufacturing (3311)</td>
<td>26.88</td>
<td>21.40</td>
</tr>
<tr>
<td>Steel product manufacturing from purchased steel (3312)</td>
<td>25.47</td>
<td>18.86</td>
</tr>
<tr>
<td>Primary metal manufacturing (331)</td>
<td>27.23</td>
<td>19.48</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>21.66</td>
<td>20.09</td>
</tr>
<tr>
<td>All industries</td>
<td>19.13</td>
<td>19.56</td>
</tr>
</tbody>
</table>


According to Crandall (1981, p. 35), in the U.S., from the 1950s onward, labor costs in the steel industry were consistently higher than labor costs for manufacturing overall. As Table 6 illustrates, steel labor costs rose substantially relative to manufacturing in the 1970s. In 1973, the United Steelworkers negotiated a substantial wage increase in exchange for limitations on the union’s right to strike during future contract negotiations. This condition was important for steel producers because during the early 1970s, Voluntary Restraint Agreements on imports from Europe and Japan, a falling U.S. dollar, and a world-wide commodity boom enabled the industry to increase profit margins (Crandall, 1981, p. 38).
Table 6

Hourly Earnings in the Steel Industry and Manufacturing Industry, United States, 1956 to 1975

<table>
<thead>
<tr>
<th>Year</th>
<th>Hourly earnings steel industry ($US)</th>
<th>Hourly earnings manufacturing ($US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>2.57</td>
<td>1.95</td>
</tr>
<tr>
<td>1960</td>
<td>3.08</td>
<td>2.26</td>
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<tr>
<td>1965</td>
<td>3.46</td>
<td>2.61</td>
</tr>
<tr>
<td>1970</td>
<td>4.22</td>
<td>3.35</td>
</tr>
<tr>
<td>1975</td>
<td>7.12</td>
<td>4.83</td>
</tr>
</tbody>
</table>


Productivity

Most economists view productivity as an important driver of growth. Porter (1998, p. 160) suggests that productivity is the “only meaningful concept of competitiveness at the national level.” Porter (1998) also proposes productivity is critical to the competitiveness of specific industries, industry segments or clusters of industries. Today, North American steel makers rank among the highest in the world in terms of labor productivity (Considine, 2005). In 1975, crude steel production in the United States totaled 105.8 MMT (Haine, Personal Communication, May 8, 2006), while the American steel industry employed 547,951 workers (SIC 331) (U.S. Bureau of Labor Statistics, 2007). In 2000, the American steel industry produced almost the same amount of crude steel, 101.8 MMT (International Iron and Steel Institute, 2005, p. 11), while the industry employed 224,688 workers, only 40% as many as in 1975. The American Iron and Steel Institute (2006, p. 1) reports that “labor productivity has more than tripled since the early 1980s, going from an average of 10.1 man-hours per finished ton to an average of three man-hours per finished ton in 2004.” Considine (2005, p. 29) indicates that between 1990 and 2003, labor productivity in the American steel industry improved 5.7% per year on average compared to 3.9% for manufacturing overall in the U. S.

Similarly, the Canadian Steel Training and Employment Congress (2005, p. 10) notes that in the past decade, in Canada, productivity in the broader steel industry increased by 6.8%
per year, more than twice as rapidly as manufacturing as a whole which performed at 3.2%. For the primary steel industry, manufacturing shipments per production worker increased over 74% between 1990 and 1997 (Industry Canada, 2000, p. 9).

**Workforce Challenges**

Several challenges persist in the steel workforce, including changing skill requirements, a low level of education among workers, and the age of the workforce. New learning must accompany the introduction of new technologies, material, and processes. This requires substantial workforce investment by steel companies and investment in formal education, including trades apprenticeships. On average, steelworkers have a lower level of education than the overall population of working age in Canada and the United States, primarily because post-secondary credentials were generally not required in steel production jobs historically.

The age of the workforce is an important issue in the North American steel industry. Many of the workers who remain in the industry have substantial seniority because younger workers have been laid off. The industry’s aging work force is contributing to relatively high levels of attrition in recent years. For example, through retirements, Stelco’s integrated steel workforce was reduced by over 700 employees in 2004 (Stelco Annual Report, 2004, p. 5). In 2009, 720 of the remaining 1700 workers opted to retire from Stelco (now U.S. Steel Canada) (Powell, 2009d). As older, experienced workers leave the industry, they take with them a wealth of knowledge and on-site experience. Labor force renewal is fundamental to the challenges of improving competitiveness, increasing productivity, and replacing, at least in part, an aging workforce before their critical knowledge is permanently lost.

**An Industry in Transition**

The transformation of the North American steel industry began in places like Pittsburgh and later Hamilton where, for almost a century, thousands of employees have made their living producing steel and steel products. The steel industry has experienced extensive restructuring and consolidation throughout the past few decades. Industry restructuring has involved labor force reductions, the introduction of new technologies, materials and processes, increased productivity, and geographic shifts in production locations within North America and globally.
(Government of Canada, 2005). Hamilton and Pittsburgh are among the communities most dramatically affected by employment downsizing in integrated mills. New technologies such as continuous casting and minimills have contributed to over 80% reduction in the steel labor force relative to peak levels. Imports of steel produced more cheaply in emerging low-wage nations also play a substantial role in workforce reductions. Cities like Pittsburgh and Hamilton cannot compete globally on lower-cost steel manufacturing. A fundamental challenge for North American steel is to achieve labor force renewal as aging workers retire in record numbers.
Chapter Seven:
Measuring Socio-Economic Transitions in Pittsburgh and Hamilton

This chapter measures the socio-economic characteristics of Pittsburgh and Hamilton in order to examine structural transitions taking place within the local economies. Factors considered include population change, employment transitions, income, educational attainment, and quality of life. Attention is focused on employment changes, including transformations in the local mix of industries and commuting patterns. Historically, the economies of Pittsburgh and Hamilton have been dominated by steel manufacturing and related industries. Given the massive job losses in their steel industries through the 1970s and beyond, this analysis looks at their emerging economic compositions and the implications for community revitalization and sustainability.

Profile of Pittsburgh: 1970 to 2006

Introduction

The City of Pittsburgh is one of many older industrial cities in North America. Pittsburgh has undergone extensive economic transformation over the past half century. Pittsburgh’s economic transformation has been long, fragmented, and challenging, and is characterized by deepening racial and class disparities (Deitrick, Briem, & Williams Foster, 2005). Once a thriving hub of manufacturing activity, the city’s economy centered on steel production and related industries for more than a century. After experiencing several decades of gradual decline, Pittsburgh’s steel industry collapsed in the 1980s, with devastating impacts for the city and the broader region, particularly the massive loss of population and jobs. Today, population decline continues, but at a slower rate. New employment growth in the city and broader region has been slow, but restructuring is occurring. While the total number of jobs in Pittsburgh has increased marginally in the past four decades, industry concentrations have shifted substantially. The share of employment in service industries in Pittsburgh has grown considerably. According to Fox and Threuhaft (2006, p. 31), in 2001, manufacturing comprised only 7% of the city’s total employment, down from 20% in 1980. Nationally, manufacturing constituted 17% of employment in 2001. Overall educational attainment levels have improved in recent decades, but women in Pittsburgh continue to be underemployed and underpaid, and they are under-
represented in decision-making positions (Bangs, Anthou, Hughes, Lichtenwalter, & Shorter, 2004).

The city of Pittsburgh is located in Allegheny County (see Figure 4). It is the largest city in the both the county and the Pittsburgh Metropolitan Statistical Area (MSA). In 2007, the City had an estimated population of 296,324: 132,054 occupied households and a labor force of 147,348 (U.S. Census Bureau, 2009a). There were 298,429 local jobs in Pittsburgh and 10,795 establishments as of 2004 (State of the Cities Data System, 2009b).

*Figure 4. City of Pittsburgh, Allegheny County, and Pittsburgh MSA.*

Allegheny County is by far the largest of seven counties in the Pittsburgh MSA. The county is made up of 130 municipalities (Deitrick, Briem & Williams Foster, 2005, p. ii), including several former steel towns such as Pittsburgh, Duquesne, Homestead, Braddock, and McKeesport. As of 2007, Allegheny County had a population of 1.2 million. The county had 591,047 households and a labor force of 622,842 (U.S. Census Bureau, 2009b). In 2002, economic activity in Allegheny County generated an estimated $77 billion in value added production, almost three quarters of the Gross Regional Product for the entire Pittsburgh MSA (Deitrick & Briem, 2005, p. 9).
The Pittsburgh MSA is composed of seven counties: Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland. The MSA had a population of 2.3 million in 2006, almost 1.0 million households and employment of about 1.2 million. Like the city of Pittsburgh, the MSA has experienced population decline since the 1970s, but at a much slower rate (See Table 7, p. 171). The Pittsburgh MSA constitutes much of the 10-county region known as southwestern Pennsylvania. The entire region was heavily manufacturing-oriented throughout the first half of the 20th century and highly unionized. Many of the companies located in the area in order to be part of the steel cluster. In 1950, manufacturing accounted for 36% of total employment, but through the 1960s and 1970s, industry employment fell rapidly. Manufacturing accounted for only 20% by 1984 (Ahlbrandt, 1984, p. 1). Manufacturing in the Pittsburgh MSA continued to decline through to 2006. The steel industry accounted for much of the employment loss.

*Population Change*

Relative to 1960, five of the seven counties in the Pittsburgh MSA experienced some population decline. As Table 7 indicates, the city of Pittsburgh accounts for most of the population loss in Allegheny County and the Pittsburgh MSA. The city’s population plummeted from 604,332 in 1960 to only 311,218 by 2007, a decline of close to 50%. Allegheny County’s population declined by 409,000, or 25%, from 1960 to 2007. Throughout the period 1960 to 2007, only Butler County experienced substantial population growth of 58.7% (67,295 people) and Westmoreland expanded nominally by 2.7% (9,700 people). Briem (2007, p. 12) notes that between 2000 and 2006, on average about 12,000 people moved annually from Allegheny County to one of nine other counties within southwestern Pennsylvania. At a state level, Pennsylvania’s population grew by about 10% from 1960 to 2007, a nominal increase compared to the nation. Pennsylvania is one of the slowest growing states in the U.S. (Brookings Institute, 2003).
Table 7


<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Pittsburgh</td>
<td>604,332</td>
<td>520,117</td>
<td>423,959</td>
<td>369,879</td>
<td>334,563</td>
<td>311,218</td>
</tr>
<tr>
<td>Counties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allegheny</td>
<td>1,628,587</td>
<td>1,602,690</td>
<td>1,448,253</td>
<td>1,336,740</td>
<td>1,281,666</td>
<td>1,219,210</td>
</tr>
<tr>
<td>Armstrong</td>
<td>79,524</td>
<td>75,590</td>
<td>77,768</td>
<td>73,478</td>
<td>72,392</td>
<td>69,059</td>
</tr>
<tr>
<td>Beaver</td>
<td>206,948</td>
<td>208,418</td>
<td>204,441</td>
<td>186,264</td>
<td>181,412</td>
<td>173,074</td>
</tr>
<tr>
<td>Butler</td>
<td>114,639</td>
<td>127,941</td>
<td>147,912</td>
<td>152,624</td>
<td>174,083</td>
<td>181,934</td>
</tr>
<tr>
<td>Fayette</td>
<td>169,340</td>
<td>154,667</td>
<td>159,417</td>
<td>145,331</td>
<td>148,644</td>
<td>144,556</td>
</tr>
<tr>
<td>Westmoreland</td>
<td>352,629</td>
<td>376,935</td>
<td>392,294</td>
<td>370,396</td>
<td>369,993</td>
<td>362,326</td>
</tr>
<tr>
<td>Washington</td>
<td>217,271</td>
<td>210,876</td>
<td>217,074</td>
<td>204,617</td>
<td>202,897</td>
<td>205,553</td>
</tr>
<tr>
<td>Total (Pittsburgh MSA)</td>
<td>2,768,938</td>
<td>2,757,117</td>
<td>2,647,159</td>
<td>2,469,450</td>
<td>2,431,087</td>
<td>2,355,712</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>11,319,366</td>
<td>11,793,909</td>
<td>11,863,895</td>
<td>11,881,641</td>
<td>12,281,054</td>
<td>12,432,792</td>
</tr>
</tbody>
</table>


As Table 8 indicates, the greatest loss (30%) in the city’s population occurred in the 20-year period from 1960 to 1980, but during the 1980s and 1990s, rapid population loss continued. By the new millennium Pittsburgh’s population was still falling, but more gradually. Relative to other regions of the United States, between 2000 and 2006 only the New Orleans MSA, which was ravaged by Hurricane Katrina in 2005, experienced a greater absolute loss in population than the Pittsburgh MSA (“Pittsburgh population decline”, 2007). The population moving out of the city was partially absorbed by the suburban areas, but many people moved beyond the MSA. Population sprawl has posed significant challenges for the city. It has impacted the cost of city service delivery, transportation infrastructure requirements, and commuting patterns, and has led
to a decline in property values and city tax revenues. In 2004, the City of Pittsburgh was in a state of “financial distress” and Recovery Plan Coordinators projected that, without corrective action, the City would have increasing annual deficits for years to come, with a shortfall projected to grow to over $115 million by 2009 (Eckert, Seamans, Cherin, & Mellott, 2008, p. 9).

Table 8

% Change and Absolute Change in Population, Counties in Pittsburgh MSA*, City of Pittsburgh, Pittsburgh MSA, and Pennsylvania, 1960 to 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Pittsburgh</td>
<td>-29.8</td>
<td>-21.1</td>
<td>-44.6</td>
<td>-7.0</td>
<td>-48.5</td>
<td>-293,114</td>
</tr>
<tr>
<td>Counties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allegheny</td>
<td>-11.1</td>
<td>-11.5</td>
<td>-21.3</td>
<td>-4.9</td>
<td>-25.1</td>
<td>-409,377</td>
</tr>
<tr>
<td>Armstrong</td>
<td>-2.2</td>
<td>-6.9</td>
<td>-9.0</td>
<td>-4.6</td>
<td>-13.2</td>
<td>-10,465</td>
</tr>
<tr>
<td>Beaver</td>
<td>-1.2</td>
<td>-11.3</td>
<td>-12.3</td>
<td>-4.6</td>
<td>-16.4</td>
<td>-33,874</td>
</tr>
<tr>
<td>Butler</td>
<td>29.0</td>
<td>17.7</td>
<td>51.9</td>
<td>4.5</td>
<td>58.7</td>
<td>67,295</td>
</tr>
<tr>
<td>Fayette</td>
<td>-5.9</td>
<td>-6.8</td>
<td>-12.2</td>
<td>-2.8</td>
<td>-14.6</td>
<td>-24,784</td>
</tr>
<tr>
<td>Westmoreland</td>
<td>11.2</td>
<td>-5.7</td>
<td>4.9</td>
<td>-2.1</td>
<td>2.7</td>
<td>9,697</td>
</tr>
<tr>
<td>Washington</td>
<td>-0.1</td>
<td>-6.5</td>
<td>-6.6</td>
<td>1.3</td>
<td>-5.4</td>
<td>-11,718</td>
</tr>
<tr>
<td>Pittsburgh MSA</td>
<td>-4.4</td>
<td>-8.2</td>
<td>-12.2</td>
<td>-3.1</td>
<td>-14.9</td>
<td>-413,226</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>4.8</td>
<td>3.5</td>
<td>8.5</td>
<td>1.2</td>
<td>9.8</td>
<td>1,113,426</td>
</tr>
</tbody>
</table>


Throughout the entire period from 1960 to 2007, the City of Pittsburgh experienced negative net migration. Three main components of population change include births, deaths, and net migration, the difference between the number of people moving into a geographic area and the number leaving it. Many of the outward migrants were younger displaced workers seeking
employment and often they took their families with them. As a result Pittsburgh lost many of its youth, while the more elderly tended to remain in the city. Student migration is also an important factor for Pittsburgh. Many young people come to Pittsburgh to attend post secondary education, but many also leave to attend universities elsewhere. While young people contribute significantly to these migration trends, the city is not just losing young people. Deitrick, Briem, and Williams Foster (2005) note that, more recently, fewer youth have been leaving the city, but more elderly people have been migrating out. Table 9 indicates that in 2006, the share of total population 65 years of age and over was slightly lower for the city of Pittsburgh (16.4%) compared with Allegheny County (17%), but was higher than the state of Pennsylvania (15.1%) and considerably higher than the nation (12.4%). Between 2000 and 2006, the Washington-Arlington-Alexandria MSA was the top destination for outward migrants from the Pittsburgh MSA, with over 9,000 individuals relocating to that area. The Tampa-St. Petersburg-Clearwater area was the second largest destination for people leaving the Pittsburgh MSA (Briem, 2007, p. 6). Briem (2007) suggests that this may reflect recent outward migration of retirees to attractive retirement destinations.

Since the mid-1990s, Allegheny County has had a natural population decline which occurs when the death rate exceeds the birth rate for a location. This is a rare occurrence for urban areas. The median ages for the city, county, and MSA are higher than the median age for the nation. Pittsburgh’s median age was 37.9 years in 2006 compared with 36.4 for the United States (U.S. Census Bureau, 2007).

Immigration is an important source of growth for communities throughout advanced nations. Pittsburgh performs poorly in terms of international immigration. Deitrick, Briem & Williams Foster (2005) suggest that the low rate of international migration is both a cause and effect of low labor demand growth in the Pittsburgh area.
Table 9
Age Distribution of Population for City of Pittsburgh, Allegheny County, and Pennsylvania, 2006

<table>
<thead>
<tr>
<th>Age range (years)</th>
<th>City of Pittsburgh</th>
<th>Allegheny County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>15,471</td>
<td>66,456</td>
<td>724,450</td>
</tr>
<tr>
<td>5 to 9</td>
<td>12,728</td>
<td>69,249</td>
<td>742,644</td>
</tr>
<tr>
<td>10 to 14</td>
<td>14,693</td>
<td>75,828</td>
<td>809,077</td>
</tr>
<tr>
<td>15 to 19</td>
<td>24,992</td>
<td>85,021</td>
<td>909,621</td>
</tr>
<tr>
<td>20 to 24</td>
<td>35,210</td>
<td>79,909</td>
<td>822,970</td>
</tr>
<tr>
<td>25 to 34</td>
<td>34,679</td>
<td>123,425</td>
<td>1,438,893</td>
</tr>
<tr>
<td>35 to 44</td>
<td>36,818</td>
<td>169,182</td>
<td>1,777,911</td>
</tr>
<tr>
<td>45 to 54</td>
<td>45,893</td>
<td>201,351</td>
<td>1,918,048</td>
</tr>
<tr>
<td>55 to 59</td>
<td>17,587</td>
<td>81,237</td>
<td>809,698</td>
</tr>
<tr>
<td>60 to 64</td>
<td>13,239</td>
<td>63,776</td>
<td>604,075</td>
</tr>
<tr>
<td>65 to 74</td>
<td>20,418</td>
<td>91,066</td>
<td>887,342</td>
</tr>
<tr>
<td>75 to 84</td>
<td>17,587</td>
<td>82,819</td>
<td>723,983</td>
</tr>
<tr>
<td>85 and over</td>
<td>7,746</td>
<td>34,092</td>
<td>271,909</td>
</tr>
<tr>
<td>Median age</td>
<td>37.9</td>
<td>41.7</td>
<td>39.6</td>
</tr>
<tr>
<td>% of Population 65 years and older</td>
<td>16.4%</td>
<td>17%</td>
<td>15.1%</td>
</tr>
</tbody>
</table>


Historically, Allegheny County has been racially segregated, but today it is among the most racially segregated places in America (Deitrick et al., 2005). African Americans make up 12.3% (158,000) of the total county population compared with 15.5% (199,200) for the total non-White population in the county. About 75% of the county’s African American population live in four communities – the City of Pittsburgh, Wilkinsburg, Penn Hills, and McKeesport. About 50% of the county’s African American population live in Pittsburgh. In 2000, 27% of the total population of the City of Pittsburgh (89,500) was African American. Other communities within Allegheny County have high percentages of African American population, including
Rankin (69.5%); Braddock (67.2%); Homestead (47.9%); and Duquesne (46.8%) (Deitrick et al., 2005, p. 33). Fox and Treuhaft (2006, p. 35) note that in older declining cities such as Pittsburgh, “high poverty neighborhoods are the most visible and troubling manifestation of racial and income segregation.”

The population demographics of Pittsburgh and the surrounding region present tremendous challenges. While the population decline is slowing, it continues today as a result of net outward migration, a natural population decline, and low immigration. Even the older suburbs around the city core are declining (Fox & Treuhaft, 2006). The population is not only shrinking, it is aging. Among those who remain, the population in the city is racially segregated and marked class disparities exist.

**Employment Transitions**

Employment data presented in a time series must be interpreted with caution because of the changing methodologies used by official government agencies to classify employment activity. For example the Standard Industrial Classification (SIC) system has been changed to the North American Industry Classification System (NAICS). It is difficult (and inaccurate) to directly compare SIC and NAICS employment levels, therefore the data is presented only as broad indicators of general trends in the local economy. As well, changes to the geographical boundaries may occur for cities, counties, and metropolitan areas; for example, the Pittsburgh MSA added Armstrong County after 2000. Statistics are sourced primarily from national and provincial statistical agencies, with some figures also obtained through secondary documents.

Historically, the Pittsburgh MSA, Allegheny County, and the city of Pittsburgh have been heavily dependent on manufacturing, especially steel, as an employment base. In 1950, the manufacturing sector in the Pittsburgh MSA accounted for 36% of total employment (Ahlbrandt, 1984, p. 2). As was the case across North American manufacturing industries, large gender gaps existed, with far more men than women working in heavy industries such as steel. In 1971, in Allegheny County, the labor force included 398,826 males and 257,081 females. By 2000, the gap had narrowed considerably. Male employment declined by almost 18% between 1971 and 2000, while female employment grew by about 14%. In 2000, Allegheny County employed 327,723 men and 292,829 women (Deitrick & Briem, 2006, p. 6). Unfortunately, income gaps
between men and women persist today. In 2000, full-time, full-year female workers in the Pittsburgh region earned only 73% of male earnings, depending on their level of education (p. 2). Deitrick and Briem (p. 3) suggest that “[w]omen in Pittsburgh [region] are as likely to be concentrated in low paying occupations as women nationally, but they are more likely to be concentrated in low paying industries in Pittsburgh than in the U.S.”

As Figure 5 illustrates, in 1970 over 180,000 people were employed in manufacturing in Allegheny County compared with only 68,445 in 2000 (U.S. Bureau of Economic Analysis, 2008). As of 1970, Allegheny County had already gone through substantial economic upheaval and the employment base was shifting considerably. Jobs were largely concentrated in three areas. Table 10 indicates that manufacturing still accounted for over 24% of employment, service industries had grown to 23% of employment, and trade (including retail and wholesale) accounted for about 21% of employment.
Figure 5. Manufacturing employment, Allegheny County, 1970 to 2000.

### Table 10

*Change in Industry Employment, Allegheny County, 1970 to 2000*

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total full-time and part-time employment</td>
<td>740,788</td>
<td>773,155</td>
<td>819,868</td>
<td>875,284</td>
<td>18.2</td>
<td></td>
</tr>
<tr>
<td>Farm employment</td>
<td>840</td>
<td>0.1</td>
<td>932</td>
<td>657</td>
<td>521</td>
<td>-38.0</td>
</tr>
<tr>
<td>Nonfarm employment</td>
<td>739,948</td>
<td>99.9</td>
<td>772,223</td>
<td>819,211</td>
<td>874,763</td>
<td>18.2</td>
</tr>
<tr>
<td>Private employment</td>
<td>649,809</td>
<td>87.7</td>
<td>684,509</td>
<td>736,961</td>
<td>793,559</td>
<td>22.1</td>
</tr>
<tr>
<td>Agricultural services, forestry, fishing</td>
<td>1,401</td>
<td>0.2</td>
<td>1,991</td>
<td>3,140</td>
<td>4,500</td>
<td>221.2</td>
</tr>
<tr>
<td>Mining</td>
<td>3,168</td>
<td>0.4</td>
<td>3,799</td>
<td>3,338</td>
<td>2,652</td>
<td>-16.3</td>
</tr>
<tr>
<td>Construction</td>
<td>37,941</td>
<td>5.1</td>
<td>40,884</td>
<td>41,779</td>
<td>48,181</td>
<td>27.0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>180,884</td>
<td>24.4</td>
<td>153,362</td>
<td>80,859</td>
<td>68,445</td>
<td>-62.2</td>
</tr>
<tr>
<td>Transportation and public utilities</td>
<td>47,406</td>
<td>6.4</td>
<td>42,466</td>
<td>43,265</td>
<td>54,139</td>
<td>14.2</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>40,812</td>
<td>5.5</td>
<td>44,729</td>
<td>43,826</td>
<td>39,106</td>
<td>-4.2</td>
</tr>
<tr>
<td>Retail trade</td>
<td>116,828</td>
<td>15.8</td>
<td>131,063</td>
<td>141,332</td>
<td>141,087</td>
<td>20.8</td>
</tr>
<tr>
<td>Finance, insurance, and real estate</td>
<td>49,323</td>
<td>6.7</td>
<td>58,445</td>
<td>68,917</td>
<td>80,930</td>
<td>64.1</td>
</tr>
<tr>
<td>Services</td>
<td>172,046</td>
<td>23.2</td>
<td>207,770</td>
<td>310,505</td>
<td>354,519</td>
<td>106.1</td>
</tr>
<tr>
<td>Government and government enterprises</td>
<td>90,139</td>
<td>12.2</td>
<td>87,714</td>
<td>82,250</td>
<td>81,204</td>
<td>-9.9</td>
</tr>
</tbody>
</table>


Between 2000 and 2007, manufacturing employment in Allegheny County plummeted further to 42,125. In 2007, the sector accounted for about 5% of total employment in the County (U.S. Bureau of Labor Statistics, 2008a). In recent years, substantial decline in manufacturing employment has also continued at the regional, state, and national level. For the Pittsburgh MSA, 30,100 manufacturing jobs were lost from 1990 to 2007 (Pennsylvania Department of Labor and Industry, 2008). Manufacturing jobs in Pennsylvania declined from 864,000 in 2000 to 657,400
in 2007, a drop of 24%. Nationally, manufacturing employment in the United States fell by more than 3 million jobs, from 17.2 million in 2000 to 13.9 million in 2007.

Despite dramatic employment losses, manufacturing industries remain an important part of the economy for the city, county, and MSA. In 2005, manufacturing industries in Allegheny County had an estimated product value of more than $23 billion. Manufacturing continues to be the largest source of export earnings for the county. About $15 billion of manufacturing products were exported from the area in 2005. The County’s primary metals industry generated about $2.1 billion in export sales in 2005 (Deitrick & Briem, 2005, pp. 18-19).

Within manufacturing, the steel industry contributed substantially to Pittsburgh’s prosperity for much of the 20th century, but today, comprises a small part of the regional economy. By 2007, employment in iron and steel mills and ferroalloy manufacturing declined to only 7,300 for the MSA and about 3,300 in Allegheny County (U.S. Bureau of Labor Statistics, 2008a). There are no integrated steel mills operating in the city of Pittsburgh today.

In 2003, Allegheny County reached employment of 881,000, the highest level in the county’s history, however employment growth has been slow over the past few decades and future growth projections are modest (Allegheny County, 2008, p. 16). Today, the county’s economy is much more diversified. Data presented in Table 11 shows the industries based on share of employment in 2006, using the North American Industry Classification System. They include health care and social assistance with 126,296 jobs or 15% of total employment, retail with 91,579 jobs (11%), government and government enterprises with 76,510 jobs (9%), professional and technical with 75,909 jobs (9%), and finance and insurance with 56,609 jobs (7%). Manufacturing remains an important employment sector, but accounted for only 45,240 jobs or 5.2% of total employment in the county as of 2006 and declined further in 2007.
### Table 11

*Employment by Industry, Allegheny County, 2001 to 2006*

<table>
<thead>
<tr>
<th>Industry (NAICS)</th>
<th>2001</th>
<th>2006</th>
<th>% Change 2001 to 2006</th>
<th>% Share 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total employment (full-time and part-time)</td>
<td>880,962</td>
<td>873,104</td>
<td>-0.9</td>
<td></td>
</tr>
<tr>
<td>Forestry, fishing, related activities</td>
<td>209</td>
<td>233</td>
<td>11.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Mining</td>
<td>2,706</td>
<td>2,456</td>
<td>-9.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Utilities</td>
<td>5,262</td>
<td>1,969</td>
<td>-62.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Construction</td>
<td>47,933</td>
<td>46,006</td>
<td>-4.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>57,572</td>
<td>45,240</td>
<td>-21.4</td>
<td>5.2</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>32,472</td>
<td>30,846</td>
<td>-5.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Retail trade</td>
<td>94,583</td>
<td>91,579</td>
<td>-3.2</td>
<td>10.5</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>34,005</td>
<td>25,272</td>
<td>-25.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Information</td>
<td>22,536</td>
<td>19,495</td>
<td>-13.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>55,428</td>
<td>56,609</td>
<td>2.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>24,922</td>
<td>34,044</td>
<td>36.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Professional and technical services</td>
<td>74,953</td>
<td>75,909</td>
<td>1.3</td>
<td>8.7</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>13,171</td>
<td>20,747</td>
<td>57.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Administrative and waste services</td>
<td>50,676</td>
<td>46,737</td>
<td>-7.8</td>
<td>5.4</td>
</tr>
<tr>
<td>Educational services</td>
<td>44,917</td>
<td>48,109</td>
<td>7.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>117,918</td>
<td>126,296</td>
<td>7.1</td>
<td>14.5</td>
</tr>
<tr>
<td>Arts, entertainment, and recreation</td>
<td>17,953</td>
<td>18,870</td>
<td>5.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>54,255</td>
<td>56,599</td>
<td>4.3</td>
<td>6.5</td>
</tr>
<tr>
<td>Other services, except public administration</td>
<td>47,950</td>
<td>49,084</td>
<td>2.4</td>
<td>5.6</td>
</tr>
<tr>
<td>Government and government enterprises</td>
<td>81,030</td>
<td>76,510</td>
<td>-5.6</td>
<td>8.8</td>
</tr>
</tbody>
</table>

The city of Pittsburgh has demonstrated significant resilience in the face of daunting challenges. Data for the city is available for broad employment sectors for census years 1980, 1990, and 2000 based on SIC codes. As Table 12 indicates, from 1980 to 2000, the city experienced dramatic shifts in the relative share of employment among industry sectors. Overall, the city lost close to 50,000 jobs in that time period, most of them in manufacturing. The total number of jobs declined from 331,904 in 1980 to 282,999 in 2000, of which 42,000 were manufacturing jobs (State of the Cities Data System (SOCDS), 2008). In 1980, manufacturing accounted for almost 20% of Pittsburgh’s total employment, but as of 2000, the industry share had declined to 8%. Steel and related industries were a large component of Pittsburgh’s manufacturing sector. As well, retail trade, and transportation, communication and public utilities, experienced significant employment decline. Professional services increased absolutely from 87,565 jobs in 1980 to 110,466 in 1990 and then dropped to 96,104 jobs in 2000. Professional services grew in terms of share of total employment from 26.5% in 1980 to 34.2% in 2000. Business and repair services experienced the greatest absolute increase of 10,458 jobs from 1980 to 2000. The city experienced a shift in employment towards a more service-oriented economy. By 2002 the number of jobs in Pittsburgh had risen to over 314,000 (SOCDS, 2008b).
Table 12

Change in Industry Employment, City of Pittsburgh, Place of Work, 1980 to 2000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>16,072</td>
<td>4.9</td>
<td>14,316</td>
<td>4.7</td>
<td>12,711</td>
<td>4.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>64,849</td>
<td>19.6</td>
<td>28,609</td>
<td>9.4</td>
<td>22,658</td>
<td>8.1</td>
</tr>
<tr>
<td>Transportation, communication and public utilities</td>
<td>29,991</td>
<td>9.1</td>
<td>22,931</td>
<td>7.5</td>
<td>22,350</td>
<td>8.0</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>16,891</td>
<td>5.1</td>
<td>12,160</td>
<td>4.0</td>
<td>10,220</td>
<td>3.6</td>
</tr>
<tr>
<td>Retail trade</td>
<td>42,870</td>
<td>13.0</td>
<td>38,134</td>
<td>12.5</td>
<td>33,219</td>
<td>11.8</td>
</tr>
<tr>
<td>Finance, insurance, and real estate</td>
<td>27,516</td>
<td>8.3</td>
<td>35,537</td>
<td>11.7</td>
<td>29,793</td>
<td>10.6</td>
</tr>
<tr>
<td>Business and repair services</td>
<td>16,369</td>
<td>5.0</td>
<td>17,094</td>
<td>5.6</td>
<td>26,827</td>
<td>9.5</td>
</tr>
<tr>
<td>Personal services</td>
<td>6,774</td>
<td>2.1</td>
<td>6,557</td>
<td>2.2</td>
<td>7,472</td>
<td>2.7</td>
</tr>
<tr>
<td>Professional services</td>
<td>87,565</td>
<td>26.5</td>
<td>110,466</td>
<td>36.3</td>
<td>96,104</td>
<td>34.2</td>
</tr>
<tr>
<td>Public administration</td>
<td>15,461</td>
<td>4.7</td>
<td>13,645</td>
<td>4.5</td>
<td>13,015</td>
<td>4.7</td>
</tr>
<tr>
<td>Not elsewhere classified</td>
<td>5,566</td>
<td>1.7</td>
<td>5,268</td>
<td>1.7</td>
<td>6,630</td>
<td>2.4</td>
</tr>
<tr>
<td>Total employment</td>
<td>331,904</td>
<td></td>
<td>306,707</td>
<td></td>
<td>282,999</td>
<td></td>
</tr>
</tbody>
</table>


The city of Pittsburgh had an employed civilian labor force of 134,647 for the 3-year estimate, 2005 to 2007 (U.S. Census Bureau, 2009a). The participation rate (persons 16 years and over who are currently employed or actively seeking work) for Pittsburgh was 58.9%.

Despite losing more than half of its population, the city has retained a relatively stable number of jobs over the past half century. In 1960, 304,000 people worked in the city (Deitrick & Briem, 2005, p. 13). Jobs in the city grew to 282,999 by 2000 and to 314,093 by 2004 (State of the City Data System, 2008b; 2009). While it is quite common for high employment densities to occur in a city core, it is not common for a city to have employment by place of work more than twice as high as employment by place of residence, and employment by place of work greater than the size of the total city population and far greater than the working age population.
It is also important to note that about two-thirds of the jobs in the city are held by non-residents. Even more striking, despite its job-rich urban core, in 2006, Pittsburgh had a poverty rate of 22% for individuals and 15% for families compared with national poverty rates of 13% for individuals and 10% for families (U.S. Census Bureau, 2007a).

As Table 13 indicates, only 44% of jobs in professional, scientific, management, administrative, and waste management services industries are held by residents of the city. Similarly, only 40% of jobs in the information industry and 37% of jobs in finance, insurance, real estate and rental and leasing are held by residents. In the educational, and health and social services industries, which account for 30% of all jobs in the city, only 51% of the jobs are held by residents. Less than 50% of high-paying jobs in more traditional sectors such as manufacturing and construction sectors are held by local residents. Relatively lower-paying industries such as retail trade, arts, entertainment, recreation, accommodation and food services and other services employ a large proportion of local residents.

Many of the new jobs created have been different from steel work in terms of skills and knowledge requirements and in terms of employer demands for formal credentials resulting in significant mismatches. As a result, many steel workers faced some tough choices including retraining, commuting to work outside the city, accepting low-paying, low-skill jobs in the city, relocating, or accepting early retirement if possible. The steel technology cluster in Pittsburgh has continued to grow, however, and it makes use of steelworkers’ knowledge and skills gained in the mills.
Table 13

Employment by Place of Work and Employment by Place of Residence, City of Pittsburgh, 2000

<table>
<thead>
<tr>
<th>Industry (NAICS)</th>
<th>Place of work</th>
<th>Place of residence</th>
<th>% of Jobs held by residents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employment</td>
<td>Industry share</td>
<td>Employment</td>
</tr>
<tr>
<td>Total workers</td>
<td>281,430</td>
<td>100.0</td>
<td>144,768</td>
</tr>
<tr>
<td>Agriculture, forestry, fishing and hunting and mining</td>
<td>345</td>
<td>0.1</td>
<td>265</td>
</tr>
<tr>
<td>Construction</td>
<td>12,866</td>
<td>4.6</td>
<td>6,185</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>18,207</td>
<td>6.5</td>
<td>8,807</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>7,886</td>
<td>2.8</td>
<td>3,159</td>
</tr>
<tr>
<td>Retail trade</td>
<td>19,165</td>
<td>6.8</td>
<td>14,876</td>
</tr>
<tr>
<td>Transportation and warehousing and utilities</td>
<td>15,187</td>
<td>5.4</td>
<td>6,699</td>
</tr>
<tr>
<td>Information</td>
<td>12,229</td>
<td>4.3</td>
<td>4,934</td>
</tr>
<tr>
<td>Finance, insurance, real estate and rental and leasing</td>
<td>31,010</td>
<td>11.0</td>
<td>11,520</td>
</tr>
<tr>
<td>Professional, scientific, management, administrative and waste mgt. services</td>
<td>36,035</td>
<td>12.8</td>
<td>16,013</td>
</tr>
<tr>
<td>Educational, health and social services</td>
<td>84,264</td>
<td>29.9</td>
<td>43,319</td>
</tr>
<tr>
<td>Arts, entertainment, recreation, accommodation and food services</td>
<td>18,076</td>
<td>6.4</td>
<td>14,993</td>
</tr>
<tr>
<td>Other services (except public administration)</td>
<td>12,481</td>
<td>4.4</td>
<td>7,489</td>
</tr>
<tr>
<td>Public administration</td>
<td>13,092</td>
<td>4.7</td>
<td>6,509</td>
</tr>
<tr>
<td>Armed forces</td>
<td>413</td>
<td>0.1</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Note. Source: U.S. Census Bureau, 2007b.
Table 14 illustrates employment changes by occupation in the City of Pittsburgh. Between 1990 and 2006, jobs in Production, transportation and material moving occupations declined from 15.9% to 7.2% of total jobs held by the civilian population 16 years. Construction occupations held by the civilian population also declined during that time period, as did sales and office occupations and farming, fishing, and forestry occupations. Two occupational groups increased for the civilian population, including management, professional and related occupations, and service occupations. Growth in these two occupational groups slowed between 2000 and 2006 (U.S. Census Bureau, 2008).

It is also important to note that several of the major employers in Pittsburgh are in the nonprofit sector, for example, the University of Pittsburgh Medical Center is the city’s largest employer. In 2004, nonprofit organizations overall averaged 74,243 jobs, nearly 25% of the city’s employment. This compares to 11.5% for Pennsylvania (Briem & Deitrick, 2006, p. 1).

Table 14

| Civilian Employed Population by Occupation, City of Pittsburgh, 1990, 2000 and 2006 |
|----------------------------------------|--------|--------|--------|
|                                        | 2006   | 2000   | 1990   |
| Civilian employed population 16 years  |        |        |        |
| and over                               | 136,818| 144,768| 165,153|
| Occupation                             |        |        |        |
| Management, professional, and related  |        |        |        |
| occupations                           | 54,048 | 53,398 | 43,485 |
| Service occupations                    |        |        |        |
|                                       | 28,305 | 28,871 | 24,484 |
| Sales and office occupations           |        |        |        |
|                                       | 36,049 | 39,835 | 54,051 |
| Farming, fishing, and forestry occupations |        |        |        |
|                                       | 266    | 145    | 765    |
| Construction, extraction, maintenance  |        |        |        |
| and repair occupations                 |        |        |        |
|                                       | 8,238  | 8,994  | 16,144 |
| Production, transportation, and material |        |        |        |
| moving occupations                     |        |        |        |
|                                       | 9,912  | 13,525 | 26,224 |

Location quotients provide another measure of economic activity. A location quotient for an industry compares the share of all jobs in that industry in a community to the share of all jobs for that industry in a reference area such as a province, state or nation. A location quotient of 1.0 suggests that jobs are equally as plentiful in the community as they are in the reference area. A location quotient of less than 1.0 suggests they are less plentiful and a location quotient of more than 1.0 suggests they are more highly concentrated. The higher the location quotient, the stronger the concentration.

Once the major economic driver in Allegheny County, manufacturing had a location quotient of only 0.54 in 2002 (Dietrick & Briem, 2005, p. 25). Table 15 indicates that, by far, educational services had the highest location quotient of 2.4 suggesting a high concentration for this industry in Allegheny County relative to other places in the U.S., management of companies and enterprises followed with a location quotient of 1.4, professional, scientific and technical services with 1.3, and health care and social services with 1.25. All four industry sectors are generally considered to be knowledge-intensive industries.

Table 15

Location Quotients by Industry, Allegheny County Relative to the U.S., 2002

<table>
<thead>
<tr>
<th>Industry</th>
<th>Location quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>.23</td>
</tr>
<tr>
<td>Utilities</td>
<td>.81</td>
</tr>
<tr>
<td>Construction</td>
<td>.91</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>.54</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>.93</td>
</tr>
<tr>
<td>Retail trade</td>
<td>.85</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>1.14</td>
</tr>
<tr>
<td>Information</td>
<td>1.06</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>1.20</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>.87</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>1.31</td>
</tr>
<tr>
<td>Industry</td>
<td>Location quotient</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>1.40</td>
</tr>
<tr>
<td>Administrative and waste services</td>
<td>0.84</td>
</tr>
<tr>
<td>Educational services</td>
<td>2.40</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>1.25</td>
</tr>
<tr>
<td>Arts, entertainment, and recreation</td>
<td>0.90</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>0.89</td>
</tr>
<tr>
<td>Other services, except government</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Note. Source: Deitrick and Briem (2005, p. 25).

In 2007, relative to the nation overall, iron and steel mills and ferroalloy manufacturing had a location quotient of 6.1 in Allegheny County. Relative to Pennsylvania, the industry had a location quotient of 1.87 in Allegheny County. Despite massive decline in employment in the industry, Allegheny County continues to have a concentration of iron and steel mill jobs, although it is very small compared to peak years. Steel product manufacturing from purchased steel had a location quotient of 1.34 in Allegheny County relative to the U.S. in 2007 (U.S. Bureau of Labor Statistics, 2008b).

**Commuting to Work**

Workers commute into the city from throughout the county, the MSA and beyond. Commuting has increased steadily between 1960 and 2000 for the city and county. Briem (2005, p. 1) notes that the daytime population for the city of Pittsburgh is 41% higher than its resident population as a result of daily commuting of workers. Each day, an estimated 182,030 workers commute into city, while 43,839 residents commute to jobs outside the city, resulting in net commuting of 138,191 (p. 6). According to Briem (2005, p. 1), among all American cities with a population of 250,000 or more, “Pittsburgh ranked fourth for its percentage population change resulting from commuting. Only Washington, DC (+71.8%), Atlanta (+62.5%), and Tampa (+47.5%) had larger percentage increases in their daytime populations.” The city recently raised the annual Occupational Privilege Tax for employees who work within the city limits from $10
to $52 (Rubinstein, Personal Communication, November 1, 2006). This tax contributes to the City’s costs for services used by commuters.

**Income and GDP**

In 2004, there were 10,795 establishments in the city of Pittsburgh, which generated an annual payroll totaling $12.7 billion (State of the Cities Data System (SOCDS), 2009). The number of business establishments in the city has declined from 11,270 in 1999. During that same period, the Pittsburgh MSA experienced an increase in business establishments, from 59,469 in 1999 to 61,176 in 2004 (SOCDS, 2009).

Relative to the steel era, in terms of income, Pittsburghers are not as well off today. On average, jobs that currently make up the local economy either do not pay as well as previous jobs, or there are more part-time or temporary positions. Moreover, as is typical of many metropolitan areas, jobs in the city pay more on average than jobs in the suburbs. The average annual pay for jobs in the city was $42,637 in 2004 compared with $31,676 for the suburbs (the area for the Pittsburgh MSA less the city of Pittsburgh) (SOCDS, 2009).

With respect to several other income characteristics, the city performs poorly relative to Allegheny County, the state, and the nation. The median household income in the city in 2006 was $31,779, only 65% as high as the nation overall which had a median household income of $48,451. As Table 16 indicates, looking at other levels of income, including median family income and per capita income, the city performed worse than the county, the state, and the nation. While the city serves as a major employment center for the rest of the county, Pittsburgh residents have a considerably higher rate of poverty relative to the county, state, and nation. Relative to the state, there is a higher proportion of population 65 years and older who are likely to be on fixed incomes, particularly pensions or social security. Like other older core cities in the U.S., Pittsburgh has a higher concentration of lower income households relative to the suburban areas around it (Fox & Treuhaft, 2006, p. 36). A substantial proportion of these lower income households are African American. Bangs, Anthou, Hughes, & Shorter (2004, p. 4) suggest that “[t]he Pittsburgh area’s [MSA] African American children, working-age adults, and elderly continue to be among the most disadvantaged in America.”
During the 1970s and 1980s, workers in Allegheny County enjoyed a higher level of household income relative to those in Pennsylvania and the U.S. The loss of high wage manufacturing jobs, especially steel jobs, was a significant factor in the decline of household incomes. The loss of jobs in the steel communities throughout the Mon Valley, for example Homestead and McKeesport, has resulted in high rates of outward daily commuting. Those residents now also incur the burden of higher transportation costs and for the many working poor, transportation access is a significant issue.

**Table 16**

*Socio-Economic Characteristics, City of Pittsburgh, Allegheny County, Pennsylvania, and U.S.*

<table>
<thead>
<tr>
<th>Socio-economic characteristics 2006</th>
<th>City of Pittsburgh</th>
<th>Allegheny County</th>
<th>Pennsylvania</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate (June 2008, not seasonally adjusted)</td>
<td>5.5</td>
<td>5.0</td>
<td>5.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Labor force participation rate (population 16 years and over)</td>
<td>58.9%</td>
<td>61.8%</td>
<td>62.9%</td>
<td>65%</td>
</tr>
<tr>
<td>Median household income (2006; inflation-adjusted dollars)</td>
<td>$31,779</td>
<td>$43,691</td>
<td>$46,259</td>
<td>$48,451</td>
</tr>
<tr>
<td>Median family income (2006; inflation-adjusted dollars)</td>
<td>$44,027</td>
<td>$59,962</td>
<td>$58,148</td>
<td>$58,526</td>
</tr>
<tr>
<td>Per capita income (2006; inflation-adjusted dollars)</td>
<td>$21,606</td>
<td>$26,544</td>
<td>$24,694</td>
<td>$25,267</td>
</tr>
<tr>
<td>Individuals below poverty level (2006)</td>
<td>22.2%</td>
<td>12.5%</td>
<td>12.1%</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

*Note. Source: U.S. Census Bureau, (2008; 2009a; 2009b).*

Table 17 illustrates the contribution of industries to GDP for the Pittsburgh MSA. Total GDP grew from $86.1 billion in 2001 to $102 billion in 2005 (current dollars). The manufacturing sector makes the largest contribution of more than $15 billion. While manufacturing may not be the driver it once was in Pittsburgh in terms of employment, its
contribution to GDP grew steadily between 2001 and 2005. If manufacturing continues to decline, it will have the greatest impact on the local economy in terms of income. Overall, in 2005, private service industries contributed $72.2 billion to the economy compared with $21.6 for private goods-producing industries. Despite major challenges, the Pittsburgh Region is expanding and diversifying its economic base, both in terms of employment and wealth generation.

Table 17

GDP by Industry for Pittsburgh Metropolitan Area (Millions of Current Dollars)

<table>
<thead>
<tr>
<th>Industry</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Gross Domestic Product</td>
<td>86,131</td>
<td>89,024</td>
<td>92,037</td>
<td>97,393</td>
<td>102,053</td>
</tr>
<tr>
<td>Private industries</td>
<td>79,079</td>
<td>81,652</td>
<td>84,237</td>
<td>89,248</td>
<td>93,847</td>
</tr>
<tr>
<td>Agriculture, forestry, fishing, and hunting</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
</tr>
<tr>
<td>Mining</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
</tr>
<tr>
<td>Utilities</td>
<td>2,438</td>
<td>2,475</td>
<td>2,631</td>
<td>2,875</td>
<td>3,340</td>
</tr>
<tr>
<td>Construction</td>
<td>4,079</td>
<td>4,085</td>
<td>3,968</td>
<td>4,052</td>
<td>4,379</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11,689</td>
<td>12,478</td>
<td>13,239</td>
<td>14,714</td>
<td>15,348</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>4,719</td>
<td>4,961</td>
<td>5,197</td>
<td>5,654</td>
<td>6,172</td>
</tr>
<tr>
<td>Retail trade</td>
<td>5,658</td>
<td>5,759</td>
<td>6,085</td>
<td>6,107</td>
<td>6,268</td>
</tr>
<tr>
<td>Transportation and warehousing, excluding postal service</td>
<td>3,582</td>
<td>3,683</td>
<td>3,702</td>
<td>3,489</td>
<td>3,432</td>
</tr>
<tr>
<td>Information</td>
<td>2,810</td>
<td>3,050</td>
<td>3,499</td>
<td>3,803</td>
<td>3,831</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>6,173</td>
<td>6,403</td>
<td>6,337</td>
<td>6,806</td>
<td>6,878</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>12,615</td>
<td>(D)</td>
<td>12,379</td>
<td>12,523</td>
<td>13,066</td>
</tr>
<tr>
<td>Professional and technical services</td>
<td>6,555</td>
<td>6,346</td>
<td>6,465</td>
<td>6,822</td>
<td>7,262</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>1,818</td>
<td>2,008</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
</tr>
<tr>
<td>Administrative and waste services</td>
<td>2,099</td>
<td>2,133</td>
<td>(D)</td>
<td>(D)</td>
<td>(D)</td>
</tr>
<tr>
<td>Educational services</td>
<td>1,690</td>
<td>(D)</td>
<td>1,891</td>
<td>1,962</td>
<td>2,065</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>7,239</td>
<td>7,800</td>
<td>8,133</td>
<td>8,621</td>
<td>9,132</td>
</tr>
<tr>
<td>Arts, entertainment, and recreation</td>
<td>846</td>
<td>886</td>
<td>918</td>
<td>851</td>
<td>893</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>1,805</td>
<td>1,911</td>
<td>1,958</td>
<td>2,057</td>
<td>2,088</td>
</tr>
</tbody>
</table>
191

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other services, except government</td>
<td>2,193</td>
<td>2,280</td>
<td>2,337</td>
<td>(D)</td>
<td>2,526</td>
</tr>
<tr>
<td>Government</td>
<td>7,052</td>
<td>7,372</td>
<td>7,800</td>
<td>8,145</td>
<td>8,207</td>
</tr>
<tr>
<td>Private goods-producing industries</td>
<td>16,809</td>
<td>17,663</td>
<td>18,387</td>
<td>20,312</td>
<td>21,605</td>
</tr>
<tr>
<td>Private services-providing industries</td>
<td>62,270</td>
<td>63,988</td>
<td>65,850</td>
<td>68,935</td>
<td>72,242</td>
</tr>
</tbody>
</table>


Deitrick and Briem (2005, p. 7) report population and employment projections based on the Regional Economic Models, Inc. (REMI) for the Pittsburgh region, an area covering the same jurisdiction as the Pittsburgh MSA, excluding Armstrong County. Population is projected to decline slightly between 2002 and 2010; then move upward gradually, with a total change of 7.3% for the period 2002 to 2025. Employment is projected to increase by 12.6% between 2002 and 2025. The fastest growing employment growth is expected to occur in health care and social assistance; educational services; administrative and support and waste management and remediation services; and professional, scientific and technical services.

**Educational Attainment**

In 2006, 86.3% of Pittsburgh’s population 25 years and over were high school graduates or higher compared with 84.1% for the nation as a whole. As Table 18 indicates, the City outperformed the nation in terms of the percent of the population that had completed a bachelor’s degree or higher (U.S. Census Bureau, 2007). For the Pittsburgh MSA, Bangs, Anthou, Hughes, Lichtenwalter, & Shorter (2004) note that, on average, women in the Pittsburgh area have higher levels of education than men. They also have higher levels of education, on average, than women nationally. Women in Pittsburgh have made substantial gains in educational levels over the past two decades.
Table 18

Educational Attainment, Population 25 Years and Over for City of Pittsburgh and U.S., 2006

<table>
<thead>
<tr>
<th>Educational attainment</th>
<th>Pittsburgh</th>
<th>%</th>
<th>U.S.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population 25 years and over</td>
<td>193,967</td>
<td></td>
<td>195,932,824</td>
<td></td>
</tr>
<tr>
<td>Less than 9th grade</td>
<td>6,029</td>
<td>3.1</td>
<td>12,743,555</td>
<td>6.5</td>
</tr>
<tr>
<td>9th to 12th grade, no diploma</td>
<td>20,465</td>
<td>10.6</td>
<td>18,502,540</td>
<td>9.4</td>
</tr>
<tr>
<td>High school graduate (includes equivalency)</td>
<td>65,041</td>
<td>33.5</td>
<td>59,123,954</td>
<td>30.2</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>29,466</td>
<td>15.2</td>
<td>38,185,678</td>
<td>19.5</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>12,204</td>
<td>6.3</td>
<td>14,486,202</td>
<td>7.4</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>30,359</td>
<td>15.7</td>
<td>33,496,187</td>
<td>17.1</td>
</tr>
<tr>
<td>Graduate or professional degree</td>
<td>30,403</td>
<td>15.7</td>
<td>19,394,708</td>
<td>9.9</td>
</tr>
<tr>
<td>% High school graduate or higher</td>
<td>86.3</td>
<td></td>
<td>84.1</td>
<td></td>
</tr>
<tr>
<td>% Bachelor's degree or higher</td>
<td>31.3</td>
<td></td>
<td>27.0</td>
<td></td>
</tr>
</tbody>
</table>


Quality of public school education is a serious concern in Pittsburgh as a result of the city’s declining tax base and an issue for the larger Allegheny County also. There are 42 public school districts in Allegheny County all competing for a limited share of tax revenues. Given the city’s high concentration of low-income households, low property values, and the large number of nonprofits, the city and county have fewer financial resources for schools. Also, just as the neighborhoods of Pittsburgh and the larger County are highly segregated, so are the schools. The majority of students enrolled in public schools in the city are African American, whereas the majority of students enrolled in public schools in Allegheny County and the larger Pittsburgh MSA are White (Deitrick, Hansen, & Briem, 2007).

**Quality of Life**

In addition to good jobs, quality of life factors such as housing affordability and quality, access to public health resources, a clean environment, community safety, community participation, and equitable distribution of income all help to make communities livable. In 2007,
Pittsburgh was ranked number one among American cities as the best place to live by the annual Places Rated Almanac (Majors, 2007). Twenty-three years ago, in 1985, the city was named America’s most livable city by the same publication. The guide ranks 379 U.S. metropolitan areas in nine categories, including housing costs, transportation, jobs, education, climate, crime, health care, recreation, and ambience. While the city did not receive top rating for any one of these areas, it performed well in all nine categories (Majors, 2007). This is a tremendous achievement given the struggles Pittsburgh has strived to overcome and the many challenges the city continues to face.

A major challenge facing Pittsburgh is the city’s financial situation. In 2003, the Pennsylvania Department of Community and Economic Development designated Pittsburgh as “financially distressed” under a state law known as Act 47. The city was declared distressed because it had three consecutive years of deficits. While the city’s population plummeted in half from over 600,000 in the 1960s to about 300,000 in 2007, the cost of providing basic public services such as police and fire, street maintenance, waste collection, water and sewer, libraries, and other services for the same geographic area had to be spread across fewer people. In effect, the per capita cost of providing city services to residents increased as the tax base decreased (Ochs, 2005, p. 1). At the same time, like many older North American cities, Pittsburgh continues to battle suburban migration and urban decay. As residents have moved from the city core, property values in the core have declined and the local tax base has been offset with increases in residential property taxes for those remaining.

The city also experienced the loss of major industrial properties and the burden of numerous brownfield sites abandoned by bankrupt companies, including massive steel plants. These would be serious issues for any city, but as the employment and cultural center for Allegheny County and the broader Pittsburgh region, the city also incurs additional costs such as public transit, parking, as well as road maintenance costs relating to high numbers of daily commuters and visitors into the city. Furthermore, as major industries shuttered plants and ceased operations or moved out of Pittsburgh, the city’s employment base shifted to commercial and non-profit economic activity, including hospitals, universities, and government entities. The non-profit organizations are exempt from real estate taxation (Ochs, 2005), so the major growth in “eds and meds” service occupations has not offset the lost tax revenues from industry. High
corporate tax rates in Pittsburgh are a deterrent for new private business start ups. Many of Pittsburgh’s high poverty neighborhoods cannot attract developers to make private investments in basic amenities such as retail and grocery stores or in new housing.

The city’s levels of per capita income, household income, and family income were all less than income levels for the county, state, and nation in 2006 (U.S. Census Bureau, 2008). Many residents living in poverty face access barriers to home ownership, available affordable housing, transportation, and quality education. Pittsburgh’s poverty rate for individuals and for families remains high relative to the nation, despite renewed growth in the number of jobs in the city and the development of a more diversified economy. Racial disparities are a serious related issue.

Pittsburgh’s economic and cultural activity is highly integrated with the broader county and MSA. The city is dependent on the broader area for its labor force, while the areas around Pittsburgh are largely dependent upon the city for jobs, education, and health care. Any major strategies or initiatives directed at economic transformation must take in account the multitude of interdependencies at a regional level, while addressing the vital role of the inner city core. This is a formidable challenge given that Allegheny County alone is made up of 130 individual municipalities, each with its own government. Fox and Treuhaft (2006, p. 23) suggest that “economic growth and economic inclusion are the twin pillars for building strong, sustainable neighborhoods and regions. The fates of communities within regions—from the most advantaged to the least advantaged—are intertwined.” Pittsburgh’s prosperity depends largely on the capacity of local leaders in the city and in neighboring communities to overcome the tremendous fragmentation that exists and on their willingness to work as collaborative leaders to achieve economic growth and inclusion.

Quality of life includes a clean environment. Pittsburgh has come a long way from the days it was referred to as “hell with a lid off.” The city has employed environmental technology to remediate lands and restore buildings, and has implemented numerous marketing strategies to address the negative image that burdens the community. During its steel era, street lamps were sometimes lit throughout the day while the city was cloaked in a dark, heavy smoke. According to Lorant (1964, p. 322), “Days seemed like nights. White shirts turned into black in minutes.
There was smoke and smog and grime.” The stench from the mills and the polluted rivers permeated the City. For Pittsburhers, this became a way of life. Mencken (as cited in Lorant, 1964, p. 327) describes the Pittsburgh landscape in *The Libido for the Ugly*:

> Here was the very heart of industrial America, the center of its most lucrative and characteristic activity, the boast and pride of the richest and grandest nation ever seen on earth—and here was a scene so dreadfully hideous, so intolerably bleak and forlorn that it reduced the whole aspiration of man to a macabre and depressing joke. Here was wealth beyond computation, almost beyond imagination—and here were human habitations so abominable that they would have disgraced a race of alley cats. I am not speaking of mere filth. One expects steel towns to be dirty. What I allude to is the unbroken and agonizing ugliness, the sheer revolting monstrousness, of every house in sight.

Such images of the city are cast like steel, strong and enduring. More than three-quarters of a century later, a 2003 article in Pittsburgh’s Tribune Review began with this call for help:

> Help wanted.

> Industrial powerhouse formerly known as the Steel City seeks unique selling image. Fresh image must honestly boil down the natural charms and man-made amenities of Pittsburgh and 10 surrounding counties into a catchy "core brand equity theme" to attract tourists, new businesses and talented young workers to the region. Smoky City, City of Champions, Iron City, City of Bridges, Transplant Town and Hell with the Lid Off need not apply. (Steigerwald, 2003)

Pittsburgh has invested substantially in clean up efforts. Today, the city is recognized as a national leader for developing green buildings, including the world’s first green convention center and 40 buildings, totaling about 5 million square feet that have been certified by the U.S. Green Building Council (Flora, 2008). Organizations such as the Allegheny Conference on Community Development, the Urban Redevelopment Authority of Pittsburgh, and Sustainable Pittsburgh have led initiatives to improve conditions in the city and transform it into America’s “most livable city.” However, after tremendous personal and economic upheaval, Pittsburgh is still very much a city in transition – a city of survivors.
Profile of Hamilton: 1970 to 2006

Introduction

Hamilton is one of Canada’s oldest industrial cities, best known as the national steel capital. The city is part of Ontario’s “golden horseshoe,” which is the province’s manufacturing heartland encompassing Toronto, Waterloo, and St. Catharines among other cities. In 2001, the City of Hamilton underwent an amalgamation, which brought together the municipalities of Stoney Creek, Ancaster, Dundas, Flamborough, Glanbrook, and Hamilton. Formerly, these municipalities made up the region of Hamilton-Wentworth. For the purpose of this research, the terms Hamilton and city of Hamilton refer to this area which now constitutes the new city. Hamilton has grown slowly but steadily over the past two decades from a population of 411,445 in 1986 to 504,559 in 2006 (Statistics Canada, 1986, 2006a). The population includes 245,690 males and 258,870 females. There were 194,455 households in Hamilton, a local labor force of 263,600, and just over 197,000 local jobs in 2006. In contrast to Pittsburgh, Hamilton has a larger local labor force, but far fewer jobs within the city.

Canada’s two largest integrated steel mills, Stelco and Dofasco, have been the foundation of Hamilton’s economy for over a century. Other manufacturing industries established in Hamilton, many of which located there to be in close proximity to the mills. Today, despite significantly lower employment levels, the steel industry still accounts directly for about one third of the city’s manufacturing employment (Florio, Personal Communication, August 14, 2008) and about 40% of the nation’s steel making capacity (City of Hamilton, 2000, p. 1). The Canadian steel industry is much smaller than the American steel industry, especially relative to peak years. Canada produced 15.6 million metric tons of steel and had steel industry sales of more than $13 billion in 2007 (Canadian Steel Producers Association, 2008).

Over the past quarter century, the total number of jobs in Hamilton has grown substantially and the local labor force has grown also. During the past two decades, as steel manufacturing declined, new jobs were added to the city’s manufacturing sector. However, in recent years, manufacturing employment in Hamilton has declined. Between 2001 and 2006 alone, the city lost about 5,000 manufacturing jobs, more than half of which were directly in the steel industry (Florio, Personal Communication, August 14, 2008). As of 2006, manufacturing
still had the largest share of employment among all industries in the city, but its total share declined from 23% in 1991 to 17%. The economic base of Hamilton has become more diversified.

**Population Change**

As Table 19 indicates, between 1961 and 2006, Hamilton has grown by over 150,000 people. Two thirds of that growth has occurred in suburban areas, while one third occurred in the central city. As a result, the share of population living in the core city (the area encompassing the former city of Hamilton) shifted from 79% in 1961 to 65% in 2006.

**Table 19**

**Population Change in Hamilton, 1961 to 2001**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton (former city)</td>
<td>273,991</td>
<td>331,121</td>
<td>329,820</td>
<td>-1,301</td>
<td>-0.39</td>
<td>20.38</td>
</tr>
<tr>
<td>Stoney Creek</td>
<td>22,467</td>
<td>57,327</td>
<td>62,292</td>
<td>4,965</td>
<td>8.66</td>
<td>177.26</td>
</tr>
<tr>
<td>Glanbrook</td>
<td>7,271</td>
<td>12,145</td>
<td>15,292</td>
<td>3,148</td>
<td>25.92</td>
<td>110.31</td>
</tr>
<tr>
<td>Ancaster</td>
<td>13,338</td>
<td>27,485</td>
<td>33,232</td>
<td>5,747</td>
<td>20.91</td>
<td>149.15</td>
</tr>
<tr>
<td>Dundas</td>
<td>12,912</td>
<td>24,394</td>
<td>24,702</td>
<td>308</td>
<td>1.26</td>
<td>91.31</td>
</tr>
<tr>
<td>Flamborough</td>
<td>18,202</td>
<td>37,796</td>
<td>39,220</td>
<td>1,424</td>
<td>3.77</td>
<td>115.47</td>
</tr>
<tr>
<td>Total population</td>
<td>348,181</td>
<td>490,268</td>
<td>504,559</td>
<td>14,291</td>
<td>2.91</td>
<td>44.91</td>
</tr>
</tbody>
</table>


During the past quarter century, Hamilton’s rate of population growth of 19% was half that of the province as a whole, which was 39% (Centre for Spatial Economics, 2002, p. 1). In recent years, between 2001 and 2006, growth occurred in Ancaster, Glanbrook, Stoney Creek, Dundas, and Flamborough, while the city core actually declined in population by 1,300 people (City of Hamilton, 2009b). Looking ahead, the City of Hamilton (2005b, p. 6) projects that overall, the population will grow to 575,826 by 2021 (based on the current growth rate) and the number of households will grow to 235,580.
Hamilton is one of Canada’s older cities, with a median age of 39.6 years compared with 38.8 for the nation. Table 20 indicates that 15% of Hamilton’s population is 65 years of age. This compares to 13.2% for Canada in 2006 (Statistics Canada, 2006b). Net international migration is the main source of population growth for Hamilton and Canada. Based on the 2006 Census, 126,485 immigrants live in the city. Of these, 16,565 arrived between 2001 and 2006. The broader Hamilton Census Metropolitan Area (CMA) had the third highest proportion of foreign-born in Canada in 2006. Hamilton receives proportionately fewer immigrants through the skilled worker stream (40%) compared with Canada (52%) (Canadian Labour and Business Centre, 2005, p. 5). Recent immigrants in Hamilton have higher levels of education relative to Canadian-born residents. About 2% of immigrants had a bachelor’s degree or higher level of education compared with 15% for Canadian-born residents in 2001 (p. 10). However, recent immigrants in Hamilton have lower levels of education than recent immigrants in Canada overall (p. 20). The top source countries for recent immigrants arriving in Hamilton between 1991 and 2001 were Yugoslavia, Poland, India, the People’s Republic of China, and the Philippines (p. 7). Historically, Hamilton received many immigrants from European countries. This is reflected in Hamilton’s most commonly spoken non-official languages, Italian, Polish, and German.

Table 20

*Population by Age, Hamilton, 2006*

<table>
<thead>
<tr>
<th>Age range</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5 years</td>
<td>26,940</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>29,410</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>33,535</td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>34,895</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>34,385</td>
</tr>
<tr>
<td>25 to 29 years</td>
<td>30,330</td>
</tr>
<tr>
<td>30 to 34 years</td>
<td>30,620</td>
</tr>
<tr>
<td>35 to 39 years</td>
<td>34,760</td>
</tr>
<tr>
<td>35 to 39 years</td>
<td>41,230</td>
</tr>
<tr>
<td>45 to 49 years</td>
<td>40,840</td>
</tr>
</tbody>
</table>
### Age range and Population

<table>
<thead>
<tr>
<th>Age range</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 to 54 years</td>
<td>36,125</td>
</tr>
<tr>
<td>55 to 59 years</td>
<td>32,865</td>
</tr>
<tr>
<td>60 to 64 years</td>
<td>24,225</td>
</tr>
<tr>
<td>65 to 69 years</td>
<td>19,740</td>
</tr>
<tr>
<td>70 to 74 years</td>
<td>17,855</td>
</tr>
<tr>
<td>75 to 79 years</td>
<td>16,210</td>
</tr>
<tr>
<td>80 to 84 years</td>
<td>12,615</td>
</tr>
<tr>
<td>85 years and over</td>
<td>8,975</td>
</tr>
</tbody>
</table>

Median age: 39.6 years

Proportion 14 years and under: 17.8%
Proportion 65 years and older: 14.9%

*Note. Source: Statistics Canada (2006a).*

### Employment Transitions

The labor force includes residents aged 15 years and older who are either employed or unemployed, including full-time and part-time workers, those actively looking for work, and residents on temporary lay-off (City of Hamilton, 2005b, p. 14). As Table 21 shows, Hamilton’s labor force experienced positive growth for all census periods from 1986 to 2006 except 1996. Hamilton’s employed labor force grew by 6.1% between 2001 and 2006, while the unemployed labor force grew by 7.9%. The city’s labor force participation rate was 64.7% in 2006 compared with 67.1% for Ontario and 66.8% for Canada. Hamilton’s unemployment rate peaked in 1991 at 9.8% and remained high throughout the 1990s. It was 6.5% in 2006, just slightly higher than the province as a whole at 6.4% and slightly below the nation at 6.6%.
Table 21

*Labor Force Characteristics, Hamilton 1986 to 2006*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population 15 years and over</td>
<td>335,819</td>
<td>358,050</td>
<td>369,110</td>
<td>389,950</td>
<td>407,590</td>
<td>4.5</td>
<td>9,819,420</td>
</tr>
<tr>
<td>In labor force</td>
<td>219,290</td>
<td>236,885</td>
<td>232,125</td>
<td>248,225</td>
<td>263,600</td>
<td>6.2</td>
<td>6,687,580</td>
</tr>
<tr>
<td>Employed</td>
<td>203,402</td>
<td>213,645</td>
<td>211,045</td>
<td>232,235</td>
<td>246,340</td>
<td>6.1</td>
<td>6,164,245</td>
</tr>
<tr>
<td>Unemployed</td>
<td>15,888</td>
<td>23,240</td>
<td>21,075</td>
<td>15,990</td>
<td>17,250</td>
<td>7.9</td>
<td>423,335</td>
</tr>
<tr>
<td>Participation rate</td>
<td>65.3</td>
<td>66.2</td>
<td>62.9</td>
<td>63.7</td>
<td>64.7</td>
<td>1.6</td>
<td>67.1</td>
</tr>
<tr>
<td>Employment rate</td>
<td>60.6</td>
<td>59.7</td>
<td>57.2</td>
<td>59.6</td>
<td>60.4</td>
<td>1.3</td>
<td>62.8</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>7.2</td>
<td>9.8</td>
<td>9.1</td>
<td>6.4</td>
<td>6.5</td>
<td>1.6</td>
<td>6.4</td>
</tr>
</tbody>
</table>


Manufacturing remains Hamilton’s largest industry in terms of employment, although the sector’s share of employment is declining relative to other industries. Puxley (2005, p. A.01) cites a growing list of manufacturing companies experiencing plant closures and substantial downsizing; for example, Westinghouse Motors Co. terminated 140 jobs when the plant closed in 1996. In 1997, Consumers Glass bottle factory closed its plant and terminated 400 jobs in the city. Procter & Gamble closed its Hamilton-based plant in 1999 and laid off 195 workers, leaving a warehouse operation of 65 employees. In 2001, the bankruptcy of Dominion Castings resulted in a loss of 400 jobs. Ball Packaging closed its Hamilton plant and terminated 110 jobs. In 2003, Levi Strauss closed its factory and shifted production to Mexico and Asia, terminating 460 jobs in Hamilton. Maple Leaf Pork closed its Stoney Creek factory in 2003, cutting 89 full-time jobs and 20 casual and part-time jobs. In 2004, Camco closed its doors and laid off 600 workers. In 2006, Rheem Canada closed its Canadian headquarters in Hamilton and laid off 150 workers. Table 22 shows that in 1991 manufacturing accounted for about 48,000 jobs, almost 23% of all jobs in the city. Employment in the sector declined between 1991 and 1996 to 45,050, then rebounded to 47,440 in 2001. Given the significant job cuts in the steel industry, Hamilton’s manufacturing sector has performed well, creating thousands of new jobs up until 2001.
Hamilton’s highly export-dependent manufacturing sector has been hit particularly hard in recent years, with the slowdown in the global economy.

### Table 22

*Employment by Major Industries by Place of Work, Hamilton 1991 to 2001*

<table>
<thead>
<tr>
<th>Major industry (SIC)</th>
<th>Employment</th>
<th>% Change 1991 to 2001</th>
<th>Change in number of jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and related services</td>
<td>3,840</td>
<td>3,770</td>
<td>3,510</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>48,065</td>
<td>45,050</td>
<td>47,440</td>
</tr>
<tr>
<td>Construction</td>
<td>13,405</td>
<td>11,145</td>
<td>15,255</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>6,125</td>
<td>6,865</td>
<td>8,070</td>
</tr>
<tr>
<td>Communication and other utility</td>
<td>5,665</td>
<td>5,545</td>
<td>6,535</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>8,870</td>
<td>10,150</td>
<td>12,510</td>
</tr>
<tr>
<td>Retail trade</td>
<td>29,090</td>
<td>26,920</td>
<td>28,845</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>7,955</td>
<td>7,490</td>
<td>8,195</td>
</tr>
<tr>
<td>Real estate operators &amp; insurance agents</td>
<td>3,725</td>
<td>4,090</td>
<td>3,855</td>
</tr>
<tr>
<td>Business services</td>
<td>10,070</td>
<td>12,010</td>
<td>14,135</td>
</tr>
<tr>
<td>Government services</td>
<td>10,975</td>
<td>8,105</td>
<td>7,960</td>
</tr>
<tr>
<td>Educational services</td>
<td>17,485</td>
<td>16,845</td>
<td>17,310</td>
</tr>
<tr>
<td>Health and social services</td>
<td>22,285</td>
<td>24,270</td>
<td>27,915</td>
</tr>
<tr>
<td>Accommodation, food &amp; beverage service</td>
<td>11,160</td>
<td>12,520</td>
<td>14,270</td>
</tr>
<tr>
<td>Other service industries</td>
<td>14,290</td>
<td>15,770</td>
<td>15,975</td>
</tr>
<tr>
<td>Total number of local jobs</td>
<td>213,005</td>
<td>210,545</td>
<td>231,780</td>
</tr>
</tbody>
</table>

*Note. Source: (Florio, Personal Communication, August 14, 2008)*

Table 23 indicates, in 2001, the share of employment in Hamilton’s manufacturing industry declined to 20.5%. Nominal shifts occurred in the share of employment among other
industries in the city for the decade 1991 to 2001. However, subsequent to 2001, significant structural changes in Hamilton’s economy became evident.

**Table 23**

*Share of Employment by Major Industry by Place of Work, Hamilton, 1991 to 2001 (SIC)*

<table>
<thead>
<tr>
<th>Major industry (SIC)</th>
<th>Industry share of total jobs in 1991</th>
<th>Industry share of total jobs in 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and related services</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>22.6</td>
<td>20.5</td>
</tr>
<tr>
<td>Construction</td>
<td>6.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>2.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Communication and other utility</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>4.2</td>
<td>5.4</td>
</tr>
<tr>
<td>Retail trade</td>
<td>13.7</td>
<td>12.4</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Real estate operators &amp; insurance agents</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Business services</td>
<td>4.7</td>
<td>6.1</td>
</tr>
<tr>
<td>Government services</td>
<td>5.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Educational services</td>
<td>8.2</td>
<td>7.5</td>
</tr>
<tr>
<td>Health and social services</td>
<td>10.5</td>
<td>12.0</td>
</tr>
<tr>
<td>Accommodation, food &amp; beverage services</td>
<td>5.2</td>
<td>6.2</td>
</tr>
<tr>
<td>Other service industries</td>
<td>6.7</td>
<td>6.9</td>
</tr>
</tbody>
</table>

*Note.* Source: (Florio, Personal Communication, August 14, 2008).

It is important to note that figures reported by SIC and NAICS vary significantly, but despite differences in measurement systems, from 2001 to 2006 manufacturing in Hamilton dropped substantially based on its share of employment relative to other industries. Table 24 shows that in 2006, based on NAICS, manufacturing accounted for 32,900 jobs and had dropped to about 17% share of total employment for the city.
Table 24

*Employment by Major Industry by Place of Work, Hamilton, 2001 to 2006*

<table>
<thead>
<tr>
<th>Major industry (NAICS)</th>
<th>Number of jobs 2001</th>
<th>Number of jobs 2006</th>
<th>% Change 2001 to 2006</th>
<th>Change in number of jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All industries</td>
<td>188,370</td>
<td>197,200</td>
<td>4.69</td>
<td>8,830</td>
</tr>
<tr>
<td>Agriculture, forestry, fishing and hunting</td>
<td>2,750</td>
<td>3,010</td>
<td>9.45</td>
<td>260</td>
</tr>
<tr>
<td>Mining and oil and gas extraction</td>
<td>190</td>
<td>185</td>
<td>-2.63</td>
<td>-5</td>
</tr>
<tr>
<td>Utilities</td>
<td>845</td>
<td>935</td>
<td>10.65</td>
<td>90</td>
</tr>
<tr>
<td>Construction</td>
<td>6,260</td>
<td>6,805</td>
<td>8.71</td>
<td>545</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>38,140</td>
<td>32,900</td>
<td>-13.74</td>
<td>-5,240</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>6,690</td>
<td>7,645</td>
<td>14.28</td>
<td>955</td>
</tr>
<tr>
<td>Retail trade</td>
<td>23,985</td>
<td>23,885</td>
<td>-0.42</td>
<td>-100</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>7,510</td>
<td>7,605</td>
<td>1.26</td>
<td>95</td>
</tr>
<tr>
<td>Information and cultural industries</td>
<td>3,970</td>
<td>3,445</td>
<td>-13.22</td>
<td>-525</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>6,865</td>
<td>6,500</td>
<td>-5.32</td>
<td>-365</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>3,390</td>
<td>3,765</td>
<td>11.06</td>
<td>375</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>7,725</td>
<td>8,975</td>
<td>16.18</td>
<td>1,250</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>60</td>
<td>110</td>
<td>83.33</td>
<td>50</td>
</tr>
<tr>
<td>Administrative/Waste Mgmt/Remediation</td>
<td>5,865</td>
<td>6,710</td>
<td>14.41</td>
<td>845</td>
</tr>
<tr>
<td>Educational services</td>
<td>15,355</td>
<td>18,895</td>
<td>23.05</td>
<td>3,540</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>25,970</td>
<td>29,620</td>
<td>14.05</td>
<td>3,650</td>
</tr>
<tr>
<td>Arts, entertainment and recreation</td>
<td>3,255</td>
<td>3,685</td>
<td>13.21</td>
<td>430</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>12,080</td>
<td>13,340</td>
<td>10.43</td>
<td>1,260</td>
</tr>
<tr>
<td>Other services (except public administration)</td>
<td>10,100</td>
<td>10,375</td>
<td>2.72</td>
<td>275</td>
</tr>
<tr>
<td>Public administration</td>
<td>7,360</td>
<td>8,805</td>
<td>19.63</td>
<td>1,445</td>
</tr>
</tbody>
</table>

*Note.* Source: Derived from data provided by Florio, Ontario Ministry of Agriculture, Food and Rural Affairs, August 14, 2008.

Table 25 indicates the changes in employment within the manufacturing industry in Hamilton. Iron and steel mills and ferro-alloy manufacturing and steel product manufacturing
from purchased steel accounted for about half of the decline in number of manufacturing jobs in the city during that 5-year period. During 2006, Stelco completed an operational restructuring which contributed to employment reduction in the steel industry. Some of the employment losses were offset by metal service centers, which increased employment from 1,120 in 2001 to 1,560 in 2006, a growth rate of 39%. While employment in the steel industry has contracted substantially in terms of its workforce, steel and related industries maintain a strong presence in the community.

Table 25


<table>
<thead>
<tr>
<th>Manufacturing industry (NAICS)</th>
<th>2001</th>
<th>2006</th>
<th>Absolute change</th>
<th>Share 2006</th>
<th>Location quotient 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>38,140</td>
<td>32,900</td>
<td>-5,240</td>
<td>100.0</td>
<td>1.12</td>
</tr>
<tr>
<td>Iron and steel mills and ferro-alloy</td>
<td>12,510</td>
<td>10,215</td>
<td>-2,295</td>
<td>31.0</td>
<td>16.34</td>
</tr>
<tr>
<td>Railroad rolling stock</td>
<td>1,220</td>
<td>2,130</td>
<td>910</td>
<td>6.5</td>
<td>15.71</td>
</tr>
<tr>
<td>Coating, engraving, heat treating and allied activities</td>
<td>550</td>
<td>1,505</td>
<td>955</td>
<td>4.6</td>
<td>4.85</td>
</tr>
<tr>
<td>Architectural and structural metals</td>
<td>795</td>
<td>1,405</td>
<td>610</td>
<td>4.3</td>
<td>1.84</td>
</tr>
<tr>
<td>Motor vehicle parts</td>
<td>910</td>
<td>1,080</td>
<td>170</td>
<td>3.3</td>
<td>0.35</td>
</tr>
<tr>
<td>Machine shops, turned product; screw, nut &amp; bolt</td>
<td>885</td>
<td>965</td>
<td>80</td>
<td>2.9</td>
<td>1.40</td>
</tr>
<tr>
<td>Sugar and confectionery product</td>
<td>1,090</td>
<td>935</td>
<td>-155</td>
<td>2.8</td>
<td>3.58</td>
</tr>
<tr>
<td>Steel product manufacturing from purchased steel</td>
<td>1,715</td>
<td>815</td>
<td>-900</td>
<td>2.5</td>
<td>3.73</td>
</tr>
<tr>
<td>Other general-purpose machinery</td>
<td>1,040</td>
<td>795</td>
<td>-245</td>
<td>2.4</td>
<td>1.49</td>
</tr>
<tr>
<td>Bakeries and tortilla manufacturing</td>
<td>685</td>
<td>720</td>
<td>35</td>
<td>2.2</td>
<td>1.06</td>
</tr>
<tr>
<td>Meat product manufacturing</td>
<td>780</td>
<td>670</td>
<td>-110</td>
<td>2.0</td>
<td>0.95</td>
</tr>
<tr>
<td>Foundries</td>
<td>1,330</td>
<td>655</td>
<td>-675</td>
<td>2.0</td>
<td>2.12</td>
</tr>
<tr>
<td>Cut and sew clothing</td>
<td>990</td>
<td>630</td>
<td>-360</td>
<td>1.9</td>
<td>1.26</td>
</tr>
<tr>
<td>Printing and related support activities</td>
<td>600</td>
<td>585</td>
<td>-15</td>
<td>1.8</td>
<td>0.44</td>
</tr>
<tr>
<td>Manufacturing industry (NAICS)</td>
<td>2001</td>
<td>2006</td>
<td>Absolute change</td>
<td>Share 2006</td>
<td>Location quotient 2006</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
<td>------</td>
<td>-----------------</td>
<td>-----------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Household and institutional furniture and kitchen cabinet</td>
<td>345</td>
<td>580</td>
<td>235</td>
<td>1.8</td>
<td>0.74</td>
</tr>
<tr>
<td>Metalworking machinery</td>
<td>550</td>
<td>570</td>
<td>20</td>
<td>1.7</td>
<td>0.78</td>
</tr>
<tr>
<td>Other miscellaneous</td>
<td>630</td>
<td>490</td>
<td>-140</td>
<td>1.5</td>
<td>0.67</td>
</tr>
<tr>
<td>Engine, turbine and power transmission equip.</td>
<td>475</td>
<td>465</td>
<td>-10</td>
<td>1.4</td>
<td>7.00</td>
</tr>
<tr>
<td>Plastic product</td>
<td>760</td>
<td>435</td>
<td>-325</td>
<td>1.3</td>
<td>0.23</td>
</tr>
<tr>
<td>Other wood product</td>
<td>190</td>
<td>390</td>
<td>200</td>
<td>1.2</td>
<td>0.76</td>
</tr>
<tr>
<td>Beverage</td>
<td>650</td>
<td>385</td>
<td>-265</td>
<td>1.2</td>
<td>1.01</td>
</tr>
<tr>
<td>Cement and concrete product</td>
<td>230</td>
<td>380</td>
<td>150</td>
<td>1.2</td>
<td>1.10</td>
</tr>
<tr>
<td>Medical equipment and supplies</td>
<td>320</td>
<td>365</td>
<td>45</td>
<td>1.1</td>
<td>1.30</td>
</tr>
<tr>
<td>Converted paper product</td>
<td>540</td>
<td>330</td>
<td>-210</td>
<td>1.0</td>
<td>0.58</td>
</tr>
<tr>
<td>Other fabricated metal product</td>
<td>490</td>
<td>325</td>
<td>-165</td>
<td>1.0</td>
<td>0.90</td>
</tr>
<tr>
<td>Basic chemical</td>
<td>320</td>
<td>315</td>
<td>-5</td>
<td>1.0</td>
<td>1.72</td>
</tr>
</tbody>
</table>

*Note.* Source: (Florio, Personal Communication, August 14, 2008)

Other major manufacturing industries including railroad rolling stock, coating, engraving, heat treating and allied activities, architectural and structural metals, and motor vehicle parts experienced growth between 2001 and 2006. Several food and beverage production industries are also significant employers in Hamilton. Some of these industries experienced employment contraction, as did textiles.

According to urbanMetrics (2006, p. 4), Hamilton’s manufacturing industries contribute an estimated $12 billion to the economy. The Conference Board of Canada (2007c, p. 4) notes that for the Hamilton CMA, because of the recent weakness in manufacturing, the city’s real gross domestic product (GDP) grew by only 1.4% in 2006 compared to 2.3% in 2005 and 2.6% in 2004. The rest of the local economy, especially sectors such as wholesale and retail trade and construction exhibited solid growth. The Conference Board indicates that in 2006 total output
among Hamilton’s manufacturers declined by 6.4%, its biggest drop in 15 years, leading to the loss of 11,600 jobs. These recent job losses are not all captured in the figures reported by in Table 22 (see p. 201). These figures also do not include the recent indefinite layoff of workers at U.S. Steel Canada in Hamilton and Nanticoke.

As Table 25 (see p. 204) indicates, between 2001 and 2006, Hamilton’s overall economy expanded by 8,830 jobs. Major employment gains were experienced in health care and social assistance (3,650 jobs), educational services (3,540 jobs), public administration (1,445 jobs), accommodation and food services (1,260 jobs), and professional, scientific and technical services (1,250 jobs). Hamilton is exhibiting positive signs of economic diversification in service industries.

In 2001, the location quotient for manufacturing was 1.2 and in 2006, it was 1.1 (Florio, Personal Communication, August 14, 2008), which suggests that manufacturing is slightly more concentrated in Hamilton compared with Ontario. Manufacturing declined slightly in terms of its degree of concentration in Hamilton relative to Ontario, but the relative decline is small because Ontario also experienced a loss of manufacturing jobs. Had this not occurred, Hamilton’s importance as a manufacturing hub in Ontario would have diminished further.

Table 26 illustrates the diverse economic structure of Hamilton’s economy in 2006. As of 2006, the top five industries in Hamilton in terms of share of employment included manufacturing which accounted for 16.7% of employment and had a location quotient of 1.12; health care and social services which accounted for 15% of employment and had a location quotient of 1.48; retail trade which accounted for 12.1% of employment and had a location quotient of 1.02; educational services which accounted for 9.6% of employment and had a location quotient of 1.37; and accommodation and food services which accounted for 6.8% of employment and had a location quotient of 1.02. Three of the top five industries, health care and social services, retail trade, and educational services are primarily community-based service industries that meet the needs of local residents. Three of the top five industries, health care and social services, educational services, and accommodation and food services experienced growth from 2001 to 2006. Interestingly, in 2006, all of the top five industries except manufacturing had a larger proportion of female workers than male workers. For example, health care and social
assistance had 24,890 female workers and 4,730 male workers, and educational services had 12,275 female workers and 6,615 male workers.

**Table 26**

*Major Industry by Place of Work, Share of Employment and Location Quotients Relative to Ontario: Hamilton, 2006 (NAICS)*

<table>
<thead>
<tr>
<th>Major industries</th>
<th>Share of employment 2006</th>
<th>Location quotient 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>All industries Place of work (NAICS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>15.0</td>
<td>1.48</td>
</tr>
<tr>
<td>Educational services</td>
<td>9.6</td>
<td>1.37</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>16.7</td>
<td>1.12</td>
</tr>
<tr>
<td>Other services (except public administration)</td>
<td>5.3</td>
<td>1.10</td>
</tr>
<tr>
<td>Construction</td>
<td>3.5</td>
<td>1.09</td>
</tr>
<tr>
<td>Retail trade</td>
<td>12.1</td>
<td>1.02</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>6.8</td>
<td>1.02</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>3.9</td>
<td>0.95</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>1.9</td>
<td>0.92</td>
</tr>
<tr>
<td>Arts, entertainment and recreation</td>
<td>1.9</td>
<td>0.88</td>
</tr>
<tr>
<td>Administrative, waste management and remediation</td>
<td>3.4</td>
<td>0.86</td>
</tr>
<tr>
<td>Agriculture, forestry, fishing and hunting</td>
<td>1.5</td>
<td>0.85</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>3.9</td>
<td>0.78</td>
</tr>
<tr>
<td>Public administration</td>
<td>4.5</td>
<td>0.74</td>
</tr>
<tr>
<td>Information and cultural industries</td>
<td>1.7</td>
<td>0.63</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>3.3</td>
<td>0.61</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>4.6</td>
<td>0.60</td>
</tr>
<tr>
<td>Utilities</td>
<td>0.5</td>
<td>0.60</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>0.1</td>
<td>0.40</td>
</tr>
<tr>
<td>Major industries</td>
<td>Share of employment 2006</td>
<td>Location quotient 2006</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>--------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Mining and oil and gas extraction</td>
<td>0.1</td>
<td>0.24</td>
</tr>
</tbody>
</table>

*Note. Source: (Florio, Personal Communication, August 14, 2008).*

Large employers in Hamilton include Arcelor-Mittal (Dofasco) and U.S. Steel Canada (formerly Stelco) in the steel industry; Hamilton Health Sciences and St. Joseph’s Hospital in health care; McMaster University and Mohawk College in education. Hamilton’s two large integrated steel producers have become part of the global consolidation trend. Both are now foreign owned. In 2006, Dofasco Inc. was purchased by Arcelor, the world’s second largest steel producer. Later in 2006, Mittal, the world’s largest steel maker made a bid to purchase Arcelor. The deal was completed in 2007, making Dofasco a subsidiary of ArcelorMittal. After emerging in 2006 from a 2-year restructuring process under Companies’ Creditors Arrangement Act (CCAA), in 2007 Stelco was purchased by U.S. Steel. Stelco is now U.S. Steel Canada, and the former Hilton Works plant in Hamilton is now Hamilton Works.

The location quotients for steel industries in Hamilton remain very high relative to Ontario. Iron and steel mills and ferro-alloy manufacturing had a location quotient of 16.3 in 2006. Steel product manufacturing from purchased steel had a location quotient of 3.7. Metal service centers had a location quotient of 5.7 in Hamilton in 2006 (Florio, Personal Communication, August 14, 2008).

Looking at broad occupational classifications, among employed residents, in 2006, sales and services was the largest occupational group, accounting for 63,870 workers or 25% of all occupations. The second largest group was trade, transport equipment operators and related occupations which accounts for 44,205 workers, or 17% of total occupations. Business, finance and administration accounted for 42,615 workers, or 16.5% of total occupations. Between 1996 and 2006, all major occupational groups increased except occupations unique to processing, manufacturing and utilities, which decreased by 21%. Trade, transport equipment operators and related occupations gained the most jobs, increasing by 10,000 followed by an increase of 6,780 for occupations in social science, education, government, service occupations and 6,080 for
management occupations. These trends illustrated in Table 27 also indicate that Hamilton is moving in a positive direction, increasing diversification in occupations as well as industries.

Table 27

*Employment by Occupation, Hamilton 1996 to 2006*

<table>
<thead>
<tr>
<th>Employment by occupation</th>
<th>1996</th>
<th>2006</th>
<th>% Change</th>
<th>Absolute change</th>
<th>Share of total 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>All occupations</td>
<td>223,495</td>
<td>258,755</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management occupations</td>
<td>17,000</td>
<td>23,080</td>
<td>35.8</td>
<td>6,080</td>
<td>8.9</td>
</tr>
<tr>
<td>Business, finance and administration</td>
<td>40,965</td>
<td>42,615</td>
<td>4.0</td>
<td>1,650</td>
<td>16.5</td>
</tr>
<tr>
<td>Natural and applied sciences and related occupations</td>
<td>9,755</td>
<td>13,985</td>
<td>43.4</td>
<td>4,230</td>
<td>5.4</td>
</tr>
<tr>
<td>Health occupations</td>
<td>12,975</td>
<td>16,950</td>
<td>30.6</td>
<td>3,975</td>
<td>6.6</td>
</tr>
<tr>
<td>Occupations in social science, education, government services occupations</td>
<td>15,270</td>
<td>22,050</td>
<td>44.4</td>
<td>6,780</td>
<td>8.5</td>
</tr>
<tr>
<td>Occupations in art, culture, recreation and sport</td>
<td>4,850</td>
<td>6,530</td>
<td>34.6</td>
<td>1,680</td>
<td>2.5</td>
</tr>
<tr>
<td>Sales and service occupations</td>
<td>59,415</td>
<td>63,870</td>
<td>7.5</td>
<td>4,455</td>
<td>24.7</td>
</tr>
<tr>
<td>Trades, transport and equipment operators and related occupations</td>
<td>34,040</td>
<td>44,205</td>
<td>29.9</td>
<td>10,165</td>
<td>17.1</td>
</tr>
<tr>
<td>Occupations unique to primary industry</td>
<td>4,955</td>
<td>6,295</td>
<td>27.0</td>
<td>1,340</td>
<td>2.4</td>
</tr>
<tr>
<td>Occupations unique to processing, manufacturing and utilities</td>
<td>24,270</td>
<td>19,175</td>
<td>-21.0</td>
<td>-5,095</td>
<td>7.4</td>
</tr>
</tbody>
</table>

*Note.* Source: Statistics Canada (1996a; 2006a).

Employment by place of work in Hamilton in 2006 was 197,200, considerably lower than employment by place of residence which was 246,340. Because there are not enough jobs within the city to support the employment needs and interests of residents, commuting outside the city
has increased significantly in recent years. These findings may suggest that the city has not yet been able to develop sufficient employment opportunities locally to absorb the skills of displaced employees and may reflect a mismatch between the skills of local residents in the labor market and available jobs in the city. For example, Table 28 indicates that in 2006 there were 32,900 manufacturing jobs in the city, while 40,395 residents worked in manufacturing, a difference of about 7,500 jobs. The skill sets of displaced steel workers are not a good fit for at least some of the growth sectors within the city. These findings also reflect growth opportunities outside of the city that are not occurring at the same rate within the community. For example, many residents of Hamilton find employment outside the city in industries such as construction; wholesale and retail trade; administrative waste management and remediation; and professional, scientific and technical industries. Conversely, the health care and social services sector offers more jobs within Hamilton than the number filled by local residents. Hamilton faces stiff competition from Toronto to attract new investment and job creation. Travis (2008, p. 22) suggests that,

> the Hamilton community needs to take a more coordinated, integrated and innovative approach to job creation, skills development and employer engagement to ensure that there is an alignment in our community between the jobs available and skills of our workforce.
### Table 28

*Comparison of Major Industry Employment by Place of Work and Employment by Place of Residence, Hamilton, 2006 (NAICS)*

<table>
<thead>
<tr>
<th>Industry Category</th>
<th>Employment by place of work 2006</th>
<th>Employment by place of residence 2006</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>All industries (NAICS)</td>
<td>197,200</td>
<td>246,340</td>
<td>-49,140</td>
</tr>
<tr>
<td>Agriculture, forestry, fishing and hunting</td>
<td>3,010</td>
<td>3,565</td>
<td>-555</td>
</tr>
<tr>
<td>Mining and oil and gas extraction</td>
<td>185</td>
<td>415</td>
<td>-230</td>
</tr>
<tr>
<td>Utilities</td>
<td>935</td>
<td>1,250</td>
<td>-315</td>
</tr>
<tr>
<td>Construction</td>
<td>6,805</td>
<td>16,500</td>
<td>-9,695</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>32,900</td>
<td>40,395</td>
<td>-7,495</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>7,645</td>
<td>11,505</td>
<td>-3,860</td>
</tr>
<tr>
<td>Retail trade</td>
<td>23,885</td>
<td>27,980</td>
<td>-4,095</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>7,605</td>
<td>11,255</td>
<td>-3,650</td>
</tr>
<tr>
<td>Information and cultural industries</td>
<td>3,445</td>
<td>4,980</td>
<td>-1,535</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>6,500</td>
<td>9,520</td>
<td>-3,020</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>3,765</td>
<td>4,400</td>
<td>-635</td>
</tr>
<tr>
<td>Professional, scientific and technical services</td>
<td>8,975</td>
<td>12,205</td>
<td>-3,230</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>110</td>
<td>180</td>
<td>-70</td>
</tr>
<tr>
<td>Administrative/Waste Mgmt/Remediation</td>
<td>6,710</td>
<td>11,385</td>
<td>-4,675</td>
</tr>
<tr>
<td>Educational services</td>
<td>18,895</td>
<td>19,605</td>
<td>-710</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>29,620</td>
<td>29,470</td>
<td>150</td>
</tr>
<tr>
<td>Arts, entertainment and recreation</td>
<td>3,685</td>
<td>4,725</td>
<td>-1,040</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>13,340</td>
<td>15,030</td>
<td>-1,690</td>
</tr>
<tr>
<td>Other services (except public admin.)</td>
<td>10,375</td>
<td>12,275</td>
<td>-1,900</td>
</tr>
<tr>
<td>Public administration</td>
<td>8,805</td>
<td>9,700</td>
<td>-895</td>
</tr>
</tbody>
</table>

*Note.* Source: Data provided by Florio, Personal Communication, 2008.
Commuting to Work

Growth in the labor force is due largely to residents’ ability to commute to jobs outside of the city. Until 1981, the city experienced a commuter surplus, but since that time, the commuter deficit has grown substantially. There were 57,185 commuters with a usual place of work outside of Hamilton in 2001 compared with less than half as many outward commuters (24,300) in 1981 (City of Hamilton, 2005b, p. 15). In 2001, the city experienced a commuter deficit of 23,235, the difference between the number of residents leaving the city each day and the number of people commuting into the city. Between 1996 and 2001 alone, the number of out-commuters increased 30%. The majority of out-commuters travel to the neighboring Halton Region. On the other hand, the number of commuters (living outside Hamilton) with a usual place of work in Hamilton increased nominally from 30,800 in 1981 to 33,950 in 2001 (p. 15). In 2006, the number of Hamilton residents working in a census division outside of Hamilton rose to 61,610 (Statistics Canada, 2006a).

The growth in the location of jobs in peripheral areas outside of Hamilton is consistent with patterns observed for many cities across Canada and the U.S., but contrasts with the pattern observed in Pittsburgh. Among census metropolitan areas (CMAs) in Canada, between 2001 and 2006, employment rose faster in peripheral than in central municipalities (Statistics Canada, 2008b, p. 18). However, among the 25 Canadian municipalities with the largest number of workers, only seven including Hamilton had more workers by place of residence than workers by place of work in 2006 (p. 21).

Increased commuting impacts the vitality and economic health of central neighborhoods. Commuters spend money on restaurants, gas, and shopping in other locations. Further, commuting adds to infrastructure requirements for cities and increases pollution levels. For individuals, commuting increases transportation costs, adds stress, and cuts into personal time with family and friends. It also decreases connections within the community for those who work outside.

Income and GDP

With respect to personal income, Hamilton has experienced steady growth in the level of median income for persons 15 years of age and older and for median family income from 1996
to 2006. As Table 29 indicates, Hamilton performed well relative to the nation on several income measures in 2006. For Hamilton, median income for persons 15 years and older was $26,350 compared to $22,800 for Canada. Ontario’s median income for persons 15 years and older in 2006 was $27,258. Hamilton outperformed both the nation and the province in terms of median total income for all families in 2006. Hamilton had a median total income for all families of $71,600 compared with $63,600 for Canada and $66,600 for Ontario.

Table 29

<table>
<thead>
<tr>
<th>Income measures, 2006</th>
<th>Hamilton</th>
<th>Ontario</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median income persons 15 years and older</td>
<td>$26,353</td>
<td>$27,258</td>
<td>$22,800</td>
</tr>
<tr>
<td>Median total income all families</td>
<td>$71,600</td>
<td>$66,600</td>
<td>$63,600</td>
</tr>
<tr>
<td>Individuals below poverty level</td>
<td>18.1%</td>
<td>14.7%</td>
<td>15.3%</td>
</tr>
</tbody>
</table>

*Note.* Source: Statistics Canada (2006a, 2006b).

In 2006, 18% of individuals living in Hamilton had an income below the poverty level (89,676 residents). This is an improvement of 2% relative to 2001. Poverty in Hamilton is high for individuals and families, compared with Ontario and Canada. In Ontario and Canada, the number of individuals below poverty level was 14.7% and 15.3% respectively. The low income cut off (LICO) is the threshold used to define low income by Statistics Canada (Fraser, 2004). Fraser (2004) attributes the high poverty level, at least in part, to a greater proportion of contingent or part-time, low-waged jobs with few or no benefits. According to Mayo and Fraser (2009, p. 1) “[t]he trend after the early 1990s recession was that men’s incomes were reduced and they never regained to their previous levels.” In 2005, the poverty rate for children in Hamilton was 26.5% in 2005 (p. 1).

Data for gross domestic product (GDP) is not available at a city level. Table 30 presents GDP data at a CMA level based on estimates calculated by The Conference Board of Canada (Michael Burt, Personal Communication, September 3, 2008). In terms of GDP, the Goods producing industries in the Hamilton CMA grew steadily through the late 1990s then contracted...
by 3% in 2001. Subsequently GDP growth was positive but slow. By 2004, annual GDP for goods-producing industries surpassed levels reached in 2000, but contracted again in 2005. The decline in GDP was concentrated in the manufacturing sector which fell by about 5% in 2001 and has not recovered to 2000 levels. Since 1999, primary industries and utilities as well as construction have experienced positive growth. The services sector overall has experienced positive GDP growth every year since 1998. Transportation and communications as well as wholesale and retail trade industries have also experienced strong growth in GDP.

Table 30


<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP at basic prices</td>
<td>21,941</td>
<td>23,552</td>
<td>24,942</td>
<td>25,146</td>
<td>25,688</td>
<td>26,018</td>
<td>26,656</td>
<td>27,195</td>
</tr>
<tr>
<td>% change</td>
<td>4.6</td>
<td>7.3</td>
<td>5.9</td>
<td>0.8</td>
<td>2.2</td>
<td>1.3</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Goods producing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>industries</td>
<td>7,240</td>
<td>7,799</td>
<td>8,293</td>
<td>8,042</td>
<td>8,240</td>
<td>8,280</td>
<td>8,353</td>
<td>8,343</td>
</tr>
<tr>
<td>% change</td>
<td>4.4</td>
<td>7.7</td>
<td>6.3</td>
<td>-3.0</td>
<td>2.5</td>
<td>0.5</td>
<td>0.9</td>
<td>-0.1</td>
</tr>
<tr>
<td>Primary industries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and utilities</td>
<td>567</td>
<td>612</td>
<td>628</td>
<td>638</td>
<td>667</td>
<td>679</td>
<td>704</td>
<td>720</td>
</tr>
<tr>
<td>% change</td>
<td>4.4</td>
<td>7.9</td>
<td>2.7</td>
<td>1.6</td>
<td>4.4</td>
<td>1.9</td>
<td>3.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>5,688</td>
<td>6,093</td>
<td>6,563</td>
<td>6,238</td>
<td>6,368</td>
<td>6,358</td>
<td>6,362</td>
<td>6,205</td>
</tr>
<tr>
<td>% change</td>
<td>5.3</td>
<td>7.1</td>
<td>7.7</td>
<td>-5.0</td>
<td>2.1</td>
<td>-0.1</td>
<td>0.1</td>
<td>-2.5</td>
</tr>
<tr>
<td>Construction</td>
<td>984</td>
<td>1,094</td>
<td>1,102</td>
<td>1,166</td>
<td>1,205</td>
<td>1,243</td>
<td>1,286</td>
<td>1,418</td>
</tr>
<tr>
<td>% change</td>
<td>-0.7</td>
<td>11.1</td>
<td>0.7</td>
<td>5.8</td>
<td>3.4</td>
<td>3.1</td>
<td>3.5</td>
<td>10.2</td>
</tr>
<tr>
<td>Services</td>
<td>14,701</td>
<td>15,752</td>
<td>16,649</td>
<td>17,103</td>
<td>17,448</td>
<td>17,737</td>
<td>18,303</td>
<td>18,852</td>
</tr>
<tr>
<td>% change</td>
<td>4.7</td>
<td>7.2</td>
<td>5.7</td>
<td>2.7</td>
<td>2.0</td>
<td>1.7</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Transportation and</td>
<td>1,360</td>
<td>1,525</td>
<td>1,611</td>
<td>1,711</td>
<td>1,732</td>
<td>1,745</td>
<td>1,877</td>
<td>1,980</td>
</tr>
<tr>
<td>communications</td>
<td>2.9</td>
<td>12.1</td>
<td>5.6</td>
<td>6.2</td>
<td>1.2</td>
<td>0.7</td>
<td>7.6</td>
<td>5.5</td>
</tr>
<tr>
<td>Wholesale and retail</td>
<td>2,520</td>
<td>2,728</td>
<td>2,900</td>
<td>2,936</td>
<td>3,059</td>
<td>3,194</td>
<td>3,326</td>
<td>3,484</td>
</tr>
<tr>
<td>trade</td>
<td>8.9</td>
<td>8.2</td>
<td>6.3</td>
<td>1.3</td>
<td>4.2</td>
<td>4.4</td>
<td>4.1</td>
<td>4.8</td>
</tr>
</tbody>
</table>
Goods-producing industries accounted for 33% of GDP in 1998 and 31% in 2005. Manufacturing share of GDP declined from 26% in 1998 to 23% in 2005. However, the sector is still the largest wealth generator for the CMA. The concern for Hamilton is that, notwithstanding productivity improvements, if manufacturing continues to decline, the impact on the city’s economy could be significant, especially taking into account backward linkages (such as raw material suppliers) and forward linkages (such as transportation and warehousing).

Service industries increased from 67% to 69% share of GDP in the same time period. Finance, insurance, and real estate declined slightly between 1998 and 2005 in terms of share of GDP. The industry accounted for 21% of Hamilton’s GDP in 2005, the largest share among the service-producing sector. Commercial services and wholesale and retail trade each accounted for almost 13% share of GDP in 2005. Non-commercial services, which includes major employment growth industries such as health care and social services and education services contributed 11.8% share of Hamilton’s GDP in 2005 compared with 12.4% in 1998. While health care and social services and education services together contribute over 25% share of employment, their share of GDP is significantly less.
Educational Attainment

In Hamilton in 2006, about 25% of the population 15 years and over had no certificate, diploma or degree compared with 22.2% for Ontario. The difference is largely accounted for among the population aged 35 to 64. Slightly more people in Hamilton had completed college and apprenticeship training in Hamilton compared with Ontario (Statistics Canada, 2006a). These findings reflect the large dependence on manufacturing in Hamilton and historically, the lower educational requirements in that sector. They also reflect the higher demands for technical and trades qualifications in manufacturing relative to other industries.

As Table 31 indicates, in 2006, fewer people in Hamilton had completed university level education relative to Ontario. In Hamilton, overall 15.5% of the population had a university certificate, diploma or degree compared with 20.5% for Ontario. The difference is greatest for the population aged 25 to 34. In Hamilton 25.4% of the population aged 25 to 34 had a university certificate, diploma or degree compared with 32.7% for Ontario, a difference of over 7%. Given the increasing demand from employers for university education, and given that the variance in university education was among the prime working age population, this presents a challenge for Hamilton’s local labor force. The lower levels of educational attainment in Hamilton relative to other communities pose potential issues relating to local industry capacity to meet changing knowledge and skills requirements and increased productivity.
### Table 31

**Educational Attainment. Hamilton and Ontario, 2006**

<table>
<thead>
<tr>
<th>Educational attainment</th>
<th>Hamilton</th>
<th>Ontario</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total population 15 years and over</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No certificate; diploma or degree</td>
<td>25.1</td>
<td>22.2</td>
<td>2.8</td>
</tr>
<tr>
<td>High school certificate or equivalent</td>
<td>27.3</td>
<td>26.8</td>
<td>0.5</td>
</tr>
<tr>
<td>Apprenticeship or trades certificate or diploma</td>
<td>9.4</td>
<td>8.0</td>
<td>1.4</td>
</tr>
<tr>
<td>College; CEGEP or other non-university certificate or diploma</td>
<td>19.5</td>
<td>18.4</td>
<td>1.1</td>
</tr>
<tr>
<td>University certificate or diploma below the bachelor level</td>
<td>3.3</td>
<td>4.1</td>
<td>-0.9</td>
</tr>
<tr>
<td>University certificate; diploma or degree</td>
<td>15.5</td>
<td>20.5</td>
<td>-5.0</td>
</tr>
<tr>
<td><strong>Total population aged 15 to 24</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>No certificate; diploma or degree</td>
<td>40.0</td>
<td>39.9</td>
<td>0.1</td>
</tr>
<tr>
<td>High school certificate or equivalent</td>
<td>38.6</td>
<td>38.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Apprenticeship or trades certificate or diploma</td>
<td>2.1</td>
<td>2.3</td>
<td>-0.2</td>
</tr>
<tr>
<td>College; CEGEP or other non-university certificate or diploma</td>
<td>11.5</td>
<td>9.9</td>
<td>1.6</td>
</tr>
<tr>
<td>University certificate or diploma below the bachelor level</td>
<td>1.5</td>
<td>2.1</td>
<td>-0.6</td>
</tr>
<tr>
<td>University certificate; diploma or degree</td>
<td>6.3</td>
<td>7.3</td>
<td>-0.9</td>
</tr>
<tr>
<td><strong>Total population aged 25 to 34</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>No certificate; diploma or degree</td>
<td>10.2</td>
<td>8.7</td>
<td>1.5</td>
</tr>
<tr>
<td>High school certificate or equivalent</td>
<td>25.7</td>
<td>23.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Apprenticeship or trades certificate or diploma</td>
<td>7.8</td>
<td>6.0</td>
<td>1.8</td>
</tr>
<tr>
<td>College; CEGEP or other non-university certificate or diploma</td>
<td>27.2</td>
<td>24.3</td>
<td>2.8</td>
</tr>
<tr>
<td>University certificate or diploma below the bachelor level</td>
<td>3.7</td>
<td>4.5</td>
<td>-0.8</td>
</tr>
<tr>
<td>University certificate; diploma or degree</td>
<td>25.4</td>
<td>32.7</td>
<td>-7.3</td>
</tr>
<tr>
<td><strong>Total population aged 35 to 64</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>No certificate; diploma or degree</td>
<td>17.3</td>
<td>15.0</td>
<td>2.3</td>
</tr>
<tr>
<td>High school certificate or equivalent</td>
<td>26.3</td>
<td>25.4</td>
<td>0.9</td>
</tr>
<tr>
<td>Apprenticeship or trades certificate or diploma</td>
<td>11.2</td>
<td>9.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Educational attainment</td>
<td>Hamilton %</td>
<td>Ontario %</td>
<td>Variance</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>------------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>College; CEGEP or other non-university certificate or diploma</td>
<td>23.0</td>
<td>21.3</td>
<td>1.7</td>
</tr>
<tr>
<td>University certificate or diploma below the bachelor level</td>
<td>3.8</td>
<td>4.7</td>
<td>-1.0</td>
</tr>
<tr>
<td>University certificate; diploma or degree</td>
<td>18.4</td>
<td>24.0</td>
<td>-5.6</td>
</tr>
</tbody>
</table>

*Note. Source: Statistics Canada, (2006a, 2006b).*

**Quality of Life**

Personal and family incomes are important indicators of quality of life. The per capita income for all families in Hamilton in 2006 was $30,400 compared with $29,400 for Ontario and $28,200 for Canada (Statistics Canada, 2006a, 2006b). However, Fraser (2004, p. 1) reports that over the past 10 years, income levels in the city have not kept pace with increases in “the cost of housing, taxes, utilities, food and other essentials,” especially among low and middle income groups. Fraser (2004) suggests that between 1990 and 2000, the wealthiest 40% of the city’s population experienced an increase in their average incomes, while the poorest 60% experienced a decrease. Fraser (2004) notes a larger number of contingent or part-time low-wage positions without medical or dental benefits over the decade. This is contributing to a higher number of working poor and a higher number of people in general living in poverty. As well, the number of people in Hamilton making use of emergency shelter has risen substantially.

Community well-being is not measured strictly in terms of economic growth and income. Health care is an essential component of quality of life in every community. Access to hospitals, family doctors, and specialized services such as mental health services and diagnostic equipment is fundamental. Health care and social services is major growing employment industry in Hamilton, and Hamilton Health Sciences is one of the city’s largest employers. Hamilton serves as a hub of cardiac expertise, cancer treatment, as well as mental health. However, Hamilton needs more doctors. In terms of general physicians per 100,000 people, Hamilton ranked 25 out of 27 Canadian cities based on a study conducted by the Conference Board of Canada (2007a, p. 30).
Education is also an important measure of quality of life. Over 100,000 students participate in the City of Hamilton’s educational institutions on an annual basis (City of Hamilton, 2005a, p. 12). Mohawk College is one of the largest colleges in Ontario, with over 50,000 part-time and full-time students. However, Hamilton does not perform as well in terms of educational attainment relative to the province. More people in Hamilton had no certificate, diploma or degree relative to Ontario, and fewer Hamiltonians had completed university level education in 2006 (Statistics Canada, 2006a).

Over the past decade, research enterprise has doubled in Hamilton. McMaster University ranked 6th among Canada’s top 10 universities based on sponsored research in 2006 (Toronto Regional Research Alliance, 2009). Science-based innovation in manufacturing and materials is one of McMaster’s strategic priorities for research. The university is creating the McMaster Innovation Park, which involves the transformation of a large brownfield site into a research park that will include a 155,000 square foot facility for CANMET, the Canadian Materials Technology Laboratory (McMaster University, 2009).

Civic engagement and social inclusion are also important aspects of quality of life. One measure of social inclusion is acceptance of people from various races and backgrounds. Relative to other cities in Canada, Hamilton has performed fairly well in attracting immigrants. Between 1991 and 2001, about 35,500 new immigrants were living in Hamilton. The city had a retention rate of 133%, the highest among 11 major Canadian cities in a study by the Canadian Labour and Business Centre in 2005. By comparison, Toronto’s retention rate was 84% and Vancouver’s was 89% (Canadian Labour and Business Centre, 2005, p. 9).

Natural environment is an important aspect of livable communities. Like Pittsburgh, Hamilton has employed environmental technology and numerous marketing strategies to address the negative image that burdens their communities. Images of dirty, foul-smelling, smoky steel town are difficult to erase. Hamilton continues to be plagued with perceptions of a polluted steel city. The city’s two large integrated steel mills stretch along the western entrance to the city, pumping billows of grey smoke into the sky. Years of industrial waste have built up in Hamilton Harbour. The Green Berets (2004, p. 6), a local environmental action group of Hamilton citizens suggests,
for the most part our image is still bogged down through a combination of a lack of our own self-respect and pride, and the limited effectiveness of our media campaigns to ‘brand’ Hamilton in a positive light. And of course – there’s that view from the bridge!


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Conclusion:

Impacts of Economic Transformation in Pittsburgh and Hamilton

The changes in the structure of the economic base in both Pittsburgh and Hamilton have affected individuals, families and communities within them. A key change in both cities is a fundamental shift in economic base composition from predominantly steel and steel-related manufacturing industries to service-oriented industries with large concentrations in non-profit and public sectors. Consistent with many cities in Canada and the United States, growth has occurred in service-industry sectors such as retail, health care and social assistance, education, public administration and professional, scientific and technical services. In Hamilton and Pittsburgh, health care and social services and education services are experiencing significant growth relative to other industries. For Hamilton, manufacturing continues to be the largest source of employment as of 2006, but in Pittsburgh the share of manufacturing employment has diminished to 8%. Hamilton’s manufacturing base has become much more diversified than it was in previous decades. Pittsburgh has a greater share collectively of professional, scientific, and technical services; management; administrative and waste management services as well as finance; insurance, real estate and rental and leasing industries. Pittsburgh has retained seven corporate head offices in the city, including two major banks. Both communities are succeeding at achieving economic diversification with a blend of knowledge-intensive jobs requiring post-secondary education and others requiring lower levels of education.

As local economies undergo dramatic structural changes, many people are displaced from their jobs. In Pittsburgh, all of the integrated steel mills have closed and many other manufacturing establishments have closed also. These workers have had to find new sources of employment. In Hamilton, there has been substantial downsizing in the steel industry. Many displaced workers lack the skills and education to find good paying jobs in the growing service sector or advanced manufacturing industries that utilize new technologies. Displaced workers and their families face tough choices – seek work elsewhere and move; accept jobs with lower
pay; or retrain for a new career if they can afford to. When job losses in dominant industries are severe, as they were in Pittsburgh for several decades and as they are more recently in Hamilton, the opportunities for displaced employees to find work locally are limited. As a result, many people are forced to move or commute to work if they can find it elsewhere. Even with retraining programs, local jobs may not be available in sufficient quantities. In many cases, the jobs for which individuals qualify are low-paying and individuals who take this path become part of the working poor. Others retrain for new careers. Because of the greater concentration of men in manufacturing, increasing levels of unemployed men are taking place.

A striking contrast between the two cities is occurring in terms of commuting patterns. As a major employment center for the broader region, the number of jobs available in Pittsburgh is more than double the number of people in the local labor force, so the city draws about 182,000 commuters into the city each day (Briem, 2005, p. 6). However, the good-paying jobs do not necessarily go to residents. In Allegheny County and the broader Pittsburgh region, many individuals look to Pittsburgh for jobs. Thousands of people in the suburban areas and beyond are willing to commute into the city to work. Over 43,000 city residents commute out of the city to work each day (p. 6).

Hamilton, in contrast, has fewer jobs available in the city relative to the size of the city’s labor force. Increasingly, people are commuting out of the city to work. Between 1981 and 2001, the number of daily commuters leaving Hamilton each day has more than doubled from 24,000 to over 57,000 (City of Hamilton, 2005, p. 15). A major consequence for commuters in both cities is higher transportation costs associated with working, more time away from their families, and more stress.

A major consequence of declining employment in Pittsburgh has been a massive loss of population, a drop in property values and an eroding tax base. Hundreds of thousands of people left the city to live in the suburbs and many also left the region to live and work in more distant communities. Hamilton has retained and expanded its population along with its employment base. However, according to the 2006 census, Hamilton lost 1,300 people since 2001 in the city core – the area formerly defined as the city of Hamilton prior to amalgamation (City of Hamilton, 2009b).
On average, income levels for Pittsburghers are less than income levels for the nation overall. Median household income in Pittsburgh in 2006 was only 65% as high as the median household income for the U.S. household income levels in steel towns like Homestead and McKeesport were particularly low relative to the rest of the country. There are more elderly people in Pittsburgh on fixed incomes and more African American people who are among the most disadvantaged in the city. The poverty rate in Pittsburgh has climbed to over 22% for individuals, almost double the rate for the state and the nation. This is in sharp contrast to the incomes earned in the city and county in the 1970s and 1980s when workers in Allegheny County enjoyed higher income levels than the state and the nation.

Hamiltonians earn more on average than the rest of the nation. Hamilton outperformed both the province and the nation in terms of median total family income in 2006. As of 2006, the largest employment sector in Hamilton was manufacturing, which traditionally has paid well relative to other sectors. Manufacturing is the largest wealth generator for the city, contributing 23% of GDP. The loss of manufacturing jobs is contributing to the high level of poverty in the city. In 2006, 18% of Hamilton’s population had low incomes (Fraser, 200).

Pittsburgh performs well in terms of the proportion of the city’s population that had completed a bachelor’s degree or higher. In particular women in Pittsburgh have made substantial gains in educational levels over the past two decades. On average, women in the Pittsburgh area have higher levels of education than men and they have higher levels of education than women nationally. Educational attainment has become increasingly important for residents, as more employers require post-secondary education. However, Pittsburgh’s declining tax base means less funding for public schools and the quality of education at primary and secondary levels in the city and county has become a serious issue. Also, like the neighborhoods that make up the city, schools have become highly segregated.

More people in Hamilton have not completed a certificate, diploma or degree compared to the province. Slightly more people have completed college and apprenticeship training in the city compared with Ontario. Fewer people in Hamilton completed university education relative to Ontario. Historically, in Hamilton’s large manufacturing sector, few positions required post secondary credentials. Today, more employers are demanding post-secondary credentials.
Both Pittsburgh and Hamilton have mixed characteristics in terms of quality of life. Pittsburgh boasts excellent universities, colleges and hospitals, as well as cultural amenities. Pittsburgh has made huge strides in redeveloping brownfields, creating green buildings and green spaces, and cleaning the rivers in the city. However, there is a large proportion of the population who live in poverty. While unemployment rates are relatively low, many residents must commute outside the city to work, despite the large base of employment in the city core. This suggests a mismatch between the skills of many residents and the jobs that have emerged in Pittsburgh’s new economy. The city has shrunk to half its former size and population continues to decline despite tremendous efforts to revitalize the city. A key issue for Pittsburgh is a very low level of immigration.

Hamilton also offers excellent universities, and colleges and hospitals, although the city is experiencing a shortage of physicians. Hamilton has made significant efforts to redevelop its downtown, but much more work is needed. The city has garnered national awards for its brownfield redevelopment program and has made significant investments to clean up areas contaminated by industrial waste, including Hamilton Harbour where the city’s two large integrated steel mills are located. Poverty rates in Hamilton are high, despite a high level of median income on average. As with Pittsburgh, a growing number of commuters travel outside the city to work. Hamilton is attracting immigrants and, overall, is experiencing population growth outside its core.

The services sector is gaining importance in the local economies of both Pittsburgh and Hamilton. Macro-economic factors such as globally integrative trade and production and the growth of emerging economies suggest that future growth in manufacturing in either city will be extremely challenging. This is of greater concern for Hamilton because the city continues to experience a greater dependence on manufacturing compared with Pittsburgh. Pittsburgh has been more successful at achieving increased levels of economic diversification by creating new jobs in the service sector, because the city experienced greater manufacturing losses earlier than Hamilton and has had more time to implement regeneration strategies.

As the global recession deepens, economic diversity is a cornerstone of Pittsburgh’s resilience. Another is neighborhood revitalization. Today, the city is much stronger after
addressing decades of economic and social struggles. Many of the local firms have learned to compete globally with higher-value products and services. The University of Pittsburgh Medical Center now occupies some of the top floors of the U.S. Steel building in downtown Pittsburgh (Saporito, 2008). Recently, the Allegheny Conference on Community Development launched a job search portal called “Imaginemynewjob.com”. The site lists more than 30,000 jobs available in the Pittsburgh region, of which over 25,000 are full-time positions. Of those, more than half pay at least $40,000 U.S. However, Pittsburgh is not immune to external forces that cut across most industries. The area is losing jobs in leisure and hospitality, especially in arts and entertainment, and continues to lose jobs in manufacturing (Miller, 2009). Overall, Pittsburgh is experiencing greater stability than Hamilton. Pittsburghers have had a lot of practice striving for an economic comeback.

While Hamilton has become more diversified in recent decades, the city’s heavy dependence on manufacturing is contributing to growing levels of unemployment in the city. Between January 2008 and January 2009, Hamilton lost 10,000 jobs and local unemployment surged to 8% (“Hamilton unemployment,” 2009). Hamilton’s steel industry is taking a beating, with more than 2,000 steel workers on indefinite layoff at U.S. Steel Canada as of March, 2009 (Powell, 2009a, p. A1). Most of these steel industry layoffs occurred subsequent to January. Hamilton is going to experience pain before gain, but important initiatives such as the McMaster Innovation Park and other major institutional projects are spurring new development in advanced manufacturing and life science industries, and laying a foundation for a new economy in Hamilton.
Chapter Eight:
Economic Development Strategies in Pittsburgh and Hamilton

Introduction

Planning economic transformation generally begins with the identification of a leadership body that will provide direction and mobilize resources. A strategic plan provides direction for economic development. It generally includes specific objectives, priority actions, and accountabilities. Most economic development strategies identify target industries, sectors, or clusters, and often encompass major infrastructure projects. In recent decades, major cities across North America have made diversification of industries a top priority. Today, Pittsburgh and Hamilton are less dependent on manufacturing, particularly Pittsburgh. The city has made significant progress diversifying the local economy. Pittsburgh’s mixed base of healthcare, education, government, technology, and other jobs provide greater stability for the city and the broader region. Hamilton continues to be heavily dependent on manufacturing. However, the proportion of jobs in manufacturing is shrinking, primarily due to decline in that sector in recent years. Hamilton is achieving a more diverse mix of industries. Like Pittsburgh, healthcare, education, government and technology are among the major employment sectors in Hamilton.

Cities also need to balance old and new economic activity. This balance is necessary to enable displaced workers to transition to new employment opportunities. Balance can be achieved through the retention and attraction of goods-producing and service-oriented industries. Balance is enhanced with a mix of for-profit as well as not-for-profit enterprises. Strategic development also requires a balance of low-skill, semi-skill, and high-skill employment opportunities to ensure that all members of the community can benefit from economic transformation. This chapter identifies and examines strategic planning initiatives in Pittsburgh and Hamilton from 1970 to 2008.

Strategies for Developing Pittsburgh

Pittsburgh lost half of its population and over 50,000 jobs (mostly manufacturing) over a few decades. The challenge to rebuild has been and continues to be formidable. Recovery is a long, slow process, but the former steel city is making progress. Current employment in the city
is approaching 1980 levels and employment in the County has reached a record high. Considering the massive losses of jobs and population, Pittsburgh has made tremendous strides towards recovery from the steel industry collapse:

1. Once dubbed “Smoky City” and “Hell, with the lid off,” in 2007 Pittsburgh was named “America’s Most Livable City” by Places Rated Almanac. Pittsburgh is the only place to earn this honor twice; the first was in 1985 (Majors, April 26, 2007).

2. Pittsburgh ranked as the world’s 10th cleanest city (“Forbes list”, 2007, April 26).


4. Pittsburgh’s commercial real estate market topped the nation in the third quarter of 2008, according to Moody’s Investors Service (Belko, 2009).

5. Pittsburgh ranks as the second most educated region in the United States according to Business Facilities with 35 universities and colleges and over 31,000 graduates annually (PRA, 2009). In 2007, the City outperformed the nation in terms of the percent of the population that completed a bachelor’s degree or higher (U.S. Census Bureau, 2009a).

So, how did Pittsburgh achieve this economic recovery? Since World War II, several major economic revitalization initiatives have brought together Pittsburgh’s leaders, beginning with the “Renaissance I” led by Mayor David Lawrence and financier, Richard King Mellon. Their vehicle for action was the Allegheny Conference on Community Development (ACCD), a coalition of Pittsburgh’s corporate elite (Lubove, 1995, p. 109). Renaissance I centered on three projects: cleaning up the smoky city, flood control and the creation of Point Park (Lubove, 1995, p. 111). Other major development initiatives promoted by ACCD during the 1950s, 1960s, and 1970s centered on physical infrastructure such as the construction of the Greater Pittsburgh International Airport and highway networks, and projects such as Gateway Center, a complex of office buildings, apartments, a hotel, and underground parking garages (URA, 1997, p. 8).
In 1946, to facilitate its planning, ACCD encouraged the establishment of a municipal authority, the Urban Redevelopment Authority of Pittsburgh (URA). Mellon, led the initiative and became the URA’s first chairman (Fitzpatrick, 2000). Redevelopment efforts undertaken in the 1950s in Pittsburgh were highly controversial. Mellon used his vast wealth and business connections with companies such as Gulf Oil, Alcoa, Pittsburgh Consolidated Coal, and U.S. Steel, and his relationship with the Mayor, David Lawrence, to coerce local leaders to support his plans for the city’s redevelopment. These plans also involved exercising the power of eminent domain which gave the city the right to seize private property. The neighborhood of East Liberty was virtually demolished to make room for “Mellon’s Miracle” – office towers, a hotel, an underground garage and an apartment building. Fitzpatrick (2000, p. 2) explains:

Urban redevelopment, the city’s dominant public policy tool of the last 50 years, rescued Pittsburgh from the maw of pollution, floods and decay. In doing so, it swallowed more than 1,000 acres of land, razed more than 3,700 buildings, relocated more than 1,500 businesses and uprooted more than 5,000 families. The city deflected challenges from angry property owners, demolished old buildings that no longer served their original uses and landed the story of Pittsburgh’s transformation in the pages of The Saturday Evening Post, Life and Time magazine.

According to Fitzpatrick (2000), the URA’s demolition forced out 1,239 Black families. Most of them relocated to other predominantly Black neighborhoods. Homeowners were advised by a notice in the mail. They were not provided with relocation money. As a result, racial segregation continues to be a serious issue in Pittsburgh. Powell (2004, p. 15) suggests: “Residential segregation is a proxy for segregation from opportunity such as jobs, well performing schools, services, child care and stable neighborhoods.”

Beyond the 1960s, greater emphasis was placed on citizen participation in local development planning. The decline of the steel industry through the 1970s and 1980s triggered increased attention to industry diversification, including professional services, technology and research, and advanced manufacturing, as well as quality of life concerns such as the environment (Lubove, 1996). ACCD and the URA made extensive use of public-private partnerships to help plan and finance developments, including urban renewal programs funded by the state and the federal government.
Renaissance II was launched in the 1970s with major focus given to neighborhood development and commercial development, as well as culture and tourism. The URA formed a partnership with the City, community development corporations, local foundations, and banks to found the Pittsburgh Partnership for Neighbourhood Development (PPND), which served as an intermediary funding mechanism for CDCs. This collaboration brought together public, private, and nonprofit organizations to create a joint focus on neighborhood revitalization (URA 1997, p. 29). During the 1970s and 1980s, major developments such as PPG Place, world headquarters for PPG Industries and Market Square, a two-acre city park were developed with significant support from the URA. The URA also acquired funding to support the development of Liberty Center, Penn Station and the Strip District, a downtown cultural district, to enhance Pittsburgh’s tourism industry and to enhance quality of life for local residents. Development initiatives undertaken during Renaissance II totaled over $2 billion (p. 32). In 1982, responsibility for housing and economic development department functions of the City were transferred to the URA to create “the city’s most comprehensive instrument of change” (p. 39). Today, the URA is responsible for the city’s housing and economic development functions, including site assembly, infrastructure development, business financing, and administration and delivery of economic development programs. Economic development encompasses affordable housing infrastructure and housing financing.

While extensive new development was taking place, from 1970 to 1990 the Pittsburgh Metropolitan Region lost 54% of its manufacturing jobs, the largest percentage loss of any major region in the United States (Mehrabian & O’Brien, 1994, p. 36). Although the service sector added over 170,000 jobs during the 20-year period, the Pittsburgh region had the slowest rate of service sector job growth among all metropolitan regions in the nation. Much of Pittsburgh’s loss of manufacturing and its slow service industry growth resulted from the collapse of the steel industry and the mass exodus of people from the city and region.

In 1985, the ACCD recommended a partnership between the City of Pittsburgh and Allegheny County to help revitalize the economy. *Strategy 21: Pittsburgh/Allegheny Economic Development Strategy to Begin the 21st Century* was created. Known as *Strategy 21*, the initiative was led by a coalition including the Mayor of Pittsburgh, the Commissioners of Allegheny County, and the Presidents of the University of Pittsburgh and Carnegie Mellon
University. The joint strategy aimed to “reinforce the region’s traditional economic base as a center for the metals industry and an international corporate headquarters.” The coalition also focused on developing new advanced technology industries; enhancing the region’s quality of life; and expanding “opportunities for women, minorities and the structurally unemployed” (City of Pittsburgh, 1985, p. 1).

*Strategy 21* included five major project areas that helped to deepen the ties between the City, the County and the universities. Like the Renaissance initiatives, they involved major infrastructure development. *Strategy 21* proposed the modernization of the Greater Pittsburgh International Airport and development of adjacent properties; highway transportation infrastructure improvements; downtown redevelopment projects such as Three Rivers Stadium and the Strip District to enhance quality of life and tourism; Mon Valley redevelopment initiatives, including the transformation of the former J&L site to create the Pittsburgh Technology Center (PTC); and the development of university advanced technology research centers of biotechnology and robotics adjacent to PTC. The latter two initiatives were directed at diversifying Pittsburgh’s economy to include more advanced technology industries.

Growth in advanced technology occurred in Pittsburgh, but at a slower rate than originally projected. Porter (2002b, p. 33) suggests that “clusters often considered to be ‘high-tech’ (e.g., information technology, communications equipment, biotechnology/pharmaceuticals) accounted for a relatively small number of new jobs” in the Pittsburgh MSA during the 1990 to 1999 period. Wong, Yeo, and DeVol (2006, p. 32) also report that as of 2004, Pittsburgh “lacks sufficient anchor and small firms to support a high-tech industry base.”

In 1994, the *Regional Economic Revitalization Initiative* was established around the vision, “Working Together to Compete Globally” (Mehrabian & O’Brien, 1994, p. 3). Once again, the ACCD and the universities played a prominent leadership role in crafting this vision. The group acknowledged the “imperative of building an economy which brings opportunity to all citizens and communities.” They engaged over 5,000 citizens to develop a vision for Pittsburgh’s future. They established as their mission, the creation of “an exemplary quality of life through high-value jobs for all citizens by nurturing an economic environment that will foster retaining and expanding existing businesses, starting new firms and attracting other
companies to our region.” The strategy also recommended accelerating the rates of new business start-ups and job growth through improved tax policy and by improving public-private cooperation and governance. The universities were positioned as vehicles for transforming old industries into new ones through research, innovation, and workforce preparation and development. The strategy identified the need for “cutting-edge labor-management partnerships” that would “keep a flexible, diverse workforce and vibrant companies working together to the mutual advantage of all” (Mehrabian & O’Brien, 1994, p. 7). The Regional Economic Revitalization Initiative also identified a serious and growing issue in Pittsburgh – the gap in employment and income between Whites and African Americans throughout the region.

Yet another county-based strategy was put forward in 1996 by a group of local civic leaders known as COMPAC 21, named for the Committee to Prepare Allegheny County for the 21st Century. Again, the local universities played a primary leadership role. The Allegheny County Commissioners appointed Dr. John Murray, President of Duquesne University to head the committee. Murray appointed representatives from the University of Pittsburgh, Carnegie Mellon University, Duquesne University, Pennsylvania State University, and several other civic leaders from private, public, and nonprofit sectors. Administration was handled by the Pennsylvania Economy League, an affiliate of the ACCD. COMPAC 21 members drew attention to the lack of collaboration among municipalities in the county. COMPAC 21 (1996, p. 8) described the county as “the most fragmented governmental structure of any metropolitan county in the United States.”

The commission examined six benchmark counties across the United States, selected for a variety of reasons, including their mix of governmental structures; positive reputations for government practices; and their industrial composition. All six were known economic competitors of the Pittsburgh region. The Commission found that “counties that are experiencing significant economic growth have developed targeted and coordinated economic development programs.” All of the benchmark counties had “streamlined their governmental organizations and functions to support their roles as major players in economic development” (COMPAC 21, 1996, p. 4). The Commission proposed that the large number of economic development agencies across the region be reduced, that the activities of agencies be better coordinated, and that one agency serves as a single point of contact. As well, the Commission suggested that economic
development policies encourage counties within southwestern Pennsylvania to work together as a region and focus economic development on retention and growth of businesses already located in the region (p. 7).

Throughout the 1990s and the new millennium, Pittsburgh continued its struggle to achieve sustainable economic growth. In addition to closures of numerous manufacturing plants, by the mid 1990s, “15 of Pittsburgh’s original 19 Fortune 500 companies had closed, left town, or shrunk out of the top 500” (Porter, 2002b, p. 23).

Porter (2002b, p. 1) examines “clusters of innovation” in Pittsburgh at the start of the 21st century. Porter identifies five clusters that added the most jobs between 1990 and 1999, including transportation and logistics, education and knowledge creation, business services, financial services, and entertainment (p. 33). The three clusters with the greatest job losses include metal manufacturing, automotive, and power transmission and distribution (p. xvii). According to Porter (2002b, p. xii) “a high and rising standard of living depends on increasing productivity, which in turn depends on innovation.” Porter stresses that cities and regions must create conditions that encourage and sustain innovation and competition. Conditions that promote innovation include a labor force with the requisite skills and specialized knowledge, as well as technology, infrastructure, and investment capital. They also include sophisticated customers located in the region because they help to drive improved quality of products and services.

Porter (2002b, p. xv) proposes that cluster development helps communities to become more competitive, especially traded clusters, which “produce products and services that are in competition with other regions and nations.” Traded clusters are important for growth because they are not constrained by the size of the local market and they stimulate demand from outside the region. The presence of local suppliers can also enhance productivity, not simply through expedited flows of goods of services, but also through faster communications and knowledge flows. Formal and informal organizations and networks play a role in fostering collaboration and enhancing innovative business environments (Porter, 2002b). The primary role of government, according to Porter, is “to create a favorable climate for competition” (p. xiv).
Today, an important focus for economic development leaders in Pittsburgh is the creation of new private enterprise, especially in technology-based industries. In 2006, leaders in Pittsburgh’s economic development community established the Greater Oakland Keystone Innovation Zone (GO KIZ) and commissioned the *Pittsburgh Technology Strategy* aimed at developing high tech industries across the region. The initiative was driven by ACCD, URA, PTC, and local universities among others, all of which have Board membership with GO KIZ. The strategy proposes three recommendations including new scholarship programs in technology fields at Pittsburgh universities; the development of business services to connect high-tech startups with national venture capital firms; and increased lobbying efforts at city, regional, and state levels for financial support of high-tech industries (Wong et al., 2006, p. 65). This direction acknowledges Pittsburgh’s need to balance its growing dependence on public and nonprofit sector growth with private sector, tax-paying firms.

At a county level, the issue of fragmented government persists. Allegheny County is made up of 130 municipalities. The largest, by far, is Pittsburgh. The County is headed by the electorate of Allegheny County, a 15-member council. County operations are administered by the County Executive. Similarly, the City of Pittsburgh is headed by a council of nine elected representatives and the Mayor. Recently, a newly formed Citizens’ Advisory Committee was formed by Pittsburgh’s current Mayor, Luke Ravenstahl, and Allegheny County Chief Executive Dan Onorato. A primary focus for this partnership is to explore ways to achieve more effective and efficient government. They established the Citizens’ Advisory Committee on Efficiency and Effectiveness of City-County Government. As with former strategic initiatives, this Committee is headed by a university leader, University of Pittsburgh Chancellor, Mark Nordenberg. The Committee includes representatives from the City, County, education, business, foundations, and the Allegheny County Labor Council. Key recommendations include improving the efficiency of local government and unifying regional leadership especially around economic development.

The Committee notes that

> there probably is no single missing ingredient, which, if added, would maximize the economic productivity of the region’s asset mix. In fact, most of the available studies have identified multiple areas in which improvements might be sought. But one consistently mentioned matter of concern is fragmented and divided local government. (Citizen’s Advisory Committee on Efficiency and Effectiveness of City-County Government, 2008, p. 21)
A continuing challenge for Pittsburgh is re-employment of displaced workers. Many of the new jobs created in the city are not held by local residents. This is contributing to Pittsburgh’s high poverty rate. The city’s recovery has been unevenly distributed across socio-economic classes. Ongoing investment must be directed towards education and retraining of displaced and unemployed workers and towards workforce development to address the continuous changes in the nature of work as the economy transitions from old to new.

Recovery takes decades of strategizing, building, re-strategizing, and innovating. In addition to new employment growth in sectors such as health care and education, major infrastructure projects such as Gateway Center, redevelopment projects such as Southside Works, as well as neighborhood revitalization projects are contributing to Pittsburgh’s resilience. These efforts have required enduring commitment and collaboration among the city’s leaders. The role of ACCD as a coordinating body has been instrumental in the process of transformation. Pittsburgh’s transformation has involved leadership, strategic planning, capital investment, education and research resources, civic engagement and quality of life investments. While earlier initiatives focused on infrastructure and redevelopment, new strategies also focus on innovation and new business formation, and local business retention, expansion, and attraction. Local leaders are engaging local citizens more actively in strategic planning and other economic development initiatives. The city is making progress as the elements of economic development combine to form a mutually reinforcing whole.

Strategies for Developing Hamilton

In the early 1970s, the steel industry crisis swept most advanced capitalist nations. However, despite overcapacity in world steel markets and intensifying competition from industrializing nations, Canada’s steel industry continued to prosper. Livingstone (1993, p. 20) notes that, “what is distinctive about the Canadian case is the delayed impact of these conditions. With regard to profitability, capacity utilization, and employment stability, the Canadian steel industry outperformed most of its international competitors for well over a decade.” Throughout the 1970s, the Canadian steel industry experienced strong domestic demand. During the recession of the early 1980s, Canada’s steel industry took a downward turn. Employment
plummeted to less than 50,000 jobs for the entire industry nationally. In 2008, Hamilton’s two large integrated steel mills employ fewer than 8,000 people.

In the past, steel firms in Canada have not been impacted to the same extent as those with substantial excess capacity in the United States. Canada, especially Hamilton, has benefited from proximity to American markets and liberal trade relations with the U.S. (D’Costa, 1999). D’Costa (1999, p. 125) observes that “a significant portion of Canadian output is destined for the automobile sector in both Canada and the U.S.” From 1988 to 2004, Canada’s total imports increased by 5.4 million tonnes or 200%. Canadian imports of U.S. steel increased substantially both in tonnage and as a percentage of total steel imports. From 1988 to 2004, Canadian steel exports also increased. Exports to the U.S. rose from 2.9 million to 5.0 million tonnes (Fife, Personal Communication, February 20, 2005).

Hamilton has been riding a steel roller coaster over the past decade. In 1999, Dofasco invested $175 million in a new galvanizing mill and $138 million in upgrading one of its rolling mills (City of Hamilton, 1999, p. 3). In 2002, Dofasco committed another $700 million in capital investment. In 2005, Dofasco was purchased by Arcelor, and then in 2006 Arcelor-Mittal became the new owner (City of Hamilton, 2006, p. 5). In 2007, ArcelorMittal Dofasco announced a $60 million investment in a Pulverized Coal Injection facility to be completed in 2009 (City of Hamilton, 2007, p. 10). In 2008, the company also announced plans to build a new $119 million blast furnace, but those plans have been postponed as global demand for steel weakens (Powell, 2008). In November 2008, ArcelorMittal Dofasco announced that it is slashing 40% of its production in Hamilton. According to Powell (2008), the move comes as the parent firm ArcelorMittal prepares to reduce global steelmaking by more than 30%.

In 1999, Stelco invested $240 million in mill upgrades and new technology in Lake Erie Works near Hamilton (City of Hamilton, 1999, p. 3). However, in 2004, Stelco entered into Chapter 11 protection and underwent two long years of restructuring. According to Pratt & Gaudet (2008, p. 100), Stelco released a study that claims “a liquidated Stelco would pretty much destroy Hamilton’s economy” with an impact of $1.9 billion a year in lost wages and benefits. This estimate includes the closure of all of Stelco’s integrated steel operations and the ripple effects of such closure (Datametrics Consulting Inc., & Ernst & Young Inc. (2004, p. 4). In 2007,
U.S. Steel purchased Stelco and renamed it U.S. Steel Canada (City of Hamilton, 2007, p. 10). In March 2009, U.S. Steel Canada idled the former Stelco plants in Hamilton and Nanticoke, placing close to 2,200 workers on indefinite layoff (Powell, 2009a). As of June 2009, 720 Hamilton steel workers (over 40% of the workforce) opted to retire (Powell, 2009c). The company announced in June that it will recall 800 of the laid off workers to Hamilton (Powell, 2009d). Future plans for the Hamilton operation, which now employs less than a tenth of its peak workforce, remain uncertain.

Today, as world steel prices tumble, Hamilton faces extraordinary challenges. The current recession and financial crisis is devastating North America’s automotive industry – steel’s number one customer. Hamilton leaders have significant cause for concern. Steel continues to dominate Hamilton’s manufacturing sector and the automotive industry is also a significant component of its manufacturing base.

Unlike Pittsburgh, Hamilton is in close proximity to a large city, Toronto, and the broader “golden horseshoe” which serves as Ontario’s industrial heartland. The steel industry is part of a substantial steel-automotive cluster that includes five major automotive companies within 150 kilometers and hundreds of smaller automotive parts and technology firms (Pether, 2009). Hamilton has been successful in attracting several firms looking for affordable space along the transportation corridor to the United States. In 1998, more than 1.5 million square feet of new manufacturing space was developed, not including expansions of existing local firms (City of Hamilton, 1998, p. 3). Among the major investments in Hamilton that year, three metal service centers—Janco Steel, Nova Steel and Nelson Steel—constructed new facilities. In 2003, Stackpole Limited announced that it would make Hamilton the new home for two of its automotive parts manufacturing divisions, bringing over 350 new jobs to the city (City of Hamilton, 2003, p. 7).

Substantial investments have occurred in other sectors of Hamilton’s economy. Hamilton’s health and biotechnology industries are growing. Hamilton Health Sciences (HHS) is the city’s largest employer and ranks among Canada’s Top 100 Employers (MacLeod, 2008). HHS employs over 9,000. In addition, about 1,400 physicians are affiliated with HHS and about 1,400 volunteers work in the six hospitals and the cancer center. In 2007, construction
commenced on a cardiac, vascular and stroke research institute in Hamilton, which will create 230 new jobs (City of Hamilton, 2007, p. 15). In the education sector, McMaster University and Mohawk College are among the city’s largest employers. In addition, annual research funding for 2006 in the education sector totaled $350 million (Industry Education Council of Hamilton, 2009). Hamilton is also experiencing success developing its film sector. In 2007, Hamilton attracted over 106 film productions, which contributed $12 million of new investment (City of Hamilton, 2007, p. 22). In 2008, the city celebrated the grand opening of Steel Works Studios.

A major structural change took place in 2001, when six municipalities amalgamated to form the new City of Hamilton, including Stoney Creek, Ancaster, Dundas, Flamborough, Glanbrook, and Hamilton. Formerly, these municipalities made up the region of Hamilton-Wentworth. The amalgamation was not voluntary. It was met with considerable resistance from constituents in the five suburban municipalities. The formation of the new City of Hamilton was mandated by Ontario’s conservative government, the governing party in 2001. The primary rationale for the merger was cost cutting.

At the same time that the new City of Hamilton was amalgamated, the Regional Municipality of Hamilton-Wentworth was dissolved. Since 1992, the region was guided by Vision 2020, which encompasses 14 thematic areas for building a vibrant, sustainable future, including “local economy, agriculture and the rural economy, natural areas and corridors, improving the quality of water resources, reducing and managing waste, consuming less energy, improving air quality, climate change, changing our mode of transportation, land use in the urban area, arts and heritage, personal health and well-being, safety and security, education, and community well-being” (City of Hamilton, 2009a). Awareness of Vision2020 appears to have diminished. Only one of the Hamilton leaders interviewed in this research mentioned this strategy.

In 2002, the new City of Hamilton released its economic development strategy, *Hamilton’s Clusters of Innovation*. The strategy recommends that the city diversify its economic base by focusing on the growth of six industry clusters, including industrial manufacturing, agribusiness, health and biotechnology, information and communications technology, film, and aerotropolis, which includes development surrounding the local airport. Rooted in Porter’s theory of cluster development, the strategy aims to develop these six targeted sectors in order to
increase assessment growth, generate wealth, and diversify the local economy (City of Hamilton, 2002, p. 4). The strategy is part of a larger planning process for the City of Hamilton, the Growth Related Integrated Development Strategy involving four of the City’s departments: Transportation Operations Environment, Planning and Development, Finance and Corporate Services, and Economic Development (City of Hamilton, 2002, p. 3).

Hamilton’s economic development strategy was updated in 2005. The scope for development broadened to include eight clusters: advanced manufacturing; agriculture and food and beverage processing; biotechnology and biomedical industries; port-related business; the aerotropolis; film and cultural industries; tourism; and downtown development. The revised strategy emphasizes a significant quality of life component that focuses on education, health, housing and environment (City of Hamilton, 2005, p. 6). Additionally, the economic development strategy stresses the importance of civic engagement and suggests that the recipe for any successful economic development strategy has one similar ingredient – community ownership...The groups that make this city work, namely business, labor, government and education must continue to support this plan. Alignment of the plan with the efforts of these groups is absolutely critical to its success – especially, education that will provide the intellectual capital required to make these clusters prosper and generate wealth for the City of Hamilton. (City of Hamilton, 2005, p. 8)

The McMaster Innovation Park is an important pillar of the City’s economic development strategy. The project developed in partnership with McMaster University and all levels of government provides important resources for developing growth in targeted sectors such as advanced manufacturing, and biotechnology and biomedical industries. In 2008, a groundbreaking ceremony was held for the new federal research laboratory at McMaster Innovation Park. The Canadian government’s materials technology research laboratory of CANMET will relocate to the McMaster Innovation Park by 2010. The facility will house over 100 scientists and technicians specializing in the development of new materials (McMaster Innovation Park, 2008).

Hamilton’s economic development department, in partnership with Human Resources Development Canada and the Hamilton Training Advisory Board commissioned HR Matters as a companion to the economic development strategy. Key findings from this study centered on the
city’s population and labor force. Population growth in Hamilton is slowing and the population is becoming older. Within about 5 years, there will be more adults of pre-retirement aged 55 to 64 than youth aged 15 to 24, and the gap is projected to widen beyond 2013 (e-Conomics Consulting, 2002, p. 71). Immigration now accounts for about 85% of the city’s population growth, although the proportion of immigrants locating in Hamilton is declining. Within the next decade, the size of Hamilton’s labor force is projected to decrease. Employment in manufacturing is well below its peak of 1989. Hamilton lags behind other communities in Ontario with respect to educational achievement among its working-age population. Finally, the number of commuters leaving the city each day to work is growing steadily (e-Conomics Consulting, 2002, p. 71).

In 2003, *HR Matters II* presented a vision for Hamilton’s future: “a community with a healthy variety of skills and talent – in order to enable the development of Hamilton’s economy and to support the growth and well being of the community” (BearingPoint, 2003, p. 20). The strategy for achieving this vision includes partners such as educational institutions, governments, labor unions, business clusters, the Chamber of Commerce, HR service providers, and community leaders. The strategy calls for the development of a business plan to raise awareness, build capacity, and engage over 100 key stakeholders in addressing human resource matters. For example, Mohawk College’s Steel Trades Replacement Program is one of the initiatives identified. This co-operative apprenticeship program was developed in partnership with Stelco’s Lake Erie Steel Works, Dofasco, the Canadian Steel Trade and Employment Congress, and the Ministry of Training Colleges and Universities. Additional themes include assisting employers with human resource planning; facilitating school-to-work transitions; improving skills and building the local labor supply (BearingPoint, 2003).

Yet another strategy was created to complement the city’s economic development plan, *A Social Vision for the New City of Hamilton*. It was commissioned by the City in collaboration with the Hamilton District Health Council, the Social Planning and Research Council of Hamilton, among others. Hamilton’s social vision sees the city as a **safe, healthy and caring community** which fosters a sense of belonging and pride. It is a **culturally rich and diverse community** which ensures that all citizens have access to opportunities and resources to meet their basic needs and promote their active participation. It is a **vibrant community** which promotes support for
basic needs as well as inclusion and learning for all. (Torjman, Leviten-Reid & Heisler, 2002, p. 2) [emphasis is author’s]

The strategy identifies major issues such as child poverty, a high rate of teen pregnancy, lack of settlement support for immigrants, and financial constraints resulting from limited sources of revenue. Among Hamilton’s key assets, Torjman et al. (2002, p. 7) identify “coherent plans” and “visionary leaders in all key sectors.” As well, the city benefits from high-quality educational institutions, a large network of non-profit agencies other important assets that contribute to addressing social concerns. The strategy calls for action, beginning with creating ownership, raising awareness of the city’s critical social issues, and building relationships among partners and across sectors. According to Torjman et al. (2002, p. 11),

there is a need to create or support opportunities for people to come together for social, educational, recreational or cultural purposes...It is essential to bring together the best minds, skills and resources – all the available assets – to tackle complex social challenges.

The City of Hamilton completed the *Hamilton Goods Movement Study* in 2005 which examines the city’s potential to become a regional inter-modal transportation center. It encompasses the development of an aerotropolis cluster and a port cluster, and includes recommendations for land development as well as skills development. The Hamilton International Airport is the most active cargo courier airport in Canada and the Hamilton Port Authority is the most active port in the Great Lakes (Representative, Financial Institution, Personal Communication, December 1, 2006). The majority of cargo handled by the Port relates to the steel industry and the agricultural industry (IBI Group, 2005). Combined with the city’s rail and highway linkages, as well as storage facilities, Hamilton is improving its position as an important transportation hub. The McMaster Institute for Transport and Logistics (MITL) was established in 2007 to support the development of Hamilton’s transportation and logistics industries.

In 2008, the Hamilton Civic Coalition, a group of 65 local leaders from various sectors, renamed itself as the Jobs Prosperity Collaborative (JPC) and created a framework for action. Members include all of the organizations participating in this study. The JPC will use its “networks and collaborative relationships” to promote job creation. The group will encourage community engagement in the jobs agenda and leverage members’ collective resources to
support the agenda (Dobbie, 2008, p. 3). JPC’s strategy identifies seven priorities, including learning and innovation, quality of life, Hamilton’s image, immigration, commercial land and infrastructure, the creation of a plan for sustainable commercial development, and an updated strategy for the city’s economic portfolio. Sub-committees have been established to address each of the seven areas. The strategy suggests that JPC’s interventions will change and evolve over time, and that members will disband when needs are met.

As with HR Matters, once again, Hamilton is taking an interventionist approach to address the continuous, integrative process of economic transformation. Although it is an effective mechanism for engaging stakeholders and building relationships among them, a critical, enduring leadership element is missing. Hamilton needs a sustaining leadership entity with accountability and long-term commitment in order to ensure that it fosters strong, enduring relationships across all critical elements of community economic activity. The existing structure of Hamilton’s dominant economic development organizations limits formal Board level interaction. Economic development is largely controlled internally within the City of Hamilton and influenced by political agendas. That structure does not provide for Board level commitment by external stakeholders. Interconnectivity among agencies occurs predominantly through interventions. Advisory groups and stakeholder consultations are organized to gain insights from local leaders. Agencies work collaboratively towards important goals such as poverty reduction and labor force development. However, partnerships driven by volunteers often lack sufficient resources to sustain long-term relationships. Volunteers cannot be held accountable for successful implementation of strategic plans. The City of Hamilton is considering a new structure for economic development to address these issues.

Engagement in Strategic Planning

As cities transform, so do community power structures. Historically, leadership organizations that influence economic trajectories have reflected dominant economic interests. They do today also. What is different is that Pittsburgh and Hamilton are more diversified. Therefore, so are the leaders who represent dominant interests. This broader range of interests which aims to shape economic transformation requires a collaborative approach to policy and
decision-making. This is necessary to ensure that the various interests of the community are represented.

Clear trends that are evident over time in the strategic planning processes in Pittsburgh and Hamilton are the broader engagement of stakeholders as well as broader engagement of individual community members. Breadth is achieved not only across business sectors, but through greater involvement of the nonprofit sector. Again, this is due in part to the more prominent role of nonprofits in economic activity, and in part to the growing recognition of linkages between economic, social, environmental, and cultural dimensions of city life. Strategic planning processes also involve more direct consultation with leaders of universities, chambers of commerce and other associations to ensure that policy reflects public interest. Both communities have organized roundtable discussions that involve policy co-production or indirect consultative advice. Hamilton’s Roundtable on Poverty Reduction is an example of how the city brings together representatives on an ongoing basis to make policy decisions directed at alleviating poverty in the city. The Pittsburgh Regional Alliance regularly brings together leaders who make investments in the local economy and provide financial donations to support economic development operations. The cities also engage in activities such as town hall meetings that provide information to the public. Both cities are committed to more inclusive, democratic processes that build confidence in local institutions and demonstrate transparent, accountable and legitimate decision making. However, consideration needs to be given to increased involvement of under-represented groups in economic development, including women, minorities, and labor organizations.
Chapter Nine:
Introduction to City Leaders in Pittsburgh and Hamilton

This research is based on the standpoint of city leaders who actively participate in economic development. Interviews with leaders in Pittsburgh and Hamilton are the primary means used in this study to identify and examine critical factors impacting the economic trajectories of these two cities. This chapter introduces the community, business, and labor leaders in Pittsburgh and Hamilton who were interviewed. Table 32 provides a list of participants. The interviews are examined in detail in subsequent chapters.

Table 32
Interview Participants: Pittsburgh and Hamilton

<table>
<thead>
<tr>
<th>Pittsburgh</th>
<th>Hamilton</th>
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<tr>
<td><strong>Community Leaders</strong></td>
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<tr>
<td>Yaron Zober, Deputy Mayor, City of Pittsburgh</td>
<td>Fred Eisenberger, Mayor, City of Hamilton</td>
</tr>
<tr>
<td>Barbara McNees, Executive Vice President, Public Affairs, Allegheny Conference on Community Development (ACCD) and President, Greater Pittsburgh Chamber of Commerce (affiliate of ACCD)</td>
<td>John Dolbec, Chief Executive Officer, Hamilton Chamber of Commerce</td>
</tr>
<tr>
<td>Roger Cranville, Senior Vice President Global Investment, Pittsburgh Regional Alliance (PRA) (affiliate of ACCD)</td>
<td>Neil Everson, Executive Director, Economic Development Department, City of Hamilton</td>
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<tr>
<td>Robert Rubinstein, Director, Marc Knezevich, Project Manager, Urban Redevelopment Authority of Pittsburgh (URA)</td>
<td>Audie McCarthy, Chair, HR Matters and President, Marrek Solutions</td>
</tr>
<tr>
<td>Steve Zylstra, President and CEO Pittsburgh Technology Council (PTC)</td>
<td>Nick Markettos, Senior Advisor, Office of the Vice President Research and International Affairs, McMaster University</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>Hamilton</td>
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<tr>
<td>Jerry Paytas, former Director and</td>
<td>Cheryl Jensen, Vice-President,</td>
</tr>
<tr>
<td>Bob Gradeck, Community Projects Director</td>
<td>Technology, Apprenticeship</td>
</tr>
<tr>
<td>Center for Economic Development Carnegie Mellon University (CMU)</td>
<td>and Corporate Training, Mohawk College</td>
</tr>
<tr>
<td>Ellen Kight, President, Pittsburgh Partnership for Neighbourhood Development (PPND) and former Regional Director Pennsylvania Department of Community and Economic Development</td>
<td>Interviewees Ontario Ministry of Economic Development and Trade</td>
</tr>
<tr>
<td>David Blenk, Executive Director</td>
<td>Don Jaffray, Executive Director Social Planning and Research Council of Hamilton</td>
</tr>
<tr>
<td>Oakland Community Development Corporation</td>
<td>Joe-Anne Priel, General Manager Community Services City of Hamilton</td>
</tr>
<tr>
<td>Court Gould</td>
<td>Judy Travis, Executive Director Hamilton Training Advisory Board</td>
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<td>Sustainable Pittsburgh</td>
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<td>Ron Painter, Executive Director</td>
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<tr>
<td>Three Rivers Workforce Investment Board</td>
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<tr>
<td>Len Boselovic, Reporter, Pittsburgh Post Gazette</td>
<td>Steve Arnold, Reporter, Hamilton Spectator</td>
</tr>
<tr>
<td></td>
<td>Mike Wallace, Member of Parliament, Burlington, Ontario, Chair, Canadian Steel Caucus</td>
</tr>
<tr>
<td></td>
<td>David Fife</td>
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<td></td>
<td>Senior Steel Sector Specialist Industry Canada</td>
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**Business Leaders**

| Stephanie Cipriani, Vice President National City Bank of Pennsylvania and Executive Director, National City Community Development Association of Pennsylvania | Interviewee Financial Institution City of Hamilton |
This chapter focuses on the relationships among the local leaders acting upon factors of economic transformation. It looks at their efforts to develop inter-organizational relationships to mediate tools and resources in order to achieve community prosperity. Relationship mapping is used to identify interconnections among the network of local economic development organizations in each city. The inter-organizational relationships are identified based on a Board member lists from each organization’s web site in December 2008, and a review of reports, strategies, and task forces. The relationships among community leaders are mapped later in this
chapter. In addition to inter-organizational Board level positions, this research examines public-private partnerships, and other community organizing practices among local leaders of community and economic development agencies. Reports documenting major development strategies and related initiatives in Pittsburgh and Hamilton provide further evidence of collaborative leadership efforts.

This analysis is not intended as an exhaustive list of all relationships among local economic development organizations; rather it demonstrates patterns of inter-organizational economic development activity among participants in this study. It is important to note that patterns of interconnectivity change over time, and there may be past relationships among these agencies which this research has not identified. As well, there may be other important relationships among the organizations that do not take place at a Board level. For the purpose of this analysis, interconnectivity includes organizations as opposed to the individuals interviewed.

The mapping exercise undertaken in this chapter does not include the business leaders interviewed for this research, although most are actively involved in economic development. Some of their relationships take place at a Board level. For example, Stephanie Cipriani holds a position on the Pittsburgh Partnership for Neighbourhood Development. Jay Weinberg is a Board member of the Steel Valley Authority. Damian Soffer is actively involved as an investor in major initiatives such as Southside Works. Bob Kuhns has been involved in economic development projects in Pittsburgh and Hamilton. However, many more businesses not participating in this study are actively involved in economic development, especially in Pittsburgh. ACCD and its affiliates have over 100 Board members, the majority of which represent private businesses. Business representation in Pittsburgh’s economic development would involve an extensive mapping exercise beyond the scope of this research.

In Hamilton, relatively few private businesses are involved at a Board level with the economic development organizations participating in this study. There are far fewer economic development organizations in Hamilton relative to Pittsburgh, and the primary function of economic development in Hamilton is internal within the City. The business representatives interviewed in Hamilton for this research are all actively involved in projects or partnership initiatives. For example, Robert Jones has been involved in the Hamilton Chamber of Commerce
and is currently Chairman of the Board for Hamilton Hospital. Brian Mullen is involved in many local initiatives such as the Hamilton Community Foundation. Members of the organization he represents, ArcelorMittal Dofasco, participate in many community initiatives, including the Hamilton Civic Coalition and its new Jobs Prosperity Collaborative, and the *HR Matters* Steering Committee. Richard Leibtag is involved in development projects. Many private businesses participate in local initiatives such as the Hamilton Roundtable for Poverty Reduction and the Jobs Prosperity Collaborative.

The mapping exercise does not include labor organizations. They continue to be under-represented in economic development relationships in Pittsburgh. Even the city’s largest economic development organization, ACCD and its affiliates do not have labor representation. However, labor is represented on the Three Rivers Workforce Investment Board. TRWIB has three Board members who represent unions in the Pittsburgh Region. The U.S. Steel Corporation plants that once operated in the city of Pittsburgh are no longer present (although the company continues to operate its head office in the city and a steel plant in the Pittsburgh MSA). The labor leaders who participated in this research were selected because of the knowledge and experiences they gained when the plants were operating. They are retired and are not actively engaged in community economic development. The United Steel Workers of America (USWA) hold a Board position with only one of the organizations included in this study, the Steel Valley Authority.

As in Pittsburgh, labor is excluded from most of the economic development organizations in Hamilton. Even the 17-member steering committee for *HR Matters* (*HR Matters*, 2005) does not include a union representative. HTAB’s Board of Directors includes an equal number of business and labor representatives – six of each, in addition to other members. The labor leaders who were interviewed in Hamilton because of their knowledge and experiences in the steel industry are retired. They are not actively engaged in community economic development.

**Economic Development Relationships**

Theories of community leadership and organization point to the importance of inter-organizational relationships among leaders and the potential benefits of civic alliances or partnerships to complement formal structures such as city councils and economic development
agencies. Several approaches are used to identify interconnectivity among local economic
development organizations. One way in which the organizations interact is through common
Board representation. Leaders of one organization (including senior management and Board
members) may hold Board positions with other economic development organizations. This
provides opportunities for decision-makers to exert influence, exchange ideas, communicate
plans, and potentially pool resources. Board members may also choose to utilize the collective
power of their organizations to promote change; for example, through lobby efforts to effect
legislative reform to encourage brownfield development.

Often, relationships among economic development organizations are established for a
specific purpose or project. The organizations work together, for example, to develop a
collaborative economic development strategy. Partners may pool financial resources to build a
public housing project. Project-based relationships are generally temporary in nature. They are
interventions or incremental “pieces” of a larger strategy and members disband upon completion
of the project.

Like other corporations, economic development organizations are sometimes structured
with multiple subsidiaries or affiliates. For example, the Allegheny Conference on Community
Development (ACCD) has three affiliates, the Pittsburgh Regional Alliance, the Greater
Pittsburgh Chamber of Commerce, and the Pennsylvania Economy League of Southwestern
Pennsylvania, all of which share the same Chief Executive Officer. The Pittsburgh Technology
Council follows a similar model of multiple agencies that share a Chief Executive Officer. In
Hamilton, the McMaster Innovation Park is an incorporated entity that operates as an affiliate of
McMaster University.

Another way in which economic development organizations promote interaction is
through co-location or clustering. ACCD and its affiliates are co-located in the same building.
Alcoa Inc. donated the 31-story Regional Enterprise Tower building to the city explicitly for the
purpose of encouraging community and economic development organizations and other
nonprofit agencies to co-locate and build relationships amongst each other. Among the
organizations participating in this study, six are co-located in the same building, including
ACCD, PRA, Greater Pittsburgh Chamber, TRWIB, Sustainable Pittsburgh, and PPND. Many
other community and economic development agencies not involved in this research are also co-located in Regional Enterprise Tower.

The Pittsburgh Technology Council has adopted a similar approach. The PTC is co-located at 2000 Technology Drive with several other economic development organizations not included in this study, for example, Catalyst Connection, the Doyle Center for Manufacturing Technology, the Pittsburgh Biomedical Development Corporation, and the Pennsylvania NanoMaterials Commercialization Center. Other development organizations such as Pittsburgh Life Sciences Greenhouse are located in close proximity and contribute to a cluster of economic development organizations. Both the University of Pittsburgh and Carnegie Mellon University are directly involved with many of these organizations.

Hamilton economic development organizations have not adopted a cluster approach or co-location strategy, although *HR Matters* operates out of the Industry Education Council of Hamilton and the McMaster Innovation Park is part of McMaster University and located in close proximity to the main campus. There are fewer community and economic development organizations operating in Hamilton relative to Pittsburgh.

*Interconnectivity Among Boards: Pittsburgh*

The first part of the inter-organizational mapping exercise involves identifying the number of Board positions each of the community and economic development agencies participating in this study hold among other agencies. In Pittsburgh, a total of 13 economic development organizations (including two of ACCD’s affiliates) are included in this mapping analysis, which is illustrated in Figure 6.
Figure 6. Pittsburgh’s economic development community of leaders: Inter-locking Board relationships.

The University of Pittsburgh and Carnegie Mellon University are included in this mapping analysis, although other universities and colleges are also involved with economic development Boards. Based on a snapshot as of December 2008 of the Pittsburgh-based organizations participating in this study, more than 30 leaders, including senior managers and Board members, held Board level positions among other participating organizations. In December 2008, the ACCD and its affiliates each held at least three Board positions among economic development agencies including cross representation within the affiliated
organizations. The Pennsylvania Economy League of Southwestern Pennsylvania, another affiliate of ACCD was not included in the interviews, and therefore is not including in this mapping analysis. Michael Langley is Chief Executive Officer for ACCD and all of ACCD’s affiliates and therefore holds at least three Board positions among the research group of agencies. In addition to this cross-representation, the PRA and the PTC share the same Board Chairman, John Friel, President and Chief Executive Officer of MEDRAD Inc. Friel is also a Board member of ACCD. As well, the Greater Pittsburgh Chamber holds a Board position with the Three Rivers Workforce Investment Board. Collectively, ACCD and its affiliates share at least 10 Board positions within the economic development community. Leaders from the City of Pittsburgh held six Board positions among the other agencies included in this study. They include Board positions with the Pittsburgh Urban Redevelopment Authority (URA), University of Pittsburgh, Carnegie Mellon University (CMU), Three Rivers Workforce Investment Board (TRWIB), Pittsburgh Partnership for Neighbourhood Development (PPND), and Steel Valley Authority (SVA).

Universities held at least nine Board positions counting Board seats held by the two major universities alone. Other universities and colleges within the City also held Board level positions among economic development agencies. The University of Pittsburgh held five Board positions among the economic development community participating in this study, including positions with ACCD, PTC, TRWIB, Sustainable Pittsburgh and PPND. CMU held four Board level positions, including positions with ACCD, PTC, Sustainable Pittsburgh, and PPND. Pittsburgh universities are among the most active organizations participating as leaders in economic development.

In December 2008, the URA held two Board positions, one with the PRA and another one with the TRWIB. TRWIB held one Board position with Sustainable Pittsburgh. The PPND held one Board level position with TRWIB. Sustainable Pittsburgh, Oakland Planning and Development, and the Steel Valley Authority did not hold Board positions within the other agencies involved in the study.

In addition to mapping the total number of Board seats held by representatives of each economic development organization, this study also involved mapping the number of Board
positions within each economic development agency that were held by representatives of other economic development agencies. ACCD and its affiliates have over 100 board members and about 300 members associated with their investment council. They also have many local partners, including the foundation community and other community and economic development agencies. As Pittsburgh’s economy has changed, so has the composition of ACCD’s Board, reflecting new economic activity, increased interaction within the local economic development community, and a regional focus. In December 2008, the ACCD and TRWIB had the greatest number of Board members from other economic development agencies. The ACCD Board included representatives from the City, URA, PTC, and universities. They also shared their CEO position with the PRA, Chamber of Commerce and Economy League. In addition, ACCD’s affiliates had Board members from among the other agencies interviewed. For example, the PRA Board included representatives from the City and PTC. The TRWIB Board included representatives from the City, the Greater Pittsburgh Chamber of Commerce, PPND, URA, and universities among its members. The PTC also had two Board members from among the other economic development organizations, including PRA and representatives from universities. Sustainable Pittsburgh had Board representatives from TRWIB and the universities. PPND had three Board members from other economic development agencies, including the City, URA, and universities. The URA operates at arms length from the City, but reports to the Mayor and a Board of Directors of five members who are appointed by the Mayor. The City’s Chief of Staff, Yaron Zober, is Chairman of the Board. Zober was also serving as Deputy Mayor at the time of this study.

The private sector representation at a Board level within Pittsburgh’s economic development organizations reflects the mix of industries in the city, including advanced manufacturing, health care, and education. Nonprofit enterprises, including foundations, are also represented on many of the economic development agencies.

**Interconnectivity Among Boards: Hamilton**

In contrast to Pittsburgh, based on a scan of web site listings of Board members for each of the nine community and economic development organizations participating in the study in Hamilton, organizational leaders, including senior managers and Board members, had little formal cross representation at a Board level as of December 2008. The relationships are mapped
in Figure 7. Of the nine Hamilton-based organizations involved in the study, two were internal departments of the City. The only Board position held within the entire Hamilton matrix of economic development organizations was Mohawk College’s position on the Hamilton Training Advisory Board. Although City leaders are not represented on the Boards of educational institutions participating in this study, Neil Everson, Director of Economic Development & Real Estate for the City is a member of McMaster University’s Advisory Board for the Golden Horseshoe Biosciences Network at McMaster. Everson is also a member of the Advisory Board for the McMaster University Transportation and Logistics Institute. Therefore, the mapping diagram includes a linkage between the City and Universities, Colleges and School Boards. *HR Matters* is also included among the economic development organizations, although technically *HR Matters* is a Steering Committee that has been established to bring together local leaders to address human resource challenges and is administered through the Industry-Education Council of Hamilton. The Steering Committee has commissioned two major reports, *HR Matters* and *HR Matters II*. Positions on the Steering Committee were held by the City, HTAB, the Hamilton Chamber of Commerce, as well as McMaster University and Mohawk College.
Figure 7. Hamilton’s economic development community of leaders: Inter-locking Board relationships (including HR Matters Steering Committee).

The private sector representation at a Board level within Hamilton’s economic development organizations reflects the mix of industries in the city, especially steel, health care, and education. It is important to note that in December 2008, the Jobs Prosperity Collaborative (formerly the Hamilton Civic Alliance) included all of the Hamilton-based economic development organizations participating in this study among its 65 members.
Economic Development Partnerships: Pittsburgh

Partners often bring together their collective power and resources for a specific project, rather than engaging in long-term commitments such as Board positions, although some partnerships are also enduring. The City of Pittsburgh has ongoing relationships with all of the economic development organizations. City leaders achieve broader engagement and share insights as well as power relationships through their interconnectivity. Lubove (1996, p. vii) suggests that “Pittsburgh governance and public policy formulation has been rooted in a public-private partnership ideology that discouraged confrontational strategies of change in favor of consensus building.”

A review of agency web sites and literature indicates that the ACCD has worked directly with most of the other agencies in recent years on economic development initiatives. As well, they work in partnership with many other organizations that were not engaged in this research, such as the Technology Collaborative and GO KIZ. For six decades, ACCD has played a leadership role in organizing economic development agencies and the private sector to participate in economic development strategies and partnerships at a city and regional level. ACCD actively engages with the local universities in strategic planning initiatives and implementation projects.

The URA engages frequently with the City, ACCD and its affiliates, and other partners to align the resources necessary to redevelop business and residential neighborhoods, revitalize the downtown core, remediate brownfield sites, and develop riverfront properties such as the PTC and Southside Works. Brownfield sites are lands on which industrial or commercial activity has taken place in the past and that require environmental clean up before they can be redeveloped (Ontario Ministry of Environment, 2008). For the URA, partnerships are essential for achieving significant economic development. The partnerships created by the URA and by ACCD have changed dramatically over time, reflecting the changes in dominant industries. According to the URA (1997, p. 48),

[f]ifty years ago, “corporate leadership” could be defined as a few men in family-owned industries who accepted Richard King Mellon as their leader. Today, such leaders go through a process of “coalition” or consensus building, ensuring participation and support from a broad community base. While the leadership today is more diffuse, it may be more powerful because it is shared.
Pittsburgh’s universities, especially CMU and the University of Pittsburgh, are also involved in economic development initiatives with most of the organizations interviewed. Universities have become a central force in economic development in Pittsburgh. They contribute directly through community relationships and by supporting learning and innovation in the city and region. Universities and colleges have developed programs that support key economic sectors in the Pittsburgh region. For example, since established by Andrew Carnegie in 1900 as Carnegie Technical Schools, CMU has developed a major focus on technology programs. CMU was one of the first universities to create a computer science department and has helped to define the field (CMU, 2009). The University of Pittsburgh is renowned for its health care programs. The university’s principle partner, the University of Pittsburgh Medical Center (UPMC) is the region’s leading integrated health care delivery system. UPMC employs 50,000 people and generates $7 billion in revenue. It is the largest employer in the Pittsburgh region and the second largest in Pennsylvania (University of Pittsburgh, 2009).

In collaboration with universities, the PTC has created business and research networks. PTC has also established partnerships with private sector partners, community organizations, and various levels of government. The TRWIB also has active relationships with most of the economic development agencies participating in this study. All of the Pittsburgh organizations involved in the interviews are actively engaged with the other participating agencies, with the exception of the SVA, whose interactions among economic development organizations appear to be with the City and with partners not involved in this study.

Pittsburgh’s foundation community has been largely involved as a source of funding for economic development collaborations. Economic development agencies also receive support from other levels of government, especially the Pennsylvania Department of Community and Economic Development.

Economic Development Partnerships: Hamilton

Hamilton’s economic development organizations collaborate on important partnership initiatives. For example, several of the agencies participating in this study, including the Hamilton Chamber of Commerce, Social Planning and Research Council of Hamilton, the City of Hamilton, and McMaster University are among the key contributors to the Hamilton
Roundtable for Poverty Reduction. Chamberlain, who heads the Roundtable initiative, is also spear-heading the Jobs Prosperity Collaborative with over 65 members, including most of Hamilton’s major institutions and economic development organizations. Formerly as the Hamilton Civic Alliance, the organization has maintained a low profile in the community since its inception in 2003. The coalition recently changed its name to the Jobs Prosperity Collaborative of Hamilton (JPC) to reflect its new focus. The group is planning to engage more actively in Hamilton’s economic development community. JPC members include leaders “from all sectors including government, business, labor, education, environment, social services, not-for-profit organizations, healthcare, and others” (Dobbie, 2008, p. 2). The City of Hamilton, Boards of Education, McMaster University, Mohawk College, the Hamilton Chamber of Commerce, the Hamilton Training Advisory Board, the Social Planning and Research Council of Hamilton, and the Hamilton and District Labour Council are among the organizations participating. In 2008, a sub-group of JPC members joined the Mayor’s advisory team responsible for guiding the restructuring of the City’s economic development department (MacIntyre, 2008).

In 2008, JPC launched a new “framework for action on jobs” (Dobbie, 2008, p. 2), which included a series of public consultations throughout the city. Their strategy identifies seven “inter-connected priorities” for collaborative development, including innovation and learning, Hamilton’s image, quality of life, immigration, commercial land and infrastructure strategy, supportive planning process, and economic portfolio (Dobbie, 2008, p. 3). For each of the priority areas, a working group has been established to develop strategic goals and actions. The relationship among JPC members is grounded in a commitment to “work together as peers; share a collective fate; bring core competencies to the table; bring perspectives, interest and experiences; create a sense of community that breaks down barriers; form networks to work together; and disband when needs are met.”

Hamilton’s economic development agencies are also working with multiple levels of government on partnership initiatives. For example, McMaster University, the City of Hamilton, the Ontario government and the federal government have all contributed to the development and funding for the new McMaster Innovation Park, which will focus on economic growth in technology and life science industries. As well, the McMaster Institute for Transport and
Logistics (MITL) was launched in 2007. Like the Innovation Park, the institute is a public-private-academic partnership initiative created by McMaster University, the City of Hamilton, the Hamilton Port Authority, Hamilton International Airport, and private sector partners (Dillon, 2007).

**Community Leadership in Economic Development**

Through this research, 13 organizations have been identified among the key economic agencies in Pittsburgh and 9 have been identified in Hamilton. These organizations do not represent an exhaustive list of important economic development agencies for either city. They are among the leading organizations contributing to their cities’ economic development communities.

In Pittsburgh, economic development organizations have established many formal and informal linkages that facilitate communication and collaboration among agencies. They share extensive cross representation through more than 30 interlocking Board positions. Many partnerships have been created, involving commitments of time, expertise, funding, and other resources. In particular, the City of Pittsburgh, ACCD, and the universities have established multiple and enduring linkages, creating a strong public-private-academic leadership network. Allegheny County leaders also work with the City, and other economic development organizations; however, fragmentation among the 130 municipalities continues to be a challenge for economic collaboration.

ACCD serves as the prominent collaborating organization for the purpose of economic development in Pittsburgh, in collaboration with the City and the URA. The organization’s capacity to lead change comes from its broad structure of affiliated organizations, its powerful network of leaders formally committed to the organization’s economic development mission, relationships with multiple levels of government, and the significant private financial support, which the organization is able to leverage through partnerships. Excluding its affiliates, ACCD has a Board of more than 40 Directors and with its affiliates, over 100 Directors. Sectors represented include financial services, real estate and insurance, retail manufacturing, education, among others, reflecting the diversified composition of Pittsburgh’s economy. The ACCD Board includes public, private and nonprofit representatives, although corporate leaders still dominate.
The interlocking Board relationships promote communication across organizations, including insights about trends, opportunities, and issues relating to Pittsburgh’s industries and neighborhoods. Co-location of multiple economic development agencies facilitates interaction among economic development agencies and the nonprofit community. Co-location has contributed to the formation of a cluster of community and economic activity in Pittsburgh. However, more strategic collaboration is needed to align the multitude of economic development agencies with diverse interests towards shared goals.

In contrast to Pittsburgh, Hamilton’s location within the Golden Horseshoe region has helped to shelter the city from major economic decline. Commuting has increased substantially over the past decade as a growing number of residents commute to neighboring cities such as Burlington, Mississauga, and Toronto to work. All three of these cities have grown substantially over the past three decades, while Hamilton’s growth has been more gradual. Hamilton has attracted significant numbers of firms and people interested in re-locating to a more affordable community. Until recently, Hamilton has managed to offset its steel employment losses with employment gains in other manufacturing industries and in different sectors. However, the recent global recession is impacting the manufacturing sector in particular, across Canada, the United States and other countries around the world. In March, 2009, U.S. Steel Canada idled its plants in Hamilton and Nanticoke, placing 1,500 on indefinite layoff. An additional 684 were placed on layoff in the preceding months (Powell, 2009a, March 4, p. A1). ArcelorMittal Dofasco recently experienced a temporary shut down of operations and has reduced overtime and contract work (p. A2). Other manufacturing industries are declining in Hamilton. The city has not experienced the sharp decline that occurred in Pittsburgh, but the city faces the possibility of further contraction and uncertainty in its steel industry and steel-consuming industries such as the automotive sector.

The essential elements exist within the city to support economic transformation; however, no formal integrating structure has been established. Currently, economic development (including strategic planning) is primarily the responsibility of the City’s internal economic development department. Sustaining relationships across organizations are limited. Hamilton’s new Jobs Prosperity Collaborative brings together 65 business and community members (and one labor representative) to specifically address employment issues in the city.
In the subsequent two chapters, perspectives on economic development are presented by local leaders. The chapters are organized by city, and within each city they are organized into three leadership groups: community, business, and labor. Voices of community leaders are presented together to gain the collective views from leaders directly involved in economic development activity on a daily basis. Next, voices from business leaders provide insights regarding how economic development activity reflects the changing composition of the local economy and the changing needs of their firms and industries. The third group of leaders is often excluded from traditional economic development relationships, whether formal or informal, despite the fact that they represent the interests of thousands of workers. Like businesses, labor organizations are experiencing significant structural changes. Unions are consolidating across industries and geographies. The membership base of unions is also diversifying across industries and geographies. And, like businesses, unions are defining their changing role in the new economy. They are frequently involved in initiatives to promote life long learning for workers; business and worker retention strategies; re-employment of displaced workers; and equity sharing programs such as those created by the Steel Valley Authority. The two final chapters will integrate leaders’ perspectives with the literature review to formulate conclusions and future directions for research.
This chapter explores the perspectives of community, business, and labor leaders in Pittsburgh regarding major forces propelling the economic trajectory of their city. Through their voices, this chapter aims to identify and examine key factors impacting their local economy; the organizations that play an important role in mediating these factors to achieve economic transformation; and ways in which the leaders and their organizations operate in relation to each other.

A multitude of factors influence local economies. Seccombe (1993, p. 1) suggests that “more than ever before, the dynamics of the whole world economy limit and shape the action of its parts.” Factors such as global integration of production and trade, and technological innovation diminish the autonomy of local decision-makers and impact communities’ capacity to shape their economic structures through traditional approaches. This analysis seeks to identify and examine those factors which local communities can control within this context of intensifying global dynamics.

This comparative analysis does not consider all factors impacting economic development in Pittsburgh. It focuses primarily on six factors selected through a literature review and based upon pilot interviews conducted with city leaders in Welland, Ontario. The factors examined include transformational leadership, strategic development planning, education and research resources, public and private capital, quality of life factors, and civic engagement in economic development. These factors enable communities to mediate internal and external forces. Additional factors are introduced by the interviewees participating in the study. Their accounts of Pittsburgh’s struggles to overcome the steel industry collapse provide valuable lessons for communities that are predominantly dependent on one or two major industries.

Most of the interviews were conducted individually with city leaders, although in a few cases, two or more interviewees participated together. The interviews are organized into clusters
of community leaders, private sector leaders, and labor leaders. A key premise of this research is that the ability of leaders to achieve qualitative change within their local economy depends on their ability to understand the “big picture” and create a sense of collective identity among a multitude of stakeholders (MacGregor Burns, 2003, p. 25). Pittsburgh’s economic development community is made up of many organizations with mandates to address large issues that impact the city’s economy and the broader regional economy. They represent diverse interests and legitimate concerns. Their capacity to build a community of leadership among organizations is fundamental for achieving successful economic transformation. Transformation involves a “transorganizational” process (Luke, 1998, p. 33). It involves exchanging information, working through different points of view, building trust relationships, and achieving consensus regarding strategic actions. Economic transformation requires sustaining, coordinated action (and resources) to ensure implementation of strategies and evaluation of results over time. It is not episodic. Collaborative leadership involves individuals and organizations with the credibility to bring key stakeholders together to mobilize resources (Chrislip and Larson, 1994). The perspectives of community leaders are presented first in order to help identify important relationships in addition to the key factors impacting the economic transformation of Pittsburgh. The presentation of leaders’ perspectives begins with the City government and proceeds to institutions with a long-term history of substantial city-wide or region-wide strategic transformation initiatives, to agencies with more specific agendas such as an environmental or neighborhood focus. Voices from the city population at large are represented through interviews with local media reporters who provided coverage of plant closures and layoffs during periods of massive displacement and accounts of new development initiatives. Their interviews are complemented by articles from their local newspapers. As well reports documenting major economic development initiatives in Pittsburgh and Hamilton are woven into the discussion to facilitate more in depth analysis.

The second group is private sector leaders. They are also important stakeholders in the transformation process. Cities require a healthy economic contribution of private sector activity in order to sustain a sufficient tax base to pay for community services. Business leaders provide important insights regarding strengths, weaknesses, opportunities and threats for established and new economic activity. In addition to industry knowledge, they possess power to mobilize resources and influence other decision-makers (Luke, 1998).
The third group, labor leaders also offer important perspectives about the impact of economic change. Labor leaders are the least represented groups on Boards of Directors of economic development organizations despite their important role in representing the interests of thousands of workers in Hamilton and Pittsburgh. Through this research, labor leaders offer their views on the role of unions in economic development.

Voices of Leaders

Community Leaders

At the time of this research, Yaron Zober is acting as Deputy Mayor of Pittsburgh. He is also Chief of Staff for the City. Zober ranks financial instability as the top economic issue for the City of Pittsburgh as a corporation. The steel industry collapse in the 1980s devastated Pittsburgh and other communities along the Monongahela River (Mon Valley). Bucsko and Blazina (2004, p. 6) report that “most of the former industrial hot spots in the Mon Valley – Braddock, Rankin, North Braddock, East Pittsburgh, Turtle Creek, Homestead, Duquesne, McKeesport and Clairton are mired in financial distress.” In 2003, the City of Pittsburgh was officially declared to be “financially distressed” under Act 47 of the State of Pennsylvania.

Declines in industry, employment, population, and tax revenues over several decades have diminished revenue sources. The City of Pittsburgh (2001, p. 5) reports that, as of 2001, more than 30% of the property in the city was tax exempt. Among the city’s 24 largest employers, 17 were tax-exempt. The City estimates that an additional $166 million in taxes would be collected annually if exemptions did not exist (City of Pittsburgh, 2001, p. 47). In 2001, of the 320,000 people working in Pittsburgh, only 124,800 were city residents. The remaining 195,200 were commuters from other parts of the region and beyond. Inward commuting declined to about 182,000 in 2005 (Briem, 2005, p. 1). Until recently, commuters into the city paid a nominal $10 a year occupation privilege tax, which was increased to $52 in 2006. The City of Pittsburgh (2001, p. 5) notes:

The reality 50 years ago was that Pittsburgh had more than 600,000 residents helping to bear the costs for a service-consuming population of more than 600,000. Today Pittsburgh – with 270,000 commuting workers, students and visitors daily – has 335,000 residents helping to bear the costs for a service consuming population of more than 600,000.
Zober attributes the decline of the city’s steel industry to factors outside of Pittsburgh, particularly the movement of steel jobs to Asia and the shift of manufacturing activity in general to Asian countries. He observes that the world has changed and now steel is being manufactured overseas and it wasn’t anything that could have been prevented [by the City]. (Personal Communication, November 1, 2006)

Zober suggests that, despite the transformation that has taken place in Pittsburgh, major industries that once dominated the local economy continue to contribute to the city through foundations. Major foundations include the Carnegie Foundation, the Mellon Foundation, and the Heinz Foundation. Zober indicates:

Those industries that were here about 100 years ago. They’re still here. Those are still what is pumping this region with foundation dollars. And those foundation dollars have been very important in terms of getting economic development going in the city of Pittsburgh, which may be something unique to Pittsburgh perhaps based on the resource levels of those large foundations. (Personal Communication, November 1, 2006)

From a community perspective, Zober views youth attraction and retention and slow job growth as primary concerns. Despite the presence of tens of thousands of students in Pittsburgh, including some of the top students in the country at Carnegie Mellon University, University of Pittsburgh, Duquesne University and others, many graduates do not find jobs, so they leave Pittsburgh. Hence the presence of highly educated people in the city is not, in and of itself, a sufficient driver of transformation. Zober suggests, “we need to match young people up with jobs in the new industries that have been created here in Pittsburgh.” According to Zober,

[w]e are the regional hub for law, finance and banking. We also have growing and sizable high-tech and bio-tech industries fuelled in great part by our university
systems. We are also one of the commonwealth leaders in healthcare. We have tremendous growth in healthcare industries and hospitals, primarily hospitals that continue to grow and attract people from throughout the region and throughout country. We have some of the top hospitals in the world...Lycos and Google are now here in smaller capacities. Lycos actually started here originally, before it went to Silicon Valley. Again, Carnegie Mellon and the University of Pittsburgh primarily have been the tremendous sparks of that industry. (Personal Communication, November 1, 2006)

Zober suggests that the large number of organizations involved in economic development today continues to make co-ordination challenging. While Zober believes that an economic development strategy is important, in practice there are limitations:

There are so many organizations and entities in a city, so whose plan is it anyway? By the time you draw up the plan, does that really work for you? There are some precepts that we all use. Every industry, of course, has their own plans. Even within the city, industry should be part of the plan. At this point, the bio-tech and high-tech areas in particular—those are the areas that we are trying to bring in. That’s what we are trying to attract and retain and grow here in Pittsburgh. It’s sort of an understood commonality and it has been talked about many times over. We have the Pittsburgh Technology Council and so forth, but we don’t have one master plan for the city of Pittsburgh [speaker’s emphasis] (for the capital or lowercase c). (Personal Communication, November 1, 2006)

Zober feels that civic engagement is important in economic development, but that people should be engaged in ways that are purposeful or meaningful for them. This includes engaging business leaders and university stakeholders, for example, in discussions about core industries
and the tools or resources needed to attract and support them. It includes engaging individuals within a specific neighborhood in discussions about housing projects in their area, or retail or commercial buildings that are proposed for their area. According to Zober,

much of the land formerly occupied by steel mills requires a lot of remediation and there are railroad issues – all once again connected to the transformation from an industrial heritage to one in which industry, especially heavy industry and manufacturing takes a much lesser role just because of the globalization of those industries. (Personal Communication, November 1, 2006)

A key challenge for Pittsburgh, for example, is the remediation of the city’s riverfronts in order to make the city more attractive for new business investment, residential development and population growth. For Zober, Pittsburgh’s quality of life is an important aspect of the city, especially safe communities, low cost of living, and good schools. In recent years, he has seen an influx of people interested in urban living moving into the city, partly because of the activity and energy that exists there.

In 2005, *The New York Times* showcased Pittsburgh’s “Arts and Science Remake” (O’Toole, 2005). Substantial investments have occurred in the city’s cultural amenities, including new stadiums such as the Heinz Field and PNC Park. Public financing contributed $351 million to the projects and $429 million came from private investments. The Pittsburgh Symphony, Pittsburgh Opera, Pittsburgh Ballet Theater, Pittsburgh Public Theatre and other groups contribute to the city’s expanding performing arts community. Downtown housing development has increased by over 1500 units around the cultural district.

The Allegheny Conference on Community Development (ACCD) continues to serve as a prominent organization for coordinating civic action. Today, ACCD focuses on economic development issues, environmental improvement and regional transportation. This umbrella organization operates closely with three affiliates, the Pittsburgh Regional Alliance, the Greater Pittsburgh Chamber of Commerce, and the Economy League of Southwestern Pennsylvania. Over 150 business, education, government, labor, and civic leaders participate on the boards of
directors of ACCD and its affiliates. In addition, ACCD operates a Regional Investors’ Council of over 300 business and civic leaders. ACCD has been connected with most of the major economic development initiatives in Pittsburgh since the organization’s formation in 1943. On a regional basis, the Pittsburgh Regional Alliance is the key marketing organization responsible for investment attraction. The Greater Chamber provides advocacy support and the Economy League performs market research.

Barbara McNees is Executive Vice President, Public Affairs for the Allegheny Conference on Community Development (ACCD) and President of the Greater Pittsburgh Chamber of Commerce, an affiliate of the ACCD. ACCD represents economic development issues on behalf of southwestern Pennsylvania, a ten-county region encompassing the Pittsburgh Metropolitan Statistical Area (MSA), which has a population of just over 2 million. ACCD was established as a private sector-driven, civic leadership organization. Most of its funding comes from the private sector and substantial funding also comes from the Commonwealth of Pennsylvania. Several hundred business, community, and labor leaders are directly involved with ACCD as board members of the umbrella organization, its affiliates, and investors’ council. They provide guidance and funding to help stimulate economic growth and enhance the quality of life in the Pittsburgh region. According to McNees, “Pittsburgh is the brand. It’s where everybody identifies with” (Personal Communication, November 29, 2006).

ACCD provides services in three strategic areas – advocacy, research and marketing – functions which McNees suggests smaller community-based organizations do not have the capacity to undertake. The Greater Pittsburgh Chamber of Commerce focuses on advocacy. It addresses issues that relate to the region’s competitiveness, including tax legislation, regulatory issues, and other factors that are important for the growth of established local businesses and the region’s ability to attract new businesses. Smaller organizations, including local chambers throughout the Pittsburgh region, generally do not have the resources to address large regulatory issues. Collaboration has occurred through the formation of a Regional Advocacy Council made up of 27 Chambers in the 10 counties. The Greater Pittsburgh Chamber serves as their “government affairs department” (McNees, Personal Communication, November 29, 2006). Historically environmental issues have been an area where ACCD and the Chamber have focused. According to McNees,
one of the other big issues around heavy manufacturing, steel, coal, some of the production that’s done, are the regulatory issues around air quality. It’s been very important for us going forward to address the quality of life issues, to have good air quality, good health. The other side of that is being too restrictive in permitting. And that really comes through the EPA [Environmental Protection Act] at the federal level….We’ve worked very hard for some of the compliance issues nationally so that it’s a fair playing field for everybody and we’re not being punished. Had we not done that, permitting new industries or permitting expansions of our existing industries would not have been able to occur. (Personal Communication, November 29, 2006)

A related challenge is brownfield development. McNees explains that development of large sites such as the former J&L steel plant is generally not financed by traditional financial institutions because of environmental risks; however, tools have been put in place to enable the redevelopment of such properties. According to McNees,

[p]utting the brownfields legislation in place in the Commonwealth of Pennsylvania that helps abate the law suit liability for anybody beyond the prior owner was instrumental in the rest of the development of some of the brownfields that you are seeing - the waterfront, those types of activities. (Personal Communication, November 29, 2006)

McNees suggests that aging transportation infrastructure is yet another challenge for Pittsburgh. The region’s waterways are an important transportation artery, especially for manufacturing. Many of Pittsburgh’s bridges are old and require investment. Highways are also aging and in need of investment. Public transit is essential because of the large commuter population in the region and it is very expensive to maintain. The Southwestern Pennsylvania Commission, the region’s transportation planning organization, is engaging citizens in a regional
visioning process that includes some of these issues. McNees also points to the need to invest in
“next generation infrastructure,” such as telecommunications.

Like Zober, McNees considers land development to be a critical challenge because of
Pittsburgh’s unique terrain. According to McNees,

[d]eveloping an acre of land here costs about $50,000 more than it would in
Cincinnati or Columbus or probably Hamilton because of our terrain. We don’t
have any flat land. (Personal Communication, November 29, 2006)

McNees explains that “when you come in from the airport and you see all the development that’s
going on, we’ve knocked off hilltops.” Companies are generally not willing to incur these costs
on their own. ACCD worked with the state to develop a program called Business in Our Sites.
The program is funded through a bond issue that is guaranteed by the Commonwealth of
Pennsylvania.

McNees indicates that despite many challenges, Pittsburgh has made tremendous
progress. A question that remains is how to grow the population, particularly how to retain
graduates and attract immigrants. According to McNees, the major universities in Pittsburgh are
catalysts for regional economic diversification, through research and development of spin off
companies. McNees points to several businesses, including Respironics, ForSystems, MEDRAD
and others, that were initiated through university-based research. She suggests that

for years what those [university] communities were doing, were developing
products, processes, technology and licensing it off. It was going to Boston, it was
going to California, it was going everywhere, but it wasn’t staying here. The
conscious effort that the new leadership within our university community brought
– with a new Chancellor at the University of Pittsburgh; a new President at CMU;
and with the bringing together of the 35 colleges and universities and the
activities that they could produce. You don’t have to be a CMU or the University
of Pittsburgh to have an impact on research that’s being done. There’s Maglev. There’s a lot going on that is now kept in this community, licensed and developed here instead of giving it away. That really was a turning point in being able to grow some very significant industries here, including health care, the health care products, the critical care issues that we developed products around. (Personal Communication, November 29, 2006)

McNees believes passionately that leadership is essential for successful economic transformation. Leadership in Pittsburgh is different today compared to 30 years ago. In a sense, leadership has also regenerated. Board members for the Greater Chamber and ACCD reflect the diversity of industries, including health care, education, high technology, retail, insurance and manufacturing, among others. Leaders must have the capacity to align resources that are important for the current and future economic mix. Engagement with a broad network of local leaders contributes to the Greater Chamber’s ability to identify issues or concerns. For example, McNees suggests

they identified the fact that there were no sites to develop. It’s that – what are the needs in the community; what will make us more competitive and what are you hearing from your customers. Then how together do we solve that? (Personal Communication, November 29, 2006)

In Pittsburgh, many private and public sector leaders have made a conscious decision to act regionally through ACCD. However, for McNees, acting regionally does not mean that the need for local activity in community-based organizations doesn’t still exist:

There are projects done in each county that those counties need to do on their own. There are activities that every Chamber oversees as a catalyst or is instrumental in producing within their own communities and they should do that. (Personal Communication, November 29, 2006)
McNees also believes that a regional-level strategy for economic development is essential.

In addition, McNees insists that quality of life is a top priority for the younger generation:
“It’s air quality, recreation, education – everything from the bike trails to being able to get a Masters or Ph.D. and have it be convenient” (Personal Communication, November 29, 2006). She describes Pittsburgh as relatively conservative, religious-oriented, and focused on quality family life. The character of the community is one of the reasons families want to stay in the area and one of things that attracts young families back to the area. It is “America’s most livable community.”

Roger Cranville works with McNees in his role as Senior Vice President, Global Investment for the Pittsburgh Regional Alliance (PRA), a private-based organization that is affiliated and co-located with ACCD. Cranville is responsible for global marketing for the Pittsburgh Region, which involves promoting international growth opportunities to regional businesses and marketing the Pittsburgh region’s assets globally to attract businesses into the region. Cranville explains that,

[w]e are involved in taking the Pittsburgh message to targeted and selected companies around the world with a view to introducing them to the assets here because we know there’s a good match. It’s a very company-targeted initiative.

(Personal Communication, November 29, 2006)

For Cranville, the city of Pittsburgh is pivotal because “it is the jewel in the crown for the region….A lot of the world competitive assets in the Pittsburgh region are in the city of Pittsburgh.”

Cranville acknowledges that the process of economic transformation is especially difficult for Pittsburgh because the region was so specialized in one dominant industry and lost so many jobs when the steel industry collapsed. According to Cranville,

[w]e would probably give ourselves – I would say an A on how this region has recovered from about 130,000 job losses within 5 years, back in 1980. It is not
easy and takes regional collaboration and partnerships, and yet there are still some areas that are challenged. You were down in the Mon Valley. That is an area that is still challenged. You can’t turn that around in 5 minutes and you can’t do economic development based purely on retail to grow yourself out of such a challenge. (Personal Communication, November 29, 2006)

Cranville identifies several niche markets where the Pittsburgh region has a competitive advantage. Among them are defense and security products, including industrial security and cyber security. According to Cranville,

[w]e are one of the top 10 department-of-defense-funded research centers, mostly through Carnegie Mellon University and Pit [University of Pittsburgh] and Penn State University. (Personal Communication, November 29, 2006)

Other niches include green building materials, alternative energy, and robotics. Pittsburgh has also developed a significant financial services and corporate support and infrastructure industry.

Cranville suggests that a key economic driver for southwestern Pennsylvania used to be the “public-private partnership.” Now it’s the “public-private-academic partnership” which generates research and fosters technology that can be transferred to new companies and new jobs. The key is to retain those companies in the region, in addition to the talent. Despite having 130,000 students in the region, retaining them is a challenge. According to Cranville,

One of the best things that we can do for a continuously educated workforce is continuous education! Let me give your two stats. 21,000 U.S. students are studying Chinese in U.S. schools; 120 million Chinese students in China are studying English. That’s one factor. In China, students go to school for 220 days in a year. Students in the U.S. go for 180 days in a year. And if you have a school district where you have Asian students that are new to the North American
countries, you can bet they are on top of the grades. The way we can keep those students is we have a far better infrastructure for innovation for those Asian students than they have back home. So, they can grow their ideas and their companies here in North America. (Personal Communication, November 29, 2006)

For Cranville, leadership is critical and so is having one regional strategy:
It’s getting consensus around one regional strategy that is the issue and having priorities that are acceptable to multiple organizations. (Personal Communication, November 29, 2006)

Cranville voices similar concerns raised by Zober and McNees with respect to effectively coordinating the vast number of organizations at a national, state and local level, which have different mandates, but are involved in economic development. He also points to inefficient government across the 130 municipalities of Allegheny County as a challenge. Cranville suggests,

There is so much duplication amongst those municipalities; most of them have their own police department, most of them have their own fire department. I drive past three fire departments to get to the one who puts the fire out in my house. (Personal Communication, November 29, 2006)

The URA was established through efforts by ACCD in 1946 as part of the “Pittsburgh Renaissance” (URA, 1997, p. 1). One of the URA’s initial tasks was to undertake “the first privately-financed downtown redevelopment project in the nation, Gateway Center” (p. 5). Over time, the URA became a powerful tool for revitalizing Pittsburgh’s economy. Since 1982, the URA has been responsible for the city’s housing and economic development functions, including site assembly, infrastructure development, business financing, and administration and delivery of
economic development programs. Economic development encompasses affordable housing infrastructure and housing financing.

One person who certainly believes in this comprehensive approach is Marc Knezevich, who joined the URA in 1982 and now works as a Project Manager. Prior to 1980, Marc Knezevich worked as a brick layer at U.S. Steel’s Homestead Works. At that time, Homestead was still using open hearth technology, the same technology that the mill had used for decades. According to Knezevich,

[t]here was an inability to compete with newer methods of production…. There was a lack of investment in the research and development area that led to an inability to complete successfully. Because, what was happening during the ‘60’s and ‘70’s is that you had other countries, like Japan - at that time, we were pointing to them as competition -in the late ‘70’s it was clear that the future of the steel industry in Pittsburgh was unclear. But, you knew that a collapse was going to happen. I actually left the mill in 1980 and went back to school. I had the luxury of already being a college graduate and went back to a graduate program. A lot of steel workers didn’t have that type of background, so I was fortunate that I did have that option. You know, what I told [the guys who had been] my co-workers when I was leaving, was that nobody could have imagined what the next three to fours years would bring. That was the time when the bottom completely fell out of the steel industry in this country. Homestead was closed down during the mid-80s….Everybody thought it would come back. You know, it’s going to come back. There was total disbelief because generations had worked in the mills. (Personal Communication, November 1, 2006)
Knezevich had six brothers and sisters. None of them stayed in Pittsburgh. They left to find work, because they could not find jobs in the region.

According to Knezevich, a key role that the URA has played in economic transformation has been the redevelopment of brownfield sites, including steel plants:

We of course, had steel mills located right within the city limits of Pittsburgh. They were formerly Jones & Laughlin and the LTV steel mill, which were right here in the city. There are no longer any steel making facilities in the city of Pittsburgh itself…Specifically on the south side, we had LTV. …and the model we used is that we would acquire the sites, remediate them, install the infrastructure, utilities, roadways and such, and then invite developers to develop the property. (Personal Communication, November 1, 2006)

In order to attract new business investment, the city requires large tracts of “investment-ready” land (Knezevich, Personal Communication, November 1, 2006). Despite the high cost of brownfield development, it is an option the city must consider in order to achieve its plan for economic transformation. In terms of land, the city is relatively small, covering at total area of 56 square miles. Pittsburgh serves as a locus of business activity for southwestern Pennsylvania. Massive lots of derelict land and buildings detract from the city’s ability to transform its economic base and its old industrial image.

Located just a few kilometers from the downtown core, the former LTV site was huge, spanning 123 acres along the south side of the Monongahela River. The URA purchased the property in 1993 (Western Pennsylvania Brownfields Center, 2008). SouthSide Works, named for the former LTV mill, was developed on a 34-acre parcel. Damian Soffer, Chief Executive Officer for the Soffer Organization, was the developer for the project. Soffer grew up in Pittsburgh and shares a passion for his community and a desire to celebrate the city’s steel heritage, while creating new opportunities (Personal Communication, November 30, 2006). The $300 million project includes office space, housing, retailers, restaurants, a cinema, as well as green space and riverfront trails. South Side Works is adjacent to the Institute for Regenerative
Medicine and the Sports Performance Center established by the University of Pittsburgh Medical Center, as well as indoor and outdoor football practice fields used by the Pittsburgh Steelers and Panthers. A hotel and condominiums are also planned.

The Hot Metal Bridge which spans the Allegheny River links this project to another LTV site on the north side. Formerly Pittsburgh Works, a Jones & Laughlin steel mill, this 48-acre site was contaminated with tar pits, waste oil, and ferrous cyanide. The site was purchased by the URA and underwent major clean up (Western Pennsylvania Brownfields Center, 2008, p. 1). Development costs for the property totaled close to $104 million (p. 3), including public and private investments and contributions from local foundations. The University of Pittsburgh Center for Biotechnology and Bio Engineering was the first occupant of the remediated site, followed by a research facility for Carnegie Mellon University. The Pittsburgh Technology Center was also established on the site and several private firms located there. The area has become a hub of academic and corporate technology research. Employment generated by the initial development of the site was approximately 1,500. Private investment in SouthSide Works amounts to over $250 million. It provides 5,400 employment opportunities and over 400 housing units (p. 3).

The URA has also remediated sites for residential development. Nine Mile Run is a 238-acre property that was formerly a slag dump for the mills and has been transformed into a residential neighborhood called Summerset at Frick Park (Personal Tour with URA, May, 2006). The initiative also involved vegetation of over 100 acres of land, to create green space connecting to the Monongahela River. Many of the new developments and redevelopments in Pittsburgh have focused on green space and green buildings. Pittsburgh now has more square footage of green development, built to national energy and sustainability standards, than any other city in the U.S. (Green Building Alliance, 2009).

In addition to land development challenges, Robert Rubinstein, Director of the URA, points to the city’s eroding tax base as a major factor limiting transformation. As Rubinstein explains,

twenty-five of the top 27 players in the city do not pay any business tax. Forty percent of the land in the city of Pittsburgh is tax exempt and does not generate or
realize any real estate tax. They include educational institutions and non-profit hospitals...It’s a double-edged sword because those are our growth industries. Those are the economic generators. An example is the hospital system. Fifteen to 20 years ago, you had private doctors’ offices that were all owned by the consortia of doctors and they were on the tax rolls. They paid business taxes and real estate taxes. As these hospital networks expanded and gobbled up those partnerships, with tremendous windfalls to the doctors, those all then became tax exempt overnight.

Right out the window here, you see an apartment building. It became student housing, but it was [formerly] privately owned. Overnight, the university bought the building and close to $600,000 in annual tax revenues were taken off the table because now the university owned it and it was tax exempt. Nothing changed. The same people live there. When the fire alarm gets pulled, the city has to respond, public services need to be provided, but those kinds of things have happened.

And when I talked about 25 of the 27 largest employers not paying taxes, that is over a 70-year period. The State of Pennsylvania has granted [business tax] exemptions to manufacturers, financial institutions, and other targeted industries. So you have Alcoa, U.S. Steel, and Westinghouse when they were here, the Mellon Bank, and so on...The corner business shop pays more business taxes than they do. (Personal Interview, November 1, 2006)

According to Rubinstein, the state level policy of tax exemption for large corporations was based on the belief that the steel companies would be there for a long time, providing employment and a steady stream of property tax revenue. Nor did these tax policies take into
account the outward migration of residents to the suburbs. The city’s tax system disproportionately burdens local residents.

In addition, as a metropolitan center, the city brings in thousands of non-city residents who commute into work each day. Rubinstein notes that

people come in every day to earn their income at a business that’s not paying tax.

Nor do they [the commuters] pay any taxes to the city. So the city is relying upon the fixed-income city resident and the house she’s lived in her whole life, and she’s carrying the burden for [companies] and all their suburban employees who come in here to earn their paychecks. (Personal Interview, November 1, 2006)

The city has recently increased the occupation tax for those who live outside the city limits from a nominal $10 to $52 per year.

Those who pay property taxes also pay a portion to the County and the school district. Rubenstein suggests that in Pittsburgh both residential and business taxes are high and non-competitive because the city’s sources of revenue are so limited and the cost of services required to support the city as the region’s economic core are also high. Lord (Pittsburgh Post-Gazette, 2007, February 26) reports:

One-third of the city’s property value is tax-exempt, and that’s split evenly between government holdings and private property. According to a 2003 study by the Allegheny Institute for Public Policy, medical facilities, churches, colleges and universities owned $2.9 billion worth of property in the city – land and buildings that could otherwise generate $31.3 million a year in city taxes.

So, many large corporations are exempt from paying business taxes and non profit organizations such as universities and hospitals, which are among the city’s growth industries, are exempt from paying real estate taxes (regardless of surplus earnings). At the same time, local residents and other businesses, including small private enterprises, carry the tax burden, which in turn serves as a disincentive for locating in the city or expanding a business. Since 1991, the city has requested that nonprofits make voluntary payments in lieu of taxes. In 2007, the city’s
nonprofit organizations contributed $4.2 million through an umbrella group called the Pittsburgh Public Service Fund (Lord, 2007).

Rubinstein acknowledges the tremendous importance of the “eds and meds” in Pittsburgh, and the ability of these organizations to attract and engage in new business development opportunities in strategic industries that the city is targeting such as medical devices, life sciences, advanced manufacturing and software design. He observes,

[t]hey are the economic drivers. They’re bringing in talent from all over the world. Not just nationally, but from all over the world. Through their research and development, they are bringing in skilled people, and then by having those relationships where you have the skilled researcher and the university, once they get ties to the city, what we are seeing in a couple instances - and it would be wonderful to have tenfold as many instances - but you have major companies setting up operations here, new operations because of a single person who’s affiliated with the university…An example is Seagate, the world’s largest producer of hard disks and storage devices for computers…They had a key researcher at Carnegie Mellon University. They wanted to open a unit based around this guy and he wouldn’t leave Pittsburgh, so they came here and opened an operation here. They’re actually in the strip district right next to the convention center. (Personal Communication, 2006)

Unfortunately, economic development is an uneven process, with ups and downs, gains and losses along the way. In 2008, after 6 years of operation, Seagate Technology Inc. announced that it would shut down its Pittsburgh operation, shedding 159 jobs. The company plans to integrate its Pittsburgh research operations into existing facilities elsewhere in the U.S. by June 2009. About two-thirds of the Pittsburgh-based employees hold doctoral degrees. The company was attracted to Pittsburgh largely because of the talent at Carnegie Mellon
University's Data Systems Storage Center. Seagate plans to continue collaboration with the Center (Olson, 2008, September 19).

According to Rubenstein, Pittsburgh has lost other companies because of a lack of local venture capital for new entrepreneurs. In addition, he suggests that more funding is needed for housing and infrastructure development, because state funding has remained flat for many years, while national funding levels have been cut in half relative to a decade ago. One of the advantages which he believes Pittsburgh does offer residents and businesses is an excellent quality of life, in terms of affordability and cultural amenities.

As Pittsburgh strengthened its focus on the development of high technology industries, ACCD, URA and other city leaders became involved in creating the Pittsburgh Technology Council as an outcome of Strategy 21. The strategy acknowledged the impact of technological change on local economy and emphasized a need to build local capacity for developing and applying advanced technology. Steve Zylstra is President and CEO of PTC, a not-for-profit trade association with over 1,400 members and an annual budget of over $5 million. Zylstra also heads Catalyst Connection, which has an educational focus; the Doyle Center for Manufacturing Technology; the Pittsburgh Biomedical Development Corporation; and the Pennsylvania NanoMaterials Commercialization Center. The Nanomaterials Center was developed as a result of requests from local companies such as U.S. Steel, Bayer, Alcoa and PPG, all of which were interested in research in material sciences. While each of the five organizations is a separate legal entity with its own board of directors, they share essential infrastructure and administrative support such as accounting and marketing. According to Zylstra, the PTC was created with support from business leaders in the region who recognized the region’s intellectual assets in the area of technology. Information technology and robotics are significant at Carnegie Mellon University and health sciences are a central focus at the University of Pittsburgh. In addition to the four institutions housed with PTC, both universities have adjacent research facilities. Zylstra describes the relationship-building model for the collaborative:

We operate four networks, including Information Technology, Advanced Manufacturing; Life Sciences and Education, and then we cross cut that with peer
Zylstra identifies several additional entities involved in economic development including the Technology Collaborative; Innovation Works; and the Idea Foundry which provides funding to faculty members to transfer their intellectual property out of the university into a company – to create a company. The Greater Oakland Keystone Innovation Zone (GO-KIZ) is a relatively new organization. Established as a state program, GO KIZ aims to attract businesses to locate close to the universities by providing tax credits. GO KIZ involves a partnership with many of the city’s major economic development agencies, including ACCD, the URA, the PTC, and the universities among others. GO KIZ recently commissioned the Pittsburgh Technology Strategy. The strategy proposes that Pittsburgh maximize economic drivers such as the universities, the University of Pittsburgh Medical Center, established business incubators, and corporate research and development operations (Battelle, 2006). Between 1990 and 2004, the region’s high technology sector grew 112%. High technology employment represents 6.4% of jobs in the region (Battelle, 2006, p. x). However, the region still lags the nation in growing new technology industries. Battelle (2006, p. xi) reports, “with a high technology location quotient of 0.82 in 2004, Pittsburgh’s economy is 18% less concentrated in high-technology sectors than the nation as a whole.”

Zylstra believes that leadership is the most important factor in economic transformation, particularly for rallying and motivating others, and tackling difficult issues. However, he feels that every region is different and strategies that may work for one don’t necessarily work for others. He emphasizes that state-wide initiatives have not been successful in Pennsylvania in the past. He also suggests that the approach to economic development in Pittsburgh needs to focus more on growing and retaining local businesses and building an entrepreneurial economy from within. Similarly, he suggests that large companies need to understand their role in fuelling the region’s future economy. Although many of them no longer maintain their manufacturing workforce in Pittsburgh, they have intellectual capital – their researchers in Pittsburgh. Zylstra hopes that may lead to more spin outs supported by the company, that is, employees being invited to develop technology on their own with equity investments by the parent firm.
Zylstra indicates that ACCD plays an important leadership role in economic development in Pittsburgh. He meets regularly with the president of ACCD and they share some mutual board members among their core organizations and affiliates, which creates significant interplay. According to Zylstra,

the Allegheny Conference is about improving the product – the region…The CEOs of the top 40 companies in Pittsburgh are members of the Allegheny Conference and my Board Chair is the only organization that’s not a corporation, and the university has a seat. So they set the region’s civic agenda and their initiatives are product improvement. They could be focused on water, transportation, or promoting a better entrepreneurial climate. (Personal Communication, October 4, 2006)

According to Zylstra, no industry has eclipsed manufacturing as the largest component of the region’s economy in terms of wealth contribution, despite the fact that manufacturing contributes a much smaller share than 30 or 40 years ago. But today, the economy is more diverse, including

- a robust financial services industry with some of the largest banks in the U.S
- [and] one of the finest health systems in the nation with the University of Pittsburgh Medical Center, a $6 billion operation. (Personal Communication, October 4, 2006)

The Pittsburgh Technology Council produces an annual “State of the Industry Report” that highlights growth and development in technology industries across southwestern Pennsylvania (Pittsburgh Technology Council, 2002, 2003, 2007). Zylstra suggests that one of the reasons for a major focus on technology in Pittsburgh is that local leaders believed that the jobs lost in manufacturing could be replaced with jobs in technology industries; however, as the structure of Pittsburgh’s economy has changed, the mismatch between supply and demand for skills has increased. According to Zylstra, there are not enough people with the knowledge and
skills required to fill the new jobs being created. Although there are plenty of people seeking employment, they do not possess the necessary skills to fill those jobs. Zylstra suggests:

I don’t believe you can turn steelworkers into anything you want. It just doesn’t work. Culturally it can’t be done. You can do it on the fringes, but you’re not going to transform those folks into your knowledge economy workforce. It’s just not going to happen and it’s not happening. So you have people who are looking for talent and you have people who are looking for work, but there’s a drastic mismatch between the two. As a result, there’s a dearth in the kind of skilled labor that’s needed in the region to empower the companies in the economy to move forward and it’s getting worse every day. (Personal Communication, October 4, 2006)

For Zylstra, the biggest economic issue for Pittsburgh is the challenge of converting brownfields into useful sites. Other factors that are limiting Pittsburgh’s economic performance, include high corporate taxes and a “horrifying tax structure – a noncompetitive tax structure both on the business and personal side, at the state level and at the local level” (Personal Communication, October 4, 2006). The region is experiencing an aging workforce, low immigration, and transportation issues. There is also a critical need to improve educational performance at the K to 12 levels. He notes that strong higher education resources are a critical asset in Pittsburgh:

We have 38 colleges and universities in the 13 counties that we pay attention to and a couple of them are world class – Pit and Carnegie Mellon. There’s no bigger name in IT than Carnegie Mellon and Pit is 6th in the U.S. in receiving NIH funding – National Institute of Health. (Personal Communication, October 4, 2006)
Zylstra suggests that because large companies were the dominant employers in Pittsburgh for over 100 years, the region lacks a culture of entrepreneurship. Several generations of families worked in the mills, so there was little perceived need to start a business. Pittsburghers tend to be risk averse. The region has a low business start up rate relative to other regions in the U.S. Even in terms of nonprofits, over 200 local foundations provide at least partial funding to many of them. Zylstra observes that the presence of so many foundations in the region serves to disengage the business community. He notes,

[in] a lot of communities where you don’t have foundations with all that funding, the business community has to step up and be much more engaged and involved.

(Personal Communication, October 4, 2006)

According to Zylstra, some of Pittsburgh’s most unique characteristics are that people care so much about the place….I have never been to a place where people had it almost in their genetic make up to at some point give back to their community. The volunteerism, the sense of civic duty is profound….It goes back to the point that so many people are from here and they’ve stayed here and they have a strong sense of place. (Personal Communication, October 4, 2006)

Pittsburgh’s universities are important players in the local economy. This is recognized by Jerry Paytas, former Director of the Center for Economic Development at Carnegie Mellon University, and Bob Gradeck, the Community Projects Director. Paytas and Gradeck identify two key economic issues influencing Pittsburgh’s development, including a lack of entrepreneurship and low levels of immigration. Relative to 20 years ago, there are fewer large companies in Pittsburgh. According to Gradeck, while the economy is more diverse, it is also more shallow and fragmented. Attracting new business is challenging because “Pittsburgh is still dealing with its cultural legacies, particularly its image” (Personal Communication, October 31, 2006). The focus of economic development is increasingly on generating new business from within – mostly small businesses.
Between 1970 and 1990, the region lost 158,000 manufacturing jobs and over 289,000 residents (Gradeck, 2003, p. 3). According to Gradeck, net migration data from the 1980s illustrates that larger numbers of young people left the region than older age groups, especially people in their 20’s. He suggests that the impact of net migration has been severe, especially considering that many of these people had their children and grandchildren elsewhere. Compounding the issue, Gradeck notes that comparatively few people move to the Pittsburgh MSA from elsewhere in the United States and the region attracts few international immigrants. Gradeck suggests that,

an insular culture has developed in many regional communities. Newcomers often express difficulty in acclimating to life in the region compared to their experiences in communities with a larger number of recent arrivals. (Personal Communication, October 31, 2006)

Gradeck and Paytas concur that leadership is essential for building consensus about how the community will proceed with economic development. However, because each economic development organization in the region has its own mandate and each county represents its own jurisdiction, efforts regionally have been fragmented and resources limited. They feel that no one organization has “the teeth” to effectively co-ordinate efforts across the region or to hold others accountable for results, good or bad. Local governments, nonprofit agencies and foundations all play a role, but no one organization has sufficient power or influence to achieve strong, collaborative leadership. Paytas notes that, historically, the ACCD has been the leadership organization for Pittsburgh, with respect to economic development; however, it was primarily corporate leadership – the CEO’s of major corporations. According to Paytas,

[i]n the early years, it was very effective leadership. You had Richard King Mellon from Mellon Bank kind of pushing it and David Lawrence who was the Mayor. And the corporations wielded influence. There wasn’t as much public ownership, so they weren’t swayed as much by quarterly stock and they were more tied to the local economy. Over time, the Allegheny Conference is still
probably the only thing that we could claim is the corporate leadership. (Personal Communication, October 31, 2006)

Paytas points to two other leadership organizations involved in economic development, the Pittsburgh Regional Alliance, an affiliate of ACCD, and the Pittsburgh Technology Council. Other organizations have also been established for specific economic development strategies, such as the Life Science Greenhouse for biotechnology. According to Paytas, that is Pittsburgh’s “style.”

In Pittsburgh, if someone is not doing something, rather than saying ‘you should be leading this effort now, you did great work with the downtown revitalization, but now you need to focus on this’, we don’t like to criticize anybody, so we say ‘Good job, keep on doing what you’re doing’…and we just create another organization to do what we want to have done. (Personal Communication, October 31, 2006)

Paytas notes that there is an upside to the approach that Pittsburgh has taken: “Our bets are diversified. We’re not tied to the success or failure of one organization or the success or failure of one deal. We’ve been very creative in economic development activities. We have managed to get over ‘is the steel industry going to come back’” (Personal Communication, October 31, 2006).

Paytas attributes the decline in the local steel industry to a number of factors, for example, the lack of new investment in local plants in new technologies such as continuous casting. As a result, the plants were outmoded, inefficient and noncompetitive. Another reason is high labor costs. Also, steel is a mature industry. Paytas explains:

You look at the trajectory of industries, the product and the profit cycle and steel was a maturing industry. So it’s going to become more footloose. And it’s going to seek out lower-cost locations. In the south, what for us was the loss of these
industries was for them a growth opportunity. They were following an import substitution model. “Hey, we used to have to import a lot of steel from Pittsburgh. Now we’ve got the steel firms here and we make the steel.” That’s how one region leap frogs another. You get wedded to a particular technology, wedded to a particular industry, and you stagnate. The agenda moves off of growth into dividing the pie, so on the management side, they’re not making investments in the high end because they’re thinking more about they’re specific situation – whether or not they get the next raise. And that’s how other regions that are hungry say” We’ll take this.” They leap frog. That’s how Pittsburgh overtook England. We adopted new technology. We were hungry. We were aggressive. We beat them and somebody beat us. The long cycles of economic growth and decline. They get played out in real places and affect real people. (Personal Communication, October 31, 2006)

Gradeck suggests that one of the things that helped Pittsburghers to accept that the steel industry was not coming back was to tear down the mills. He recalls,

When one of the mills was being talked about for demolition, some of the older folks in the south side were saying, “Well it might come back; do you really want to knock this down?” Once it was down, that discussion ended and we were able to move on. (Personal Communication, October 31, 2006)

For many, “moving on” meant leaving the city to find employment elsewhere. Several industries served as “initial shock absorbers” for the loss of steel in Pittsburgh. According to Gradeck and Paytas, health care, finance and environmental services were outgrowths of the steel industries and other heavy manufacturing industries:
The financial services grew up with the steel mills. Health care was healing the people who were sickened by the mills….Environmental services was cleaning up contamination. And we had a lot of firms in materials and instruments and devices and equipment making – things related to the steel industry. (Personal Communication, October 31, 2006)

As well, the steel industry maintains significant research and development activity in Pittsburgh, especially through the universities. As larger companies shut down in the city, smaller spin off companies established. Paytas recalls a very successful spin off from U.S. Steel:

Rich Lee was a materials scientist with U.S. Steel. He was a materials analyst. And when U.S. Steel was cutting back he spun out a company to do materials analysis for U.S. Steel and for other firms. He built up a pretty nice business of doing that work. Then they came up with a product which was a low cost scanning electron microscope (SEM). So, instead of electron microscopes that cost $200,000 to $500,000 and had to sit in a room or take up half of a floor of a building, they made a desktop model that could sit on top of a table. It was virtually portable. It cost $50,000. So, not only were they able to do the materials analysis, but then they had a product to sell to do materials analysis because most of the work that was done didn’t require a $500,000 SEM. So, they actually created a whole product line that was essentially a spin out of U.S. Steel, although it wasn’t an official effort. It was “I am going to get out before I lose my job at U.S. Steel. (Personal Communication, October 31, 2006)

Gradeck and Paytas suggest that there are many different paths to prosperity and communities have to make choices: “What can we achieve? What do we want to be? How can we build on strengths we have? Do we have any assets? What does the competition look like?
What is the real market opportunity?” Some areas become service centers or tourism centers, while some become “bedroom communities.” Paytas proposes that communities have to be specific about what types of industries they want to develop or attract; for example, life sciences is very broad and medical devices and tissue engineering are more specific. Communities need to assess whether the industries that they want to target are growing or declining nationally and even globally. Firms within emerging industries are more likely to capture the benefits from growth, such as good jobs. Paytas notes that economic development investments involve risk:

What is the risk? Can the community afford to make the investment? What is the reward? (Personal Communication, October 31, 2006)

Paytas observes that in practice,

[n]obody goes through that much analysis in making these economic choices. It’s political deals. Shoot from the hip. Entrepreneurialism, promotionism, boosterism. (Personal Communication, October 31, 2006)

For Gradeck and Paytas, economic development requires a strategic, balanced approach, much like a portfolio of investments. Those investments include ensuring that the local workforce can respond to development needs and infrastructure is in place to accommodate new business activity. In Pittsburgh, the universities are a critical part of that infrastructure. For the most part, the industries that are being pursued are knowledge-intensive and rely heavily on research. Pittsburgh has the advantage of several research-intensive universities. Achieving balance requires that

as you’re upgrading the skills and the education of your workforce and your population, you also have to make sure that you’re building the jobs for them so that they can stay there [in the community]. Otherwise you are just exporting their skills and their knowledge to other places. (Personal Communication, October 31, 2006)
Balance is also needed when considering quality of life factors. Quality of life may be more important for some industries than for others. At an individual level, quality of life depends a lot on people’s personal preferences for climate, amenities, urban environments versus rural environments. Gradeck proposes that the primary considerations for people remaining or locating in a community in order of priority generally are employment, proximity to family, and affordable housing. Paytas suggests that “quality of life is a product of our economic situation – we produce it” (Personal Communication, October 31, 2006).

Ellen Kight, President of the Pittsburgh Partnership for Neighborhood Development (PPND) agrees with Paytas that quality of life is important. She is committed to improving Pittsburgh in this regard for all socio-economic classes. PPND is a not-for-profit corporation that supports the revitalization of distressed neighborhoods. Since its inception in the 1980s, PPND has received financial support primarily from the private sector, the foundation community and the City of Pittsburgh. PPND supports the capacity of locally based organizations to be able to implement revitalization strategies for neighborhoods. In 2007, PPND became affiliated with the Local Initiatives Support Corporation (LISC), the leading community development support organization in the U.S. This affiliation has enabled PPND to expand its support as a financial intermediary for Community Development Corporations and other non-profit, community-based organizations within neighborhoods of the city of Pittsburgh. PPND re-grants monies in a targeted way to revitalize older distressed areas and provides guidance and technical assistance to community development and community-based organizations. Through LISC, PPND can access national technical assistance and loan programs for CDCs working collaboratively with private developers. In recent years, PPND has expanded its work in neighborhoods outside of the city and is developing a closer relationship with Allegheny County government. In the city of Pittsburgh, PPND is working with neighborhoods and in Allegheny County, PPND is working with selected first-ring suburban communities.

In the past, PPND has focused on real estate development, including housing and commercial development. However, a more holistic, sustainable approach is now adopted that encompasses real estate development, crime prevention, greening initiatives, and building a sustainable community. Other elements include education and workforce development and health. Another change for PPND is greater collaboration. According to Kight,
About 2 years ago, we began partnering with others to be able to target and leverage our resources in order to make a difference faster and more effectively.

We created the Pittsburgh Community Development Collaborative (CD Collaborative) which includes the City of Pittsburgh Mayor’s Office; the Pittsburgh Department of City Planning; the Urban Redevelopment Authority; the Community Design Center of Pittsburgh; the Community Technical Assistance Center and the Pittsburgh Community Reinvestment Group. So, collaboratively we have four intermediaries and three public sector entities. Each has a piece of the community development pie. The Design Center works on quality design and how that impacts economic value in a community. The Technical Assistance Center provides support such as training on community development and how to build a strong community-based organization. The Reinvestment Group works to make sure lenders are reinvesting in older neighborhoods. The URA provides the main financing piece. City planning provides the framework, focusing on things like transportation, land use, open space, housing, recreation, and other key elements. The City completed a market value analysis that looked at every neighborhood – there’s about 90 of them – and determined what the market opportunities are. It was based on housing market conditions. What are the existing market conditions? What are the revitalization strategies for each of those areas? The foundation community is also actively engaged in this collaborative.

So, now we have a work plan for four targeted market areas in the city. We determined that if we work together to focus our energies on three or four geographic areas as a collaborative, then we can make a difference faster in their
quality of life and economic conditions. In the past we were working individually, but now one collaborative will focus on four areas. Not all of our work will be done there, but a good portion will be. All of the organizations in the collaborative are thinking differently about how we deliver our services – we are working strategically to leverage each other’s resources for greater results. (Personal Communication, January 8, 2008)

As an example, the work plan developed by the CD Collaborative includes the East End which is comprised of about six neighborhoods. Penn Avenue is a major corridor which runs through the East End. The decision by UPMC – Children’s Hospital to build their new hospital on this corridor is serving as an economic generator for the East end. This massive new facility that will open in 2009 has resulted in many new construction jobs in addition to jobs in health care. This location decision is also fostering opportunities for developing small business development supporting the hospital, housing development, and other opportunities for revitalizing the neighborhood. A key development for the area will be improvements to public transit.

PPND interacts with an extensive network of non-profit agencies. The organization is located in the Regional Enterprise Tower in downtown Pittsburgh, in the same building as ACCD and its affiliates, Sustainable Pittsburgh, the Three Rivers Workforce Investment Board, Allegheny County Economic Development, Action Housing, and the Southwestern Pennsylvania Commission (SPC), which is the regional metropolitan planning organization. SPC owns the building. According to Kight, the building was left to SPC by Alcoa Corporation. Alcoa has been a major supporter of community organizations such as SPC and ACCD for many years. The 31-storey building was formerly Alcoa’s head office. Space is allocated for all of the organizations to use as meeting and conference space. The company relocated its headquarters within Pittsburgh. Kight indicates that the deed for the building specified that it was to be about 80 to 85% occupied by non-profit organizations in the community. The thought by leaders of Alcoa was
that there would be natural synergies among the non-profits and by being together in the building, it would be easier for them to collaborate. (Personal Communication, January 8, 2008)

Kight observes that this has transpired: “Sometimes just meeting in the hallway, the lobby or the elevator spurs conversations” (Personal Communication, January 8, 2008). Another organization which recently located in the tower is Bayer Centre for Nonprofit Management, part of Robert Morris University. They provide consulting services and workshops on every aspect of non-profit management.

For Kight, industry diversification is important for economic stability and the city’s future prosperity. However, with diversification comes change in the nature of work. Kight observes that there is a significant number of jobs in Pittsburgh that are not being filled because a disconnect exists between the level of education and training that is needed for current jobs and the education and skills of the people that live in Pittsburgh [author’s emphasis]. (Personal Communication, January 8, 2008)

Kight is a member of the Board of Directors for the Three Rivers Workforce Investment Board. TRWIB is working to address local education and training needs, and the gap between residents’ skills and job requirements.

Kight credits ACCD as a leader in guiding much of Pittsburgh’s successful economic transformation among the private sector. For example, Renaissance I was led by a partnership between the Mayor David Lawrence and the captains of industry, who formed ACCD. However, Kight suggests that today ACCD is doing more to engage all three sectors that need to be represented in formulating new economy directions, including the public and non-profit sector as well the private sector:

We have a big non-profit community here. There are about 300,000 jobs in the non-profit sector in Southwestern Penn, including academic institutions, hospitals, and major health insurance agencies such as Highmark and many small
organizations such as arts and human service organizations. The non-profit sector
was a missing part of the planning a long time ago, but now they are better
incorporated. Previously the major focus was the corporate world. Now you have
better coordination between the corporate piece, the public sector piece, especially
ACCD and SPC [Southwestern Pennsylvania Commission] talking and working
together, and now you have more of the non-profit sector incorporated into this
discussion. Non-profits provide quality of life and build human capital and that is
an essential part of the mix. (Personal Communication, January 8, 2008)

Kight indicates that there is also much better collaboration between the City and County
today relative to 20 years ago. However, the large number of governments continues to be an
important issue, especially in the old mill towns in the Mon Valley. Many small units of
government have lost their tax base and are still struggling. One of the ways that governments,
are attempting to address their financial challenges is through “functional consolidation.” They
are attempting to share services and eliminate redundancies, especially between the City and the
County governments. Allegheny County and the City of Pittsburgh are actively discussing a
merger. ACCD, through the Pennsylvania Economy League is working with local governments
and the state legislature to address legislative barriers. Kight suggests that a huge consequence of
these ongoing financial struggles is the declining public school system in the city. According to
Kight,

people make decisions about where they are going to live based on the quality of
schools. Beginning in late 1960s, many people moved out of urban core, and pubs
[public schools] moved with them, first into inner ring subs [suburbs], then outer
ring subs. Highways went out. Families moved out, and with that then school
districts in newer areas became strong. Even with revitalization of properties,
focusing on crime, and other issues like the creation of jobs, people would work
in the city, but would choose to live in the suburbs. That was primarily because of
the schools. That is true even in our Mon Valley communities. If the school
district is not perceived to be strong, it is really hard to revitalize neighborhoods.

(Personal Communication, January 8, 2008)

At the time of her initial interview, Kight was transitioning from her position as Regional
Director for the Pennsylvania Department of Community and Economic Development (Personal
Communication, November 29, 2006). In that capacity, Kight was responsible for a broad range
of programs aimed at community development, economic development and local government
services. Community development assistance includes 30 programs designed to address needs
for housing, water and sewer infrastructure, and other public facilities. One of these programs
covered under “Act 47” provides financial support and technical assistance to local governments
such as the City of Pittsburgh that are deemed to be “financially distressed.”

The State continues to work with the City to formulate and implement a recovery plan.
The State also plays a key role in investment attraction. The Governor’s Action Team works in
collaboration with the Pittsburgh Regional Alliance to attract investment into Pennsylvania. The
State offers an “economic stimulus package” that has a number of programs in it to support
innovation and commercialization of new products and revitalization of older urban
communities. These programs help to ”level the playing field” by encouraging them to locate in
older cities, which contributes to the revitalization of these communities. According to the
Pittsburgh Regional Alliance (2009a), state incentives include a $2 billion economic stimulus
program.

CDC’s in Pittsburgh are also committed to neighborhood development. David Blenk is
the Executive Director of the Oakland Planning and Development Corporation, a CDC located in
the same neighborhood as Pittsburgh’s universities. The organization offers three key programs.
Real estate development involves buying and selling houses in Oakland, usually performing
significant renovations, and occasionally even tearing them down and rebuilding. Sometimes the
CDC will rent the properties, but the goal ultimately is to sell them. Community organizing is
another key function of the Oakland CDC. Many of the people coming into Oakland, including
thousands of students, are associated in some way with the hospitals and universities that are
clustered there. According to Blenk, there are about 26 major institutions in Oakland. The CDC’s third function is workforce development.

Blenk emphasizes that Pittsburgh is defined by its neighborhoods – 88 of them, each with its own strong neighborhood identity. According to Blenk, Oakland is a neighborhood of about 21,000 people, 3,500 of whom reside in the Central Oakland core. This neighborhood was originally established by Greek and Italian immigrants, many of whom came to work in the steel mills. Oakland sits on a hill and steel mills were built at the base of the hill, along the river. Low quality housing was built on the hill top, up against the mills. Moving farther into Oakland, Blenk points to the larger houses and yards, cultural resources, and institutions. With the closing of the steel mills and the growth of institutions, a mass concentration of people and dense housing developed within Oakland’s inner core. In recent years, the view on the south side has been redeveloped, but low quality housing remains on the hill—on potentially the most valuable properties. If these properties were brought up to their market value, the neighborhood and the residents would benefit.

Pittsburgh’s downtown has long been established as a financial service center. Blenk explains,

You have the financial giants that sort of emerged from the steel industry. They were the holding companies of all the steel resources that became the Mellon Bank, the PNC Bank. The large sort of corporate giants like USX, that’s still downtown. (Personal Communication, November 29, 2006)

Blenk elaborates on a key issue that the city faces as a result of corporate structures and tax policies:

The steel industry was the production mechanism, which was taxed. Any economic activity was taxed. They put their holdings into the banks. They didn’t want to tax themselves twice, so the banks were set up sort of tax free in the city structure. So, as the city is trying to stumble out of economic decline and into
recovery, they’ve got these major financial engines who are not contributing to
the city tax base…they [banks] emerged as the first growth of the Pittsburgh
economy in the post-steel era. (Personal Communication, November 29, 2006)

Over the past 10 to 15 years, the new economic driver has been “eds and meds.” Blenk
estimates that on a daily basis the employment population working in Oakland swells to between
70,000 and 80,000 people. But he suggests that,

right in the shadow of that, you have incredible signs of disparity, people who
don’t have the educational background to access those jobs, don’t have the
knowledge and skill base to work in the wealth that literally sits right in their
backyard. (Personal Communication, November 29, 2006)

In response to these disparate needs, the CDC has created the Hill-Oakland Workforce
Collaborative, which provides employment training to about 1,200 people per year, primarily for
health care jobs. Since 1987, the CDC has been focusing its workforce development training in a
niche area – health care. The CDC offers basic job readiness training – employability skills,
computer skills, and everyone who applies must complete CPR training. The CDC then works
directly with the health care institutions to place trainees in jobs. As Blenk explains,

[w]e weren’t so much a reaction to the loss of the steel industry, as much as we
were a reaction to the growth of a new industry. (Personal Communication,
November 29, 2006)

While the institutions and other economic development organizations focus on recruitment of
doctors, researchers, and nurses, Blenk’s organization is solving another critical need:

its housekeeping and bookkeeping and medical records and patient care

technicians and floor managers, and dietary maintenance. There’s a whole army
of people that needs to come behind those doctors and nurses to make the system function. (Personal Communication, November 29, 2006)

In recent years, the Oakland Task Force was established, a collaboration of the 26 institutions and organizations that have organized their collective resources to develop the local community. Among their primary goals, the task force aims to continue to grow Oakland as “an international center for research, education, healthcare, and culture, and a magnet for technology-based entrepreneurial activity” (Oakland Task Force, 2003).

Another nonprofit economic development organization in the city is Sustainable Pittsburgh. The organization works to ensure that public decision making follows principles and processes of sustainable development. Executive Director Court Gould suggests that the biggest economic challenge for the Pittsburgh region is a lack of unified vision and fragmented government structures. Gould explains:

We are awash in excellent agencies across the spectrum of government, civic and non-profits, and business organizations, and they all know exactly what their issues are. They are all totally convinced about what the solutions are. It’s just that they don’t have structures to work in unison together…Each county – and again understandably – their electorate naturally try to bring home the spoils to their county with perhaps a lesser commitment to the region as a whole. And the same plays itself out at a municipal level where southwestern Pennsylvania has more units of government when you count school districts and authorities and special authorities than any other place in the United States. Actually we may be number two. (Personal Communication, November 2, 2006)

According to Gould, the ACCD is generally recognized as the leading economic development organization for the Pittsburgh region; however, Gould stresses the importance of collaboration among organizations in the region on the development of a long-term regional
vision based on global economic realities. Gould also feels that a regional approach is needed for delivering public services and planning land use.

Gould indicates that key challenges for Pittsburgh include an unprepared workforce; lack of venture capital for early business start ups; and the need for “a balance of in-fill urban shovel-ready sites and greenfield sites” (Personal Communication, November 2, 2006). According to Gould, a skilled workforce is at the top of the list of location criteria for investors and developers, and public transportation systems are essential to take people to where the jobs are. Infrastructure such as multi-modal transportation networks and fiber optic networks are essential. Moreover, investors need to feel confident that strong regional planning and programming processes and laws are in place to protect and enhance their investments over the long term.

New development opportunities exist for Pittsburgh in environmental industries. Gould suggests,

We naturally have had a unique concentration of environmental interest because we had such an extraordinary mess – a byproduct of our single reliance on an overly resource-extractive, polluting industry. (Personal Communication, November 2, 2006)

Environmental issues continue to plague the region. Based on air quality, the American Lung Association ranked Pittsburgh second worst in the nation behind Los Angeles in 2007.

In 2008, U.S. Steel began work on a $1.2 billion project involving pollution-reducing technology improvements at Clairton Works coke-producing operations, based in the Pittsburgh region. The project, which represents the largest capital expenditure in U.S. Steel's history, includes two state-or-the-art coke batteries and the rehabilitation of the facility’s remaining coke batteries. Clairton Works is the largest coking operation in the nation (Hopey, 2008). It supplies coke for U.S. Steel’s Edgar Thomson plant in Braddock County which is in the Pittsburgh region, and Hamilton Works in Hamilton, Ontario, as well as its other North American steel mills.
Investment in equipment is essential. So is investment in the workforce. Among Pittsburgh’s many economic development agencies, the Three Rivers Workforce Investment Board (TRWIB) focuses on labor market issues. Ron Painter is the Chief Executive Officer for TRWIB. The state-funded organization examines labor markets in southwestern Pennsylvania and provides information resources for educators and industry. TRWIB identifies growth industries, occupations in demand, skills required for those occupations, and training resources. The organization works closely with economic development agencies throughout the region and is located in the Regional Enterprise Tower along with ACCD and its affiliates.

Painter suggests that two key issues relating to Pittsburgh’s local workforce need to be addressed (Personal Communication, November 2, 2006). The first is the loss of knowledge and skills through retirements. The second is a mismatch between the skills of people in the region and the skills required for emerging industries. The latter highlights the twin issues of “density” and “diversity.” Painter explains that density of job prospects is one of the risk factors that highly skilled, specialized job seekers consider in re-locating:

The notion that there needs to be multiple employment possibilities to ameliorate
the ‘risk’ that if the immediate job doesn’t pan out, then what? Move again?

(Personal Communication, November 2, 2006)

According to Painter, the diversity aspect has to do with the increasing demand of younger workers and “creative workers” to be in an environment that is stimulating, which is inspired in part by the diversity of the population. Painter notes that 20 years ago, in the midst of the steel industry collapse, a major issue was, “[w]hat do you do with this semi skilled production manufacturing labor force?” (Personal Communication, November 2, 2006). He observes that a lot of people who were formerly steel workers are now working in the healthcare industry because significant retraining efforts were directed towards healthcare:

So, that was a process of trying to re-engineer a workforce that was already here
and already had the dynamics of a work ethic, a track record around work
experience, and a slightly older workforce. Today, since we have not had
population growth, that’s the labor force that is looking at retirement, so it’s a very different scenario. (Personal Communication, November 2, 2006)

The TRWIB has identified several growth sectors including financial and business services. Pittsburgh is home to major banks such as Mellon Financial [which since this November 2, 2006 interview with Painter has been acquired by the Bank of New York, but still maintains significant operations in Pittsburgh] and PNC [which since this November 2, 2006 interview with Painter acquired National City Bank that had been headquartered in Cleveland, OH]. It is also home to several large national and international law firms. Health care is an important sector in Pittsburgh with medical facilities such as the University of Pittsburgh Medical Center and West Pen Allegheny Hospital System. These health care facilities provide specialized services such as organ transplants that require customized, sophisticated equipment. As a result, Pittsburgh has also developed a medical equipment design and manufacturing industry as well as research and development organizations such as the Life Science Greenhouse to support industry growth. Painter indicates that Pittsburgh has developed a cluster of firms producing high technology manufacturing products, including electronics manufacturing. SONY has a established a production facility in Pittsburgh and has drawn a number of suppliers into the area to support its business. [In a follow up interview (Personal Communication, January 5, 2008) Painter indicates that Sony has announced a decision to close its plant in southwest Pennsylvania. A portion of Sony’s plant has been taken over by a solar panel manufacturer so the impact on the workforce could be minimal in terms of job loss. Wages are expected to be negatively impacted for those leaving Sony to go to emerging manufacturing jobs.] Despite the decline of manufacturing, Painter notes that the sector continues to be important to the broader region and maintains a presence in the steel industry through U.S. Steel’s head office in the city and its combined manufacturing facilities of its coke production in Clairton, and steel production at its Edgar Thompson and Irvine Works in Braddock, all located within commuting distance of the city of Pittsburgh. In fact, the industry has developed new work driven by local expertise in steelmaking. Painter indicates that, Pittsburgh accounts for about 18% of companies in the U.S. that provide support services from supplying scrap metal to construction services for steel producing
facilities around the world. Pittsburgh’s steel technology industry is expanding rapidly and creating skilled jobs in the process. [Painter notes that this is according to an industry directory published by the Association for Iron and Steel Technology (AIST) and cited in Treado, 2008]. (Personal Communication, January 5, 2008)

Painter suggests:

The steel industry collapse, from the standpoint of workforce, had a couple of lasting psychological impacts. First of all, parents here talk to their kids about going to college – go to college, go to college – because that’s the way out. There is this perception that, if you go get a college degree, it won’t be like the old days when you went into the mill and maybe the mill would be around in a few years and maybe it won’t…It’s very hard to talk to parents here about having their kids think about two-year degrees and technical degrees because, for them, for their generation, the way out of the mill, the way out this downturn, is college. (Personal Communication, January 5, 2008)

Painter indicates that economic development, political, and civic leaders have recognized that the dominance of one industry creates vulnerabilities for communities: “When steel got a cold, the region had pneumonia” (Personal Communication, January 5, 2008). He points to other cities such as Detroit, where the automotive industry dominates, and similar vulnerabilities have resulted as external forces impact local production. Pittsburgh is no longer dominated by one industry. The effects of large-scale economic downturns are now distributed across different sectors in varying degrees. The growth industries in Pittsburgh, such as health, education and government are less vulnerable to the impacts of recessions than industries such as steel. Painter suggests,
[w]e are not going to see those real big highs and lows, and that is good. When you talk about a 1.5 to 2% growth rate, that doesn’t get anybody’s attention as a dynamic economy, but from a long-term stability point of view, that [level of growth] is a good thing to have. (Personal Communication, January 5, 2008)

According to Painter, Pittsburgh is learning to engage a broader range of people and perspectives in economic development. Traditionally, the city has reached out to its corporate leaders to decide economic strategies. Painter suggests that, today, the city is beginning to recognize the importance of engaging youth:

When capital can fly around the world in nanoseconds and people can be very mobile - in the formula of land, labor and capital, when labor becomes the most critical of the three factors today – then I think it really behooves the region to figure out the civic engagement…[t]he whole process of opening up the Southwest Pennsylvania Commission’s visioning study, and their transportation work, and the process around opening up Allegheny County’s comprehensive plan, I think is pretty exciting and its pretty fun to see that kind of regional engagement from ordinary people. (Personal Communication, January 5, 2008)

For Painter, fragmented government remains a critical concern for the entire Pittsburgh region. He suggests that individuals identify with local boroughs, neighborhoods, and school districts, and lack an understanding that what happens in each of the ends of the region is important and that what happens to the center of the region, which is the City of Pittsburgh, is critical to the region. (Personal Communication, January 5, 2008)

Generally, Painter views Pittsburgh as an excellent place to live; however he notes that quality of life is relative:
If you were to bring somebody here from New York City or from Toronto, this is not the kind of place in which they would probably thrive. It’s not fast enough, it’s not eclectic enough. (Personal Communication, January 5, 2008)

But Pittsburgh is experiencing a “boomerang effect.” Many people who grew up in Pittsburgh are returning to raise their families in a city that offers affordable housing, lots of cultural amenities, and sports and recreational facilities.

Len Boselovic, a reporter with the Pittsburgh Post Gazette also acknowledges the boomerang effect. He himself grew up in Pittsburgh and has returned. Boselovic indicates that there were families in Pittsburgh that were fourth generation steel workers. They never knew any other way of life. According to Boselovic,

[t]here was every expectation that if your grandfather worked in the mill, if your father worked in the mill, when you got out of high school, there would be a job waiting for you in the mill. (Personal Communication, November 1, 2006)

As a result, Pittsburgh was a very inward-looking town…a lot of people grew up thinking that there was no other way to do things. (Personal Communication, November 1, 2006)

Boselovic proposes the lack of global perspective was because things were good in Pittsburgh for so long. However, Boselovic also proposes that the decline of the steel industry in Pittsburgh began much earlier than most people would realize:

1900-1910 as the market moved west, which is why the Chicago steel industry grew up, you know, they built the sky scrapers, rail mills. The market moved west and mills were built in Gary, Indiana and northwest Indiana to accommodate those customers. (Personal Communication, November 1, 2006)
According to Boselovic, the impact of the steel industry decline reached far beyond the primary steel industry, rippling through many steel products-based industries. As a result of the collapse, many individuals and families left the area.

Boselovic suggests that Pittsburgh still faces an enormous challenge of replacing high wage-paying steel jobs. He notes that much of the new development is linked to the universities, particularly Carnegie Mellon and the University of Pittsburgh, rather than traditional factors such as access to raw materials, land, and water transportation, which in the past, enabled the steel industry to grow in the region. The universities are actively engaged with industry in research and development partnerships and efforts to commercialize research. Some of those efforts include developing substitute metals, lighter metals and new processes for steel making. Boselovic suggests that today there is a greater appreciation for the need for innovation and the impacts of globalization:

Steel workers didn’t realize back then when the imports started coming in the 60s and 70s that this was actually legitimate steel. The steel producers didn’t realize then as well. It’s not just unions. It was the companies’ management….Now you can’t talk to a steel worker or a steel executive without China coming up within seconds. (Personal Communication, November 1, 2006)

Boselovic indicates that the ACCD has led many of the city’s transformation initiatives, through environmental clean up projects and through building projects such as the Gateway Center, a complex of office buildings. Boselovic describes ACCD as “the enlightening corporate leadership idea” (Personal Communication, November 1, 2006). According to Boselovic, ACCD is the regional leadership group that Pittsburghers tend to look to for economic development; however, with the decline in the number of major corporations headquartered in Pittsburgh, Boselovic suggests that the ACCD is not as influential as it once was. He also believes that people in Pittsburgh still feel a sense of failure despite recent transformations like the redevelopment of US Steel Homestead Works. Formerly a huge steel mill which employed over ten thousand workers, the site now houses a large retail entertainment complex and residential developments.
Boselovic suggests that coordinated leadership and capital funding resources are two critical factors that Pittsburgh needs to improve. Significant political tensions exist between the city and surrounding communities because of a lack of clear and unified consensus regarding what is best for the region:

Officials may be able to agree to a consensus theoretically – giving it lip service would be another way to say it – but have a hard time implementing it when it’s a matter of promoting development in one small corner of the region instead of another. There are legitimate questions about whether what passes for economic development is just moving jobs from the city to the suburbs, rather than bringing in new jobs. (Personal Communication, November 1, 2006)

Some of the new developments, such as football and baseball stadiums happened as a result of collaboration among several community organizations, but they received substantial opposition from citizens. The redevelopment of the city’s downtown core has been a long, challenging process. One key issue that received a great amount of civic outcry was the destruction of heritage buildings. As well, there have been instances where retail businesses have located downtown with funding assistance from the city, then pulled out after a few years. Boselovic indicates that PNC Bank has planned several developments in the downtown core, including a new office building and a hotel. Several housing developments are directed at increasing downtown traffic by attracting more residents to live in the city core, and some initiatives focus on attracting and retaining young people. Boselovic notes that, despite these developments, taxes are an important issue for Pittsburgh, largely because of the fragmented municipal structure of the city, counties and broader region, and because of the number of school districts.

**Business Leaders**

Stephanie Cipriani is Vice President of the National City Bank of Pennsylvania and also serves as Executive Director of the National City Community Development Association of Pennsylvania (NCCDC). The Association was established in 1982 to promote the revitalization
of low- and moderate-income neighborhoods by making loans and investments in residential and commercial real estate in those areas. According to Cipriani, National City offers reduced mortgage rates to buyers as a means to encourage people that have choices to look at communities that they probably wouldn’t have looked at and start the revitalization of our low- and moderate-income communities. (Personal Communication, October 5, 2006)

Without these incentives, more people with middle and upper income levels would move to the suburbs or beyond, leaving those with low incomes to cover the cost of operating the City.

For Cipriani, the most critical economic issue that Pittsburgh faces is the potential bankruptcy of the City. According to Cipriani, with limited resources, community development block grant money, which would traditionally help nonprofits and for-profit developers do development in the city by filling some of the financial gaps, is now being used to provide for public safety issues and roads in low-to-moderate income census tracts. I am sure it has probably been a balancing act for the City - how do they deliver the needed services while not abandoning their neighborhoods? (Personal Communication, October 5, 2006)

Cipriani notes that certain structural issues and laws that exist beyond the local level pose challenges for Pittsburgh. Some of the State laws established in the early 1900s restrict the City’s ability to initiate tax bases. Cipriani suggests,

[t]he only thing they could raise when they were starting to have some problems was parking tax. Well, that’s not exactly the tax you want to raise to encourage development downtown. (Personal Communication, October 5, 2006)
According to Cipriani, the redevelopment authorities of both the City and Allegheny County have played a key role in economic development and have filled in the funding gaps for many development projects. She also indicates the important role that Pittsburgh’s corporate foundations have played in contributing to Pittsburgh’s ability to survive the steel industry collapse:

They do funnel a lot through an intermediary called the Pittsburgh Partnership for Neighbourhood Development. They’ve also invested money through the local office of LISC [Local Initiatives Support Corporation]. They directly give grants to the nonprofit community development-based organizations. The foundations have really stepped up to support the region….People do try to come together to see what makes some sense to do – the banks, the foundations, operations for project-related activity, the community-based organizations….The Pittsburgh Partnerships for Neighbourhood Development [PPND] and the LISC are going to affiliate in the 1st quarter of 2007. (Personal Communication, October 5, 2006)

Cipriani is a member of the Board of Directors for PPND. Cipriani suggests that three areas need improvement with respect to economic development, beginning with the need for more civic engagement in development initiatives. For example, despite detailed planning for the redevelopment of the downtown business district, the City did not get sufficient buy in from established businesses or from the historic organizations. There was not enough discussion about ways to save some of the historic buildings. According to Cipriani, insufficient civic engagement is something that happens time and time again, and one of the consequences is that people who have lived in the city all of their lives are Pittsburgh’s “worst story tellers.” She says,

We have so much to be proud of and we’re not good story tellers - about what the region offers. And I think that’s because people are not engaged enough – they don’t have all the information. (Personal Communication, October 5, 2006)
Another area which Cipriani indicates could be improved is appreciating diversity. She explains,

We don’t all come from the same place and understand why someone would do something differently than we do. And maybe that’s all part of civic engagement - a piece of it, but a lot of times it’s left out. (Personal Communication, October 5, 2006)

Cipriani also feels that community organizations must learn to work together more collaboratively:

We do have a lot of organizations that somehow are getting better at talking to one another, knowing what each other is doing, but there are times when you find groups don’t communicate at all. They just don’t talk to one another. (Personal Communication, October 5, 2006)

Bob Kuhns, another business leader, is an international marketing consultant who has held senior management positions in the manufacturing sector in both Pittsburgh and Hamilton. He was formerly the Manager of International Markets for Alcoa Conductor Products. Kuhns proposes that Pittsburgh has substantial resources that are not available in many communities. These resources have enabled the region to transform its economic base. In particular, he points to educational institutions such as Carnegie Mellon University and the University of Pittsburgh, leading corporations like Alcoa, U.S. Steel, and Pittsburgh Glass, and large foundations that supported the economic transformation of Pittsburgh including, “the Benedums, the Carnegies, the Mellons, the Heinzes, the Hillmans” (Personal Communication, December 15, 2006). According to Kuhns, “There were a lot of very rich people and they got that way because Pittsburgh was so central to the United States” (Personal Communication, December 15, 2006). Kuhns feels that the educational institutions in Pittsburgh give them a distinct advantage; for example, by creating new technology to meet changing market demands. The presence of corporate head offices is another advantage. Kuhns states,
they are diversified with respect to types of industries, but also diversified in terms of the nature of the business structures – head offices versus branch plant economy….There is very little manufacturing done in Pittsburgh itself, but there is a lot of corporate leadership….They’ve got a good cultural base in theatre in the city and symphony. The symphony is world class. Things like that give them an advantage over places like Welland, even Hamilton. There’s much more there. It’s older and bigger. It is more diversified and cosmopolitan. (Personal Communication, December 15, 2006)

Kuhns believes that, because of these factors, the region was able grow in multiple directions; however, some of the growth came because of change in demand for goods and services and because of existing wealth already established in Pittsburgh. Further, he suggests that corporations, especially headquarters of large corporations often locate in a certain community because the executives want to live there and their families want to live there, so quality of life is also an important factor driving business decisions.

According to Kuhns, the ACCD has been very successful in its initiatives, and is an excellent model for economic development; but in order for their model to work effectively today, substantial resources are needed both in terms of funding and people, and better collaboration among organizations is needed. Kuhns indicates that ACCD’s ability to create partnerships among public and private stakeholders has been an important feature of economic development in Pittsburgh. Kuhn’s former employer, Alcoa, is actively involved with ACCD at the Board level. Alcoa donated to the city the 31-storey Regional Enterprise Tower in which ACCD is an occupant.

Like Kuhns, Jay Weinberg has played several leadership roles. Weinberg has been a labor leader, community leader, and business leader. He is Vice President of Maglev Inc., a company established in partnership with U.S. Steel Corporation, the United Steelworkers of America, Carnegie Mellon University, and several other partners. Maglev is developing new
technology to build high-speed magnetic trains that run on a high-precision steel base. The partners hope to begin building the Maglev train system within a few years.

Prior to joining Maglev, Weinberg worked at Duquesne Mill, a U.S. Steel plant, as a laborer starting in 1969, and several years later he became involved in the local union. Duquesne was one of U.S. Steel’s largest mills employing over 12,000 full-time workers at its peak. During the 1980s, Weinberg headed up the Unemployed Committee. As Chairman of that committee, he witnessed many people going through layoffs; then in 1983, the mill was shut down permanently. He recalls:

I had all of these people coming in. There were grown men crying and saying “What are we going to do?” They had no income. They had mortgages and car payments and all that…. We held a fundraiser and not only did we raise the money, but it raised the consciousness of some of the people around the country with respect to what was happening here, which was literally that we were losing about 120,000 steel worker jobs in the space of a couple of years…. I can’t really name all the people that I knew that went south and began working in non-union construction or whatever jobs they could do. It was tough on the families. Some of the wives worked, generally in minimum wage jobs or lower wage jobs and they tried to somehow survive that way. Many of the families – this region was interesting in that if you worked in the mill there was generally two or three generations of the same family working in the mill. Grandfather and father or son or daughter, whatever, and they also tended to live near each other in the same little ethnic communities around the mill. (Personal Communication, November 27, 2006)

Several efforts were made to save the steel mills. Investment bankers were hired by the Union to assess whether Duquesne could continue to operate as a stand alone operation, but there
were ongoing challenges. Weinberg indicates that a tremendous amount of capital would have been needed to invest in technology to enable the plant to be competitive globally. While Japan and other countries were building electric furnaces and continuous casters, Duquesne had been using open hearth furnaces. Weinberg suggests,

they could turn out a heat in an hour and a half in an electric furnace and run it through the slab casters, and it would take us eight hours in the open hearth.

(Personal Communication, November 27, 2006)

Weinberg believes that, despite new development in Pittsburgh, the city needs manufacturing as part of its economic base:

you can’t just trade your money around, you have to actually make something,

you know, make a product, sell it, export it. (Personal Communication, November 27, 2006)

He is hoping that Pittsburgh will be making Maglev trains in the near future.

Weinberg is a member of the Board of Directors for the Steel Valley Authority. The Steel Valley Authority (SVA) is a regional development authority established in 1986 (Steel Valley Authority, 2008). SVA works with the City of Pittsburgh and 11 municipalities in the Mon Valley. The Board includes delegates from each municipality and includes active union leaders, business owners, and local community volunteers. The SVA has received international acclaim for its innovative approach to economic revitalization. The Steel Valley Authority is a unique example of an organization driven by labor leaders working in collaboration with government, corporations, and workers. SVA has little involvement with most of the economic development agencies participating in this study.

The SVA has created financing vehicles that support economic development that is in line with the values and interests of workers. Through venture capital funds financed by labor-management and public pension funds, SVA initiated the Heartland Labor Capital Fund (Steel Valley Authority, 2007), a venture capital fund financed by labor-management and public
pensions. Heartland Labor Capital targets investments in companies that have a demonstrated commitment to achieving positive financial returns along with social benefits such as good-paying jobs. Clients also demonstrate positive labor-management relations, investment in workforce development, and active workforce engagement in strategic planning and problem-solving. Investments from this fund are used in conjunction with retention strategies such as employee buyouts in order to sustain and grow established firms.

The SVA pioneered the Strategic Early Warning Network (SEWN) in Pennsylvania which has helped to save and create nearly 8,000 jobs (Steel Valley Authority, 2008). The program has provided employee buyout and closure aversion services to hundreds of manufacturing companies since its inception. The SVA’s primary function is to intervene with companies-in-crisis in order to save jobs. SVA works with companies to develop workplace retention and growth strategies, in addition to employee buyout strategies.

One of SVA’s success stories is Genesis Worldwide II. Based in the Pittsburgh region, the company produces coil and strip products. Working in partnership with the Governor’s Action Team and the Community Development Corporation of Butler County, the Steel Valley Authority created a financial assistance package for Genesis Worldwide II that led to the retention of the company and 220 jobs in the region. An important facet of SVA partnerships that contribute to successful interventions is the broad linkages to community, business, and union partners, as well as government and educational institutions and new sources of capital investment (SVA, 2004, p. 8).

**Labor Leaders**

The United Steelworkers of America has played a critical role in the lives of steelworkers. Lynn Williams was the International President of the United Steelworkers of America from November 1983 to March 1994, through Pittsburgh’s steel collapse. According to Williams, the steel industry in the U.S. had not modernized sufficiently to remain competitive because of predictions that there was going to be a shortage of steel in the world, and because steel mills are very expensive and extending the life of old equipment enabled companies to make money. As a result, neither the American industry nor the Canadian industry modernized their mills as rapidly as competitors in other parts of the world, and they could not compete on
productivity. Williams suggests that what the North American steel companies had not predicted was the energy crisis in the 1970s:

The whole world economy was built on cheap energy and energy ceased to be cheap. And that slowed down the rate of development dramatically. Suddenly, there was an overhang of about 300 million tons in terms of world supply.

(Personal Communication, October 9, 2008)

According to Williams, the U.S. was a huge market and the Europeans and Japanese had both restricted imports.

Williams suggests that North American steel producers could not produce some of the higher quality steels provided by technologically-advanced foreign companies. He explains that dramatic technological changes occurred in the steel industry, and North America did not keep pace:

Where we were making steel at that time at 9 or 10 or even 11 man hours per ton, even an old integrated mill is now to 2 or 3 or 4. (Personal Communication, October 9, 2008)

The Joint Advisory Committee on Productivity was established by the steel industry and the United Steelworkers of America in 1971 to address the issue of growth in foreign imports and the need for higher productivity in U.S. plants. From 1957 to 1970, imports had risen from 1,155,000 tons to 13,364,000 tons (USWA, 1971, p. 10). In 1971, 1 million tons of imported steel was estimated to represent 6,000 full-time jobs in the steel industry (p. 11). So, 13 million tons of steel imports meant the potential loss of 78,000 jobs. The union acknowledged the need to improve productivity in order to ensure that the North American industry survived and jobs were retained.

Despite these efforts, foreign imports and technological advancements in the global steel industry led to substantial reductions in employment in Canada and the U.S., particularly in Pittsburgh. Hamilton was not impacted as early as Pittsburgh. According to Williams, the
delayed impact on Canada's steel industry occurred because Canadian steelmakers were able to ship a large amount steel to the U.S., at least in part because the union fought to make sure that protective devices used in America to block trade did not apply to Canada. Also, Canada was not on the radar screen of foreign companies looking for a place to sell their steel, but the U.S. was.

Williams suggests that despite Hamilton’s smaller size, relatively, the community suffered as much devastation as Pittsburgh, especially in terms of manufacturing losses. According to Williams,

[i]f you are looking through old newspapers, you’ll probably read some pious statements by steel management in Canada that the poor Americans were way behind in modernization and weren’t keeping up like Canadians. That was nonsense. If you look at the facts, the easiest measure of modernization is how much of the industry was producing steel with continuous casters. And both the Americans and Canadians were way behind everybody else - of the modern industry. (Personal Communication, October 9, 2008)

The union’s response to the steel industry decline included establishing an unemployment organization among the workers; implementing training programs; addressing trade adjustment issues, especially lobbying against imports; creating family aid programs; and working with partners such as Carnegie Mellon University to develop new job-creating opportunities. The Union joined forces with industry leaders to lobby against the unfair competitive threat of foreign producers. This included lobbying for legislation to restrict the amount of steel brought into the United States. According to Williams,

[w]e were very active with them [companies] in the trade disputes. Bethlehem Steel. We went after a 201 petition which resulted in Reagan establishing the voluntary restraint agreements before the 1984 election. That gave the industry some breathing time. (Personal Communication, October 9, 2008)
As well, the union made some wage concessions; however, Williams suggests that wage concessions don’t create a market. If there’s no place to sell the stuff it’s hard to keep a company going….The labor movement doesn’t exist to go backwards. We were desperately searching for a way forward. (Personal Communication, October 9, 2008)

Recognizing that wage increases were unlikely given the economic climate, the Union decided to pursue other non-economic strategies during collective bargaining, like a more powerful voice in the industry. According to Williams,

[w]e said that workers making concessions should be thought of as investors. If I would have walked down the streets in those years and offered a steel company that I want to invest the amount of money that a concession represents - as an investor in their company - after they picked themselves up off the floor, they’d offer me the moon. They’d put me on their Board of Directors. They’d assure me that this worthless stock I just bought was one day going to be worth something. They’d inquire of my opinions about everything! That’s the way the workers ought to be treated if they’re going to make concessions. So that led us into investment bargaining. That led us into doing things like getting stock where we made concessions. My point is we did a lot of things like that to deal with the situation. (Personal Communication, October 9, 2008)

One of the most significant strategies undertaken by the Union was to become involved in employee ownership through Employee Stock Ownership Plans (ESOP). According to Williams,

[a]t one time we had 18 ESOPs in America and a spill over from that was doing Algoma Steel in Canada. We structured it in Canada with the NDP government. It
was based on our experience with ESOPs in the US. It’s been a great success story. Dofasco was ready to shut Algoma down. They were going to close it and instead, it is one of the success stories in the steel industry. (Personal Communication, October 9, 2008)

The Union itself went through some major transitions. When Williams was elected, he decided to address a major political argument within the Union over contract ratification. As Williams explains:

In the basic steel industry there had been co-ordinated bargaining. All the companies were at the same table and the contracts were ratified by the Conference – in effect by the presidents of the local unions, not by the membership. This was a great bone of contention. In one way of thinking – in terms of the international’s thinking in those days – this was the way to get the best contracts because you had the companies bargaining not against the views of the mass of the membership, but the opinions of the leaders – the activists – presumably the toughest bunch of people on trade union issues. So this was a way to get very good contracts. And the union got very good contracts.

The dissident elements of the union used this as evidence of a bureaucracy and the power of center running over the membership and not letting the membership vote on contracts as most unions do in most circumstances, and indeed as the steelworkers did among all the rest of their jurisdictions, including the steel industry in Canada. We had membership ratification. I set up a commission to look into this. My own opinion was that we would never get through the difficult years we were facing with this kind of disagreement about how we were ratifying
contracts. It invited people to not accept responsibility for what happened to them. It was only a small minority of people that were really voting on the contract and they could always blame the other guy. I figured there had to be greater acceptance of responsibility by the membership. They had to vote. So we changed the voting procedure. We went to membership ratification. (Personal Communication, October 9, 2008)

At the same time, the steel companies decided to change their approach to collective bargaining from coordinated bargaining to individual company bargaining. However, Williams suggests that they all wanted the same pattern bargaining:

If we gave any company a break, then the others were on the phone immediately asking why shouldn’t they have this break too. They didn’t want individual contracts. Each one wanted the better contract of all the others. So we did pattern bargaining from then on. Set a pattern with one. (Personal Communication, October 9, 2008)

The Union also fought to establish broader representation in the community. For many years, labor was excluded from community leadership organizations such as the ACCD. As Williams explains,

Pittsburgh was in the hands of the old guard. U.S. Steel and others ran Pittsburgh. For years there wasn’t a community effort to raise money for the symphony. The symphony was paid for by the old money in Pittsburgh. And the theatre. They have good hospitals in Pittsburgh. Big shots in Pittsburgh found themselves stuck half way between New York and Chicago, so they built this stuff and they were well looked after. The Allegheny Conference was their mechanism, there’s no doubt about that. (Personal Communication, October 9, 2008)
When the steel industry went into decline, organizations such as the Sloan Foundation provided funding for industrial studies which were headed up by Roderick, a former President of U.S. Steel. Williams recalls,

> We had to barge our way into their meetings. We sent people just to crash their meetings. They didn't invite us into that even. Now, over time, we have much different relations with them. (Personal Communication, October 9, 2008)

Today, the Union is represented on more community organizations in Pittsburgh. Union-nominated directors are members of the Board of Directors of several local companies, which enables the Union to have a role in the company at every level of operation.

Williams believes that it is important to have local ownership of large companies, and it is advantageous to have head offices based locally. Williams suggests that

> [a]t one level, the global economy doesn’t pay any attention to where it’s based. I accept that at one level that’s true, but at another level it does matter….If you don’t have any owners that you can put political pressure on in your own country – if the headquarters, the top group making policy isn’t living in the country – then I think there is a decline in sensitivity. (Personal Communication, October 9, 2008)

Williams also believes that all levels of government play an important role in creating good jobs and strong communities. He points to government support in Canada for the establishment of the Canadian Steel Trade and Employment Congress (CSTEC) which provides industry training and employment assistance. He indicates that nominal government support was provided in Pittsburgh through the Institute for Career Development, a joint training program funded by local companies. Williams also suggests that government plays a critical role in establishing trade policy:
The cleverest trade arrangement in the history of modern trade was the auto pact. Now they called it free trade, but it wasn’t free trade. It’s trade without tariffs. But there was another deal. The deal was that they would maintain production in Canada equivalent to the Canadian market. In fact because of the advantages of production in Canada with the cheap dollar and health care, they did more than that. But that was a way of having managed trade. I have always argued we need managed trade. That’s what the Europeans do to a large extent and that’s what we don’t do. (Personal Communication, October 9, 2008)

Williams is not convinced that Pittsburgh has transformed into a knowledge based economy. Says Williams:

Knowledge-based economy, that’s pretty fancy. If I was leading Pittsburgh, I guess that’s what I’d be pushing for, but I think the reality is that the kinds of jobs that they’ve got in Pittsburgh to replace the old steel jobs are the jobs in all those restaurants and retail stores down where the plants used to be. I think if you look at the jobs people [displaced steelworkers] got, I don’t think very many of them are working in the knowledge economy.

I think we should be pushing that. University education should be free for all kids, whereas in fact what we are doing in America and Canada is driving it back to being the privilege of those who can afford it because it’s so expensive.

Greenspan says for America to really develop, we should be importing the best brains from other countries. Importing the talent, rather than training our own. I think that’s ridiculous. We fought this battle at Stelco for years. We were always
after Stelco to have an apprenticeship program. They put in an apprenticeship program when things were good and as soon as they got a little pressure they killed it again and hired their apprentices from Great Britain. I’m not against immigration. We’re all here because we’re immigrants. But to deliberately go and seek more immigrants to avoid training responsibilities for your own people on the ground, bring somebody in from somewhere else, and to live at the expense of somebody else training their people is wrong. The emphasis should be on providing the opportunities for our own kids to get as much education as possible.

Williams believes that three conditions are necessary to build a healthy society – security, opportunity, and quality. People need to feel safe and confident. They need to look forward to new growth, new learning and particularly new jobs. And they need to be able to enjoy the fruits of their labor, in communities that matter to them, with people that matter to them. According to Williams,

[i]f I were on a community development board, I’d be pushing all the angles. I’d be looking for new industries, new entrepreneurs, promoting education, training people, getting the minimum wage up. I think Jane Jacob’s insight that a city is the focus of economic development has a lot of merit in it. You need a collection of people together to get innovation – to inspire each other. We should have hundreds of Maglev projects – those kinds of projects going on. New things being explored that are high value-added. I’d be working to bring experts into the community, to run seminars, to train people and think up new ideas. Make investment capital available. Mini-banking like they do in Bangladesh. ESOPs. Employee ownership co-ops. Working at trying to raise the level of the
community. And educate, educate, educate. (Personal Communication, October 9, 2008)

Dick Grace, past president of the United Steelworkers Local 1408, worked at National Tube Division of U.S. Steel Corporation. He began his work with the Union as a grievance committeeman in 1965, became President of Local 1408 around 1976, just before the steel industry began its rapid decline. When the downturn in the industry began to accelerate in the early 1980s, the company asked for wage concessions. Grace remembers:

They called us the militant presidents. We balked on that. We didn’t want to give them nothing because they were not giving us any guarantee that they were going to keep the plants open. (Personal Communication, January 25, 2007)

In the 1960s and 1970s, union-management relations were good, but that changed in the 1980s, because new management was brought in from head office and from other plants. Grace explains:

The rank and file people that had gone up into management, they retired and there were new people in Personnel....The problem was some of them they brought in, they didn’t know a pipe mill from an ice cream cart. They didn’t know the working of the plant. Sure they had college degrees and some were engineering, but they really didn’t know the hot mill. They didn’t know what the pipe did. The main thing for them was to combine jobs, eliminate jobs. That was their goal. (Personal Communication, January 25, 2007)

Grace suggests that the mills were not sufficiently modernized to compete with foreign imports, so they tried to eliminate the work force to save costs. The modernization that did take place at National Tube was “too little, too late.” They had neither the technology nor the corresponding labor processes in place to offset workforce reductions and maintain production levels. According to Grace,
everything we had was outdated, the making of steel, the rolling of steel. It was going back to the early days when they put the mills up. Sure they did some modernization, but not enough. We still made pipe the way they made it back then. That system was still working in the 80s. They did change from a steam engine rolling mill and made it totally electrical back in the 60s. Then they ended up shutting it down. At National Tube, we got our steel from Duchesne Works. They had their own blast furnaces, but they didn’t have a continuous caster. They put in a continuous caster at Edgar Thompson Works, even though they used open hearth. They agreed to put a continuous caster there and that’s why it’s still there today. Had they not put that caster in, it would have been gone. That’s the only caster in the Mon Valley and that’s the only steel making facility in the Mon Valley operating right now as part of U.S. Steel in Braddock. (Personal Communication, January 25, 2007)

Investments in training were also limited. Grace indicates that formal training provided for workers was primarily apprenticeship training for trades. Most of the training was done by the workers informally: “You worked side-by-side and you learned from the other guys and you worked your way up on the job” (Personal Communication, January 25, 2007). Grace says that it was fairly clear, that with very little investment occurring in the plant facilities, equipment and training, the company was not making any long-term plans for National Tube. Grace recalls the traumatic year during which the plant was shut down:

It was 1987. It will be 20 years this coming August. I was very emotional. Well, let me say this. When I was President of the Local, I had 4100 members. We had a six month strike prior to this incident. We were on strike; they finally negotiated a contract and we went back to work. Of course, we had already made local concessions and combined the crafts. We were up for the master agreement and
we went on strike. We made contractual concessions on the master agreement. When we got back, they gave us 90 days notice and closed the plant. What had happened was, at the Fairfield plant down in Alabama, the union made extraordinary – well, some bad deals down there. The company put in a billet caster at Fairfield and when I saw that, I said, we’re done. Sure enough, we came back off the strike and they told us they were closing the National plant. That day that we all walked out, a reporter came up to me. He came over to me to talk with me. We had about 150 people left in the mill. We had combined crafts. We were down to only one crew working. One part of the mill was working; everything else had been shut down before that. I didn’t want to talk to anybody – I was real emotional. You know, I had been there for 36 years. And even though I could retire, you know, I was 55–56 years old, it was tough. Our Local had several suicides. Some of them were young people, you know. One guy had a young family. One guy I knew real well was eligible for his pension, but he was so upset. He was used to getting up and going to work everyday and he just couldn’t accept it and he killed himself. A couple of the guys, I knew real well. It was, yep . . . [speaker chokes with great emotion]. (Personal Communication, January 25, 2007)

Many people, especially the younger residents, had to leave his town, McKeesport. Some went into the military, others retired, but a lot of people left. Grace indicates that even today, when students graduate, they leave because there are no jobs. He suggests that the political leaders tried to revitalize the area, but they lost so much tax revenue, there was no funding for new development. Many of the houses were boarded up and abandoned because people could not pay their mortgages. Poverty rates and crime rates increased. Today, the community is largely
comprised of seniors. Grace notes that many of the towns around Pittsburgh experienced similar fates, including Clairton and Duchesne:

Duchesne is terrible. They’re shutting their school district down there. Right now the school district in Duchesne is under State control. (Personal Communication, January 25, 2007)

Mike Kolesar has been involved in the steel industry for over 70 years. Kolesar (Personal Communication, November 27, 2006) began working at Duchesne Mill in 1937 and stayed until 1979, except for a few years during World War II. During his time at the mill, he worked as a Machinist and also spent one term as Treasurer for his local union. When the mill closed in the 1980s, many of the people whom Kolesar worked with left the region to find employment. He indicates that trades people like himself tended to be successful finding work elsewhere because they had skills that were mobile and in demand. Some of his co-workers started businesses. Many hoped that the mill would re-open one day, and organizations like the Steel Valley Authority attempted to re-open the mill under employee ownership. However, according to Kolesar, when U.S. Steel tore down Dorothy – the newest blast furnace installed at the mill – it became clear that Duchesne Mill was closed permanently, and the area would never be the same.

The United Steelworkers Union has changed dramatically over the past 20 years, according to Tony Lazzari, an organizer for the United Steelworkers (Personal Communication, November 27, 2006) Lazzari explains that after WWII, something was happening in world markets. Japan started stepping up, overnight almost. I think that unions and management ignored the fact that they were now competing in world markets…After it was done – after people lost their jobs and you were sitting at home with your last unemployment check – you’re thinking, they had to see this. And it had to be by both sides. This great labor organization – the steelworkers. Somebody had to see this coming. Things were happening in the world. (Personal Communication, November 27, 2006)
By the 1970s, productivity gains in the Japanese steel industry enabled Japan to become a major competitor of North American steel producers. In 1970, the hourly employment cost for steelworkers in Japan was estimated at $1.80 compared with $5.68 in the U.S. (USWA, 1971, p. 14). At the same time, Japan was making substantial improvements in output per manhour and the American industry could no longer offset its higher hourly cost with lower manhours per ton. About 80% of Japanese steel was produced using the more efficient Basic Oxygen Furnaces compared with about 48% in the United States (p. 20). Bloom and slab casters were also introduced in newer facilities. In addition, Japan was improving its transportation infrastructure, creating harbors like the one at Wakayama, which could handle bulk carriers with capacities of more than 150,000 tons compared with Great Lakes ore carriers, which could handle about 20,000 tons (p. 17). According to the USWA (1971, p. 23), what this added up to was “[t]he world’s newest and most modern steelmaking facilities—all carefully engineered—and efficiently operated with the minimum of wasted energy and unnecessary labor.”

Lazarri estimates that, today only about 18 to 20% of the people in the steelworkers’ union actually work in the steel industry and about 80% work in other industries. One of the ways that the United Steelworkers has handled the decline in the steel industry has been through mergers with other unions:

We did one with the rubber workers. We did one with the glass workers; more recently [2005]. We did one with PACE [Paper, Allied-Industrial Chemical and Energy Workers International Union]….You know, you’re in a world economy. People are creating alliances and trying to get on track with people, with their ideas. So, that’s what I’ve seen the steelworkers do – they’ve become diversified. (Personal Communication, November 27, 2006)

Lazzari notes that the companies that the union is organizing today are mostly small firms. Many have fewer than 150 workers. Smart companies, despite their small size, are looking ahead and seeing the new technologies being developed and implemented, and they are training their employees to work in modern environments. Some offer incentive programs to promote participation in training. Lazzari observes that these investments are in sharp contrast to the
approach taken by the big steel companies in the 1980s. Promoting workforce development is an important role for unions in the new economy.

*Who Is Leading Pittsburgh’s Transformation?*

Three organizations, the City of Pittsburgh, the URA, and ACCD form the dominant leadership group within Pittsburgh’s urban regime and there is frequent interaction among them. The City is the lead political organization and a major source of funding for economic development. The URA plays an important role in Pittsburgh, coordinating real estate development including residential, commercial, industrial, cultural, and institutional projects (URA, 1997). The City, ACCD, and URA have also developed alliances with other agencies and with all levels of government, especially the Allegheny County and the Commonwealth of Pennsylvania.

For over a half century, ACCD has worked closely with the City and the URA to create public-private partnerships. The Conference frequently serves as a coordinating body. In addition, three affiliates work directly with ACCD, each with its own Board of Directors, all of which share one Chief Executive Officer. The Pittsburgh Regional Alliance focuses on business attraction; the Economy League undertakes public policy research and strategic planning; and the Greater Pittsburgh Chamber of Commerce advocates to improve the local business climate. Their interlocking structure enables ACCD and its affiliates to engage a large number of stakeholders in economic transformation. ACCD and its affiliates operate within the same building – Regional Enterprise Tower.

In addition to engaging directly in economic activities, many business, community, and labor leaders participate in economic transformation through their roles on agency Boards. Historically, ACCD’s Board has comprised corporate members almost exclusively. Business and government leaders continue to dominate as major power brokers, but significantly more nonprofit leaders are participating with ACCD and with other economic development organizations as Board members. Business leaders come from a more diverse range of sectors compared with several decades earlier. Many of the members represent Pittsburgh’s economic growth industries. Universities also play a key role and health care agencies are well represented. Labor leaders continue to be underrepresented on agency Boards, which limits their ability to
mediate the demands for new economic activity in Pittsburgh and the interests of workers. The exclusion of unions diminishes the democratic quality of urban regimes.

In Pittsburgh, a cluster of community organizations has been established – not formally, but in practice. Many of the organizations are co-located in Regional Enterprise Tower, which facilitates informal meetings in lobbies and elevators, and formal meetings in shared conference facilities. Organizational structures enable community and economic development organizations to engage business, labor, and other community leaders. Numerous connections are made through interlocking Board relationships. These interlocking relationships create bridges to other organizations. Social networks cut across various sectors, levels of governments, and geographies contributing broader perspectives, insights and better collaboration. There is a stable base of leaders (and organizations) who participate on several Boards and engage in many of the city’s major development initiatives. The relationships that develop among Board members and economic development partners enable them to accomplish ends that they could not achieve individually. Frequent partnership initiatives have been created involving community organizations and multiple levels of government. Increasingly, joint initiatives take the form of private-public-nonprofit-academic partnerships [my emphasis].

This research has not identified all of the institutions and associations in Pittsburgh that participate in the City’s economic transformation. Many other organizations contribute, such as cultural associations, religious organizations, and environmental groups; however, they were not identified among the leading agents of transformation who were interviewed for this study. A comparative analysis of factors of economic transformation in Pittsburgh and Hamilton is summarized in Chapter 12.
Chapter Eleven:
Leading Transformation:
Perspectives of City Leaders in Hamilton

Introduction

This chapter explores the perspectives of community, business, and labor leaders in Hamilton regarding key factors influencing the local economy. Interviews with local leaders also explore the interconnections among economic development organizations and other leaders who mediate factors of economic transformation. Hamilton’s transformation from steel town to a more diversified economy has only recently begun. There is a long journey ahead to ensure that the city’s economic structure is sufficiently diversified with private sector, as well as public and non-profit sector development, to achieve sustainable prosperity.

Manufacturing continues to be the largest wealth generator in Hamilton despite the loss of many significant manufacturing companies. Although Hamilton is less dependent on steel than it was in the 1980s when the mills accounted for well over 30,000 direct jobs, the steel industry still accounts for the largest component of Hamilton’s manufacturing sector. It also serves as an anchor for many suppliers, including metal service centers and customers, especially automotive parts companies and transportation enterprises such as the Hamilton Port Authority. That makes Hamilton vulnerable in times of economic recession, like the global recession that has begun in 2008.

Although Hamilton’s steel industry is geared to supply the average demand over a steel cycle, recent global economic events have placed the industry in a volatile position. Hamilton’s steel sector is driven substantially by trade with the United States. Domestically and internationally, it relies heavily on the automotive industry. Just as the steel industry collapsed in the United States and declined substantially in Canada during the recession of the 1980s, today the automotive industry in North America is fundamentally at risk. General Motors and Chrysler, two of North America’s largest automobile manufacturers are facing very serious financial difficulties. The U.S. and Canada have agreed to provide billions of dollars in emergency loans to the two large automakers (CBC News, 2008). At best, the automotive industry is projected to
see double-digit declines in demand for cars in 2009 (McMullen, 2009). The cuts have already hit the steel industry.

Many of the factors that led to the collapse of Pittsburgh’s steel industry also continue to challenge Hamilton steelmakers. Major restructuring has occurred within the local industry throughout the 1980s and 1990s, and continues today. Foreign competitors are capturing a growing share of the world steel market. So are minimills. While investments in technologies contribute to quality improvements and cost-cutting, they also lead to substantial reduction of workers. Industry consolidation also adds pressure for improved productivity and cost-competitiveness. All major steel plants in Hamilton (and Canada) are now foreign-owned. Their mandate is to maximize the profitability of their global enterprise. Despite foreign ownership, major recent investments in Hamilton’s steel industry will help to strengthen the competitiveness of local firms. ArcelorMittal, the world’s largest steel company, paid almost $5 billion for Dofasco. U.S. Steel Corporation invested over $1 billion in its acquisition of Stelco, breathing new life into the company after it struggled through 2 years of restructuring under Chapter 11.

Hamilton’s economic leaders are committed to a cluster-based model of economic development, which builds on the knowledge and experience of the community. Their primary goal is to reduce the City’s dependence on one predominant industry – steel – by creating diverse clusters of firms. Economic diversification is a goal that all of the leaders interviewed for this research agree upon.

Voices of Leaders

Community Leaders

Fred Eisenberger was elected Mayor of Hamilton in November, 2006. According to Eisenberger,

location – nearness to North American markets on both borders; access to the airport and port makes us a unique opportunity for people looking to capitalize on that kind of transportation network. I think location for Hamilton is everything [speaker’s emphasis]. (Personal Communication, January 30, 2007)
Classic location theory certainly applies to Hamilton’s heavy steel industry. The cost of transporting bulk materials such as coal and iron ore, as well as the cost of transporting finished steel products was an important factor influencing the initial location of Hamilton’s integrated steel mills. Hamilton is located “within the heart of North America’s most important automotive and vehicle production region” (Toronto Regional Research Alliance, 2008). The port is especially critical for steel industry transportation needs. As the former Chair of the Hamilton Port Authority Board, Eisenberger understands the importance of multi-modal transportation infrastructure for attracting manufacturing industries. The port has been pivotal to Hamilton’s success as the nation’s steel capital.

For Eisenberger, “ready-to-go employment lands” are essential for the city’s growth. A priority for the city is the development of infrastructure and services for industrial-zoned properties surrounding the Hamilton International Airport. In the tradition of location theory, large blocks of land for production and assembly are important for the location and expansion of manufacturing industries or clusters. The city has also developed the Environmental Remediation and Site Enhancement (ERASE) program, which uses tax incentives to encourage remediation. Eisenberger is prepared to explore opportunities to buy up former industrial sites, remediate them, and make them ready for resale. As a strong proponent of “smart growth,” Eisenberger suggests that

brownfield employment lands are is key for Hamilton – in-filling. As we’re losing industrial capacity and land mass – and it’s happening – it’s not as if it’s going to come one day, it’s clearly happening. Both Stelco and Dofasco in terms of size can do more in less space. We have employment land opportunities that are becoming available on existing industrial sites. I think we need to focus on those more than anything.

We have a huge void in terms of office space here in Hamilton; we lost a lot of commercial office activity to Oakville, Toronto. Head offices have moved on as the industrial base shrinks and they tend to shift their head offices to other
locations...I guess we are a former industry town that’s in transition clearly and has been for many, many years and will continue. We are no longer the overriding steel town that we used to be. I think that’s a marker that’s slowly but surely slipping away, not that it’s being pushed aside. (Personal Communication, January 30, 2007)

Eisenberger wants to see increased diversity across sectors of the local economy. For Eisenberger, Hamilton is a city in transition from “a kind of industrial unionized mentality towards a more entrepreneurial, creative kind of culture” (Personal Communication, January 30, 2007). The City’s economic development department has adopted a cluster-based framework. According to Eisenberger,

[w]e haven’t ignored our industrial past and I think it’s important that we don’t. Some people want to eliminate it and that would cause more harm than good. Having good, solid investors or partners in the city is healthy, but we also need to ensure that we look at other areas in a creative and entrepreneurial way. We need to reach out to different sectors in the economy to find our niches and develop other new niches. (Personal Communication, January 30, 2007)

Steel continues to be an important industry within Hamilton’s advanced manufacturing cluster. So is the automotive industry. Public, private, and academic partners are investing in world-class education and research. Irons (2008) describes the McMaster Steel Research Centre as an association of professors from three departments of engineering at McMaster University, including materials science and engineering; chemical engineering; and mechanical engineering. Other centres at the university also work closely with the automotive sector. Together, these interconnected sources of innovation provide significant support to steel and automotive firms. Professors at the steel center work closely with companies such as ArcelorMittal Dofasco to develop mutually beneficial, collaborative projects and workforce development programs.
Examples of the center’s projects include the development of light weight steels for the auto industry and steel processing technologies aimed at reducing the carbon footprint.

In addition, McMaster Innovation Park is an important new resource for Hamilton – one which the Mayor sees as part of a long-term plan to turn the city’s economy around. The expectation is that the Innovation Park will provide resources for creating new technology-based enterprises, including spin offs from the university.

Eisenberger stresses the importance of industry-education coordination as an important factor for improving Hamilton’s economy, especially educational programs that focus on the city’s current and future employment needs. Eisenberger observes, however, that to-date, even though we’ve made some gains in the research, educational and medical sectors, it hasn’t come close to replacing the income that was derived in the industrial sector. (Personal Communication, January 30, 2007)

Looking ahead, Eisenberger would like to see a new model of economic development for the city that is less influenced by a political power structure and more conducive to long-term planning. For Eisenberger, that means creating a privately-driven structure led by broad-minded thinkers who possess economic development expertise as well as an understanding of the over-riding needs of the community. That includes business issues, educational issues, and especially poverty issues. According to Eisenberger, business can’t be the override; it needs to be part of the bigger picture; it needs to be part of the way forward and not the driving force. There are other driving forces that are going to move us along and it’s not just business….My hope is that we can have an arm’s length organization that will start to broaden their views in terms of what economic development means in the full sense of the word. (Personal Communication, January 30, 2007)
For Eisenberger, the current model of an internal economic development department that reports to city council is insidious almost. By virtue of its structure, you get localized decisions rather than big picture, long-term decisions…I’d certainly like to have a model that has the authority and control to be entrepreneurial. You know, aggressively entrepreneurial. Not held back by a political reticence, I guess. Politics by nature is risk averse. (Personal Communication, January 30, 2007)

According to Eisenberger, amalgamation of the municipalities currently making up the city of Hamilton has enabled City Council to engage in more cohesive and comprehensive planning for economic development. However, Eisenberger believes that city leaders need to broaden their collaboration on economic development matters, and that can occur more effectively with a different model and processes.

Eisenberger suggests that civic engagement in economic development is absolutely critical. Based on his experience,

people want to be involved. To not engage them would just slow things down and cause problems. We need to get directions, in my view. This is not my city, but a collective city and the voices have to be heard and the more debate we have, that may take a little longer, but I think at the end of the day we are going to have a clearer picture of where we are going - where we want to go. (Personal Communication, January 30, 2007)

In 2007, Eisenberger led a visioning process that involved stakeholders from across the city. Through a process of collaboration and consensus building, they created a vision of Hamilton, “the best City in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities” [italics in original] (City of Hamilton, 2007, p. 3).
Eisenberger also feels that quality of life is paramount for attracting people to live and work in the city, and to raise a family there. Main thrusts of the city’s economic development strategy include further expansion of the city’s film and cultural industries cluster, its tourism cluster, and its downtown core. He is committed to addressing factors such as environment, “walk-ability” through the city, public transit, and educational opportunities.

In terms of priorities for the City’s Mayor, reducing the poverty rate tops the list. Eisenberger does not feel that Hamilton is a sustainable community with one in five people in the community living in poverty. The Hamilton Roundtable for Poverty Reduction brings together stakeholders from across the community in a collaboration to eliminate poverty in the city. As well, the environment is among the top priorities for Eisenberger, because of its importance for individual health, and because it impacts the city’s ability to attract business and people to locate in the city. Another key priority is education. According to Eisenberger,

We are taking baby steps into the educational sector and bio-tech; but I think we need a leap towards new, emerging technologies like bio and high tech and e-commerce. All of those things need to be elevated in terms of our willingness to tackle and explore opportunities. (Personal Communication, January 30, 2007)

As the Executive Director of Economic Development for the City of Hamilton, Neil Everson works closely with the Mayor. As an internal department of the City, his department ultimately reports to the Mayor and City Council. It is responsible for industrial land and industrial park development, and operates a small business enterprise center, a technology incubator, and a film office. The economic development department is also responsible for brownfield development, and a land acquisition agreement with the airport. Everson manages business attraction and retention initiatives, information resources and statistics relating to business, and oversees Tourism Hamilton. There are similarities between some of the functions of this organization and the Pittsburgh Urban Redevelopment Authority.

Everson is the lead author of the city’s economic development strategy, which is grounded in Porter’s theory of cluster development. Everson’s department coordinated extensive stakeholder meetings in the community to arrive at a focus as of 2002 on six clusters, then subsequently in
2005 on eight clusters: advanced manufacturing; agriculture and food and beverage processing; biotechnology and biomedical industries; port-related business; the aerotropolis; film and cultural industries; tourism; and downtown development. For Everson, to operate without an economic development strategy is “like throwing mud against a wall and seeing what sticks” (Personal Communication, December 6, 2006), but he emphasizes the need for flexibility and contingency planning. He also stresses the importance of civic engagement in the process. Everson believes that it is important to engage stakeholders from across the community, including business, industry, education, hospitals, and transportation. Hamilton’s economic development strategy was developed with input from 138 groups. However, Everson notes that anytime we’ve done surveys in the city on what’s important to the residents—planning, information systems and economic development all congregate near the bottom, but at the top are public works and garbage removal, police and ambulance, and fire. (Personal Communication, December 6, 2006)

Everson affirms that Hamilton is significantly stronger as a result of its amalgamation of six communities in 2001. He sees tremendous efficiencies, for example, instead of six official plans for six communities, Hamilton now has one; instead of six zoning bi-laws, the city now has one; instead of six sets of development charges, Hamilton now has one. As a result, development processes are more clear, consistent, and expedient. Everson feels that, historically, economic activity among various organizations in Hamilton has been fragmented, although he sees some improvements occurring. For example, the Hamilton Roundtable for Poverty Reduction has come together around one of the city’s key issues, and it involves many community agencies as well as business leaders and citizens from across the new city. Everson suggests that community leadership will continue to be a challenge because there is a shrinking pool of senior people in companies and community organizations are also fully tapped. Individuals may have positions on multiple Boards because there is a shrinking pool of people to draw upon. He notes that middle management levels are shrinking and that’s really where your community leaders and stakeholders come from. I think a lot of these folks are being spread very, very thin. Some have four or five boards that they sit on and it’s an issue of
time constraints for a lot of these folks. I mean you start to see the same people at
the same things and you know they aren’t giving their full attention whereas
15–20–30 years ago we had a broader base of senior managers and CEO’s,
CFO’s, and Presidents that could be spread amongst community development
initiatives. (Personal Communication, December 6, 2006)

In Everson’s view, the structural upheavals in Hamilton’s manufacturing sector are the
priority issue that his department is dealing with. He notes the city’s economy has changed
substantially relative to the 1960s and early 1970s when there were several Fortune 500
companies manufacturing in Hamilton – Firestone, Proctor & Gamble, International Harvester,
General Electric, Westinghouse, in addition to Canada’s two largest integrated steel mills, Stelco
and Dofasco. Today, all of these large manufacturing companies, except for the steel mills, have
exited the city. Everson explains:

We had a Levi Strauss manufacturer in operation and they left a year and a half
ago. We actually survived the first round of cuts about 4 or 5 years ago, but the
reason they left is because Levi Strauss is now going to be like Nike – marketing
only – and all the production has left North America. It’s being done off shore.
We had Rheem Canada which produces manufactured water heaters – the kind
you have in your basement. Their plant in Hamilton had about 300 employees.
Their sister plant in Montgomery, Alabama has 3,000. When the dollar broke 90
cents, they stopped manufacturing here and they’re going to warehouse. That’s a
no-brainer. Those are structural changes that all have macro economic causal
reasons why they happen, but this is a big issue that we have to deal with.

(Personal Communication, December 6, 2006)
The city has also experienced substantial employment reduction in the steel industry. Everson recalls that in the mid 1980s, employment at Stelco and Dofasco peaked at about 20,000 workers and 14,500 respectively. Employment in the two major steel mills has diminished to a combined total of less than 10,000 today, although some of the business has shifted to steel service centers such as Taylor Steel, Nelson Steel, and Nova Steel which did not exist in Hamilton 25 years ago.

An important issue for Hamilton is the city’s limited supply of industrial land, although Everson indicates that new industrial parks are planned for the city and about 1,500 acres of land near the Hamilton Airport is targeted for development. The city has almost fully absorbed its “shovel-ready” land supply, and the remaining parcels are relatively small. The city hopes to attract new industrial development as part of the aerotropolis. A related issue that Hamilton must address is the redevelopment challenges which arise with brownfield sites that result with the loss of heavy industries. These properties present more difficulties than greenfield developments because of the environmental remediation that needs to occur. For older industrial cities like Hamilton, brownfield development imposes substantial additional costs relative to land development in newer communities. Hamilton must find solutions to clean up these properties, because the decaying buildings and contaminated lands are unattractive and unhealthy, and they act as deterrents to new investment within the locality.

Everson points out that compounding these land development challenges, the city’s infrastructure is about 150 years old and is therefore much more expensive to maintain than newer infrastructure. The city’s sewer treatment plant is almost at capacity, which presents a challenge with respect to making serviced land available for development. Everson suggests, [i]f you want growth, you have to be able to accommodate it downstream. New municipalities don’t have these issues of aging infrastructure. (Personal Communication, December 6, 2006).

Everson observes that the focus of economic development has changed dramatically over the past 30 years, from “cheap power and roads” to “research, innovation, and education.” To address this changing focus, the city participated with a broad range of partners in creating HR Matters, a human resources strategy that complements its economic development strategy.
Everson stresses that the labor force for new firms and industries must have the right skills to perform the type of work that they require. Everson and his team have developed strong relationships with the local universities and college to help ensure that programs offered meet the changing needs of existing firms and the needs of new ones.

Everson also says that quality of life factors are becoming increasingly important for attracting and retaining businesses and people. The city has commissioned a “social development strategy” to address critical issues such as poverty and the need for social services and infrastructure, such as affordable housing. One example of positive action is “The Terraces,” a partnership initiative involving the federal, provincial, and municipal governments, and private sector investors to build 123 affordable housing units in downtown Hamilton (City of Hamilton, 2007, p. 16).

Joe-Anne Priel is General Manager of Community Services for the City of Hamilton. Priel has a broad view economic development and believes strongly in creating organizational structures with intentional linkages. For Priel, investments in community services are investments in economic development:

We support child-care so there's definite linkages there. We build affordable housing – people in the community have to have a place to live if they are going to work. We train people – we provide skills training. So, if you add it all up, we make investments. We make investments in people and those investments are about economic development. (Personal Communication January 5, 2007)

Priel admires the sense of history that permeates the city. She explains that there are generations of people who have lived in Hamilton, so there is a solid sense of community which newer cities such as Edmonton, where she lived previously, don’t have. That attachment is evident, for example, in the way Hamiltonians care about their community. As an older industrial city, Hamilton is also different from newer cities because for many years, people were accustomed to doing manual labor requiring little formal education, and earning high wages for doing it. As so many of the big manufacturing companies left or downsized, the local labor
market became flooded with displaced workers who were not trained or educated for different types of work. That creates a multitude of problems.

Priel notes several key issues that she feels are interconnected:

Our kids are not finishing high school and we have one of the lowest rates of completing or of obtaining a degree or a diploma or technical certificate [in Ontario]. (Personal Communication January 5, 2007)

Priel suggests that the city is not sufficiently focused on skills development needs:

I believe employers are going to come where there are skilled people. My sense is that we've got to "skill up" our workforce and I think that's where Hamilton is in the toilet, because we've got this unskilled workforce and employers are not going to come here. I think that's the single biggest reason. (Personal Communication January 5, 2007)

In addition, Priel feels that Hamilton must overcome its negative image: “a lot of our kids leave. If they are educated, they are out of here. So we've got big ‘out migration’ here” (Personal Communication January 5, 2007). Loss of youth contributes significantly to eroding the social fabric of the community, in addition to the local talent pool.

Priel is particularly concerned about the high level of poverty in Hamilton:

Here, where I walk out my door everyday, where I am, I see huge poverty. I see huge issues with mental health and huge physical health problems here that I just didn't see in Edmonton. (Personal Communication January 5, 2007)

For Priel, all of these issues are linked to Hamilton’s economy – the decline of its manufacturing sector with its high-paying jobs and the emergence of a service economy that has not sufficiently
attracted higher end jobs that provide liveable wages. According to Priel “this is the wall we are up against is ‘any job is a good job’. That's the wall” (Personal Communication January 5, 2007).

Priel and other senior leaders in the city are working to blend Hamilton’s social development strategy and the economic development strategy, so that leaders across the city will recognize that services such as childcare and affordable housing are investments in people – investments in Hamilton’s current and future labor force – investments in Hamilton’s economy. Priel notes that there are groups such as the Hamilton Civic Coalition that are not functioning well and if all of these stakeholders could come together around key economic development needs, that would be more effective:

You’ve got Mac [McMaster University] there. You’ve got the hospitals there. You’ve got the City Manager there. You’ve got Dofasco. There’s Stelco. They’re senior, senior people. So, if all could be on the same page even, it would be helpful...If the Hamilton Civic Coalition – if that thing was working, then I think that would be the perfect table. (Personal Communication January 5, 2007)

Priel views Hamilton’s poverty roundtable as a type of economic forum that encompasses important social issues:

How do we ensure that our kids right from zero up get good early childhoods – that they are in school, they are doing well, that they graduate and that they get the skills and that they stay here and they are able to participate in the new economy? (Personal Communication January 5, 2007)

For Priel, the poverty roundtable has been an effective way of bringing people together to address the city’s poverty issue and the key to its success has been commitment by leaders in the community:

We were intentional at the poverty roundtable about who we brought to that table and we were criticized because we brought the influential people to the table.
People who could make change, people who could move the system forward, and people of influence. We left a lot of people out. So we did that, we knew that was going to happen, but we did it intentionally. So I think you do have to have the leadership and I think you've got to be strategic and bring the right people to the table recognizing that you are going to make some people mad. But, there are certain people who can move items forward and there are others who can't for whatever reason. So the leadership is critical and it's got to be multi-sectoral. You've got to have leadership from the governments for instance. You've got to have leadership from the business community. Leadership from all sectors in community at the table. (Personal Communication January 5, 2007)

Priel suggests that all members of the community, not just leaders, need to be made aware of the issues. These need to be owned by the community:

If I leave, does the poverty roundtable fall off? You can't afford to have that happen, so you have to have these long-term plans that are bought into, owned by the community and we're all going in the same direction. (Personal Communication January 5, 2007)

Like Everson and Priel, Audie McCarthy is a proponent of strategic planning. She is focused on valuing Hamilton’s workforce. McCarthy, Chair of HR Matters, is adamant about the importance of developing the city’s labor market. HR Matters is a collaboration between businesses and community organizations in Hamilton. The partners include the City’s economic development department, Mohawk College, Hamilton Training Advisory Board (HTAB), the Hamilton Industry Education Council (IEC), Dofasco, Hamilton Health Sciences, Hamilton International Airport, and Chambers of Commerce, among others. McCarthy suggests that HR Matters has brought stakeholders together to alleviate the fragmented approach to human resource needs of the city. For McCarthy, this strong collaborative leadership is essential for
business attraction and retention and for recruiting talent. One of the most important outcomes of *HR Matters* is the focused effort towards addressing issues. Volunteer leaders work together to address collective needs, share resources, and develop coordinated strategies around common needs such as improved employment integration of immigrants. As well as considering the needs of large organizations, *HR Matters* addresses issues faced by small businesses which do not have human resources departments. McCarthy suggests,

the majority for small businesses are just focusing on “survival for today.” Let me get through today. Don’t ask me how I’m going to staff things ten years from now; it’s just too far away. (Personal Communication January 5, 2007)

The *HR Matters* group has identified skills shortages as a critical issue for Hamilton, especially among the trades and nursing professions. McCarthy suggests that service areas such as tourism and retail are also experiencing challenges attracting workers because jobs in those industries tend to be lower paid with high turnover. According to McCarthy,

whatever work is done to promote the city, we need to make sure that we’ve got the people there to support it...if you’re trying to create that downtown Hamilton where people want to come because there’s great restaurants and great theatre or whatever, you need to consider that industry. (Personal Communication January 5, 2007)

McCarthy points to other critical issues for Hamilton – its growing poverty rate and older population. McCarthy attributes the rise in poverty rates to the decline in high-paying manufacturing jobs and to demographics. Hamilton has an older population relative to many other Canadian municipalities and a large number of people are on fixed incomes. McCarthy feels that the public is not sufficiently aware of or engaged in issues such as labor shortages and child poverty:

Before I started on *HR Matters*, I’d lived in Hamilton all my life with the exception of 1 1/2 years, when I lived in Toronto. I have lived here, was educated
at McMaster University, worked here, commuted a lot back and forth to Toronto; however this has always been my core. Before I started *HR Matters*, I didn’t have a clue what was going on in the city and I think it’s typical of people who are working their 8-to-10 hour days, raising their families, etc. We don’t really know what’s going on in our own cities - in our own backyards. I had no idea that one in five children in Hamilton lives below the poverty line. (Personal Communication January 5, 2007)

John Dolbec is the Chief Executive Officer of the Hamilton Chamber of Commerce. From Dolbec’s perspective, a key role of the Chamber is to create business opportunities, which means working to ensure that “the climate in Hamilton is sufficiently dynamic so that business can thrive in the city” (Personal Communication, December 6, 2006). Dolbec is committed to making Hamilton “a better place in which to live, work, play, invest, and visit,” but he wants to see organizations in the city collaborating more to achieve those goals. The Chamber’s primary objective in the short term is to

maximize employment opportunities in the city, not for their own sake, but for the enablers – to enable other things to happen, to address poverty, and to address broader community sustainability, and a whole variety of issues. (Personal Communication, December 6, 2006)

Like Eisenberger, Dolbec says that the city needs to develop a new model for economic development based on public-private sector partnership:

You have the city’s economic development department, but that’s driven by city staff, which is driven by city council and they have an inadequate budget. I mean, the guy that is in charge of economic development in the city, Neil Everson, is a great strategic thinker and they have great plans from an economic development
perspective. I think they’ve even won some international awards in terms of the cluster development strategy that the city has, but there is a certain lack of integration in two ways. There’s a real lack of commitment in my perspective from city council to its own economic development plan and it’s that they are inadequately funded. At the same time, there’s not really full integration with the private sector….There is a place for an in-house economic development department, but I think the marketing side of economic development has to be an effective public-private partnership. (Personal Communication, December 6, 2006)

Dolbec affirms that the Hamilton Chamber of Commerce has a very strong working relationship with the City’s economic development department. Dolbec and Everson communicate frequently and Dolbec indicates that they would like to cohabit the same premises and create a one-stop center encompassing the city’s business development services, the planning department, a small business enterprise center, Tourism Hamilton, and the Chamber of Commerce. He proposes that co-location would contribute to more cohesion.

Dolbec identifies five core economic issues for Hamilton. First and foremost, the city is experiencing a “radically changing economy” that was once based primarily in the steel industry and heavy manufacturing. Much of Hamilton’s industry was made up of large employers like Stelco and Dofasco, and branch plant manufacturers of U.S. parents, but according to Dolbec, that began to change about 15 years ago. Although manufacturing continues to be Hamilton’s largest employment sector, the city is in the process of redefining itself to become a more diversified economy. Dolbec notes that the new economy is made up of predominantly small businesses with up to 500 employees, rather than a few large employers. Industry within the manufacturing sector in Hamilton is becoming more diversified. He also notes that population growth in the neighboring city, Toronto, is spilling over into Hamilton and that trend should continue both in terms of people and businesses. According to Dolbec, “it is inevitable that we
are going to have spill-over growth that’s going to be attracted here, no matter how badly we screw things up” (Personal Communication, December 6, 2006).

Dolbec points to several infrastructure issues for the city. Although Hamilton’s location relative to the North American marketplace and its multi-modal transportation network are huge assets for attracting business, the city’s transportation infrastructure is in significant need of upgrading, particularly public transit. As well, the city needs to improve its inventory of industrial serviced land and develop its tremendous inventory of brownfield sites. Unfortunately, financial resources to spur such development are somewhat limited, in part because with the loss of large manufacturing companies, the city is experiencing a declining industrial tax base and is relying more on residential rate payers to pay the bills. In Dolbec’s opinion, that situation is not sustainable because a single family home rate payer will use up more services than they pay into. Dolbec acknowledges the city’s excellent education and healthcare facilities. However, he observes that

they seem to operate in isolation in terms of being fully integrated… I think, as a community we are handicapped by having a lack of unified vision…Everybody has different ideas in terms of what the solutions to our problems are, and are very set and fast in their views, so we spend a lot of time in this community fighting with each other rather than working cohesively. (Personal Communication, December 6, 2006)

Former Regional Chair of Hamilton-Wentworth, Terry Cooke, agrees that city leaders must form consensus around its major economic development strategy (Cooke, 2008). He says that political opposition to facilitating further growth around the airport has come from some councillors who believe airport expansions will come at the expense of downtown renewal and North End brownfield remediation, and from others who are ideologically opposed. But in reality, the kinds of jobs and investments that have been bypassing Hamilton for a generation in favor of places such as
Burlington, Brantford and Waterloo are unlikely to locate in downtown Hamilton or North End. (Cooke, 2008)

Dolbec proposes that a degree of “mythology” exists with respect to Hamilton’s economic transformation because many people believe that healthcare has become the leading industry in the city. According to Dolbec, manufacturing continues to be the city’s largest employer, retail is the second largest employer, and healthcare is the third largest employer. Dolbec acknowledges that, as a single entity, Hamilton Health Sciences employs more people than any other employer in the community.

Dolbec describes Hamilton as a “very down to earth, roll up your sleeves, get to work kind of city” (Personal Communication, December 6, 2006). He views the people as very generous and authentic, with little patience for pretentious people. According to Dolbec, statistically speaking, we donate more per capita in terms of giving than any other community in Canada. We have a higher rate of volunteerism in Hamilton than in any other community in Canada. (Personal Communication, December 6, 2006)

This suggests a substantial level of civic engagement in the city overall. Dolbec emphasizes that the passionate nature of Hamiltonians is both a strength and a weakness. On the one hand, they have strong convictions, but because they are so passionate, they tend to take views and hold them with a ‘till I drop dead’ kind of mentality. That has a lot to do with this lack of community cohesion that I was referring to earlier. People get so set in their ways. (Personal Communication, December 6, 2006)

Nick Markettos is the Director of Strategic Partnerships at McMaster University. He describes his role:
working in partnership with the community, the local economic development people, the provincial government, the federal government, and other partners to drive economic development, using the university as a driver for knowledge generation, training that we do. (Personal Communication, December 13, 2006)

An important initiative recently undertaken by McMaster University and its partners is the creation of McMaster Innovation Park. Working with both existing companies and new ones, the organization aims to become a key economic driver by encouraging knowledge-intensive economic activity. McMaster Innovation Park will focus on two research strengths which currently account for about 70 to 75% of McMaster University’s research funding, advanced materials and manufacturing and life sciences. Markettos believes that Hamilton is well positioned to build on its “long and rich tradition in manufacturing,” using McMaster University as a “knowledge-generator” and Mohawk College to develop or upgrade skills. Markettos elaborates:

We have all the ingredients to create a very successful and powerful cluster. A manufacturing cluster will connect with the auto sector and other sectors requiring specialty, complex manufacturing processes in advanced materials. I believe we have a unique advantage in this area to build on that, but we need to go back and recognize the strengths that we have in this field and put the leadership and commitments in place to do that....We need all levels of government to apply the resources together – concentrating them – so that one level doesn’t invest in one field and another level of government invests in another field. We need to create a local common economic development framework – an economic activity system – to use your term, which everyone can buy into. (Personal Communication, December 6, 2006)
Life sciences at McMaster include health sciences, biotechnology and bioscience, “everything from drug development to medical and assistive devices and everything in between.” According to Markettos, “Often innovation occurs at the interface of various disciplines, so we can see areas like bioengineering emerging” (Personal Communication, December 6, 2006).

Markettos views the McMaster Innovation Park as an important contributor to economic development, primarily because of the potential to use knowledge which the university generates to create new companies, and new products and services for existing companies. Markettos cites the university’s relationship with Dofasco as a good example of existing collaborations. He sees the Innovation Park as a means for establishing linkages between new businesses, government research labs, and the university through student co-op placements and adjunct professorships. Markettos also stresses the need for entrepreneurship and sees the incubator environment as a means for stimulating an entrepreneurial culture among tenants. According to Markettos, the culture that currently exists in Hamilton reflects the city’s history of “large companies where young people would seek secure employment and a job for life” (Personal Communication, December 6, 2006).

Markettos believes that economic development drives all other priorities of a community and that strategic planning provides the framework which allows players to “work together, combine their efforts and work in the same direction” (Personal Communication, December 6, 2006). For Markettos, leadership is an important ingredient for developing new economic activity:

You need leadership in the business community, and leadership that sees the benefits to the community over and above the benefits to oneself or one’s own company. You might want to call it benevolent leadership... leadership that provides for the good of the community, one that includes that business leader’s company of course, being the private sector. It’s someone that can see the community as a whole and can do something that’s good for the whole community. (Personal Communication, December 6, 2006)
Markettos feels that quality of life is becoming increasingly important as a factor of economic development, particularly for knowledge workers because people have many choices regarding where they can live throughout the world. As a result, many people place a lot of value on things like quality, affordable housing, medical services, and educational resources, and increasingly companies are placing value on the presence of strong research universities and quality educational institutions. Markettos also indicates the need for public and private sector financial resources to support economic development:

If we take the McMaster Innovation Park as an example, there are a lot of investments that need to be made and physical infrastructure put in the ground before you even start anything. ...With public investment you can lever private investment. (Personal Communication, December 6, 2006)

Markettos suggests that another essential factor for effective economic activity is “the recognition by all levels of government that they have a role to play in driving economic development at the regional level” (Personal Communication, December 6, 2006). While he acknowledges the importance of horizontally-integrated relationships among organizations such as the City, the Chamber, the University, the College, the Industry-Education Council, vertical integration is also critical to ensure that all levels of government are working together for the benefit of the community. Moreover, economic activity is not tied to municipal boundaries.

Another educational leader, Cheryl Jensen, is Vice-President, Technology, Apprenticeship and Corporate Training at Mohawk College of Applied Arts and Technology. The college works closely with the City’s economic development department on an ongoing basis to ensure that educational programs and resources are in place to support the city’s target clusters. From Jensen’s perspective, Hamilton has experienced “a real acceleration of the need for change in the economy” (Personal Communication, January 8, 2007), which she attributes largely to global, competitive forces. But she advocates for local solutions. For Jensen, a local economic development plan is important for the City’s identity and its ability to attract new business, “otherwise you’re picking up businesses ad hoc and you’ve got nothing to say that you
are known for” (Personal Communication, January 8, 2007). A strong economic development plan is necessary to attract clusters of related businesses.

Jensen believes that when companies and individuals choose to locate in a city, a top notch education system is an important factor in their decision, and the college has been very adamant to ensure they are “tying in” to the city’s economic development strategy. Jensen suggests,

[t]here is no point in enticing biotechnology firms to a city where you have no educational infrastructure for the technical experience that’s needed, and the research, for example with McMaster. (Personal Communication, January 8, 2007)

Jensen notes that Mohawk College is the largest trainer of apprentices in the Ontario college system. Given the large number of projected retirements among skilled trades people in Ontario over the next decade, and the 5-year timeframe that is required for an apprentice to train, immediate investments in apprenticeship training are critical. Jensen also enjoys an excellent relationship with McMaster University. The local educational institutions have formed several partnerships involving health and engineering. They have developed a collaborative degree program in nursing and they are working on a joint Bachelor of Technology degree with a shared facility at the McMaster Innovation Park – a McMaster/Mohawk Institute of Technology. The college also developed the Center for Industrial and Process Automation, a collaboration between many local companies including Dofasco. Jensen actively participates in visits by prospective companies who are considering Hamilton as an investment location and in business retention meetings to help companies develop awareness of the educational resources available to them. Jenson describes the process: “It’s almost like a spider web of how we can work together on these different types of initiatives” (Personal Communication, January 8, 2007).

Jensen advocates for more cohesion among community organizations in general and more entrepreneurial or transformational leadership in Hamilton:
We’ve got a President who – that’s her middle name – transformational leadership. So new ideas and new projects like this, new initiatives, if she can see that it’s a reasoned risk, we go for it. (Personal Communication, January 8, 2007)

Jensen feels that there is very good collaboration between economic development, post-secondary education and industry. She observes that there are too many actors in the play trying to do their own thing, to the extent that they sometimes compete with each other on proposals for funding instead of working together. (Personal Communication, January 8, 2007)

Further, Hamilton is dealing with tremendous downloading from higher levels of government, especially in terms of social service programs, without sufficient funding, which has led to conflicts and competitiveness among community organizations as they struggle to remain sustainable.

For Jensen, if you don’t attract business, you won’t have quality of life. Having grown up in Hamilton, Jensen recalls a thriving downtown core with lots of things to do. But now, Jensen says,

I don’t walk downtown after dark. In fact, I don’t even like walking down there during the day. And it’s because that’s all left and there is nothing to replace it. There is no strategy [for downtown]. You get a lot of transient housing down there and it’s become an issue...I think that until we fix that issue, we are getting a reputation for our city not being safe downtown. I think that has to be a pretty high priority. We’ve talked about it now for about 10 years and we have to do something. (Personal Communication, January 8, 2007)

Judy Travis is Executive Director for the Hamilton Training Advisory Corporation (HTAC). Her organization is one of the partners involved in HR Matters. Travis is also familiar
with the City’s cluster-based strategy. She feels that it is important to identify existing trends as well as proposed targets for economic and labor market growth. That is something her organization does through their *Trends, Opportunities, and Priorities* (TOP) report produced annually. Travis observes that the city’s economic development strategy has been revised to include some foundational industries such as healthcare and social services, areas where employment is growing in Hamilton; however, the city’s largest growth sector, retail trade, is not identified as one of the City’s clusters. For Travis, it is important for people in Hamilton to distinguish between areas where there is actual growth and areas that the City is marketing for future, prospective growth.

Travis feels that the enhanced focus on quality of life is a positive aspect of the strategy. For Travis, quality of life factors are important because that’s what attracts workers:

That's one of the elements of the *HR Matters* strategy is to create a community that welcomes people so that we can attract immigrants here, build our workforce, and we can retain the people who live here. (Personal Communication, December 4, 2006)

Travis would also like to see stronger, cohesive municipal government leadership. The amalgamation process led to substantial friction, especially among the rural communities that did not feel connected to Hamilton’s “steel city image.” Overall, Travis views Hamilton as a well-networked community with lots of services, although she notes, there's lots of collaboration on the surface, but there still remains this undercurrent of competitiveness that sometimes gets in the way of doing good things in the community. (Personal Communication, December 4, 2006)

Don Jaffray, Executive Director for the Social Planning and Research Council of Hamilton (SPRCH) which has been operating in the city for over 40 years, has been involved in many collaborations. His organization was one of the driving forces behind the Hamilton
Roundtable on Poverty Reduction. SPRCH identifies social trends and issues that are of concern to the community. Jaffray explains,

we try to become informed about those [issues], try to engage people in examining those issues, and then developing strategies to address them and improve conditions. (Personal Communication, January 9, 2007)

Jaffray observes,

There’s a lot of prosperity around us, but in the core of Hamilton, we are suffering from a stagnant economy. (Personal Communication, January 9, 2007)

He indicates the poverty rate in the city is one of the highest in the province, which suggests that a significant number of people in Hamilton are unemployed or a significant number of those who are employed in Hamilton work in low wage jobs, part-time jobs, or contract or seasonal jobs, or some combination of these conditions. Jaffray notes that women and immigrants in particular are disadvantaged.

The SPRCH encouraged the City to include poverty reduction among its economic priorities. The Hamilton Roundtable on Poverty has engaged many people from across the community in their vision to make Hamilton the best place to raise a child. According to Jaffray, you can come at that lots of different ways, but one of the ways – if you can make Hamilton one of the best places to raise a child, part of the argument goes – you’ll actually attract businesses, you’ll attract opportunities for growth and development of our local economy so that more people can take part in it. So it’s not just making Hamilton the best place to raise a child by creating 2,000 more childcare spaces; it’s broader than that. If you make this a good community, then people will want to make an investment, want to develop their business, want to establish or grow a business. They will be attracted to Hamilton because they
know there are better opportunities in a community where people are healthy, where it’s a pleasant environment. There are places there for kids – families — to live and grow up in a healthy and constructive way. (Personal Communication, January 9, 2007)

Jaffray attributes the growth in poverty in the city to its industrial decline. As a large steel manufacturing center, the Hamilton community enjoyed significant prosperity for a long time. The industry employed a lot of people and paid good wages. The loss of those jobs has been an enormous blow to the city’s economy and to the personal lives of displaced workers and their families. Jaffray also attributes the increase in Hamilton’s poverty rate to the aging population. He notes that Hamilton has a large population of seniors, many of whom live on lower incomes, and that contributes to higher poverty rates. Because Hamilton is an old community, housing tends to be older and less expensive, which attracts people with lower incomes:

We have lots of lower cost housing because of all the housing development in the older part of the city close to the industrial areas. If you’re living in Burlington [a newer neighboring city] and you’re living on a low wage, you have to get your costs down and one of the ways to do that is to move to a place where you can live and pay less for your housing, so Hamilton would be in your sights if you were paying attention. So we have people who migrate to this city from surrounding areas because it’s a cheaper place to live for some of them. (Personal Communication, January 9, 2007)

Jaffray views the City of Hamilton as the organization responsible for defining economic development strategies and encouraging investment. He notes, however, that many organizations are involved in economic development, including the Chamber of Commerce, the Hamilton Training Advisory Board, the Industry Education Council, and many other smaller organizations such as the Settlement Immigrant Services Organization (SISO) and St. Joseph’s Immigrant Women’s Centre. Jaffray counts on municipal government to play a leadership role in
coordinating the work of these organizations. Another key role which he attributes to municipal government is intergovernmental relations,

  to make sure that all three levels of government are working in concert to make good choices for land use, for public investment and that sort of thing. (Personal Communication, January 9, 2007)

Jaffray proposes that the challenge is not identifying who should be involved in economic development:

  the struggle is really coming to a common agreement on what the best choices for development targets are for this community. There’s really quite a disparity of the opinions on what those choices should be. (Personal Communication, January 9, 2007)

  Jaffray points to the Hamilton Civic Coalition as the city’s leadership group. He describes the coalition as

  very talented, very creative, very well informed and really all quite committed to making Hamilton a better, more prosperous community. (Personal Communication, January 9, 2007)

but says that this group also struggles with the creation of a coherent strategy for the city. The coalition includes senior leaders from education, industry, business, the arts, the voluntary sector, and government. The group is culturally diverse and from a broad range of disciplines. Jaffray believes that

  as many people as possible should be involved in understanding our condition and figuring out what each of us can do individually and collectively to improve conditions. (Personal Communication, January 9, 2007)
As a reporter with the Hamilton Spectator, Steve Arnold has provided extensive coverage of Hamilton’s economic activity. Arnold views Hamilton as “a city that’s caught in the early to mid stages of a transition” (Personal Communication, November 24, 2006). For 150 years, Hamilton has been a heavy manufacturing center and steel has been the “mainstay.” Arnold recalls:

Even in the 18 years that I’ve been working at the Spectator, we used to talk about the Big Five: Stelco, Dofasco, Proctor & Gamble; National Steel Car, and International Harvester. Proctor & Gamble’s gone. Steel Car is up and down like an elevator. International Harvester is gone. We almost lost Stelco – the jury’s still out on that one. Dofasco is under foreign ownership now so who knows? (Personal Communication, November 24, 2006)

Arnold suggests that factors such as foreign competition, high cost of production, and lack of investment, particularly in Stelco, have resulted in the loss of manufacturing jobs. In 2004, Arnold undertook a cost comparison that revealed,

[it] cost about $32 an hour for a North American steel worker. You could get the same work done in China for about $1.74. (Personal Communication, November 24, 2006)

Additional factors include increased automation and technological change, and a lack of current skills. Arnold observes,

[i]f you tour Stelco or Dofasco today, you go a long way without seeing a human being. And when you do see a person, he’s not down on the floor; he’s up in a glassed-in pulpit monitoring the process on computer screens. (Personal Communication, November 24, 2006)
New technological processes have lead to new labor processes and demand for new technical skills.

Arnold senses a great deal of fear and uncertainty among Hamiltonians, because there is no clear vision of where the city is heading:

They see change happening; they see thousands of jobs being lost and major, major employers packing up and leaving; and maybe those large employers are being replaced by dozens of smaller ones, but they come and they go and there’s no clear vision of exactly what we’re morphing into. (Personal Communication, November 24, 2006)

Arnold does not believe that citizens in the community are engaged in economic development processes and the community lacks a broad understanding of the City’s economic development strategy:

I think that they want to know that somebody’s driving the train. They have a sense that we’re barrelling along the tracks towards something, but nobody seems to be steering it...Are we gonna become like Flint, Michigan? Are we gonna dry up and blow away like some western ghost town? (Personal Communication, November 24, 2006)

Arnold notes that economic development leaders, including the city’s economic development department, the city’s planning committee, the Chamber of Commerce, and others have proposed a “clustered approach” that focuses on healthcare and biotechnology. Film production is another targeted cluster. The city’s population has not changed markedly over the past twenty years, and for Arnold, that suggests “while new people are coming in, especially housing refugees from Toronto, other people, the displaced industrial workers are leaving” (Personal Communication, November 24, 2006). Arnold also notes that there has been
considerable movement from the central core of Hamilton to the five communities that were once suburbs of Hamilton, but now form part of the new city.

Arnold distinguishes between the old city of Hamilton and the communities that were formerly suburbs. He indicates that, within the old city of Hamilton, education levels tend to be lower and there is a larger proportion of recent immigrants, which generally equates to lower levels of income, higher rates of poverty, and less sense of opportunity. In contrast, within former suburbs such as Ancaster and Dundas, residents generally have much higher levels of education, more professional occupations, and much higher income levels.

For Arnold economic development leadership is essential for providing direction and planning. He suggests,

'[t]he market – that invisible hand. That invisible hand is brushing away the old employers and the market won’t by itself decide that Proctor & Gamble is going to be replaced by Zenon Environmental, for example. That’s up to us to get out there and sell Hamilton as a location for a new company...Since we live in a democracy...ultimately it comes down to the elected people. They have to create an environment that’s going to make the market work in our favor. (Personal Communication, November 24, 2006)'

Arnold points to issues relating to Hamilton’s economic development leadership structure because it is a function of City Council:

'They are the board of directors of Hamilton Inc. They hire the professional management to set the broad policy parameters. If you have, for example, a City Council that says we want nice quiet pristine suburbs, no dirty industry, nothing that’s going to affect residential property values in any way – if they have only that view, then your economy is going to whither or you’re going to become an Oakville, a bedroom community. Maybe Mississauga is a better example: You
become a city without a heart. Your population drives out every morning.

(Personal Communication, November 24, 2006)

Arnold observes that City Councillors tend to focus on issues relevant to their immediate constituencies – their wards: “From this street to this street, I care about what’s happening” (Personal Communication, November 24, 2006), although the Mayor has the overall view. As a result of this structure, economic development efforts tend to be fragmented. Arnold notes:

You have the City Council and its economic development department, the Chamber of Commerce; we have separate Chambers of Commerce in Flamborough and Stoney Creek; the major employers – and by that I mean the two steel companies have their own development organizations; we have a growing high tech sector which has organized itself into something called Bitnet; there’s also something called the Golden Horseshoe Venture Forum which is a way of bringing start up and mid level companies together with people who have money. What we don’t have that Burlington does, for example, is a stand alone economic development corporation....We have the city’s economic development department, but that’s very much a creature of the city. It can’t drive policy. It can recommend, but in the end it can only respond to policy that’s set by council. . . . When you get politics involved you muddy up the issues. (Personal Communication, November 24, 2006)

According to Arnold, Hamilton is also lacking a strategy for addressing the needs of displaced workers, particularly those who are 45 years of age and older who have worked at industrial labor jobs for 25 years. He suggests,

[t]here’s not a clear concept of what we’re going to do with that population – somehow the invisible hand is going to take care of them. But it isn’t. . . . The
Arnold observes that many displaced workers have drifted into low-paying jobs such as taxi drivers and security guards – whatever is available. Their incomes have declined from about $34 an hour on an assembly line to minimum wage. Arnold also believes that workforce development is key to economic development and a strategy for improving employment opportunities for immigrants is part of that process.

Arnold asserts that quality of life matters when industry leaders are making location decisions. He suggests, for example, that computer engineers like access to the local university and library, as well as cultural amenities and parks: “Vibrant communities attract development, which in turn feeds that vibrancy” (Personal Communication, November 24, 2006). He also considers education and research resources to be critical. He notes,

[i]f in North America the old style jobs are going where muscle labor is cheap,

then brain power is going to be the new economic currency. (Personal Communication, November 24, 2006)

Arnold also believes that communities must have tools for development, including transportation infrastructure, and available serviced land, which Hamilton currently lacks. In his opinion,

if Toyota had even considered locating in Hamilton rather than Woodstock, there was no place for them to go. (Personal Communication, November 24, 2006)

Senior government leaders also play a role in local economic development. Mike Wallace is the Member of Parliament for Burlington, a neighboring city. He is also Chair of the Canadian Steel Caucus. The Canadian Steel Caucus works closely with the Canadian Steel Producers Association, which serves as a lobby group for the industry. The Caucus provides “a conduit that they [the industry] can use to try to get their messaging into each party whether you are in power or official opposition” (Wallace, Personal Communication, February 10, 2007). Members of the Caucus communicate with other parliamentarians to ensure that they understand the important
issues relating to the steel industry, for example decisions regarding trade, environment, and the need for an integrated North American strategy. Wallace indicates that, while there has been some discussion about international competition from countries such as China and India, the Caucus tends to focus on Canadian steel’s relationships with the United States. Wallace notes that working co-operatively with the United States is important because they are much bigger players. He explains,

[\text{let’s use the galvanized steel piece as an example.} \text{They were still selling galvanized steel south of the border, but there was a financial penalty to it which wasn’t, in our view, fair based on a North American integrated because their steel is going to plants on both sides of the border. Our steel is going on both sides of the border. Why can’t that all be equal? Can’t we all compete at the same level? If they have an opportunity to come here, which is great, no problem. We want the opportunity to be there in the same level playing field.} (Wallace, Personal Communication, February 10, 2007)]

Wallace says that the Government of Canada recognizes that an industry like steel cannot remain static. It must establish connections with education, research, and development to remain viable in the long run. He points to the connections with McMaster University as very important, as well as the establishment of the federal CANMET labs at the McMaster’s Innovation Park. For Wallace, promoting these connections is another key role of the caucus:

If they [the steel industry] can continue to be leading edge and if it helps to create synergy by having those resources in the same town or city, that’s the kind of thing we think our government can help with . . . its role of helping in terms of prosperity for the area. (Wallace, Personal Communication, February 10, 2007)

The caucus does not become involved in providing financial support to struggling companies. Wallace explains that
If a steel company comes to the federal government and says ‘we’re suffering, we need financial support to get over the hump’, that’s a harder sell than coming to us and saying “we’re a mature business, we’ve got some innovation challenges and we want to get there with galvanized, lighter steel for cars. Everything that is connected with the environment – those are the types of things that help the industry to move ahead, to be more competitive. I think we would be willing to discuss that with them. That’s part of the steel caucus’ role – to understand those issues and to bring those forward to those who are able to make those decisions.

(Wallace, Personal Communication, February 10, 2007)

Wallace sees the promotion of research and development as key to the steel industry and its international competitiveness. Wallace observes,

I’ve had tours of steel companies and I have always been shocked at how few people it takes to make a roll of steel. The other shock, I was surprised, surprised, surprised. A lot of the actual work does not happen on the shop floor let me say where the steel is actually made, but in behind the scenes – mostly high end, technical guys dealing with computer work. (Wallace, Personal Communication, February 10, 2007)

Wallace explains that the federal government plays a role in creating strategies to help workers to retrain in order to adjust to the industry changes or new, emerging industries. The federal government has invested in trades education, especially in the last budget. However, he notes that the province plays a key role in education and training at the elementary, secondary, and post-secondary levels, and the focus at the federal level is “investing in innovation and investing in research” to enable them to remain internationally competitive.
Wallace recognizes that, for the local community, ownership of Stelco and Dofasco may be a concern. Since their establishment, there has been a definite feeling that both Dofasco and Stelco are local Canadian companies. However, Wallace suggests,

If they are able from a community perspective to still be part of the community and invest in the community and be proactive as they have been in the past, I don’t think whoever owns the majority of the shares are going to make a big difference. (Wallace, Personal Communication, February 10, 2007)

He notes that there is also the upside potential of their “bigger, deeper pockets.” Wallace feels that new owners may well have much to learn from companies like Dofasco that have been very successful.

**Business Leaders**

Bob Jones is the Executive Director of the Canadian Steel Trade and Employment Congress and former Vice President of Human Resources for Stelco Inc. Jones worked at Stelco for 24 years, from 1976 to 2000. He has also served as the President of the Hamilton Chamber of Commerce and has held positions on several boards including the Hamilton YMCA, the Industry-Education Council, and has recently finished his term as Chair of the Board of Hamilton Health Sciences, which encompasses five hospitals employing a total of about 10,000 people. This interconnectivity has provided Jones with valuable insights and experience relating to the City’s economic transformation.

Jones describes the steel industry structure as

a classic, hierarchical paramilitary organization with a boss, of a boss, of a boss, of a boss that pretty well established the process. Not that there wasn't innovation, but it wasn't revolutionary. And the process served everybody well through the sixties and the seventies with growing markets, autos, homes, everything, all of those markets were served well. And so those in leadership positions, even in the
mid-seventies when I joined Stelco – that's when Lake Erie Works was built – so there was massive expansion and extension and that was all to deal with the anticipated further growth in demand for steel, so that's the mind-set. That's very important to understand. There had been nothing but growth and success and it was a just a matter of how do you deal with it? Where do you put the new plant in? What is the best time to spend? I'm not saying they weren't difficult decisions, but they were all decisions related to growth and expansion. Stelco itself was a blue chip organization, the Toronto Stock Exchange top 25, all of that stuff, and that all shapes everybody's thinking. (Personal Communication, January 15, 2007)

Jones remembers typical post-strike sentiment among management. Stelco had been in this position before and there were, of course, previous economic slow-downs. There was a “strong, pervasive view” that if they worked hard, they would get back their market share. According to Jones, “the realization that things were fundamentally changing was an iterative process as I saw it through the 80's. It was not an epiphany” (Personal Communication, January 15, 2007). However, Jones indicates that there was a realization that now we needed to change technology; that we needed to reduce for the first time in years, instead of just being a hiring machine where literally we would hire daily; that we would reduce the size permanently in scope of some of the operations; that through technology and automation you didn't need these great gangs of people to move in and out in labor jobs and other positions. That has a tremendous impact on the community…So, in a decade it goes from some layoffs to realizing that it's never going to come back. (Personal Communication, January 15, 2007)
Another key trend that impacted the steel industry was the growing demand for higher quality production from customers. There had been a mindset previously at Stelco that if a sheet of steel didn’t meet specifications it could be “diverted” for another purpose, for example, Jones suggests, “You could throw it at bottle caps or you'd send it offshore, and you’d say, ‘well there's lesser standards someplace else and they can use it.’ Well, that whole world changed” (Personal Communication, January 15, 2007). Additionally, the company began to experience increased offshore competition because foreign producers were adopting new and better technologies, improving their quality, adapting their leadership and attitudes, and increasing their export volumes. Jones recalls:

[I]t becomes clear that the earlier adaptors and the quick adaptors of technology are going to be able to have product differentiation and therefore get out in the quality basis and sell more at higher market. It becomes a much different game than volume and tons, and that was the game before. It was tonnage, tonnage, tonnage. (Personal Communication, January 15, 2007)

Jones notes that adapting technology in the steel industry is no small feat because of the extremely capital intensive nature of the industry:

Nothing is a million dollars. Nothing is $500,000. Everything is $50 million – $80 million. And as your profits are getting squeezed and as your share price is going down, it’s tougher and tougher to raise that capital. And if you are going to raise that capital, and again in the good old days Stelco had its own capital, but if you are going to go out and start using your lines of credit for capital expansion – all that sort of thing, well what is it? What is the right technology and where do you go with it? Very difficult decisions had to be made. (Personal Communication, January 15, 2007)
Jones points out that seniority rules also posed a challenge for Stelco because the younger, technologically adept workers with a higher education tended to be laid off first. Millions of dollars were invested in upgrading Stelco’s workforce in computer, numeracy and literacy skills to enable them to work with statistical process control methodologies and meet ISO standards which had become mandated by their customers. Lay-offs also involved a cumbersome process during which people were laid off, brought back and laid off again. They were shifted from department to department as needed, to various departments as needed which created a sense of disconnectedness. The decline in employment became dramatic. Jones notes, where we needed 13,500 people in the bargaining unit at Hilton Works when I started, it became 10,000. I remember sitting in bargaining and saying, "Look I think we are going to hit about 8,500." I could see that coming as a shock. That was there you know with the bargaining committee. And then even amongst ourselves, when we realized we probably had to get to 5,000 and we probably had to get to 3,000 and for those of us who had seen the earlier days, my goodness, these are incredible numbers. (Personal Communication, January 15, 2007)

It was difficult for the workers and the broader community to understand the extent of what was happening at Stelco. These changes were certainly not viewed as positive transformation. As Jones remarks, “People liked being part of a winner and one of the ‘biggest and the best’” (Personal Communication, January 15, 2007). As the economy began to rebound, the company focused on technology to improve productivity and quality and as a result, gained some significant automotive business. But Stelco soon learned that competitive advantage was short lived. Jones observes,

before when you would invest in technology and had product differentiation that you could take to market, you might get 10 years out of that. [Now] you were lucky if you got 2 or 3 and yet you were still paying for this equipment. (Personal Communication, January 15, 2007)
Jones suggests that, for both management and labor at Stelco, changing the leadership culture was very challenging. He notes that the “command and control” styles may have worked when Stelco was growing and successful, but not in the face of intense global competition. According to Jones,

[when you move in a whole different environment where you need innovation and creativity and you need constructive questioning of authority and you need to drive responsibility in leadership right through the organization, they were just not ready for it at all. (Personal Communication, January 15, 2007)]

Jones feels that the union began to struggle with identifying what their role should be in steel’s changing environment. He says they continued to focus on their primary function of protection and enhancement of the workplace for members, so whether that's health and safety or money for retirees and benefits, they sort of stuck with that agenda, in part because they believed in it, in part because it was a safe place to be. (Personal Communication, January 15, 2007)

According to Jones, despite efforts between management and labor to collaborate on some things, there was tremendous resistance, especially with respect to efforts to combine trades. The company pushed hard for multi-crafts, amalgamating several trades into one job classification to gain flexibility and efficiency. One example of this was allowing a millwright to do welding and pipefitting. Jones suggests that trade amalgamation was also needed because the company had projected there would be serious trades shortage. He recognizes that the resistance was not just about the work assignment; it was about personal identity:

This was their status. This was their status as a family. It was their status in their community. They were a pipefitter or a millwright and that had all kinds of implications for them and so all they saw was a watering down and a lack of respect for who they were – not only their skills, but who they were and that
offended them significantly and I understood that. (Personal Communication, January 15, 2007)

Jones also suggests that there was a lack of awareness about the extent of investments Stelco was making in workforce development: Annual training budgets were as high as $14 to $17 million at Hilton Works for technical training, computer skills training, multi-crafting, literacy training, as well as interactive management and interpersonal skills development at all levels. Jones believes that the investment was critical for Stelco’s survival, especially in the face of long-term uncertainty and decline that occurred throughout much of the 1980s and into the 1990s. Jones indicates:

I saw people collaborate and cooperate at a leadership level like they’d never done before and absent that, I don't think we would have survived the next couple of years where Stelco was in a position to be in great shape where we got some new technology, we got a new plant, we had energy, we had focus, we had discipline and we were really kicking butt. (Personal Communication, January 15, 2007)

For Jones, a major factor impacting Stelco’s success was a lack of long-term strategic planning, which was imperative given the capital intensive nature of the steel business and the complexity of the business with respect to new technology. According to Jones,

It really is advanced manufacturing, pneumatics, hydraulics, computer systems. It is not the good old days and hasn't been for a long time. (Personal Communication, January 15, 2007)

He considers the traditional, short-term, cost accounting perspective on measurement and performance of the business to be a serious detriment to the business. Similarly, Jones feels that the lack of succession planning is a huge issue, especially with respect to the trades.
For many years, Jones served as “the voice and the face of Stelco.” Often people in the community would compare Stelco to Dofasco, suggesting that the difference between the two companies was that Stelco was unionized and Dofasco was not. But according to Jones, this has nothing to do with that. The working conditions, the labor relations, if you like, the regulatory environment, the financial environment, the equipment, the facilities are exactly the same. Brothers and sisters work in the same places. They don't have any different work ethic or attitude. I know these people. I've worked with them. They are my friends. I coach with them. They're not going in and working any harder... So what is the difference? I think this comes down to the community. The difference ultimately in my belief was Stelco went bankrupt and Dofasco didn’t. It can be distilled if you like into two elements and they have to be together and it's leadership and a plan.

So it's leadership and a plan. John Mayberry is the classic example… With the same environment, same customer base fundamentally and I think even in Stelco's case, Stelco had some technology with Mitsubishi – what we called the “Z Line,” we had that well before Dofasco did – and it allowed us to obtain market share in automotive that was outstanding. I think that we had 100% of Chrysler's business at one time which was unheard of. So, then what happened? It wasn’t technological; it wasn't the union that messed it up; it's about leadership and a plan. You've got to remember, John came in with his team after they had lost over $800 million dollars with Algoma. It was a mess. It was a write-off. Everybody thought they were going to go under. So what did they do? Well, they had a plan. And again the other thing, and this is my own personal belief, it has to be a values-based plan, not a technology-based plan. The technology is extremely
important, and you have to stay on top of it. You have to understand your market and all those things. But if you have the values-based plan, it’s sustainable. And people buy in and they get motivated and they do perform a little bit better and they are a little bit more motivated and they do believe you care about them. And they do believe they work for a company that stands for something. And then they marketed that extremely well. (Personal Communication, January 15, 2007)

Jones describes Hamilton as a very compassionate and caring community, where philanthropy and volunteerism rank high relative to other cities in Canada. There is a culture of community involvement – of civic engagement. However, Jones feels that a sense of common purpose is lacking at the broader community level. Recognizing that the city has been successful on several fronts in achieving greater economic diversification, Jones proposes that a more collaborative and strategic approach is needed, particularly in terms of building upon current assets such as the university. He points to Hamilton’s growing healthcare system as one example where political and community leadership have worked together to build a sophisticated medical community. But Jones suggests,

even there again, some of it's luck. We had a great university and a great medical school here already and a large hospital system, so we didn't sort of go out and create it. But I think that we have protected it and enhanced it and certainly there's evidence recently of a lot of collaborative work with significant business leadership, community leaders, with politicians to get support for new research facilities. There's a lot of new building going on here, there's a lot of new things happening that will not only have practical medical implications through research and development, but the application of that research will be a business. And the research business itself is a high-end business and so we have been able to attract and gone out purposely in the last number of years in Hamilton to get world
leaders in various areas to come here and research. (Personal Communication, January 15, 2007)

A concern for Jones is that Hamilton does not have an integrated economic development strategy and that the city needs leadership and a 3-year plan. For many years, the community has been reliant on a huge manufacturing tax base and now that tax burden has shifted to residential tax payers, many of whom are older, pensioners who cannot afford higher taxes. The growth of Hamilton Health Sciences has contributed substantially to job creation in Hamilton, including many high-paying jobs, but HHS is a non-profit organization that does not pay property taxes. Jones recommends a multi-level government plan to address Hamilton’s economic issues, because Hamilton cannot any longer afford to pull itself out of a hole by itself....You've got to have some leadership that's prepared to say “well I might not get elected the next time, but I'm going to get this done.” I don't think we've had that. (Personal Communication, January 15, 2007)

Jones believes that inspired leadership and an effective values-based plan for the city is essential to address the diminished manufacturing base and create new, purposeful economic activity.

Like Jones, Brian Mullen has decades of experience in Hamilton’s steel industry. Currently, he is Director of Human Resources at Dofasco Inc. Dofasco sees itself as an integral part of the community. The company’s motto is “Our product is steel. Our strength is our people,” and folks at Dofasco often add, “Our home is Hamilton.” For many years, Dofasco has been a significant player in community development. Its employees are the largest single donator to the United Way campaign in Hamilton-Burlington.

For Mullen, the most significant economic issues impacting Hamilton include globalization, the rising value of the Canadian dollar and its impact on Dofasco’s export activity, as well provincial legislation and bureaucracy which have made it challenging to be competitive with companies in other countries that don’t have the same restraints. Mullen notes that years
ago, there were many “stand-alone” steel companies operating in niche markets. Dofasco performed very well. Today, there are far fewer companies and Mullen predicts that at the end of the day, there may only be five major steel companies around the world. (Personal Communication, December 12, 2006)

Industry consolidation is putting tremendous pressure on steel companies to operate efficiently and effectively because now you’re competing within your own up-sized organization and having to compete inter-organizationally. (Personal Communication, December 12, 2006)

Mullen explains that major customers, especially in the auto sector, have been experiencing the same trends, which means intense competition for fewer customers who have increasing ability to negotiate lower prices based on volume.

Dofasco has not escaped consolidation. After almost a century of operating as a locally owned family business, in 2005 Dofasco was purchased by Arcelor, which was then purchased by India-based Mittal and became ArcelorMittal Dofasco. The change in ownership has a huge impact on the community. As Mullen indicates, Dofasco is one of the major players for donations – support of fundraising in the community. Is it going to be the same philosophy? We don’t know at this point. (Personal Communication, December 12, 2006)

Many of the workers reacted initially with fear about their job security and future work environment. Mullen recognizes that there is a lot of concern, but there is also a lot of communication, both with Arcelor and Mittal about keeping the company intact. Plus they are spending $5 and a half billion dollars, so they’re not going to spend $5 and a half billion dollars to really upset the apple cart so to speak and turn it into a $2 billion dollar
company. So the employees are kind of in a “wait and see” situation. (Personal Communication, December 12, 2006).

Employees have a lot of pride in Dofasco. They have a profit-sharing program and have operated without a union since the company was established, despite several efforts by the United Steelworkers to organize the workers. In 2008, ArcelorMittal Dofasco invited the United Steelworkers to openly meet with employees to determine their interest in joining the union. The employees chose not to join the union.

Employment at Dofasco has traditionally been more stable than at the neighboring Stelco plant. However in the early 1990s, Dofasco downsized considerably. Mullen explains:

We recognized that we needed to be smaller. We had to get rid of some the technology that was dated and we needed to shut down some of our facilities. We sold off a foundry that we had. We stopped making some products and we went from 12,700 to probably 7,000 in 3 or 4 years. (Personal Communication, December 12, 2006).

Downsizing was achieved through early retirement programs, voluntary severance programs, and a layoff. While some of the workers found other jobs, Mullen indicates that a number of them went back to school. One of the outcomes of the workforce reduction was a current workforce age of about 46 to 47 years and average service of about 24 years. Recognizing the need for succession planning, Dofasco engaged consultants to analyze the problems that Dofasco would have to address. The study identified the replacement of retiring skilled trades people as the company’s major human resource issue. Mullen estimates that 75% of the current skilled trades workforce at Dofasco will be eligible to retire within the next 10 years, and it takes about 5 to 6 years for skilled trades people to develop their full competencies.

Dofasco works closely with Mohawk College to train apprentices and actively employs students in trades-related co-op programs. The company also utilizes the college to help upgrade their workforce. Recently, Dofasco contributed $1 million to Mohawk’s new skilled trades center
which is planned for construction. Dofasco has also established a good relationship with McMaster University’s Faculty of Engineering. The company contributed funding for Research Chairs [Dofasco Chair in Process Automation and Information Technology and the Dofasco Chair in Ferrous Metallurgy]. Mullen also believes that CANMET federal research labs which will be located in the McMaster Innovation Park will be of value to the company and the community.

In addition to looking at skilled trades, Dofasco examined the future skills requirements of their entire work force, taking into account new technology applications. One of the challenges Dofasco must address is that older workers who have not been in a classroom for 25 years are generally not interested in learning a new trade or spending a lot of time training to develop new skills and adapting to new work environments. One of the strategies used to address this issue is the use of work teams in which employees can rotate into different jobs. Mullen explains:

People have the ability to learn new jobs and be paid appropriately. When people are off, people rotate into different jobs. As a result there is more flexibility to run operating equipment and the skill level tends to be higher. And you know sort of the quid pro quo is you don’t have to be here 30 years to get the top rate. You might do it in 5 or 6. It depends on your learning. (Personal Communication, December 12, 2006).

Mullen indicates that the work requirements have changed dramatically from the days in which “basically you had to have a strong back and a good solid work ethic” (Personal Communication, December 12, 2006). Once a very labor-intensive environment, labor processes in the steel plant utilize computer controlled technologies for much of the production process. He describes some of the impacts of new technology:

We just finished a $650 million dollar expansion in our finishing area. It’s almost touch free steel, so most of the work is being done behind computers. It’s changed a lot from the physical nature it once was. Even in some of our other areas, in
primary production, you get a lot more automation. And that has two advantages: one, you’re not wearing people out physically which years ago was the case and you get more flexibility which affects your costs. At the end of the day if you’re not cost competitive your not going to be around. And it really cuts the wearing out which leads to accident prevention – when you take out that physical component. (Personal Communication, December 12, 2006).

The changes in labor processes and production processes have required more rigorous testing. Generally, most positions require a minimum of high school education, even a few years of college. Skills such as problem-solving, computer skills, math skills, and inter-personal relations are important. Mullen points out,

we have 4,500 to 5,000 computers in place. Everybody has access, whether they’re doing maintenance work or using them for communications. (Personal Communication, December 12, 2006).

Dofasco has also implemented literacy training and computer training programs and celebrates graduates successes with ceremonies that include workers families. Mullen suggests,

they’ve got tremendous pride and they should have. They’ve gone back into a learning environment, they’ve contributed time and embraced the challenge, and the level of the water is rising. (Personal Communication, December 12, 2006).

Mullen identifies the drop out rate in high school as a key challenge, one related to the city’s poverty rate. He notes,

You have the whole issue of how do you go to school? How can you afford to go on? You try to get people to stay in school, but they can’t. There has to be jobs. Unfortunately a lot of the manufacturing jobs in Hamilton are disappearing and you’re left with service industry jobs and as much as you see statistics like
100,000 new jobs, it's in lower-paying jobs. You need that but it’s not where you get wealth creation. It’s not how you raise the standard of living for the community. (Personal Communication, December 12, 2006).

Mullen is concerned about the continuing loss of manufacturing in Hamilton and across the nation. Dofasco just lost one of their customers, which used about 50,000 tons of steel. Mullen indicates,

they are going south, probably south to Mexico. That’s a substantial amount of material for us to sell, and we have to find a way to fill that gap. (Personal Communication, December 12, 2006).

Dofasco has witnessed more and more manufacturing companies leaving Canada and relocating in China, Mexico, and in the United States. He observes,

you used to be able to drive down Burlington Street and you’d see all sorts of manufacturing plants. Now you see Dofasco, some of Stelco and a few other companies, but they have lost a lot of the industry base. (Personal Communication, December 12, 2006).

For Mullen, leadership is the essential ingredient needed to ensure that Hamilton achieves successful economic transformation. Leadership drives the plan and the capital. Good leadership also embraces social issues. Mullen suggests that other cities such as Burlington and Kitchener have been successful in developing thriving economies, and Hamilton could learn from their lessons.

Developers are key players in city economic development. Richard Leibtag, a Developer with Urban Horse Developments in Hamilton, is part of a stakeholder committee organized by Neil Everson’s economic development department to create the ERASE program. Leibtag is one of the first people to make use of Hamilton’s ERASE program to remediate a brownfield site. According to Leibtag,
it’s probably some of the best policy that’s been put together by the municipality.

(Personal Communication January 16, 2007)

The ERASE program is an incentive program for infill projects to give developers the opportunity to reclaim their clean up costs. It rebates 80% of the municipal tax increase generated by the project on an annual basis for up to 10 years (Canada Mortgage and Housing Corporation, 2008, p. 4). Leibtag is participating in the program to build Spencer Creek Village, a large, high-density residential development containing 598 residential units in nine buildings, in addition to 14,000 square feet of commercial space (Canada Mortgage and Housing Corporation, 2008, p. 2). Spencer Creek is a redevelopment of a former steel foundry site, Bertram Foundry. The project is the first large-scale residential brownfield redevelopment in Hamilton. The investment entails much more than simply constructing buildings. Leibtag describes his experience thus:

The investment I made was taking it off the hands of the police forces and the fire departments and the unpaid tax bills. I took it on and wrestled it to the ground – cleaned it up. That in itself was a big contribution. In turn, I plotted a plan for the site which is a retirement community in the heart of this town [Dundas, now amalgamated within Hamilton] and by the time it’s completed in the next 3 or 4 years, I will have over a thousand people living on this site. (Personal Communication January 16, 2007)

Labor Leaders

Warren Smith is past president of the United Steelworkers Local 1050 at Stelco’s Hilton Works plant. Smith has seen labor-saving technology increasingly used as a powerful tool to facilitate greater management control and cost reduction in the steel industry. For union leaders like Smith and the workers they represent, changes in labor processes have often meant that layoffs would follow:
Restructuring. Technology. It’s all about cost cutting. It’s about taking the worker out of the mix. The workers didn’t get trained. They got laid off. ... It’s about control – automation – computer controls – this new process – this new process – this new process. Look at it. It’s the devil’s workshop. It’s the devil’s job to put us out of work. (Personal Interview, April 18, 2006)

Since the 1980s, Hilton Works has shed about 75% of its workforce. Smith says that continuous casting has had a dramatic impact on the steelmaking process. Continuous casting a relatively new process that began to gain widespread use in steelmaking in the mid 1960s and is now used to produce over 90% of steel in the world (Thomas, 2001, p. 1). It is the most efficient method for casting large volumes of steel into various shapes because it requires less rolling and reheating, representing significant savings in energy and labor. Smith suggests that, of all people, workers in the steel industry understand the technological imperative of remaining competitive in world markets. I mean, if you don’t make a profit you don’t exist right? (Personal Interview, April 18, 2006)

Looking over photographs of early steelmaking, Smith reminisces:

You implement technology like continuous casting and you’re not making ingots anymore. You’re casting directly to slabs or blooms or billets. And you’ve taken a lot of people out of the process. (Personal Interview, April 18, 2006)

Smith indicates that Stelco has invested millions of dollars in new technology at Hilton Works, and as a result, many of the processes once performed by workers are now automated and computer-controlled:

With each new phase of technology, from open hearth furnaces to basic oxygen [furnaces], from ingot casting to continuous casting, the workforce has been cut. Hell, it’s been slashed to about one quarter of the size it was back in 1981. So yes,
Hilton Works is back in business [after a 2-year restructuring process under the Companies’ Creditors Arrangement Act] and we know that a lot of the equipment is already much less efficient than the newest stuff at NUCOR. It’s a vicious cycle of trying to keep up with the competition. And, a lot of steelworkers…well they’re not steelworkers anymore are they? (Personal Interview, April 18, 2006)

Minimills are another major technological innovation in the steel industry. They are highly automated, continuous operations and much less expensive to run than integrated steel mills. Minimills feed recycled steel scrap from automobiles, appliances, and other steel containing products into electric arc furnaces to re-process it into finished steel. Minimills require less capital investment, energy, and labor. According to Rifkin (2004, p. 134), “With its computerized manufacturing process, the mini-mill can produce a ton of steel with less than one twelfth the human labor of a giant integrated steel mill.”

Smith points to challenges that have resulted from the rapid growth in minimill production:

The more you mill the more scrap you consume, the more expensive your only raw material becomes. We’ve seen just in the last couple of years when China was actually importing millions of tons of scrap from the United States what happened to the price of scrap. They just skyrocketed. So, where NUCOR’s minimills were so cheap, I mean they were just the end of an integrated steel plant, all of a sudden with the price of scrap, the margin between the two products from this mill and this mill narrowed and narrowed and narrowed, right so that during the most difficult period, where all these companies in the United States were filing for Chapter 11, one of NUCOR’s minimills filed for Chapter 11 too. (Personal Interview, April 18, 2006)
Smith indicates that restructuring of job classifications at Hilton Works has tended to have the effect of minimizing differentiation among occupations, especially among skilled trades. Job compression has reduced the number of occupational classifications, while technology rendered many redundant, in other words, capital intensification accompanied by work intensification. The compression of jobs through multi-crafting was introduced to promote more generalized trades that require fewer specialized skills. Smith suggests that multi-skilling was not effectively realized because the company failed to implement training processes:

the company repeatedly failed on that stuff and years later, unwound those jobs.

[They] never recreated the jobs that were eliminated, but cut the guys’ wages who had got the increase on the job combination, saying yes, we didn’t follow through on the training, but God bless you, we’re not paying you that rate anymore because you’re not doing everything that you were supposed to be doing.

Completely unwound some shit. (Personal Interview, April 18, 2006)

Many of the conceptual and design functions and scientific knowledge associated with technological innovations geared towards cost reduction and improved quality have become more highly concentrated among engineers and management. This trend has been very controversial at Hilton Works (now Hamilton Works) and strongly opposed by many of the workers impacted.

There are aspects of steelmaking that depend on workers’ senses – knowledge that is developed over an extensive period of time and usually acquired informally alongside skilled and experienced mentors in the workplace (Livingstone, in press). It’s the kind of inherent knowledge that distinguishes them as steelworkers. In recent years, a significant number of trades people have retired, and more are scheduled to leave, but few apprentices have been hired at Hilton Works for several years. Proficiency in skilled trades generally requires several years of training and on-the-job, informal learning through mentorship with an experienced worker; however at Stelco, substantial intergenerational knowledge has been lost.
Subsequent to exiting CCAA, Stelco hired a new CEO, Rodney Mott, to head up the company. Smith remarks, Stelco now operates “the American way.” He indicates that Mott brought in monthly production incentives to replace the old profit-sharing program that had been the subject of much controversy because “it never paid at Hilton Works but always paid at Lake Erie Works.” Smith says that with the new system, if something breaks down there is huge peer pressure to get things running again as quickly as possible. According to Smith, “the union basically has surrendered some huge principles here....cash incentives have completely pacified that whole situation” (Personal Interview, December 20, 2006).

Keith Curwen, past president of the union local at Canadian Drawn Steel, attributes the decline of the North American steel industry primarily to three factors, including a focus in the automotive industry, steel’s biggest customer, on lighter materials, foreign imports, and lack of investment in North American plants. Curwen suggests that despite its age of more than 100 years, Canadian Drawn Steel’s finished plant in Hamilton never failed to make a profit because the plant was specialized. The plant was formerly owned by Stelco and the plant’s raw materials continued to come from Stelco. According to Curwen, ownership by an American company, Republic Steel, did not impact labor-management relations detrimentally for several years. Subsequent to Curwen’s retirement, however, the American parent made the decision to reduce the workers pensions by 20%, and took away benefits from retirees. Curwen explains,

The membership voted 96% to give part of their benefits towards retirees. It wasn’t much, but it was better than nothing, out of their own pocket. Wow. First in history. It was amazing. (Personal Communication, January 16, 2007)

Like Stelco, Canadian Drawn Steel began to combine jobs – a trend that Curwen saw occurring throughout the industry. His plant went from 21 job classes to 7 or 8 and workers were paid a higher rate if they completed the training. For example, electricians were training to do gas treatment in the plant. Curwen notes,

It just wasn’t the standard electricity anymore, it was all computer-controlled, all of the machines. They were the ones who got upgraded, but they definitely had more work. (Personal Communication, January 16, 2007)
Curwen recalls that when Canadian Drawn Steel began to experience significant numbers of retirements, there was no succession plan in place. As computers became more entrenched in labor processes, one of the union representatives suggested that the company implement an employee computer purchase plan through which the company bought personal home computers for the workers at discounted prices and made payroll deductions. Curwen suggests that about 80% of the workforce participated in the plan which allowed workers to “get comfortable with a computer.” He also stresses that nobody at Canadian Drawn Steel lost their jobs as a result of the introduction of computers.

Who Is Leading Hamilton’s Transformation?

Core economic development functions are internal within the city. Hamilton has not established a broad, strong, sustaining leadership network or cluster of economic development organizations. Formal structures have not been established to coordinate efforts and facilitate continuous adaptation to change over time. There are far fewer Board members associated with economic developments organizations and fewer interlocking Board relationships. Interconnectivity is looser. For the most part, in Hamilton, collaborative approaches to economic development are episodic or interventionist, rather than enduring. However, many successful partnerships have been established around specific programs or projects and many informal relationships contribute to economic development activity. All of the organizations participating in this research are stakeholders in strategic economic development processes in Hamilton. Many people and organizations contribute to economic development, some of whom are not identified in this study.

The Hamilton Civic Alliance has not yet established itself as a strong growth coalition, although some of Hamilton’s leaders feel the coalition has the necessary leaders at the table. Until recently, the Hamilton Civic Alliance stayed in the background of economic activity, rather than positioning the organization as a driver of transformation. All of the community and economic development organizations and employers interviewed for this research are part of the alliance, which changed its name to the Jobs Prosperity Collaborative in 2008. The Hamilton and District Labour Council represents the voice of local workers in this collaborative. All of the organizations are committed to working together to develop specific goals and actions for
advancing the creation of new jobs in the city. They have recently adopted some of the principles of transformational leadership, including collaboration and broad civic engagement. However, just as they are getting started, JPC has announced plans to disband when their goals have been achieved (Dobbie, 2008). Their challenge is formidable and will require an enduring commitment.

New service-oriented jobs in the city have not offset the loss of good paying manufacturing jobs and commuting levels are increasing as Hamiltonians seek work in other communities. As well, older cities like Hamilton face serious issues such as aging infrastructure, while mature industries in the city must address their aging workforces. The city has a growing number of retirees on fixed incomes. Yet, the declining tax base is increasingly drawn from the residential population, as manufacturing firms and others shut down operations. Hamilton’s high poverty rate has become a top priority for local government. Chapter 12 presents a comparative analysis of the factors of economic transformation in Hamilton and Pittsburgh.
Chapter Twelve:
The Elements Combined

Community Economic Activity System:
A Leadership Framework

As the economic structures of cities change, so do the factors impacting their ability to retain and expand established firms and to create or attract new ones. This research suggests an imperative for regeneration of older cities - the need for a robust, collaborative leadership framework centered on creating and implementing inclusive strategies for regeneration.

This comparative analysis examines eight factors which play a fundamental role in economic transformation, with leadership as the central driving force for achieving qualitative change. Grounded in MacGregor-Burn’s theory of transformational leadership, and building on the perspectives of community, business, and labor leaders in Pittsburgh and Hamilton, I propose a framework for integrating these eight interdependent factors. To achieve optimal conditions for effective regeneration, including distribution of benefits across the community population, the elements must function as part of an integrated system – a community economic activity system (CEAS). The system elements include:

1. transformational leadership,
2. strategic planning,
3. civic engagement,
4. education and research resources,
5. capital,
6. quality of life,
7. infrastructure, and
8. labor.

Cities operate in a global context. As Seccombe (1993, p. 1) suggests “the dynamics of the whole world economy limit and shape the action of its parts.” Cities cannot control global

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1 The title of this chapter is taken from The Elements Combined by William Kilbourn, a book on the history of the Steel Company of Canada.
forces such as natural environmental conditions and the macroeconomic regulatory and policy environment (Wolfe, 2007). They are impacted by new scientific discoveries and technological innovations, as well as capital mobility. Resources must be developed to enable firms to respond to external forces and to generate new developments. Addressing these larger forces generally requires strategies supported by multi-level governance (Bradford, 2004).

Figure 8 provides a framework that synthesizes the eight critical local factors of economic transformation considered in this study and examples of key interacting global forces. The economic trajectories of cities are largely shaped by leaders’ capacity to act collaboratively to mediate the components of the CEAS. All of the elements are catalyzed and interwoven by the organizing efforts of local leaders. Social capital connects the actors through the exchange of ideas, insights and innovative practices for mediating the system elements. The arrows in the diagram depict currents flowing in multiple directions. These currents travel through interconnections between people. When leaders work collaboratively, these interconnections (or relationships) are strengthened as the elements combine and momentum gathers. If the interconnections are only episodic, the energy levels will diminish. Sustained interconnections are needed in addition to project-oriented activities. The extent to which the CEAS functions effectively within a city impacts the community’s capacity to achieve economic, social and environmental health.
Figure 8. Community economic activity system.
Transformational Leadership

Building on MacGregor-Burn’s (1978; 2003) definition and based on this research, there are five characteristics that distinguish leaders as transformational.

1. Transformational leaders have a “big picture” perspective that enables them to understand the elements of transformation, their interconnections, and the implications involved in comprehensive, qualitative change (Mac-Gregor Burns, 2003). The new service-based economy of Pittsburgh and Hamilton is not a kind of phoenix arising from the ashes of big steel. However, key developments in these cities, for example steel technologies and service centres, are rooted in the knowledge and skills of local residents and the specialized research capabilities created in both cities.

2. Economic transformation is a gradual and continuous process (although uneven), as opposed to episodic or transactional (Bass, 1985). In this application, transformational leaders must be willing and able to make substantial, long term commitments. The need for enduring leadership does not diminish the importance of partnership initiatives or the efforts of grassroots coalitions. They are often the source of new transformational leaders.

3. Transformational leaders must have the ability to influence people attitudes, beliefs and core values to enable them to be open to developments that fundamentally impact their lives. The values that have served traditional industrial societies may not be the values of modern societies. For example, consider the tensions between hard work and life balance or between stability and flexibility.

4. Transformational leaders inspire motivation by developing trust relationships with other leaders and with members of the community at large. Leaders require legitimacy, accountability, and transparency. Trust is essential for engaging stakeholders in authentic ways, for transcending parochial self interests, and for building sustaining relationships. Leaders use the social capital they develop with other leaders to mediate local factors and global forces collaboratively rather than individually.
5. Transformational leaders use their social capital to bridge the plurality of organizations that have an interest in economic transformation, including linkages across multiple levels of government and among other external agents of economic development.

The structure of community and economic development in a city influences the patterns of relationships that develop among leaders. Development organizations that operate with a Board of Directors can expand their power and influence by strategically including Board members such as business owners (Hunter, 1953). Community and economic development agencies can also expand their influence with members of the community by including leaders of labor organizations which represent thousands of workers.

A relatively new development that has occurred over the past few decades in Pittsburgh and Hamilton is the extent to which nonprofits participate in the local economy. Nonprofits represent a major force in the economies of many cities today because of the growing proportion of workers in service industries such as health care and education. Leaders of nonprofit organizations should therefore be included in the network of community leaders championing community and economic development. Collaboration among leaders and other agents of economic development is important for ensuring a holistic approach that includes strategies built from the ground up (Bradford, 2004). This approach facilitates a critical analysis of the implications of decisions and actions by inviting interdisciplinary perspectives. Resource pooling helps to achieve greater scale, efficiency, inclusiveness, and cooperation. Collectively, a community of leaders is better able to mediate local factors and global forces impacting the economy.

**Pittsburgh.**

Figure 9 illustrates the density of relationships among community and economic development leaders who participate in Pittsburgh’s community economic activity system (CEAS). In this city, transformation is driven primarily through formal, enduring structures that are linked in the following ways:
1. Many of the leaders operating within Pittsburgh’s economic development community recognize ACCD as a co-ordinating body. ACCD and its affiliates have driven many strategic planning initiatives over six decades.

2. Community and economic development agencies collaborate on economic development strategies at a city level and at a regional level. This has not always been the case but is increasingly so.

3. Empirical evidence of strong interaction across a range of economic development agencies is found in the significant interlocking relationships that connect Board members. The community and economic development organizations in Pittsburgh share over 30 Board members. (This does not include interlocking Board relationships among businesses, which is beyond the scope of this research.) Relative to Hamilton, Pittsburgh has a much larger, more integrated network with tighter linkages among community and economic development agencies. The city benefits from substantial “bridging social capital” (Putnam, 2000).

4. In recent years, Board membership has become more inclusive of various sectors including nonprofits, which reflects changes in the local economy. In this way, community and economic development agencies have also become more adaptive and representative of broader interests. In this way, they gain (or retain) power and relevancy.

5. Pittsburgh’s economic transformation reflects its embedded, networked and often co-located leadership coalition. Many of the economic development organizations are linked through co-location. Their proximity provides opportunities for relationship-building and enhances the development of bridging social capital across a wide range of economic development organizations residing in Regional Enterprise Tower. They share conference facilities and meet informally in lobbies and eating areas.

6. Community and economic development agencies collaborate to create formal and informal partnerships, which increasingly involve public-private-nonprofit-
academic linkages. These partnerships enable leaders to leverage community-based assets and resources that constitute Pittsburgh’s community economic activity system.

Figure 9. Pittsburgh’s community economic activity system in 2007.
Historically, in Pittsburgh, economic transformation was led by a powerful regime comprised primarily of corporate leaders and a few political leaders. Steel industry leaders were among the most powerful. The City, ACCD and the URA (and their boards) have collaborated to lead Pittsburgh’s economic transformation for half a century, largely through public-private partnerships. Mayor Lawrence (as cited in Lorant, 1964, p. 422) describes urban redevelopment as “a mingling of public and private investment. It cannot be executed by public power alone, unmixed with private negotiation and business judgement.” Pittsburgh was one of the first cities in the U. S. to implement the urban redevelopment law enacted in 1945 that enabled city leaders to clear out acres of blight, “the correction of obsolete and harmful land uses, a mechanism for accomplishing city planning” (p. 422). Pittsburgh’s controversial “Renaissance I” employed the powerful tool of eminent domain to relocate over 8,000 people from the Lower Hill district (p. 440) and hundreds of businesses. While new business towers, parking lots, apartment buildings, and a park redefined the city landscape, many of the dislocated families, particularly African Americans, moved to other segregated areas of the city, resulting in even greater fiscal disparities and social inequities between neighbourhoods. Younger, more educated workers were more likely to move to find work, while older citizens remained in the city and retired on fixed incomes. The highways advocated by Strategy 21 were constructed with the aim of bringing more people and business investment into the downtown core. Instead, about half the city’s population left for the suburbs and other regions. Relative to most other large cities in the U.S., the exit of people from Pittsburgh was of a much greater magnitude.

Today, Pittsburgh’s economy is much more diverse and so are the leaders who set policy and make decisions regarding the allocation of economic resources. ACCD still serves as a major coordinating body and business leaders still form the majority of Board members; however, they represent a broader range of sectors. These private sector partners contribute substantial financial support for economic development. As well, nonprofits play a greater role in the local economy and in community and economic development leadership. Many economic development projects are funded in part by Pittsburgh’s foundation community, which are predominantly an outgrowth of Pittsburgh’s old economy. Labor leaders continue to be under-represented in economic development organizations. As a result, the voices of workers (which labor leaders represent) are still largely excluded.
The findings of this research indicate that social capital plays an important role among Pittsburgh’s community and economic development leaders. Many of Pittsburgh’s leaders indicate that the relationship among economic development agencies has improved in recent years. They believe that greater collaboration has enabled them to function more cohesively and effectively to achieve an economic comeback. Capacity building in advanced manufacturing, applied sciences, and information technology has occurred through collaborative efforts among economic actors. Substantial environmental clean up has also taken place as a result of collaborative and sustaining efforts among community organizations. Pittsburgh has made substantial progress. In February, 2009, Pittsburgh’s commercial real estate market tops the nation according to Moody’s Investors Service and Pittsburgh ranks at number 6 on Forbes.com’s “Top 10 Cities for Job Growth in 2009” (The PRA Post, 2009). “Hell with the lid off” has been transformed into America’s “most livable city” based on the Places Rated Almanac in 2007 (Majors, 2007).

It is important to note that, at a county and regional level, leadership continues to be highly fragmented, especially political leadership. Within Allegheny County alone, there are 130 municipalities, each operating its own administration. Forty-two public school districts in Allegheny County compete for a limited share of tax revenues. Moreover, policies which govern Pittsburgh are inextricably linked with state and national policies, and increasingly with international policies. Often, major decisions impacting corporate investments, infrastructure funding, and social programs are beyond the control of local leaders. Relationships among multiple levels of government and with strategic external organizations are critical to local development.

Hamilton.

Relative to Pittsburgh, Hamilton’s community and economic development organizations have fewer ties. Bridging social capital is not as well developed among these organizations. Figure 12.3 illustrates the paucity of formal or sustaining interconnections among Hamilton-based community and economic development organizations participating in this study. Community and economic development leaders operate as follows:
Figure 10. Hamilton’s community economic activity system, 2007.
1. The core economic development function is internal, within the City of Hamilton. As an internal department, the Economic Development Department does not have a Board of Directors from which to draw power and mobilize resources. The Department is influenced substantially by municipal political leaders. Department staff report to the City of Hamilton senior administration and ultimately to City Council. Compared to Pittsburgh, Hamilton relies more on “bonding social capital” (Putnam, 2000), involving a smaller group of predominantly political leaders in a relatively closed network.

2. The City’s approach to economic development has traditionally been “top-down” with City Council retaining central control. The Economic Development Department has led strategic development planning since the city’s amalgamation in 2001 and actively engaged representatives from all former municipalities comprising the new city. Broad community consultation was undertaken to develop the strategy.

3. There is no arms-length “umbrella organization” that coordinates the activities of local economic actors in Hamilton on an ongoing basis. Community and economic development agencies operate in a more fragmented manner relative to the city of Pittsburgh.

4. The relationships among Hamilton’s economic development agencies are looser and less enduring than those established in Pittsburgh. Often, several organizations join forces to address a specific need, and then disband when needs are met. This “interventionist” approach has also been adopted recently by the Jobs Prosperity Collaborative, an alliance of 65 leaders from across the city (formerly the Hamilton Civic Alliance) (Dobbie, 2008). While this type of coalition is tremendously helpful, it does not replace the need for a sustaining economic development organization grounded in strong, collaborative and enduring relationships.

5. Like Pittsburgh, many development projects in Hamilton have historically been implemented through public-private partnerships. In recent years, Hamilton has experienced more public-private-nonprofit-academic partnerships. HR Matters is
a recent example. It is included among the community and economic development agencies because members have an enduring relationship.

As in Pittsburgh, “eds and meds” have become the drivers of new economic growth in Hamilton. Universities and colleges are very active in local economic development. McMaster University, Mohawk College, and Hamilton Health Sciences are among the most influential leaders in the city today. In partnership with the City of Hamilton and other levels of government, McMaster University is building an Innovation Park to support the research and commercialization needs of Hamilton’s growth sectors.

The Hamilton Training Advisory Board also addresses labor market needs in the community. Hamilton’s nonprofit sector is significant, but not as large as Pittsburgh’s nonprofit organizations, especially with respect to foundations. The Social Planning and Research Council of Hamilton (SPRCH) plays a key role in addressing quality of life issues such as poverty. The Chamber of Commerce serves as the voice of business. A key function of the Chamber is to advocate on behalf of local businesses to the three levels of government.

Several leaders in Hamilton, including the Mayor, have identified the need for a formal, arms-length corporation to perform the economic development function currently undertaken by the economic development department. A primary motivation is to enable economic development decision-making to occur more autonomously in relation to City Council. Another important motivation for creating a new structure should be to build strong and enduring relationships with major employers, union leaders and other community leaders as members of the Board. The new structure could provide Hamilton’s economic development leaders with direct linkages to leaders within the growth sectors of the city. It could also facilitate the development of a cluster that is based on interconnections with other community and economic development organizations. Several local leaders have also suggested that community and economic development agencies co-locate to encourage greater synergies among organizations. Hamilton appears to be moving towards a structure more similar to Pittsburgh’s.
**Strategic Planning**

Strategic planning is an important tool for directing transformation. Strategic plans define goals and actions and identify organizations that will take responsibility for actions and timeframes for measuring progress (and consequences). Plans need to be adapted to reflect incremental changes that are taking place. Planning economic transformation generally begins with the identification of a leadership body that will coordinate and mobilize resources. The presence of a coordinating leadership organization does not preclude participation by many organizations and individuals. On the contrary, the process of strategic planning benefits from broad stakeholder involvement and civic engagement.

Strategic planning is multidimensional. Economic issues cannot be addressed without considering social issues such as racial inequity and environmental quality. Economic activity also crosses geographic boundaries. Pittsburgh and Hamilton advocate a regional approach to economic development in order to address municipal fragmentation, fiscal inefficiencies, and social inequities across the region.

In order to manage growth, strategies may aim to balance mature and new economic activity. This balance is necessary to enable displaced workers to transition to new employment opportunities. Balance is achieved through the retention and attraction of goods- and service-oriented industries. It requires both for-profit and not-for-profit enterprises to generate employment and support services. Strategic development also requires a balance of low skill, semi-skill and high skill employment opportunities that enable workers of varying educational backgrounds, competencies and experiences to secure work.

**Pittsburgh.**

Since 1970, Pittsburgh has developed several major strategies, most of them involving the City and ACCD. Most of the strategies have been led by a local university president and coordinated by ACCD or one of its affiliates. Earlier strategies involved a relatively exclusive process. They focused on infrastructure development. Recent strategies are much more open, involving broad civic engagement. They are directed at developing resources such as research and technology institutes to support the growth of advanced manufacturing, applied sciences, and information technology clusters.
What has changed in Pittsburgh over time is the emphasis on collaboration among economic development agencies as opposed to central planning. Recent strategic planning initiatives involve extensive civic engagement to ensure inclusiveness and broad commitment to economic transformation. Strategic planning efforts are also broadening to take into account the inter-related factors identified in this research. The mix of local economic actors has influenced broader approaches to economic development, which encompass economic, social and environmental aspects.

Over the past two decades, organizations such as ACCD and its affiliates have advocated for a regional approach to economic development. The “Working Together to Compete Globally” report indicates that “[t]he imperative of building an economy which brings opportunity to all citizens and communities has emerged as a priority in almost every meeting and outreach session conducted to shape this blueprint” (Mehrabian & O’Brien, 1994, p. 30).

Governments in Pittsburgh remain fragmented. With 130 municipalities, Allegheny County has more local governments per capita than any county in the United States (Powell, 2004, p. 27). Fragmentation is also a serious issue with respect to public school systems. The City of Pittsburgh and Allegheny County are working together (and with other levels of government) to develop a consolidated approach to managing key services and linking economic, social and environmental objectives.

Hamilton.

Since the city’s amalgamation in 2001, Hamilton has developed (and updated) a “Clusters of Innovation” strategy (City of Hamilton, 2002; 2005a). The strategy was developed internally by the City’s economic development department. The City has aligned the economic development strategy with its Growth-Related Integrated Development Strategy which serves as a master plan for the City. The strategic planning process offered an important opportunity for economic development leaders from the former six municipalities to work collaboratively towards a common vision for economic development. The City recently announced that a new strategy will be completed by the economic development department in 2009 in consultation with members of the Jobs Prosperity Collaborative, formerly the Hamilton Civic Coalition. In
2008, Hamilton City Council approved an increase in funding of $1.5 million to support the City’s Economic Development Department (Eisenberger, 2008).

Over time the approach to strategic planning in both Pittsburgh and Hamilton has involved broader consultation among key stakeholders and greater civic engagement. This is due in part to the greater diversification of economic interests in the cities. It is also based on recognition of the benefits of civic engagement in strategic planning stages of development.

**Civic Engagement**

Civic engagement is a priority for economic transformation because it provides information to members of the community about the state of the local economy and opportunities and threats regarding their future livelihood. Civic engagement is important for building awareness and confidence that recovery is happening. Public consultations, roundtable discussions, advisory groups, civic alliances, and community outreach activities provide opportunities for members of the community to voice their perspectives and concerns. Inclusion and measurement of citizen engagement in decision making enables city leaders to recognize the value of public involvement.

Several leaders note that strategic planning and civic engagement are functions of transformational leadership. This is true. Conversely, civic engagement can inspire transformational leaders also. All of the local factors considered in this study are functions of transformational leadership.

Civic engagement is also important for building a sense of community among the local population. It helps to ensure that people have information about new developments in their city. Policy-decisions benefit from citizens’ increased awareness, knowledge and responsiveness, and from improved transparency and accountability (Bradford, 2003). Civic engagement enables citizens to play a part in promoting their community. Engaged citizens are not only better informed, but because they have actively participated in the development of policies or strategies, they are more likely to accept and support them. Citizens who feel a sense of community and pride in their city’s accomplishments are an important source of place-based marketing.
**Pittsburgh.**

In Pittsburgh, broad civic engagement by community and economic development agencies has historically occurred episodically rather than through developing sustaining relationships. However, in recent years, Pittsburgh has implemented mechanisms to achieve wide community engagement in economic development. Leaders in Pittsburgh are better informed about the economic, social, and environmental interdependencies of transformation and incorporate them into strategic planning processes. Public forums are held by community and economic organizations to engage citizens in strategic development initiatives so that citizens’ concerns can be factored into decision-making. Web sites have been adopted by all of the community and economic development agencies participating in this study. They are an important vehicle for sharing information with the public about planned developments and for inviting ongoing input. Some of the economic development agencies offer subscriptions to e-news letters to anyone who is interested. Social media is increasingly providing a mechanism for reaching a broader audience, especially youth.

Civic engagement must reflect the entire community. Business leaders still dominate many of Pittsburgh’s civic boards. However, increasingly, the Boards represent of the communities being served, especially nonprofit organizations. The city’s foundations play a large role in development projects, especially as funding partners. Labor continues to be underrepresented as are youth and visible minorities. Several grassroots organizations participate actively in community and economic development, including Sustainable Pittsburgh and local community development corporations.

**Hamilton.**

Like Pittsburgh, historically Hamilton’s approach to community engagement has been episodic, primarily involving town hall meetings. As in Pittsburgh, substantial efforts have been made to increase civic engagement, including engagement with youth and visible minorities. Internet-based communications are a primary mechanism for community outreach. Broader engagement is reflected in the composition of organizations such as the Jobs Prosperity Collaborative which includes several nonprofit organizations as well as business leaders and one labor leader.
Education and Research Resources

Economies are never static, particularly at a national and global level. Education and research are essential for preparing for change. One of the greatest challenges that older cities in North America face is the loss of manufacturing industries to developing nations. Knowledge and innovation are critical for creating new work – for moving up the value chain. But, as Aronowitz (2005, p. 134) points out, knowledge is not bound to location: [“W]hat is new is that many services, as well as virtually any kind of material goods, can be produced anywhere.” Moreover, a knowledgeable and skilled labor market relies not only on formal education and training, but also on knowledge and skills gained informally, for example through practical experience at work. A focus on increased education and training presumes that a skills deficit exists and that workers have opportunities to use their knowledge in available jobs (Livingstone, 2006). Strong linkages must exist between the jobs available in the community (or targeted for development) and education, research, training, and workforce adjustment programs available in the city.

Institutions of education and research can play an instrumental role in developing knowledge and skills. They also play an important role in importing and applying knowledge from global sources to local environments (Charles, 2003). Educational and research institutions contribute to the creation of new products, services and industries. They provide inputs such as skilled labor, management development and technological innovation into the development process. Historically, universities have not focused their contributions on spatially-defined markets, although Charles (2003, p. 17) suggests that among universities there is a growing perception of regions as important “site[s] of interaction.”

Pittsburgh.

In Pittsburgh, universities and colleges are closely linked to local economic development. For over a century, Carnegie Mellon University (CMU) has had a strong focus on technology development and solid linkages with the community. CMU was originally established in 1900 by Andrew Carnegie as the Carnegie Technical School. The University of Pittsburgh is also a central driving force for new economic growth in Pittsburgh. The city’s educational institutions
have a long history of active involvement in local economic development. They contribute in the following ways:

1. Pittsburgh’s universities and colleges contribute to the growth of new industries in advanced manufacturing, applied sciences, and information technology sectors across the region. They help to prepare workers with the requisite skills and knowledge to work in new industries.

2. They help workers who are displaced from traditional manufacturing jobs to acquire knowledge and skills that will help them to transition into new jobs.

3. They conduct research to create new products, services and processes, and generate new entrepreneurial activity.

4. Educational institutions in Allegheny County employed over 48,000 in 2006. In addition, a principle partner of the University of Pittsburgh, the University of Pittsburgh Medical Centre, is the largest employer in the region with 50,000 employees (University of Pittsburgh, 2009).

5. Educational institutions are investors in their own right. They own land, buildings, and equipment worth billions of dollars.

6. Several major strategic plans developed in Pittsburgh have been led by or involved a university leader.

Some of the leaders in Pittsburgh suggest that there is a mismatch between the jobs available in the city and the skills of many of the residents. A growing proportion of jobs within the city are in business services and in professional and managerial occupations. A large number of residents (43,839) leave the city to work in other places (Briem, 2005, p. 1) because they cannot find good-paying jobs that utilize their qualifications. However, a much larger number of people commute into the city to work each. The city’s daytime population increases by 138,191 people, a vast number for the size of Pittsburgh and relative to many other cities. So, Pittsburgh has a *commuter surplus* of about 94,000.
The unemployment rate for the city is similar to the national rate, yet a higher level of poverty persists, despite thousands of available jobs in Pittsburgh. Some of these jobs are in lower-wage service industries such as retail trade and food and accommodations services, and others pay relatively high wages. Better alignment is needed between education and training programs for unemployed individuals and local growth sectors.

A related issue, educational inequity is a serious problem in Pittsburgh’s public school system. So is racial segregation. Powell (2004, p. 18) notes that the average African American student in Pittsburgh attends a school with a poverty rate of 65%.

Hamilton.

Similarly, in Hamilton, education and research institutions are instruments of regeneration. They contribute to local economies in the following ways:

1. Institutions such as McMaster University, Redeemer University and Mohawk College provide learning and innovation resources to help the local steel industry to be more competitive. For example, they have developed specialized programs and research centres to support steel technologies and work processes.

2. They contribute to the development of new industries or firms by preparing workers with the knowledge and skills to work in local industries. For example, education and research resources support Hamilton’s growing health care industry.

3. Education and research resources are an important resource for creating and commercializing new products, services and processes, and stimulating entrepreneurial growth.

4. Community colleges are responsive to the training needs of local industries and offer programs supporting workforce development and retraining for displaced workers. Mohawk College is among the leading providers of apprenticeship programs in Ontario.

5. Education is Hamilton’s third largest employment sector. Over 25,000 people are employed in this sector (Industry Education Council of Hamilton, 2008, p. 3). Over
100,000 students participate in the City of Hamilton’s educational institutions on an annual basis (City of Hamilton, 2005a, p. 12).

6. During the past five years, Hamilton’s seven top education institutions invested over $1 billion in new infrastructure (Industry Education Council of Hamilton, 2008, p. 1).

In contrast to Pittsburgh, Hamilton has a shortage of jobs available. Relatively few people commute into the city to work. A larger number of people commute out of the city to work each day compared with the number of people commuting into the city. In 2001, Hamilton experienced a commuter deficit of 23,235 (City of Hamilton, 2005b, p. 15). Recent strategies in the city focus on developing private, technology-oriented jobs and business start-ups.

**Capital Resources**

Capital is a primary factor of production. It involves tools, machinery and equipment, and facilities used in the production process. Investment in new technologies, especially labor-saving technologies, enables firms to increase productivity and competitiveness. Capital resources encompass business investments, venture capital, capital available through financial institutions, incentive programs by governments, tax revenues, and development grants from private foundations, among other sources. Investments in new enterprise development and business growth are important for the economic progress of cities and regions.

The mix of economic activity within a city impacts tax revenues significantly. Property taxes are the largest source of municipal revenue in Pittsburgh and Hamilton. These cities are experiencing pressure to keep property taxes for businesses at a minimum to help ensure their retention. Small businesses do not have the ability to pay the large tax contributions that were made by large multinational corporations. That means that a greater tax burden is carried by residents. Communities must find new ways to diversify their tax base. One alternative is for cities to charge more for services and to place the burden on users based on their consumption levels. Another alternative is to reduce costs. As the global economic recession deepens, and financial institutions tighten their lending policies, a challenge that both Pittsburgh and Hamilton face is attracting venture capital to support private sector entrepreneurial growth. Small business
development is key to new investment, new tax revenues, new job creation and greater local autonomy.

**Pittsburgh.**

The decline in Pittsburgh’s tax revenues has led to the city’s classification as “financially distressed”. Many communities in the Mon Valley face the same challenge. The loss of industry has resulted in high levels of unemployment and poverty in several older mill towns in the area. Pittsburgh has the added challenge of tax exemptions to a number of major corporations. These exemptions were granted decades ago when the steel city was booming with industrial and financial activity. Pittsburgh is actively engaged in discussions with Allegheny County to explore opportunities to consolidate services to reduce costs.

Pittsburgh benefits from a unique advantage – the vast capital resources within its large foundation community, compared to many other North American cities, including Hamilton. These organizations have contributed millions of dollars to new developments initiated by ACCD, URA and other organizations, including downtown revitalization initiatives and brownfield developments.

Historically, Pittsburgh has had a lower rate of business startups relative to other cities in the United States. Wong, Yeo, and Ross Devol (2006) indicate that, prior to 2000, the Pittsburgh MSA did not perform well relative to five other MSA’s which they examined, including Baltimore, Indianapolis, Phoenix, Seattle and St. Louis. However, “in 2005, its performance in initial-stage deals was comparable to that of the other MSAs” (p. 19). Several organizations support new business development and help entrepreneurs to source financing in the region. The Pittsburgh Venture Capital Association works with local entrepreneurs and venture capital firms across the region to foster relationships (Pittsburgh Venture Capital Association, 2009). Innovation Works plays a key role in promoting investment in technology firms in the area. Innovation Works has helped to create some of Pittsburgh’s most successful technology companies, including Medrad, Fore Systems and Ansoft (Innovation Works, 2009). As well, the Pittsburgh Life Sciences Greenhouse provides investment funding for new firms. The organization has invested $13.2 million in 57 early-stage companies, which has helped to attract an additional $400 million investment (Leonard, 2009). According to the Pittsburgh Regional
Alliance (2009b), since 2000, more than $2 billion in venture capital funding has been invested in a diverse range of firms in the Pittsburgh region, especially in bio-technology, software and Internet-related ventures. Venture capital is important for a major focus of Pittsburgh’s economic transformation – stimulating new enterprise development, especially in advanced technologies and life sciences.

Hamilton.

Hamilton has consolidated services through its amalgamation of six municipalities, but costs continue to rise. In recent decades, the devolution of major responsibilities from federal and provincial governments to local governments has created enormous financial strain on municipalities in Canada. Like Pittsburgh, Hamilton has lost a significant amount of tax revenues from industry. Dobbie (2008, p. 9) indicates that from 1981 to 2001, Hamilton has gone from “roughly 70% of the City’s financing coming from business taxes & 30% from residential taxes to roughly 70% of our municipal tax coming from residential rate payers.” Local foundations do not have the financial resources of Pittsburgh’s large benefactors to build and maintain cultural amenities. Poverty in the city has grown substantially and is one of the top priorities among community and economic development leaders.

Hamilton benefits from its proximity to Toronto which provides access to a large number of venture capital firms. Within Hamilton, resources such as the Hamilton Technology Incubator helps entrepreneurs identify potential financing sources including venture capital firms and other private investors. Several organizations in the area support small business development, including the City’s small business enterprise center.

Infrastructure

Several leaders stress the importance of recognizing the need for physical infrastructure, such as land and buildings, highways and broadband networks, and water and sewer systems. These assets were initially considered as part of capital resources. However, leaders in Pittsburgh and Hamilton emphasized that the efforts required to develop land in older cities, especially brownfields, are greater than those required to develop greenfield land in new cities. They require legislation to address environmental liability issues. They need financial incentives to compensate developers for remediation costs. Also, if cities do not have investment-ready
(serviced) lands on which businesses can locate, the businesses will invest elsewhere. For older cities, the cost of replacing and maintaining infrastructure such as water and sewer systems is huge.

**Pittsburgh.**

Investment in land development, transportation infrastructure, and other municipal infrastructure are considered among the top priorities by leaders in Pittsburgh. Recent approaches to economic development increasingly recognize the importance of investment in knowledge, social, and environmental infrastructure as well. Public housing and rental properties and services such as public safety are important for attracting and retaining people within cities. Environmental remediation of industrial brownfield sites and neighbourhood revitalization are important for community health and attractiveness, for creating a sense of renewal, and for diminishing urban sprawl.

**Hamilton.**

As one of Canada’s oldest cities, the costs of maintaining infrastructure such as roads and replacing infrastructure such as waste water systems takes a large chunk out of the city’s budget. The need for downtown revitalization and neighbourhood redevelopment is also a serious issue in Hamilton. Brownfield redevelopment funding is also needed to remediate abandoned properties and to improve the health and image of the city. As well the development of employment lands near the airport is a priority in Hamilton’s economic development strategy. Reacting to the temporary shut down of U.S. Steel Canada’s operations in Hamilton, Mayor Eisenberger said this “‘screams out’ for the need for immediate infrastructure spending to help the troubled economy” (cited in Powell, 2009b, p. A2).

**Quality of Life Resources**

Quality healthcare, public safety, good schools, and affordable housing all impact location decisions of people and businesses. The leaders interviewed agree unanimously that quality of life is an important factor for economic transformation. In particular, they believe that it is important for attracting young people and families. Often, people make decisions about where they are going to live based on the quality of life factors such as schools and public safety.
In addition, assets such as hospitals, public transit, and cultural amenities all influence the location decisions of individuals and firms, and in effect, the prosperity of local communities.

**Pittsburgh.**

Pittsburgh’s poverty rate has escalated to 22% for individuals and 15% for families (U.S. Census Bureau, 2007a). Poverty is especially prevalent among the city’s African American population. As well, many women in Pittsburgh are highly educated, but underemployed or unemployed (Bangs, Anthou, Hughes, Lichtenwalter, & Shorter, 2004). Several community and economic development organizations in Pittsburgh have created the Pittsburgh Community Development Collaborative to focus resources on neighbourhood revitalization. They have identified four targeted areas of the city which they will work on collaboratively in order to make a difference faster in the economic conditions of those areas. In the past, the community organizations worked individually.

Economic transformation has led to increased commuting in Pittsburgh, which cuts into personal or family time. As a major employment centre for the broader region, the number of jobs available in Pittsburgh is more than double the number of people in the local labor force, so the city draws many commuters into the city. However, the full time, good-paying jobs do not necessarily go to residents. Many individuals from the broader Pittsburgh region come into the city for work. On the other hand, many residents must commute outside the city to work, despite the large base of employment in the city core. This suggests a mismatch between the skills of thousands of residents and the jobs that have emerged in Pittsburgh’s new economy. Or, as some of Pittsburgh’s leaders suggest, there is a disconnect between the level of education and training that is demanded for current jobs and the education and skills of many people that live in Pittsburgh.

**Hamilton.**

Hamilton is also experiencing a high poverty rate. The percentage of people in low income before tax (all persons) is 18.1%. The percentage of people in low income before tax who are less than 18 years of age is 23.6 (Statistics Canada, 2006a). The high poverty rate is due in part to the decline in manufacturing jobs. Many of the service sector jobs that have been created are part time and/or low-paying, especially in comparison to steel work.
There is a striking difference between Pittsburgh and Hamilton in commuting patterns. In contrast to Pittsburgh, Hamilton has fewer jobs available in the city relative to the size of the city’s labor force. Increasingly, Hamiltonians are commuting out of the city to work. Since 1981, the number of daily commuters leaving Hamilton each day has more than doubled. This suggests both a lack of jobs in the city as well as a mismatch between the skills of residents and the jobs that have emerged in Hamilton’s new economy. It also means that, although population growth occurred in the amalgamated city, the attraction of people is due in part to factors such as affordable housing (relative to Toronto) as opposed to new job growth.

**Labor**

Labor is also a primary factor of production. Several leaders indicate that a city must have an adequate supply of people with knowledge and skills that are relevant to local growth industries. Many leaders in Pittsburgh and Hamilton suggest that future prosperity depends on their ability to retain graduates and to attract immigrants with skills and knowledge that relate to target clusters. Often excluded from this discussion is the need to retain and retrain displaced workers and to make use of the knowledge and skills that labor has acquired formally and informally. In both Pittsburgh and Hamilton, many former steelworkers have moved or they commute to work elsewhere. Others remain unemployed or underemployed amidst the high concentrations of poverty.

Several leaders indicated that youth retention is an important concern for their cities, especially post secondary graduates. The supply of labor also includes displaced workers who can be retrained to perform new work, and who possess knowledge and skills that may be transferable. Hamilton and Pittsburgh both have a labor force that is older relative to national averages. Women have been a major source of growth in the labor market in both cities over the past few decades.

A fundamental weakness in the community economic activity systems in both Pittsburgh and Hamilton is the underrepresentation of labor. Labor leaders are rarely invited to participate as Board members of community and economic development organizations. Yet, they represent the interests of thousands of workers in both cities and labor organizations such as the United Steelworkers are an important part of their histories.
Pittsburgh.

When Pittsburgh’s steel industry collapsed, unemployment soared and over 300,000 people left the city. Displaced workers faced tough choices including retraining, commuting to work outside the city, accepting low-paying, low-skill jobs in the city, relocating, or accepting early retirement in cases where that option existed. The magnitude of job losses in the 1980s made these choices even more difficult.

Many of those who remained possessed low levels of formal credentials and experienced difficulty finding good-paying jobs. Most of the employers in Pittsburgh in the past 38 years have demanded higher formal credentials. These demands have resulted in significant mismatches between the knowledge and skills of displaced workers and work available in the city. Today, most of the displaced steel workers have exited Pittsburgh’s labor force. Most of them lost their steel jobs several decades ago. Many have moved away or retired. The city of Pittsburgh is the urban center of the region and the broader area known as Southwestern Pennsylvania. There were no other large urban centres in close proximity, although there are several smaller cities.

In 2006, 86.3% of Pittsburgh’s population 25 years and over were high school graduates or higher compared with 84.1% for the nation as a whole. In 2006, 31.3% of the population in the city of Pittsburgh had a Bachelor’s degree or higher compared to 27% for the U.S. U.S. Census, 2009a). Still, mismatches exist, especially among residents in Pittsburgh’s poor communities. Organizations such as the Community Development Corporations have created training programs to enable displaced workers to develop new technical skills.

The number of people represented by labor unions in Pittsburgh has declined over the past few decades. However, unions continue to play an important role in many organizations. They are actively involved in promoting workforce development and training. The Three Rivers Workforce Development Board of Directors includes significant labor representation.

Hamilton.

Although fewer steel workers were displaced in Hamilton compared to Pittsburgh, the downsizing has been and continues to be substantial. However, Hamilton’s location in proximity
to Toronto, Waterloo, and other urban areas has enabled many of the displaced workers to remain in Hamilton and commute to work elsewhere.

Overall, educational attainment is considerably less in Hamilton than in Pittsburgh. It is also less in Hamilton than in Ontario. In 2006, slightly more people in Hamilton had completed college and apprenticeship training in Hamilton compared with Ontario. In 2006, fewer people in Hamilton had completed university level education relative to Ontario. These findings reflect the significant dependence on manufacturing in Hamilton and the lower education historically required in that sector.

Labor unions continue to have a strong presence in Hamilton, but have limited involvement in economic development Boards. They play an active role in promoting workforce development. The Board of Directors for the Hamilton Training Advisory Board includes labor representation.

**Conclusion**

Every city is unique in its strengths and its challenges, but all cities face the ever dynamic process of economic transformation. A myriad of possibilities exist for the creation of new work and a myriad of factors play a role in defining local economies. This research has demonstrated that for Pittsburgh and Hamilton, eight factors contribute significantly to community and economic development activity. Leadership is central for moving the city forward strategically and cohesively. Leadership structures and relationships matter. On a day-to-day basis, leaders interact with other community and economic development organizations. Grassroots organizations, including volunteer groups and activist groups, give voice to the interests and concerns of local citizens. An enduring coordinating body is important for aligning and sustaining community efforts toward a shared vision. At the same time leaders must balance large issues of economic transformation (such as infrastructure and environmental remediation) with the interests of individuals and their concerns regarding their everyday lives (such as quality schooling and child care). In every city, social divisions prevail, as do limits to representativeness. However, leaders must strive for inclusiveness to ensure broad representation and to establish trust relationships. Trust and power are necessary for creating confidence that recovery will happen and that strategies will aim to provide equitable benefits for individuals and
neighbourhoods within the city. A Community Economic Activity System approach to the regeneration of older cities requires substantial commitment upfront and throughout the development process. It aims to achieve fuller representation, multi-sector interaction, coordinated and collaborative mediation, and a more thorough, holistic analysis of the potential consequences of actions.
Chapter Thirteen: Leading the Economic Transformation of Cities

Vicious Cycles and Virtuous Circles

This research provides a comparative analysis of the economic trajectories of two North American steel capitals, from 1970 to 2008. It focuses on identifying and examining eight critical factors impacting the transformation of Pittsburgh, Pennsylvania and Hamilton, Ontario and looks at how local leaders mediate these factors in the context of global economic forces in order to achieve community sustainability. While it is not possible for any community to control global market forces, local leaders can counter deleterious effects and generate new opportunities for growth. Examining the economic trajectories of Pittsburgh and Hamilton provides important insights about the choices leaders make to address the vicious cycles of economic decline that can devastate cities. This research highlights the importance of strong, local leadership for creating confidence that recovery is going to happen.

Pittsburgh’s journey has been a long walk to recovery. Slow. Painful. Imperfect. Yet remarkable given the enormity of the city’s challenge. Dick Grace (Personal Communication, January 25, 2007) reminisces about the final days of steel work in Pittsburgh:

That town right across the river from us [Duchesne]. When they shut our furnaces down, they brought our steel from over there. Big Dorothy. That was the first thing they tore down. It was really protested. People tried to get that left up, but U.S. Steel took it down. It was beautiful. It was like a landmark. They should have left it up. The only blast furnace standing today is at Homestead. They call it the Carrie Furnaces. That’s going to be a museum.

These are the remnants of steel in Pittsburgh. Between 1978 and 1998, the Pittsburgh region hemorrhaged more than 142,000 manufacturing jobs, largely in steel and related industries (Giarratani, Singh, & Briem, 1999). By 2007, only 7,300 steel jobs remained in the entire Pittsburgh MSA and only 3,300 in Allegheny County (U.S. Bureau of Economic Analysis, 2008, 2009a). No integrated steel mills operate in the city today. U.S. Steel Corporation maintains its head office in downtown Pittsburgh. By 2002, the city of Pittsburgh finally reached employment of 314,000, close to the 1980 (pre-steel collapse) level, although employment declined to below 300,000 as of 2004 (State of the Cities Data System, 2008; 2009). Manufacturing did not
rebound. It continued to decline. Pittsburgh has undergone extensive transformation from its steel monoculture to a more diverse and stable economy. Between March 2008 and March 2009, as the current global economic recession took hold, nonfarm payroll employment in the Pittsburgh MSA declined by 1.8% compared to a decline of 3.6% for the United States. In the past, national recessions have hit Pittsburgh harder than the U.S. overall (U.S. Bureau of Labor Statistics, 2009b). Within the city, manufacturing jobs have been replaced primarily with personal and professional service jobs, especially in healthcare and education. The city’s growth industries are similar to those developing in other major cities in the United States, but in terms of overall job growth, Pittsburgh’s development has been slow relative to the nation. What has been different in Pittsburgh is the magnitude of transformation because of the city’s large historical dependence on steel, socially, culturally, and economically. A greater proportion of the work in Pittsburgh’s new economy is regionally-oriented relative to its earlier manufacturing economy, which was more internationally-oriented (Deitrick, 1999). The industries that comprise Pittsburgh’s economy today are more likely to employ women.

As in many North American cities, the nonprofit sector in Pittsburgh plays a critical role fulfilling social and environmental missions. They also contribute substantially in their own right to local economic activity. Again, however, it is magnitude that distinguishes Pittsburgh. The region has almost 3,200 nonprofit organizations, which collectively generate 150,000 direct jobs, $6.2 billion in payroll, and $16.6 billion in expenses in 2006 (Deitrick & Briem, 2009, p. 1). Most of the city’s nonprofits are grassroots organizations; however, Pittsburgh has several large foundations that play an active role in community and economic development, as well as many educational and health care institutions. The University of Pittsburgh Medical Center is now the city’s largest employer. The University of Pittsburgh Medical Center (UPMC) has developed comparative advantages in several areas including:

- internationally renowned programs in transplantation, cancer, neurosurgery, orthopaedics, sports medicine, among others. UPMC is commercializing its medical and technological expertise by nurturing new companies, developing strategic business relationships with some of the world's leading corporations, and expanding clinical services and state-of-the-art medical expertise into international markets. (University of Pittsburgh, 2009)
There are significant parallels between Pittsburgh’s past and Hamilton’s present. More than 20 years after most of the mills in the Pittsburgh region closed, Hamilton’s steel employment has diminished. Stelco in Hamilton, now U.S. Steel Canada, has undergone massive restructuring and is currently idled. Close to 2,200 workers have been placed on indefinite lay off (Powell, 2009a). Courtney Pratt, former CEO of Stelco, contemplates the historic takeover by US Steel in 2007:

In a few days from now, in fact, there will be an announcement that Stelco has been acquired by U.S. Steel, an American company that has emerged in recent years as a sizable international competitor, mainly through acquisitions….This time the deal that wins must preserve what we laboured so hard to get during CCAA, including the pension agreement with the government that ensures Stelco pensioners are looked after no matter who owns the company…Stelco is an unfortunate case study in the failure of corporate managers, governments and unionized labour to work together to respond to the warning signs that led the company into CCAA in the first place. How could it happen—in a progressive, successful country like Canada—that a steel company with such a proud tradition and with responsibilities to thousands of employees and pensioners, was allowed to run up a $1.3 billion pension deficit while also managing to become so uncompetitive that its survival was on the line? No one in this story walks away from that question blameless. (Pratt & Gaudet, 2008, pp. 308, 317)

In Hamilton, the decline of steel has been substantial, although later than, and not yet as deep as in the city of Pittsburgh. Steel continues to be one of Hamilton’s primary wealth generators, despite shedding thousands of jobs in the past three decades. The two integrated steel mills in Hamilton have been consolidated into foreign-owned companies. U.S. Steel Canada, Hamilton Works and ArcelorMittal Dofasco remain a smaller but still dominant part of the local economy. When U.S. Steel Canada idled its operations in Hamilton in March, 2009, this was the first time that the company, formerly known as Stelco, shut down the Hamilton mill in nearly a century of operations. The plant in Nanticoke, a neighboring community, is also idled. It is considered one of the most modern and productive integrated steel facilities in North America (McNeil, 2009).

Hamilton’s two integrated mills are largely dependent upon the automotive sector through direct sales into the sector and through indirect sales to steel service centres (Stelco, 2007). Across North America, the automotive sector is a primary customer for the steel industry. As of March 2009, the North American automotive industry is experiencing substantial
downsizing and restructuring. U.S. President Obama reports that “[o]ver the past year, our auto industry has shed over 400,000 jobs, not only at the plants that produce cars, but at the businesses that produce the parts that go into them, and the dealers that sell and repair them (USNews World Report, 30 March, 2009). Statistics Canada (2009d) reports that, “[s]ince October 2008, payroll employment in manufacturing has fallen by 99,700 or 6.1%, more than three times the rate of decline of total payroll employment. Nearly one-quarter of the manufacturing decline since October has come directly from the auto sector.”

At the same time, world steel production is plummeting. The World Steel Association reports that, based on a total of 66 countries, crude steel production declined by 23.5% from March 2008 to March 2009. Crude steel production decline by 55.0% in Canada and 52.7% in the United States during the same time period. In 2008, Apparent Steel Use (ASU) declined by 1.4% globally, 3.4% in Canada and 9.8% in the United States (Worldsteel Association, 2009). Year-over-year ASU for 2008 to 2009 is projected to decline by 14.9% globally, 22.4% in Canada and 36.6% in the United States (Worldsteel Association, 2009b). Again, Hamilton’s prevailing dependence on steel makes the city vulnerable to a vicious circle of uncertainty. However, an important difference between Hamilton today compared with Pittsburgh at the time of its steel collapse is that Hamilton’s economy is already more diversified.

Like Pittsburgh, Hamilton’s growth industries include healthcare and education and other regionally-oriented professional and personal services. Hamilton Health Sciences specializes in cardiac care, cancer treatment, gene therapeutics, among other areas (Hamilton Health Sciences, 2009). In many cities and regions across North America, between 1997 and 2007, the number of service-providing jobs increased, with gains in healthcare, education, and professional and business services, for example, in Baltimore, Boston, Cincinnati, Cleveland, Denver, Richmond, St. Louis (U.S. Bureau of Labor Statistics, as cited in “Educational and health”, 2009a; “Service-providing jobs”, 2009b). Like Pittsburgh, several of Hamilton’s largest employers are nonprofits, including hospitals and educational institutions. Hamilton has developed specializations in cardiac, vascular and stroke research. The city has also developed specialization in materials manufacturing, including primary metal manufacturing and fabricated metal manufacturing. Hamilton’s metal services industry has grown significantly in recent decades and has benefited from the transfer of steel workers’ skills and the presence of specialized training, education, and
research programs at Mohawk College and McMaster University. As Everson (Personal Communication, November 15, 2006) observes,

A lot of that work, a lot of larger fabrication places pulled up because that was work that was previously done in-house at Stelco and Dofasco and was subsequently subcontracted….But just because Stelco and Dofasco are no longer at the level of employment they were 25 years ago, those other companies that I mentioned, didn’t exist then.

Pittsburgh and Hamilton differ in terms of their relationships within broader regional economies. While Pittsburgh is the major commercial hub for Allegheny County and the Pittsburgh MSA, Hamilton competes with other nearby urban centres for commercial activity and also benefits from that proximity because it enables many individuals to continue living in their community even after they are displaced from jobs. As of 2005, about 182,000 people commuted into the city of Pittsburgh to work each day, while about 44,000 left to work elsewhere (Briem, 2005, p. 1). In Hamilton, in 2001, about 34,000 commuters traveled into the city to work each day, while there were over 57,000 commuters with a usual place of work outside of Hamilton (City of Hamilton, 2005b, p. 15). In 2006, that number grew to 61,610 (Statistics Canada, 2006a).

As traditional manufacturing shifts to industrializing nations, older cities face many challenges as well as opportunities. Globalization spurs the movement of capital, goods, and services, while new communication and transportation technologies and trade liberalization facilitate these flows. Rising energy costs, and the resulting increased transportation costs of moving goods may offset low cost labor to some extent. However, as Bradford (2002) notes, traditional strategies to attract manufacturing firms based on low-cost operations present little promise for regenerating North American cities. New strategies are needed. Strategies based on the creation of new work – strategies grounded in promoting learning, innovation and entrepreneurship are essential for growth in the private sector as well as in the public and nonprofit sectors. Cities need strong, interconnected leadership networks to develop these
strategies and formal, enduring leadership structures to ensure that strategies become successfully implemented.

**Major Findings:**

**Critical Factors for Economic Transformation in Pittsburgh and Hamilton**

A significant original contribution of my research is the development of a *Community Economic Activity System* as a model for examining critical factors of transformation in the context of global forces. Key local factors include transformational leadership, strategic development planning, labor, education and research, civic engagement, quality of life, capital, and infrastructure. This research also contributes to an understanding of the strategic location of leadership with respect to community and economic development in Pittsburgh and Hamilton.

Individually, each of these factors makes an important contribution to local economic development. However, what makes these factors *transformational* is the persistent, strategic integration of all of these factors in order to achieve a composite effect that makes optimal use of local strengths, such as the specialized knowledge and skills that exist within the local labor market and complementary learning and innovation resources that drive the creation of new work. This “composite of activity” (Hunter, 1963, p. 5) or local capacity-building is achieved through collaborative relations among local leaders and across municipal boundaries (Porter, 1998) as well as across levels of government (Bradford, 2004). Collaborative relations are largely a function of the social capital that exists among leaders, particularly bridging social capital. In both Pittsburgh and Hamilton, state and provincial levels of government are responsible for municipal legislation, which limits the cities’ ability to create economic develop policy tools. That makes active participation in social structures that cross levels of government particularly important.

**Leading Transformation**

MacGregor Burns (2003, p. 24) defines transformation as “metamorphosis in form or structure, a change in the very condition or nature of a thing.” For cities, economic transformation involves substantial qualitative and quantitative change in economic and social structures. Regeneration is especially challenging for older cities characterized by a long term
dependence on a dominant industry because traditions of work and social relations are historically and culturally embedded in everyday life. The economic narratives provided by the leaders interviewed for this study, as well as documentary evidence, suggests that transformation is uneven, with advancements frequently obstructed by set backs, or conversely with new developments, as with the “creative destruction” of capital (Schumpeter, 1975, p. 83).

Minimills and metal service centres are examples of the transformation of old work to new work - qualitative changes in the nature of economic activity, the labor processes required, and the spaces and places where work is performed. For example, because minimills use scrap steel, they eliminate the labor-intensive operations involved in smelting iron ore and converting iron into steel (Drucker, 1993). As a result, they employ far fewer workers. Minimills also make extensive use of computer-controlled technologies in the production process and the work performed in minimills is largely done by technicians (Drucker, 1993). As well, compared with integrated mills, minimills provide significant environmental benefits by reducing the need for new landfills, saving energy, and reducing air and water pollutants (Steel Manufacturing Association, 1999). Minimills require much less capital investment and much smaller land sites relative to integrated mills, and do not need to locate within close proximity to raw materials.

Pittsburgh’s steel technology cluster and Hamilton’s metal services cluster emerged with the vertical disintegration of the steel industry and through access to pre-existing local knowledge, skills and other technical resources. Treado & Giarratani (2008, p. 3) attribute the growth of the steel technology cluster substantially to the “technical proficiency” of people in the Pittsburgh region. Additionally, supporting education and research institutions can play an important role in cluster development. The University of Pittsburgh and Carnegie Mellon University have developed expertise over several decades at their internationally-renowned steel research institutes. As well, more than 100 scientists, engineers and support personnel work at U.S. Steel’s technology research centre in Munhall, in the Pittsburgh region (DaParma, 2006). Treado and Giarratani (2008, p. 13) conclude that “[b]y leveraging steelmaking expertise and other regional assets, the cluster has achieved its own place in national and global markets.”

Similarly, Warrian (2001, p. 29) suggests that metal service centres in Canada are emerging as “sophisticated and highly adaptable actors in the steel-auto supply chain.” Hamilton
has developed a unique capacity to serve as a centre of learning and innovation in steel. According to Warrian, steel manufacturing is now part of the new economy: divisions of steel companies teach each other, firms exchange information with other firms about best practices, steel suppliers learn from auto companies and vice versa, and company researchers share knowledge with their counterparts in government labs and universities. In this regard, Canadian steel is engaging in the same knowledge-intensive activity as industries more typically identified with the hi-tech economy” (2001, p. 3).

More than 100 scientists and technicians specializing in the development of new materials will be housed at the new McMaster Innovation Park in Hamilton (McMaster Innovation Park, 2008).

The growth of Pittsburgh’s steel technology cluster and Hamilton’s metal services industry suggest the importance of building upon local strengths to achieve regeneration. With a century of experience relating to steel manufacturing, Pittsburgh and Hamilton possess a rich base of knowledge and skills within their labor force, a strong network of suppliers, and potential customers for innovative products and services. These strengths may be transferable to new materials, products, processes, technologies and markets.

Although they share a history as steel capitals, Pittsburgh and Hamilton have established very different structures of community and economic development leadership. For several decades, Pittsburgh’s transformation has been led by a powerful urban regime with a strong network of linked organizations. Community and economic development (CED) leaders in Pittsburgh have helped political leaders to mobilize resources essential for regeneration. Collectively, Pittsburgh’s CED leadership network has attracted substantial private investment and foundation support that has enabled the city to rebuild.

The Allegheny Conference on Community Development (ACCD), often in collaboration with the Urban Redevelopment Authority of Pittsburgh (URA), and local universities, functions as the city’s major coordinating body for strategic economic development. As an organization external to the City, ACCD’s operating funding is not controlled by the City. Over time, the structure of ACCD’s Board of Directors has shifted from a traditional top-down, corporate, central planning body to a more collaborative, open and inclusive leadership organization. Linkages have been established at the level of Board of Directors among more than 30
individuals and organizations involved in community and economic development. As in the past, many of ACCD’s members are corporate business leaders; however, more leaders from nonprofit organizations such as hospitals and universities now participate. Urban regimes themselves can transform to become more relevant to emerging economic structures. However, labor is still largely excluded from community and economic development. So are racial minorities, women and youth largely excluded from economic development decision-making processes.

Florida (2009) points to Pittsburgh as an example of how a city, despite substantial loss of population and industry, can revitalize its core “by cultivating high-growth services and industries.” Pittsburgh has been particularly effective at cultivating talent and developing technological innovation resources, especially through local universities. However, Florida suggests that city leaders have much more work to do to encourage greater tolerance for people such as new immigrants and racial minorities.

While a constellation of factors are at play, transformational leadership is the lever – the instrumentality that has made a difference for Pittsburgh. Pittsburgh’s leaders have created and embraced development plans such as Strategy 21. The planning processes undertaken collaboratively by local leaders galvanized stakeholders to align the resources essential for achieving significant renewal. The city’s enduring structure of leadership enabled sustained, broad-based commitment, and attracted support from multiple levels of government.

In contrast, until recently, Hamilton’s civic leadership has remained in the background of political leadership. In Hamilton, the economic development function is performed internally within the City government, although complemented by civic groups. Hamilton has not established an enduring, interconnected leadership structure external to the City, through which to develop bridging social capital. Historically, interactivity across CED organizations has been looser and more episodic than in Pittsburgh. The city’s two large integrated steel mills still wield substantial influence among political leaders. They are a major source of tax revenues. However, new leaders are also emerging. The former Hamilton Civic Coalition has been renamed as the Jobs Prosperity Collaborative and aims to take a more active role in leading Hamilton’s economic transformation.
Hamilton’s internally-controlled economic development structure has several limitations. First, transformation cannot be achieved by one organization or by several organizations operating independently from one another. Members of the broader community, including many leaders, are largely excluded from decision-making processes relating to economic development. Economic development reports to city council and as part of that body, councillors represent their specific wards within the city. As an elected official, their position is directly dependent on satisfying the interests of individuals within their ward. Inevitably, decisions tend to be localized and short term rather than “big picture and long term” (Eisenberger, Personal Communication, January 30, 2007). A fundamental issue with Hamilton’s internally-based power regime is that political leaders ultimately control the economic development function and can potentially undermine the efforts of other local leadership groups. Secondly, economic transformation is continuous, requiring ongoing commitment and adjustments. Leadership structures need to adjust as economic structures change (not when elections take place). External organizations can accomplish this by altering their Board representation and organizational structure. Thirdly, Hamilton cannot rely on local government funding alone to address structural and cyclical economic changes and to finance infrastructure. Multi-level government support as well as private funding is essential. Hamilton does not have access to the large foundation funding from which Pittsburgh has benefited.

Several Hamilton leaders have suggested the need to externalize the economic development function so that it is not tied directly to political structures. As elected officials, city councillors do not necessarily have the capacity to mediate the range of critical factors that are essential for community and economic development. No one organization can impact all of the key factors of transformation. As MacGregor Burns (1978, p. 46) notes “the great bulk of leadership activity consists of the day-to-day interactions of leaders and followers.” It also consists of the day-to-day collaborations among leaders and other leaders. A formal coordinating body is necessary to create and maintain strategic linkages with other organizations. Direct and frequent interconnections are needed among community and economic development agencies to ensure that strategic goals and resources are aligned and the interests of all citizens are represented.
Formal and informal organizations are often positioned in opposition to each other. My research suggests that, in addition to formal institutions, communities of interest such as neighbourhood or environmental groups or other advocacy groups complement regeneration efforts in Pittsburgh and Hamilton. These cities offer many examples of successful collaboration across a continuum of community development entities, from large, formal organizations to small, grassroots organizations. Often these partnerships involve four sectors – public, private, nonprofit, and academic.

This study highlights the importance of social relations among leaders for creating an organized base of power that is necessary to access and mobilize resources and execute development policies. At the same time, it points to the importance of inclusiveness and openness in engaging local citizen groups as partners in order to build trust and confidence. In Pittsburgh, these relationships appear to be more extensively developed and enduring than in Hamilton, partly because Pittsburgh has been working at regenerating its economy for several decades, since the collapse of the steel industry in the 1980s. In Pittsburgh, relationships among community-based organizations are often formally structured through interlocking Board relationships and enhanced through co-location in shared facilities, although many project-based partnerships also exist. As an illustration of Pittsburgh’s formal networks, the Pittsburgh Partnership for Neighborhood Development (PPND), which is financially supported by local foundations, financial institutions and the City of Pittsburgh, subsidizes the operating budgets of community development corporations (CDCs) in the city. The CDC network benefits from centralized funding (and fund-raising) and through shared programs. Partners also have strong ties with local universities and colleges and the Three Rivers Workforce Development Board (TRWDB). The President of PPND holds a seat on the Board of TRWDB, through which she has input to industry-education partnerships. PPND and TRWDB are also co-located in the same building. Managers of the partnering foundations and institutions hold Board positions with PPND and with the CDCs. Leaders of these agencies assert that they could not accomplish independently what they are able to achieve through collaboration. *Bridging* social capital plays an essential role in creating a broader vision and achieving complementary goals.

In Hamilton, economic development functions are primarily controlled internally by City government. Leaders rely more on *bonding* social capital to achieve economic development
goals. As well, in Hamilton partnerships among community-based organizations are often project-oriented. For example, HR Matters, led by the City of Hamilton’s Economic Development Department, the Industry-Education Council of Hamilton, and the Hamilton Training Advisory Board, operates as a volunteer committee of local leaders. In 2005, HR Matters developed a talent plan for Hamilton.

The transition from a dominant industrial base to a diversified economy encompasses many quantitative and qualitative changes. Leaders must consider the impacts on the community as a whole, including economic, social and environmental transformations. Although change can occur episodically, transformation requires purposeful, intentional, incremental changes that contribute to sustaining effort over time. Transformation requires long term planning and careful consideration of potential consequences, from declining tax bases to worker and family dislocation. Too often, strategies and policies are developed without due consideration of their relation to other key factors in the community’s system of economic development. Too often, for example, towns and cities are negatively transformed into smaller service or tourist areas with seasonal, precarious, low-wage work (Harrison & Weiss, 1998; Jacobson, LaLonde, & Sullivan, 1993; Winson & Leach, 2002).

Just as the transformation process is uneven, so is the distribution of benefits among the local population. A serious issue for both Pittsburgh and Hamilton is the high level of poverty that exists within these cities, especially among unattached individuals, female lone-parent families, minorities and recent immigrants (Bangs, Anthou, Hughes, Lichtenwalter & Shorter, 2004; Mayo & Fraser, 2009). As noted, growth has occurred within industries such as health care, education and business services; however, Bangs, Alex, Hughes, Lichtenwalter & Shorter (2004) indicate that, overall the Pittsburgh region has experienced a slow rate of new job growth relative to the nation. Lack of job opportunities and surplus labor have contributed to “low wages of both full-time and part-time men and women workers in the Pittsburgh MSA” (p. 7). Overall, the median household income in the city of Pittsburgh in 2006 was only 65% as high as the nation (U.S. Census Bureau, 2009a). Women have historically been underrepresented in the Pittsburgh and Hamilton labor forces, and despite the rise in participation among women in paid employment in both cities, a gender wage gap persists (Deitrick, Hansen & Briem, 2007; Mayo & Fraser, 2009). Single women with children and elderly women who have never married are
among the poorest residents. The participation rates for women have increased significantly in recent decades; however, women are employed at high rates in low-wage service jobs such as food preparation and clerical work (Bangs, Anthou, Hughes, Lichtenwalter & Shorter, 2004). At the same time, many of the workers (predominantly male) displaced from the steel mills have been forced to move, commute, accept lower paying jobs, and in some cases, have become discouraged in their search for employment. Pittsburgh’s African American population has a higher rate of poverty than Whites. Fraser (2004) attributes Hamilton’s high poverty level, in part, to the loss of high-wage manufacturing jobs and a greater number of low-wage, contingent jobs. Mayo & Fraser (2009, p. 1) suggest that men’s incomes, which were reduced during the 1990s recession, continue to be less than previous levels. Policies and programs are needed to address improved integration of women, displaced workers, minorities, and recent immigrants into the workforce in good-paying jobs. The Pittsburgh Partnership for Neighborhood Development works with CDCs throughout the city to address needs for improved housing conditions and job upgrading and training. The Hamilton Roundtable for Poverty Reduction (2007) reports that the city of Hamilton has the highest incidence of urban poverty in the province of Ontario. The Roundtable has proposed agendas for all levels of government and has engaged hundreds of community residents and business leaders in developing strategies for poverty reduction in the city, including programs to support public housing, public transit subsidies for low income wage earners, and the formation of linkages with the Jobs Prosperity Collaborative.

Older, industrial cities face extraordinary challenges to achieve regeneration. Multi-level government support is needed to address such requirements. This includes addressing the need for taxation reform. Property tax is the largest source of revenue for cities. Current systems of taxation place the burden of industrial decline on residents and small businesses, without consideration of family income and capacity to pay. Laws exempting various enterprises from paying taxes need to be reviewed and limited. Improved incentives are needed to encourage smart growth strategies, including development within urban boundaries and redevelopment of brownfield sites. City leaders need new, sustainable sources of revenue to create sustainable communities.
**Building a New Economy**

All strategic development plans must have a goal. What are local economies transforming into? Bell (1999) and Bluestone & Harrison (1982) argue that society is *de-industrializing*. While this description aptly characterizes many North American cities, globally, industrialism is not disappearing. Basic manufacturing is shifting to developing countries such as China and India. Trade liberalization, foreign direct investment (FDI), and technological innovation have been key factors driving the vertical disintegration of companies and global integration of production. In basic manufacturing industries, FDI and business relocation follow the trail of supply of low-cost labor. Knowledge-intensive industries follow the supply of talent and education and training capacity to meet their needs for specialized production and services.

Much of the literature on advanced economies supports the notion of a knowledge-based or information economy (Castells, 1996; Cortada, 1998; Drucker, 1993, Machup, 1962, OECD, 1996, Reich, 1992). Although manufacturing employment has declined substantially in the U.S. and Canada, manufacturing productivity has grown, largely through investments in technology. However, despite their importance for sustained future development, nominal growth has occurred to-date in advanced technology industries in Pittsburgh and Hamilton. Recent development strategies in both cities focus substantially on technological innovation and commercialization. Pittsburgh has created the Pittsburgh Technology Council and a new Pittsburgh Technology Strategy. Hamilton identifies advanced manufacturing as a key sector in Hamilton’s Clusters of Innovation Strategy.

Traditional location theory (Weber, as cited in Beckman, 1968) generally accounts for the location decisions of basic manufacturing firms. Factors such as endowments of natural resources and infrastructure for transporting them remain essential for heavy manufacturing industries such as steel. However, as North American economies shift from predominantly goods-producing to service-producing industries (and to some extent knowledge-intensive industries), access to large parcels of land and shipping ports are less critical to those firms. The infrastructure needs of modern service industries include education and research institutes as well as broadband networks and international airports—technologies that enable many types of firms to be footloose rather than tied to a location. For this reason, quality of life (and quality of place) has become more significant in location decisions of individuals and firms. Location
theory does not adequately address factors which influence the location of many new economy industries.

Economic base theory asserts that the growth of local economies is driven by the expansion of basic industries that export their products outside of the community (Klosterman, 1990; Shaffer, Delier, & Marcouiller, 2006). Although production industries continue to be an important component of their local economies, in both cities, while internationally-oriented manufacturing industries decline, growth is occurring in service industries that are largely regionally-oriented (Deitrich, 1999). Today, these service sectors are primary, not secondary. For Pittsburgh and Hamilton, health care is the new basic. Increasingly, however, strategies by local firms include developing opportunities to export services such as specialized health care and education.

Pittsburgh and Hamilton leaders favour a cluster-based approach to economic development, as reflected in their recent economic development strategies presented in chapter eight. Clusters of industries operate as social networks. Cluster theory (Cooke, 2001; Porter, 1998) asserts that firms can improve their competitiveness through mutually-reinforcing relationships among suppliers and customers. Clusters generally build on existing strengths such as the knowledge base of the local labor force. Firms benefit from proximity to specialized education and research resources in a city and from supporting infrastructure. Workers benefit from dense opportunities for employment and entrepreneurs experience more prospects for creating spin off companies.

The relationships which link individuals and organizations together to achieve mutual cooperation and collective action are referred to as social capital (Putnam, 2000). Relationships are grounded in trust and reciprocity that grow out of collaboration – out of partnerships, joint strategies and other shared responsibilities. The cluster approach among firms serves as a useful model for CED leaders to build social capital. Clusters involve localized, frequent interactions among firms, their customers, and supporting institutions. Wolfe (2002, p. 14) suggests that the factors of space and proximity contribute to the kind of tacit knowledge and the capacity for learning that support innovation.”
Urban regimes, growth coalitions and civic alliances are aggregators of social capital. They are also aggregators of local power, which is essential for transformation (Hunter, 1953). A cluster of community and economic development organizations with its extensive network of community, business and labor leaders can be a powerful vehicle for regenerating older cities. Like industry clusters, CED organizations gain advantages as a result of shared knowledge and resources. Trust and reciprocity among community leaders helps to diminish fragmentation and enables more cohesive strategic planning. When goals and resources are better aligned among multiple organizations, shared outcomes are more likely to be achieved. As leaders build and reinforce more extensive and inclusive relationships over time, they develop their collective capacity to transform the local economy.

In Pittsburgh, a cluster of community and economic development agencies is well established, partly because of the length of time since Pittsburgh experienced the massive decline in steel jobs. Interconnections among organizations such as the City, ACCD, the URA, PTC and universities and colleges is sustained through interlocking Board relationships, common interests, shared development strategies, and other collaborative initiatives. Many business leaders are directly involved in community and economic development through Board membership. Few labor leaders are included in this network. Grassroots organizations such as Sustainable Pittsburgh and Community Development Corporations actively participate in the cluster. This research suggests that for Pittsburgh, the presence of an enduring, coordinating leadership body has been beneficial for bridging relationships among the CED cluster.

As indicated earlier, Hamilton’s cluster of community and economic development agencies is looser relative to Pittsburgh and predominantly controlled by the City. Recently, organizations such as the Social Planning and Research Council of Hamilton and the Hamilton Civic Alliance (renamed the Jobs Prosperity Collaborative) have taken more active and prominent roles in revitalization efforts, primarily in response to the growing loss of manufacturing jobs in the city.

In both cities, many successful partnerships have been established around specific programs or projects that contribute to incremental changes. In both cities, several recent initiatives have taken the form of public-private-nonprofit-academic partnerships, representing
four major stakeholder groups. Examples include the Pittsburgh Technology Council and Go KIZ in Pittsburgh and the McMaster Innovation Park and HR Matters in Hamilton.

Just as they share an industrial history as steel capitals, Pittsburgh and Hamilton are both directing their economic development efforts towards building a diverse balance of industries that include three primary growth clusters, advanced manufacturing and technology, health care and biotechnology, and education. These targets are similar to many other North American communities facing downturn; however, Pittsburgh and Hamilton possess unique strengths, partly as a result of their economic history, and partly due to strategic planning and investments such as specialized research centers. Moving forward, the cities’ are focusing on building capacity through learning, innovation and enterprise development. Their success relies substantially upon their collective ability to mediate the local factors and global forces of community and economic development identified in this research. Diversity is inherently more complex than one industry.

**Conclusion:**

*Communities and Leaders at Work in the New Economy*

The case studies of Pittsburgh and Hamilton reveal that local economies are embedded within social structures mediated by human agency. As Polanyi (1957) asserts, economies are not controlled by market forces that unilaterally dictate outcomes for places or the people who live and work within them. In Pittsburgh and Hamilton, leadership coalitions create institutions to engage citizens and implement policies and programs to guide development. These institutional frameworks vary dramatically from city to city.

Much of the literature on community and regional development indicates that there is no one best solution for transforming local economies. MacGregor Burns (2003, p. 75) suggests that “all leadership is collective, but the collectivity varies widely.” Similarly, Chrislip & Larson (1994) suggest that community leaders are learning to work together effectively because the multidimensional nature of economic transformation requires collaboration. The synergies that result from collaboration are greater than the results individual organizations could achieve on their own. This synergy flows through interconnections among people – through social capital.
In Pittsburgh, bridging social capital brings together a wide range of individuals and organizations in economic development decision-making processes. Hamilton’s internal economic development department relies more on bonding social capital among a comparatively closed network of political leaders. As a result, relative to Hamilton, Pittsburgh’s sphere of influence with respect to economic development is much greater. The importance of a broad yet integrated framework for economic development is a lesson Pittsburgh leaders have learned from decades of restructuring efforts.

An important distinguishing characteristic of Pittsburgh is its large, collaborative network of community and economic development organizations, which have strategically committed to “working together to compete globally”. These include the Allegheny Conference on Community Development, Urban Redevelopment Authority of Pittsburgh, Pittsburgh Partnership for Neighbourhood Development, Community Development Corporations, Pittsburgh Technology Council, Sustainable Pittsburgh, Three Rivers Workforce Investment Board, local colleges and universities, and the City, among many others. Each of these entities is a formal, independent structure, but they do not operate in isolation from each other. Rather, they share an inter-organizational network that is woven together through enduring partnerships, strategic, interlocking Board relationships, shared development strategies, and in some cases co-location. They create powerful synergies by pooling and aligning resources. In recent years, their focus has expanded regionally. In 2009, the Pittsburgh Regional Alliance, an affiliate of the Allegheny Conference was recognized among the nation’s top ten economic development organizations. President of PRA, Dewitt Peart affirms, “Our success is possible because of the efforts of the 50 organizations, representing southwestern Pennsylvania’s economic development community, that comprise the PRA Partnership. Site Selection’s ranking is a testimony to the fact that collectively we can achieve far more than any of our organizations would individually.” (Philip Cynar, Email Communication, May 5, 2009).

Hamilton’s economic development efforts are centralized in City Hall. However, the City is addressing the need for transformational leadership beyond government. Their approach has been primarily through the creation of partnership initiatives such as HR Matters and the Hamilton Roundtable for Poverty Reduction, and the creation of the Jobs Prosperity Collaborative which represents a renewed commitment by over 60 volunteer leaders to work
together to strengthen Hamilton’s economy. This approach is similar to the PRA Partnership; except that the PRA has a formal organizational structure which supports the partnership.

In both Pittsburgh and Hamilton, *public-private-nonprofit-academic* partnerships are being created such as the Pittsburgh Technology Council and the McMaster Innovation Park. These partnerships are collaborative, long term investments in developing new advanced manufacturing and other technologies. In addition to multi-sector local support, these initiatives involve multi-level government support. Both of these initiatives also have substantial environmental benefits to their communities as brownfield developments.

Effective transformation involves a range of sectors, institutions, and community organizations working together. It requires multiple, incremental changes in structures, policies, and processes. Hunter (1963) suggests that, through collaboration, community power brokers can establish policies and undertake actions that take into account the interests of the largest number of people in the community, rather than the interests of a small number of elites. In addition to business leaders, the community economic activity systems in Pittsburgh and Hamilton include public and nonprofit sector leaders. However, in both cities, men dominate positions of economic power. Women are under-represented in business and politics in particular. Similarly, racial minorities and youth are largely excluded from economic development decision-making organizations, especially at senior levels. Labor also continues to be under-represented in economic development in both cities, despite the fact that thousands of local workers are union members.

This research suggests that modern urban regimes or coalitions aimed at achieving economic transformation can be successful under the following conditions:

1. Participation in urban regimes or coalitions is motivated by the desire to achieve a collective purpose that benefits the community. Community and economic development organizations in Pittsburgh have demonstrated their commitment to collaboration, especially over the past decade. Hamilton appears to be following suit.

2. Leaders have legitimate decision-making power and they use their power as a positive force for mobilizing resources and building relationships. Organizational structure
influences leaders’ ability to exert such power. In Hamilton, while leaders exert influence, their ability to actually make decisions regarding economic development is limited to some degree by the City’s internal economic development structure. Leaders exert some influence through the Mayor’s task forces, and through partnership relationships. In Pittsburgh, community and economic development organizations such as the ACCD and its affiliates, the URA, PPND, and many others, extend their power through their Boards of Directors. They also achieve collaboration through formal structural linkages across organizations, as in the case of ACCD’s affiliate structure with the PRA, the Chamber and the Pennsylvania Economy League. Leaders represent civic interests, business, education, labor and government. Greater representation is needed by labor organizations, women, racial minorities and youth

3. Regime or coalition members recognize the interdependencies among economic growth, social equity, and environmental health. Members work collaboratively with other organizations to mediate the local factors and external forces that comprise the Community Economic Activity System (CEAS) to achieve mutual benefits. The Pittsburgh Community Development Collaborative described in Chapter Nine by Ellen Kight highlights such interdependencies. The location of UPMC’s new Children’s Hospital in the depressed East End area, a predominantly African American neighborhood, is creating an important economic generator that provides opportunities for local residents to obtain jobs in construction and health care. The initiative involves the mediation of all eight factors in the Community Economic Activity System (CEAS), including leadership (the collaborative), strategic planning (targeted neighborhoods), civic engagement (local CDC and community); capital (new business development); education (workforce development programs); labor (job creation); infrastructure (hospital; housing improvements); and quality of life (public transit improvements). In Hamilton, the stimulation of new advanced manufacturing and life science industries depends significantly on the multi-sectoral and multi-level government leadership collaborative involved in the McMaster Innovation Park. Here also, all factors of the CEAS are at work to stimulate new capital investment in business development, new local jobs, and strategic business-
education partnerships. The initiative involves a major environmental clean up of a former industrial site.

4. The presence of an enduring, coordinating body is important; however, the composition of the leadership body adjusts to align with significant changes in economic activity, including for example greater contributions by non-profit organizations, new sectors or clusters, or important interest groups such as labor or environmental organizations. Today, ACCD’s (and their affiliates’) Board structure represents the greater diversity of the local economy, including the significant nonprofit sector in Pittsburgh. Hamilton’s economic development coordinating body is the City, which limits its capacity to strategically transform its composition to reflect changing economic priorities.

5. Leaders acknowledge and respect the norms and traditions that are historically and culturally embedded within each city and its neighborhoods, and which influence attitudes, behaviours, values and trust relationships. Recent initiatives involving commercial, retail and tourism development build upon Pittsburgh’s culture of steel. For example, Southside Works incorporates Pittsburgh’s history into street names and building names, Station Square displays steel machinery as local art, and part of Homestead has been developed into a national museum. In Hamilton, economic development initiatives involving advanced manufacturing are building upon the technical experience, knowledge and skills of local workers, and specialized education and research capacity in the city.

6. Members are committed to long term transformation processes and are prepared for a challenging journey. Economic transformation is measured in years – in decades. But there are events which occur throughout history that can greatly impact the economic structure of cities and demand extraordinary efforts from local leaders and from multiple levels of government. Pittsburgh’s steel collapse was one of those times and the enduring leadership of the ACCD and URA, among others, was a central factor for building new capacity. From environmental remediation to the commercialization of new technologies, for decades, these leaders have contributed to regeneration,
sometimes imperfectly, but persistently. Today, these leaders are part of a broader, more inclusive and collaborative network of community and economic development organizations that are building a new, diverse Pittsburgh.

Although the steel industry is much smaller in Hamilton relative to Pittsburgh’s former massive cluster, steel plays a prominent role in Hamilton’s social and economic history (McNeil, 2009). In 2004, when Stelco entered bankruptcy protection, the City got a wake up call, particularly after the release of a study indicating that a liquidated Stelco would have an impact of $1.9 billion a year in lost wages and benefits (Pratt & Gaudet, 2008, p. 100). Hamilton leaders have cause for concern as the former Stelco plant, now owned by Pittsburgh’s U.S. Steel, sits idle. For Hamilton, diversity is not an option. It is necessary. In 2005, the City produced a new economic development strategy. Local leaders contributed to a human resources strategy based largely on projected labor shortages. As Hamilton faces the current economic crisis, leaders will need to keep in mind that the demographic clock is still ticking. For instance, 60% of US Steel’s Hamilton workforce is eligible to retire (Powell, 2009c). Hamilton’s new Jobs Prosperity Collaborative (formerly a less visible Hamilton Civic Alliance) brings together many of the local community and economic development organizations. As well, the city has increased its budget for economic development by $1.5 million annually and is considering a new structure external to the city.

7. Local leaders recognize that external factors and relationships dramatically impact economic development success. In particular, a number of the elements in the Community Economic Activity System are influenced substantially by provincial/state and federal level government public policy. City leaders must develop the capacity to mediate (and influence) key development policy issues and prospects ranging from taxation and education to immigration and international trade.

My significant, original contribution to the field of community and economic development is a community economic activity system that synthesizes essential interacting elements of transformation. All of the eight factors and global forces identified in the model
impact both Pittsburgh and Hamilton. A key difference in their approach to economic development is their leadership structures. Too often, leadership operates in silos without structure or strategy to combine the elements that are essential for regeneration. After three decades of persistent efforts to regenerate, today Pittsburgh’s leadership network is much broader and more interconnected. Pittsburgh’s integrated leadership structure and relationships enable leaders to influence policies and strategies that cut across sectors, levels of government and policy areas such as education, labor market development, innovation, and commercialization. Hamilton’s community and economic development organizations tend to operate independently – with loose, informal, connections that occur episodically. Hamilton lacks the coordinating focus to achieve its full potential for holistic, system change. Another difference is that Hamilton does not have access to the substantial funding support provided by Pittsburgh’s foundations. The cities share strategic priorities for development and specialized educational and research resources to support their economic targets. The cities also share an opportunity to build on the technical expertise within their local labor markets. As older, industrial cities, Pittsburgh and Hamilton share infrastructure issues, such as rebuilding aging sewer and water systems. Most importantly, they share the challenge of addressing a high rate of poverty – one of the biggest consequences of their industrial decline. Increasingly, leaders in both cities are embracing the need safeguard the collective interests of all members of their communities.

My research has contributed to the literature on community and economic development leadership. It supports the notion that transformational leaders drive economic activity and highlights the need for integrated policy and practice – across sectors and across levels of government to effect large-scale change. Several scholars (Bradford, 2003; 2004; Chrislip & Larson, 1994; Gray, 1989; Luke, 1998) advocate the need for collaboration among leaders. My research suggests the potential for integrated structures of leadership that entail a broad distribution of power and involve shared risk, shared opportunity, shared decision-making, and shared accountability.

Leaders initiate development processes and create conditions that promote community sustainability, including improved economic, social and environmental wellbeing. Transformational leaders build relationships—social capital—that binds together the critical
factors of local development: a collaborative strategic plan to focus development around a shared vision; civic engagement to encourage broad participation and ownership; education and research to stimulate learning and innovation; labor to provide knowledge, skills, and abilities; capital to fund new ventures and ongoing development; infrastructure to support economic, social and cultural activity; and quality of life to attract people and investment and to share the benefits of growth with all members of the community. These are the building blocks of 21st century cities. Together, these elements combine to create the new economy of cities.

**Directions for Future Research**

Based on this research, there are several areas that warrant further investigation. First, more in depth research is needed regarding leadership structures and relationships within cities. More comprehensive mapping of organizations in each city contributing to community and economic development would provide insights regarding relationships of power and influence. This research should entail a comparison of patterns of interconnectivity among leaders in several cities in Canada, the United States, and international locations, in order to determine whether particular structures or relationship patterns generate more successful transformation or revitalization. One approach is to examine the nature of integrated leadership structures. Another is to look at public, private, public-private, nonprofit and other forms of leadership organizations that play a key role in economic transformation. This could include an examination of the local-global architecture of economic development policy. The research could also draw comparisons between the transformation of older cities and the building of new cities on greenfield sites.

My research is based on the standpoint of local leaders. Further research on communities that are shedding their manufacturing base should be undertaken from the standpoint of workers and displaced workers in order to ascertain whether different factors would be identified by different stakeholder groups. As well, labor leaders continue to be excluded from community and economic development arenas. Research relating the changing role of unions in the new economy is needed. Similarly, further research should address perceptions about unions in transforming economies. Additionally, research should be undertaken to understand ways in which communities include more women, racial minorities and youth in economic decision-making processes.
Cities transform at different rates. Further research is needed to address the question of what factors most greatly influence the pace of transformation. While learning and innovation are important for developing knowledge-intensive industries, a challenge remains with respect to instilling a culture of entrepreneurship within cities that have historically been dominated by large firms that have employed large numbers of residents. Pittsburgh and Hamilton, for example, have experienced limited success in creating new private sector-based technology firms, which has been a development priority for these cities. An important research area is the identification of factors that distinguish “entrepreneurial” cities. Related to this research is the need to identify the impact of integrating entrepreneurship education across curriculum in post secondary institutions to encourage employee ownership schemes or self employment.

Transformation raises the challenge of redesigning work to better utilize pre-existing skills within the labor force. Re-emerging industries such as metal service centres and steel technologies enable the transfer of skills. Moreover, how do people effectively transition from one sector to a different one as changes in the mix of economic sectors occur?

Related to this issue is the challenge of how to create competitive or comparative advantage in new industries – a fundamental issue for cities around the world. Three ways to compete are through low cost production, high quality production, and innovation. Innovation may include new organizational structures, new occupations including new combinations of work functions, changes in the skills required in occupations, new management capabilities, and new ownership schemes. Strategies to build capacity for new work may range from incentives for innovation and commercialization to tax credits for investment in workforce development and programs for adjustment of displaced workers. Further research is needed to explore best practices and policies for improving labor productivity while also increasing participation in the labor force in “good jobs”.

Another important area of investigation that I would like to pursue is the application of cultural historical activity theory (Engestrom, 2001; Livingstone & Sawchuk, 2004; Vygotsky, 1978) to community and economic development. CHAT is based on the central principle that people, individually or collectively, interact within their socio-cultural environment,
transforming it through the creation and use of mediating artifacts (technology, social policy, laws), and through a dynamic system of relationships. Economic transformation involves mediating local and external factors to create new work. In developing strategies for economic transformation, it is important for city leaders to understand the cultural and historical embeddedness of critical factors influencing economic trajectories. The shared focus on advanced manufacturing, particularly steel technologies, metal service industries, and materials science suggest that leaders in Pittsburgh and Hamilton recognize the importance of building on their strengths, especially the pre-existing knowledge and skills within the labor force.

As this research has shown, the economic transformation of cities does not happen as a result of the free market alone. It requires formal leadership structures that bring together key stakeholders strategically to revitalize local economies. These structures are complemented by a web of interdependent organizations, ranging from educational institutions to small, grassroots activist groups, and involve multiple levels of government. Pittsburgh’s renaissance was driven largely by community and economic development organizations external to City Council. In Pittsburgh, ACCD, the URA, local universities, and others have been instrumental in developing integrated strategies for regeneration. They have helped political leaders to mobilize critical resources. Collectively, they have attracted substantial private investment and foundation support that has enabled the city to rebuild. For the former steel capital of America, transformation has been much more extensive than in many cities because Pittsburgh was so largely dominated by one industry and faced a virtual collapse of that industry. Since 2001, Hamilton has experienced a steep decline in manufacturing jobs and is currently facing an indefinite shut down of US Steel Canada. Hamilton’s leadership structure is not grounded in a web of interconnected organizations to support revitalization efforts, although strong, local partnerships do exist within the city. Pittsburgh and Hamilton, and all North American cities, will need to rely on their leaders to build on their cities’ strengths and create a climate of opportunity, as they navigate the continuous forces of transformation.
References


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Statistics Canada. (2008a). Average hourly earnings for employees paid by the hour (SEPH), unadjusted for seasonal variation, for selected industries classified using the North American Industry Classification System (NAICS), annual (Dollars) (Table 281-0030). Available from CANSIM, http://cansim2.statcan.ca/cgi-win/cnsmcgi.pgm?&Lang=E&ArrayId=2810030&Array_Pick=1&Detail=1&ResultTemplate=CII/CII___&RootDir=CII/


Appendix A

Steel Workers Organizing Committee Agreement with
Carnegie-Illinois Steel Corporation, 1937

STEEL WORKERS ORGANIZING COMMITTEE AGREEMENT

— with —

CARNegie-ILLINOis STEEL CORPORATION

OF MARCH 17, 1937

This Agreement, dated March 17th, 1937, between Carnegie-Illinois Steel Corporation (hereinafter referred to as the “Corporation”) and the Steel Workers Organizing Committee on behalf of the members of the Amalgamated Association of Iron, Steel and Tin Workers of North America, or its successor, (hereinafter referred to as the “Union”) employed by the Corporation, made pursuant to and in supplement of Section 4 of the Agreement of March 2, 1937, between said parties.

SECTION 1. It is the intent and purpose of the parties hereto that this Agreement will promote and improve industrial and economic relationships between those employees who are members of the Union and the Corporation, and to set forth herein the basic Agreement covering rates of pay, hours of work and conditions of employment to be observed between the parties hereto.

It is understood and agreed that this Agreement pertains only to members of the Union employed in the Corporation’s steel manufacturing and by-product coke plants.

The term “employed”, as used in this Agreement, shall not include Foremen, Assistant Foremen or Supervisors in charge of any classes of labor, or Watchmen, or any Salaried employees.

SECTION 2. RECOGNITION. The Corporation recognizes the Union as the collective bargaining agency for those employees of the Corporation who are members of the Union. The Corporation agrees and will not interfere with the rights of its employees to become members of the Union. There shall be no discrimination, interference, restraint or coercion by the Corporation or any of its agents or representatives against any members because of membership in the Union. The Union agrees not to intimidate or coerce employees into membership into or affiliation with any labor organization.

SECTION 3. WAGES. Effective March 16, 1937, there shall be an increase in wages of ten (10%) cents an hour on all rates which are at present Four Dollars and twenty cents ($4.20) a day, or a minimum for this classification of Five ($5.00) Dollars in a day of eight (8) hours. Such classifications now receiving less than Four Dollars and twenty cents ($4.20) a day, or less than Ten (10%) cents per hour, shall be increased ten (10%) cents per hour. There shall be an increase of ten (10%) cents per hour in all other hourly rates, and an equivalent increase in all tonnage and piece-work rates which will not under normal expected earnings an increase of not less than eighty (80%) cents per day of eight (8) hours.

SECTION 4. HOURS OF WORK. Effective March 16, 1937, there shall be established an eight (8) hour day and a forty (40) hour week. Time and one-half shall be paid for all overtime in excess of eight (8) hours in any one day, or for all overtime in excess of forty (40) hours in any one week.

A day may be a calendar day or any 24-hour period, and a week may be a calendar week or any five (5) regular 8-hour days, or 40-hour period, the overtime hours, to the option of the Corporation.

An employee who is a member of the Union, shall not be paid both daily and weekly overtime for the same hours worked.

SECTION 5. VACATIONS. Each employee who is a member of the Union, and who, prior to July 1, 1937, was continuously employed in the service of the Corporation for five (5) years or more (continuity of service to be based on United States Steel and Carnegie period. Those who are granted vacations will be paid on their average rate of earnings per hour for the two pay periods immediately preceding their vacation. The total hours of vacation pay will be the average hours they worked per week during that period.

Vacations will, so far as possible, be granted at times most desired by employees, but the final right to allotment of vacation period is exclusively reserved to the Corporation in order to insure the orderly operation of the Plant.

SECTION 6. SENIORITY. It is understood and agreed, that in all cases of promotion and increase or decrease of force the following factors shall be considered, and where factors (b), (c), (d), and (e) are relatively equal, length of continuous service shall govern.

(a) Length of continuous service.
(b) Knowledge, training, ability, skill and efficiency.
(c) Physical fitness.
(d) Family status; number of dependents, etc.
(e) Place of residence.

SECTION 7. ADJUSTMENT OF GRIEVANCES. Should differences arise between the Corporation and the Union or its members employed by the Corporation as to the meaning and application of the provisions of this Agreement, or should any local trouble of any kind arise in any plant, there shall be no suspension of work on account of such differences but an earnest effort shall be made to settle such differences immediately in the following manner:

First, between the aggrieved employee, who is a member of the Union, and the Forman of the department involved;
Second, between a member or members of the Grievance Committee, designated by the Union, and the Forman and Superintendent of the Department;
Third, between a member or members of the Grievance Committee, designated by the Union, and the General Superintendents or Manager of the Plant;
Fourth, between the Representatives of the National Organization of the Union and the Representatives of the Executives of the Corporation; and
Fifth, in the event that the dispute shall not have been satisfactorily settled, the matter shall then be appealed to an impartial umpire to be appointed by mutual agreement of the parties hereto. The decision of the umpire shall be final. The expense and salary incident to the services of the umpire shall be paid jointly by the Corporation and the Union.

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Specified periods shall be agreed upon between the Grievance Committee and the General Superintendent or Manager of each plant for the presentation of grievances hereunder. Provided, however, that matters pertaining to discharges or other matters that cannot reasonably be delayed until the time of the next regular meeting may be presented at any time in accordance with the foregoing provisions.

The Grievance Committee for each plant shall consist of not less than three employees of that plant, and not more than ten (10) such employees, designated by the Union, who will be afforded such time off, without pay, as may be required.

First, to attend regularly scheduled committee meetings,

Second, to attend meetings pertaining to discharges or other matters which cannot reasonably be delayed until the time of the next regular meeting, and

Third, any member of the Grievance Committee shall have the right to visit departments other than his own at all reasonable times for the purpose of transacting the legitimate business of the Grievance Committee, after notice to and permission from the department superintendent or his designated representative.

The actual number of members of the Grievance Committee at each plant shall be mutually agreed upon between the General Superintendent or Manager of the plant and the Union, and in no case shall there be more than one member in any department.

SECTION 8.-MANAGEMENT. The management of the works and the direction of the working force, including the right to hire, suspend or discharge for proper cause, or transfer, and the right to relieve employees from duty because of lack of work, or for other legitimate reasons, is vested exclusively in the Corporation, provided that this will not be used for purposes of discrimination against any member of the Union.

SECTION 9.-DISCHARGE CASES. In the event a member of the Union shall be discharged from his employment for and after the date hereof, and he believes he has been unjustly dealt with, such discharge shall constitute a case arising under the method of adjusting grievances herein provided. In the event it should be decided under the rules of this Agreement that an injustice has been done the employee with regard to the discharge, the Corporation shall reinstate such employee and pay full compensation at the employee’s regular rate for the time lost. All such cases of discharge shall be taken up and disposed of within five (5) days from the date of discharge.

SECTION 10.-SAFETY AND HEALTH. The Corporation shall continue to make reasonable provisions for the safety and health of its employees at the plant during the hours of their employment. Protective devices, wearing apparel and other equipment necessary to properly protect employees from injury shall be provided by the Corporation in accordance with the practice now prevailing in each separate plant. Proper heating and ventilating systems shall be installed where needed.

SECTION 11.-INDIVIDUAL WAGE RATES. Where alleged inequalities in wage rates prevail the matter may be taken up for local plant adjustment, and settlement made on a mutually satisfactory basis.

SECTION 12.-FUTURE CONFERENCES. Joint conferences between Representatives of the Corporation and of the Union shall commence in Pittsburgh, Pa., on February 7, 1918, for the purpose of regulating an Agreement with regard to wages, hours and working conditions, to take effect upon the expiration of this Agreement.

SECTION 13.-HOLIDAYS. The following days shall be considered Holidays, during which days there shall be no regular production work, except in cases of continuous operations, on:

- July 4th,
- Labor Day, and
- Christmas

SECTION 14.-TERMINATION DATE. This Agreement shall remain in full force and effect until February 28, 1918, inclusive.

CARNegie-ILLINOIS STEEL CORPORATION

By Signed — B. F. Fairless
President.

STEEL WORKERS ORGANIZING COMMITTEE

By Signed — Philip Murray
Chairman.

Signed — David J. McDonald
Secretary-Treasurer.

Signed — Van A. Bittner
Director, Western Region.

Signed — Clinton S. Golden
Director, Northeastern Region.

Signed — Leo Pressman
General Counsel.
Appendix B
Interviews for the Welland Pilot Study

Table B1
*Interviewees for Welland Pilot Study*

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Position</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rick Alakas</td>
<td>President</td>
<td>CAW-TCA Canada Local 523 (and Member of City Council)</td>
</tr>
<tr>
<td>George Duma</td>
<td>Managing Editor</td>
<td>Welland Tribune</td>
</tr>
<tr>
<td>Frank Rupcic</td>
<td>General Manager</td>
<td>Venture Niagara Community Futures Development Corporation</td>
</tr>
<tr>
<td>Ian Bradley</td>
<td>President and Chief Executive Officer</td>
<td>Lakeside Steel Inc.</td>
</tr>
<tr>
<td>Dolores Fabiano</td>
<td>Executive Director</td>
<td>Welland/Pelham Chamber of Commerce</td>
</tr>
<tr>
<td>Dr. Lewis Soroka</td>
<td>Director</td>
<td>Brock Centre for Social and Economic Research on Niagara Brock University</td>
</tr>
<tr>
<td>Christine Bradaric-Baus</td>
<td>Dean Technology Division</td>
<td>Niagara College</td>
</tr>
<tr>
<td>Patrick Gedge</td>
<td>Chief Executive Officer</td>
<td>Niagara Economic Development Corporation</td>
</tr>
<tr>
<td>Trudy Parsons</td>
<td>Executive Director</td>
<td>Niagara Training and Adjustment Board</td>
</tr>
<tr>
<td>Gregg Cousins</td>
<td>Vice President and General Manager</td>
<td>MMFX Steel Company of Canada Inc. (former General Manager Atlas Specialty Steels)</td>
</tr>
<tr>
<td>Damiane Goulbourne</td>
<td>Mayor</td>
<td>City of Welland</td>
</tr>
<tr>
<td>Roy Timms</td>
<td>President</td>
<td>Timbro Design Build Contractors (Developer)</td>
</tr>
<tr>
<td>Frank DeChellis</td>
<td>Chair, Welland Development Commission</td>
<td></td>
</tr>
<tr>
<td>Brian Hutchings</td>
<td>Commissioner Community Services and Sarah Pennisi, Director Social Assistance and Employment Opportunities</td>
<td>Niagara Region</td>
</tr>
<tr>
<td>Robert Watson</td>
<td>Chief Executive Officer</td>
<td>PenFinancial Credit Union Ltd.</td>
</tr>
<tr>
<td>Dan Degazio</td>
<td>Manager Economic Development City of Welland (former Chair Canadian Steel Caucus)</td>
<td></td>
</tr>
<tr>
<td>John Maloney</td>
<td>Member of Parliament</td>
<td></td>
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</tbody>
</table>
During the interviews, each of the 17 leaders in the Welland pilot study was asked whether they consider the six factors initially identified in the literature to be important or not for successful economic development. They were invited to suggest other factors that they considered to be important. They were then asked to identify those factors which they considered to be most important for economic development. Table B2 summarizes the interviewees’ responses. For the purpose of the interviews, transformational leaders are defined as “local leaders who champion local economic transformation”.

**Table B2**

*Selection of Factors of Economic Development in Welland Ontario*

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of interviewees indicating the factor is important or very important</th>
<th>Percentage of interviewees indicating factor is important or very important</th>
<th>No. of interviewees ranking factor as the most important</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transformative leadership</strong> – local leaders who champion local economic transformation—change in the nature of economic activity</td>
<td>17</td>
<td>100%</td>
<td>15</td>
</tr>
<tr>
<td><strong>Strategic development planning</strong> – development and implementation of a strategic plan for economic development or a major economic development initiative</td>
<td>15</td>
<td>88%</td>
<td>3*</td>
</tr>
<tr>
<td><strong>Civic engagement in economic development</strong>: town hall meetings, web site interaction, stakeholder consultations and other forms of community organizing for the purpose of economic development</td>
<td>15</td>
<td>88%</td>
<td>1</td>
</tr>
<tr>
<td>Factors</td>
<td>No. of interviewees indicating the factor is important or very important</td>
<td>Percentage of interviewees indicating factor is important or very important</td>
<td>No. of interviewees ranking factor as the most important</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Education and research resources</strong> – including all levels of education and institutional support for R&amp;D, innovation, technology transfer and commercialization of science</td>
<td>17</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>Capital</strong> - including private- and public sector, e.g. venture capital investment in firms, financial institutions supporting development, and capital investment in municipal infrastructure such as transportation and telecommunications</td>
<td>15</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td><strong>Quality of life</strong> – cultural and social infrastructure, environmental programs</td>
<td>15</td>
<td>88%</td>
<td>1</td>
</tr>
<tr>
<td><strong>Other</strong> – Costs of doing business e.g. energy costs and taxes</td>
<td>2</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong> - Economic base (i.e. existing industry mix; economic diversification)</td>
<td>2</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong> – physical infrastructure, especially a mid-peninsula highway</td>
<td>4</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Factors</td>
<td>No. of interviewees indicating the factor is important or very important</td>
<td>Percentage of interviewees indicating factor is important or very important</td>
<td>No. of interviewees ranking factor as the most important</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>Total Number of Interviews</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* 2 of 3 indicated transformational leadership and strategic development planning are equally and most important.

**Perspectives of Welland Leaders**

According to Alakas (Personal Communication, October 18, 2006), “in the mid 1950s Welland had the highest per capita earnings of any municipality in Canada and it’s probably because we were such a densely populated industrial base.” Today, the median employment income for the St. Catharines-Niagara Census Metropolitan Area (CMA) which encompasses Welland is the lowest among the ten CMAs in Ontario. Bob Watson, General Manager of Atlas Credit Union (Personal Communication, October 16, 2006) describes the impact on workers and their families as a result of the closing of Atlas Specialty Steels,

You could perhaps place people in different groups. There are those who are, quite simply, the survivors. Those who will not allow themselves to be held down in their lives, in any respect. There were those who returned to school to improve their education level. One has since become a teacher. It’s amazing what some have accomplished. Some of these people were 50 years of age and went back to school to improve their opportunities. Others were able to find blue collar jobs in Hamilton and other areas like Waterloo, Cambridge, Toronto, and Oshawa. Yes, we have seen quite a few people sell their homes and leave the Niagara Region. The ones who did the best are those who obtained further education.

The next most successful group is comprised of those who had pre-existing trades or management skills that enable them to obtain jobs within their experience range in other companies. Many of these people obtained work within the Niagara Region, but many found work even further away.

The final group is comprised of those without a trade or higher education and, most significantly, the self-confidence and motivation to seek out re-employment. A great number of those in this group hang onto the thread of hope that Atlas will reopen one day soon. They constantly despair over their future.
The people in each of the 3 groups are hard working and basically shared the same goals and aspirations. They are family people who have dreams of raising their families in a happy and financially successful environment. They want to put their children through college or university. They want to be financially sound during their retirement years. Most of them want to continue living and raising their families right here in the Niagara Region.

Of the 17 leaders interviewed in Welland, all considered leadership to be important or very important for economic development. They described leaders as change agents, collaborators, planners and drivers. They are the people that take action to improve the community. Goulbourne, the City of Welland’s Mayor (Personal communication, September 17, 2006) suggests that leaders need to work collaboratively to achieve economic development: “If we’re divided amongst ourselves, who’s going to want to locate a business here? What was it that Abraham Lincoln said? ‘A house divided against itself cannot stand.’” City leaders rarely act alone. Formally and informally, they organize coalitions that bring together a group of leaders to achieve a purpose such as developing a strategy for downtown revitalization. City officials often create economic development agencies to address the generation and regeneration of economic activity. The Welland Development Commission was established by the City in 1963 as an arms-length, not-for-profit corporation responsible for economic development. The commission is funded by the City and corporate sponsors, and includes representatives from city council, the local Chamber of Commerce, city staff and citizen appointees (Degazio, Personal Communication, August 31, 2006). However, while Mayor Goulbourne acknowledges the leadership role of the development commission, he views his role in economic development as critical for setting an entrepreneurial stage. According to Goulbourne (Personal communication, September 17, 2006),

you create the perception that this is a place where they’ll listen, a place where they’ll innovate…you create the perception that this is a place where you can do business...trying to get the staff to be more entrepreneurial is part of my job as Mayor, because when staff stick their neck out and screw up, council clobbers them. So part of my job is creating a culture where it’s ok to take risks…to create that safe environment for them to innovate.

For Goulbourne, creating a business-friendly city hall is also essential to the development process. Goulbourne believes that the success of his city depends upon his capacity as Mayor to engage the business community within Welland and beyond the municipal boundaries, in
addition to the educational community and other levels of government, in working together to achieve development priorities. This relationship-building process is what Moss Kanter (1995, p. 362) refers to as “the infrastructure for collaboration”.

In Welland, despite the existence of the Welland Development Commission, City Council ultimately wields development power and even occupies several of the seats on the Commission’s Board of Directors. The City also has paid staff on the Commission. The local Welland Chamber of Commerce has representation on the Commission, however, the bodies operate separately with limited collaboration (Fabiano, Personal Communication, October 6, 2006).

Planning economic transformation in cities generally begins with a leadership body that will provide direction and mobilize resources. Community organizations and individuals empowered to lead economic development create a strategic plan for their locality, starting with the selection of initial common goals or objectives that leaders can work towards and use as a guide for allocation of resources. The Welland Development Commission has undertaken this process several times. The most recent major strategy was developed in 2004 and involved consultations with over 100 local business, community and labour leaders. It also involved several town hall meetings and public forums (Degazio, Personal Communication, September 1, 2006). Degazio feels that the consultation process with other leaders and the broader community is essential for gaining confidence in the strategy and for tapping into local insights.

Developing a strategic plan typically involves ongoing analysis of the economic conditions of the community. Strategic planning sessions often engage stakeholders in an evaluation of competitive strengths and weaknesses (Douglas, 1994) which informs the city’s directions for moving forward. Cities frequently build on existing strengths and assets to create new work. The process of strategic planning is iterative. Strategic directions are usually modified with ongoing communication among stakeholders and the broader community.

When developing strategies, community leaders must be attuned to major issues facing indigenous industries that are declining. Soroka is a Professor of Economics at Brock University. Soroka (Personal Communication, September 28, 2006) suggests that,
…for the longest time, it was very difficult to get people - even in St. Catharines with the auto industry - to understand that the economy was changing…For the longest time, the view was we’ve got to get more manufacturing – that the only real jobs are manufacturing jobs. That’s what supports the community. And of course, that is the road to death because those jobs don’t exist. There may be special cases, you know… another town acquired a Honda plant - sure there are cases like that, but the total employment in those industries has been shrinking.

Some local leaders believe that, in addition to building on existing industries, the city must also seek out alternative directions for new development, through advanced technology and expanded markets, or by celebrating their heritage in a new way. For instance, Rupcic (Personal Communication, October 3, 2006) suggests,

Build on the heritage of the steel industry. That’s something that isn’t really done a lot around here. I’m not saying that it has to be built on a theme that Welland is steel town because that’s what Hamilton is, but use a lot of stuff that the steel industry was, either as points of reference in the world of arts and culture – I mean this whole community just begs to be an outdoor art gallery you know with the canal setting and things like that.

Of the 17 leaders interviewed in Welland, 15 considered strategic economic development planning to be very important. Some of them were aware of a recent ten-point plan developed in 2004, which indicates how Welland will address its economic situation and target new development. As well, the City is creating a Community Improvement Plan that focuses on brownfield redevelopment (Degazio, Personal Communication, September 1, 2006). The City also collaborates with the Niagara Economic and Tourism Corporation and the Niagara Development Corridor on economic development activities at a regional level.

Community economic development strategies are rarely confined to purely economic issues. They often encompass issues of social, environmental, cultural and historical importance (Douglas, 1994). Mayor Goulbourne (Personal Communication, 2006) suggests that city council members consider social infrastructure to be a priority, including affordable housing, however, he points out, “the struggle I have with the social [mandate] is that it’s not our mandate. It’s the regional level of government’s mandate”. Hutchings, Commissioner of Community Services (Personal Communication, September 25, 2006) offers the following analogy for community planning:
As Francis Ford Coppola, the filmmaker would say, ‘make sure everybody knows what the movie is about’. It seems like a common thing. When you’re producing a movie, right down to the make up artist, right down to the set designers, to the costume designers, you could have the best script in the world, the best director in the world, but if you don’t have all the people, like the lighting people knowing this is what the movie’s about – it’s a scary movie or it was done in Viet Nam and the intent of the movie is to understand Viet Nam better – if they don’t get that, you don’t have all your people moving in the right direction. So if you don’t engage them up front through some sort of vision, you’re not going to make a very good movie.

Mayor Goulbourne (Personal Communication, September 27, 2006) holds annual town hall meetings with citizens to discuss the city’s economic development. The town hall meetings enable a large and broad group of citizens to provide direct input into the plan. According to Watson, (Personal Communication, October 16, 2006), “one of the greatest criticisms amongst people is that we fail to communicate effectively with one another. When we invite others to be involved, we are telling them that their opinions mean something.”

Duma (Personal Communication, November 9, 2006) suggests that in Welland, residents are actively engaged in strategic planning for the city, with a qualifier:

There is a group that is quite active. It [the planning process] is open to the community. Does everybody participate? No. But there is a strong enough core group – for lack of a better term, movers and shakers so to speak. Not necessarily money people – just people with bright ideas that are heard and have been part of roundtable discussions.

A large body of research supports the notion of education, research and development, and innovation as drivers of economic development (Alasia, 2005; Becker, 1993; Bradford, 2004; Gertler, 2004; Holbrooke & Wolfe, 2002; OECD, 1998; Porter, 2000; Schulze, 1961). Becker (1993) argues that investment in skills and knowledge leads to economic benefits, including increased income for individuals, enhanced labour productivity for business and industry, and reduced social costs. Parsons (Personal Communication, October 18, 2006) stresses that investments need to be made in displaced workers to enable them to develop new skills and knowledge to re-enter the workforce. For Parsons, high levels of education and training for youth is a positive investment, but older, displaced workers also have much to offer the workplace, including experience and a strong work ethic. As well, investments in education and
training do not always involve higher levels. Often investments should be directed to knowledge and skills that help to achieve employability.

Innovation has also generated substantial interest in recent decades as a driver of economic development. Bradaric-Baus is Dean of Technology at Niagara College (based in Welland). Bradaric-Baus (Personal Communication, November 15, 2006) is open to working with institutions within Welland, across the Niagara Region, and beyond. She suggests “it’s about thinking progressively. In order for us to maintain our quality of life, we have to constantly improve – whether it is what we do or how we do it. In order to compete globally, we have to be leaders and innovators.” Development frequently requires investment in new technologies and skills or intensification of technology in order to achieve higher levels of productivity and to create higher value added products. Bradaric-Baus (Personal Communication, November 15, 2006) suggests, “[w]hen people think of the [Niagara] region, they think of the classic manufacturing industries of 20 or 30 years ago – steel or automotive…If we are players in steel, then why can’t we be players in other materials that would be replacing steel. It would make sense, we have the talent…”

Capital investment is an essential factor of economic development. Capital investment is needed to create or expand businesses and to modernize existing businesses. Capital is also essential for building and maintaining the city’s physical and social infrastructure. Cousins (Personal Communication, September 29, 2006 suggests,

…when you are talking heavy industry like we are now, when you have to make a decision, usually it’s a very large one in terms of dollars, for example, if you’re going to put up a new melt shop or a new rolling mill. Having a stable economic environment that people can plan on - your tax base, your hydro rates - those types of things matter right down to whether or not you think the Ministry of Environment is predictable and reasonable. Are you in a jurisdiction where all of a sudden you’ll get a new regulation that’s doing to make you do back flips and cost you tens of millions of dollars? I mean, those are the kinds of things that people will be looking at in order to lay out 3 or 4 million dollars. You want a stable investment environment and any factor that works against that, works against the community.

The financing of local government impacts municipalities’ ability to pay for services and infrastructure. In recent decades, the devolution of major responsibilities from federal and
provincial governments to local governments has created enormous financial pressures for many Canadian cities. In the Niagara Region, for example, substantial funding cuts and the devolution of responsibilities for social services has limited municipalities’ ability to provide adequate services to ensure the basic needs of people within their communities. For example, public transportation to link communities across the region is lacking, so if jobs are lost in Welland, the residents have very limited public transit resources to travel to work in other communities within the Niagara Region or beyond.

This lack of public transit across Niagara contributes to another substantial issue - municipal fragmentation. Fragmentation fosters a competitive climate among local municipalities and results in duplication of services, greater potential for uncoordinated planning and development, and wasted expenditures. Watson (Personal Communication, October 16, 2007) notes

if we unite the capabilities and financial resources of our many communities [in the Niagara Region] into one formidable development agency, we will have far greater success in attracting meaningful new enterprises to this area….I have long felt that the Niagara Region should become the “City of Niagara” with one government. The collective resources, power and influence of the entire Region would be able to accomplish so much more. The current duplication of resources and efforts create enormous waste and ineffectiveness.

Fabiano (Personal Communication, October 6, 2006) also feels that there is fragmentation in the community, lack of clear direction and eroding confidence in the local economy. Fabiano notes that outsiders are more likely to appreciate the quality of life in Welland than long time residents:

I think that those who were born and raised here don’t rate it [the community’s quality of life] very high. But I think that folks who come from outside of the community are blown away…You know, we’re a safe community. We have good schools. Our pace here is not what it would be in a big community and I always get a chuckle when folks come in and say, you know what they do in Toronto? Well it’s not Toronto. We’re here because it’s not Toronto…

Quality of life is an important instrument of economic development. It is also the fundamental outcome or goal of development activity. The economic dimension of quality of life generally includes factors such as opportunities for employment, livable income, access to public
transit and child care, and quality housing at affordable prices. As cities such as Welland have lost significant numbers of manufacturing jobs, the jobs that many displaced workers have moved to, especially within the service sector, pay less money and offer less stability. Pennisi (Personal Communication, September 25, 2006) notes,

I think that another thing that’s important in economic development is the connection between minimum wage and living wage. Minimum wage is not a living wage. If you take away good paying jobs like manufacturing, and you replace them with two part-time jobs at minimum wage, there’s a big gap, not only in terms of real money that’s in your pocket, but quality of life and the impact on your family. So economic development needs to not only look at what’s gone, but what has replaced it and what is the impact of that replacement.

As manufacturing jobs have declined in many North American cities, the income gap between high income earners and low income earners has increased. A key finding of a quality of life study by FCM (2005) of 20 Canadian communities is that the income gap between Canada’s highest and lowest income earners is actually growing, a situation which “ultimately diminishes quality of life for all residents at both ends of the income spectrum” (FCM, 2005, p. 22). According to FCM (2005, p. 21),

[the] tax filer data confirms that only the wealthiest 30 per cent of families and 20 per cent of individuals in the 20 QOLRS municipalities [Canadian municipalities participating in the study of quality of life] enjoyed any increase in before-tax income between 1990 and 2000. In contrast, the before-tax incomes of low and modest income individuals-the bottom 30 per cent on the income scale of all unattached individuals-decreased by 10 per cent or more (after adjusting for inflation).

Beyond financial measures, the social dimension of quality of life encompasses measures of social inclusion. Such measures relate to civic engagement, and include voter participation, rates of volunteerism, membership in associations and charitable donations. As well factors such as employment and community integration of new immigrants and other vulnerable populations measure the degree of inclusiveness.
Building Capacity for Local Economic Development

While many factors interconnect to influence local economic development, in Welland, the capacity of community leaders to organize themselves to develop collaborative strategies and mobilize critical resources is one of the most important dynamics influencing the economic trajectory of the city. Collaboration is rooted in relationships of trust, shared values and common interests or goals. Collectively, transformational leaders in the city build social capital, and through this process, they weave together strategic plans, engage citizens, organize institutional and private sector support for education, research and innovation resources. They facilitate access to government funding and financial capital, and strive to improve quality of life. This composite of factors is necessary for economic development to occur. The formula for combining these local elements in the context of global forces is what distinguishes cities from one another.

Transformative leaders must develop solutions that are feasible within the cultural historical context of their city. This does not preclude leaders from learning from the experiences of others or introducing innovations. As Bradaric-Baus (Personal Communication, November 15, 2006) suggests,

[w]hen you have a transformative thinker, transformative leaders, you don’t want to limit yourself, but sometimes a good place to start is building on your strengths and [addressing] weaknesses. You know you have to be realistic – you can’t be in everything, but what you do well should not prevent you from going into a new area either. You can look at other models, if you can identify where you want to be - using another city or country as an example. There’s a lot to be learned, particularly in terms of difficulties that can be avoided…In order to compete globally, we have to be leaders and innovators. We can’t just look to one company to come in and save us.

We have to think about what we can do well. What areas do we want to be involved in? There are all kinds of factors when they make a decision regarding what’s moving into the area. We also need to look at what is needed to support that business. We need to look at all of that. Diversity is great, but not just for the sake of diversity. It’s not a matter of being diverse for today. It’s doing something well today and building for tomorrow.
Appendix C

Interview Guide for Welland Pilot Study

1. What is your role in community economic development?

2. What are the most critical economic issues that the community faces today?

3. How do these issues compare to those prevalent in the community 20 years ago?

4. Is there a leadership organization in the region/city that is recognized as the principle organization responsible for championing and coordinating local economic development? Please specify the name of the organization.

5. How would you characterize this group’s achievements with respect to CED? Can you provide examples of successful initiatives implemented by this group?

6. What factors contributed to the initial growth of the steel industry here?

7. What factors contributed to its decline?

8. How has the decline in employment in the local steel industry impacted members of the community?

9. Are there strategic industries or clusters of industries that are important to the city’s economy today? How has this changed in the past twenty years?

10. What factors contribute to economic development in Welland?

11. Are there unique cultural characteristics of your community that influence the local economy?

12. How would your rate the following factors with respect to their importance for successful community economic development (very important, somewhat important, important, not very important, unimportant):

   Transformative leadership
   Strategic development planning
   Civic engagement in development activity
Quality of life factors (including social economy factors)
Education and research resources
Capital resources

13. Does any one of these factors stand out as most important?

14. Does your city have an official community development strategy? Are you familiar with it? What are the key objectives?

15. Who developed the strategy? Did your organization participate in the strategy? What results have been achieved?

16. Does the city have other related strategies (e.g. Labour Market, Smart Growth, Downtown Revitalization, Neighbourhood Development)?

17. Are politicians well-informed about the socio-economic needs of the community?

18. Who are the primary actors involved in economic development in the community? How are they engaged in economic development?

19. Collectively do you feel that these actors have the technical knowledge, leadership skills and decision-making authority to influence and implement CED strategies and policies?

20. Are there other external organizations, including government agencies or departments that are critical to the city’s socio-economic development?

21. Is civic awareness and engagement in CED activities encouraged by community leaders? How do they engage community members?

22. In your view, how do citizens generally perceive the current state of the economy and the standard of living/quality of life in Welland?

23. How would you rate the quality of life in your community (excellent, very good, good, not very good, poor)?

24. What do you consider are the priority issues relating to quality of life in your community?

25. What capital resources are available to support new investment in your community?
26. What recent new investments (i.e. in the past five years) have contributed substantially to the socio-economic well-being of your community?

27. Is there any one priority that you would identify that is critical for Welland’s future economic transformation?
Appendix D
Letter of Invitation to Interviewees

Date

Name
Address

Dear [name]:

This letter is an invitation to participate in a research study that I am conducting as a Ph.D. student at the University of Toronto. I have been working in the fields of community economic development and business innovation for fifteen years, both as a practitioner and an educator. My interests focus on the leadership dynamics within communities that underpin and drive economic transformation.

Working under the supervision of Dr. David Livingstone, I am conducting a research study of critical factors that enable communities which are suffering from the decline of a key industry to navigate the transition to a more sustainable economy. My study encompasses three communities, Pittsburgh, Pennsylvania, Hamilton, Ontario and Welland, Ontario, all of which have experienced a decline in steel industry employment.

For the purpose of this study, I will focus on six factors: transformative leadership, development planning, civic engagement, education and research resources, capital and quality of life. I am particularly interested in the patterns of interaction among local agents associated with these factors. Interviews will be conducted with representatives from industry, labor, government, education, and community and economic development.

Your participation is voluntary and you may refuse to answer any question or withdraw from the project at any time. You will be free to raise questions or concerns with me or Professor Livingstone before, during, or after the interview. I will be asking you questions about the organization you represent and its role in community economic development. As well, I will be seeking information about your organization’s interactions with other local agents involved in CED. An audio recording of the interview will be made. You will be given the option of participating in this study anonymously or you may provide written consent for me to include your name and the name of the organization which you represent in my study. You will be asked to vet your interview transcript and will have the opportunity to make changes or deletions to your responses. You will be asked to provide written authorization for the final transcript.

The data generated during the course of this study will be used for the purpose of writing my thesis. I will also seek your permission to include this information in public presentations. You will receive a copy of the summary of findings from the study, and can also access the full thesis once it is published if you wish.
The results of this research will help to provide direction to economic and educational program implementation and will have direct relevance for public policy formation. They will increase our understanding of the dynamics of changing local economies. Findings will be submitted to academic journals and to professional conferences focusing on economic development and community sustainability.

I hope you will consider participating in this research. The information you provide will be invaluable. I will be following up with you within the next two weeks to confirm your interest in participating in this study. If you have any questions, please contact me by telephone at 905 892-2369 or by email at bfennessy@cogeco.ca. I would be pleased to answer any questions and look forward to speaking with you.

Sincerely,

Barbara Fennessy
Ph.D. Candidate, OISE/UT
Appendix E

Informed Consent for a Research Study

Title: Communities and Leaders at Work in the New Economy: A Comparative Analysis of Agents of Transformation in Three Steel Cities

Student: Barbara Fennessy, PhD Student, University of Toronto

Thesis Supervisor: Dr. David Livingstone

I_______________________________agree to participate in a research study conducted by Barbara Fennessy, a PhD student in the Sociology and Equity Studies in Education Department at the University of Toronto.

Barbara is studying critical factors that may contribute to a community’s economic transformation from a dominant industry base to a more diversified economy. Her study focuses on six factors: transformative leadership, development planning, civic engagement, education and research resources, development capital and quality of life. Her study encompasses three communities, Pittsburgh, Pennsylvania, Hamilton, Ontario and Welland, Ontario, all of which have experienced a decline in steel industry employment. For each location, she will explore interactions among agents associated with these factors, including leaders representing industry, labour, government, education and community development.

Barbara has asked me to participate in an interview for this study. My participation is voluntary. I give Barbara my permission to tape record my interview with her, for her information. I know that I can refuse to answer any of her questions or withdraw from the project at any time prior to publication of her thesis. I understand that Barbara intends to conduct up to 52 interviews in the three communities collectively.

I understand that participation in this study involves answering questions about the organization that I represent; its role in community economic development (CED); and my organization’s interactions with other agents involved in CED. I am in a position of authority to represent my organization for the purposes of this study.

I understand that Barbara will provide me with a written copy of the interview transcript for my review. I understand that I will be given the opportunity to vet my interview transcript, remove any content which I wish to have excluded, and will be asked to provide written authorization for the final transcript.

I understand that Barbara will be publishing the names of the communities involved in her research in her published thesis.

I understand that I may choose either of the following options:
Option One:
I understand that my name and the name of the organization which I represent may be used in Barbara’s published thesis. I give Barbara permission to include this information in her thesis along with my responses to the interview questions. I also understand that Barbara may make public presentations based on the material included in her published thesis. I have assessed any risks for me associated with this option.

Option Two:
My name and the name of the organization which I represent may not be used in Barbara’s published thesis. I give Barbara permission to include my responses to the interview questions in her published thesis. I also understand that Barbara may make public presentations based on the material included in her published thesis. I have assessed any risks for me associated with this option.

I choose  □ Option One     □ Option Two

I understand that the interview will take approximately one hour. The interview will be scheduled at a time and place that is convenient for me. I also understand that Barbara may follow up with a telephone call to clarify information subsequent to the interview.

I will not receive compensation for my participation in this project.

There are no risks to me to participate in this research. While I may not benefit directly from the study, the information I share may assist education and economic development professionals to better understand the relationships among agents of community economic transformation. I understand that a summary of the findings of the study will be sent to me and if I wish, I can obtain a copy of the thesis in full.

I understand what this study involves and I agree to participate. I have been given a copy of this consent form.

Signature of Participant___________________________________________________

Date__________________________________________________________________

If you have any questions or concerns about this study, please contact the investigator:

Principal Investigator: Barbara Fenessy
Telephone: (905) 892-2369
Email: bfennessy@cogeco.ca

Project Supervisor: David Livingstone
Telephone: (416) 923-6641, ext. 2703
Email dlivingstone@oise.utoronto.ca
Appendix F
Interview Guide for Pittsburgh and Hamilton

1. What is your role in community economic development?

2. What are the most critical economic issues that the community faces today?

3. How do these issues compare to those prevalent in the community 20 years ago?

4. Is there a leadership organization in the region/city that is recognized as the principle organization responsible for coordinating local economic development (e.g. facilitating economic development partnerships or collaboratives)? Please specify the name of the organization.

5. How would you characterize this group’s achievements with respect to CED? Can you provide examples of successful initiatives organized or implemented by this group?

6. What factors contributed to the initial growth of the steel industry here?

7. What factors contributed to its decline?

8. How has the decline in employment in the local steel industry impacted members of the community?

9. Are there strategic industries or clusters of industries that are important to the city’s economy today? How has this changed in the past twenty years?

10. What factors contribute most to economic development in your city?

11. Are there unique cultural characteristics of your community that influence the local economy?

12. How would you rate the following factors with respect to their importance for successful community economic development (very important, somewhat important, important, not very important, unimportant):

   Transformative leadership
   Strategic development planning
   Civic engagement in development activity
Quality of life factors (including social economy factors)
Education and research resources
Capital resources

13. Does any one of these factors stand out as most important?

14. Are there other factors that are important that we have not discussed yet?

15. Does your city have an official community development strategy? Are you familiar with it? What are the key objectives?

16. Who developed the strategy? Did your organization participate in the strategy? What results have been achieved?

17. Does the city have other related strategies (e.g. Labour Market, Smart Growth, Downtown Revitalization, Neighbourhood Development)? Who developed these strategies?

18. Are politicians well-informed about the socio-economic needs of the community?

19. Who are the primary actors involved in economic development in the community? How are they engaged in economic development?

20. How would you describe the collaboration among them? (How effectively do you think they collaborate?)

21. Collectively do you feel that these actors have the technical knowledge, leadership skills and decision-making authority to influence and implement CED strategies and policies?

22. What other external organizations, including government agencies or departments are critical to the city’s socio-economic development?

23. Is civic awareness and engagement in CED activities encouraged by community leaders? How do they engage community members?

24. In your view, how do citizens generally perceive the current state of the economy and the standard of living/quality of life in your city?

25. How would you rate the quality of life in your community (excellent, very good, good, not very good, poor)?
26. What do you consider are the priority issues relating to quality of life in your community?

27. What capital resources are available to support new investment in your community?

28. What recent new investments (i.e. in the past five years) have contributed substantially to the socio-economic well-being of your community?

29. Is there any one priority that you would identify that is critical for your city’s future economic transformation?
Appendix G
Consent for Final Interview Transcript

I have reviewed the transcript of my interview with Barbara Fennessy, which I participated in for the purpose of her thesis, *Communities at Work in the New Economy: A Comparative Analysis of Agents of Transformation in Three Steel Cities*.

I have received a copy of my final interview transcript and I am satisfied that any changes, additions or deletions which I have requested have been fully completed. I have carefully assessed any risks that may be associated with my participation in this research and I authorize Barbara to use this final transcript for the purpose of her research.

Signature ___________________________        Date________________________