

July 01, 2001

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Barry Bluestone
Northeastern University

Gretchen Weismann

Nicole Lindstrom

Recommended Citation

Bluestone, Barry; Weismann, Gretchen; and Lindstrom, Nicole, "Telecom City Housing Impact Study" (2001). *Dukakis Center Publications*. Paper 25. <http://hdl.handle.net/2047/d20003675>

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TELECOM CITY HOUSING IMPACT STUDY

A REPORT PREPARED BY

**The Center for Urban and Regional Policy
Northeastern University**

IN PARTNERSHIP WITH

**The Mystic Valley Development Commission
Fannie Mae**

JULY 2001

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Researchers:

Barry Bluestone, Principle Investigator
Gretchen Weismann, Project Director
Nicole Lindstrom, Senior Research Associate

Center for Urban and Regional Policy

Northeastern University
347 Holmes Hall
Boston, Massachusetts 02115-5000

JULY 2001

Acknowledgements:

We would like to thank the following people for their generous assistance with this project: Maggie Adams, Ryan Allen, Joan Fitzgerald, Barbara Hamilton, and Heather Seligman at the Center for Urban and Regional Policy; Cassandra Arnaud, Massachusetts Institute of Technology; Henry Gennetti, Chairperson of the TeleCom City Housing Task Force, the TeleCom City Housing Task Force, Kris Erickson and Peter Hollands at TeleCom City; Andy Sum and the Center for Labor Market Studies; Kevin Finney; and Heather Johnson, Massachusetts Telecommunications Council.

Consistent with the collaborative goals of the Center for Urban and Regional Policy, this study was designed, implemented, and developed in regular consultation with the TeleCom City planning staff, the Mystic Valley Development Commission, and the TeleCom City Housing Task Force. We thank the numerous local policy experts and practitioners in the fields of housing, transportation, social services, and economic development that helped us assess the current economic and social climate of the tri-city area and to identify potential housing strategies that will complement the economic development of the region.

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Preface

The Cities of Malden, Medford, and Everett, in conjunction with the Commonwealth of Massachusetts, formed the Mystic Valley Development Commission (MVDC) to implement a project called TeleCom City. TeleCom City is a regional technology development initiative to build a telecommunications research and development park on 200 acres of industrial land within the three cities, along the Malden River, approximately five miles north of Boston. An important aspect of the project is the creation of approximately 7,500 jobs at TeleCom City.

The MVDC made a commitment early on to review the impact that TeleCom City might have on the tri-city housing market. By compiling research and analysis now, the three cities can develop appropriate housing strategies and policies before TeleCom City brings new employees and their families to the region. Therefore in December 2000, TeleCom City planners contracted with the Center for Urban and Regional Policy (CURP) at Northeastern University to conduct a comprehensive housing analysis of Everett, Malden, and Medford as the cities prepare for the construction of TeleCom City. To ensure that the community was involved at every phase of the study, the cities created a Housing Assessment Task Force that offered guidance and review.

The initial results of the analysis of employment trends in telecommunications and high-tech industries and the tri-city housing market indicated that nearly all TeleCom City employees and their households attracted to the tri-city region will be able to afford private market rents and home prices in the tri-city area. Yet the TeleCom City planners and the Task Force also recognized that TeleCom City will put some additional pressure on an already overburdened housing market. Therefore, the study was expanded to include some policies and programs to minimize the potential strain of new households on the overall tri-city housing market.

In the end, the study addresses two interrelated goals: 1) An assessment of the particular needs of the potential 525 new TeleCom City employee households that may migrate to the tri-city region over the next

ten years and recommended strategies to meet these needs; 2) An analysis of the possible impact that this migration may have on the tri-city housing market and strategies to maintain the long-term housing affordability, livability, and attractiveness of the tri-city area.

Executive Summary

The emergence of a "New Economy," part of an historic shift from a manufacturing-based economy to knowledge-based enterprises, has created quality jobs and rising income levels for individuals and families. TeleCom City is at the forefront of this shift in the cities of Everett, Malden and Medford. The creation of up to 7,500 new jobs at TeleCom City will provide new employment opportunities for many workers living in Everett, Malden, and Medford. A majority of these positions will be the kind of high-skilled jobs commonly associated with the New Economy – computer programmers, systems analysts, and software developers. However, a substantial percentage of positions will be good paying jobs that require only a high school diploma or a community college degree, jobs that match the skill sets of many residents of the Tri-city area.

While existing tri-city residents will have the qualifications to fill many of the new positions, TeleCom City will also attract *new* employees and their families to the area. Most of these workers will be highly skilled, well paid professionals, living in multiple-earner households. Nearly all of these households – over 90 percent – will be able to afford private market rents and home prices in the tri-city area. Only a small fraction of these new migrants – mostly lower-wage employees in single-earner households – will find themselves priced out of the tri-city housing market.

These new households will put additional pressure on an already overburdened housing market. The tri-cities are now experiencing the same housing market pressures faced in the rest of the Boston metropolitan area. Because a constrained housing supply is unable to meet overall demand, housing prices and rents are rising rapidly. Even without new jobs at TeleCom City, this pressure is likely to continue as individuals and families choose to locate in the Tri-city area as an alternative to more costly housing in Cambridge, Somerville, and elsewhere. This housing market will lead to a windfall in housing values for many families who own their own homes. But for others, mainly renters on fixed incomes, success at TeleCom City could spell substantial increases in housing costs unless something is done to

increase the overall supply of housing and provision made for rental assistance. Barriers do remain to fully realizing the tri-cities' housing goals: a lack of land, capacity issues, and community resistance to increased density. But TeleCom City can play an important role in creating and implementing additional regional strategies that can help meet the expected increase in housing demand so as to keep housing affordable to families with a range of incomes.

Key Findings

- The high tech and telecommunication industries targeted for TeleCom City tend to have a bimodal distribution of earnings. Nearly 30 percent of 7,500 expected TeleCom City jobs will pay \$34,000 or less; approximately 33 percent pay more than \$64,000. The lower-wage jobs require no more than a high school diploma or community college degree, making it possible for many current tri-city residents to compete for these positions.
- Three-quarters of TeleCom City workers will likely live in households where there are multiple earners. Accounting for multiple earners and other household income (e.g. interest, dividends, rental income), only 17 percent of new TeleCom City workers will live in households with less than \$60,000 annual income.
- Of the predicted 7,500 new jobs at TeleCom City, approximately 7 percent or 525 will be filled by new migrants who choose to live in the tri-city region. These 525 new households will add to overall housing demand.
- Based on projections of current market rents and home prices, 8 percent of the 525 new TeleCom City employees who choose to move to the tri-city area (43 households) will face a housing affordability problem.¹ Of these, 27 are expected to be renters and 16 would presumably be in the home buying market.
- Independent of TeleCom City, over the *next* ten years, the Tri-city area overall should try to construct **approximately 2,900 new units of housing** to cope with expected total demand. Of

¹ Renters are assumed to be able to pay 30 percent of their annual income in rent; homeowners are assumed able to pay 30 percent – including principle, interest, taxes, and insurance. We assume that the 7,500 new TeleCom City jobs are created at a rate of 750 per year for ten years and that approximately 53 new TeleCom City households choose to locate in the tri-city area each year.

these units, 1,200 would be for expected normal household growth. Another 1,180 would raise vacancy rates to optimal levels to moderate housing price inflation. The remaining 525 units are needed for the expected new TeleCom City workers and their families. As such, TeleCom City households are expected to account for only 18 percent of the needed new housing stock in the tri-city area over the coming decade.

- Over the *past* ten years (1990-1999), the cities of Everett, Malden, and Medford combined produced 558 new units of housing. At this production rate, there will still be the need to produce over 2,300 additional units to satisfy expected housing demand over the next ten years of TeleCom City development.
- A number of extraordinary housing production plans are in the works that may meet or exceed this demand, such as the development of Rowe Quarry, school conversions, and a number of other promising developments. While land is scarce in the Tri-city area, there are still sufficient parcels available to meet this projected demand. In their respective build-outs, Everett has identified space that could support 524 dwelling units, Malden 2,307 dwelling units, and Medford 607 dwelling units – for a grand total of 3,438 new units.
- In addition to the numerous housing programs and policies already in existence, and housing production plans underway, the tri-cities are well positioned to meet the housing needs of both new TeleCom City households and existing tri-city residents.

Strategies to Address the Tri-City Housing Challenge

To assure sufficient housing for existing and new tri-city households, this report encourages leaders of Malden, Everett, and Medford to pursue vigorously the major development initiatives currently underway and conceptualize further initiatives, possibly directly related to the added demand caused by TeleCom City itself, possibly incorporating the following strategies:

1. To encourage the **production of new housing** in order to meet increased housing demand resulting from the projected migration of new TeleCom City employees who choose to live in the tri-cities, we recommend:

- *Employer-assisted housing programs:* Potential TeleCom City employers can provide financial assistance and housing education and advocacy to their employees.
 - *Transit-oriented housing:* Reduce per-unit land costs by reducing minimal lot sizes, setbacks, and parking requirements for housing developments built near transit stations.
 - *Simplify, streamline, and standardize permitting and public review procedures:* In order to expedite the housing development process, permitting should be straightforward, reliable, and centralized. Consider creating a facility for “one-stop-shopping” for developers to acquire all necessary permits.
2. To provide assistance to **low and moderate-income homeowners and new homebuyers** we recommend:
- *Build on public-private partnerships:* Supported by a local bank, the Location Efficient Mortgage can help reduce the costs of first-time homeownership. Individual Development Accounts help low-to-moderate income households save money for a home purchase by offering matching funds.
 - *Support limited equity co-ops and housing trusts:* Land trusts counter incentives to engage in land speculation while offering security, homeownership, and asset building opportunities to local residents who might otherwise struggle in the rental market.
 - *Increase access to first-time homebuyer programs:* Increasing existing and create new innovative first-time homebuyer programs help low- to moderate-income households move up the housing ladder and can free up rental units. Homebuyer programs include new homebuyer counseling and housing search.
 - *Identify Surplus Land:* Identify municipal surplus land or property that can be used for new housing, such as abandoned schools or warehouses. Institute programs that allow private developers of land or property to receive a tax incentive for their contribution.
3. To provide assistance to low and moderate-income tri-city households who are **renters** we recommend:
- *Employ Tax incentives:* Provide incentives to owner-occupied property owners to keep rent increases to a minimum. Tri-city municipalities can offer direct tax exemptions or abatements to owners willing to maintain rents at a fixed level for low- and moderate-income tenants.
 - *Preserve the stock of affordable housing:* Regulatory Controls such as condominium conversion provisions can ensure that low-income renters are not evicted from their housing units.
4. **Community Development and Design** strategies can offer a comprehensive vision to bring together diverse housing development strategies.
- *Implement Town Village Zoning:* Adopt zoning provisions that support denser, more walk-able living spaces in colorful urban areas, or adapt cluster zoning and other local housing policies to preserve open space and natural resources.
 - *Implement zoning and building code changes:* Modify building codes and zoning to make it easier to change building uses, to rehabilitate spaces above retail and commercial buildings for residential purposes, to create new housing in the downtown especially near transportation nodes.

Chapter 1: Introduction

The economic growth and job creation spurred by the New Economy has been a boon to many cities and regions throughout the United States. An influx of high-tech firms with many good paying jobs has rejuvenated communities, especially those hardest hit by the decline of manufacturing industries. The benefits of high-tech economic development and job creation often come with a cost, however – increased pressure on already overburdened housing markets. The housing crisis facing Silicon Valley has become emblematic of the flip side of high-tech success. Reports of software engineers made homeless by skyrocketing housing prices in the Valley make national headlines.² There is growing recognition that affordable housing shortages threaten high-tech economic growth. “If we don’t fix these housing problems,” says the CEO of one California high-tech firm, “Silicon Valley could become very empty pretty fast.”³

The Greater Boston economic renaissance has been fueled in large part by growth in the high-tech sector.⁴ Boston ranks second behind San Jose, California for high tech employment (234,800 jobs), having adding 21,800 high-tech jobs to its economic base between 1993 and 1998, and ranks first nationwide in the number of high-tech establishments (7,300).⁵ The nearly one in 10 workers in Boston employed in the high tech sector – which includes software services, computers and office equipment manufacturing, and electronic components and accessories manufacturing – earn on average \$63,900 a year, some 66 percent higher than the average in the private sector as a whole. Boston also leads the nation in university research and development expenditures at \$1.1 billion in 1997. “The Boston area—home to MIT, Harvard University, Tufts University, and Boston University—is a popular location for

² See, for example, William Booth. “A Hard Place to Call Home: Housing Crunch, High Prices May Threaten California’s Boom.” *Washington Post* (January 29, 2000): A1. Evelyn Nieves. “Many in Silicon Valley Cannot Afford Housing, Even at \$50,000 a Year.” *New York Times* (February 20, 2000).

³ Marci McDonald, “Down and Out in Silicon Valley: A Severe Housing Crisis Threatens the High-Tech Center’s Amazing Boom.” *US News and World Report* (July 19, 2000).

⁴ See Barry Bluestone and Mary Huff Stevenson. *The Boston Renaissance: Race, Space and Economic Change in an American Metropolis* (New York: Russell Sage Foundation, 2000): 23 – 50.

technology companies,” says David A. Krall, President and CEO of Avid Technology. “Boston received more than \$4 billion in venture capital investments in 1999, which will help ensure this area’s prominence in high tech.”⁶

This prosperity brings its own challenges, none more acute than the region’s severe housing crisis. Vacancy rates are now so low that home prices and rents are being bid up substantially faster than most household incomes. Since the mid-1990’s housing prices in the Boston Metropolitan region have outpaced nearly every other area in the nation, elevating the status of housing from a public policy problem to a crisis. We have a housing crisis now because of a limited supply of housing that is affordable to all households excluding those at the very highest end. Though a booming economy caused an increase of 25 percent in median household income over the past five years, house prices rose even higher in Greater Boston – 35 percent. House prices and apartment rents have been increasing for almost a decade, in some cities by as much as 44 percent *in one year*. Even with a downturn in the economy, house prices are unlikely to return to previous levels or to come down enough to be affordable to a large sector of the population unless there is a significant increase in housing supply. Indeed, if housing prices continue to rise, the housing crisis in Boston, like Silicon Valley, could pose a barrier to the future growth of the region as employers find it difficult to recruit workers and are forced to locate elsewhere.

For communities in the forefront of high-tech development such as Boston and Silicon Valley, a crisis in affordable housing raises a number of interrelated issues.

- **A lack of affordable housing can undermine continued regional economic growth.** Businesses may have difficulty attracting employees from other parts of the state or the country because of the high cost of housing. Often, businesses are forced to pay a wage premium in order to attract workers to such high cost of living communities. In many metropolitan areas, workers who provide basic services – teachers, firefighters, secretaries – cannot afford to live in the communities where they work.

⁵ The American Electronics Association. *Cyberities: A City-by-City Overview of the High-Technology Industry*. December 2000.

⁶ The American Electronics Association. News Release. “Boston is 2nd in High-Tech Employment with 235,000 Workers.” December 2000.

- **High housing costs have negative impacts on the diversity of communities.** Rising housing costs force many low-income families to leave communities where they have lived for decades, reducing the social and economic diversity of these areas. A tight rental market encourages landlords to opt out of federal housing programs or raise rents, thereby making units unaffordable to tenants on fixed incomes. The elimination of affordable rental stock can turn communities into the exclusive enclaves of higher income households.
- **Intense housing market pressures put pressure on the environment.** Most policymakers are now familiar with the problems of unchecked urban sprawl: grid locked freeways, longer commute times for workers, greater air pollution, and loss of open space. A major contributing factor to urban sprawl is lack of affordable housing in metropolitan cores. First- and second-tier suburbs often provide the only option for those seeking affordable rental housing or families seeking to purchase their first home. Affordability in these areas comes at the cost of reduced time to devote to family and community as a result of lengthy commutes and the loss of open space to development.
- **The lack of housing affordable to middle class workers prevents families from building up personal and community assets.** Housing plays a critical role in helping working families move up the economic ladder. The high cost of housing in parts of the state where jobs are most plentiful may discourage workers from relocating from areas where job opportunities are more limited and lower-paid, but where housing is less costly.

I. The Challenge Facing TeleCom City

Everett, Malden and Medford have long provided an important source of affordable housing in the region. These cities have long been home to thriving blue-collar working class communities and have served as gateway cities to immigrants for most of their histories. But these communities are now experiencing the same housing market pressures facing Greater Boston. Over the past few years rents have increased significantly, to the point that a two-bedroom apartment in the tri-city area can cost as much as \$1,600 per month. Rental vacancies are well below one percent. Between 40 and 50 percent of all renter households must spend in excess of thirty percent of their annual income to rent a two-bedroom unit in this tri-city region. This is true of households with annual incomes up to \$40,000. Housing prices have followed this trend. Between 1996 and 2000, median single-family home prices in Everett increased from \$123,000 to \$176,500; in Malden from \$140,000 to \$205,000 and in Medford from \$150,000 to \$245,000 – representing a 43 percent increase in Everett, 46 percent in Malden, and 63 percent in Medford.⁷

The success of TeleCom City will depend in large part on creating and implementing a regional plan which can meet the expected increase in housing demand so as to keep housing affordable to families with a range of incomes. According to research conducted by Mt. Auburn Associates and the University of Massachusetts Boston, TeleCom City will create between 5,000 and 8,000 new jobs in the local labor market. Over time, this may expand to as many as 16,000 new employment opportunities as industry attracts more businesses to the area. Although existing tri-city residents will fill many of these jobs, the project will no doubt attract new households to the region. We can expect that nearly all of these new tri-city households will consist of highly skilled and highly paid professionals who can afford private market rents and home prices in the area. Only a small fraction of these new immigrants – mostly lower-wage employees in single-earner households – will find themselves priced out of the current tri-city housing market.

⁷ The Warren Group, 2000. Sales figures represent all sales, including condos and residential.

Whatever their number, the new households will put stress on an already overburdened housing market. Indeed, even without new jobs created in TeleCom City, this pressure is likely to continue as individuals and families choose to locate in Malden, Everett, and Medford as an alternative to more costly housing in Cambridge, Somerville, and other cities and towns in the region.

The growth in other Boston metropolitan area cities has produced a backlash against new housing development particularly in communities around routes 128 and 495, where the high tech industry is now most concentrated. Recently, concerns about resources and open space have prompted many communities to agitate against Chapter 40B, state legislation that encourages affordable housing production in cities and towns that do not meet a minimum standard of 10 percent affordable units in new developments. This resistance can lead to zoning and regulatory changes that limit particular types of growth, or in some cases result in a moratorium on *any* new development.

Coupled with an expansion in job opportunities as a result of TeleCom City, the current housing market in the tri-city area will likely lead to a windfall in housing values for many families who own their own homes. But for other residents, mainly renters on fixed incomes, success at TeleCom City must be linked to increases in the overall supply of housing. Provisions must be made to maintain housing affordability for those who cannot afford to enter the home buying market.

II. Purpose and Outline of the Study

The purpose of this study is twofold: (1) to assess the housing needs of new households that may migrate to the tri-city area to take a job at TeleCom City and (2) to offer potential strategies to meet the housing needs of new and existing residents. The study consists of four major components.

1. *Employment Profile*: The following chapter (1) Assesses the national earnings distribution of high-tech employees across 12 high-tech and telecommunications industries for 1998 (2) Adjusts the

national data for inflation and Massachusetts earning differentials, and (3) Transforms individual earnings data into household incomes for estimating housing demand.

2. *TeleCom City and the Tri-City Housing Market:* Based on these employment, earnings, and income projections, Chapter 3 identifies the number and type of housing units needed to accommodate the potential workforce expansion spurred by TeleCom City. The impact of this immigration is not limited to potential TeleCom City employees. This section also discusses the likely effect of TeleCom City on current residents. Potential “winners” include homeowners and small businesses abutters. Households most likely to lose out as a result of this economic expansion include renters, particularly renters and owners on fixed incomes, and non-TeleCom City working families renting in owner-occupied two- and three-family homes.
3. *Barriers to New Housing Construction:* Chapter 4 identifies barriers to the production and rehabilitation of new market rate and affordable housing.
4. *New Housing Strategies:* Based on an analysis of the housing needs of new and existing tri-city residents Chapter 5 identifies numerous housing programs and specific strategies to meet housing demand and prevent economic displacement and gentrification in the current housing market.

Chapter 2: High-Tech Employment and TeleCom City

That high-tech industries produce better than average paying jobs has become a key piece of conventional wisdom in the New Economy. State and local governments make great efforts to attract high tech industries to their state and cities based on the assumption that they will bring with them a large number of high-paying jobs. A number of studies show that jobs in high-tech are indeed well paid. Median wages in every high-tech industry in 1997 exceeded the median for all industries, according to Hecker (1999). Relatively little attention is paid, however, to the large number of low- to average-wage jobs produced alongside the high-wage jobs in the New Economy. "High tech does produce good jobs," states University of Massachusetts in Boston Professor Enrico Marcelli, "but it has a growing bottom in terms of the labor market."⁸ The demand for high skilled and highly credentialed workers in the New Economy is accompanied by numerous lower skilled and lower-paying jobs that can be had with a high school or community college education.

This chapter provides a national profile of the kind of high-tech industries and occupations likely to locate in TeleCom City. Based on Occupational Employment Statistics (OES) survey data, the chapter first outlines average sizes and salaries of occupations within and among 12 high tech and telecommunications industries. We supplement these findings with Current Population Survey (CPS) data in order to assess the average *household* income of employees in the high-tech sector. The OES and CPS data is combined to create a matrix of housing need generated by the creation of high-tech jobs in TeleCom City.

I. High Tech Industries

Little consensus exists on the definition of a high-tech industry. The definition of the high-tech industry varies greatly depending on what combination of products and services are selected from the Standard Industrial Classification (SIC) codes, a system used by the US government to classify businesses by

industry and to calculate the economic activities of these industries within the US economy. Collecting sound statistical data on the industry is further complicated by the fact that many of the new industries in the high-tech area are not fully captured by current United States government statistics. This is largely because many of these industries did not exist when the SIC codes were originally published in 1941 or when it was revised in 1987. For example, the 1987 SIC codes do not isolate the nascent Internet services industry, a major source of new jobs in the United States.⁹ The present SIC codes used by the government to describe the industrial and agricultural economy of the 1940s fail to capture the dynamic United States economy in the 21st century.

A wide variation exists among experts about what should be classified as "high-tech." The Congressional Office of Technology Assessment defines high tech firms as those "that are engaged in the design, development, and introduction of new products and innovative manufacturing processes or both, through the systematic application of scientific and technical knowledge." Markusen, Hall and Glassmeier define high tech industries on the basis of occupational profile, ones in which the proportion of "engineers, engineering technicians, computer scientists, life scientists, and mathematicians exceeds the manufacturing average."¹⁰ The Bureau of the Census identifies high-tech industries as those producing new or leading-edge technologies based on two broad measures of resources utilized: 1) employment of scientific and technical personnel and 2) research and development intensity. Hecker applies this approach to identify 31 high tech industries divided into three categories:¹¹

1. Industries traditionally referred to as high-tech such as Search and Navigation Equipment.
2. Employment in non-high-tech industries generated by the purchases of goods and services by high-tech industries for use as inputs to their production.
3. Scientists, engineers, and technicians in non-high-tech industries who may create and apply new technologies regardless of their industry of employment.

⁸ Thomas Kupper, "Most San Diegans Not Benefiting From High-Tech Boom, Study Finds." *The San Diego Union Tribune* (21 September 2000): A1.

⁹ The North American Industrial Classification System (NAICS) will address some of the above-mentioned problems. It will include a new "information" sector that will cover the software publishing industry and online services .

The American Electronics Association uses 45 SIC codes to define the high-technology industry. They fall into three broad categories – high-tech manufacturing, communications services, and software and computer-related services.

For the purposes of this study we use a much narrower definition of high tech and telecommunications industries than these studies. Our sample includes nine manufacturing and service industries traditionally defined as high-tech, as well as three telecommunications industries. The industry classifications are based on the three-digit industry group level codes in the 1987 edition of the *Standard Industrial Classification Manual*. Table 2.1 lists the industries contained in our sample, categorized under three types of divisions, with the Standard Industrial Classification (SIC) code listed in parentheses.

Table 2.1: TeleCom City High Tech Industries

Manufacturing

Computer and Office Equipment (357)
Communications Equipment (366)
Electric Components & Accessories (367)
Miscellaneous Electrical Machinery, Equipment and Supplies (369)
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Systems, Instruments and Equipment (381)
Laboratory Apparatus and Analytical, Optical, Measuring, and Controlling Instruments (382)

Communications

Telephone Communications (481)
Cable and Other Pay Television Services (484)
Other Communications Services (489)

Services

Computer Programming, Data Processing, and Other Computer Related Services (737)
Engineering, Accounting, Research, Management, and Related Services (871)
Research, Development and Testing Services (873)

¹⁰ Ann Markusen, Peter Hall, and Amy Glasmeier. *High Tech American, the way, how, where, and why of the sunrise industries* (Boston: Allen and Unwin, 1986): 14-15.

¹¹ Daniel Hecker. "High Technology Employment: A Broader View." *Monthly Labor Review*. (June 1999): 18-28.

A. *High Tech Industry Wages*

This section summarizes the average yearly salaries for employees within the sample of 12 high-tech industries we determined would be most likely to relocate to TeleCom City. The data is derived from the national 1998 Occupational Employment Statistics (OES) survey. The OES Survey is an annual nationwide survey conducted by the Bureau of Labor Statistics that provides employment and wage estimates for over 700 occupations within all non-farm industries.

The OES calculates occupational mean wage estimates by summing the wages of all the employees in a given occupation and then dividing the total wages by the number of employees. Three adjustments were made to mean hourly wage provided by the OES: 1) To convert mean hourly wages into mean annual salaries we multiplied the wage by 2,080, based on a 40 hour work week; 2) To adjust for inflation, average annual salaries from 1998 were adjusted by 7.2 percent between 1998 and 2001;¹² 3) We increased national average annual wages by 10 percent to account for the higher average wages paid to Massachusetts workers.¹³ Table 2.2 illustrates the number of employees in each industry and the average yearly salary within our sample of 12 high-tech and telecommunications industries.

¹² Inflation rate of 7.2 is computed using Consumer Price Index (CPI) inflation data for 1998 (1.6 percent), 1999 (2.2 percent) and 2000 (3.4 percent). Inflation statistics can be found at minneapolisfed.org/economy/calc/hist1913.html.

¹³ This figure is calculated by first dividing the mean annual wage of the entire OES national sample by the mean annual wage of the entire Massachusetts sample, a 0.918 difference. To determine whether the ratio is higher among high-tech industries, we divided the mean national annual wage of 10 occupations within our high-tech industry sample by the mean Massachusetts annual wage for those same occupations, a 0.89 ratio. Averaging these two ratios, our US/MA adjustment is 10 percent

Table 2.2: TeleCom High-Tech Industries

	US Total Employment	Average Annual Mass. Adjusted Salary
Computer and Office Equipment	379,730	\$53,936
Communications Equipment	276,870	\$46,185
Electric Components and Accessories	643,950	\$42,481
Miscellaneous Electrical Machinery, Equipment and Supplies	144,040	\$37,600
Search, Navigation, Guidance, Aeronautical Instruments	161,240	\$57,148
Laboratory Apparatus and Analytical, Optical, Measuring	299,680	\$44,713
Telephone Communications	1,027,650	\$48,981
Cable and Other Pay Television Services	191,920	\$38,802
Communications Services	24,560	\$51,605
Computer Programming, Data Processing and Other Computer Related Services	1,662,750	\$56,829
Engineering, Accounting, Research, Management	929,970	\$53,199
Research, Development and Testing Services	620,550	\$50,379

Source: 1998 Occupational Employment Statistics (OES) Survey

As illustrated in Table 2.2, computer programming, data processing and other computer related services is the highest paid high-tech industry in our sample (with an average annual salary of \$56,829). Industries with the lowest average annual salaries in our sample include cable and other pay television services (with an annual average salary of \$38,802) and the manufacturing of miscellaneous electrical machinery, equipment and supplies (with an average annual salary of \$37,600).

B. High-Tech Wage Distributions

Table 2.3 shows the number of employees within seven earnings categories among all high-tech workers in the national OES sample. The second column indicates the percentage of employees within each earnings category.

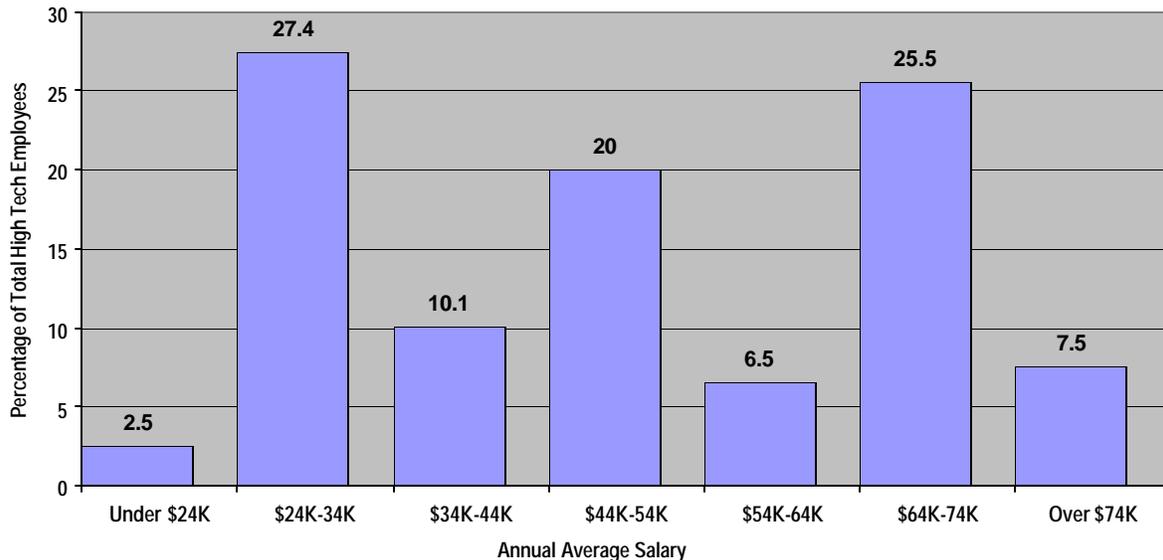
Table 2.3: Earnings Distribution in US High-Tech Industries

Average Annual Earnings	US Total Employment	Percentage of US Employees
\$24,000 and below	156,100	2.5
\$24,001 – \$34,000	1,742,180	27.4
\$34,001 – \$44,000	644,600	10.1
\$44,001 – \$54,000	1,300,610	20.5
\$54,001 – \$64,000	412,720	6.5
\$64,001 – \$74,000	1,624,330	25.5
\$74,000 and over	477,680	7.5

Source : 1998 Occupational Employment Statistics (OES) Survey

Table 2.6 and Figure 2.1 show a bimodal distribution of earnings. In other words, most earnings in the high tech industry cluster around two categories: \$24,000 to \$34,000 and \$64,000 to \$74,000.

Figure 2.1: Earnings Distribution in US High-Tech Industries



These results challenge the conventional wisdom that all high-tech jobs are highly paid and require advanced skills and education. Our analysis indicates that a significant percentage of high-tech employees are highly paid, with a third earning over \$64,000 a year. This category include the “core” information technology workforce, including programmers, systems analysts, and computer engineers. Equally significant, however, is the fact that nearly 30 percent of all high-tech workers earn, on average, \$34,000 a year or less. While the high-tech industry does produce many high-skilled, high-paid jobs, like

all industries it also relies on a large number of support professionals and lower-skilled jobs to function efficiently.

II. High-Tech Occupations

We can also look at salary information by occupation, both across and within these twelve industries. Table 2.4 lists the kinds of occupations within each wage category. Common jobs in the \$24,000 to \$34,000 category include clerical and administrative support, precision assemblers, machine setters, operators and tenders, and chemical technicians and technologists. Examples of jobs in the second largest category, \$64,000 to \$74,000, include computer programmers, systems analysts, engineers, and communications, transportation and utilities managers.

Table 2.4: Sample Occupations Within Each Wage Distribution

Annual Wage	Sample Occupations
\$24,000 and below	Clerks; Phone Solicitors; Data Entry Keyers.
\$24,001 – \$34,000	Clerical and Administrative Support; Precision Assemblers; Other Machine Setters, Operators and Tenders; Inspectors; Chemical Technicians and Technologists.
\$34,001 – \$44,000	Engineering and Related Technicians and Technologists; Computer Programmer Aides; Precision Metal Workers.
\$44,001 – \$54,000	Mechanics, Installers and Repairers; Sales Workers; Computer Support Specialists.
\$54,001 – \$64,000	Physical Scientists; Salespersons in Scientific Products and Services; Data Base Administrators.
\$64,001 – \$74,000	Computer Programmers; Systems Analysts; Engineers; Communications, Transportation, and Utilities Managers; Systems Researchers.
\$74,000 and over	General Managers and Top Executives; Engineering, Mathematical, and Natural Sciences Managers; Financial Managers; Industrial Production Managers.

Source: 1998 Occupational Employment Statistics (OES) Survey

An examination of occupational wages across industries shows that no industry tends to have consistently higher or lower wages. Average annual salaries for General Managers and Top Executives, for example, are highest in the Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Systems, Instruments and Equipment industry. Yet the same industry pays the lowest salaries to Computer Programmers. Likewise, Systems Researchers in the Communications Equipment manufacturing industry make have the highest average annual salaries while Computer Engineers in the same industry show the lowest wages.

Appendix 2 provides a more in-depth examination of occupational wages within two industries: Communications, including Telephone Communications and Cable and Other Pay Television Services, and Computer Programming, Data Processing, and Other Computer Related Services.

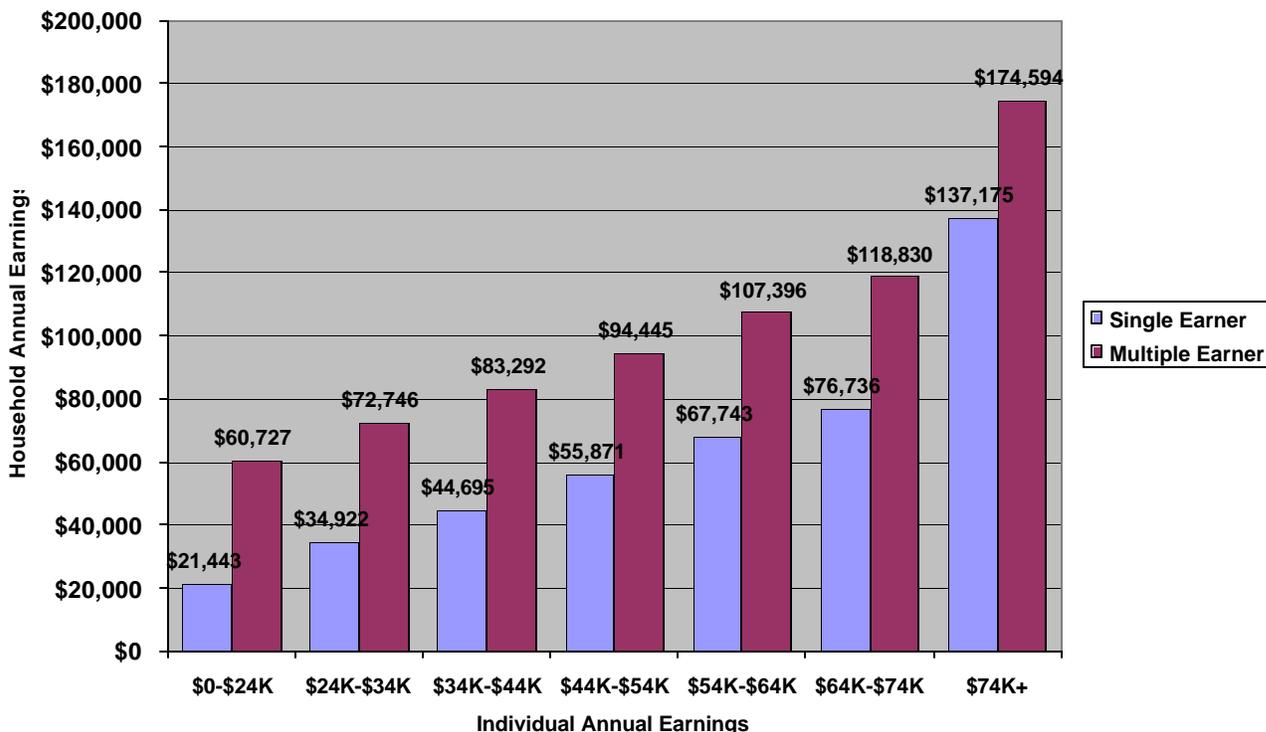
III. High Tech Wages, Household Income and Family Size

Most employees' annual incomes exceed their salaries, drawing on income from real estate, financial investments, and other sources. A majority of employees also live in households with multiple earners, most commonly with a working spouse. To assess the housing needs and housing affordability of potential employees of TeleCom City therefore requires that we determine the average *household* incomes of high-tech workers. The Current Population Survey (CPS) provides one of the most recent and extensive sources of such data. The CPS survey collects detailed information on 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics. In addition to a monthly survey, the Bureau of the Census also gathers more extensive information on these households in yearly March supplements.

Based on the results of the March 2000 CPS Supplement survey, we first examined the percentages of employees who live in single earner versus multiple earner households. We determined that 25 percent of all employees nation-wide live in single earner households and 75 percent in multiple earner

households. To calculate the mean individual annual earnings of employees with our seven income categories, we multiplied the mean number of hours worked per week and the mean number of weeks worked per year. We then calculated the mean household incomes in each of our seven income categories. Both were done separately for single-earner and multiple-earner households. Figure 2.2 illustrates the results of this analysis.

Figure 2.2: National Single/Multiple Earner Household Incomes by High-Tech Annual Earning Categories



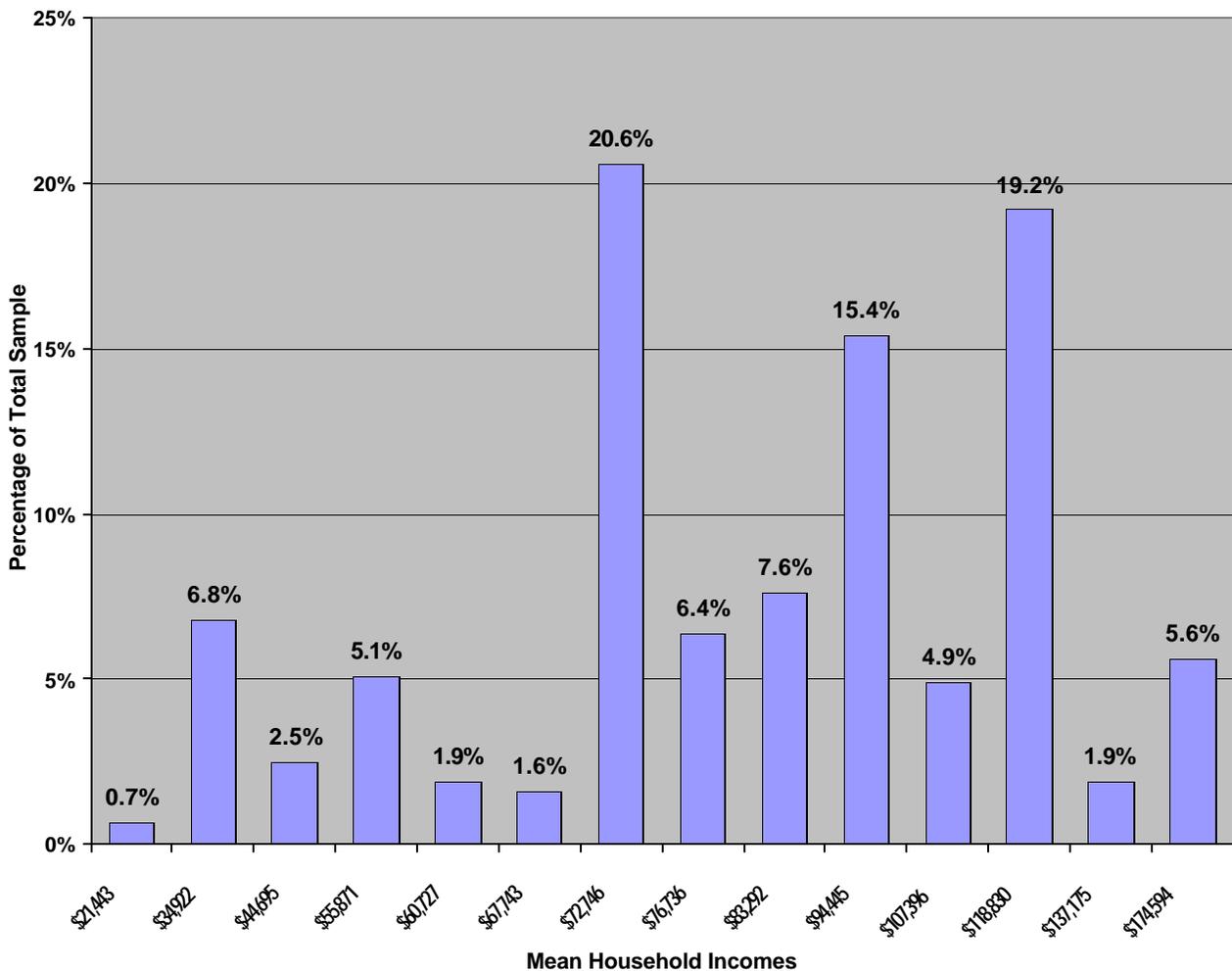
Source : Current Population Survey March 2000 Supplement

A significant gap in household incomes exists between single-earner and multiple-earner households. This difference is most striking among those individuals earning under \$24,000. In this wage category the average household income for single-earner households is \$21,443, compared to \$60,727 for multiple-earner households. This difference can be explained by a number of different factors. For one, the salary of an individual earning less than \$24,000 a year might supplement a spouse's primary income. For example, a household might include a family of four in which one parent earns \$18,000 a year doing data

entry for an information processing firm and the other parent earns \$42,000 a year as a computer support specialist. Second, an individual earning less than \$24,000 may be a high-school student, recent high-school graduate, or single parent living with his or her parents. Lower wage employees may also be part of multiple-family households in which the combined income may exceed \$60,000.

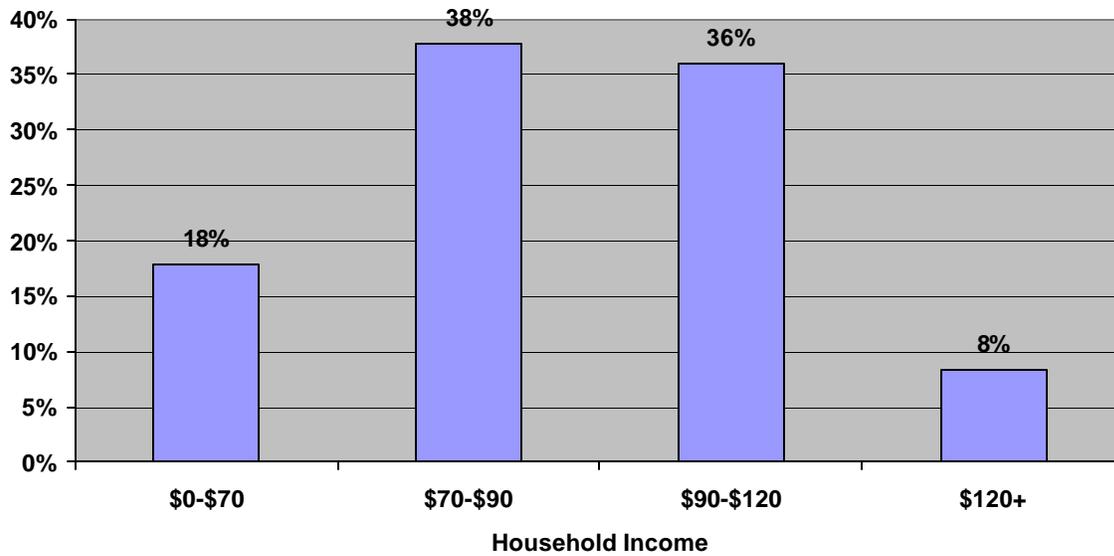
In order to inflate high-tech employees earnings to appropriate household income, we divided the mean annual earnings of individuals by their mean household income. This household income/individual earnings ratio was computed separately for single-earner and multiple-earner families.

Figure 2.3: Distribution of Household Income, High-Tech Industries



If we cluster these high-tech employee households within four income categories, as shown in Figure 2.4, we find that nearly 75 percent fall between \$70,000 and \$120,000.

Figure 2.4: High-Tech Household Income Distribution



Based on this distribution of high-tech employment, we can begin to determine the impact of employment growth caused by TeleCom City on the tri-city housing market.

Chapter 3: TeleCom City and Tri-City Housing

Economic pressure resulting from the development of TeleCom City will constitute just one of the many factors influencing the housing markets in Malden, Medford and Everett. Our analysis of potential TeleCom City employees and their households suggest that if successful, the resulting housing demand will require housing units for an additional 525 households over the next 10 years. However, as long as house prices and construction costs continue to escalate in the regional market and vacancy rates remain low, tri-city area residents will be facing increasingly high rents and competition for a limited number of housing units *with or without* TeleCom City.

Over the *next* ten years, the tri-city area will need to construct approximately 2,900 new units of housing to cope with expected total demand. Of these units, 1,200 are needed to accommodate normal household growth. Another 1,180 are needed to raise vacancy rates to optimal levels to moderate housing price inflation. The remaining 525 units are needed for the expected new TeleCom City workers and their families. As such, TeleCom City households are expected to account for about 18 percent of the needed new housing stock in the tri-city area over the coming decade.

I. New TeleCom City Residents

A person's choice of residence depends on many considerations, including workplace location, availability and cost of transportation, housing price, lifestyle choices, and neighborhood and school quality. Since travel to work is costly in time and money, workplace location plays a central role in such decisions.¹⁴ The geographical housing demand of new TeleCom city workers within different income categories is impossible to predict with absolute certainty. However, there has been a significant amount of research on the locational choices of high-tech companies and "New Economy" employees. New Economy companies tend to locate where they can attract talent and often that is in areas where other companies

¹⁴ Urban economists have documented this preference. See, for example, Edwin Mills and Bruce Hamilton. *Urban Economics*. New York: Harper Collins, 1997.

have already established a base of human capital on which they can draw. Their employees are often young, mobile, independent, and urban and are looking for an environment that will support a high-tech lifestyle. TeleCom City will need to respond to this demographic in order to successfully compete with other high-tech markets. Locally, TeleCom City can draw on the labor pool of high-tech workers based in cities and towns along Routes 495 and 128 as well as from Cambridge and Boston. These households would not necessarily need to move residences to work in the tri-city area, but given comparatively affordable house prices and increasingly attractive communities, ultimately many may choose to relocate.

Other things being equal, people prefer to live close to their place of employment. To determine the percentage of new TeleCom City employees that might relocate to the tri-city area, one can take into account the following factors:

1. Our analysis of high-tech employment in Chapter 2 suggests, contrary to conventional wisdom, that the high-tech and telecommunications industries produce a large number of entry level and lower-skilled jobs along with higher-paid, high-skilled occupations commonly associated with the high-tech industry. Tri-city residents possess the kind of skill sets that many of these new high-tech and telecommunications jobs require.
2. Because TeleCom City is easily accessible by public subway and commuter lines and bus routes of the Massachusetts Bay Transportation Authority (MBTA), TeleCom City firms will likely attract a large number of commuters from Boston and surrounding communities.
3. Approximately a quarter of all high-tech employees live in multi-earner households with annual incomes above \$120,000 a year. While the tri-city area has some housing that requires this amount of annual income, more affluent communities to the north and west, such as Marblehead, Situate, Concord, and Lexington, may attract these higher-income households.

Few studies have attempted to determine the rate of residential migration to the tri-city area due to commercial and office development. In the absence of such data, a linkage study conducted for the City of Cambridge can serve as an imperfect proxy. The purpose of that study was to estimate the impact of private office development on the city's housing market. Based on a survey of workers employed in 20 office buildings in Cambridge, Kayden and Pollard (1988) found that 12 percent of respondents lived in Cambridge. Of the 12 percent of Cambridge resident office employees, 34 percent reportedly moved to Cambridge because of a job taken in a Cambridge office building. Thus, of the total respondents, only 4 percent were new resident employees, i.e. they moved to Cambridge because of their jobs.¹⁵

If we apply such a baseline percentage to TeleCom City, we might also consider the fact that because Cambridge housing prices are higher than in the tri-cities, a greater percentage of Cambridge employees may have been priced out of the local housing market. Subsequently we adjusted Kayden and Pollard's four percent residential migration rate one percentage point for each of these factors, resulting in a migration rate of seven percent of all new TeleCom City employees. Assuming that TeleCom City will attract 7,500 new jobs, we predict that seven percent of these employees – or 525 households – will relocate to the tri-city area.

II. Determination of Housing Needs for New TeleCom City Worker Households

To what extent can this current tri-city housing market meet the needs of the approximately 525 new households that may relocate to the area to fill jobs at TeleCom City? To determine how many households would have difficulty renting or purchasing a home in the tri-city area over the next ten years, we compared household income and purchasing power with average rents and home prices in the tri-city area. Home prices have increased rapidly in the past several years. According to home sales price trends compiled by The Warren Group in 2000, the median sale price for single-family homes in Everett

¹⁵ As Kayden and Pollard suggest, however, Cambridge office development may have resulted in greater residential migration to the City than the percentage indicated by the survey results. First, a survey of current office employees does not reach persons who moved to Cambridge because of a job in a Cambridge office building but who no longer work there. Second, office development creates additional non-office jobs to service office employment, and some of these workers may also move to the City.

was \$176,500, \$205,000 in Malden, and \$245,000 in Medford. At the same time, rental costs have also skyrocketed. Average rental costs for a one-bedroom apartments ranged from \$700 in Everett to \$1,250 in Medford; two-bedroom range from \$900 in Everett to up to \$1900 in Medford.¹⁶

To give one hypothetical scenario for the kind of housing needs of households who might migrate to the tri-city area to fill a job at TeleCom City, we created two imaginary profiles of a typical TeleCom City employee and his or her household. The two profiles outlined in Figure 3.1 represent the two most common mean household incomes in our sample – Employee A representing 20.6 percent of all high-tech households and Employee B representing 19.2 percent. Based on these computations of affordable rental and housing prices, we can determine possible housing options for a majority of TeleCom City workers from the standpoint of these two employees.

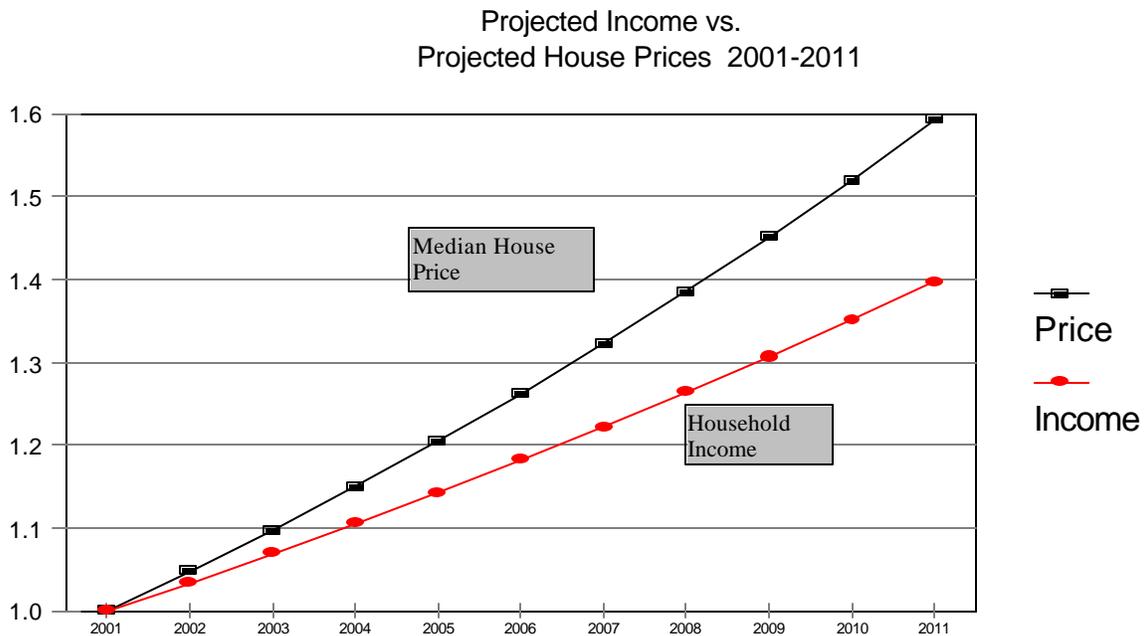
Table 3.1: Two Profiles of Typical TeleCom City Employees

Employee A	Employee B
<ul style="list-style-type: none"> • Employee A earns between \$24,000 and \$34,000 a year as a chemical technician. ▪ Employee A lives with spouse and two teenage children. ▪ Their combined annual household income is \$72,746. 	<ul style="list-style-type: none"> • Employee B earns between \$64,000 and \$74,000 a year as a systems analyst. ▪ Employee B lives with spouse, mother-in-law and one adult child. ▪ Their combined household income is \$118,830.
<p style="text-align: center;">Housing Options</p> <ul style="list-style-type: none"> ▪ Employee A’s household can afford rent of \$1820 spending 30 percent of income on rent. ▪ Employee A’s household can afford a house priced at \$218,200. With a 10 percent down payment and 7 percent interest rate, estimated PITI is \$1,441. 	<p style="text-align: center;">Housing Options</p> <ul style="list-style-type: none"> ▪ Employee B’s household can afford rent of \$2870 spending 30 percent of income on rent. ▪ Employee B’s household can afford a house priced at \$356,500. With a 10 percent down payment and 7 percent interest rate, estimated PITI is \$2,345.

¹⁶ Information provided by Section 8 coordinators in each city’s Public Housing Authorities.

A. *Housing Needs Over Time*

The housing demands that new TeleCom City employee households will place on the tri-city market will not happen all at once, but will be spread out over the duration of TeleCom City development. Therefore, we calculated housing needs over a ten-year period (2001-2011), using an annual growth rate of 3.4 percent for household income and 4.76 percent for housing prices. The 3.4 percent rate represents the average increase in nominal wages and salaries for the period 1988-1998. The 4.76 percent housing price inflation rate is based on a price-income elasticity of demand of 1.4 – the rate estimated for Greater Boston over the 1995-1999 period.¹⁷ This time series analysis allows us to take into account the fact that housing prices have been increasing faster than incomes in this region. It is likely that some middle-income families that can currently afford to rent or buy a home in the tri-city area would be priced out of the market by 2011. Figure 3.1 demonstrates the growing gap between household incomes and housing prices *if housing supply continues to lag behind demand*.



¹⁷ The data for wage and salary increases is found in U.S. Department of Labor, Bureau of Labor Statistics, Economic Indicators, March 2001; the income-price elasticity figure is from Barry Bluestone, Gretchen Weismann, and Charles Euchner, *A New Paradigm for Housing in Greater Boston*. Boston, CURP, September 2000.

B. *Affordability Deficits – Rental and Homebuyer Households*

Numerous factors – including home price, available supply, and personal choice – determine whether new TeleCom City households will enter the rental market or purchase a home. For our calculations we assume that 39 percent of households will be renters and 61 percent homebuyers. Although this renter/owner ratio is more skewed towards homebuyers than the ratio of renter/owners in the tri-cities as a whole (53 percent), it is justified by the higher-than-average household incomes of tri-city workers. Based on this ratio, we divided our migrant population (525 new TeleCom City households) into potential renter households and homebuyer households based on income. Assuming that renters have lower household incomes on average, our rental subgroup consists of all households with incomes of \$72,746 – 39 percent of new TeleCom City employee households, or 205 households, are likely to rent an apartment in the tri-city region.

Households also have different housing needs according to their size. We assume in this analysis that all multiple-earner households will require larger units – two or more bedroom units for both renter and homebuyer households.¹⁸ In addition because some single-earner households will include more than one person, we adjusted our calculations to take into account the 12 percent (or 14 households) of these single-earner households that could be made up of a single parent with children – households that would require larger units. We divided these 14 single-earner, multiple-person households equally across income categories.¹⁹

We illustrate the housing unit deficit that would be experienced by *new TeleCom City households*, based on average household earnings at TeleCom City, the existing supply of apartments and homes, and the cost of this housing in the tri-city region. Table 3.2 illustrates how many households likely to rent housing

¹⁸ Not all multiple-earner households *require* 2-bedroom apartments – notably two professionals without children. But two incomes put them in the market for 2-bedroom units.

¹⁹ The 12 percent is based on data from the 1998 *American Housing Survey for the Boston Metropolitan Area*. US Department of Housing and Urban Development and US Department of Commerce.

(39 percent of our sample, or 204 households) will be unable to afford average market rents in the tri-city area in the next ten years.

Table 3.2: Meeting the *Rental* Demands of TeleCom City Households

Mean Household Income 2001	TeleCom Sample		Affordable Rent 2001	Average Market Rent 2001 ¹		Affordable Unit Deficit 2001-2011	
	% total sample	# new households		1 BR	2+ BR	1BR ²	2+BR
\$21,443	0.7%	4	\$536	\$875	\$1,300	1	3
\$34,922	6.8%	35	\$875	\$875	\$1,300	17	3
\$44,695	2.5%	13	\$1,117	\$875	\$1,300	0	3
\$55,871	5.1%	27	\$1,397	\$875	\$1,300	0	0
\$60,727 ^M	1.9%	10	\$1,518	\$875	\$1,300	0	0
\$67,743	1.6%	8	\$1,694	\$875	\$1,300	0	0
\$72,746 ^M	20.6%	107	\$1,819	\$875	\$1,300	0	0
TOTAL	39%	204				18	9

Notes: ¹ = Average market rent reflects the midpoint of the rent ranges provided by housing authorities in the tri-city region in 2001. ² The letter ^M signifies a multiple earner household.

According to this analysis, 27 new households relocating to the tri-cities area to take a job at TeleCom City will be unable to afford market prices. Even with a mean household income of \$34,922, most of these employees would not be able to rent an apartment in the tri-city area if they wanted to spend no more than 30 percent of their income on housing.²⁰

Table 3.3 illustrates the affordability of median priced homes and condominiums in the tri-city area for new TeleCom City employees at different mean household income levels. We used median sales prices of condominiums for single-earner households, assuming that condominium units would be more appealing to younger, single employees, and median sales prices for residential homes as the standard

²⁰ The average market rents reflect current apartment rents, while the deficit reflects the total unit deficit between 2001-2011. For this reason, it may appear that most households earning \$34,922 can afford market rents, when in our projections rents will become less affordable over time.

for multiple-earner households.²¹ The median sales prices for residential and condominiums represents the mean prices among all three cities. Prices differ among the three member communities, with median home and condominium prices highest in Medford and lowest in Everett. Most of the households in the homebuying sample consist of multiple-earners – 277 of 321, or 86 percent.

Table 3.3: Meeting the *Homebuying* Demands of TeleCom City Households

Mean Household Income 2001	TeleCom Sample		Affordable Home Sale Price 2001 ¹	Median Tri-City Sales Price, 2001 ²		Affordable Unit Deficit 2001-2011	
	% of total sample	# of new households		Condo	Residential	Condo	Residential
\$76,736	6.4%	34	\$245,716	\$136,600	\$254,700	0	0
\$83,292 ^M	7.6%	40	\$267,271	\$136,600	\$254,700	0	16
\$94,445 ^M	15.4%	81	\$303,940	\$136,600	\$254,700	0	0
\$107,396 ^M	4.9%	26	\$346,520	\$136,600	\$254,700	0	0
\$118,830 ^M	19.2%	101	\$384,113	\$136,600	\$254,700	0	0
\$137,175	1.9%	10	\$444,427	\$136,600	\$254,700	0	0
\$174,594 ^M	5.6%	29	\$567,453	\$136,600	\$254,700	0	0
Sub-Total	61%	321				0	16

Notes: ¹ Affordable home sale price is based on the assumption that 30 percent of monthly household income is available for mortgage payments, with a 10 percent down payment. We have used an 8% interest rate and a 30-year amortization schedule. Over the past 5 years, the average 30-year interest mortgage rate, combined with the average of adjustable rates of various kinds, is approximately 8%. The affordable home sale price includes principal, interest, taxes, and insurance. See Appendix IV for a detailed pro forma. ² Source: The Warren Group, 2000. Prices reflect overall residential prices as of December 2000, and include single and multiple-family homes.

As illustrated in Table 3.5, a majority of the households of new TeleCom City employees can likely afford to purchase a condominium or a residential home in the tri-city area. An exception includes those multiple-earner households with annual incomes of up to \$83,292. While these households would find single-family homes just within their price range in 2001, we predict that by 2008 households with this income would find average home prices in the tri-city unaffordable. Taking into account differences in home prices in the three cities, these households may find their choice of neighborhoods diminished over time: whereas in 2001 they could afford housing in any of the three cities, by 2008 they might be limited to searching in Everett or more affordable areas of Malden.

²¹ Again, we do not assume that all multiple-earner households will chose to buy single family homes – many two-income young professional couples are in the condominium market. Nor do we assume that no single-earner

In sum, our analysis demonstrates that the existing housing stock is affordable for the majority of the 525 new households that are expected to relocate to TeleCom City. Based on projections of current market rents and home prices, 12 percent of the 525 new TeleCom City employees who choose to move to the tri-city area (43 households) will face a housing affordability problem.²² Of these, 27 are expected to be renters and 16 would presumably be in the home buying market. Employees in single-earner households with incomes less than \$34,000 will experience the most difficulty in renting units in the tri-city area. Employees in multiple-earner households with annual incomes of up to \$83,000 will find themselves priced out of much of the tri-city market over time – if new housing supply does not lead to a moderation in housing price inflation.

households could afford his or her own single family home. These are only generalizations used for our analysis.

²² Renters are assumed to be able to pay 30 percent of their annual income in rent; homeowners are assumed able to pay 33 percent of income on mortgage and down payment. We assume that the 7,500 new TeleCom City jobs are created at a rate of 750 per year for ten years and that approximately 53 new TeleCom City households choose to locate in the tri-city area each year.

III. Meeting New Housing Demand

It is important to note that even if the Commission or its supporters succeed in developing new housing units to meet the needs of 525 new resident employees generated by the development of TeleCom City, this migration will still have an impact on the existing tri-city housing market. We can assume that these 525 expected new households, a majority of whom have incomes above the local median, will increase the demand and competition for housing and thus place upward pressure on housing prices. This increased demand exacerbates pressure put on the market by natural increases in household growth and a limited supply of units. Thus the Task Force charged us with reviewing the broader housing market in the tri-city area and we present this analysis for the review and consideration of the many individuals and agencies responsible for housing policy and development in the tri-city area.

For housing supply to meet projected demand so as to moderate home prices, a sufficient number of units must be produced in the tri-city area to:

- Increase the vacancy rates of owner-occupied and rental housing to more optimal levels;
- Meet the demand generated by expected new household growth independent of TeleCom City growth;
- Construct sufficient units to house new TeleCom City employees and their families attracted to Malden, Everett, and Medford.

When vacancy rates are at a normal rate – indicating that an ample of supply of housing is available in the marketplace – demand elasticities are relatively low. Essentially, as family incomes rise, there is a sufficient supply of housing available to keep price inflation in check. However, as vacancy rates decrease, the demand elasticity tends to increase as families with rising incomes bid up the price of housing, often substantially.

The tri-city area is facing significant housing market pressure. Regional economic prosperity has brought vacancy rates down to the 3 percent range for rental properties and 1 percent for owner occupied units in Malden, Medford and Everett. At this level, the demand elasticity appears to be approximately 1.4.²³ A 10 percent increase in family income leads to a 14 percent increase in housing prices. As long as vacancy rates remain low in the face of rising family incomes, more and more housing will be priced beyond the reach of more and more households. Currently no less than 39 to 43 percent of all existing renters of two-bedroom apartments in the tri-city area are paying more than 30 percent of their annual incomes in rent.²⁴ Clearly, this proportion would increase with the rise in housing costs anticipated in our time series analysis. At the current elasticity rate, prices and rents could rise as much as 40 percent *faster* than family incomes.

The key to slowing the pace of housing price and rent increases, therefore, is to boost vacancy rates by adding to the supply of housing. The question is, by how much?

We can get a rough answer to this question by determining how much additional housing needs to be produced in order to bring vacancy rates up to the more optimal 6 percent rate for rental units and 2 percent for owner occupied housing. Given the existing number of rental and owner occupied units in the tri-city area, the respective numbers are 857 new rental units and an additional 323 owner-occupied units – or a total of **1,180 units** over the next ten years.

This number, however, does not take into consideration any population increase or growth in the number of households. The 1,180 additional units would only bring us back to more optimal vacancy rates if the number of households in the region were stable. But this is not the case. Although population trends in the three communities show a steady decline from a combined total of nearly 147,000 in 1990 to a little over 143,000 persons in 1999, during that same period the number of households increased somewhat

²³ The 1.4 percent “elasticity” is based on the fact that between 1995 and 1999 median housing prices across the region rose by 35 percent in the face of a 25 percent increase in median family income. While not strictly a “point” elasticity, this ratio of 35 to 25 percent provides a good approximation to an income elasticity of demand.

²⁴ According to BC Stewart and Bay Area Economics. 2000. North Suburban Consortium Five-Year Consolidated Plan.

from 58,300 to nearly 60,000 households. These trends reflect a decline in the average household size as area households have aged and their children have left home and as new smaller households moving into the area have replaced larger households. This is supported by demographic data that shows significant proportions of residents under age 20 and aged 65 and older.²⁵

According to projections made by the Metropolitan Area Planning Council, the tri-city area should experience a 0.2 percent annual growth rate in the number of households.²⁶ Over the next ten years, Malden, Medford and Everett would need to add a little over 120 housing units a year just to account for an expected increase in the number of households. This translates into a ten-year total of **1,200** new units to account for normal household growth.

Finally, added to this natural household growth are the predicted **525** new households that may move to the tri-cities to take a position at TeleCom City.

Adding these three components together yields a total ten-year production goal of approximately **2,900** units (see Table 3.3).

Table 3.3: Additional Housing Units Needed in the tri-city Area, 2001 – 2011

Units need to account for normal household growth	1,200
Units needed to raise vacancy rate	1,180
Units needed to meet the demand of new TeleCom City households to tri-cities	525
Total additional housing units needed	2,905

How likely is it that this goal will be met? Historical production rates have not kept up with household growth, let alone the number of units required to raise rental vacancy rates. Between 1990 and 1999, the cities of Everett, Malden, and Medford combined produced 558 new units of housing. However, due to

²⁵ Data derived from Claritas, Inc. Bay Area Economics, 1999.

²⁶ Metropolitan Area Planning Council. 2000. *Household Forecast*.

market pressure and policy considerations, this production rate dramatically increased in 2000 and is poised to continue if current development plans are realized.

The following are projections of major housing development projects aggregated from the planning and development offices of the three cities:

Table 3.4: Additional Housing Units Built or Planned in the tri-city Area, 1999 – 2005

Maplewood Place Assisted Living (1999)	98
Cliffside Commons (2000)	295
Lafayette School (2001)	12
Pearl Street (2001)	24
Waite Street Extension (2001)	60
Crescent Street Condos (2002)	76
Lewis School (2002)	8
Mountain View Estates (2002)	53
Glenwood and Belmont Schools (2002)	75
Rowe Quarry/Overlook Ridge (2002-2003)	1,170
Fidelity (2002-2003)	210
Pleasant Street Apartments (2002-2003)	204
Old Everett High (2004)	100
Total additional housing units built or planned	2,385

While these developments can meet most of the projected housing demand in the tri-city area, various obstacles remain to conceptualizing additional major initiatives, as well as new scattered site and small-scale projects directly associated with TeleCom City. “Affordability” is also a key consideration. The next chapters address these issues.

Chapter 4: Barriers to Housing Production

This chapter discusses some of the barriers to additional production and rehabilitation of housing in Medford, Malden, and Everett – challenges that are similar throughout the Greater Boston region and are particularly acute in the Tri-City area for smaller scale development.²⁷

I. Economic Barriers

A. Land

Aside from the major projects described briefly in the previous chapter Everett, Malden and Medford are all nearing total build-out with limited land available for new residential development. In the entire metropolitan region, Malden and Everett rank 5th and 6th respectively in greatest residential density per square mile, following only Somerville, Cambridge, Boston, and Chelsea.²⁸ Much of the available land has been previously developed and cleared as a result of fire or building deterioration or requires extensive clearing and re-mediation for habitation.

The lack of land is partially reflected by the rate of development in the region. From 1990 to 1999, the rate of production of new housing has varied from 0.2 percent in Everett (with absolute growth of 218 units), 0.1 percent in Malden (274 units), and nearly 0 percent in Medford (66 units). Most of this permitting activity has been for single family homes in Malden and Everett (62 percent and 79 percent), and multi-family units in Everett (87 percent). The minimal amount of buildable land in these three cities increases the costs of development and provides one of the major impediments to new and particularly to affordable housing opportunities.

Throughout the three cities there are now an estimated 315 vacant parcels in Everett, 418 in Malden, and 860 in Medford. The Planning office in Malden estimates that while there are very few in-fill opportunities,

²⁷ For a fuller explanation of the barriers see *A New Paradigm for Housing in Greater Boston*, Center for Urban and Regional Policy, February 2001.

once or twice a month a private property owner will subdivide his or her property in order to allow for the development of an additional house. However, polluted soil, small lots, and ownership quarrels make some vacant land expensive to develop.

In Everett several old school buildings provide the basis for potential development opportunities. The city recently sold the Lafayette School and approximately one-and-a-half acres of land. The developer built 12 single-family market-rate houses that will sell for \$300,000 or more in accordance with community wishes. The Devins School, Lewis School, and High school building on Rte 99 are all possible sites for new residences. In addition, the City of Everett owns six acres on Rte.16, which might accommodate a mix of uses including housing. Only a handful of housing units have been constructed in Medford over the last year.

In the past year, the Massachusetts Office of Environmental Affairs has been conducting an analysis of land use throughout the Commonwealth's cities and towns. Build-out analyses for the cities of Malden, Medford, and Everett reveal the capacities and limitations of development in the tri-city area.²⁹ The build-out analyses confirm the limited availability of land for development, although the physical landscape supports greater density than more rural areas that have to invest in additional or new infrastructure such as water and sewer lines, or access roads.

In the build-out analyses, Malden, Medford and Everett collectively identified 422 acres of underutilized land throughout their cities, half of which is in Malden. Everett has identified space for 525 dwelling units, Malden for 2,307, and Medford for 607 units. In total, then, if each city were to develop every single parcel to its build-out capacity, the tri-cities area could conceivably build an additional 3,439 units of housing – enough to satisfy the ten-year projected demand we estimate for the region. Of course, this means using

²⁸ *A Civic Initiative for a Livable New England: Briefing Book*, Boston Society of Architects, April 28, 2001.

²⁹ As a cautionary note: the Build Out analyses are based on current use and therefore reflect the physical capacity based on *existing* zoning uses even if this does not represent the best possible use of the land. In addition, in places where greater density could be achieved the build-out analysis will only specify maximum height requirements, but will not show where these have not been met for existing structures.

virtually all of the vacant land left in the tri-city area. In each city there is some effort to generate both housing and commercial opportunities in at least one of their targeted redevelopment areas (Table 4.1).

Table 4.1: Build-Out Analysis for Everett, Malden and Medford

	Everett	Malden	Medford
Percentage of available residential land targeted for single-family homes	4.0%*	18.4%	33.0%
Percentage of available residential land targeted for multiple-family homes	4.3%	13.4%	5.0%
Percentage of available residential land targeted for mixed-used (residential /commercial)	17.5%	24.4%	3.6%

* Condominiums. In Medford an additional 26 percent of targeted area is set aside for TeleCom City. In Malden an additional 15 is set aside, and in Everett 75 of underutilized land identified in build-out is targeted for TeleCom City.

B. Funding Resources

Everett, Malden and Medford have been successful in securing a number of grants from the federal and state government. As members of the North Suburban Consortium (NSC), each of the tri-cities has access to nearly \$2.2 million in HOME program funds per year from the US Department of Housing and Urban Development. Since its creation in 1991, the NSC, led by the “representative member”, the Malden Redevelopment Authority, has used HOME program funds to rehab existing rental units, to create new rental units, and to support a First Time Homebuyer Program. In addition, the NSC allocates 15 percent of its HOME program funds for Community Housing Development Corporations, such as the tri-city Housing Task Force, tri-city Community Action Program, and the Commonwealth Land Trust. The NSC has successfully coordinated these programs as a regional effort. Both Malden and Medford qualify for Community Development Block Grant program funds, a large proportion of which support housing programs. In 1999 the City of Malden received an award from HUD for its Lead Paint program. Working together through the Mystic Valley Development Commission, the TeleCom City area received designation as a Federal EPA "showcase community." As part of this PILOT program, the Commission is eligible to receive funding and technical assistance for brownfield site assessment purposes and will be

able to take advantage of a coordinated federal approach to the area. The US Department of Housing and Urban Development (HUD) and Fannie Mae have also expressed a strong interest in partnering with the MVDC to advance TeleCom City's housing agenda.

Yet these cities must compete with the rest of the state for limited housing resources. A scarcity of capital may apply equally for private market and subsidized housing development, but can be more prohibitive for non-profit housing developers that must rely on governmental funding rounds and a patchwork of sources in order to achieve unit affordability for low and moderate-income tenants. Although rents have increased rapidly over the last five years in the tri-cities, in comparison to other locations in Greater Boston, developers of market rate housing may have been reluctant to focus on new housing development due to a perceived lack of return on their investment in these communities. In the Boston renaissance economy where rents for a two-bedroom apartment can exceed \$2000 a month, developers are capable of greater profit in higher income locations.

Utilizing existing resources can also be challenging in this environment. For example, as part of the North Suburban Consortium, Medford has access to a First-Time Homebuyers program developed with the consortium's HOME allocation. However, the program is ineffective because the existing housing stock in Medford is often too expensive to allow individuals to take advantage of the funding.

II. Political and Social Barriers

A. Regulatory Barriers

Several studies have suggested that regulatory barriers such as permitting procedures, zoning appeals, and building codes add as much as 25 percent to the cost of developing new housing. While several different zoning types are now included in Malden's planning efforts, including business-neighborhood, residential-office, and central business district zoning types, there are additional obstacles to mixed-use developments and other unconventional types of housing. For example, in Malden, although residential uses are almost always allowed "by right" -- without restrictions on densities that meet square foot

requirements -- developers must request a special permit from the City Council for any development greater than 6 stories and often for any variance in dimensional controls in a building that is characterized as a non-conforming use. This is especially costly given that much of the opportunity for housing development is in the rehabilitation of older buildings and adaptive re-use. Other types of zoning limit the tri-city housing supply, including restriction against accessory apartments in Medford. In Everett, if the use of a building changes, developers need to comply with the requirement of 2 parking spaces per unit though a less stringent requirement might be in effect in the adjacent building to no ill effect.

B. Professional Capacity Issues

Finally, there are professional capacity issues. For smaller cities a limited number of housing professionals serve to facilitate and expedite the production of housing. A number of housing organizations are active in the tri-city area, including two Community Development Corporations (CDC); the Tri-city Community Action Program; the Grice Foundation in Medford, a faith-based organization; and Caritas Communities, which has developed numerous SRO units in the area. Additionally, several agencies including the Massachusetts Housing Partnership Fund, the Massachusetts Housing Finance Agency, and regional organizations provide technical assistance and access to resources through specific programs for homeownership, lead paint abatement, elderly assisted living, and specialized section 8 vouchers.

Housing development capacity is an issue for both subsidized housing and market rate housing. Without capacity it is harder for local developers, contractors, and subcontractors to negotiate a maze of development regulations and financing options. It is also more difficult to build support for new housing production in the community without organized advocates and experienced practitioners. According to community development planners in Medford, the city does not have sufficient capacity to take on a substantial number of projects or larger scale developments. Developing housing capacity requires technical experience and access to capital and financing as well as adequate staffing. Even with additional land, neither the city nor the non-profits are in a position to become a housing production team.

When coupled with the profit margin in the development of market rate housing, the regulations associated with public funding sources are not worth pursuing for private market developers without an additional incentive such as strong community or public support for affordable housing units.

C. Community Resistance

In comparison to many other communities in the Greater Boston area the tri-city area has not been resistant to the development of new and/or affordable housing. With an average of 16 percent of their populations living below the poverty level (under 30 percent of median family income), there is a recognizable need and a constant struggle to provide adequate housing and economic opportunities for local residents. Although 10.4 percent of Malden's housing stock, 7.7 percent of Medford's, and 6.2 percent of Everett's housing units are subsidized, this supply cannot accommodate the demand for additional affordable/subsidized housing. Some of these subsidized units are also at risk of being lost. There are 112 units in Malden and 199 units in Medford that could be at risk -- converted to market rate prices over the next 5 years.

Tri-city communities are still absorbing successive waves of immigrant populations that have made their home in the region over the past 200 years. Malden is in the process of building five new schools in three years. That over 20 languages are spoken at Malden High School is a testament to the diversity of these communities. As the school age population grows faster than the population at large, this puts tremendous pressure on local resources. There is increasing sentiment among local residents that the tri-city region cannot support much more development, and that it should not be responsible for all of the Commonwealth's low-income housing needs.

Hence, there are some obstacles to constructing additional new housing units in the tri-city area over the next ten years if normal household growth occurs, if vacancy rates are to be restored to optimal levels, and new TeleCom City workers are to be housed. While these barriers exist, there are numerous strategies that can help to overcome them.

Chapter 5: Strategies

The results from our analysis of potential TeleCom City employee households and the tri-city housing market suggest several different housing strategies. Market-based strategies can facilitate the construction of new housing units for the majority of the 525 households likely to relocate to Malden, Medford, and Everett over the next 10 years. However, the impact of new TeleCom City households on the tri-city housing market is magnified by a natural increase in household growth and low vacancy rates that drive housing prices up faster than most household incomes.

In the first section of this chapter we discuss three types of housing strategies for *new* TeleCom City employee households. We provide recommendations and examples of housing programs that can meet potential housing demand including Employer-Assisted Housing (EAH) programs, transportation initiatives, and regulatory reforms. In the following section we suggest strategies for *existing* residents of Malden, Medford, and Everett who could be negatively impacted by economic expansion in the region and a subsequent increase in housing costs. In the final section we offer policy recommendations to address broader community concerns about balanced economic growth in an urban environment.

I. Housing Production Strategies for New TeleCom City Households

TeleCom City households are expected to account for about 18 percent of the needed new housing stock in the tri-city area over the coming decade. This need can be accommodated through existing land resources, housing policies, and community and political commitments. The tri-city area has seen a dramatic increase in housing production over the last year. In requesting the assistance of the state to identify underutilized land for the build-out analyses, the tri-city area has also demonstrated an interest in planning for the future and through coordinated development.

As mentioned earlier in the report, 92 percent of the possible 525 new TeleCom City households can be assisted by housing strategies that are responsive to the private market. In other words, to support the

goals of TeleCom City, the tri-city area need not subsidize a substantial number of additional units. Therefore, TeleCom City can best serve the tri-city area housing market by supporting policies that encourage new production and minimize development costs for additional market rate housing. These strategies will benefit all of the 525 new TeleCom City households and help the cities of Malden, Medford, and Everett to meet additional production goals associated with changes in local demographics, household growth and low vacancy rates. TeleCom City planners can also relieve pressure on the local housing market by supporting local efforts to create affordable, livable communities for all area residents.

An additional 525 households can be accommodated by scattered site development in neighborhoods throughout the Tri-city region. According to our analysis, the majority of the families re-locating to the area to take a job at TeleCom City will be in 2 or more person households, will have moderate to high incomes and will be in the home-buying market. Even before the creation of TeleCom City, area realtors note that there has been an increasing affluence associated with homebuyers new to the area. As a result of this new demand, there are several housing developments underway that respond to the TeleCom City demographic.³⁰ Tri-city Planning and development officials in the tri-cities have also identified additional areas where new housing could be located.

- ❖ **Tremont Street:** The area along Tremont Street in Everett, for example, has been identified as a prime location for new development by city officials. Boston area developers have expressed interest in working to create new housing on the approximately 7 acres of underutilized land located there. In one build-out scenario Everett indicated the possibility for over 200 units of condominium-style housing on the site. In the downtown area of Everett Square, additional units could be rehabilitated or created amongst retail and commercial space to provide a vital shopping area and a 24-hour presence for a newly attractive city center. Two blocks east of TeleCom City, restaurants and locally owned variety stores on Main street could also benefit from the foot traffic and increased patronage of new households. The nearby Lewis School could also be rehabilitated to provide additional housing in this area.

- ❖ **Rowe's Quarry:** Perhaps the biggest potential development site is Rowe's Quarry in Malden and Revere. Recent zoning changes passed by the Malden City Council in June 2001 will allow a New Jersey developer to go forward with plans to develop the 100 acre site into housing and commercial properties. The plan for Overlook Ridge includes an initial 760 market rate apartments, with as many as 2,400 additional units in the future. The numerous locational advantages of the Quarry site – its proximity to Boston, accessibility to Route 1, and views of the Atlantic Ocean- are likely to attract many families to the area. As this development does offer a unique opportunity to plan a new community from the ground up, the housing impacts of new growth should be considered, as well as the need for some affordable home ownership opportunities. A development of this magnitude could make a significant contribution to housing new TeleCom City employee households and to reducing the number of “housing poor” residents in the tri-city area without requiring unmanageable financial commitments from the public sector.

- ❖ **Malden Square:** In 1998, at the request of the City of Malden and the Malden Redevelopment Authority, the firms of Connery Associates and Goody, Clancy, & Associates completed a zoning and design plan for Malden Square, the city's downtown area. Their plan identified two areas for proposed residential development and recommended a Residential Incentive Overlay district to fill in gaps in the residential nature of the square, compress and strengthen the retail core, and provide an economic future for the existing sites.³¹ The movement for such smart growth policies that control sprawl and environmental degradation by bringing life and re-investment back to urban areas through Brownfield re-mediation, greater density, transit-oriented development and mixed-use housing and commercial projects, comports with the economic development of TeleCom City and the housing demand of new employees.

³⁰ Table 3.4 includes a more extensive list of residential properties that are planned or in the development stage in Malden, Medford.

³¹ Connery Associates and Goody, Clancy, & Associates. *Malden Square, Shaping a City Center, Zoning and Design Plan*, submitted to the Malden Redevelopment Authority, March 1998.

Some of the recommended housing strategies in the following sections require municipal action, some preferred housing programs are already in existence at the local or state level but can be expanded on, and still others are dependent on new funding sources or private initiatives. Best practices from around the country are included as examples of policies and programs that could be adopted in the tri-city area. TeleCom City should maintain an indirect role in the creation of new housing opportunities by supporting the cities of Malden, Medford and Everett as they prepare for new growth. TeleCom City can inform the process by cultivating public-private partnerships, by engaging TeleCom City employers in a dialogue about the impact of economic development on housing, and by helping the tri-cities to identify resources and land for new housing opportunities.

A. Employer Assisted Housing Programs

Employers recognize that a healthy supply of housing that is affordable to households with a range of incomes is key to attracting and retaining a competitive workforce. Recent surveys conducted by companies facing significant labor shortages indicate that these shortages are more pronounced when companies are located in areas with higher housing costs. In 1998 the Massachusetts Institute for a New Commonwealth (MassINC) released *The Road Ahead*, a study that suggested that the high cost of housing in Massachusetts was threatening the regional economy.³² Following this report, the Roman Catholic Archdiocese of Boston headed by Bernard Cardinal Law, spoke to the Greater Boston Chamber of Commerce urging business leaders to join with housing advocates, government representatives and universities to put an end to the housing crisis. In the Boston Metropolitan Area nearly 20 percent of all working families have critical housing needs, spending more than half of their incomes on housing.³³ By addressing the critical housing needs of numerous working families Employer Assisted Housing programs (EAH) are one way in which companies can demonstrate good intentions in a community.

³² Andrew Sum and the Center for Labor Market Studies. *The Road Ahead: Emerging Threats to Workers, Families, and the Massachusetts Economy*, MassINC, December 1998.

³³ Michael Stegman, Roberto Quercia, and George McCarthy. *Housing America's Working Families*, New Century Housing. The Center for Housing Policy. June 2000.

Employer Assisted Housing programs serve labor, employer, and community goals while providing direct assistance to individuals within their company. They have three interrelated functions: 1) to help to attract quality employees; 2) to expand the housing delivery system; 3) to increase the supply of housing that is available to the workforce.³⁴ Numerous types of employer-assisted housing programs and efforts can be adopted in the Tri-city area.

- *Provide Financial Assistance:* Employers can offer matching funds for down-payment assistance for their employees as part of a larger benefits package. Many EAH programs focus on workers whose incomes cannot support a mortgage in the city or town in which the job is located. By providing direct financial support through loans or grants, these housing programs can increase the rate of homeownership and provide a stable workforce for the future.

- *Build Capacity:* Employers can mitigate the impact of increased housing demand and higher housing costs that derive from their own expansion through the following means: education and advocacy in the community, partnering with non-profit or public housing and community development organizations to support housing projects, and by donating funding and/or resources to housing providers.

- *Develop Local Connections:* Employers can also assist in meeting the housing needs of the community through innovative job contracts with other local employers and the public sector that may ultimately help to lower production costs - through Brownfield re-mediation or by training and hiring local contractors and subcontractors.

³⁴ Michael Schubert Community Development Strategies, *Housing for a Competitive Workforce: Homeownership Models that Work*, prepared for the Chicago Metropolitan Planning Council, April 1998.

Examples of Employer Assisted Housing Programs

- The **Silicon Valley Manufacturing Group (SVMG)** is a well-known example of industries joining together to support housing opportunities in San Jose for employees and local residents. The SVMG realizes that well-planned developments are good for their workers and good for the industry's image. SVMG has been successful in creating and securing resources for a housing trust fund, advocating for more affordable housing, and educating legislators about housing issues
- A national laboratory on technology transfer efforts and their local contractors partnered with **Bethel New Life** in Chicago to upgrade the skills of local workers. As part of the job development the partnership has constructed a career ladder for workers who apply their skills to 30 community Brownfield sites in the area.
- The **Indiana Department of Commerce**, at the state level, works in conjunction with community development corporations (CDC's) or community-based, nonprofit 501 (c)(3) organizations at the local level to develop affordable housing. The state can award up to \$500,000 in state income tax credits per year to private contributors to the IDA program. In the program's first year of operation the Indiana County Community Action Agency had more than 100 IDA accounts and participants had saved \$63,000 that could be used for the purchase of a home, education or business development.

B. Transit-Oriented Housing Strategies

TeleCom City's location along transportation routes linking the central city and outlying suburbs makes it an ideal fit for transit-oriented housing strategies. Existing residents of the tri-cities will make up a majority of the TeleCom City work force. The creation of new housing around these transportation nodes would shorten the commutes of these residents and contribute to economic development in the neighborhoods adjacent to TeleCom City. Due to TeleCom City's convenient location along the subway system, it may also attract a number commuters traveling from numerous cities and towns in Greater Boston. This employee pool will grow as housing developments continue to cluster along the Orange Line stretching from Forest Hills to Malden. In drawing commuters from other locations, TeleCom promotes regional understanding across people, place and issue, reduces traffic congestion for both Boston and the surrounding neighborhoods, and draws on the resources of many different communities. These

commuters will also increase the activity and revenue of the tri-city area as well as the intersections where residential and commercial development is placed, while reducing the immediate need for even more extensive new residential construction in Malden, Medford and Everett in the future.

TeleCom City can promote the development of transit-oriented housing in the following ways:

- *Transit oriented development:* The City of Boston along with several partners, including the Boston Society of Architects, is creating models for housing development in commercial areas surrounding transit nodes. In several areas of Boston, including three or four stops on the MBTA's Orange Line, the city's redevelopment authority has been meeting with community leaders and residents to map out possibilities for Transit Oriented Development (TOD). To support this type of development TeleCom can advocate for reductions in per-unit land costs by reducing minimum lot sizes and set-backs in locations near transit, major roads and commercial areas. Zoning could allow residential uses by right in commercial areas, and parking space requirements for new housing developments could be reduced.
- *Work with the MBTA to increase rider-ship and services between TeleCom City and other cities and towns:* An efficient transit system is an essential city service related to the success of TeleCom City. Employers of TeleCom City should negotiate with the MBTA to provide reduced monthly costs for employees that commute to TeleCom City by public transportation. Increasing the number of riders between Malden and other stops supports not only the service itself, but the safety and vitality of the subway and the neighborhoods near the subway stops.
- *Link Housing with related policy issues and funding:* Transportation projects that demonstrate an intention to increase the supply of affordable housing or which improve the transit service to existing affordable housing should be counted in any determination of state or local funding and support. Current development plans for the Urban Ring transportation system, which includes Everett as one of five primary stops, provide the perfect gateway for a dialogue about housing

development along key transportation nodes and an opportunity to integrate housing and land-use planning.

Examples of Transit-Oriented Housing Initiatives

- An innovative example that bridges housing and transportation is the **Location Efficient Mortgage**, which reduces the income required for new homeowners by taking into account the reduced monthly expenditures of non auto-dependent households. The savings to these households has been calculated by the Center for Neighborhood Technology in Chicago, for the neighborhoods of Chicago, Seattle, San Francisco, and LA under a Fannie Mae Pilot program.
- Baltimore City's **Live Near Your Work program** provides a minimum of \$3000 to homebuyers by contributing \$1,000 to match \$1,000 from the local government and \$1,000 from the employer. In order to qualify, employee's must contribute \$1,000 and purchase a home in the LNYW designated neighborhood.
- When Washington DC's Metrorail route was being planned, Arlington County began a process of evaluating land use impacts of the transit extension. The County called for **Transit-Oriented Development** – a mix of commercial and residential development tightly clustered around the stations that included open space, local retail, and pedestrian walkways, using density incentives within a coordinated mixed-use development district. Metrorail corridors contain over 95% of the county's office space and much of the area's low-rise declining commercial space has been converted to mid-rise commercial and residential buildings.

C. Regulatory Reform

The private market will continue to supply the majority of all housing units that will accommodate an additional 525 new TeleCom City households as well as population growth in Malden, Medford, and Everett. To the extent that the tri-city communities can work together to make development more predictable, it can make housing production more efficient for developers and more respectful of neighborhood concerns. A more manageable process is also important for non-profit housing developers. Local contractors and residents can take a more pro-active role in the process, thereby reducing the possible backlash against development that results in costly delay. Regulatory processes that can increase the supply of housing include changes to zoning, permitting, and building codes as well as planning processes.

While not responsible for enacting regulatory reform, TeleCom City employers and households can advocate for changes that support municipal efforts to decrease production costs and increase the availability of space for new housing units. As a partner to the tri-cities in responsible economic growth TeleCom can also maintain a focus on the critical relationship between housing and economic development by enhancing the housing task force created to review this study, and by partnering with HUD and Fannie Mae to create additional housing opportunities in the tri-city area.

- *Simplify, streamline, and standardize public review procedures:* For every month a project completion date is extended, the final cost of a home increases by two percent. In 1999, the Massachusetts Department of Housing and Community Development published a *Permitting Handbook* describing how cities and towns can improve their housing development and rehabilitation operations and reduce cost. In order to expedite the development process, permitting should be straightforward and reliable. A “one-stop-shopping” office could be created for developers to acquire all necessary permits. A professional board should make planning decisions with regular input from the community.
- *Adopt performance standards:* Reduce development costs by adopting reasonable prescriptive performance standards for development. Establish standards governing what allowable types of development might look like in order to expedite production. Developers are much more likely to adhere to community and city ideas about housing planning and development when they are aware of the community's expectations.
- *Implement zoning changes:* Modify building codes and zoning to allow rehabilitation above retail and commercial spaces. Waivers of impact fees and parking requirements, and inclusion of density bonuses provide an incentive for developers in areas that might otherwise be too costly to invest in.
- *Maximize existing resources:* Financial institutions, non-profit housing providers, and social service organizations can cooperate with local officials to build housing and provide housing

programs that are tailored to meet the needs of area residents. The tri-city area has been successful in obtaining support from local banks to implement first-time homebuyer programs. Other tools, such as small property management assistance, technical assistance for developers, and rental rehab programs would complement these programs.

Examples of Regulatory Reform

- In 1988, San Rafael, California changed their local zoning to encourage affordable housing and an appropriate **jobs-housing balance** by reducing the amount of parking required for each apartment constructed in a designated area. In addition, housing development is permitted anywhere in downtown areas, in conjunction with any other type of development. Ten percent of new housing must be affordable under the "workforce housing" plan, and the city provides a density bonus to developers who add additional affordable housing units.
- The City of San Jose's Department of Housing formed a **Housing Action Team**, which includes staff from the city's housing, planning, building and code enforcement, public works, and fire departments to provide housing developers with one place to go for all necessary permits. For every dollar in city funding, more than four dollars have been leveraged to produce 6,000 new units of affordable housing and 2,000 rehabilitated units.
- Through regional planning, technical assistance, and regulatory authority, the **Cape Cod Commission** protects the area's environmental resources and provides for a sustainable regional economy. The plan specifies the ground rules for new development and towns that certify with the commission are able to streamline permitting and can assess development impact fees. The CCC also provides technical assistance. The CCC provides unprecedented inter-town cooperation and regional regulation and has been successful in securing over \$6.5 million from the federal government for affordable housing.

II. Housing Strategies for Low and Moderate Income Homebuyers and Renters

Our analysis in Chapter 3 suggests that only 8 percent (or 43) of the potential 525 new TeleCom City employee households would experience a housing affordability problem. Of these households, 16 would presumably be in the home buying market and 27 in the rental market. In the rental market, only single-earner households with annual incomes less than \$23,000 will struggle to secure affordable housing. A TeleCom City household of four earning an annual income of \$83,000 or below might find itself priced out of the tri-city home-buying market within the next ten years. At this income level, a household of four

would not qualify for the majority of all subsidized housing programs.³⁵ As a result, strategies to assist moderate-income homebuyers must again focus on decreasing the costs of production for new housing units or advocating for an increase in income limits to qualify for housing assistance programs.

As mentioned in the previous section, potential TeleCom City employers can assist those TeleCom City households that are unable to purchase homes at current local housing prices by creating employer assisted housing programs that provide down-payment assistance. TeleCom City planners can also serve this home-buying population by advocating for a mix of affordable units among newly constructed residential developments.

In the following section, we outline strategies designed for those TeleCom City employee households requiring assistance to purchase or rent homes in the tri-city area. These recommendations also apply to the increasing number of current tri-city residents who are being priced out of the market due to the dramatic increase in housing costs over the last five years. The small percentage of new TeleCom City employee households that will be unable to afford market prices are included in the general strategies for low to moderate-income homeowners, homebuyers, and renters. As is the case with production strategies, effective programs will provide new and rehabilitated housing opportunities for everyone, including TeleCom City households. The best practices draw on multiple examples of effective ways to engage private sector investment and encourage local leadership.

Economic development from TeleCom City will not affect residents in a uniform way. Some households will profit from a revitalization of the tri-city area and regional prosperity. Resident property owners who choose to sell their homes as a result of an increase in market values, speculative investors of local property, property owners who can select higher-income tenants and charge higher rents will all benefit. There are also many households who will be hurt by the same expansion. These residents include low to moderate-income homeowners who must pay higher property taxes; first-time homebuyers entering the

³⁵ Income limits for units constructed with public funds or with operating subsidies are set by the Department of Housing and Urban Development based on area median family incomes.

housing market; and renters, particularly those on fixed incomes, who bear the burden of increased property values in the form of higher rent payments.

These strategies aim to mitigate the possible negative consequences that result when there is an imbalance of supply and demand in the housing market, i.e. when average rents and home prices are rising faster than family incomes. The recommendations do not advocate for a reduction in overall housing values. Housing policies that encourage positive income changes among local residents can support local economic growth and accommodate the migration of new higher-income households attracted to the tri-city area by employment opportunities.

A. Strategies for Negatively Impacted Homeowners and Homebuyers

Increasing property taxes are a problem for owner-occupied homeowners in a neighborhood where housing values are rapidly appreciating. If the property owner is also a landlord, this increase in taxes can encourage them to raise the rents on their apartment tenants, in some cases causing great economic hardship for renters. There are also several auxiliary effects. The possibility of realizing a great return on escalating property values may encourage long time property owners to sell, thereby displacing current tenants or, causing a re-evaluation of the rent structure based on higher market values. In a tight housing market, new homebuyers of multi-family housing must often charge higher rents than they would like in order to cover their mortgage payment.

In the tri-city area between 40 and 54 percent of the housing stock is owner-occupied.³⁶ Twenty percent of all homeowners in the tri-city area are paying more than they can afford in monthly housing costs. In many cases, households are paying more than 50 percent of their income to stay in their homes.³⁷ Elderly renters with very low incomes are especially at risk.

³⁶ North Suburban Consortium Consolidated Plan, Appendix Table1.

³⁷ North Suburban Consortium Consolidated Plan, Appendix Table1.

Local communities can design and enact local property taxation measures that can reduce the property tax burden for homeowners and help to preserve existing affordable housing stock for tenants in exchange. However, in the current housing environment, programs that offer property tax relief for long-term residents, elderly homeowners, or special groups of homeowners will succeed only in neighborhoods where the majority of the rental stock is owner-occupied and incentives to move out of the neighborhood, including market forces, are less appealing.

Successful solutions require a combination of place-based development strategies and people-based asset accumulation and empowerment strategies.³⁸ In several instances our recommendations also recognize that the choices of low and moderate-income renters and the choices of low and moderate-income homeowners and homebuyers are interdependent.

- *Employ tax incentives:* To provide an incentive to owner-occupied property owners to keep rents low, the municipalities of the tri-city area could offer direct tax exemptions, or abatements for owners willing to maintain rents at a fixed level for low and moderate-income tenants. As a form of voluntary tax sharing, this strategy encourages an understanding of the regional responsibilities for housing households at all income levels.
- *Develop a local housing subsidy program:* The tri-city area could institute a local project-based subsidy program in which the local housing authority or a designated tri-city entity would offer an assured rental income stream to landlords in the private market who agreed to rent at below market levels. In return, the program would provide landlords with screening and management functions.
- *Allow for an exchange of resources:* Enhance existing programs and develop new programs that provide technical assistance programs for the rehabilitation of smaller properties such as duplexes or triple-deckers in older buildings, in order to maintain the value of the property, the

³⁸ PolicyLink Report, *Thinkers and Resources for Promoting Equitable Development*, March 2000.

character of the neighborhood, and take advantage of existing housing stock.³⁹ In exchange, property owners could agree to modest rent increases, as higher payments would not be required for the basic maintenance of the property. Sweat equity can also be calculated into the determination of the value of the technical assistance as, the upkeep of one property can effect the neighborhood quality. These programs are especially appropriate to the tri-city area where nearly two-thirds of the cities' housing stock was built before 1939 and sixty-one to seventy-four percent of the stock is made up of multifamily units.⁴⁰

Examples of Strategies for Negatively Impacted Existing Homeowners

- In Minnesota, legislative reform created a **property tax classification 4(d)**, which lowered property taxes to encourage the preservation and creation of affordable housing units. The new rate was first available in 1998 for taxes paid in 1999. The legislation allows property owners to take up to a 50% property tax reduction depending on their level of participation. To date, 4000 buildings (107,000 housing units) throughout the state have qualified to receive the 4(d) classification and the program has successfully engaged and marketed the program to the private sector -approximately 43 percent of the properties were formerly market-rate rental units. The program has a mix of properties, including single family, duplexes, triple-deckers, and apartment buildings although the program works best in places where there is a sufficient stock of rental housing.
- In the City of Regina (Canada) an **Inner City Housing Stimulation Strategy** offers a tax exemption for new owner-occupied housing in designated areas. The exemption makes the property "invisible to all property taxation for a period of five years and is transferable between the original builder-owner (which promotes the activity of small contractors and reduces risk of no-sales) and a subsequent owner. This program has produced 75-80 new homes in urban areas.
- **Homeowner's Rehab, Inc.** (HRI) in Cambridge MA is a community-based non-profit organization, which provides housing services emphasizing self-help to residents of Cambridge. They encourage renovation of properties and improvement of neighborhoods for the benefit of residents with limited means. The program offers advice to eligible homeowners of 1-4 unit homes on financing, contractor selection, and technical matters free of charge.

³⁹ The City of Medford has designated \$250,000 in CDBG funds for an Owner Occupied Rehabilitation Program to rehabilitate 14 units. The City of Malden also has a Housing Rehabilitation Program.

⁴⁰ North Suburban Consortium Consolidated Plan, Appendix Table 8.

B. Strategies for Negatively Impacted Renters

Another possibility in an escalating housing market occurs when property owners sit on land hoping for an increase in sales price, or refuse to sell at market rates once a larger development interest is anticipated. In this instance the market fails to function adequately and a few landlords can hold an entire neighborhood hostage. Property owners who are tempted by higher property values may also compromise in terms of the type of development or redevelopment that may be planned by a new owner or the city.

There are approximately 31,000 renter households in Malden, Medford and Everett. Between 31 (Everett) and 43 percent (Medford) of all renters of one and two-bedroom apartments can not afford the fair market rents in the Tri-city area.⁴¹ Any further increase in the existing rent structure will require a greater number of households to spend more than 50 percent of their income on housing, or face eviction. For very low income households, programs that limit the cost of producing new housing units, either through tax incentives or donations of land, or programs that provide subsidies to purchase or rent market rate housing are the most effective. Targeted, supportive homebuyer programs, such as the Soft-Second program offered by the Massachusetts Housing Partnership Fund can help moderate-income renters to purchase homes and build equity. There are also multiple forms of housing tenure that provide security for renters that are most likely to experience hardship in a very tight housing market.

- *Support limited equity co-ops and housing trusts:* Limited equity co-ops and housing units held by a community land trust can provide an alternative to the conventional housing market. Local cities and towns structure property assessments based on a lower re-sale value of co-ops or units held in trust to reduce rents and mortgages. Land trusts counter incentives to engage in land speculation, while offering security, homeownership, and asset building opportunities to local residents whom might otherwise be struggling in an escalating housing market.

⁴¹ North Suburban Consortium Consolidated Plan, Appendix Table 12.

- *Enact condominium conversion controls:* Condominium conversion controls can prevent a deduction in the number of existing affordable housing units available for low and moderate-income renters. In some instances, the regulations can be structured to allow tenants the right to purchase their unit at below-market prices if a conversion is going to take place. Although condominiums have come to represent the only possible starter home for new families the average condominium sales price in the tri-city area is now just below \$250,000, well above the reach of many young families.

- *Access homebuyer programs:* Innovative homebuyer programs, such as the successful program operated by North Suburban Consortium communities, help low and moderate income households move up the housing ladder. They can also increase supply for another low or moderate-income renter household by freeing up a rental unit. Homebuyer programs range from financial assistance, non-profit home -buyer counseling, and city owned property disposition programs, to housing search and stabilization services. In a housing market with very low vacancy rates and high housing prices these programs must be structured carefully to offer real choices for potential homebuyers.

Examples of Strategies for Negatively Impacted Existing Renters

- In 1980, 200 artists formed the Fort Point Arts Community of South Boston, Inc. The Artist Building at 300 Summer Street was created in 1995, as a **limited equity co-op**. Its mission was to create permanent affordable space in Boston. FPAC was the nonprofit sponsor of the housing development, which was able to secure funding from Boston Community Capital (formerly known as Boston Community Loan Fund (BCLF)) and the Community Economic Development Assistance Corporation (CEDAC). This non-profit is currently looking for other opportunities to develop housing.

- The **Portland Community Land** Trust buys and receives donations of property which are held in trust and managed by a board of directors. By separating the land from the property on it, the trust can offer homes at 25-30 percent below market rates. The homes on land that are owned by the trust must be sold back to the trust or to a new qualifying low or moderate-income homebuyer. The resale formula guarantees that the original homeowner will receive all of their equity plus 25 percent of the appreciated value of the home.

- **Condominium conversion controls** are in existence in several communities. Washington D.C. and Burlington, Vermont also offer a 'right of first refusal' to tenants in a multi-family property that is being converted into condos. These controls are designed to prevent the premature displacement of current occupants. Burlington also assesses an impact fee against the sales price of each converted unit that is a resource for the City's housing trust fund.

C. Strategies for Special Populations (e.g. elders, residents with fixed-income, disabled)

According to the North Suburban Consortium Consolidated Plan, between 25 percent (Malden) and 30 percent (Everett) of all householders in the tri-cities are aged 65 or older.⁴² More than one-third of NSC elderly renter households with incomes up to 80 percent of Median Family Income (MFI) is severely cost-burdened- spending more than half of their income for housing. Other populations are also suffering from a lack of affordable housing. There are approximately 8,800 residents in the tri-city area with a work, mobility, or self-care limitation and long waiting lists for persons with mental illness who need supportive housing or permanent affordable housing.

The cities of Malden, Medford and Everett acknowledge that there is a great need for housing units for elderly residents who have spent their lives in the local area, raising children, working and supporting their local businesses and civic institutions. To that end, much of the new construction in Everett has been geared towards elderly households and their families.⁴³ Elderly residents and special-needs populations require unique and varied types of housing assistance. The following recommendations focus on solutions that allow residents to age and grow in place.

- *Develop multi-family property management assistance programs:* Institute programs for elderly homeowners that help them to manage rental apartments in order to take advantage of empty housing units in small multi-family properties. Local officials report that there is an underutilized supply of vacant apartments in houses owned by elderly persons or others who are unable or unwilling to assume tenants because of the potential management problems associated with rental units. The Metropolitan Boston Housing Partnership (MBHP) has a program to help connect small property owners with local contractors and provides management oversight that insures quality control. This could provide a model for a property management program.

⁴² North Suburban Consortium Consolidated Plan, Appendix Table 3.

⁴³ Of 189 housing units currently in development 41 percent are affordable elderly units and 18 percent are new SRO units.

- *Allow accessory apartments by right:* Adjust zoning regulations to allow for accessory apartments. Older homeowners can generate rental income or reduce expenses by making space available for occupancy by caretakers or other individuals. Accessory dwellings also provide a much needed supply of studio or single room apartments, and can allow a senior to age in place, a family to take care of an elderly parent, or temporary lodging for a student or new college graduate.

Examples of Strategies for Special Populations

- **The Home of Your Own Program** is a local example of a homeownership program targeted towards disabled individuals and families. Using a combination of innovative financing, down payment assistance, regional homebuyer counseling agencies, and supportive services more than 36 households have been able to purchase a home in communities throughout the state. In some cases homeowners have rented out a second rental unit to another disabled family.
- The City of Portland has provided **density bonus incentives for elderly and disabled housing** since 1993. The regulations allow for increased density in specific multi-family residential zones, and only apply to new developments and projects that require major remodeling.
- Bylaws allowing **accessory apartments** have been adopted in several Massachusetts communities including Adams, Lexington, Wenham and Arlington. Restrictions can include: owner-occupancy, limits on the amount of alteration, and restrictions on occupancy.

III. General Considerations for Community Development and Design

Malden, Medford and Everett are poised to become the next Arlington or Somerville. Property values have increased dramatically in these adjacent towns, driven by new economy prosperity and their proximity to work opportunities along Rte 495 and 128, natural and recreational amenities, an abundance of older, community-oriented neighborhoods, and moderately priced, attractive homes. Arlington and Somerville have also absorbed many households who have been priced out of the Cambridge and Boston housing market, due to the end of rent control and high rental and housing prices. Given the current strength of the housing market in the Boston metropolitan area and the spatial history of land-use development, it is not implausible to think that the Tri-city area could become as popular and as expensive as its close neighbors in the near future.

Specific policies can ensure that there is balanced growth during this expansive phase of development. A formal recognition that affordable housing is an issue of regional concern by local leaders, inclusionary-type housing rules for new developments, resident involvement in local land use issues, identification of target locations for mixed-income, mixed-use housing, and the replacement of housing lost to rehab or development all help to guarantee that local residents will benefit through access to jobs and housing opportunities. The following recommendations offer a cohesive strategy of development that integrate the need for additional housing units, the changing demographics of demand in the tri-city area, and a desire to coordinate housing efforts on a regional basis.

- *Create Town Village models:* This model is particularly applicable to the Tri-city region. Because these communities were designed as “walking cities,” the physical structure already contains the opportunity for re-development that mirrors the modern demand for urban villages. Even in smaller cities and towns, a healthy community can support more than one "downtown" area- a place where people congregate, shop, work, and live. The key to building homes closer to where people work are zoning provisions and building codes that allow commercial property to include housing, and greater densities of housing in downtown areas.

- *Adopt Creative Land Use Provisions:* Identify surplus or underutilized property in the city or town that can be rehabbed for new housing units, donated to a land trust for housing, used as park land, or for open space. Transferable Development Rights (TDR) can encourage development in these targeted areas, preserve natural resources and distribute the benefits of growth more equitably, by allowing the sending site to "sell" the development rights of the parcel to another receiving site which in turn "buys" greater density. Such a shift can reduce the costs of municipal infrastructure and services, ease traffic and associated impacts to air and water quality, and encourage planned growth across town boundaries.

- *Preserve character of neighborhoods:* Balance development by taking advantage of historical buildings and commercial centers. Tax credits for historic preservation can help to provide funding for the redevelopment of older cities and towns, while maintaining cultural and community character. New housing developments that fit in with existing streetscapes are likely to evoke less community resistance, even if newer zoning regulations militate against smaller homes, less frontage and less acreage.

Examples of Strategies for Community Development and Design

- In Chicago, a faith-based organization supports programs for “**smart growth in an urban context.**”¹ Focusing on the unique challenges to de-industrialization and disinvestment, the Bethel New Life CDC focuses on participatory planning, transit-oriented development, safety-oriented spaces, traffic-calming strategies and Brownfields development.
- The City of Seattle requires that any new construction project applying for property tax exemptions that is built on a site that contained 4+ occupied dwelling units to provide **replacement units** for any residents that were receiving housing subsidies. The new units must be affordable at 50% of MFI for the first ten years.
- Upper story apartments in commercial buildings can anchor a revitalizing community, provide foot traffic for new local business, and take advantage of underutilized space. The City of Lowell has converted old mill buildings into housing through zoning changes. Responding to housing demand, urban, suburban and rural communities from the City of Taunton, to the bucolic Westport are developing **housing and live-work units in the downtown** area.

The housing demand created by new household growth can be met with strategic housing policies to balance growth across borders, take advantage of physical infrastructure and local assets, provide new residential, economic, and educational opportunities, and mitigate the effects of rapid development.

IV. Conclusions

When choosing a city or town to live and work in, employees in high tech industries tend to gravitate towards locales with an abundance of cultural and physical amenities. Working long hours, they prefer places where they can interact with other like-minded professionals until late at night. Different cities have

chosen to capitalize on this demand in different ways. Recently popular "new economy" locations such as Denver or Boise have re-built cool urban enclaves in warehouses on older Main Streets, offering subsidies and re-wiring buildings to offer commercial space at much lower rents than companies would find in Silicon Valley. Other locales such as Dallas, and Dayton, Ohio have an abundance of land and lower construction costs. A new report from the Milken Institute calls the High Tech industries' relocation to old industrial centers, "the most encouraging phenomenon of the digital revolution."⁴⁴ To compete for workers, these companies emphasize the quality of life in the communities in which they locate, including better schools, low crime rates, affordable housing, proximity to mountains, lakes, or a hip music scene. The Tri-city area will attract new economy workers to the extent that it offers these and other attractive amenities.

In turn, the tri-cities must anticipate that some of the newcomers' lifestyle choices and housing needs will interact with the environment and will change it. Growth in the number of households, and the aging of local residents will require additional efforts. An overheated regional housing market will continue to place pressure on rents and home prices. Some of these demographic shifts and economic factors may exert a positive influence on the cities – from revitalized main streets and greater property values for long time residents to increased revenues for schools and other capital improvements. However, the changes may also bring higher rents and displacement. This is the challenge that TeleCom City and the cities of Malden, Medford, and Everett must face. The goal of the TeleCom City's housing plan should be to balance growth – to promote the economic opportunities of the cities and current residents by producing enough new housing for households at all income levels to satisfy the new demand it is creating, and to encourage programmatic and regulatory approaches in the host cities that allow the community vitality that new families bring to enhance the physical and social fabric that give neighborhoods in Everett, Malden, and Medford their identity.

⁴⁴ Joel Kotkin and Ross C. Devol, "Knowledge Value Cities in the Digital Age," Milken Institute Report, 2001.

V. Comparing Strategies: An Evaluative Matrix

These strategies have been identified as a possible range of solutions to issues presented by the growth of the high tech industry in the tri-city area, the impact of the regional economy, and housing market influences of surrounding communities. We make comparisons between possible approaches in the following evaluative matrix. The programs and policies are evaluated based on a number of advantages we have identified of strategies for the tri-city region.

1. *Encourages private-public partnerships:* The strategy fosters cooperation between public and private sectors and attracts additional financial resources.
2. *Low cost outlay.* The strategy requires a low degree of investment by tri-city communities to implement.
3. *Encourages institutional responsibility.* The strategy requires cultivating strategic, institutional relationships, capacity building, and investment in community as a result of public expenditure.
4. *Encourages regionalism:* The policy involves a regional approach to solving problems, emphasizes regional equity, and/or involves coalitions of groups across issues.
5. *Meets housing needs:* The strategy directly creates additional units or reduces housing demand.
6. *High implementation feasibility.* The strategy involves a low level of complexity in terms of administration, time frame, requirement of new legislation, and the number of actors that are required for implementation.

Each housing strategy is given an “X” where it meets these normative criteria. While regulatory changes may be qualitatively different from homeownership programs, these goals should allow generalized policy evaluations across category type

Table 5.1: Evaluation of Housing Strategies Recommended for the Tri-City Area

HOUSING STRATEGIES	Encourages Private Public Partnership	Low Public Cost Outlay	Encourages Private Sector Responsibility	Encourage Regionalism	Meets Housing Needs	Low Implementation Feasibility
Industry Advocacy and Education	X	X	X	X		X
Individual Development Accounts/Tax Credits (EAH)	X		X		X	
Brownfields Training Programs (EAH)	X	X	X			
Location Efficient Mortgage		X			X	
Smart Growth along rail corridors				X		X
Link Transportation and Housing funding		X	X	X		X
Transit Oriented Development (TOD)				X		X
Housing Action Team		X				X
Cape Cod Commission type coalitions		X	X	X		
Zoning for Mixed-Use overlay districts	X	X				
Municipal property tax abatements /exemptions	X				X	
Local project based subsidy program					X	
Limited Equity Coops		X			X	X
Community Land Trust	X	X	X		X	
Owner-Occupied Rental Rehab Programs			X		X	X
Owner-Occupied Tax Abatements for renters	X		X		X	
Homeownership programs	X		X		X	X
Town Village Model		X		X		X
Home of Your Own Program		X			X	X
Tenant Management Programs	X				X	
Condominium Conversion Controls		X			X	
Accessory apartments by-laws		X			X	X
Development Impact Fees		X		X		
Transfer of Development Rights		X		X		
Higher Density Development				X		X

Historic Preservation Tax Credits		X		X		X

VI. Existing and Potential Housing Funding Sources

Table 5.2: Existing Funding Sources in Tri-City Housing

Funding Source	Description	Amount
HUD HOME Funds	Rehab existing rental units, to create new rental units, and to support a First Time Homebuyer Program. 15 percent of its HOME program funds for Community Housing Development Corporations, such as Tri-City Housing Task Force, Tri-City Community Action Program, and the Commonwealth Land Trust.	\$2,159,000 per year
HUD Community Development Block Grant (CDBG) Funds	<p>Medford and Malden are CDBG entitlement communities.</p> <p>The City of Medford allocates \$350,000 of its \$2.1 million annual CDBG budget to housing programs – mainly to housing rehabilitation – and \$50,000 to historic preservation.</p> <p>The City of Malden spends approximately \$1 million in CDBG funding (\$390K from Entitlement funds and \$600K in Program Income) for housing rehabilitation program.</p>	<p>Medford \$400,000 Malden \$1,000,000</p> <hr/> <p>Total \$1,400,000</p>
HUD Lead-Based Paint Hazard Reduction Grant	Lead-based paint abatement project funded from a HUD	\$1.7 million
North Suburban First Time Homebuyer Program	Eligible borrowers included first and second time homebuyers. Maximum mortgage amounts for Malden for 1 unit in 2000 was \$252,700; \$323,400 for 2 units; and \$390,000 for 3 units, with minimum downpayments of 5 percent. Household income limits for Malden family of four was \$52,4000 in FY2000.	In 1999-2000 NSC closed 47 loans and received \$147K in Soft Second Subsidy and \$250K in Down payment costs (none in Medford)
Brownfields Cleanup Revolving Loan Fund	Assessment demonstration pilot program designed to offer cleanup loans at an interest rate of 3 percent for the environmental cleanup of Brownfields.	\$500,000

Table 5.3: Potential Funding Sources for Tri-City Housing

Funding Source	Description	Amount
Fannie Mae’s American Communities Fund (ACF)	ACF has committed to provide up to \$3 billion in equity and non-mortgage debt products for investment in neighborhoods that lack adequate access to traditional capital or where housing needs are underserved. Eligible transactions: rental housing; for-sale housing; mixed-use properties; retail, historic, and other properties directly supporting residential areas. ACF makes many of its investments directly with experienced local development entities. ⁴⁵	Up to \$3 billion in available funds
Massachusetts Housing Partnership Fund	1 st mortgage financing -soft-second loan programs.	\$500,000
State Housing Trust	Can be used for the provision of affordable housing- downpayment assistance, loans, rental housing, with other subsidy sources.	\$10 million
Historic Preservation Funds	For rehabilitation of historic properties and Adaptive re-use. Can be a credit, access to revolving loan fund.	Funds Available
“Access to Jobs”	Federal grant to develop additional transportation options to link workers to jobs in TeleCom City.	Funds Available
Casualty and Life Insurance Funds	Construction/Short-term financing - flexibility to invest in variety of affordable housing programs.	Funds Available for loans
Boston Community Capital	Boston Community Capital Loan fund provides acquisition, construction and permanent financing to nonprofit community development corps, social service orgs, and for-profit developers.	Funds available
Federal Home Loan Bank	AHP program subsidized financing and grants for development and rehab.	\$16.2 million FY01

⁴⁵ For more information see the website: www.efanniemae.com/neighborhoods/investment/investment_tools.html.

CEDAC	Revolving loan fund.	\$32 million in loans
Low Income Housing Tax Credits	DHCD raises capital for low and mod income housing developments.	\$5 million in Federal Tax credits (FY01)
Urban Initiative	Technical assistance grants to minority-owned not-for-profit community organizations	\$15,000
MHIC	Construction financing	See MHP fund
Community Preservation Act	Operated through the State's Executive Office of Environmental Affairs, this act provides Local Option to increase surcharge on property taxes for open space preservation, housing and environment. Matching funds from State are available.	Everett \$1,236,216 Malden \$1,171,278 Medford \$1,578,462 <hr/> Total \$3,985,956

Appendix I: Assumptions, Predictions and Estimates

- TeleCom City will attract 7,500 jobs.⁴⁶
- These jobs will primarily be within 12 high-tech and telecommunications industries.
- The earnings distribution of these 7,500 new jobs will mirror the distribution of all high-tech and telecommunications jobs nation-wide, based on 1998 *Occupational Employment Survey* data.
- National earnings data from 1998 are adjusted to year 2001 for Massachusetts, based on a 7.2 percent increase in nominal average earnings between the two years and a 10 percent wage premium in Massachusetts firms relative to national averages.
- Based on *Current Population Survey* data, we assume that 75 percent of all employees live in multiple-earner households and 25 percent in single-earner households.
- Household incomes are higher than individual earnings because of multiple earners and because of non-earned income (e.g. interest, dividends, rental income).
- Based on the 1988 Cambridge Linkage Study, seven percent of all new Telecom City employees (7,500) will chose to relocate their households to the tri-city, or approximately 525 new households.
- The household incomes of these newcomers will reflect the household income distribution of our entire sample of potential TeleCom City high-tech and telecommunication workers.
- 39 percent of new households will be renters and 61 percent homebuyers. Although this renter/owner ratio is more skewed towards homebuyers than the ratio of renter/owners in the Tri-Cities (53 percent), it is justified by the higher-than-average household incomes of Telecom City workers.
- Assuming that renters have lower household incomes on average, our rental sub-sample consists of all households with incomes of \$72,746 or less (39 percent, or 205 households) and our homebuying sub-sample consists of all households with incomes of \$76,736 and higher.
- Households have different housing needs according to their size. We assume in this analysis that all multiple-earner households will require larger units – two bedrooms or more for rental households and homebuyers. But single-earner households are made up of single-persons and single-earners

with children. Based on Boston area housing statistics, we assume that 12 percent (or 14 households) of these single-earner households are made up of a single parent with children and thus require larger units. The remainder are single person households.

- We assume that the 14 single-earner, multiple-person households are equally distributed across income categories, making nine renters and five potential homebuyers.
- The migration of new TeleCom City households will occur over a period of ten years, 2001-2011.
- To take into account the fact that housing prices generally rise faster than incomes, we calculated housing needs over this ten-year period using an inflation rate of 3.4 for household income and 3.8 for housing prices. The unit deficit thus takes into account the fact that some middle-income families that can currently afford to rent or buy a home in the Tri-City area may be priced out of the market by 2010.
- Housing demand for new TeleCom City households is calculated on an annual basis between 2001 and 2011.
- Population trends in the three communities show a steady decline from a combined total of nearly 147,000 in 1990 to a little over 143,000 persons in 1999, during that same period the number households increased somewhat from 58,300 to nearly 60,000 households.
- Optimal vacancy rates are 2 percent for owner-occupied, 6 percent for rental units.

⁴⁶ According to research conducted by Mt. Auburn Associates and the University of Massachusetts Boston, TeleCom City will create growth in the local employment sector of between 5,000 to 8,000 new jobs. Over time, this may expand to as many as 16,000 new employment opportunities as industry attracts more businesses to the area.

Appendix II: Industry Profiles

I. Telecommunications

Changes in technology and government regulation continue to transform the telecommunications industry. Whereas voice telephone communication was once the primary service of the industry, the transmission of a variety of materials, including data, graphics and video, is now commonplace. The widespread installation of fiber optic cables permits faster, higher capacity transmissions than traditional copper wirelines. In addition, networks of radio towers and satellites are rapidly expanding wireless telecommunications services. Changes in government regulation have introduced competition into an industry that was once dominated by a single firm. Competition from outside the industry is increasing as cable companies and public utilities enter the newly deregulated telecommunications market. The principle sector of the telecommunications industry is still telephone communications (US Department of Labor 2000).

The Occupational Employment Statistics (OES) survey includes five industries within its Major Group 48, "Communications": Telephone Communications (SIC 481), Telegraph and Other Message Communications (SIC 482), Radio and Television Broadcasting Stations (SIC 483), Cable and Other Pay Television Services (SIC 484), Communications Services, not elsewhere classified (SIC 489). In its series of Career Guides to Industries, the Bureau of Labor Statistics included three industries in its guide to "Telecommunications": Telephone Communications (SIC 481), Telegraph and Other Message Communications (SIC 482), Communications Services, not elsewhere classified (SIC 489). Over 60 percent of workers in those three industries are employed in administrative support (34 percent) or precision production, craft and repair (25 percent), which includes telecommunication equipment mechanics, installers and repairers and station installers and repairers.

In this study we narrowed communications to three industries that we predicted would most likely locate to TeleCom City: Telephone Communications (SIC 481), Cable and Other Pay Television Services (SIC 484), and Communications Services, not elsewhere classified (SIC 489). The total number of employees within these three industries totals 1,244,130, with the largest percentage in Telephone Communications (82.6 percent). Cable and Other Pay Television Services make up 15.4 percent of our sample, with the remaining two percent included under Communications Services, not elsewhere classified.

Table 2.4 provides a summary of the number, percentage and average salaries of all occupations in these three communications industries. Six major OES occupational categories are highlighted in bold, along with the total number of employees, the percentage of total employees, and the mean annual salary, adjusted for inflation and the Massachusetts wage differential. The number and percentage of the largest occupations (at the three-digit or five-digit level) *within* each major occupational category are listed below the six major categories.

Table 2.6: Occupational Profile of Telecommunications Industries (481, 484, 489)

Occupation	1998 Employment		Mean Annual Wage
	Number	Percent	
All Occupations	1,244,130	100	\$47,463
Managerial and Administrative	136,090	10.9	\$75,630
Communications, Transportation and Utilities Managers	45,580	19.6	\$72,283
General Managers and Top Executives	19,760	14.5	\$91,549
All Other Managers and Administrators	26,660	19.6	\$70,225
Professional, Paraprofessional and Technical	211,530	17.0	\$58,713
Computer Scientists and Related	50,130	23.7	\$61,235
Engineers	43,340	20.5	\$68,498

Engineering and Related Technicians and Technologists	28,780	13.6	\$49,936
Sales and Related Occupations	129,750	10.4	\$43,294
Sales Workers, Services	63,120	48.7	\$44,352
All Other Sales and Related	27,890	21.5	\$39,199
Clerical and Administrative Support	432,670	34.8	\$34,595
Customer Service Representatives, Utilities	141,570	32.7	\$33,860
Material Recording, Scheduling, Dispatching, Distributing	30,090	7.0	\$45,951
Service Occupations	5,450	0.4	\$38,547
Production, Construction, Operating, Maintenance, and Material Handling Occupations	328,570	26.4	\$47,307
Telephone and Cable TV Installers and Repairers	126,520	38.5	\$43,765
Central Office and PBX Installers and Repairers	38,130	11.6	\$51,885

Source : 1998 Occupational Employment Statistics (OES) Survey

As Table 2.4 illustrates, the occupations with the largest percentage of employees in these three telecommunications industries are clerical and administrative support (34.8 percent) and Production, Construction, Operating, Maintenance, and Material Handling Occupations (26.4 percent), which include telephone and cable TV installers and repairers and Central Office and PBX Installers and Repairers.

The highest paid occupations in the telecommunications industries in our sample are managerial and administrative positions, including General Managers and Top Executives (with an mean annual wage of \$91,549) and Communications, Transportation and Utilities Managers (with an mean annual wage of \$91,549). The lowest paid occupations include Customer Service Representatives for Utilities (with an average annual wage of \$33,860) and all other sales and related occupations (with an average annual wage of \$39,199).

Employment growth will differ among the various occupations in the telecommunications industry, largely as a result of technology. Employment of directory assistance operators, for example, is expected to decline due to the increasing use of automation and Internet services. Employment of line installers and repairers is expected to increase as telecommunications providers expand their networks in response to customer demand. Employment of telecommunications equipment mechanics, installers and repairers is also expected to increase. Telecommunications providers will install computerized switching equipment to efficiently route increasing amounts of high bandwidth communications. In addition, employment of engineers and computer professionals is also expected to increase in the industry. The expansion of communications networks, and the need for telecommunications providers to invest in research and development, will create job opportunities for electrical and electronics engineers. The use of increasingly sophisticated computer technology will increase employment of computer professionals, including computer engineers, computer support specialists, and computer systems analysts.

II. Computer and Data Processing Services

All organizations today rely on computer and information technology to conduct business and operate more efficiently. Often however, these organizations do not have the resources to effectively implement new technologies or satisfy their changing needs. When this happens, they turn to the computer and data processing services industry to meet their specialized needs on a contract or customer basis. Services provided by this industry include prepackaged software; customized computer programming services and applications and systems software design; data processing, preparation and information retrieval services, including on-line data bases; on-site computer facilities management; rental, leasing, and repair of computers and peripheral equipment; and a variety of specialized consulting services.

Employment in computer and data processing services grew by more than 900,000 jobs from 1988 to 1998. In 1998, there were about 1.6 million wage and salary jobs, and an additional 216,000 self-employed workers, making it one of the largest industries in the economy. Since the late 1980s, employment has grown most rapidly in the computer programming services and prepackaged software

segments of the industry. From 1988 to 1998, about 245,000 jobs were created in programming services and another 166,000 in prepackaged software (Bureau of Labor Statistics 2000b).

Table 2.5 provides an occupational profile of the computer and data processing services industry based on 1998 OES statistics.

Table 2.7: Occupational Profile of Computer and Data Processing Services Industry (737)

Occupation	1998 Employment		Mean Annual Wage
	Number	Percent	
All Occupations	1,662,750	100	\$55,830
Managerial and Administrative	211,870	12.7	\$84,914
General Managers and Top Executives	76,220	36.0	\$97,349
Engineering, Mathematical, & Natural Science Managers	38,570	18.2	\$89,697
Marketing, Advertising, Public Relations Managers	30,070	14.2	\$76,500
Professional, Paraprofessional and Technical	977,370	58.8	\$60,803
Computer Programmers	245,790	25.2	\$65,758
Systems Analysts	148,260	15.2	\$66,347
Computer Engineers	133,150	13.6	\$69,854
Sales and Related Occupations	116,770	7.0	\$56,830
Sales Workers, Services	34,090	29.2	\$57,419
Salespersons, Scientific Products and Services	29,500	25.3	\$63,673
Clerical and Administrative Support	289,940	17.4	\$28,231
Office Machine Operators, Data Processors	77,710	26.8	\$25,361
Data Entry Keyers, Except Composing	36,820	12.7	\$21,903
Service Occupations	5,020	0.3	\$22,933
Production, Construction, Operating, Maintenance, and Material Handling Occupations	61,440	3.7	\$34,657
Mechanics, Installers and Repairers	33,320	54.2	\$39,955
Data Processing Equipment Repairers	20,320	33.1	\$38,851

Source : 1998 Occupational Employment Statistics (OES) Survey

As shown in Table 2.5, the occupations with the largest percentage of employees in the Computer and Data Processing Services Industry are in Professional, Paraprofessional and Technical occupations (58.8 percent), including Computer Programmers, Systems Analysts, and Computer Engineers. The second largest occupational category is Clerical and Administrative Support (17.4 percent).

The highest paid occupations in the Computer and Data Processing Services Industry, like the Telecommunications industries, are managerial and administrative positions, including General Managers and Top Executives (with an mean annual wage of \$97,349) and Engineering, Mathematical and Natural Science Managers (with an mean annual wage of \$89,697). The lowest paid occupations include Data Entry Keyers (with an average annual wage of \$21,903) and Service occupations (with an average annual wage of \$22,933).

The computer and data processing services industry has grown dramatically in recent years and employment is expected to grow about 117 percent by the year 2008, making this the fastest growing industry in the US economy (Bureau of Labor Statistics 2000b). The best job opportunities will be created in the professional and technical occupations, reflecting their rapid growth and continuing demand for higher-level skills to keep up with changes in technology. Within the industry, projected growth varies by sector. Among the fastest growing sectors should be client-server applications, consulting and integration services, prepackaged software and end-user support.

Appendix III: Size and Earnings of Sample Occupations in 12 High Tech Industries

Occupation, Industries with Highest and Lowest Average Salaries	Number of Employees	Average Annual Earnings
Communications, Transportation, Utilities Managers (15023)	46,790	\$72,528
Electronic Components and Accessories	90	\$87,146
Communications Services, NEC	1,220	\$64,335
General Managers and Top Executives (19005)	188,410	\$98,285
Search, Detection, Navigation	2,930	\$116,039
Telephone Communications	13,750	\$92,346
Computer Engineers (22127)	224,860	\$70,579
Cable and Other Pay Television Services	490	\$76,084
Communications Equipment	9,720	\$65,856
Electrical/Electronic Technicians and Technologists (22505)	127,140	\$45,014
Communications Services, NEC	1,440	\$52,145
Cable and Other Pay Television Services	2,290	\$39,514
Systems Analysts (25102)	203,400	\$66,437
Research, Development and Testing	8,490	\$70,173
Cable and Other Pay Television Services	490	\$57,836
Computer Support Specialists (25104)	178,690	\$49,820
Laboratory Apparatus and Controlling Instruments	2,360	\$52,513
Miscellaneous Electrical Machinery, Equipment and Supplies	310	\$46,087
Computer Programmers (25105)	306,660	\$65,334
Computer and Office Equipment	14,020	\$69,290
Search, Detection, Navigation	2,280	\$54,745
Systems Researchers (25302)	31,910	\$64,366
Communications Equipment	740	\$70,050
Laboratory Apparatus and Controlling Instruments	260	\$59,749
Technical Writers and Editors (34005)	25,590	\$53,301
Computer and Office Equipment	1,680	\$61,441
Miscellaneous Electrical Machinery, Equipment and Supplies	90	\$48,368
Salespersons, Scientific Products and Services (49005)	55,180	\$62,124
Miscellaneous Electrical Machinery, Equipment and Supplies	620	\$64,065
Telephone Communications	330	\$48,809
Secretaries, Except Legal and Medical (55108)	140,540	\$33,532
Research, Development and Testing	21,920	\$34,436
Computer and Office Equipment	6,280	\$36,668
Data Processing Equipment Repairers (85705)	24,310	\$38,486
Computer Programming, Data Processing, etc.	20,320	\$38,851
Computer and Office Equipment	2,500	\$34,731

Source : 1998 Occupational Employment Statistics (OES) Survey

Note: The unique five-digit OCC code is presented in parentheses. Annual wages are adjusted for inflation and Massachusetts wage rates.

Appendix IV: **Pro Forma**

Median Income	Monthly Income at 30%	Loan Amount	Mortgage (less 10% DP)	P&I¹	PMI (homeowner's insurance)²	Tax Rate³	Total Monthly Housing Costs
21,443	536.08	\$63,924.59	\$57,532.13	\$422.15	\$50.00	\$63.92	\$536.08
34,922	873.05	\$108,240.78	\$97,416.70	\$714.81	\$50.00	\$108.24	\$873.05
44,695	1,117.38	\$140,372.39	\$126,335.15	\$927.00	\$50.00	\$140.37	\$1,117.38
55,871	1,396.78	\$177,116.79	\$159,405.11	\$1,169.66	\$50.00	\$177.12	\$1,396.78
60,727	1,518.18	\$193,082.32	\$173,774.09	\$1,275.09	\$50.00	\$193.08	\$1,518.18
67,743	1,693.58	\$216,149.49	\$194,534.54	\$1,427.43	\$50.00	\$216.15	\$1,693.58
72,746	1,818.65	\$232,598.32	\$209,338.49	\$1,536.05	\$50.00	\$232.60	\$1,818.65
76,736	1,918.40	\$245,716.62	\$221,144.96	\$1,622.68	\$50.00	\$245.72	\$1,918.40
83,292	2,082.30	\$267,271.40	\$240,544.26	\$1,765.03	\$50.00	\$267.27	\$2,082.30
94,445	2,361.13	\$303,940.18	\$273,546.16	\$2,007.18	\$50.00	\$303.94	\$2,361.13
107,396	2,684.90	\$346,520.41	\$311,868.37	\$2,288.38	\$50.00	\$346.52	\$2,684.90
118,830	2,970.75	\$384,113.05	\$345,701.75	\$2,536.64	\$50.00	\$384.11	\$2,970.75
137,175	3,429.38	\$444,427.65	\$399,984.88	\$2,934.95	\$50.00	\$444.43	\$3,429.38
174,594	4,364.85	\$567,453.63	\$510,708.27	\$3,747.40	\$50.00	\$567.45	\$4,364.85

¹ Principle and interest. Amortization table is based on an 8 percent interest rate over a 30 year mortgage.

² Estimated figure for homeowner's insurance and condo's fees.

³ Average tri-city tax rate, \$12 per \$1000.