

Preserving and Promoting Diverse Transit-Oriented Neighborhoods

Center for Transit Oriented Development:

A collaboration of the Center for Neighborhood Technology,
Reconnecting America, and Strategic Economics

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About this Report

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Editor

Kara Heffernan

Authors

Dena Belzer
Scott Bernstein
Cali Gorewitz
Carrie Makarewicz
Jennifer McGraw
Shelley Poticha
Abby Thorne-Lyman
Mariia Zimmerman

Data and Analysis

Albert Benedict
Peter Haas, Ph.D.

Contributors

Douglas Shoemaker

Research Assistants

ChaNell Marshall
Mingxuan Wang

The team responsible for authoring this report comes from three organizations: the Center for Neighborhood Technology (CNT), Reconnecting America and Strategic Economics. Together, these three partners comprise the Center for Transit-Oriented Development (CTOD). CTOD was launched in 2003 to help bring transit-oriented development (TOD) to scale as a nationally recognized real estate product. The CTOD is working with transit agencies, developers, investors and communities to use transit investments to spur a new wave of development that improves housing affordability and choice, revitalizes downtowns and urban and suburban neighborhoods and provides value capture and recapture for individuals, communities and government.

Center for Neighborhood Technology

The Center for Neighborhood Technology (CNT) was founded in 1978 to research, adapt and test new community revitalization strategies relevant to urban communities, especially strategies that harnessed the environmental and economic value of more efficient use of natural resources. Over the years, CNT has worked to disclose the hidden assets of the Chicagoland economy and urban areas more broadly, demonstrate the multi-bottom line benefits of more resource-efficient policies and practices and show how that value could be captured to benefit communities and all their residents. CNT's work, especially in the areas of energy, transportation, materials conservation and housing preservation, helped fuel a generation of community development institutions and learning, garnering the organization a reputation as an economic innovator and leader in the field of creative sustainable development.

Today, CNT serves as the umbrella for a number of projects and affiliate organizations, all of which help to fulfill its mission to promote the development of more livable and sustainable urban communities. CNT's transportation work, out of which this report grew, is focused on using transportation assets to serve both the environmental and economic development goals of regions and communities. CNT works to boost demand for clean, efficient and affordable mass transit; increase the supply of traditional and non-traditional mass transit services; disclose the linkages between transportation costs and housing affordability; create model value-capture mechanisms that take advantage of the intersection of efficient transportation networks with community economic development programs; and promote policy initiatives that increase public participation in investment decisions and make more resources available for sustainable investments.

More information about CNT is available at www.cnt.org.

Reconnecting America

Reconnecting America is a national non-profit organization formed to link transportation networks and the communities they serve. The organization, which has grown out of the work of the Great American Station Foundation, defines its mission as working toward removing the barriers that prevent different transportation modes — planes, trains, autos and buses, as well as walking and bicycling — from functioning as one convenient interconnected network. Reconnecting America also focuses on reinventing the planning and delivery system for building regions and communities around transit and walking, rather than solely around the automobile. Toward this end, Reconnecting America has undertaken two programs:

- Reconnecting America's Transportation Networks, which seeks to link the nation's separate aviation, rail and intercity bus systems into an integrated network in order to improve economic productivity, enhance consumer choice and value and improve environmental performance and energy efficiency.
- The Center for Transit-Oriented Development, which seeks to use transit investments to spur a new wave of development that improves housing affordability and choice, revitalizes downtowns and urban and suburban neighborhoods and provides value capture and recapture for individuals, communities and transportation agencies.

More information about Reconnecting America is available at www.reconnectingamerica.org.

Strategic Economics

Strategic Economics is a for-profit consulting and research firm specializing in urban and regional economics and planning. The firm helps local governments, community groups, developers and non-profit organizations to understand the economic and development context in which they operate in order to take strategic steps towards creating high-quality places for people to live and work.

Strategic Economics' experience ranges from financial analyses of individual development sites to regional planning projects to nationwide studies. The firm approaches each project with an individualized understanding of the place in the context of its broader physical, political and historic surroundings. By addressing neighborhoods and cities as pieces of larger systems, Strategic Economics' team of professionals is able to apply appropriate and innovative analytical tools and problem-solving skills that help clients manage change and capture the benefits of growth.

More information about Strategic Economics is available at www.strategieconomics.com.

Foreword

Paul C. Brophy

About four years ago, Miguel Garcia at the Ford Foundation assumed leadership of a program aimed at advancing mixed-income, mixed-race housing as a strategy to provide housing for low- and moderate-income people. The premise of the initiative is that if the nation's housing developers can build and successfully operate more mixed-income housing, we can house more low- and moderate-income people in settings where opportunities for upward mobility are greater than they would be in settings of concentrated poverty.

Much has been learned through the Ford Foundation's initiatives. We now know a great deal more about what it takes to make mixed-income housing work socially and financially. We know that if certain principles are followed, mixed-income housing can be successful. These principles include good design, excellent management, a tailoring of income mixing to local housing market conditions and well-orchestrated delivery of services.

This report, researched and written by staff at the Center for Neighborhood Technology, Reconnecting America, and Strategic Economics — working together as the Center for Transit-Oriented Development — makes a substantial new contribution to our knowledge base regarding mixed-income, mixed-race housing. We now know, via this report, that there are ample opportunities for the creation of mixed-income, mixed-race housing in transit zones. Demand for transit-oriented housing is projected to soar over the next twenty years. Locating mixed-income housing in these particular settings carries the remarkable advantage of permitting residents to stretch their budgets because transit use can lower transportation costs substantially.

The report outlines the benefits of mixed-income transit-oriented developments and the challenges to seizing the mixed-income TOD opportunity, and makes a set of practical recommendations to create more mixed-income, mixed-race housing in transit zones.

This report deserves to be widely read. I am hopeful that it will generate substantial interest among developers, transit system operators, local government and community leaders in mixed-income, mixed-race housing in transit zones.

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Executive Summary

It was not too long ago that our mass transit systems had become yet another symbol of disinvestment in urban America. As people exited cities for the suburbs, they left in their wake the decaying public amenities and assets that had given rise to cities in the first place —the schools, the infrastructure and the mass transit.

How times have changed. According to the American Public Transportation Association, riders in the U.S. took more than 9.7 billion trips on public transportation systems in 2005. Since 1995, public transportation use has increased 25 percent. There are 3,349 mass transit stations in the U.S. today, and regions from coast to coast are building or planning to build new rail systems or expand existing systems. Over 700 new stations are currently under development.

A number of factors are driving this growth in transit use and construction. First, automobile transportation is increasingly expensive. Transportation — mostly fueled by the costs of owning and operating a personal vehicle — now costs as much or more than shelter in region after region. Studies show that expenditures for personally-owned vehicles drain household wealth and undercut community economic viability.¹ Second, residents are looking for the convenience and access that alternatives to auto transportation can provide. And third, residents are tired of auto-related congestion and air pollution and are looking for alternatives.

For these reasons and more, people who can are choosing to use transit. But, as Hurricane Katrina painfully reminded the nation, “can” is the operative word. Not everyone has choices. Lower-income residents for whom cars can be an unaffordable luxury, who also often tend to be people of color, are disproportionately dependent on transit. The inability to quickly evacuate New Orleans was widely blamed on the fact that most residents were too poor to own cars, and were therefore too “transit-dependent.” But a short time later, when Hurricane Rita hit the Texas Gulf Coast, the roads were instantly clogged with people trying to evacuate by personal vehicles. Neither region was transit-rich enough to offer the kind of public transit services that worked so well in New York City after 9/11 and the Bay Area after the Loma Prieto earthquake. Unfortunately, New York and the Bay Area, along with a few other large cities, are the exception to the rule with regard to the quality of mass transit options. In the coming years, regions around the country will be challenged to offer more and better service like their New York and Bay Area peers and seize the latent opportunity offered by mass transit.

The renaissance of mass transit has coincided with a renaissance of communities and neighborhoods that are proximate to transit stations. More and more residents, of all incomes, ages, and races, want to not only use transit, they want to live near it as well. As demand for housing near this increasingly valuable piece of public infrastructure increases, how will its benefits be shared among diverse users? Will it give people more or fewer choices, and will those choices be broadly shared? What will these neighborhoods around transit look like in 25 years and what kinds of housing choices will be available? Will transit revert from being the lifeblood of those who need it the most to a mere perk of urban life for those who use it

¹ Scott Bernstein, Carrie Makarewicz and Kevin McCarty, “Driven to Spend: Pumping Dollars out of our Households and Communities”, Center for Neighborhood Technology and the Surface Transportation Policy Project, 2005 at www.transact.org; also “The Affordability Index: A New Tool for Measuring the True Affordability of a Housing Choice”, Brookings Institution 2006 available online at: www.brookings.edu/metro/umi/pubs/20060127_affindex.htm.

occasionally? Or could it become again what it once was, the glue that holds together the multiple facets — the diverse faces — of urban America?

To answer these questions, this report attempts to understand who lives near transit today and who is expected to live there in 25 years. This report also tries to lend a sense of urgency to a dialogue between those who want to ensure high-quality transit service, and those who want to ensure high-quality neighborhoods -- two sets of actors who have much at stake but do not often connect. This dialogue needs to be about how to use the increasingly hot market for housing near transit to serve the interests of many grassroots and community development groups working to build diverse, inclusive, opportunity-rich neighborhoods, and in the process increase support for transit systems around the country.

The key findings are:

Today's transit zones² support more race and income diversity than the average neighborhood. Eighty-six percent of transit zones are either more economically diverse, more racially diverse or more diverse on both points than the average census tract (when the comparison area is either the average of all central city tracts in the region if the given transit zone is in the central city, or the average of all suburban tracts in the region if the given transit zone is in a suburb). This is especially true in regions with extensive transit systems — Boston, Chicago, New York, Philadelphia and San Francisco — but is not limited to these cities. Diverse transit zones are present in all transit regions, including Dallas, Cleveland and Syracuse. Furthermore, 59 percent of residents near transit are people of color.

While this report does not fully explore the causes and circumstances that led to this high rate of diversity near transit, one could surmise that the wide range of amenities that cluster around transit stations, in addition to transit itself, is sufficiently attractive to certain segments of the housing market across all incomes to suggest that mixed income strategies will work on a market basis, not merely as “social engineering”³.

Diversity is found in central city transit zones and suburban (non-central city) transit zones, suggesting that the low transportation costs and the increased accessibility that transit offers supports diversity in both urban and suburban contexts. There is variation, however, in diversity between central city transit zones and suburban transit zones. A greater proportion of central city transit zones are more racially diverse than an average central city census tract, while a greater proportion of suburban transit zones are more economically diverse than an average suburban census tract.

Neighborhoods near transit provide housing to a greater share of the region's lower-income households than regions overall. The number of households earning \$35,000 and under is 10 percentage points higher in transit zones than it is in the transit zones' host regions. The

² Transit zones are a half-mile radius around transit stations to which we proportionally sum the census demographic fields from the census blocks, block groups or tracts. Where possible, we use the smallest geography, e.g., the block rather than group or tract.

³ This is similar to George Galster's finding in a study of mixed-income neighborhoods in the 100 largest metros from 1970-2000 for the Ford Foundation in 2005. That is, mixed-income neighborhoods are mostly produced by market forces, not intention.

transit infrastructure helps these households get where they need to go, while keeping their transportation costs down.

Transit zones support important segments of the population in terms of both housing tenure and household size. Transit zones contain large numbers of renter households and households at both ends of the size spectrum — very large and very small. While households in transit zones are predominantly renters, one-third of households in the U.S. are renters. One-person households account for the largest percentage of households in transit zones, at 35 percent, compared to 26 percent nationally. Four-plus person households account for 23 percent of households in transit zones.

Transit zones have a greater than average proportion of homeowners who spend more than 30 percent of income on housing: 35 percent versus 31 percent. This is reflective of the higher home values near transit, making affordable homeownership opportunities near transit more limited on average than in neighborhoods more than a half mile from transit.

Transit zones provide important mobility opportunities — and the economic benefits that accrue from it — that allow people to live with fewer cars. In three-quarters of transit zones, households have one car or less. In some small transit systems, fully 100 percent of transit zones house a majority of households with one car or less. This low rate of auto ownership is true for higher-income households in transit zones as well as lower-income ones. Especially given rising gas prices, transit zones appear to offer a way for households of modest means to keep in check their household expenses by reducing car ownership.

Transit zones provide important environmental benefits given their high rates of non-auto travel to work and low rates of land consumption per household. Households near transit commute by transit more than three times the rate of households in the transit regions. Their transit use is supported in part by higher densities, which are on average nearly twice that of the average densities for regions with transit, and in many places multiple times that of surrounding neighborhoods further from the transit station. This reduces congestion on the roads, fossil fuel consumption and air pollution from auto emissions.

By 2030, more than one-half of the potential demand for housing near transit, or 51 percent, is likely to come from households that have incomes below the area median income (AMI), or roughly \$50,000. Twenty percent of households with a potential demand for housing near transit will make less than \$20,000 a year. Increased job connectivity, affordable housing options, and other supports will be necessary to help low- and moderate-income households live near transit and its access to jobs in order to increase their earnings while keeping their housing and transportation costs low. This may not need to be accomplished at each and every transit zone, but should be tracked at the transit zone, corridor and system-wide scales to ensure transit in each region has adequate access by all income levels.

As transit systems expand and demographics change, transit zones will begin to look more and more like today's regions. Compared to transit zones today, transit zones in 2030 will have a greater proportion of married-couple households (56 percent in 2030 versus 35 percent in 2000) and a lower proportion of single and non-family households (33 percent in 2030 versus 54

percent today). This reflects changes in demographics, changes in household preferences and changes in the way regions are developing and how housing and transportation are planned.

Recommendations:

This report contends that creating and preserving diverse transit-oriented neighborhoods is sound public policy that would favorably impact households and regions on multiple fronts, resulting in: a broader range of housing opportunities, greater transportation choice, better environmental outcomes and stronger family and neighborhood economies. There is no single silver bullet for creating and preserving such neighborhoods, however. Promoting and preserving diverse transit oriented neighborhoods requires policies that address housing, land use and transportation, experienced practitioners in several sectors, tools geared to promote TOD and affordability, and flexible financing.

This report calls for the following specific short- and long-term actions:

- Institute government programs that promote diverse transit-oriented neighborhoods and involve vertical and horizontal coordination within government.
- Target affordable and mixed-income housing in mixed use developments to transit zones and the corridors along the train lines that connect the transit zones.
- Use transportation policies and subsidies, as well as better information, to attract and produce affordable housing near transit.
- Use planning tools to stimulate housing production at higher densities in order to reduce the gap between regional supply and demand and lower the price for both housing and transportation.
- Accelerate efforts to preserve existing rental housing near transit, both affordable and market rate.
- Marry efforts to reduce the cost of energy, produce affordable housing and foster transit-oriented development to increase advocacy, funding and knowledge that yields better and more synergistic outcomes in all three areas.
- Educate consumers about the costs of transportation and its effects on households, government and employers, and, conversely, on the savings and benefits of development near transit.
- Develop new financing products and developer/investor capacity to deliver mixed-income and mixed-use development near transit.

Introduction

It was not too long ago that our mass transit systems had become yet another symbol of disinvestment from urban America. As many urban residents fled their neighborhoods for the greener pastures of suburbia, they left in their wake the decaying public amenities and assets that had given rise to cities in the first place and helped build up a middle-class. They abandoned the schools which offered an education, the infrastructure which provided jobs and the mass transit that offered an affordable way to get to and from the jobs. With the departure of so many residents, many urban mass transit systems went into decline in parallel with the housing stock, the educational system and other critical infrastructure.

Table 1. Count of Current and Future U.S. Transit Systems

U.S. Fixed-guideway Transit		
Year	Systems	Stations
2000	25	3,252
2005	32	3,349
Proposed	10	720
Potential Total by 2030	42	4,096

This was a drastic change from the decades prior, when American cities virtually grew up around their transit. As railroads extended lines into nearby areas, metropolitan America became “transit oriented.” It became possible to find affordable housing at a distance from work, but still within a reasonable travel time and at an affordable cost. That cost was generally in the range of 3 to 5 percent of income. By the first decade of the twentieth century, a leading investment analyst could state that “nearly all the cities of the U.S.

of 10,000 inhabitants or over, together with perhaps half of the smaller cities exceeding 2,500 inhabitants, are served by street railways.”

While that same statement could not be made today, U.S. mass transit is indeed experiencing a renaissance. At the time of the 2000 U.S. Census, there were 3,252 fixed-guideway transit stations with over 15 million residents (6 million households) living within walking distance in 25 regions in the U.S.⁴ According to the American Public Transportation Association, since 1995, public transportation use has increased 25 percent, and, in 2005 alone, riders in the U.S. took more than 9.7 billion trips on public transportation systems. Between 2000 and the end of 2005, there were nearly 100 new transit stations built for a total of 3,349 in 32 regions. From Dallas to Minneapolis and Charlotte to Albuquerque, regions coast to coast are planning to build, or are building and expanding fixed-guideway systems. An additional 720 stations and 10 new transit systems are currently in the proposal and approval process.

Whatever the reason — high gas prices, frustration over sitting in traffic or newfound convenience and easy access — people who have choices are choosing to use transit and regions with and without rail transit are working to accommodate this choice.

But, as the country was painfully reminded by August 2005’s Hurricane Katrina in New Orleans, not everyone has choices. Lower-income residents, who also often tend to be people of color, are heavily reliant on transit. For them, cars can be an unaffordable luxury. But transit-dependence need not be a burden. Transit offers many benefits. It can reduce household transportation costs, improve mobility and increase connectivity to jobs and services. It also reduces regional

⁴Fixed-guideway transit system includes heavy and light rail, commuter rail, streetcars and trolley buses, bus rapid transit, and cable cars. Also included are select Amtrak rail stations that serve commuters as well as long-distance travelers. Bus networks were not included in this study, though they represent an important component of regional transit networks.

“Hidden in Plain Sight: Capturing the Demand for Housing near Transit,” published by the Center for Transit-Oriented Development, found that compared to their regions, transit zones have:

- *Smaller household sizes,*
- *Lower household incomes,*
- *Lower homeownership,*
- *Lower car ownership,*
- *Higher transit use, and*
- *Similar age profiles.*

congestion. But these benefits only serve lower-income households when they can afford to live in neighborhoods with access to transit, and when the transit that serves their neighborhoods is frequent, reliable and connects them with jobs. Sprawl, however, threatens this connectivity. As regions continue to spread out, more jobs are dispersed and therefore harder to access than when they are clustered and near transit and affordable housing. As a result, household transportation costs, driven by the costs of car ownership, are much, much higher (by about 15%) than they were in the early part of the twentieth century when transit was booming. Assuring that the benefits of transit accrue to all households, especially those who need it most, poses a challenge for regions in the coming years.

The renaissance of mass transit has coincided with a rebirth of urban communities and neighborhoods that are near transit stations. More and more residents want to not only use transit, but to live near it as well. And this demand shows no sign of abating; if anything, it is likely to increase, given demographic shifts forecasted for the next 25 years. We project that 16 million households will want to live near transit in 2030, compared to the 6 million households that now live near transit (as of 2000). The market is also increasingly acknowledging the value of housing near this public infrastructure.

As demand for housing near transit grows, how will its benefits be shared among diverse users? Will it give people more or fewer choices? And will those choices be broadly shared? How will the public sector leverage its massive investment in transit to yield an even greater return on investment? What will neighborhoods around transit look like in 25 years and what kinds of housing choices will they offer?

As a way to inform future policy choices, the Center for Transit-Oriented Development (CTOD) began to think about these questions in 2004 by studying the demographic makeup of the 6 million households who lived near transit. These findings were reported in “Hidden in Plain Sight: Capturing the Demand for Housing near Transit.”⁵

This report builds on the work first presented in “Hidden in Plain Sight.” We examine the trends in the coming demand for housing near transit and place them in the context of what the areas around transit stations look like today with respect to race, income and housing characteristics. The results of our inquiry show that neighborhoods around fixed-guideway transit today are substantially more diverse than average neighborhoods (census tracts) in the same area. The

⁵ Center for Transit Oriented Development. “Hidden in Plain Sight: Capturing the Demand for Housing Near Transit”, September 2004, available online at http://www.reconnectingamerica.org/pdfs/Ctod_report.pdf.

collective diversity of residents in 86 percent of transit zones is more race, income or race *and* income diverse than the diversity of residents in their surrounding communities.⁶

The results also show that transit zones today offer lower-income residents important opportunities for affordable housing. First, neighborhoods near transit contain much more rental housing than average neighborhoods in the same region, 65 percent versus 39 percent overall. Second, the median gross rent in transit zones, at \$591 per month, is also lower than the average rent, \$657, in these regions. These units are, of course, not occupied solely by lower-income households, nor does it imply there is an adequate supply of affordable rentals given the demand. The lower rents, in some cases, may also be a function of smaller housing unit sizes and/or older units; which mean these units actually have higher costs per square foot. While the lower rents near transit have not been fully studied here, it is likely that the economic benefits of rental housing options near transit are compounded by the savings potential of transit access and connectivity. The cost difference between owning and driving a car for most transportation needs versus primarily using transit, walking and/or biking translates into thousands of dollars a year.

This report challenges regions across the country to plan to accommodate the demand for housing near transit that is known to be coming, while preserving the diversity and opportunities that currently exist. It is specifically a challenge to two sets of stakeholders: those who want to ensure high-quality transit service and those who want to ensure high-quality, yet affordable neighborhoods. This report is meant to spur a dialogue about how to use the growing market for housing near transit to serve the interests of community development groups working to build diverse, inclusive, opportunity-rich neighborhoods, and in the process provide increase the ridership and support for transit systems around the country.

Within the next decade, decisions will be made that will shape development trends for years to come and determine whose interests public infrastructure investments ultimately serve. For many, transit is a necessity; it is the only way they can afford to travel from home to work and elsewhere. For many others, the savings from transit is no more than a convenience, making it possible to get around without having to own or operate an additional auto.

Just a short century ago, transit served as the seams and stitches that held the urban fabric together. Fifty years later, with the passage of the Federal-Aid Highway Act, the seams and stitches began to fray as roads cut through the heart of urban America and cities and their residents became increasingly dependent on automotive transportation. Since passage of the Act, hundreds of billions of dollars have been spent by governments on roads and highways and trillions of dollars by individuals on car ownership and operation, while transit investments languished. The challenge the country faces today is how to “re-evolve” the system into what it once was and rebalance transportation investments, and in the process ensure that the public derives the greatest benefit possible from its long-term investments in public mass transit.

⁶ Transit zones are a half-mile radius around transit stations to which we proportionally sum the census demographic fields from the census blocks, block groups or tracts. Where possible, we use the smallest geography, e.g., the block rather than group or tract.

Report Context and Organization

This report is the first of several to be released by CTOD in 2006 dealing with issues of transit-oriented development. A second report, *Tools for Mixed-Income TOD*, by Douglas Shoemaker with CTOD, provides a detailed overview of several tools for funding, planning and promoting mixed-income developments near transit and illustrates each tool with a corresponding case study of the tool in practice. A third report, jointly funded by the Federal Transit Administration and the Department of Housing and Urban Development, provides detailed policy and market analysis of different types of transit corridors in five regions in the U.S. to document the specific opportunities, challenges and recommendations for creating more housing near transit in each type of corridor and region. A subsequent report will update the trends identified in *Hidden in Plain Sight*, CTOD's 2004 market study for TOD. All reports will be available from the CTOD website, www.reconnectingamerica.org, and the Center for Neighborhood Technology website, www.cnt.org.

This report has six chapters. Chapter One examines the current households and housing near transit. Chapter Two discusses the benefits of these diverse transit-oriented neighborhoods. Chapter Three projects the household demand to 2030 and Chapter Four discusses the challenges and other considerations for meeting the household demand and need. Chapter Five offers policy recommendations to support the preservation and expansion of diverse transit-oriented neighborhoods. Chapter Six offers concluding thoughts on the findings and the urgency for the recommended policy actions.

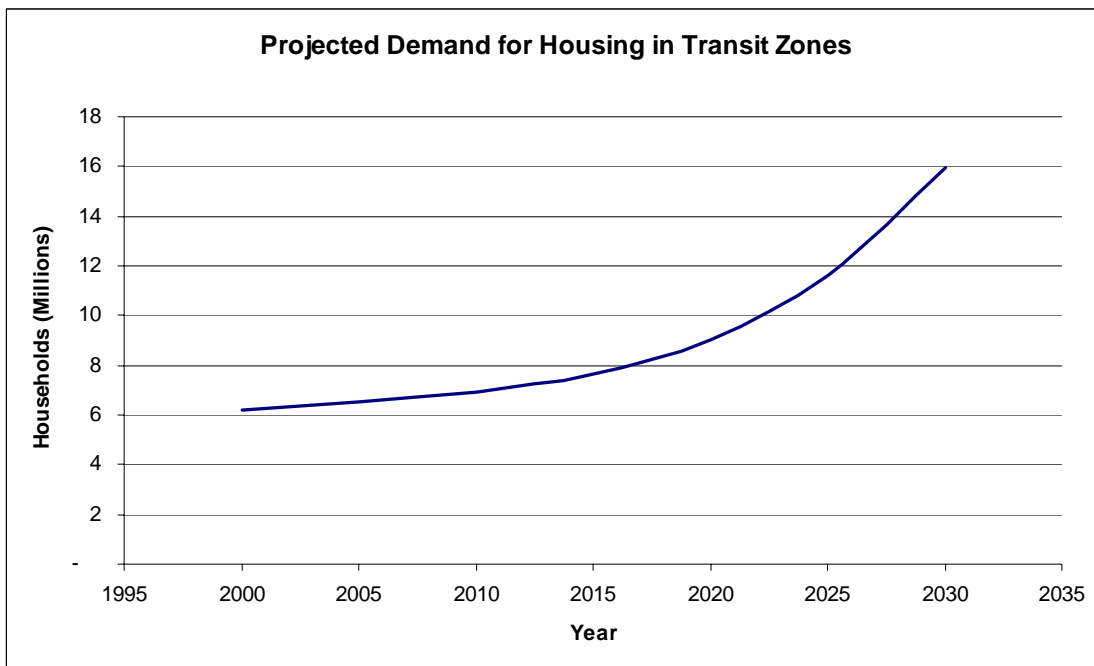
I. Converging Trends Create Demand for Transit-Oriented Development (TOD) and a Need to Preserve Diversity and Affordability

The housing market in America is changing dramatically as households get older, smaller and more ethnically diverse. These shifting demographics are fundamentally re-scripting the American Dream. While the single-family home with a two-car garage in the suburbs may have been the ideal for the family with a breadwinner dad, stay-at-home mom and several kids, it works less well for families with two working parents and one child, for empty-nesters or for other households with no children.

Nationally, demand for housing within walking distance of transit (transit-oriented development, or TOD) is on the rise. It is estimated that this demand will grow from 6 million households in 2000 to 16 million households in 2030. Today, households near transit make up 15 percent of the 40 million households in metropolitan regions with transit. By 2030, households near transit could grow to 22 percent of regional households, if the supply of housing near transit is sufficient.

This growing demand is a result of demographic shifts as well as lifestyle preferences. There is a growing share of older households and single and couple households without children — for which living near transit can hold great appeal — and a declining share of households with children — for which living near transit is not always as desirable or feasible. There are also more households who want shorter and more convenient commutes and who want to live in neighborhoods where the grocery store, park, library and school are within walking distance.

Figure 1. Projected Demand for Housing near Transit 2000 - 2030



The analysis that follows is of households today and in 2030. It uses the 2000 U.S. Decennial Census to examine the race, income, housing and transportation characteristics of residents in transit zones. These data were compiled into a database, the first ever, of household and housing characteristics near all the transit stations in the U.S. This information was then combined with regional growth projections from Woods and Poole Economics, Inc. to model the coming demand for housing near transit in 2030.⁷

We classify transit systems by system size according to the total number of existing stations (See Table 2). System size, not surprisingly, often has a relationship to current and future demand; System size, however, does not influence all trends and in many cases, the mere presence of transit or its location is the most important factor, not whether the transit system is small or extensive. Most transit systems serve a number cities and towns, although 56 percent of stations are in central cities.⁸ The database identifies each region with transit by the portion of the greater metropolitan area that includes the actual system, which might be an MSA or a combination of one or more Primary MSAs (PMSAs) or the entire Consolidated MSA (CMSA). These metropolitan areas are referred to as *transit regions*.

Table 2. Transit Regions Classified by Transit System Size

25 Existing Transit Systems in 2000 by System Size			
Extensive Systems (201 or more stations)	Large Systems (70-200 stations)	Medium Systems (25-69 stations)	Small Systems (24 or fewer stations)
5 Metro Areas: Boston Chicago New York Philadelphia San Francisco Bay	3 Metro Areas: Los Angeles Portland Washington, D.C.	10 Metro Areas: Atlanta Baltimore Cleveland Dallas Miami Pittsburgh Sacramento San Diego Seattle St. Louis	7 Metro Areas: Buffalo Denver Galveston Jacksonville Memphis New Orleans Syracuse

⁷ For this report we expanded the database, the *National TOD Database*, of transit systems developed for the 2004 Center for Transit-Oriented Development report “Hidden in Plain Sight: Capturing the Demand for Housing near Transit.” Some updates to the database have resulted in slight changes in station counts and variances in some data points about the housing and households near transit, however, the general trends and scale in the first report are comparable to this report. To assemble the first version of the database, CTOD used national databases, collected data from regions, and in some cases geo-coded system maps because the region did not have a Geographic Information System (GIS) layer of its transit system. As CTOD works in regions and cities, it gains access to better transit station and system files and at the same time many regions have improved their transit system files in step with improving and expanding their transit systems. In the 2004 database, some stations were counted twice because separate entrances along a set of double tracks or larger arterial road were listed twice by the transit agency. In other cases, junctions between transit lines were counted as stations in the 2002 National Transit Atlas Database (NTAD) source data, but were not actual passenger stations. The double counted and non-passenger stations in a handful of regions have been removed. Adjustments to the track alignment were also necessary on some transit lines in a few regions.

⁸ Central city in this study is defined as the historic central city in a region. Most regions have just one central city for the purposes of this study. The exceptions are San Francisco–Oakland–San Jose; Minneapolis–St. Paul; Raleigh–Durham; Dallas–Fort Worth; and New York–Newark.

DIVERSITY NEAR TRANSIT TODAY (2000)

Age, Household Type and Size

Thirty years ago, the U.S. population looked like a pyramid, with the youngest population at the wide bottom and the oldest population at the narrow top. Today's population, however, is more evenly distributed across age categories, with the highest percentage aged 25-44 and a growing share in the 44-65 category. Increases in immigration have partially filled in the younger years, while the older age categories are becoming an increasing share as a result of a decrease in average family size, an increase in life expectancies, and the aging baby boomer "bulge." By 2030, as baby boomers continue to age, the age distribution will become slightly heavier at the top, with more people 65 years and over and fewer that are 19 years and under.⁹

Since 1970 an aging population has contributed to an increasing preponderance of singles and couples without children. Single adults will soon be the new majority household in this country. Married couples with kids — a demographic group that made up the vast majority of households a century ago — now represent just 25 percent of households nationally, a number expected to drop in coming years. Cultural changes, which have included wider acceptance for non-traditional households, and a growing immigrant population with different household preferences have also played a role in diversifying household types beyond simple shifts in the national age distribution.

These general trends are even more evident in transit zones where just 17 percent of households today are married couples with children, compared to 25 percent in regions with transit and nationally. Transit zones in smaller transit systems tend to have the greatest proportions of single and non-family households, 66 percent. This is correlated to the small systems' very high percentage of central city transit zones, 95 percent. As transit systems grow and extend into suburbia, however, more married couples and households with children are found in neighborhoods with transit. In essence, the household types near transit reflect their communities, whether city or suburban.

Since single-person households have only one wage earner, these households often have much lower incomes than two-earner family households. In transit zones, 35 percent of single-person and non-family households and 51 percent of single-parent households with children earned less than \$20,000 in 2000. Comparatively, just 14 percent of married couples in transit zones earned less than \$20,000 in 2000 (see Figure 2). As discussed below, living near transit gives single-person households, as well as other lower-income households, the advantage of lower transportation costs compared to neighborhoods with fewer transportation choices.

⁹ U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin, Table 2a. Projected Population of the United States, by Age and Sex: 2000 to 2050, www.census.gov.

Figure 2. Household Income by Household Type in Transit Zones and Regions, 2000

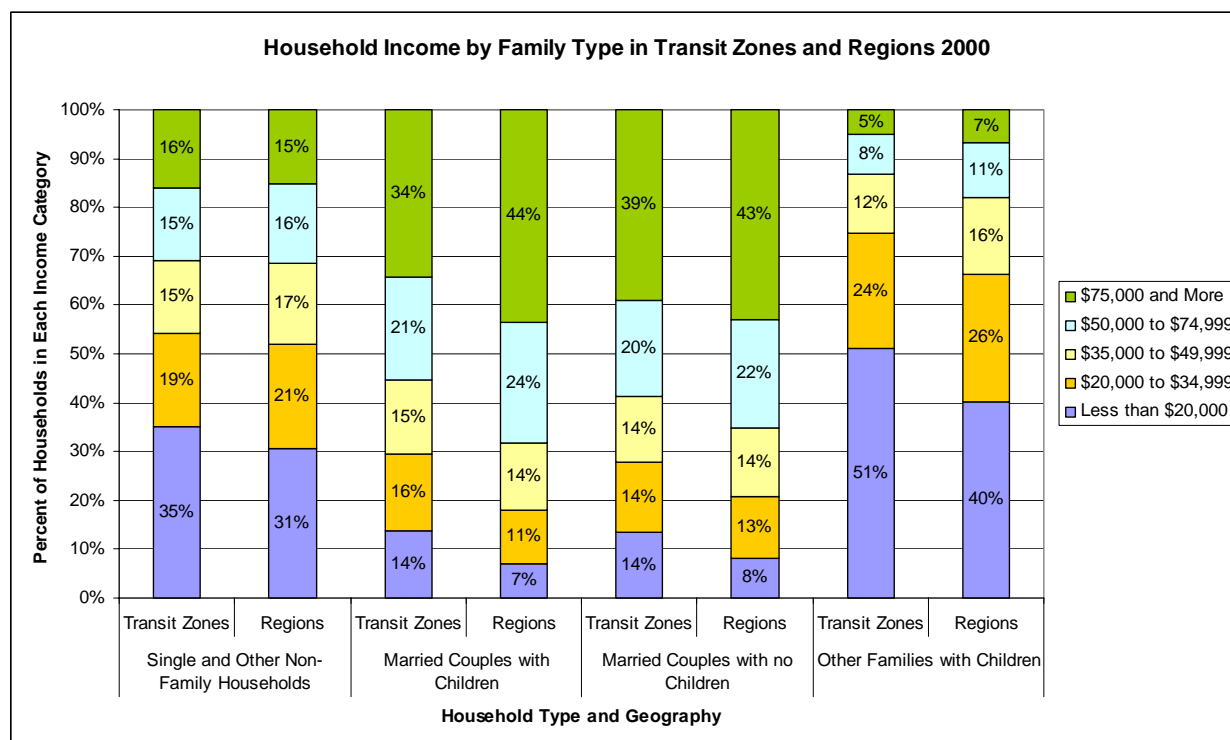


Table 3. Household Size by Tenure

Average Household Size		
Tenure	Transit Zones	Transit Regions
Rent	2.07	2.35
Own	2.50	2.73

Reflecting their large number of single-person and non-family households, transit zone households are also smaller than other households in the regions. This is true among all races, although households in the Hispanic or “other” race categories generally have the largest household sizes than other races, whether renters

or owners. Still, transit zones have a significant number of large households as well. Households of four or more make up 23 percent of all households in transit zones, whereas single-person households make up 35 percent. In the future, it is important to ensure that transit zones are able to continue to shelter this wide range of household types and sizes.

The Los Angeles region is worth noting as a region experiencing an influx of immigrants, particularly from Mexico, Latin America and Central America. The LA region has the largest average household size, 3.0, of all regions with transit. In LA transit zones specifically, however, large household sizes have in part led to overcrowding, especially among renters. A remarkable 40 percent of renter-occupied housing units in transit zones have more than one occupant per room, compared to 24 percent of owned units.¹⁰ By all appearances, housing near transit in LA was built to accommodate smaller households and is not meeting the needs of larger, possibly extended, families. Although Los Angeles may be the extreme — only 12 percent of households

¹⁰ A common measure for residential overcrowding is having more than one occupant per room. The U.S. Census includes in the definition of a room “living rooms, dining rooms, kitchens, bedrooms, finished recreation rooms, enclosed porches suitable for year-round use, and lodgers’ rooms.” Nationally, only 6 percent of households are overcrowded.

in transit zones nationally are overcrowded — it demonstrates the need to develop diverse housing near transit to meet the needs of ever changing demographics.

Table 4. Comparison of Household and Housing Characteristics of Los Angeles Transit Zones to the Los Angeles Region

	Los Angeles Transit Zones		Los Angeles Region	
	Rent	Own	Rent	Own
Average Household Size All Races	2.83	3.44	2.91	3.08
Average Household Size Hispanic	3.79	4.79	3.96	4.42
Percent of Households Overcrowded	40%	24%	30%	11%
Percent of Units with 1-3 Rooms	75%	28%	47%	14%
Percent of Households Spending 30% or more of income on Housing	48%	46%	46%	40%
Median Rent or Owner Costs	\$599	\$1,401	\$730	\$1,492

Race, Ethnicity and Income

The immigration patterns that have shaped Los Angeles in past decades are beginning to shape the rest of the nation. The nation’s population is becoming increasingly diverse. By 2030, the Asian and Pacific Islander and Hispanic populations are expected to significantly increase, and almost one-third of that growth will be due to immigration. African Americans and Native Americans are expected to maintain a constant share of the population over time, while the share of whites is projected to decrease significantly, from 69 percent to 57 percent. By 2050, almost

half the population is expected to be non-white.

Table 5. Race and Ethnicity in Transit Zones and Transit Regions

Percent of Population by Race and Ethnicity 2000			
	Transit Zones	Transit Regions	U.S.
White	41%	59%	69%
Black	23%	14%	12%
Asian and Pacific Islander	8%	6%	4%
Hispanic / Latino	24%	18%	13%
Other Race	3%	3%	3%
% Non-White	59%	41%	31%

Similar to household size trends, shifts in race and ethnicity, as well as immigration, also have relevance for transit and housing near transit.

Minorities and immigrants are likely to make up a significant portion of the future demand for housing near transit given that minorities today are a significant share (59 percent) of the population in transit zones and that their share of the total population, as noted above, is on the rise (see Table 5).

While historic settlement patterns are changing — immigrants are increasingly settling in suburban or even rural locations over cities — demographers predict that most immigrants will continue to live in relatively dense locations (including suburbs).¹¹ Transit zones, as already

¹¹William Frey, *Diversity Spreads Out: Metropolitan Shifts in Hispanic, Asian, and Black Populations Since 2000*. The Brookings Institution, March 2006.

noted, tend to have higher densities than their regions, and they have provided valuable services to immigrant communities from coast to coast. It's hard to think of an immigrant community that did not spring up along a transit line — from the Italian North End in Boston to Irish Bridgeport in Chicago to Chinatown in San Francisco.

Because the reality today is that immigrant and minority households continue to have lower incomes, on average, and because these households tend to own fewer cars and to drive less, they tend to have an affinity for transit. African Americans, Asian and Pacific Islanders and Hispanics are all more likely to use public transit or to walk to work than are non-Hispanic whites, 49 percent versus 39 percent. This is despite the fact that minority households have more children than white households, a factor that usually contributes to higher rates of auto ownership and use. For this reason, the future of transit and of neighborhoods near transit have significant equity and civil rights implications.

Income trends too must be considered in the context of transit. Significant income disparities are expected to continue through 2030, absent major federal and state policy changes. Since the early 1980s, the real wages of middle- and lower-income households have failed to keep pace with those in the top 20 percent of earners, with the late-1990s boom only slightly lessening the chasm.¹² Meanwhile, trends in household composition, namely the increase in single-person and female-headed households, are expected to produce reduced incomes at the low end of the income scale.

While certain demographic trends will have a countervailing affect — the shift to an older working population, increasing educational levels of heads of households and a decline in unmarried teen pregnancy — absent long periods of full employment, these will only partially offset the growth in income disparity. These trends have significant implications for the economic security of a large portion of U.S. residents.

Transit zones, to the extent that they can reduce transportation costs and thereby increase affordability, can serve as a critical income support for the lower- and moderate-income households who most need this support. In regions and neighborhoods without good transit, lower- and moderate-income households spend a much higher percentage of their incomes on transportation, offsetting any savings that might result from lower priced housing. In places such as the Kansas City metro area, for example, households earning \$20,000 to \$50,000 spend only about 23 percent of their income on housing, but about 33 percent on transportation.¹³ Similar shares on housing and transportation also exist in the areas of regions with transit that are outside the transit system's reach. As Kansas City builds its proposed light rail in coming years, and other regions expand existing systems, it is likely that the high transportation costs in these areas will in part be moderated, providing a significant financial benefit to the transit zone residents (see Table 6).

¹² Center on Budget and Policy Priorities, *Pulling Apart: A State-by-State Analysis of Income Trends*, 2006.

¹³ Center for Neighborhood Technology and Virginia Tech. "Housing & Transportation Cost Trade-offs and Burdens of Working Households in 28 Metros". Center for Housing Policy, Washington D.C., forthcoming October 2006.

Table 6. Household Income Distribution in Transit Zones Compared to Transit Regions and U.S.

Percent of Households By Annual Household Income			
	Transit Zones	Transit Regions	U.S.
Less than \$20,000	28%	19%	22%
\$20,000 to \$34,999	18%	17%	19%
\$35,000 to \$49,999	14%	15%	17%
\$50,000 to \$74,999	16%	20%	19%
\$75,000 and More	23%	29%	23%

Today, transit zones house a greater percentage of lower-income households than their regions. The average median household income in transit zones is almost \$35,000, while the average regional median is almost \$47,000. Lower household incomes in transit zones are explained in part by smaller household sizes, but households in transit zones are also objectively less well off economically; transit zones have a poverty rate of 18 percent,

versus 11 percent in their regions.

Despite lower average median incomes near transit, however, there are also a significant number of high-income transit zones. Ten percent of transit zones (322) have a majority of households earning more than \$75,000, most of which (281 of 322) are in regions with extensive transit systems (Boston, Chicago, New York, Philadelphia and the San Francisco Bay Area). System size is associated with median household income in transit zones; the larger the system size, the higher the median household income. This higher median income may be because a higher income is needed to afford the housing near transit, or it may be that the larger system simply captures a greater share of households in the region, including households at all income levels.

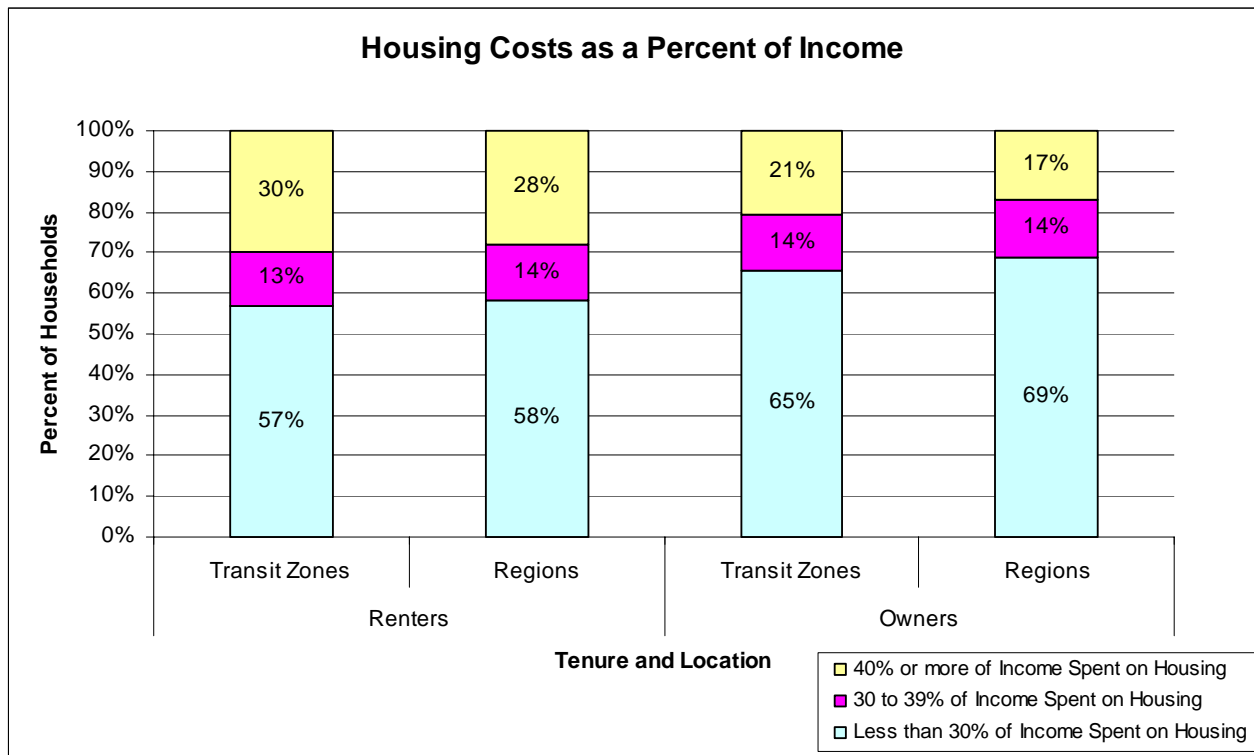
In transit zones, rates of homeownership are lower than in the transit regions and correlate with income, just as is true nationally. Only 35 percent of households in transit zones are homeowners, versus 61 percent of households in transit regions. The median value of owner-occupied housing is higher in transit zones than in transit regions, and these home values in transit zones positively correlate with transit system size. Not surprisingly, the highest home values in transit zones are in Boston, Chicago, New York and San Francisco, all regions with extensive systems. Philadelphia, however, which also has an extensive system, is the exception; it has a very low median home value of just \$96,000 in the transit zones¹⁴.

Higher home values in transit zones could have many explanations beyond transit system size. First there is supply. Homeownership opportunities near transit is limited to fewer households than homeownership in the transit regions overall. Second, in some cases, much higher home values near transit are a result of gentrification as urban areas, downtowns and transit neighborhoods are increasingly sought out. Home appreciation has many benefits, but rapid price escalation and the inability of most households to afford a home is a problem since homeownership is the primary asset of most households and assets are essential to long-term financial security. Regions with growing transit systems have the opportunity to start working proactively for greater homeownership affordability while they plan additional stations and lines.

¹⁴ The cause of the lower median home values in the Philadelphia aggregate of the transit zones was beyond the scope of this study. The values may be reflective of the region’s overall housing market, the location of the transit stations, or other factors not explored here.

Home values, of course, are just one indicator of the economic situation of households and communities. Affordability is another. In 2000, a greater percentage of households in transit zones spent more than 30 percent of their income on housing than did households in transit regions, 41 percent versus 36 percent. When housing tenure is taken into account, the picture changes slightly. Virtually the same portion of renters spend more than 35 percent of income on housing (42.5 percent) whether or not they live in a transit zone, but owners in transit zones are more housing-burdened than their cohort in the transit regions by 4 percentage points. Thirty-five percent of owner households in the transit zones spend more than 30 percent of income on housing versus 31 percent in the regions. However, as households in transit zones tend to own fewer cars than households in the regions, it is likely that the higher percent of income spent on housing is offset by lower transportation costs.¹⁵ The chart below shows these differences.

Figure 3. 2000 Housing Affordability by Tenure in the Transit Zones and Transit Regions



Characteristics of Existing Housing Supply

While a mix of housing types — by size, tenure, age and value — exists near transit, there are some notable trends. Rental units are more common than owner-occupied units, and units in multi-family buildings are more common than single-family homes. Units in buildings of 20 or more units make up 36 percent of all housing units in transit zones, compared to 10 percent in

¹⁵ Center for Transit-Oriented Development and Center for Neighborhood Technology. “The Affordability Index: A New Tool for Measuring the True Affordability of a Housing Choice”, Brookings Institution Metropolitan Policy Program Urban Markets Initiative, Market Innovation Brief, January 27, 2006, available online at http://www.brookings.edu/metro/umi/pubs/20060127_affindex.htm.

transit regions. Single-family homes only make up 18 percent of the housing stock in transit zones, compared to 51 percent in transit regions. The following table details these characteristics by system size.

Table 7. Housing Characteristics in Transit Zones (2000)

Characteristics of Existing Housing in Transit Zones (2000)				
System Size	Extensive	Large	Medium	Small
Percent Rental	56%	62%	55%	60%
Single Family Homes	16%	23%	32%	25%
Homes in Buildings of 20 Units or More	37%	37%	26%	25%
Portion of Owned Homes with 1-3 Rooms	14%	18%	11%	14%
Portion of Rented Homes with 1-3 Rooms	53%	68%	53%	55%
Median Home Age	1949	1960	1959	1952
Homes Built 1990-2000	4%	9%	9%	4%
Homes Built 1940-1950	54%	34%	35%	59%
Median Gross Rent	\$752	\$661	\$585	\$454
Median Value, Owner Occupied	\$245,070	\$175,783	\$132,021	\$119,616
Median Owner Costs / Month	\$1,603	\$1,363	\$1,160	\$1,073
Vacant Homes	6%	7%	10%	15%

While transit zones had higher home values in 2000 than their regions, median rents actually were lower in transit zones than in the regions by about \$60 per month. This may be due to the greater percentage of units in multi-family buildings in transit zones — as already noted — as well as the proportion of smaller units. Just over half the rental units in transit zones are studios or one-bedroom units, 55 percent, compared to 45 percent in the regions.

The housing stock overall in transit zones, both owner-occupied and rental, is aging, with less new development than in the regions. While only 5 percent of homes in the transit zones were built from 1990 to 2000, 15 percent of homes in the transit regions were built during this decade. In some cases, this may indicate that housing in

transit zones is already built-out, but in others it may be the result of the difficulty of developing housing near transit or a slow market response to changing trends prior to the 2000 Census. Since 2000, there has been substantial development in many transit zones. In Evanston, Illinois, a suburb of Chicago, an additional 2,000 units have been constructed near the community’s transit stations. In Palatine another Chicago suburb, 1,400 units have been built near a commuter rail station and hundreds of units have been built in Minneapolis near the new Hiawatha Line stations. There are similar examples from across the country, including new housing along the new light rail line in Hudson-Bergen, New Jersey; however, this study wasn’t able to track this post 2000 data across all regions.

Household Diversity near Transit Today

This study's objective has not only been to get a snapshot of the race and income characteristics of transit zones today, but to measure the level of diversity within transit zones. We wanted to know whether within the neighborhoods that comprised transit zones there was a mix of incomes and races, or whether transit zone neighborhoods were segregated by race, income, or race and income like many U.S neighborhoods.¹⁶ If we found that transit zone neighborhoods were more diverse than their regions, it would indicate that transit zones offer not only the potential for affordability, opportunity and convenience, but also the potential for different groups to live and work alongside each other and learn to understand and appreciate each other's backgrounds, cultures, lifestyles and situations.

While this report does not fully explore the causes and circumstances that led to this high rate of diversity near transit, one could surmise that the wide range of amenities that cluster around transit stations, in addition to transit itself, is sufficiently attractive to certain segments of the housing market across all incomes to suggest that mixed income strategies will work on a market basis, not merely as "social engineering"¹⁷.

Why even consider diversity? In ecology, strong biodiversity is understood to bring stability to ecosystems. A neighborhood can be seen as a human ecosystem that similarly benefits from high levels of diversity.¹⁸ As Jane Jacobs and other urban observers have noted, neighborhoods are more sustainable when there is a diversity of people moving about at different times throughout the day, supporting a diverse retail base, and contributing different resources to the community. Additionally, as our nation becomes more diverse, our workplaces and schools do to. Households that live in diverse neighborhoods will likely be more comfortable when they encounter diversity elsewhere. Neighborhood diversity can be measured in many ways, including the race, income, age, household type and physical ability of residents. The measures used for diversity in this study focus on race and income specifically, but all types of diversity are important for sustainable neighborhoods, including diversity in household size and type, the focus in the first CTOD market study.

The general demographic changes noted earlier are already having specific spatial impacts, increasingly redesigning urban America to create more mixed-race neighborhoods. The 2000 Census revealed that, in the 10 largest metropolitan areas, predominantly white neighborhoods fell by 30 percent from 1990, and that nine of these regions experienced an increase in the number of neighborhoods that could be classified as "mixed-race." Over the decade, whites and African Americans became less likely, and Hispanics, Asians, and Pacific Islanders more likely,

¹⁶ Squires, Gregory D. 2002. "Urban Sprawl and Uneven Development of Metropolitan America." In *Urban Sprawl: Causes, Consequences and Policy Responses*, edited by Gregory D. Squires, pp. 1-22. Washington: Urban Institute; and Gregory D. Squires and Charles E. Kubrin. *Privileged Places: Race, Uneven Development and Geography of Opportunity in Urban America*. Urban Studies, Vol. 42, No. 1, 47-68. January 2005.

¹⁷ This is similar to George Galster's finding in a study of mixed-income neighborhoods in the 100 largest metros from 1970-2000 for the Ford Foundation in 2005. That is, mixed-income neighborhoods are mostly produced by market forces, not intention.

¹⁸ Urban theorists, researchers, and designers have made this comparison. Andres Duany built upon this research in the development of the The Transect.

to live in neighborhoods in which their group predominated, respectively.¹⁹ As we will show, neighborhoods near transit are on the leading edge of this trend towards diversity.

We looked at racial and income diversity in two different ways:

- First, we measured the diversity of all the transit zones in a given transit system by aggregating the population of all the zones and comparing it to the diversity of the region as a whole.
- Second, we measured the diversity within each individual transit zone and compared this to the diversity of the average central city or suburban census tract in the transit region. This comparison is an approximation for comparing transit zone neighborhoods with non-transit zone neighborhoods. In this method, central city transit zones were compared to the average of census tracts in the corresponding central city and suburban transit zones were compared to the average census tract in the corresponding suburban communities.

Table 8. Count and Percent of Transit Zones in Central Cities by System Size

Existing Transit Zones and Percent Central City by System Size						
System Size	Extensive (201 or more stations)	Large (70-200 stations)	Medium (25-69 stations)	Small (24 or fewer stations)	Small Built After 2000	Total
Count of Transit Zones	2,300	348	492	112	97	3,349
Percent of Transit Zones in a Central City	56%	45%	54%	95%	70%	56%

To measure diversity, we used a method known as the “Entropy Index.”²⁰ The Entropy Index scores diversity on a scale from 0 to 1, where a value of 0 is homogeneous (all the same) and a value of 1 is heterogeneous (completely mixed). We applied the Entropy Index region by region, which allowed us to create a unique measure of diversity for each region, rather than comparing the diversity of households near transit in each region to a national standard. (For more information on the Entropy Index, see Appendix A: Methods.)

Table 9. Comparison of Race and Income Diversity in Transit Systems, Regions and U.S.

Race and Income Diversity Index		
	Race Entropy Index	Income Entropy Index
Transit Systems	0.850	0.981
Transit Regions	0.728	0.982
U.S.	0.613	0.996

¹⁹ Fasenfest, David, Jason Booza, and Kurt Metzger. “Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990-2000”. Brookings Institution Center for Urban and Metropolitan Policy. April 2004

²⁰ Modarres, Ali. (2004). “Neighborhood Integration: Temporality and Social Fracture,” *Journal of Urban Affairs* 26 (3): 351-378. and Juan Onésimo Sandoval, Hans P. Johnson, and Sonya M. Tafoya. “Who’s Your Neighbor: Residential Segregation and Diversity in California.” *California Counts*. Public Policy Institute of California. Vol.4, No. 1. August 2002. <http://urbanpolicy.berkeley.edu/pdf/census2000/sandoval.pdf>

Diversity of Households by Transit System

Overall, when we compare all households living near transit in 2000 with all households living in transit regions, we find the population living near transit to have greater racial diversity and nearly equal income diversity (see Table 8).

When we study transit systems region by region, we find slightly different diversity results. Just over a quarter of transit regions (7 of 25) have more income diversity in transit zones than their respective regions (see Table 9).²¹ This is because households near transit tend to have lower incomes than households in the given region overall and therefore less income diversity. These lower incomes are, in part, a result of smaller household sizes and higher rates of poverty, both mentioned previously.²² Transit zones in regions with extensive transit systems are most likely to be income-diverse as compared to their regions. This correlates with higher median incomes, lower poverty rates and larger households that characterize extensive systems, as compared with smaller transit systems.

Transit zones are more racially diverse than their regions in 22 of the 25 regions with transit in 2000, i.e., the zones have a greater and more equal mix of households of various races than their metro areas. The 3 transit systems that are less racially *diverse* than their regions actually have higher minority populations than their regions: Los Angeles, Miami and New Orleans. Just 18 percent of households in Los Angeles transit zones are white non-Hispanic, compared to 38 percent of households in the Los Angeles region. Similarly, Miami's transit zones are 23 percent white non-Hispanic, while the Miami region is 44 percent white non-Hispanic.²³ It is somewhat counter-intuitive to many people's standard understanding of racial diversity to call a more non-white area less diverse, especially when compared to the U.S. population as a whole, these places are very diverse. When measured against their regions, however, these transit zones are more racially homogeneous.

²¹ Transit systems that were built after the 2000 U.S. Census are not studied here, as the impact of transit on the diversity of neighborhoods at those newer transit stations could not yet be measured.

²² It is important to keep in mind that the U.S. Census does adjust for household size when measuring poverty, so poverty cannot be entirely written off as a function of household size

²³ The proportions of minorities were nearly equal in the New Orleans transit zones and region in 2000.

Table 10. Comparison of Race and Income Diversity of Transit Systems to Transit Regions

System Size	Transit Region	Race Entropy Index		Income Entropy Index		Race in Transit System More Diverse than Region?	Income in Transit System More Diverse than Region?
		Transit System	Region	Transit System	Region		
Extensive	Boston	0.688	0.463	0.981	0.972	YES	YES
	Chicago	0.788	0.710	0.989	0.975	YES	YES
	New York	0.867	0.750	0.978	0.968	YES	YES
	Philadelphia	0.685	0.552	0.977	0.987	YES	NO
	San Francisco Bay Area	0.849	0.824	0.966	0.918	YES	YES
Large	Los Angeles	0.743	0.792	0.931	0.988	NO	NO
	Portland	0.591	0.447	0.977	0.993	YES	NO
	Washington	0.777	0.727	0.982	0.924	YES	YES
Medium	Atlanta	0.673	0.638	0.971	0.976	YES	NO
	Baltimore	0.553	0.545	0.945	0.983	YES	NO
	Cleveland	0.640	0.474	0.941	0.997	YES	NO
	Dallas	0.788	0.691	0.993	0.989	YES	YES
	Miami	0.737	0.741	0.925	0.994	NO	NO
	Pittsburgh	0.307	0.274	0.994	0.992	YES	YES
	Sacramento	0.777	0.697	0.979	0.992	YES	NO
	San Diego	0.755	0.736	0.976	0.989	YES	NO
	Seattle	0.651	0.541	0.937	0.980	YES	NO
St. Louis	0.582	0.432	0.920	0.996	YES	NO	
Small	Buffalo	0.639	0.396	0.899	0.993	YES	NO
	Denver	0.722	0.551	0.951	0.977	YES	NO
	Galveston	0.799	0.645	0.898	0.990	YES	NO
	Jacksonville	0.583	0.540	0.758	0.999	YES	NO
	Memphis	0.684	0.563	0.797	0.995	YES	NO
	New Orleans	0.603	0.612	0.942	0.983	NO	NO
	Syracuse	0.735	0.321	0.727	0.996	YES	NO

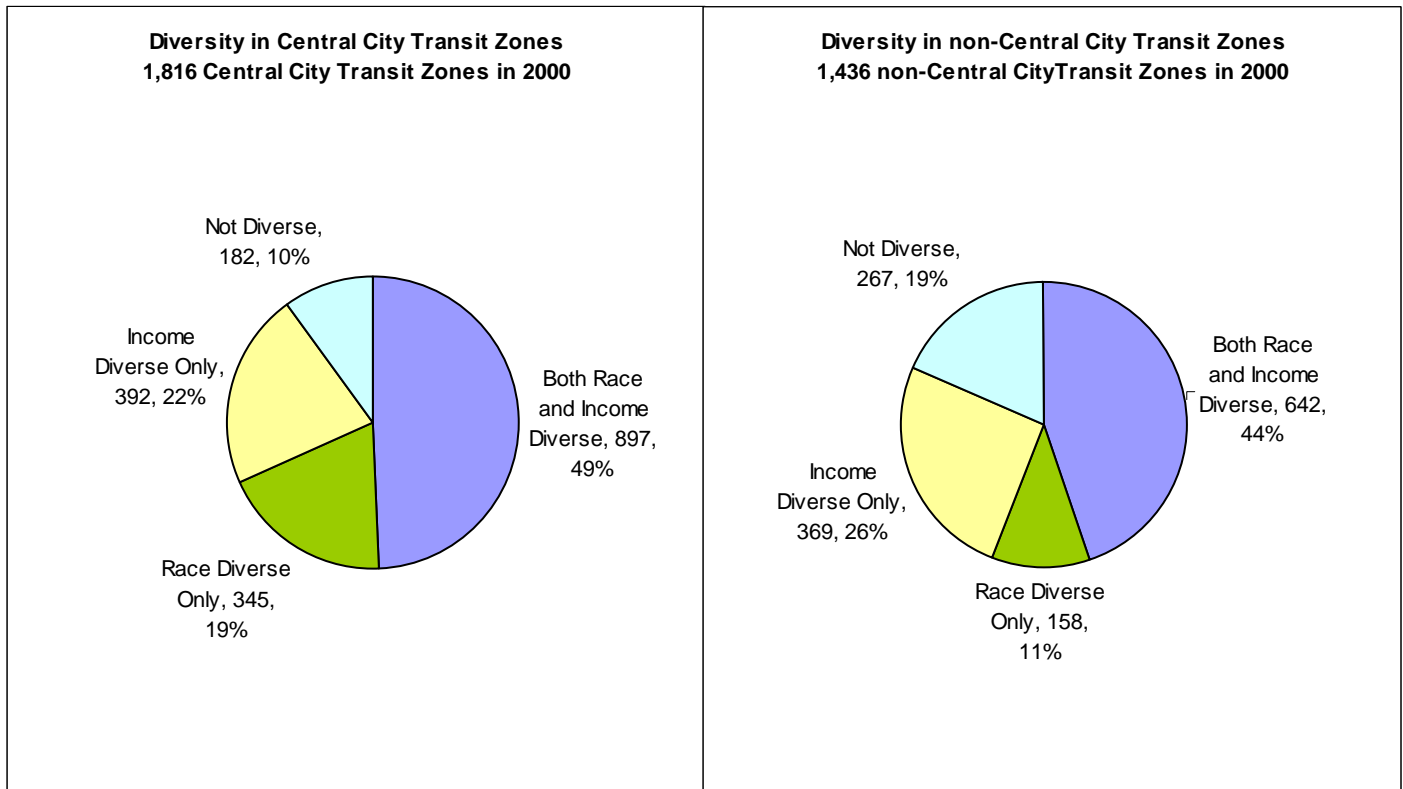
Diversity of Households by Transit Zone

Recognizing that it is a lofty standard to measure the diversity of the population within one-half mile of transit against all the diversity within an entire transit region, we also looked at each individual transit zone and compared it to a similar geography — another census tract of the same urban form in the same region, either central city or suburban. The results were quite striking. Of the 3,252 transit zones that existed at the time of the 2000 U.S. Census, 86 percent were more diverse by race, income or both race and income than the average of comparison (central city or suburban) census tracts in the region. Of these 86 percent, 48 percent (1,539) were more diverse for *both* race **and** income (See Figure 4).

This greater diversity exists in both central city and suburban transit zones, countering typical assumptions about the spatial distribution of diversity and suggesting that the low transportation costs and increased accessibility that transit offers supports diversity in both urban and suburban contexts. There is one important distinction in the diversity we found, however, between central city and suburban transit zones. A greater proportion of central city transit zones are more

racially diverse than an average central city census tract, while a greater proportion of suburban transit zones are more income diverse than an average suburban census tract (see Figure 4).

Figure 4. Comparison of Race and Income Diversity of Central City and Suburban Transit Zones to Central City and Suburban Census Tracts



Diverse transit zones are found not only in both cities and suburbs, but also in all transit systems to varying degrees. (See Table 10) Among the small systems of Buffalo, Denver, Memphis, New Orleans and Syracuse, all transit zones have some diversity, whether race, income or both. Not surprisingly, non-diverse transit zones tend to be those at the extremes — very low income or very high income, very white or very non-white. In nearly half (201) of the 449 transit zones that are not diverse by our measure, a majority of the residents are white and a majority of the households earn \$75,000 or more. Most (172 of 201) of these non-diverse transit zones are in the suburbs. A smaller portion of the 449 non-diverse transit zones are majority non-white (74). Nearly all of these are in central cities (71) with the majority of households earning less than \$20,000.

Table 11. Transit Zones compared to Neighborhood Race and Income Diversity by Transit System Size and Region

System Size	Region	Total Transit Zones	Race Diverse Zones	Income Diverse Zones	Both Race and Income Diverse	Not Diverse	Percent of Transit Zones with Race and/or Income Diversity
Extensive	Boston	288	42	81	120	45	84%
Extensive	Chicago	401	35	103	201	62	85%
Extensive	New York	955	107	192	496	160	83%
Extensive	Philadelphia	370	27	115	171	57	85%
Extensive	San Francisco Bay Area	286	48	90	127	21	93%
Large	Los Angeles	113	25	30	42	16	86%
Large	Portland	108	40	9	39	20	81%
Large	Washington	127	17	21	78	11	91%
Medium	Atlanta	38	5	2	26	5	87%
Medium	Baltimore	61	13	14	23	11	82%
Medium	Cleveland	49	14	3	27	5	90%
Medium	Dallas	48	3	9	30	6	88%
Medium	Miami	60	22	5	27	6	90%
Medium	Pittsburgh	68	5	38	21	4	94%
Medium	Sacramento	55	20	16	14	5	91%
Medium	San Diego	56	13	13	23	7	88%
Medium	Seattle	29	13	7	7	2	93%
Medium	St. Louis	28	6	0	18	4	86%
Small	Buffalo	16	10	0	6	0	100%
Small	Denver	24	15	5	4	0	100%
Small	Galveston	15	6	0	8	1	93%
Small	Jacksonville	8	5	2	0	1	88%
Small	Memphis	23	7	0	16	0	100%
Small	New Orleans	18	1	3	14	0	100%
Small	Syracuse	8	4	3	1	0	100%

II. Combining Forces: The Benefits of Diversity and Transit-Oriented Orientation

To date, the practices of stakeholders committed to transit-oriented neighborhoods and those working for diverse neighborhoods have been on parallel tracks, each with considerable expertise. Indeed, those working primarily on TOD come from transit, land use planning and market-rate development perspectives, while those working on neighborhood diversity mostly have deep roots in community development and affordable housing.²⁴ This report is an attempt to make the case that both sets of actors have a shared interest in the development of diverse transit-oriented neighborhoods. Although the challenges described in the following chapter regarding future household demand and the need to preserve existing diverse neighborhoods seems daunting, the significant potential benefits to households, developers, neighborhoods and regions are worth the additional effort.

THE BENEFITS OF TOD

Transit-oriented development in and of itself — to say nothing of mixed-income or mixed-race TOD — has the potential to provide many benefits to regions, to local governments and to households and individuals. With careful planning, TOD can support local businesses and retail, capture the increases in land value that result from the public investment in new rail lines and replace the large amounts of surface parking lots and auto-related infrastructure with uses that provide more revenue to local governments and more desirable neighborhoods for residents in which to live and work. But while local benefits are very real, the most dramatic effect is at the regional level, where the synergy of uses in TOD and the resulting convenience of walking, biking and transit use can provide for much more sustainable travel behavior and development patterns.

At the regional level, TOD can help to focus growth into targeted areas and diminish pressure for growth at the edge of regions; create housing options that more closely match demographic trends and market demand; promote healthy lifestyles; and minimize traffic congestion. Numerous studies have established the linkages between the density, mix, pattern and design of local land uses and transit ridership. In essence, these studies show that mixed-use places that allow for some daily trips to be made on foot or bike are good complements to transit and, if designed properly, can ensure a sustainable base of transit riders who arrive at stations from both the immediate and the surrounding areas. Ensuring riders from the immediate area within walking distance is one additional benefit of TOD since it provides low-cost riders, i.e., riders who do not drive to the station and therefore do not need a parking space—a major expense for transit agencies.

²⁴ While there are examples of TODs that are about community development, e.g. Bethel New Life's Transit Center in Chicago, IL and the Fruitvale Transit Center in Oakland, CA, these are the exception and not the rule and each of these took more than ten years to develop.

THE BENEFITS OF DIVERSE NEIGHBORHOODS

Much of the rationale behind mixed-income housing — which often results in mixed-race by proxy, as race and income are closely bound together in the U.S. — as a strategy for addressing issues of urban poverty and community development is based on the increasing consensus among policymakers that high concentrations of poor households in a neighborhood or housing development lead to negative social and economic outcomes.²⁵ Supporters of mixed-income housing generally argue for the strategy for two separate but related reasons. First, mixed-income neighborhoods are better physical places to live in: they offer better quality housing, better schools, better public services, greater safety and more amenities. Second, mixed-income neighborhoods offer the potential for a higher quality of life: they offer access to better job networks, exposure to additional role models, the means for greater economic success and access to healthier social and civic networks.²⁶

THE POWER OF COMBINING EFFORTS FOR DIVERSE NEIGHBORHOODS AND TRANSIT-ORIENTATION

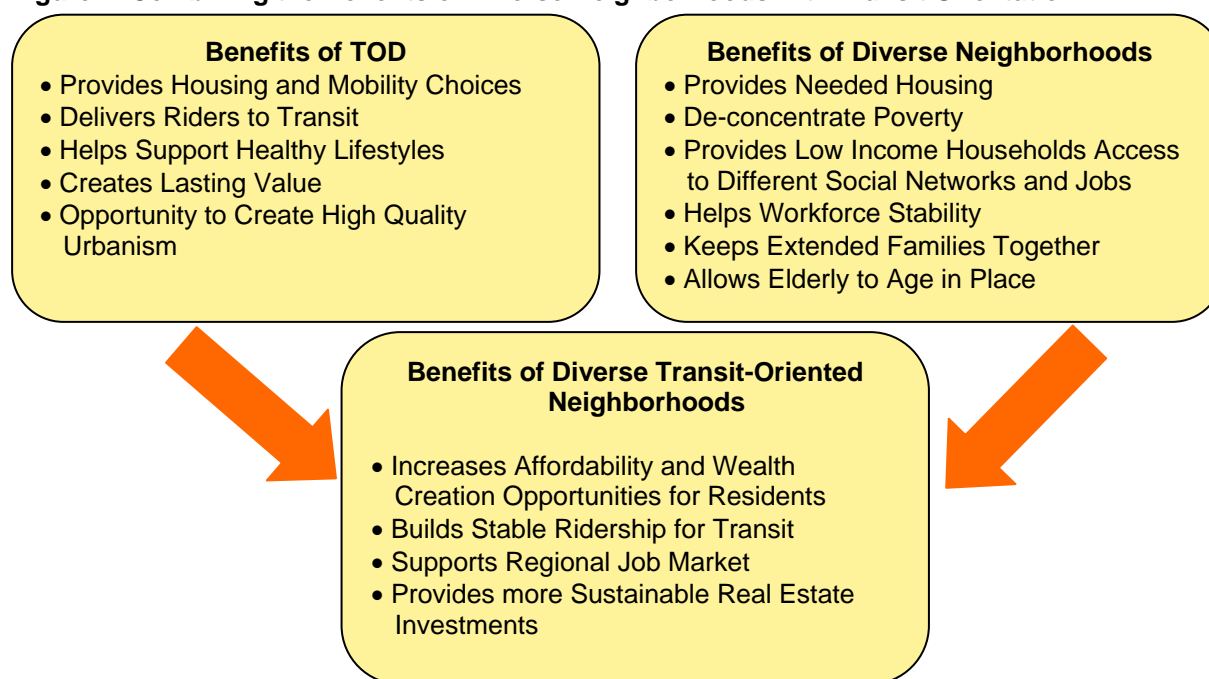
Combining diverse neighborhoods and TOD offers several additional benefits. Consider a Moving to Opportunities framework,²⁷ in which lower-income households are helped to move from a lower-income neighborhood to a higher-income neighborhood as a way to access other opportunities and to live in a more stable environment. Providing mixed-income TOD in higher-income neighborhoods would yield added benefits to the relocated household because of the affordability of transit. Higher-income households in a mixed-income TOD, on the other hand, also stand to benefit from the increased transit ridership and the resulting more frequent service, as well as from more employment and earnings stability for their lower income neighbors, due to the affordable connectivity provided by the transit.

²⁵ Author's interview with David Lee of Stull and Lee Architects, an urban designer and architect who has worked on a variety of mixed income projects through HOPE VI in Houston, West Palm Beach, Louisville, and Boston. September 2005; George Galster, 1992. A cumulative causation, model of the underclass: Implications for urban economic development policy. In *The Metropolis in Black and White*, edited by G. Galster and N. Hill. New Brunswick, N.J.: Center for Urban Policy Research; Galster, George, 2003. "Investigating Behavioral Impacts of Poor Neighborhoods: Towards New Data and Analytic Strategies".

²⁶ Brophy, Paul and Rhonda Smith. 1997. Mixed Income Housing: Factors for Success. *Cityscape* 3(2).

²⁷ Moving to Opportunities is a HUD 10-year demonstration program in which Public Housing Authorities in five regions were granted funds to combine "tenant-based rental assistance with housing counseling to help very low-income families move from poverty-stricken urban areas to low-poverty neighborhoods." <http://www.hud.gov/progdesc/mto.cfm>

Figure 7. Combining the Benefits of Diverse Neighborhoods with Transit Orientation



Benefits to Households: Diverse Transit-Oriented Neighborhoods Provide Greater Affordability and Wealth Creation Opportunities

Few households are aware that the amount they spend annually on car payments, insurance, gas, parking and car repairs is almost equal to their rent or mortgage payment. Many people moving to distant suburbs for cheap housing may not in the end save money or build as much wealth as expected because of the high transportation costs of living a long way from essential amenities like schools and grocery stores, to say nothing of jobs. For lower-income households this is a particular paradox. Not only are housing prices beyond the reach of many lower-income households, this population also bears a higher burden in transportation costs, which have a bigger impact on smaller household budgets.²⁸

TOD can and does lower household transportation costs. Until recently, a household's transportation patterns were thought to be driven mostly by household income and size, i.e., larger and wealthier households tending to own more vehicles and drive more miles. But research undertaken by CNT, Surface Transportation Policy Project and Natural Resources Defense Council in the "Location Efficiency Study (1994-2000)", and furthered by CNT and CTOD in the Affordability Index Project (2005-2006) shows that the land use and transportation characteristics of a neighborhood — density, walkability, the availability and quality of transit and the accessibility of jobs and amenities such as grocery stores, dry cleaners, daycare and movie theaters — are actually more highly correlated to transportation expenditures than just income and household size.²⁹ Characteristics of place influence travel demand, helping

²⁸Center for Neighborhood Technology and Virginia Tech. "Housing & Transportation Cost Trade-offs and Burdens of Working Households in 28 Metros". Center for Housing Policy, Washington D.C., forthcoming October 2006.

²⁹ See John Holtzclaw, Robert Clear, Hank Dittmar, David Goldstein, and Peter Haas, "Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Use—Studies in Chicago, Los Angeles, and San Francisco," *Transportation Planning and Technology* 25(1) (2002): 1-27, available online at www.tandf.co.uk/journals/online/0308-

determine how residents get around, where they go and how much they spend on transportation. And, given the increasing costs of driving due to rising gas prices, the savings from living in a dense, transit-friendly community can be considerable, particularly for low-income households. Therefore, a mixed-income neighborhood that also meets the criteria of a high performance TOD (a mix of uses, higher densities, walkability, and good connecting transit) can help all households in the neighborhood reduce their transportation costs more than if the neighborhood were diverse or mixed-income, but didn't have the TOD characteristics.

While housing is traditionally considered affordable if it accounts for 30 percent or less of a household's monthly budget, there is no recognized benchmark for determining "affordable" transportation spending. Nationally, transportation is the second largest household expenditure after housing, and ranges from less than 10 percent in transit-rich areas to almost a quarter of the average household's expenditures in areas where there are few transportation options.³⁰ Very low-income (50 percent of AMI) and extremely low-income (30 percent of AMI) households are particularly impacted by auto-dependent development patterns, with even minimal expenditures on auto transportation taking a higher proportion of their income. In Denver, for example, five of the eight central city neighborhoods have concentrated levels of poverty³¹ and only one of six census tracts is served by transit. Auto-dependent very low-income households spend on average 80 percent of their income just on shelter and transportation.³²

So while working families and moderate-income households can certainly take advantage of the considerable cost savings associated with high-quality transit service, very low- and extremely low-income households stand to gain the most from having affordable options for getting to work or school or taking care of errands. Access to the regional pool of jobs has been shown to be one of the most effective means of rising out of poverty and transit is a cost-effective means for low-income workers to access these jobs.

Benefits to Transit Agencies: Diverse Transit-Oriented Neighborhoods Provide a Stable Base of Riders for the Transit System

For transit agencies, ridership is a key measure of success. Indeed, new transit lines are evaluated based on the amount of ridership that the line will generate and sustain, the potential revenue from those riders and the likelihood that ridership will grow over time. TOD helps generate cost-effective riders for the transit system: 45 percent of workers in transit zones walk, bike or take transit to work, compared to just 14 percent of workers in regions with transit, and three-fourths of households living near transit own one auto or less. But, diverse TOD has even greater benefits for transit agencies because minority and lower-income workers take transit at the highest rates.

[1060.html](#). See also Center for Neighborhood Technology and Center for Transit Oriented Development. "The Affordability Index: A New Tool for Measuring the True Affordability of a Housing Choice", Brookings Institution Urban Markets Initiative, January 2006.

³⁰ Center for Neighborhood Technology and Virginia Tech. "Housing & Transportation Cost Trade-offs and Burdens of Working Households in 28 Metros". Center for Housing Policy, Washington D.C., forthcoming October 2006.

³¹ Neighborhoods have concentrated poverty when more than 40% of households are below 50% AMI.

³² Based on the Housing & Transportation Affordability Index developed by Center for Neighborhood Technology and Center for Transit Oriented Development applied to the neighborhoods in Denver.

Table 15. Comparison of Workers Commuting by Transit, Walking and Biking by Race in Transit Zones and Regions with Transit

Percent of Workers over 16 Walking, Biking or Taking Transit to Work by Race						
	All	White	African American	Asian Pacific Islander	Hispanic/Latino	Other Race
Transit Zones	45%	39%	50%	51%	48%	49%
Regions with Transit	14%	10%	24%	18%	19%	20%

According to Census 2000, low-income residents use transit more frequently to get to work than any other income group. Though the size of a transit system has a bearing on the rates of ridership — with higher numbers of more wealthy households riding transit in regions with larger, more interconnected systems — low-income households consistently ride transit at higher rates.

Table 16. Means of Transportation to Work by Household Income in 2000

National Means of Transportation to Work by Income 2000				
Annual Income	Personal Vehicle	Transit	Walk or Bike	Other or Work at Home
Less than \$20,000	80%	7.8%	7.0%	5.1%
\$20,000 to \$34,999	87%	5.3%	4.0%	3.8%
\$35,000 to \$49,999	89%	4.3%	2.8%	3.4%
\$50,000 to \$74,999	91%	3.7%	2.1%	3.3%
\$75,000 to \$99,999	91%	3.9%	1.7%	3.4%
\$100,000 or more	88%	5.2%	1.9%	5.1%
Total	89%	4.7%	2.8%	3.9%

Source: Census 2000, 5% PUMA

While TOD proponents have tended to focus on producing market-rate development near transit—a smart strategy to stimulate investment, middle- and upper-income residents tend to be “riders of choice.” They use transit if it is safe, convenient and competitive with the car. Lower-income residents, in contrast, can be counted on as regular and loyal riders. They need to keep their family transportation costs low and often have no alternatives to transit,

Diverse transit-oriented neighborhoods serve, in some sense, as a ridership insurance package for transit agencies since these neighborhoods provide dependable riders for their transit system and stabilize its funding base. So much of the transit agency’s funding is dependent on providing reliable ridership estimates and demonstrating success, therefore, transit agencies have a vested interest in promoting diverse transit oriented neighborhoods.

Benefits to Employers: Diverse Transit-Oriented Neighborhoods Help Create a Stable Regional Job Market

In regions where congestion and housing prices are high or on the rise, employers are now emerging as leading advocates for investing in transit because many find that high housing costs

get in the way of attracting talented workers at affordable wages. Housing that is affordable to typical wage earners is located further and further from job centers, reducing the available labor pool and limiting the employability of workers since how workers get to and from jobs has serious impacts on business.

The high cost of auto commuting limits the available labor pool to those who can afford to pay the price in time and/or money. AAA estimates that the average cost of driving a new passenger car in 2004 was 56.2 cents per mile, or \$8,431 per year, up from 29.9 cents per mile in 1999.³³ Furthermore, the average yearly work commute time is now equivalent to between four and eight full work weeks, leading to home versus work conflicts and limiting the amount of time available for community activities. Robert Putnam, in his book *Bowling Alone*, provides evidence that time lost commuting limits social capital formation and public participation. And the traffic congestion associated with more workers traveling longer distances also causes commuters to be late for work, while increasing absenteeism and employee turnover.

More diverse transit-oriented neighborhoods could address many of these problems. In general, transit runs on a regular schedule without the uncertainties of getting stuck in traffic due to accidents or other unforeseeable events. As such, if more workers lived in transit-oriented neighborhoods and were able to rely on transit, it could cut down on absenteeism, tardiness and turnover. Such neighborhoods could also provide employers with access to a broader and more diverse workforce.

Benefits to Developers: More Sustainable Real Estate Investments

Density can provide the placemaking and “urbanity” that the market is seeking. In most neighborhoods, residents now spend less than a fifth of their retail dollars in local commercial districts — 1,000 to 2,000 new housing units within a 10 minute walk is needed to support a block of new Main Street retail; more in low-income neighborhoods — David Dixon, Goody Clancy

A diversified housing stock in any development helps moderate the swings of market cycles and provides more stable investments for developers and investors. As one Denver developer said, “I have a project with a potential for over 2,000 units. I won’t be able to peg all of that to the highest end of the market; it’s just not that deep. Varying product types and targeting different incomes will help me move my project toward completion more rapidly.”³⁴ Although exclusively market rate TODs may be able to more easily absorb the costs of land, entitlements and other permits, income diversity, including income-restricted units, may in fact help projects weather the ups and downs of market cycles and move more quickly through the development cycle.

Moreover, using density in transit-oriented neighborhoods to deliver riders to the transit system can also support diversity in terms of income, age and family size. The cost of developing any single housing unit decreases as the housing units per acre increases. Land costs being equal, higher-density development costs less on a per-unit basis than lower-density development. With the

³³ AAA. “Your Driving Costs”, 1999 and 2005, available from http://www.aaawa.com/news_safety/pdf/Driving_Costs_2005.pdf. On the other hand, the federally tax-exempt Employee Transit Fringe Benefit, available from employers in many of the larger transit cities, can be as high as \$1,236 per year. (For example - <http://www.transitchicago.com/welcome/transitb.html>)

³⁴ Author’s interview with Mark Falcone, Managing Director and Founder, Continuum Partners LLC, April 2006.

right balance of market factors, construction techniques and site considerations, developers can internally subsidize a mix of housing unit types, sizes and prices, particularly at higher densities.

SUMMARY OF BENEFITS

The future for regions that embrace a vision of diverse transit-oriented neighborhoods is promising. If the potential demand for TOD is met by development that is attractive, convenient, flexible and affordable, it will have important positive impacts on livability and regional economic strength. Young households seeking a fast-paced urban lifestyle will be able to find affordable housing in 24/7 neighborhoods. Active older adults and those unable to drive will be able to find housing in neighborhoods where shops and services are within walking distance and trips to cultural events, medical appointments, and visits to family and friends can be made by transit. Employers will be assured that chronic tardiness will not be a problem because employees will not be stuck in traffic. Low-income residents living near transit will have access to greater job opportunities. The cost to the region for streets, parking and highway improvements will also be lower, freeing up funds for improving transit service or adding neighborhoods amenities like parks and plazas. And families will find themselves building wealth or leading a more affordable lifestyle by virtue of their ability to reduce transportation expenses.

Given these tremendous advantages, developers, transit agencies, cities and members of the community development field have good reasons to work together to pursue diversity in transit-oriented development. In the next chapter we explore the potential market in which these actors will operate in the next 25 years.

III. Future Demand for Diverse Housing and Development Near Transit (2030)

The previous two chapters presented the current picture of transit zones—the diversity of those that live there and the benefits derived from preserving and expanding these types of neighborhoods. In this chapter, we present the potential demand by 2030 for housing near transit in order to understand how future demographics can affect and mesh with the dynamics in the housing market and the long term planning for regions, transit systems, and neighborhoods.

2030: DEMAND FOR HOUSING NEAR TRANSIT

Our projected demand estimate for housing near transit varies by region according to system size. Regions with the largest systems today, or planned by 2030, will have the greatest growth in demand. The following tables present the demand overall and by each region.

To model the demand, we calculated capture rates — proportions of regional households living near transit — for different household types in regions with transit today. We then model future capture rates based on transit system growth, the higher capture rates of larger systems today, and the growing desire for certain household types to want housing near transit. Future capture rates are applied to 2030 population estimates by household type to get a projection of the number of households expected to live near transit in 2030.

Table 12. Households near Transit by Region and System Size in 2000 and 2030

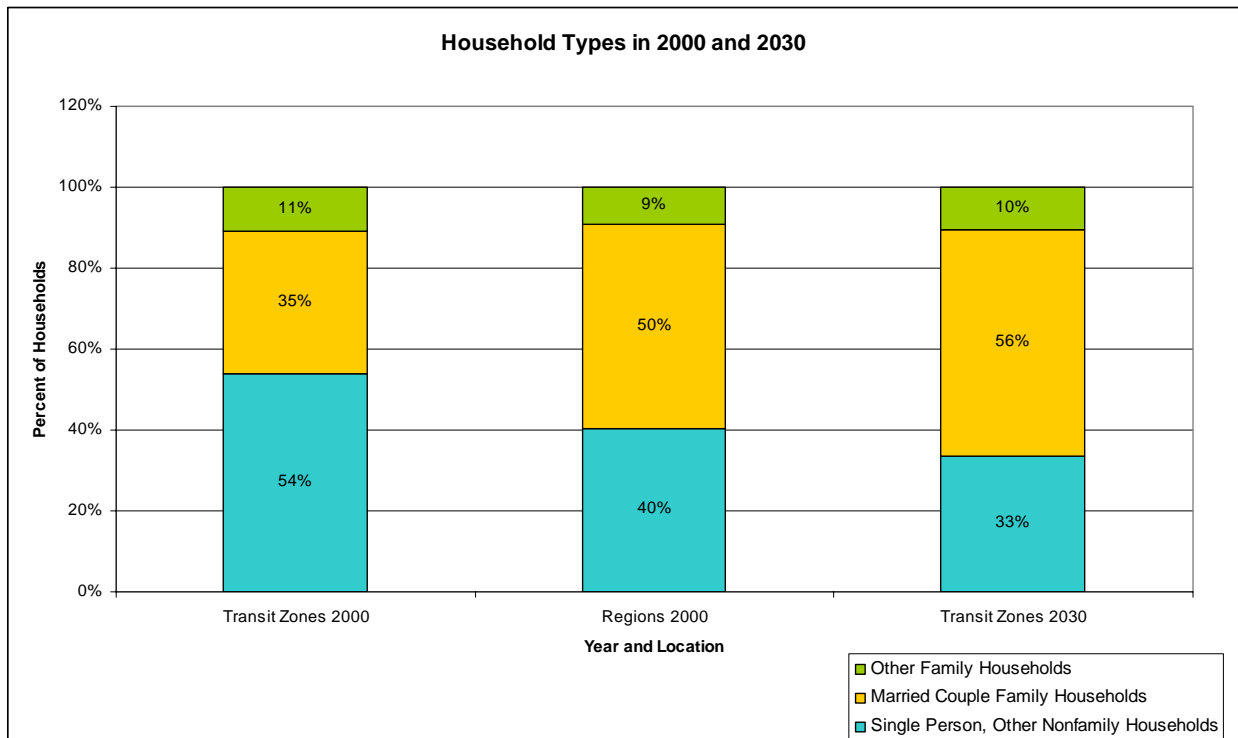
Transit Region	Transit Zones in 2005	System Size 2005	System Size in 2030	Transit Zone Households 2000	2030 Projected Transit Zone Households
Boston	288	Extensive	Extensive+	396,261	1,072,309
Chicago	401	Extensive	Extensive+	787,204	1,628,411
New York	955	Extensive	Extensive+	2,876,160	4,916,983
Philadelphia	370	Extensive	Extensive+	506,058	1,065,449
San Francisco Bay Area	286	Extensive	Extensive+	409,497	1,141,860
Los Angeles	113	Large	Extensive	261,316	1,858,311
Portland	108	Large	Extensive	72,410	308,644
Washington	127	Large	Extensive	234,202	738,948
Atlanta	38	Medium	Large	44,542	259,147
Baltimore	61	Medium	Large	70,303	149,893
Cleveland	49	Medium	Large	53,649	92,602
Dallas	48	Medium	Large	46,429	318,975
Miami	60	Medium	Large	62,595	296,300
Pittsburgh	68	Medium	Large	42,792	105,077
Sacramento	55	Medium	Large	51,179	131,254
San Diego	56	Medium	Large	65,743	156,815
Seattle	29	Medium	Large	29,492	173,626
St. Louis	28	Medium	Medium	21,438	84,258
Buffalo	16	Small	Small Static	19,183	28,617
Denver	24	Small	Large	17,881	155,076
Galveston	15	Small	Medium	5,821	14,290
Jacksonville	8	Small	*	2,431	*
Memphis	23	Small	Medium	7,269	40,079
New Orleans	18	Small	Medium	31,685	59,211
Syracuse	8	Small	Small Static	6,489	8,240
Charlotte	10	Small	Large	3,752	87,097
Houston	18	Small	Medium	12,259	166,657
Las Vegas	9	Small	Medium	8,257	70,213
Little Rock	11	Small	Medium	1,100	23,337
Minneapolis--St. Paul	17	Small	Medium	18,703	110,906
Salt Lake City	22	Small	Medium	20,023	69,502
Tampa Bay Area	10	Small	Medium	3,024	99,882
Austin	-	Proposed	Medium	-	59,509
Eugene	-	Proposed	Medium	-	12,533
Fort Collins	-	Proposed	Medium	-	10,852
Harrisburg	-	Proposed	Medium	-	32,945
Hartford, CT	-	Proposed	Medium	-	33,518
Kansas City	-	Proposed	Medium	-	65,559
Nashville	-	Proposed	Medium	-	54,275

Transit Region	Transit Zones in 2005	System Size 2005	System Size in 2030	Transit Zone Households 2000	2030 Projected Transit Zone Households
Norfolk	-	Proposed	Medium	-	54,660
Phoenix	-	Proposed	Medium	-	142,938
Raleigh-Durham-Chapel Hill	-	Proposed	Medium	-	53,568
Total	3349			6,189,147	15,952,325

*Projections were not created for Jacksonville

As transit systems expand and demographics change, we project that transit zones will begin to look more and more like today’s regions. Compared to transit zones today, transit zones in 2030 will have a greater proportion of married couple households (56 percent in 2030 versus 35 percent in 2000) and a lower proportion of single-person and non-family households (33 percent in 2030 versus 54 percent today). One reason for this shift is that transit systems usually start in a central city and, as they expand, reach different types of communities and eventually the suburbs. System expansions in the coming years will begin to extend into more suburban communities. This projected higher percentage of married couples also reflects a trend in which older couples whose children no longer live at home move to be near transit and the convenience it offers.

Figure 5. Distribution of Household Types in Transit Zones and Regions in 2000 and 2030

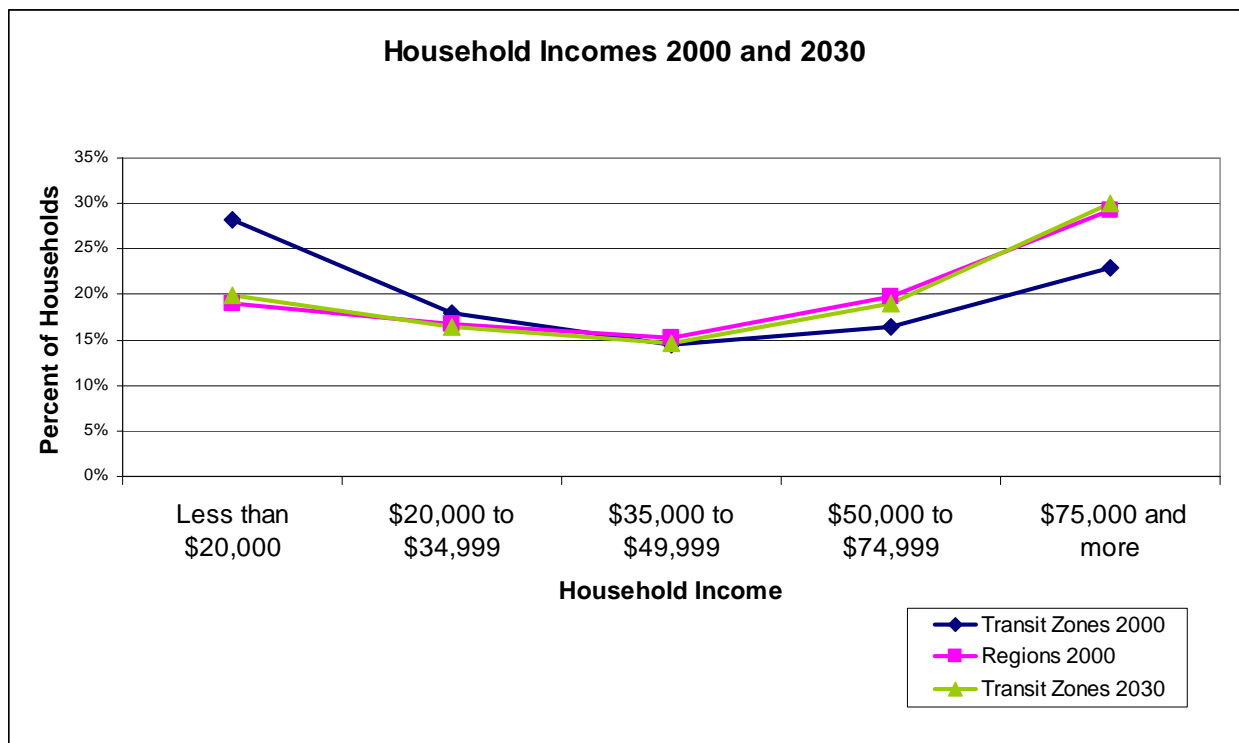


Corresponding with the projected changes in household types who may live near transit, there would also be a greater proportion of higher-income households in transit zones in 2030 compared to today. Households earning \$75,000 or more could grow from 23 percent of all households in transit zones in 2000 to 30 percent in 2030. Conversely, the proportion of

households in transit zones earning less than \$20,000 could fall from 28 percent in 2000 to 20 percent in 2030. The percentage of “working family”³⁵ households, those earning roughly \$20,000 to \$50,000 will remain at 31 percent in the regions and transit zones (see Figure 6). This means that fifty percent of the demand will come from households earning less than \$50,000.

While the income profile of transit zones may change, the demand for housing near transit coming from lower-income households will remain significant. More than 3 million households — 19 percent of those earning less than \$20,000 — could demand housing near transit in 2030. Transit regions today are not building new affordable housing to meet that demand and are not actively preserving the existing affordable housing for the 1.8 million households earning less than \$20,000 that live near transit today.

Figure 6. Distribution of Household Incomes by Transit Zones and Regions in 2000 and 2030



Communities, developers and transit agencies that are building new transit lines are challenged by all aspects of building near transit. Affordable housing adds additional complexity not typically reflected in the expertise of new TOD project developers. However, today there are experts doing both affordable housing and TOD, such as Mark Falcone quoted in the prior chapter. And affordable housing developers could also do more TOD. Most, if not all, affordable housing developers possess the skills to acquire and manage multiple layers of financing and often work with several levels and departments within government to obtain the financing, grants and supportive services for their project and to win political support. Involving affordable housing developers in TOD plans not only could help on the development end, but also on the

³⁵ Working family households is a term researchers and practitioners use to describe households of lower to moderate incomes whose primary source of income is from full-time, but often low-wage, work.

long-term viability of the project, since the economically diverse developments — their financing, rent structures and use — would have more ability to adapt to changing market conditions than if they were all high end.

To accommodate future demand, development plans for transit zones must include affordable housing, with the level of affordability defined according to the needs of the community. Without affordability, the neighborhood in general and the performance of the transit station specifically may not achieve their full potential. High performing TOD has high transit ridership, supports diverse uses and accommodates households of different types. TOD without affordability may not have the same levels of ridership, or adequate numbers of households to support a diversity of uses both in terms of workers and consumers.

The regions we expect to have the greatest percentage growth in demand for housing near transit will be those that have substantial transit expansion plans. Regions like Denver, Minneapolis-St. Paul and Charlotte can expect to see the demand for housing near transit grow by five times today's levels or more. New York, on the other hand, will have the greatest total additional demand, with the potential for more than two million additional households looking for housing near transit in 2030. Los Angeles will have the next largest demand increase after New York — by 1.6 million new households — as its transit system expands and its population increases. The following two tables show the demand by transit region by household type and income.

Predicting demand is both an art and a science. These projections can be influenced by the development policies and the practices today and in coming years. The successful efforts of planners, transit and smart growth advocates, community developers and others to improve convenience and connectivity in transit-oriented communities may lead to an even greater increase in both supply and demand for housing in transit zones beyond our estimates and among all types of households. Or, conversely, the opposite could also happen: continued low density growth into undeveloped areas and inadequate funding for transit could make it difficult for many regions to capture this growing demand for housing near transit.

Table 13. Household Demand for Housing near Transit by Income Category and Transit Region in 2000 and 2030

Region	Current System Size	2030 Anticipated System Size	2030 Demand for Housing Near Transit. Count of Households by Income						2000 Households Near Transit by Income					
			Less than \$20,000	\$20,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 and More	Total Demand	Less than \$20,000	\$20,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 and More	Total 2000
Boston	Extensive	Extensive +	199,644	159,312	150,263	212,160	350,930	1,072,309	97,202	63,508	56,663	70,889	107,825	396,087
Chicago	Extensive	Extensive +	265,436	250,918	245,826	340,400	525,830	1,628,411	193,854	141,555	122,304	138,911	190,819	787,443
New York	Extensive	Extensive +	1,020,493	743,750	668,232	894,529	1,589,980	4,916,983	827,711	497,534	406,727	466,031	677,813	2,875,816
Philadelphia	Extensive	Extensive +	200,744	175,373	160,301	217,665	311,367	1,065,449	157,216	99,758	76,454	82,441	90,134	506,003
San Francisco Bay Area	Extensive	Extensive +	158,835	146,558	149,849	219,060	467,558	1,141,860	84,139	59,430	56,026	75,366	134,402	409,363
Los Angeles	Large	Extensive	408,274	337,836	281,670	340,924	489,607	1,858,311	99,704	60,522	37,267	34,154	30,129	261,776
Portland	Large	Extensive	48,631	54,813	53,358	69,775	82,066	308,644	21,570	16,101	11,882	11,945	10,718	72,216
Washington	Large	Extensive	86,933	98,387	102,660	152,562	298,406	738,948	47,479	37,727	35,444	45,111	68,670	234,431
Atlanta	Medium	Large	56,828	48,761	40,448	49,407	63,703	259,147	14,078	8,035	6,126	6,898	9,415	44,552
Baltimore	Medium	Large	36,180	27,907	22,211	28,128	35,468	149,893	26,305	14,022	9,749	10,228	9,905	70,209
Cleveland	Medium	Large	24,445	19,598	15,294	17,465	15,802	92,604	20,183	11,511	7,158	6,897	8,183	53,932
Dallas	Medium	Large	74,974	67,072	51,363	57,089	68,477	318,975	11,361	10,543	8,049	7,994	8,388	46,335
Miami	Medium	Large	86,613	66,319	47,207	47,258	48,902	296,300	24,968	13,198	8,644	7,549	8,074	62,433
Pittsburgh	Medium	Large	32,047	24,677	17,690	17,984	12,700	105,098	10,575	9,049	7,179	8,138	7,863	42,804
Sacramento	Medium	Large	34,135	27,153	21,079	23,488	25,399	131,254	15,354	11,019	8,135	8,851	8,035	51,394
San Diego	Medium	Large	40,795	33,230	24,269	26,798	31,722	156,815	19,884	14,716	10,759	10,413	9,936	65,708
Seattle	Medium	Large	36,382	32,226	27,524	35,289	42,205	173,626	11,257	6,143	4,138	3,881	3,985	29,404
St. Louis	Medium	Medium	19,697	16,321	13,314	16,585	18,342	84,258	8,657	4,407	3,201	2,506	2,509	21,280
Charlotte	Small	Large	20,749	18,513	14,839	17,082	15,913	87,097	1,251	598	394	518	916	3,677
Denver	Small	Large	30,803	28,596	24,195	30,656	40,826	155,076	6,557	3,363	2,513	2,569	2,918	17,920
Galveston	Small	Medium	4,112	2,827	2,032	2,244	3,079	14,293	2,419	1,364	744	633	575	5,735
Houston	Small	Medium	44,147	34,180	24,598	26,265	37,466	166,657	3,058	2,116	2,014	1,918	3,064	12,170
Las Vegas	Small	Medium	17,496	15,794	12,339	12,708	11,875	70,213	2,790	2,617	1,328	961	584	8,280
Little Rock	Small	Medium	7,565	5,386	3,885	3,615	2,887	23,337	606	191	152	83	38	1,070
Memphis	Small	Medium	11,014	7,964	6,271	7,153	7,678	40,079	3,963	1,424	692	609	578	7,266
Minneapolis-St. Paul	Small	Medium	20,124	18,171	15,892	23,532	33,187	110,906	6,543	4,059	3,106	2,906	2,090	18,704

Table 13 Continued

Demand for Housing Near Transit in 2030 By Income Cont.														
Region	Current System Size	2030 Anticipated System Size	2030 Demand for Housing Near Transit. Count of Households by Income.						2000 Households Near Transit by Income.					
			Less than \$20,000	\$20,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 and More	Total Demand	Less than \$20,000	\$20,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 and More	Total 2000
New Orleans	Small	Medium	19,517	12,516	8,862	9,140	9,177	59,211	11,701	6,362	4,013	3,779	5,769	31,624
Salt Lake City	Small	Medium	13,560	13,670	12,688	14,833	14,752	69,502	6,413	5,212	3,382	2,962	2,124	20,093
Tampa Bay Area	Small	Medium	28,286	24,117	17,170	15,957	14,352	99,882	1,250	572	290	322	529	2,963
Buffalo	Small	Small	8,893	5,452	4,076	4,496	5,700	28,617	8,392	4,028	2,377	2,215	2,230	19,242
Syracuse	Small	Small	3,599	1,726	929	1,067	919	8,240	3,845	1,308	500	452	333	6,438
Austin	System Proposed	Medium	13,255	11,033	8,844	11,009	15,369	59,509	-	-	-	-	-	-
Eugene	System Proposed	Medium	3,665	2,868	2,262	2,167	1,574	12,535	-	-	-	-	-	-
Fort Collins	System Proposed	Medium	2,416	2,054	1,748	2,145	2,490	10,852	-	-	-	-	-	-
Harrisburg	System Proposed	Medium	8,148	7,240	5,921	6,434	5,202	32,945	-	-	-	-	-	-
Hartford, CT	System Proposed	Medium	7,574	5,550	4,570	6,225	9,598	33,518	-	-	-	-	-	-
Kansas City	System Proposed	Medium	14,279	12,832	10,654	13,166	14,629	65,559	-	-	-	-	-	-
Nashville	System Proposed	Medium	13,450	11,110	8,956	10,209	10,550	54,275	-	-	-	-	-	-
Norfolk	System Proposed	Medium	13,477	11,737	9,634	10,623	9,195	54,667	-	-	-	-	-	-
Phoenix	System Proposed	Medium	34,277	30,358	23,763	25,583	28,958	142,938	-	-	-	-	-	-
Raleigh--Durham--Chapel Hill	System Proposed	Medium	12,403	9,897	7,743	9,795	13,731	53,568	-	-	-	-	-	-
Total			3,183,894	2,623,800	2,324,429	3,032,665	4,787,571	15,952,360	1,751,656	1,112,471	897,655	1,018,331	1,408,657	6,188,770

Table 14. Household Demand for Housing near Transit by Household Type and Transit Region in 2000 and 2030

Demand for Housing Near Transit in 2030 by Household Type										
Region	Current System Size	2030 Anticipated System Size	2030 Demand for Housing Near Transit. Count of Households by Type.				2000 Households Near Transit by Type.			
			Single Person, Other Non-family Households	Married Couple Family Households	Other Family Households	Total Demand	Single and Non-Family	Married Couple Family Households	Other Family with Children	Total 2000
Boston	Extensive	Extensive +	392,306	583,920	96,082	1,072,309	225,748	126,695	29,632	382,075
Chicago	Extensive	Extensive +	534,405	932,870	161,136	1,628,411	416,041	280,167	79,967	776,175
New York	Extensive	Extensive +	1,844,997	2,560,922	511,065	4,916,983	1,456,187	1,048,965	336,781	2,841,933
Philadelphia	Extensive	Extensive +	367,970	605,369	92,111	1,065,449	267,202	173,775	65,312	506,289
San Francisco Bay Area	Extensive	Extensive +	405,074	610,256	126,530	1,141,860	242,009	140,570	22,853	405,432
Los Angeles	Large	Extensive	633,347	1,004,326	220,638	1,858,311	124,088	107,319	34,977	266,384
Portland	Large	Extensive	90,271	189,071	29,301	308,644	43,302	23,595	5,155	72,052
Washington	Large	Extensive	237,553	408,730	92,664	738,948	148,959	64,402	20,156	233,517
Atlanta	Medium	Large	65,035	164,295	29,818	259,147	30,320	10,331	5,014	45,665
Baltimore	Medium	Large	44,902	90,254	14,737	149,893	41,501	18,866	10,303	70,670
Cleveland	Medium	Large	26,692	58,218	7,694	92,604	29,652	16,713	8,698	55,063
Dallas	Medium	Large	73,621	210,213	35,142	318,975	26,882	16,832	4,261	47,975
Miami	Medium	Large	78,065	190,255	27,980	296,300	32,551	22,780	7,444	62,775
Pittsburgh	Medium	Large	31,886	65,599	7,613	105,098	21,109	18,329	2,434	41,872
Sacramento	Medium	Large	38,323	77,326	15,605	131,254	29,327	17,787	5,354	52,468
San Diego	Medium	Large	47,097	93,225	16,494	156,815	33,578	23,323	7,038	63,939
Seattle	Medium	Large	44,928	114,124	14,573	173,626	21,576	5,926	1,272	28,774
St. Louis	Medium	Medium	18,168	56,059	10,032	84,258	13,500	5,374	2,969	21,843
Charlotte	Small	Large	21,422	56,774	8,901	87,097	2,492	682	287	3,461
Denver	Small	Large	37,269	104,857	12,949	155,076	11,734	5,031	1,981	18,746
Galveston	Small	Medium	3,774	8,818	1,701	14,293	3,241	1,642	762	5,645
Houston	Small	Medium	43,751	103,992	18,914	166,657	8,741	3,430	461	12,632
Las Vegas	Small	Medium	16,693	44,125	9,395	70,213	5,617	2,001	522	8,140
Little Rock	Small	Medium	9,736	11,299	2,303	23,337	847	125	109	1,081
Memphis	Small	Medium	11,200	24,717	4,162	40,079	5,643	996	737	7,376
Minneapolis-St. Paul	Small	Medium	24,090	75,286	11,531	110,906	12,330	4,492	1,797	18,619

Table 14. Continued

Demand for Housing Near Transit in 2030 by Household Type Cont.										
Region	Current System Size	2030 Anticipated System Size	2030 Demand for Housing Near Transit. Count of Households by Type.				2000 Households Near Transit by Type.			
			Single Person, Other Non-family Households	Married Couple Family Households	Other Family Households	Total Demand	Single and Non-Family	Married Couple Family Households	Other Family with Children	Total 2000
New Orleans	Small	Medium	11,935	36,466	10,810	59,211	21,608	7,487	2,723	31,818
Salt Lake City	Small	Medium	10,838	51,371	7,293	69,502	11,723	7,052	1,304	20,079
Tampa Bay Area	Small	Medium	28,940	61,046	9,896	99,882	1,811	673	372	2,856
Buffalo	Small	Small	8,557	16,369	3,690	28,617	12,533	4,644	2,545	19,722
Syracuse	Small	Small	2,484	5,099	657	8,240	3,983	1,262	1,247	6,492
Austin	System Proposed	Medium	15,430	37,243	6,837	59,509	-	-	-	-
Eugene	System Proposed	Medium	3,646	7,896	993	12,535	-	-	-	-
Fort Collins	System Proposed	Medium	3,072	6,884	895	10,852	-	-	-	-
Harrisburg	System Proposed	Medium	10,547	19,742	2,656	32,945	-	-	-	-
Hartford, CT	System Proposed	Medium	10,553	20,251	2,714	33,518	-	-	-	-
Kansas City	System Proposed	Medium	13,713	43,920	7,926	65,559	-	-	-	-
Nashville	System Proposed	Medium	15,263	33,397	5,614	54,275	-	-	-	-
Norfolk	System Proposed	Medium	12,795	34,816	7,056	54,667	-	-	-	-
Phoenix	System Proposed	Medium	29,758	94,294	18,886	142,938	-	-	-	-
Raleigh--Durham--Chapel Hill	System Proposed	Medium	14,471	33,238	5,859	53,568	-	-	-	-
Total			5,334,577	8,946,931	1,670,852	15,952,360	3,305,835	2,161,266	664,467	6,131,568

IV. Meeting the Demand: Additional Considerations and Challenges

There are significant implications of the findings described so far about who lives near transit today and who is expected to want to live near transit in 2030. Transit zones today support a great deal of diversity that should be preserved and enhanced as regions work to meet the coming demand. By and large, future demand for housing near transit will far outstrip supply unless there is a concerted effort at multiple levels of government. And it will be especially important to ensure that the benefits of living in transit zones are shared broadly, and do not become the purview of any one income group or household type.

Transit zones, therefore, must continue to accommodate households of all sizes, especially families, who, if current development patterns are any indication, are at-risk of being displaced. To the extent that Latinos will make up a growing share of the population, both in general and in transit zones, their larger household sizes and multi-generational living arrangements should also be taken into consideration. Single parents with children — also a growing share of households — will need not only larger units, but also affordability, since they have just one income to support multiple household members. Without adequate family housing near transit, more families will seek affordable larger units on the peripheries of regions, adding both to their household transportation and energy costs and to regional traffic congestion. However, households without children will make up the majority of new demand and therefore, public services should reflect this new reality. For example, parks and open space serve residents with and without children while new schools in transit zones serve only families with children.

Transit zones must also accommodate households at all income levels, especially lower-income. As Chapter Three showed, more than one-half of the demand for housing near transit, is likely to come from households that have annual incomes below the area median, or roughly \$50,000 in 2000 dollars. Twenty percent of all households with a potential demand for housing near transit will make less than \$20,000 a year. Increased job connectivity and other supports will be necessary to help these households increase their earnings, while keeping their expenses down. The economic benefits of transit for these households is particularly critical. As repeatedly mentioned, very low-income households using transit spend roughly \$400 a year on transportation, while very low-income households without transit spend close to \$2,800 per year.³⁶ A difference of \$2,400 for a household making less than \$20,000 represents a host of opportunities. Planning for families and for low-income households may not need to be accomplished at each and every transit zone, but should be promoted and tracked at the transit zone, corridor and system-wide scales.

³⁶ Analysis of 1999-2001 Consumer Expenditure Survey micro data for California by Lorie Rice in “Transportation Spending by Low-Income California Households: Lessons for the San Francisco Bay Area”, PPIC, 2004.

Demand for Diverse Housing Types

“One third of Americans want to live in small towns, one third want to live in the suburbs, and one third want to live in more urban, walk-to environments...[T]his last sector is growing and could be approaching 40 percent now...but it is greatly underserved with product.”
- Chris Leinberger, Brookings Institution

Both owners and renters are today exhibiting different priorities than they did in the past: in smaller homes, or homes designed to accommodate multiple generations, or homes that offer a more convenient lifestyle, with jobs, shopping, entertainment, culture, sidewalk cafes, public services and parks all within walking distance. Contemporary

households also want more housing choices — including lofts, live-work spaces, townhomes, row houses, courtyard housing and other housing types suitable for walkable, higher-density urban neighborhoods. The demand for diverse housing types will only increase as the population shifts in age, race, income and household makeup.

If the many constituencies working to create desirable transit-oriented neighborhoods with strong connectivity to jobs succeed, demand for living near transit could grow beyond the projections outlined here. As already noted, most housing in transit zones is multi-family rental, and a greater share are smaller units. Maintaining this mix of rental units might not be right for every transit zone or every region based on the transit system size, demographics and immigration patterns. In some regions, like Los Angeles, there may be a need for units with more bedrooms. In all regions, there’s a need for more affordable homeownership opportunities that do not substantially replace the affordable existing rental housing stock. Rental housing will also need to be upgraded and increased in many places.

In sum, a delicate balance must be struck in a fluctuating housing market. As market opportunities arise, higher-density rental housing in transit zones will likely be converted to market-rate ownership housing, thus reducing the availability of affordable and rental housing. In situations of short supply, the cost of rental housing will rise significantly, reducing affordability and income diversity in transit zones. These situations call for market intervention by local governments and affordable housing providers.

Demand for Transportation Choices

In concert with the rising demand for housing near transit is an increased demand for more transportation options. This is likely to accelerate if gasoline prices rise in coming years, congestion continues at the current pace, and awareness of the high total cost of car ownership continues to increase.

To date, only some of the household demand for more transportation options is being met. Although the U.S. is in the midst of a transit building boom, with numerous metropolitan regions planning, building or expanding some form of urban rail, busway, streetcar or enhanced bus systems, the competition for federal funding is intense. As a result, some regions, like Denver, are not waiting for the federal government and have passed ballot measures to fund transit locally; the recent \$4.9 billion FasTracks initiative that would fund five new light rail lines throughout the Denver metropolitan region over the next 15 years passed with over 55 percent of the vote. Policymakers and developers are starting to see transit as a valuable amenity, a source

of cost savings for households and a precondition for continued economic growth — not just a way to decrease future congestion.

Market Interest in Urban Areas and TOD

The marketplace has not been blind to this tremendous need and demand for more housing near transit, and it is beginning to respond. In 2005, *Emerging Trends in Real Estate*, now in its 27th year, rated “transit adjacency” as its **top** location criterion for real estate investments.³⁷ This follows a decade of rating “transit adjacency,” “urban infill” and “24-hour character” among the top five criteria. The report reflects an annual survey of investment fund managers representing the \$300 billion U.S. annual equity capital from institutional investment sources.

“Among the newest players now moving into urban housing such are tract homebuilders as Toll Brothers, Inc and Los Angeles’ KB Homes...Both have spent decades trying to lure folks out of the city. Now...those same companies are suddenly making a reverse commute of their own by gobbling up urban properties at a fevered pace.” Business Week, September 24, 2004.

National retail chains are increasingly seeking both density and transit accessibility, and even big-box retailers, ranging from Target to Home Depot to Office Depot, are developing urban real estate products.

Employers recognize Need for Housing and Transportation Alternatives

Employers are also beginning to respond to the growing need for more housing near transit. In the last two decades, the top concern of CEOs and human resource managers has shifted from tax rates to human capital, with employee retention at the top of the list — the top challenge to which is transportation and accessibility.

Land Availability Increases TOD Costs

There is an irony at play here. Despite the fact that a significant proportion of the demand for TOD could come from lower-income households and non-white households — the same household types that are currently making many older and existing transit zones successful and vibrant places — the very factors inhibiting the TOD market are making it especially hard to deliver to these key market segments in new TODs.

“Last year, for the first time...the price of a condo was higher than that of a single-family home.” Wall Street Journal, August 18, 2005.

Today, most developers only use luxury housing to justify the risk – the time, uncertainty and cost – inherent in TOD. Land near transit is difficult to come by because of both supply and demand. In some places, due to demand, transit station area land is too expensive, wiping out any potential for affordability. In other places, it is a matter of supply. Land that might be developed or redeveloped is not readily available or is not in a shape or size that is easily developed at the needed scale. Even if a developer wishes to include a range of price points in a project, the extra costs associated with TOD can make it challenging to provide deeper affordability through a pure market project. Without subsidy, affordability beyond moderately priced workforce housing, is not feasible.

³⁷ Price Waterhouse Coopers and Urban Land Institute, 2005

Yet, while land is very scarce in many of today's transit zones, forty-four percent of the transit zones have less than 4.5 households per residential acre on average. This density is quite low and likely represents significant development opportunities. Estimates indicate about 30 percent of national growth in households can be accommodated within one-half mile of transit station locations, with growth in the number of transit stations and systems, paired with infill strategies around the existing lines and stations. Several objections are raised regarding this estimate. First, to many observers, it seems that transit-oriented developments are exclusively aimed at upscale markets, so they would have difficulty addressing growth coming from all types of households. This observation is mostly based on recent TOD projects, not historical development of entire neighborhoods near transit, which is where the majority of the 6 million transit zone households currently live.

Another response to these objections is to look beyond the one-half mile distance, to, for example, within three-fourths of a mile from the transit station. Though transit station areas are typically analyzed at the one-half mile zone because early and repeated analyses have found the one-half mile is a reasonable area within which to assume that people are willing to walk, expanding the distance increases the potential for directing even more development within transit-friendly neighborhoods. A distance of three-fourths of a mile is still within walking distance for many, or a short connecting bus or bike ride for others. In most cities with extensive and large systems, rail service is supplemented by a dense network of bus lines. Studies show that people are generally willing to ride up to 20 minutes to connect to a rail stop, suggesting that the ridership catchments area for a particular transit stop is up to 2.5 miles in radius, which dramatically increases the land available for development "near" transit.³⁸ Therefore, even households outside the one-half mile area could be living in a transit-oriented community and reducing their reliance on auto. Of course, not every acre is available for development within the one-half mile buffer and streets, parks, alleys, schools, businesses and other such uses already consume much of the land. Nonetheless, clearly all TOD opportunities does not disappear at the one half mile limit, especially if connecting bus service is available.

Gentrification and Transit-Oriented Neighborhoods

Because development costs are high and land is scarce, there is significant potential that new development near transit will be homogeneous, targeted to a narrow high income market and unaffordable to lower-income households.³⁹ There is also significant potential for mixed-income neighborhoods that are now diverse to transition rapidly, making it difficult for original residents to continue to afford to live there. Gentrification with significant displacement can easily occur.

In regions with hot housing markets and where transit is being planned or is already operating, one can see several common results from gentrification:

- Low-income householders are being pushed to neighborhoods with low-quality housing stock and higher transportation costs;
- Renters are being pushed out as absentee owners sell, as rental units are converted to ownership units, and as areas in general become more attractive;

³⁸ The available land increases as the square of the distance, so while a half mile radius yields 504 acres, a ¾ mile radius yields 1,131 acres, a 1 mile radius yields 2,011, a 2 mile radius 8,042, and a 2.5 mile radius 12,566 acres, respectively.

³⁹ Households at 50% of median income or below

- Market-rate developers are often not building to address a range of income diversity;
- Very low-income renters, who are the most transit dependent, are most at risk, as their housing often requires the greatest subsidies, many of which are increasingly being cut; and
- Transit-orientation and convenience is causing price escalation in many neighborhoods

While some neighborhood groups argue that “a little gentrification” is desired — since it brings with it neighborhood services and amenities typical in other communities but not available in theirs, like better food choices, Automated Teller Machines or safer streets — many community activists have argued that these benefits or amenities are not enough to outweigh the very real cost burdens from rapid home and rental price appreciation that might follow these new amenities. In addition, the private-sector amenities that may follow higher incomes often do not address or make up for the larger continuing community issues resulting from disinvestment, like poor public schools.⁴⁰

Attracting new development while preventing displacement is always a balancing act in fluid real estate markets. Developers always have an incentive to maximize profit margins, and relieving the pressure for gentrification in slower markets by adding requirements or costs to developers may have the undesired consequence of stifling development.

For neighborhoods with existing transit service faced with initial signs or consequences of gentrification, targeted strategies are needed to preserve and increase the mix of housing choices and prices early on before significant gentrification begins. Gentrification is in part fueled by greater housing demand than available supply. Growing the supply of mixed-income TOD overall and increasing residential densities near transit can help alleviate gentrification pressures in high-growth neighborhoods and new housing opportunities may emerge in weaker markets. But growing the supply of housing, without paying attention to price, will not necessarily solve the affordability problem. Different strategies are needed to ensure that housing in neighborhoods near transit remains affordable to a deeper range of incomes and to a wider range of household types. The goal is to ensure that the very households that could benefit most from the combination of affordable housing and affordable transportation are able to do so.

Promoting Racial Diversity in Transit-Oriented Neighborhoods

The issues of income gentrification and racial segregation are inherently linked in many communities. Despite years of progress from the Civil Rights Movement and the legislation and enforcement that Movement spawned, as well as other movements such as anti-redlining and pro-reinvestment, researchers continue to document racial and economic segregation in cities, neighborhoods and workplaces. In some cases it is caused by the discriminatory practices of communities and realtors or long-term biases in economic policy, public investment and land use policies. In other cases in which neighborhoods are predominantly populated by members of a

⁴⁰ Panelist discussion on Harlem neighborhood redevelopment at ‘Gatreux at 40’ conference, Northwestern University School of Law and Social Policy, March 2, 2006.

single group, it is not necessarily a result of segregation; it can be caused by “the gravitation of immigrants to communities of common interest.”⁴¹

Promoting or designing a neighborhood for racial diversity may be even more challenging than promoting income diversity; landlords and developers cannot legally target prospective tenants by race and there are fewer tools to promote racial diversity in neighborhoods than there are for creating mixed-income housing, for which financial and support services exist. Even discussing race is still difficult for most communities and individuals. In fact, this has led some groups to argue that the more effective strategy for promoting equal or equitable opportunities for all races is to frame policies in race-neutral terms, e.g., don’t mention race in advocacy campaigns at all. This is based on the belief that bringing up race will immediately shut down the discussion. It has not been proven, however, that race-neutral tactics are more effective; many would argue they are slowing the progress toward racial justice.⁴²

Some tools and methods for promoting racial diversity do exist, however. Fair housing laws help to ensure that realtors and landlords do not discriminate on the basis of race. Making sure these laws are adequately monitored and enforced will help to promote racial diversity in specific developments. Helping minority entrepreneurs — who may open businesses and restaurants that reflect their ethnicity or culture — with financing and marketing can also help to attract and retain a diverse population and to diversify the business community. More informal ways to retain and attract households of various racial backgrounds include neighborhood dialogues about race, writing about and celebrating the neighborhood’s cultural, ethnic and racial diversity through newsletters or local newspapers, posting signs and banners, and holding festivals.⁴³ Realtors and developers can also hire a diverse staff for marketing and sales and use brochures that show a variety of potential residents — in terms of age, race, ethnicity and family size. They can also tailor their housing product types to provide multiple sizes, prices and tenure types — both rental and owner. These more informal, e.g., non-regulated, strategies deliver the message that the neighborhood is open to and supportive of other races and different household structures. Henry Cisneros, in an effort to help developers and communities respond to the growing Latino housing market has recently published a book through the national home builders association, *Casa y Comunidad*, that covers a number of strategies and tactics for accommodating Latino households, from ensuring gas cooking is available to designing floor plans and room sizes.⁴⁴

While existing communities around transit face many challenges, many new transit lines are being built through industrial zones and do not have existing residents or communities to displace. This might be occurring to reduce costs or to avoid the race question. It’s a complicated problem: Is it more egalitarian for the new transit investment to avoid the mixed-race neighborhood, or to run the new transit line right through it, with the associated demolition of housing or from widening a commercial street? Other transit lines are extending to new

⁴¹ David Fasenfest, Jason Booza, and Kurt Metzger. “Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990–2000.” The Brookings Institution. April 2004. http://www.brookings.edu/urban/pubs/20040428_fasenfest.pdf.

⁴² Applied Research Center workshop on race advocacy, Chicago, IL, May 2006.

⁴³ The Manchester neighborhood in Pittsburgh, PA has been successful in celebrating its mix of races through its newsletter and community organization, “Manchester NEWS: We Live in Manchester”, Manchester Citizens Corporation, Summer 2005. Group photos of residents show the racial and age diversity of the neighborhood.

⁴⁴ Elaine Ayala. “Book spotlights Latino market”, Chicago Tribune, Section 16, p. 41, Sunday October 1, 2006.

growth areas, with few or no existing residents. All of these types of sites are large enough to support major new development that can include income and housing unit diversity at the outset. However gentrification and displacement and therefore further racial segregation could be an unintended result.

Getting a Mix of Uses in Diverse Transit-Oriented Neighborhoods

Ensuring that there is a mix of services, retail opportunities and other uses presents another layer of complexity. But to achieve the benefits of diverse neighborhoods near transit, the mix of uses is as important as the mix of housing. Residents need to be able to meet many of their needs locally or in neighboring areas accessible by transit. If a substantial number of non-work trips cannot be met by foot or on transit, each household will have to have multiple autos – and parking for them – which limits potential affordability and higher densities.⁴⁵

Most new commercial development, due to the costs of opening a business, is often mainstream and dictated purely by the major retailers.⁴⁶ Defining and attracting a more diverse commercial mix has to involve community residents, willing lenders and city planners, in addition to national retailers and their site selection firms, such as local and regional chambers of commerce and other business-oriented or economic development-focused community-based organizations. Larger entities can also help to develop and fund local entrepreneurs, such as the federal Small Business Administration, or local loan funds set up by community banks.⁴⁷ In some instances, local or specialized chambers, like the Chicagoland Hispanic Chamber, might help to connect a community with local minority entrepreneurs. In other cases, however, local chambers looking for upscale development might not want low-priced restaurants or discount stores and may prefer higher-end or nationally recognized chains. It is important to have a compromise. Too many high-end shops in an area will not adequately support all residents' shopping needs and can also drive up rents so that unique, niche stores, or even essential services, cannot survive. On the other hand, too many smaller specialty shops or discount stores will not provide the basics, or appeal to all residents in a mixed-income neighborhood, which would also prompt residents to leave the neighborhood more often than not to meet their needs.

Other Neighborhood Needs

Mixed-income developments including lower incomes also need appropriate social services.. Experienced and successful mixed-income developers ensure that their developments are served by organizations that can provide supportive services, such as youth programming, adult education, jobs services, arts programming, affordable child and day care and senior services.⁴⁸

⁴⁵ More parking spaces per unit means fewer square feet per unit, and thus higher cost per square foot. If the effect on “livable” square feet is too great, it may also mean fewer units at a proportionally higher price per unit. And, the cost of building the parking is higher as well (the parking is usually underground), which must also be recovered in the price of the unit.

⁴⁶ Dittmar, Hank and Gloria Ohland (eds.), *The New Transit Town, Best Practices in Transit-Oriented Development*, Washington, DC: Island Press, 2004, page 9.

⁴⁷ Many local banks on main streets or neighborhood shopping areas are willing to do this as offering below market rates to entrepreneurs can help the banks fulfill their CRA requirements.

⁴⁸ Sandra Moore, President, Urban Strategies. Presentation at “Building Successful Mixed-Income Communities: Community Building and Resident Engagement”, sponsored by Metropolitan Planning Council. August 18, 2006.

SUMMARY

To date many of the most successful examples of developments near transit are the result of “clever exceptionalism,” having required persistent advocacy and extraordinary public attention. As a result, there are still not enough good examples of new TOD to showcase. Developers and planners with expertise in TOD are too few, as are elected officials and advocates to champion exemplary projects and push for TOD supportive policy changes—much less TOD projects that are mixed-income, mixed-race, and have a sufficient blend of uses. Thus, while there have been promising developments in the market, without further action, focused attention and strengthened political will, the market demand for TOD will not be met. New policies are needed to support the creation of not just more TOD, but more diverse TOD. These are discussed in the following chapter.

V. Setting Policies to Meet the Demand and Need for Diverse Transit-Oriented Neighborhoods

Despite its many benefits, because of the multiple challenges identified in this report and others, meeting the demand and need for diverse TOD will not be met without innovative policies, practices, targeted funding, partnerships and collaboration. There are four categories of essential types of policies and tools that will be necessary to realize the creation of more diverse transit-oriented neighborhoods:⁴⁹

1. Vertical and horizontal coordination within and between government — from federal to local and across disciplines, from housing to transportation and environment to human services;
2. Innovative and targeted zoning and planning tools;
3. New and expanded financing tools and sources; and
4. Creative and collaborative partnerships.

The following table presents a sampling of existing tools in these four categories:

Table 17. Existing Tools for Financing, Planning and Fostering Mixed-Income TOD

Government Coordination	Zoning and Planning Tools	Financing Tools & Funding Sources	Partnerships
<ul style="list-style-type: none"> • Regional Agencies provide funding incentives for affordable housing in TOD • Federal funding for neighborhood planning, e.g. HOPE VI, CDBG, and EDI • TOD (or proximity to jobs and transit) criteria for the location of affordable housing units • Federal and state owned land donated for local affordable housing near transit 	<ul style="list-style-type: none"> • Station Area Planning and Transit District Zoning • Incentive-based zoning, e.g. density and floor-area bonuses, reduced parking requirements • Inclusionary Housing or Zoning • Reduced pre-development costs, e.g. expedited permitting, fee waivers or deferrals • Off-site development (but within the transit district) of inclusionary units • Smart growth and transit overlay districts • New information and data for planning decisions regarding the cost of living, specifically the combined cost of housing and transportation 	<ul style="list-style-type: none"> • Transportation funds for housing near transit, e.g. the Bay Area's Metropolitan Transportation Commission's Housing Incentive Program (HIP) for housing near transit • Low Income Housing Tax Credits • Benefit Assessment Districts • Tax Increment Financing • EPA funds • CMAQ funding to acquire sites 	<ul style="list-style-type: none"> • Public-private partnerships-government and private sector provide in-kind contributions or matches in addition joint risk sharing and division of responsibilities • Joint marketing of TOD by transit agency and developer

For further explanation on the tools listed in the table and case studies of projects that have used these tools see *Tools for Mixed-Income TOD*, available on www.reconnectingamerica.org, and www.cnt.org.

⁴⁹ This framework was tested at a meeting at the Ford Foundation in June 2006 with affordable housing developers and transit agency representatives. There was a strong consensus that a variety of policies and subsidies need to be targeted to transit zones to really get focused on targeting housing to these areas, in contrast to dispersing funds and polices across communities.

RECOMMENDATIONS

The following are a list of broad recommendations for serious consideration by governments, private sector firms, non-profits and foundations interested in providing livable and affordable communities for the diverse households in the U.S.

Institute government programs for diverse transit- oriented neighborhoods that involve vertical and horizontal coordination within government.

Transit-oriented neighborhoods are influenced by every level of government across an array of issues — including federal transportation legislation and funding, regional transportation planning and investments, state affordable housing laws and local plans and zoning. Hence, one of the most important tools for enabling diverse TOD is interagency coordination. A diverse transit-oriented neighborhood requires transportation policies that support transportation alternatives and channel growth toward transit; housing that is affordable to those at many different income levels; parks and open space; local economic development that promotes retail and job opportunities at the regional and neighborhood level; and school districts that provide quality neighborhood schools supported by states that set policies to adequately fund them. Making diverse TOD a priority or agenda item for each of the agencies involved can be a first step in promoting coordination.

But where to begin with such a broad recommendation?

At all levels:

Public leaders, such as heads of Metropolitan Planning Organizations (MPOs), governors, mayors and deputies within federal agencies, should call for programs that provide funding, regulations, incentives and capacity targeted at creating diverse and affordable TODs. To begin, at each level of government a survey of each agencies' current policies impacting TOD could be administered to identify points of misalignment. Using these findings, an interagency task force on promoting diverse TODs could work to improve communication and collaboration.

Every major region also needs more and better transit. Urban metropolitan regions are rich in choice, and transportation systems are a strong part of what it is that households have to choose. Improving the transit systems and transit zones we have and increasing the number available will improve regions and the economic situation for households. The seven new systems built in the last six years, the 10 systems currently in the works, and the numerous additions to existing systems are evidence that building new and more transit is a very viable option.

At the state and federal level:

Government should promote policies that encourage business and jobs to locate near transit and to reinvest in cities. Without such policies, the jobs-housing mismatch will continue to grow; employers will locate with little relation to planning or based on competing incentives, and it will be increasingly difficult to service distant jobs with new or existing transit and near affordable housing and community services. Some states have instituted tax policies to encourage

businesses to locate near transit by offering an increase in the incentives available for employers.⁵⁰

Government should also help to monitor and enforce fair housing, equal employment and other civil rights laws, as well as work across agencies on all issues that affect both place and people. Any policies to promote housing and transit together should also provide funding to help households to relocate, transition, find jobs, adjust to new schools and obtain health care. These types of supportive transition policies need state and federal policies and funds to work together. For instance, some states have coordinated federal and state welfare and housing programs so welfare recipients get help with their housing while they are receiving welfare assistance.⁵¹ The next step would be to tie housing and welfare funding and supports to energy, transportation and economic development funding so that jobs, affordable housing, and energy savings are targeted toward transit and toward neighborhoods that need economic development. In such a way, households that need both affordable housing and affordable transportation receive priority and direct assistance in attaining it.

At the state level:

A lack of state planning and policy direction for transit and affordability is one of the biggest inhibitors to regional planning for diverse transit-oriented neighborhoods. This is despite the fact that states have incredible resources through their departments of transportation (DOT) to help with TOD in a number of ways.⁵² States can provide direct financial support through DOTs and implement policies or incentive programs that effectively deal with home rule and autonomous local governments that set exclusionary zoning ordinances — such as local ordinances that mandate minimum lot sizes and maximum densities which make mixed-income and mixed-use projects both financially and physically hard to do. Example incentives and policies could be to restrict funds for new stations to towns with development guidelines and plans that support TOD.

At the regional level:

Regional agencies, e.g., Councils of Government (COGs) and Metropolitan Planning Organizations (MPOs), are able to play an important role in addressing the challenges to diverse TOD. These agencies vary in the level of planning they do and funding available to them, but they generally provide estimates of household growth, suggest corridors for development, identify places that need a better jobs-housing match or provide technical assistance to communities that are designated as transit villages or “livable places”. While regional agencies are generally advisory and possess little regulatory authority related to local decisions on TOD, MPOs have granting authority and can therefore use the funding and grants they do control to influence decisions of local governments. For instance, some regional agencies have provided

⁵⁰ The State of Illinois recently passed the Business Location Efficiency Incentive Act (June 2006) which provides extra tax incentives to businesses that locate near transit, affordable housing, or a surplus of labor.

⁵¹ Squires, Gregory D. and Charis E. Kubrin. “Privileged Places: Race, Uneven Development and the Geography of Opportunity in Urban America”. *Urban Studies*, Vol. 42, nNo. 1, 47-68, January 2005; Sard, Barbara and Jennifer Daskal. 1998. *Housing and Welfare Reform: Some Background Information*. Washington, DC: Center on Budget and Policy Priorities. Revised, November 5, 1998.

⁵² For a detailed account of the current work that some state DOTs are already doing to support TOD, see Cambridge Systematics with Meyer, Mohaddes Associates. “The Role of State DOTs in Support of Transit-Oriented Development (TOD)”, NCHRP Project 25-25, Task 20, Transportation Research Board, April 2006.

funding incentives to encourage local governments to include affordable housing and support compact mixed-use and walkable environments near transit.⁵³

Regional agencies also need to coordinate efforts that improve local cooperation, beyond regional plans, through a combination of local government incentives and commitments, since transit corridors often span several jurisdictions. Addressing how to serve workers where they currently live and work with transit, as well as determining the best places for future households and jobs, needs to be decided above the municipal level. A growing share of households do not work in the same place in which they live.

This type of planning by regional agencies and local governments should incorporate diversity indicators like mixed-income, mixed-age, mixed household size and type, mixed-race and mixed-use into existing goals and policies in comprehensive plans and regional frameworks that relate to TOD, such as jobs-housing balance, smart growth, affordable housing goals, and historic preservation.

Target affordable housing and mixed-income developments to transit zones and to the corridors between these zones

Affordable housing programs funded by the federal government and administered by states and local governments, such as the Section 8 and Low Income Housing Tax Credit (LIHTC), should require or provide additional incentives for transit proximity. Recognizing the advantage of having transit near affordable housing and the problems associated with affordable housing that doesn't have proximity to jobs or transportation alternatives, 28 states already require or give incentives for LIHTC project applications near transit.⁵⁴

Land costs and availability is an issue in TOD, however. To address this, some states, like California and Massachusetts, also require that municipalities provide a level of affordable housing in TODs and provide the funding to ensure this actually happens. Cities, regions, states and non-profits can land bank near transit, sometimes as parking lots, until the market is ready and affordable housing dollars are available. To make it possible for more affordable housing developers to use LIHTCs near transit, states, localities and transit agencies need to assist with securing and assembling land near transit for affordable housing and in setting requirements that market-rate developments near transit include some level of affordability. States might work with local governments to match market rate developers with LIHTC developers at transit sites where public funds and/or publicly owned lands are involved in the project.

Use transportation policies and subsidies to encourage and fund affordable housing near transit

There are a number of ways transportation funds, programs and regulations could be used to lower total costs for households, either directly or indirectly. These include: using transportation dollars to give per-unit subsidies for housing near transit, e.g., the Metropolitan Transportation

⁵³ In California, where MPOs have control over more state and federal transportation funding than in most other states, the "Santa Clara Valley Transportation Authority (VTA) works with cities to plan and develop higher density, mixed-use projects around transit stations. VTA identifies existing and planned station areas that would benefit from TOD and creates urban design plans for these properties. Local governments have jurisdiction over the actual land-use decisions." Dittmar and Ohland (eds.), *The New Transit Town: Best Practices in Transit Oriented Development*, 2004, p. 67.

⁵⁴ Global Green USA, "Making Affordable Housing Truly Affordable," www.globalgreenusa.org.

Commission's Housing Incentive Program (HIP) in the Bay Area; using pre-paid transit passes by employers located near transit as equity toward a development; screening transportation plans for end-user impacts so that public money spent on transportation is not only evaluated for environmental and traffic impacts, but also on how it might lower household transportation costs. The latter may result in a diversion of funds to transit allowing increased levels of transit service through extended hours, greater frequencies and better connections — between rail and rail and rail and bus and/or through the provision of unconventional services for connecting the “last mile,” such as jobs access and car-sharing.

The federal government has a very specific influence on TOD diversity, as it is the largest single funder of transit in the U.S. There are several ways the Federal Transit Administration (FTA) could promote more diverse TODs through its rulemaking, regulations, funding applications and policies, such as the joint development policy. For instance, in the New Starts funding application for new transit projects, the FTA could ask transit agencies to explain and provide concrete plans for how it intends to support or provide for diversity. The Policy on Joint Development could also be altered to emphasize diversity. Currently, the policy states that ground rents of transit-owned land for nearby development must be set at the “highest and best use” or at the “highest and best *transit* use.” If a transit agency judges a proposed development only by the first requirement, the resulting development may not serve the goals of the transit users and the neighborhood because it will seek the highest value for the land in terms of real estate.⁵⁵ While a transit agency might prefer to foster mixed-income development and be willing to at least accept a lower ground lease, they may be influenced by a lack of current funding and if they are following the first policy they will opt for the use that results in the highest price for the land. The immediate revenue benefits from higher priced market-based joint development are likely to outweigh the longer-term benefits. The transit agency and the neighborhood would have benefited from a mixed-income development in terms of ridership for the agency and the opportunity and access to affordable housing for lower and moderate income households. To address this, the FTA might instead emphasize the importance of “highest and best *transit* use” and provide additional funding to help cover the *initial* gap between the revenue a development that met this criteria would yield in comparison to one that met the “highest and best use.”

Beyond the joint development opportunities, transit agencies need to meet their operating and capital costs per passenger mile. This often limits them from providing higher levels of service since the costs would be above the allowable cost ratio until ridership increased enough to pay for it. As such, the desired and needed level and type of transit for some communities is unmet since the agency is unable to provide the higher service levels that would ultimately attract even more passengers and more revenue. Changing farebox recovery ratios is another way transit funds or regulations regarding funds could be used. Specifically, farebox recovery ratios could be scaled over a period of time rather than on an annual basis. This might allow for a loss at the commencement of the new transit service to attract more riders. Transit agencies currently price their transit service so that the farebox only covers about 30 percent of the bus system's operating costs. Agencies should consider lowering the farebox recovery to 25 percent or even less, at least for a time, by providing greater transit frequency before there is an established

⁵⁵ See the “Lindburgh Case Study” of a TOD in Atlanta that created numerous jobs and housing units but had a negative impact on the existing lower income neighborhoods near the MARTA station in terms of their access to the station and in terms of creating neighborhood amenities that directly benefited existing residents in, in Dittmar and Ohland (eds.), *The New Transit Town: Best Practices in Transit Oriented Development*, Island Press, 2004, pp. 175-192.

market to justify it. The philosophy here is to increase ridership by attracting “choice” transit users before they become accustomed to using non-transit means to get around.

Use planning tools to increase housing production at higher densities in order to reduce the gap between regional supply and demand and ameliorate the price for both housing and transportation

Given the extraordinary gap between the supply of and demand for housing near transit, multiple strategies are needed to greatly increase the production of housing near transit. Broadly, the planning tools strategy first involves increasing allowable densities in order to fund and support transit and second wrapping the higher density areas with good planning.

To start, localities need to allow higher densities to both meet the demand and need for housing near transit and to allow sufficient efficiencies in development. At greater densities, developers can lower their per unit costs. Second, additional tools could be paired with higher densities to provide incentives to developers to achieve those densities. The research for this report found that the densities around existing stations today are 9.4 households/residential acre for central city transit zones, and 4.2 households/residential acres for non-central city (suburban) transit zones. For transit neighborhoods, these are somewhat low densities, especially the non-central city figure. Given this, it’s conceivable there is substantial room for more development near existing transit stations. With higher densities, more housing will be available and with more housing, higher transit service levels will be justified. Transit agencies and regional governments should target communities with restrictive zoning codes and low-density development near their transit assets to help them understand the benefits from a modest increase in density near their transit. If they allowed more development, the new TOD could help with regional affordability problems and congestion, as well as add to their local tax base. Public regional assets, such as transit systems, should not be limited in their potential by restrictive local controls.

It is essential that changes to the zoning to allow these higher densities be accompanied with good planning. Well-designed, higher-density, mixed-use and mixed-income TOD will not occur simply by allowing greater densities. Some of the HUD HOPE VI redevelopment projects offer lessons on the value of good planning in similar types of developments. In a 2005 evaluation of a number of these projects, evaluators concluded the successful mixed-income projects demonstrated that “strong design and master planning planners.” Cities and housing authorities that planned for amenities, safe or “defensible” public space and a “pleasant, positive and useful environment” for contemporary families and seniors, and that did projects that were “firmly grounded in assessments of market trends” generally produced successful redevelopments.⁵⁶ These findings hold the same truths for mixed-income, mixed-use and mixed race transit-oriented neighborhoods.

To promote good TOD, cities need to develop conceptual land use plans and a development scheme, streetscape and design guidelines, priority infrastructure investments and a financial plan. Plans should also be expanded to include housing types and affordability, appropriate commercial uses, business attraction and retention and job location. In this way, employers will have guidance on site selection and development and housing and mixed-use developers would have information on where new jobs will locate. Design guidelines, however, should be flexible

⁵⁶ Mindy Turbov and Valerie Piper. “Hope VI Mixed-Finance Redevelopments: A Catalyst for Neighborhood Renewal”, A Discussion Paper prepared for The Brookings Institution Metropolitan Policy Program, September 2005.

enough to allow for variations in buildings, allowing for creativity, originality, affordability, and different cultural and ethnic influences. Guidelines that are overly prescriptive may be cost prohibitive, thereby stalling development.⁵⁷

Incentive-based zoning and planning can also be used to help financially support diverse TOD. Public agencies should consider its zoning powers as a form of value capture when considering how to encourage more diverse mixed-income and mixed-use TOD. The public agency responsible for planning and setting the zoning code should develop any transit-specific zoning jointly with the bus and rail transit agencies that have facilities and routes within the area. This ensures the actual properties and rights-of-way will also be addressed in development.

Accelerate efforts to preserve existing rental housing near transit, both affordable and market rate

Today's transit zones provide a large stock of rental housing, which generally yields more affordable housing for many segments of the population. If this rental stock is lost, the growing share of immigrants, recent college and high school graduates, lower-income households, including low-income seniors, and many other households that cannot afford homeownership will be priced out of areas with affordable transportation.

Within the supply of rental housing near transit, there is also a substantial stock of affordable-subsidized rental housing. Special efforts by HUD and local authorities should be created and expanded in order to protect the thousands of HUD-funded units near transit. The next large expiration of HUD units will happen in 2009, and includes thousands of units in regions with some of the worst housing affordability crises.⁵⁸

Because of the difficulty in adequately tracking this huge number of units, housing departments and agencies at all levels of government need to set a priority to intercept HUD-financed prepayment buildings when they occur near transit. The cost for rehabbing and preserving existing affordable units can be much more affordable than building new, especially when the cost and availability of land is taken into account.

There should also be local programs to protect the market-rate rental units near transit, e.g., by putting limits on condo conversions in areas with particularly tight housing markets and a high percentage of households who need affordable and rental options.

Marry efforts to reduce the cost of energy and produce affordable housing to efforts to promote transit-oriented development resulting in better advocacy, funding, knowledge, and outcomes in all three areas.

As the price of energy rises, national leaders, the average consumer, government departments tasked with maintenance of fleets and buildings, and affordable housing providers are all waking

⁵⁷ In a study on TOD for the Transit Cooperative Research Board, Cervero and others showed by survey that while transit operators, planners and agencies thought financial incentives were what is most important, developers and investors focused almost exclusive on "time is money" and the need for regulatory certainty and streamlining. *Transit Oriented Development in America: Experiences, Challenges, and Prospects*. Washington, D.C.: Transit Cooperative Research Program, Report 102, 2004; with G. Arrington, J. Smith-Heimer, R. Dunphy, and others.

⁵⁸ Stewards of Affordable Housing for the Future, <http://www.sahfnet.org/about.php>

up to the seriousness of the energy crisis and are looking to reduce energy consumption and lower household and business costs. To date, however, only the traditional transit activists have called for an increase in transit as a primary strategy. In speeches on strategies to lower the national “addiction to oil,” the president and others frequently mention new technologies, more drilling and alternative fuels, but do not mention transit. While the other strategies often mentioned will take time to develop, perfect and realize transit is a known technology that dramatically reduces household energy consumption and is in increasing demand. Unfortunately, transit lacks adequate funding to provide the service levels and land area coverage that would be necessary for all households seeking to live near transit to use it, for both their commute and for other daily activities.

The two professions mentioned at the beginning of this report, the TOD practitioners and the community development practitioners, could achieve some real synergies and work together to address both affordability and energy issues in the context of the upcoming 2009 transportation reauthorization. Groups such as Enterprise Foundation, Natural Resources Defense Council and U.S. Green Building Council, through their LEED Neighborhood Development (ND) and Green Communities initiatives, are already promoting green affordable housing in “smart locations” that make use of efficient designs that conserve land, reduce home energy consumption, reduce auto transportation, and allow for more affordable housing.

Community leaders can also help to build effective demand for affordable housing near transit and for more and better transit. The U.S. has a very limited set of mechanisms for planning housing. The consolidated plans developed by Community Development Block Grant (CDBG)-eligible jurisdictions for HUD is as close as it comes, but there is no element of these plans that require either consideration of mixed-income or mixed-race housing or transportation and energy costs in any meaningful way. While current policy requires jurisdictions to develop 10-year plans to end homelessness, the focus is on reducing service delivery costs and not on increasing the supply of housing. External and internal advocacy is needed to promote a change to the way the nation plans for housing, transportation and energy at the local, state and federal levels.

Educate consumers on the cost of transportation and its effects to households government, and employers.

A variety of agencies have the opportunity to provide direct education to consumers on the costs associated with auto transportation and the savings provided by transit through their existing programs, such as those that help households find jobs and housing; provide life skills counseling; and teach financial literacy. There is already a foundation in place for this to happen. For example, immigrant organizations often recommend transit-served locations when assisting new arrivals with housing searches, since these areas will not require auto ownership. Schools, from elementary to high schools, GED providers, and university extension offices offer financial literacy and budgeting classes that could incorporate more specifics on the range of transportation costs associated with different locations. The Federal Reserve has an ongoing financial literacy program that could include a clear message about savings from transit, with local guidance on using it.

Transit agencies, by participating vigorously in efforts to disclose the real cost of driving and the real net benefits of transit orientation, would become smarter and more effective marketers, which could ultimately result in higher transit ridership and greater transit revenues. In the long

run, this would eventually allow transit agencies to increase and improve services while at the same time save households money and reduce congestion.

Develop new financing products and developer and investor capacity to deliver mixed-income and mixed-use development near transit

Public-private partnerships can take many forms and be more flexible than joint development arrangements. Local governments can help to acquire parcels, rezone them, and fund environmental remediation through Environmental Protection Agency grants. A public-private partnership may leverage additional resources from the private sector through in-kind matches, or in lieu of fees or contributions from the government. Cities can also help developers by assisting with the four risks of the development process — entitlement, construction, financing and marketability — by providing consistent review processes and land permits, reducing construction risk through good inspection and contractors, working with local banks to provide lower-cost mezzanine loans, helping to market the units, and providing reserves if necessary. Since predevelopment costs, such as holding land for three years, paying for zoning attorneys or architectural fees, are hard to finance, local governments can help to fund these costs with early stage sources from “patient” capital. One potential source of patient capital is from redevelopment funds, e.g., from tax increment financing (TIF). Cities could also provide commercial parking and therefore become an equity partner. Value capture can be used to fund affordable housing and infrastructure, as can density bonuses.⁵⁹

Within the broader partnership activity, the transit agency and developer(s) could create a marketing partnership. As consumers and employers demand more convenience, accessibility and affordability, transit agencies are in a position to sell their value-added features to both developers and employers. Developers will realize they have the ability to leverage an attractive public asset without having to spend their own money and will hopefully include it in their marketing. Marketing assistance, and the market attractiveness of transit, can also help to sell the units more quickly. For all projects, and particularly mixed-income projects, lenders want to be taken out as quickly as possible by a mortgage. If marketing transit access helps to sell the units more quickly, over time, transit access may help developers secure financing more quickly, lowering the post-development costs. The cost savings can help to subsidize below-market-rate units or pay for pedestrian amenities. A quicker take-out rate also benefits the transit agency by getting residents near the transit more quickly.

Dallas Area Rapid Transit (DART) is a model example of using transit to market residential and mixed-use development. DART’s real estate department reaches out to developers, providing them with demographics, land ownership, characteristics of surrounding communities and a basic market analysis. Following DART’s example, a transit agency’s market analysis, when it is acting as a real estate developer, should include a broader scope to include a wider range of incomes in order to foster diversity. But transit agencies need to hire staff with real estate and development expertise or learn to partner with other entities that have these competencies such as sophisticated neighborhood developers.

⁵⁹ Dittmar, Hank and Gloria Ohland (eds.), *The New Transit Town: Best Practices in Transit Oriented Development*, Washington, D.C.: Island Press, 2004, pp. 87-88.

The developer may also become an ally of the transit system and help to work for zoning changes and other necessary changes to allow transit-supportive development. Ultimately, employers would also be allies, as they may have more influence in a community when it comes to advocating for changes that would allow workforce housing near transit or mixed-use and commercial development in an area not currently zoned for it.

These types of partnerships between local governments and private-sector developers and service providers do not occur naturally. Foundations could use Program Related Investments (PRI) to help affordable housing developers, market-rate developers and local governments explore and demonstrate new kinds of neighborhood development partnerships that include the private sector, community developers, local governments and transportation agencies. Such partnerships could highlight each partner's strengths and resources and reduce the time to delivery — thereby reducing total costs. A PRI might be used to support added pre-development costs, including market analysis for joint marketing efforts, as patient capital, and/or to provide training and capacity-building for the private and public sector on mixed-income and mixed use TOD.

VI. Conclusion

Eighty-six percent of transit zones, in comparison to the average neighborhood in the surrounding area, are more diverse by race and/or income. Furthermore, residents of transit zones have about one less car per household than the population at large, resulting in an economic benefit from living near transit of between \$150 and \$450 per month.⁶⁰

These two findings alone suggest some interesting possibilities for meeting America's growing affordable housing and transportation needs as the nation becomes more diverse and as costs, energy in particular, continue to rise. Given the presence of such significant diversity near transit, most of which has occurred naturally, TOD appears to be a supportive type of neighborhood design for promoting more mixed-income and mixed-race housing. The valuable, affordable and multi-purpose transit asset seems to allow its surrounding neighborhood to draw a wider range of households of different incomes, races, and investments.

As discussed here, the nation is likely to see a substantial increase in demand for housing near transit; 16 million households by 2030. If, however, the types of policies recommended in the previous chapter are not instituted and if communities, governments and practitioners continue to operate reactively to the energy, congestion and affordable housing crises instead of proactively, there won't be anywhere near an adequate supply of housing near transit to meet the demand — especially at the lower end of the income scale. Nor will there be enough transit connectivity to the majority of jobs in the region. To ensure an adequate supply of both housing and transit, everyone will need to play a role: government at every level and across different agencies, the private sector and the non-profit sector. The reasons that these entities should come together and play a role in making a concerted attempt to preserve and promote diverse transit-oriented neighborhoods are compelling:

- Most transit zones are diverse and provide economic, social, environmental and health benefits to households, neighborhoods, employers, businesses and regions and therefore serve as model neighborhoods to be replicated and expanded;
- Demand for TOD is high today and expected to grow by 2030, and a significant share of this demand will come from lower- and moderate-income households but the market is not currently building new TODs at a sufficient scale or with a range of housing types, sizes and prices;
- TOD is a difficult type of development and the preservation and expansion of the benefits it offers will not occur without the sophisticated coordination among all levels of government and the private and non-profit sectors.

In reflecting on research and practice carried out to date in pursuit of TOD and mixed-income communities, including this study, there is no silver bullet, i.e., which one tool works best and where, for bringing these types of communities about. To make mixed-income TOD work, each

⁶⁰ Center for Neighborhood Technology and Center for Transit Oriented Development, Housing & Transportation Affordability Index project, www.brookings.edu.

level of government will need to deploy a wide range of tools and policies layered on top of each other. Government actors and elected officials at all levels will have to place a greater focus on and prioritization of diversity goals to help challenge and provide incentives to the private market. The non-profit sector and advocates should also join forces to push for these changes and to participate in the design, construction and ongoing development of these transit-oriented communities.

Cities and regions will not be able to thrive unless they can adequately and affordably house their working populations. The direction in which most are moving, however, is away from greater affordability through development policies and practices that are likely to result in increasing household auto ownership, rather than increasing housing or transportation choice. If, however, the policies and practices described here are adopted, they would yield an increase in the number and size of diverse transit-oriented neighborhoods with new affordable housing and transportation opportunities in areas with plentiful job opportunities, commercial services, and public spaces.

The reauthorization of the transportation act in 2009 presents a significant opportunity for fostering these outcomes by ensuring that it takes into consideration radically new ways to meet growing transportation and land use needs. If good housing policy is married with the reauthorization, the stage may finally be set for a large-scale increase in long-term housing affordability in the U.S. through a set of aligned housing and transportation investments that will produce returns for many generations to come.

Appendix A. Methods

CTOD Database

The analyses in this report are based on the National TOD Database, a first of its kind resource, which includes data from the 2000 U.S. Decennial Census about the homes and residents within a one-half mile radius of fixed-guideway transit stations.

Projection Methodology

The projected demand for housing near transit in 2030 was modeled using the National TOD Database and the Woods and Poole Economics, Inc regional household growth projections. We first calculated capture rates — proportions of regional households living near transit — for different household types in regions with transit today. We then modeled future capture rates based on transit system growth and the higher capture rates of larger systems. The future capture rates are applied to the 2030 regional population estimates by household type to get a projection of the number of households expected to live near transit in 2030.

Diversity Methodology

As we set out to understand the race and income profiles of the transit zones, we found a number of methods for measuring diversity and segregation. In the past, studies of race focused on segregation — geographic separation of races — and often measured segregation just between black and white residents. More recently, scholars have taken to measuring diversity — the degree of integration of races in a community — in addition to segregation, and have begun studying multiple race and ethnic groups.⁶¹

Fasensfest, Booza and Metzger have created a neighborhood integration typology that labels a neighborhood integrated whenever a minority group is at least 10 percent of the population.⁶² Galster, on the other hand, has incorporated the notion of stability into his definition of integration, so that neighborhood diversity is measured over a series of years.⁶³ A number of other researchers have begun using the Entropy Index, a popular measure of diversity in ecology, to look at neighborhood diversity.⁶⁴ We opted to use the Entropy Index as well, as it could be used for both race and income in the transit zones and in the larger regions with transit.

⁶¹ Massey, Douglas, Michael white and Voon-Chin Phua. (1996). “The Dimensions of Segregation Revisited,” *Sociological Methods and Research* 25 (2): 172-206.

⁶² David Fasensfest, Jason Booza, and Kurt Metzger. “Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990–2000.” The Brookings Institution. April 2004. http://www.brookings.edu/urban/pubs/20040428_fasensfest.pdf

⁶³ Galster, George. (1998). “A Stock/Flow Model for Defining Racially Stable Neighborhoods,” *Journal of Urban Affairs* 20 (1): 43-51.

⁶⁴ Modarres, Ali. (2004). “Neighborhood Integration: Temporality and Social Fracture,” *Journal of Urban Affairs* 26 (3): 351-378. and Juan Onésimo Sandoval, Hans P. Johnson, and Sonya M. Tafoya. “Who’s Your Neighbor: Residential Segregation and Diversity in California.” *California Counts*. Public Policy Institute of California. Vol.4, No. 1. August 2002. <http://urbanpolicy.berkeley.edu/pdf/census2000/sandoval.pdf>

The Entropy Index ranges from 0 to 1, where a value of 0 is homogeneous and value of 1 is completely heterogeneous.⁶⁵ Complete heterogeneity means that all categories measured are equally represented; a neighborhood that is 20 percent white, 20 percent African American, 20 percent Hispanic, 20 percent Asian Pacific Islander and 20 percent other race would have a Race Entropy Index score of 1.

We recognize that heterogeneity is not the same thing as diversity when discussing race or income, and that diversity is somewhat relative. Therefore, rather than using the Entropy Index as an absolute measure of diversity, we measure diversity relative to the local area. Transit system Entropy Index scores are compared to Entropy Index scores in the corresponding region. A transit system is labeled “diverse” if it has an Entropy Index equal to or greater than that of its region. Transit zone diversity scores are compared to the average census tract in the area. Central city transit zones are compared to the average census tract in their corresponding city, non-central city transit zones are compared to the average census tract in the non-central city portion of the corresponding region. As with the transit systems, transit zones are labeled diverse when they have an Entropy Index that is equal to or greater than the Entropy Index of its corresponding census tract.

The effect of using a relative measure of diversity is double-sided. On the one hand, “diverse” transit zones in less diverse regions may actually be quite homogeneous. For example, residents in the average census tract in suburban Pittsburgh are 92 percent white non-Hispanic (Race Entropy Index 0.162), so while the “diverse” transit zones in the Pittsburgh suburbs are 85 percent white non-Hispanic or more — fairly homogenous communities by many standards — they are still more diverse than the average neighborhood in the area. On the other hand, some transit zones that seem very diverse do not meet the guidelines. For example, transit zones in San Francisco that seem very heterogeneous do not qualify as diverse relative to the average San Francisco census tract, which is just 37 percent white non-Hispanic (Race Entropy Index 0.671).

<u>Race Categories</u>	<u>Income Categories</u>
White Non-Hispanic	Less than \$20,000
Black Non-Hispanic	\$20,000 to \$34,999
Asian Pacific Islander Non-Hispanic	\$35,000 to \$49,999
Other Race Non-Hispanic ⁶⁶	\$50,000 to \$74,999
Hispanic or Latino of All Races	\$75,000 and more

The advantage of the Entropy Index is that it allows one to measure diversity among as many categories of race or income as one chooses to measure. We used five categories each for both race and income (see box). We chose the race categories because they represent the largest race and ethnic populations in the U.S. We chose the income categories because they represent, roughly, quintiles of national household incomes — i.e., each category contains nearly 20 percent

of U.S. households. In addition, the average median household income in the regions studied is

⁶⁵ As often used, the Entropy Index ranges from a value of 0 to $\ln(n)$ where n is the number of categories studied. We normalized our index to allow a range of 0 to 1 for clarity. The equation we have used is the following: Entropy Index = $-1 * \sum (p_i * \ln(p_i)) / (\ln(n))$ Where p_i is the percentage of population in each category and n is the number of categories.

⁶⁶ The Other Race Non-Hispanic category is made up of the U.S. Census race categories of American Indian and Alaska Native Non-Hispanic, Some Other Race Non-Hispanic, and Two or More Races Non-Hispanic.

almost \$47,000, so the first three income categories roughly match the 50, 80, and 100 percent of AMI thresholds that are often used in qualifying households for affordable housing. The Income Entropy Index for the entire country, using these categories, is 0.996, where an Entropy Index of 1 would be a perfectly even distribution of households among the categories.

Appendix B. Detailed Tables

Population by Race in Transit Zones and Regions													
System Size	Region	Transit Zones						Regions					
		White	Black	Asian Pacific Islander	Hispanic / Latino	Other Race	Total Population	White	Black	Asian Pacific Islander	Hispanic / Latino	Other Race	Total Population
Extensive	Boston	627,498	105,818	81,392	108,027	39,847	962,582	3,715,100	260,874	193,932	295,513	130,029	4,595,448
Extensive	Chicago	833,885	636,275	84,425	428,225	40,607	2,023,417	4,796,451	1,533,442	381,098	1,416,605	145,172	8,272,768
Extensive	New York	2,789,637	1,649,937	672,719	2,140,733	277,778	7,530,804	11,949,107	3,383,893	1,432,491	3,851,852	582,522	21,199,865
Extensive	Philadelphia	639,952	493,744	53,313	82,325	26,975	1,296,309	3,903,802	1,012,505	175,081	292,605	90,576	5,474,569
Extensive	San Francisco Bay Area	420,129	77,527	246,889	208,196	40,069	992,810	3,041,932	482,213	1,296,117	1,236,310	268,574	6,325,146
Large	Los Angeles	145,060	79,274	91,504	464,665	20,586	801,089	5,938,157	1,171,021	1,678,348	6,349,168	483,754	15,620,448
Large	Portland	118,912	7,502	9,394	21,219	8,120	165,147	1,563,973	47,020	91,844	142,036	73,136	1,918,009
Large	Washington	214,500	196,053	30,457	59,371	14,915	515,296	2,760,117	1,262,194	325,518	430,588	144,736	4,923,153
Medium	Atlanta	38,239	54,842	3,528	6,497	2,521	105,627	2,461,950	1,175,289	133,402	266,050	75,507	4,112,198
Medium	Baltimore	58,154	101,180	3,504	2,637	2,921	168,396	1,693,115	690,808	68,831	51,464	48,776	2,552,994
Medium	Cleveland	54,199	64,279	3,115	6,066	2,925	130,584	1,698,011	409,343	31,697	74,648	37,172	2,250,871
Medium	Dallas	42,924	27,346	4,283	42,315	2,301	119,169	3,096,793	705,623	194,456	1,119,610	105,319	5,221,801
Medium	Miami	38,642	47,481	1,937	77,753	3,702	169,515	2,205,339	898,846	83,960	1,703,772	115,647	5,007,564
Medium	Pittsburgh	90,628	8,921	1,371	1,169	1,394	103,483	2,101,036	187,249	25,531	17,415	27,464	2,358,695
Medium	Sacramento	67,119	10,946	13,114	21,672	6,300	119,151	1,045,663	118,985	149,501	233,827	80,221	1,628,197
Medium	San Diego	70,250	16,257	10,295	83,275	6,282	186,359	1,544,484	152,308	257,910	750,991	108,140	2,813,833
Medium	Seattle	39,499	5,564	5,475	3,775	3,194	57,507	2,372,616	148,261	273,607	164,128	156,824	3,115,436
Medium	St. Louis	18,040	26,077	1,184	768	1,008	47,077	2,015,553	471,301	36,625	39,525	40,603	2,603,607
Small	Buffalo	19,775	20,611	983	2,326	821	44,516	965,907	134,212	14,298	33,639	22,055	1,170,111
Small	Denver	19,729	5,078	809	11,796	1,223	38,635	1,726,674	112,028	71,226	427,687	62,955	2,400,570
Small	Galveston	5,286	5,026	584	3,202	336	14,434	157,545	37,722	5,217	45,153	4,521	250,158
Small	Jacksonville	2,055	2,032	40	141	80	4,348	775,129	234,952	25,480	42,633	22,297	1,100,491
Small	Memphis	4,598	8,786	1,035	728	405	15,552	589,338	489,383	16,508	26,359	14,026	1,135,614
Small	New Orleans	35,221	24,408	1,055	2,495	1,307	64,486	731,788	496,549	28,318	59,025	22,046	1,337,726
Small	Syracuse	7,803	7,512	635	1,399	816	18,165	643,560	45,296	11,045	14,713	17,503	732,117
System Built After 2000	Charlotte	3,729	3,588	26	198	189	7,730	1,068,444	304,318	26,288	76,277	23,966	1,499,293
System Built After 2000	Houston	15,101	7,031	2,650	5,533	624	30,939	1,921,088	719,212	213,640	1,249,319	74,387	4,177,646
System Built After 2000	Las Vegas	7,351	1,443	1,345	5,829	702	16,670	985,291	121,140	77,400	321,515	57,936	1,563,282
System Built After 2000	Little Rock	721	1,181	5	18	46	1,971	428,975	127,175	5,663	12,263	9,769	583,845
System Built After 2000	Minneapolis--St. Paul	24,762	8,685	2,875	3,824	4,162	44,308	2,516,191	152,120	120,149	99,111	81,235	2,968,806
System Built After 2000	Salt Lake City	33,908	710	1,704	7,365	2,100	45,787	1,104,005	12,516	39,910	143,990	33,493	1,333,914
System Built After 2000	Tampa Bay Area	2,007	3,185	81	1,590	94	6,957	1,821,488	235,500	44,806	248,037	46,166	2,395,997

Median Household Income by Race in Transit Zones and Regions											
System Size	Region	Transit Zones					Regions				
		White	Black	Hispanic/ Latino	Asian Pacific Islander	Other Race	White	Black	Hispanic/ Latino	Asian Pacific Islander	Other Race
Extensive	Boston	\$54,376	\$33,174	\$31,770	\$41,735	\$35,072	\$55,399	\$33,035	\$29,933	\$49,319	\$31,856
Extensive	Chicago	\$59,055	\$30,263	\$37,343	\$43,463	\$37,608	\$59,903	\$33,518	\$41,494	\$59,305	\$40,949
Extensive	New York	\$58,516	\$30,815	\$29,943	\$45,282	\$31,184	\$61,048	\$34,357	\$33,397	\$54,943	\$32,879
Extensive	Philadelphia	\$47,122	\$27,363	\$25,516	\$35,551	\$28,118	\$53,566	\$30,815	\$28,110	\$46,425	\$29,036
Extensive	San Francisco Bay Area	\$63,078	\$34,677	\$46,389	\$51,888	\$48,787	\$70,213	\$40,268	\$51,512	\$69,108	\$51,961
Large	Los Angeles	\$36,650	\$24,848	\$27,562	\$29,898	\$28,092	\$54,771	\$33,415	\$35,820	\$50,242	\$35,561
Large	Portland	\$36,339	\$24,817	\$31,526	\$41,494	\$29,880	\$48,479	\$31,411	\$35,473	\$50,954	\$35,707
Large	Washington	\$66,679	\$33,621	\$44,409	\$49,838	\$42,408	\$72,539	\$45,734	\$49,305	\$62,755	\$48,879
Medium	Atlanta	\$61,257	\$22,207	\$45,751	\$54,368	\$40,073	\$59,709	\$39,073	\$44,276	\$53,029	\$42,420
Medium	Baltimore	\$46,275	\$23,118	\$37,095	\$33,015	\$33,654	\$56,615	\$33,242	\$44,258	\$50,819	\$42,202
Medium	Cleveland	\$51,104	\$23,121	\$28,585	\$35,342	\$32,545	\$46,651	\$26,479	\$30,812	\$51,194	\$30,917
Medium	Dallas	\$50,736	\$26,552	\$33,874	\$45,394	\$34,763	\$54,476	\$32,422	\$35,543	\$53,511	\$36,247
Medium	Miami	\$42,682	\$21,306	\$26,791	\$41,364	\$29,015	\$46,962	\$30,866	\$35,280	\$45,525	\$32,882
Medium	Pittsburgh	\$41,207	\$24,846	\$41,196	\$46,874	\$41,347	\$39,025	\$22,271	\$34,171	\$45,802	\$27,504
Medium	Sacramento	\$40,151	\$28,761	\$31,160	\$35,457	\$32,031	\$50,061	\$33,791	\$37,910	\$45,723	\$37,907
Medium	San Diego	\$42,860	\$30,281	\$27,281	\$39,669	\$30,096	\$52,089	\$36,389	\$34,555	\$51,732	\$34,509
Medium	Seattle	\$33,713	\$17,331	\$25,617	\$20,670	\$23,417	\$53,654	\$35,905	\$39,713	\$49,089	\$39,244
Medium	St. Louis	\$36,021	\$21,768	\$26,762	\$25,611	\$27,332	\$48,874	\$27,370	\$39,254	\$46,909	\$35,618
Small	Buffalo	\$35,083	\$22,053	\$20,400	\$17,346	\$20,542	\$41,744	\$20,676	\$21,727	\$32,444	\$21,057
Small	Denver	\$42,695	\$18,473	\$23,028	\$23,929	\$23,790	\$55,894	\$35,770	\$37,975	\$49,529	\$37,931
Small	Galveston	\$32,458	\$18,621	\$24,833	\$26,553	\$24,685	\$50,998	\$23,576	\$32,932	\$40,194	\$31,440
Small	Jacksonville	\$23,975	\$12,056	\$27,631	\$31,113	\$41,016	\$46,602	\$30,025	\$37,607	\$51,699	\$36,974
Small	Memphis	\$32,922	\$12,810	\$23,552	\$32,301	\$26,347	\$50,500	\$27,931	\$36,483	\$48,937	\$37,246
Small	New Orleans	\$43,497	\$16,905	\$34,798	\$36,486	\$31,640	\$43,717	\$23,127	\$33,806	\$36,387	\$32,821
Small	Syracuse	\$22,243	\$14,124	\$14,357	\$10,125	\$18,389	\$41,339	\$20,681	\$23,151	\$34,683	\$26,507
System Built After 2000	Charlotte	\$62,501	\$15,671	\$81,536	\$20,702	\$28,955	\$50,544	\$33,134	\$37,235	\$53,511	\$36,935
System Built After 2000	Houston	\$56,164	\$29,579	\$34,829	\$36,588	\$31,186	\$57,068	\$31,412	\$32,616	\$50,732	\$33,030
System Built After 2000	Las Vegas	\$26,153	\$29,336	\$27,668	\$29,494	\$26,766	\$45,377	\$33,436	\$38,163	\$46,236	\$38,545
System Built After 2000	Little Rock	\$18,683	\$13,863	\$41,721	\$16,828	\$41,559	\$43,027	\$25,828	\$31,646	\$41,292	\$33,492
System Built After 2000	Minneapolis--St. Paul	\$36,213	\$20,558	\$37,444	\$24,127	\$31,136	\$56,644	\$29,423	\$39,307	\$47,346	\$35,875
System Built After 2000	Salt Lake City	\$31,891	\$25,198	\$30,049	\$27,115	\$32,326	\$50,383	\$35,220	\$36,823	\$44,624	\$37,192
System Built After 2000	Tampa Bay Area	\$68,810	\$15,755	\$26,028	\$87,446	\$20,937	\$39,160	\$27,206	\$32,892	\$45,218	\$31,317

Percent of Households Under the Poverty Threshold in Transit Zones and Regions			
		Transit Zones	Regions
System Size	Region	Percent in Poverty	Percent in Poverty
Extensive	Boston	15%	10%
Extensive	Chicago	16%	10%
Extensive	New York	19%	12%
Extensive	Philadelphia	19%	11%
Extensive	San Francisco Bay Area	11%	8%
Large	Los Angeles	25%	13%
Large	Portland	16%	9%
Large	Washington	13%	7%
Medium	Atlanta	20%	9%
Medium	Baltimore	25%	10%
Medium	Cleveland	24%	11%
Medium	Dallas	15%	10%
Medium	Miami	27%	13%
Medium	Pittsburgh	10%	11%
Medium	Sacramento	17%	10%
Medium	San Diego	17%	10%
Medium	Seattle	20%	8%
Medium	St. Louis	26%	10%
Small	Buffalo	26%	12%
Small	Denver	22%	8%
Small	Galveston	28%	13%
Small	Jacksonville	32%	10%
Small	Memphis	37%	14%
Small	New Orleans	23%	17%
Small	Syracuse	40%	12%
System Built After 2000	Charlotte	21%	9%
System Built After 2000	Houston	15%	12%
System Built After 2000	Las Vegas	17%	10%
System Built After 2000	Little Rock	33%	12%
System Built After 2000	Minneapolis--St. Paul	20%	6%
System Built After 2000	Salt Lake City	17%	7%
System Built After 2000	Tampa Bay Area	30%	10%

Characteristics of Existing Housing in Transit Zones											
System Size	Region	Single Family Homes	Homes in Buildings of 20 Units or More	Median Home Age	Vacant Homes	Homes Built 1990-2000	Homes Built 1940-1950	Median Gross Rent	Median Owner Costs	Rented Homes with 1-3 Rooms	Owned Homes with 1-3 Rooms
Extensive	Boston	20%	22%	1946	4%	4%	62%	\$823	\$1,672	49%	10%
Extensive	Chicago	25%	27%	1951	8%	6%	50%	\$658	\$1,555	42%	10%
Extensive	New York	11%	47%	1950	6%	4%	54%	\$759	\$1,809	56%	19%
Extensive	Philadelphia	18%	12%	1947	10%	3%	61%	\$606	\$1,055	45%	5%
Extensive	San Francisco Bay Area	25%	26%	1953	5%	8%	48%	\$916	\$1,925	63%	16%
Large	Los Angeles	25%	36%	1961	5%	8%	31%	\$599	\$1,401	75%	28%
Large	Portland	37%	33%	1959	7%	16%	38%	\$599	\$1,199	59%	8%
Large	Washington	17%	39%	1959	8%	8%	36%	\$784	\$1,489	60%	15%
Medium	Atlanta	30%	31%	1965	11%	18%	27%	\$647	\$1,423	49%	11%
Medium	Baltimore	17%	15%	1954	15%	6%	48%	\$471	\$1,029	43%	4%
Medium	Cleveland	34%	19%	1945	13%	2%	64%	\$495	\$1,240	32%	2%
Medium	Dallas	33%	36%	1970	8%	17%	15%	\$708	\$1,104	55%	13%
Medium	Miami	30%	30%	1967	11%	10%	15%	\$610	\$1,204	68%	30%
Medium	Pittsburgh	59%	13%	1950	7%	4%	53%	\$577	\$970	37%	2%
Medium	Sacramento	49%	13%	1960	6%	6%	32%	\$582	\$1,172	53%	8%
Medium	San Diego	31%	28%	1968	6%	11%	19%	\$687	\$1,370	62%	22%
Medium	Seattle	15%	65%	1961	10%	19%	39%	\$587	\$1,164	78%	23%
Medium	St. Louis	33%	33%	1953	15%	4%	43%	\$487	\$922	51%	4%
Small	Buffalo	24%	21%	1945	14%	4%	68%	\$467	\$1,044	42%	3%
Small	Denver	29%	38%	1956	9%	7%	46%	\$531	\$1,119	62%	17%
Small	Galveston	47%	12%	1948	17%	2%	56%	\$480	\$920	42%	9%
Small	Jacksonville	17%	49%	1957	17%	3%	41%	\$305	\$851	75%	7%
Small	Memphis	10%	57%	1960	14%	7%	33%	\$414	\$1,182	70%	13%
Small	New Orleans	25%	14%	1942	17%	2%	72%	\$574	\$1,506	48%	7%
Small	Syracuse	20%	32%	1954	16%	4%	46%	\$409	\$887	53%	4%
System Built After 2000	Charlotte	25%	33%	1963	10%	22%	35%	\$512	\$1,380	53%	12%
System Built After 2000	Houston	14%	48%	1971	14%	26%	25%	\$702	\$2,040	62%	17%
System Built After 2000	Las Vegas	5%	51%	1973	15%	13%	4%	\$608	\$1,121	65%	21%
System Built After 2000	Little Rock	28%	29%	1948	12%	5%	53%	\$404	\$630	61%	18%
System Built After 2000	Minneapolis--St. Paul	32%	46%	1955	5%	4%	46%	\$514	\$859	71%	13%
System Built After 2000	Salt Lake City	28%	35%	1960	10%	10%	35%	\$559	\$1,095	57%	8%
System Built After 2000	Tampa Bay Area	34%	23%	1963	11%	17%	33%	\$576	\$1,086	53%	20%

Overcrowding ⁶⁷ In Transit Zones and Regions by Tenure					
System Size	Region	Overcrowded Homes in Transit Zones		Overcrowded Homes in Regions	
		Own	Rent	Own	Rent
Extensive	Boston	2%	8%	2%	11%
Extensive	Chicago	5%	11%	4%	11%
Extensive	New York	6%	18%	3%	15%
Extensive	Philadelphia	3%	7%	3%	12%
Extensive	San Francisco Bay Area	9%	17%	7%	18%
Large	Los Angeles	24%	40%	11%	30%
Large	Portland	4%	10%	2%	9%
Large	Washington	3%	11%	2%	12%
Medium	Atlanta	2%	10%	2%	11%
Medium	Baltimore	2%	6%	1%	5%
Medium	Cleveland	1%	4%	1%	3%
Medium	Dallas	10%	17%	5%	15%
Medium	Miami	13%	26%	7%	21%
Medium	Pittsburgh	1%	2%	1%	2%
Medium	Sacramento	4%	11%	4%	14%
Medium	San Diego	11%	23%	6%	19%
Medium	Seattle	3%	7%	2%	9%
Medium	St. Louis	2%	5%	2%	5%
Small	Buffalo	1%	4%	1%	4%
Small	Denver	3%	9%	2%	10%
Small	Galveston	3%	11%	4%	10%
Small	Jacksonville	4%	3%	2%	8%
Small	Memphis	1%	8%	2%	9%
Small	New Orleans	2%	5%	3%	10%
Small	Syracuse	2%	6%	1%	3%
System Built After 2000	Charlotte	2%	4%	2%	8%
System Built After 2000	Houston	4%	7%	7%	19%
System Built After 2000	Las Vegas	9%	16%	5%	15%
System Built After 2000	Little Rock	1%	4%	2%	6%
System Built After 2000	Minneapolis--St. Paul	4%	13%	2%	8%
System Built After 2000	Salt Lake City	2%	10%	3%	12%
System Built After 2000	Tampa Bay Area	7%	15%	2%	9%

⁶⁷ Overcrowding is defined as one or more persons per room. The U.S. Census includes in the definition of a room “living rooms, dining rooms, kitchens, bedrooms, finished recreation rooms, enclosed porches suitable for year-round use, and lodgers’ rooms.” Nationally, only 6 percent of households are overcrowded.

Non-Auto Means of Transportation to Work by Workers 16 and Older by Race in Transit Zones and Regions													
System Size	Region	Transit Zones						Regions					
		All	White	Black	Asian Pacific Islander	Hispanic / Latino	Other Race	All	White	Black	Asian Pacific Islander	Hispanic / Latino	Other Race
Extensive	Boston	39%	36%	43%	49%	45%	43%	17%	14%	34%	32%	29%	26%
Extensive	Chicago	32%	32%	34%	38%	28%	29%	16%	13%	26%	17%	18%	19%
Extensive	New York	61%	55%	65%	68%	64%	64%	32%	22%	47%	44%	45%	47%
Extensive	Philadelphia	32%	24%	44%	37%	37%	38%	14%	9%	33%	18%	21%	21%
Extensive	San Francisco Bay Area	33%	32%	36%	35%	32%	32%	15%	13%	20%	15%	16%	16%
Large	Los Angeles	24%	11%	20%	14%	29%	29%	9%	4%	10%	6%	14%	14%
Large	Portland	25%	24%	35%	25%	26%	27%	10%	9%	22%	11%	16%	16%
Large	Washington	41%	41%	40%	41%	44%	43%	15%	11%	21%	13%	21%	19%
Medium	Atlanta	23%	11%	32%	24%	35%	37%	5%	2%	11%	5%	10%	10%
Medium	Baltimore	28%	19%	38%	29%	27%	25%	9%	5%	22%	9%	13%	12%
Medium	Cleveland	18%	14%	24%	25%	15%	17%	6%	4%	17%	10%	9%	10%
Medium	Dallas	10%	7%	17%	6%	11%	11%	4%	2%	8%	3%	6%	5%
Medium	Miami	14%	9%	20%	24%	13%	17%	6%	3%	10%	5%	6%	9%
Medium	Pittsburgh	22%	20%	44%	34%	31%	30%	10%	8%	33%	25%	21%	21%
Medium	Sacramento	14%	13%	17%	11%	17%	17%	6%	5%	9%	5%	8%	8%
Medium	San Diego	16%	14%	19%	13%	18%	18%	8%	6%	13%	6%	11%	11%
Medium	Seattle	39%	36%	56%	49%	41%	45%	11%	10%	19%	14%	15%	15%
Medium	St. Louis	18%	14%	21%	31%	30%	15%	4%	2%	13%	6%	8%	8%
Small	Buffalo	22%	16%	28%	34%	31%	27%	7%	4%	24%	10%	17%	15%
Small	Denver	25%	23%	37%	39%	24%	24%	8%	7%	15%	10%	11%	11%
Small	Galveston	22%	26%	18%	37%	18%	20%	5%	3%	8%	10%	6%	7%
Small	Jacksonville	24%	17%	35%	0%	3%	37%	4%	2%	9%	3%	5%	5%
Small	Memphis	19%	12%	31%	20%	5%	12%	3%	1%	6%	4%	3%	3%
Small	New Orleans	29%	24%	39%	34%	34%	39%	9%	4%	18%	5%	9%	10%
Small	Syracuse	34%	31%	34%	51%	44%	32%	6%	5%	22%	16%	19%	17%
System Built After 2000	Charlotte	19%	15%	30%	9%	12%	13%	3%	1%	7%	3%	5%	5%
System Built After 2000	Houston	22%	15%	26%	28%	31%	31%	6%	3%	9%	5%	8%	8%
System Built After 2000	Las Vegas	28%	24%	33%	33%	31%	30%	7%	5%	13%	7%	11%	11%
System Built After 2000	Little Rock	21%	14%	28%		0%	0%	2%	2%	5%	6%	4%	4%
System Built After 2000	Minneapolis--St. Paul	31%	26%	48%	35%	34%	38%	8%	6%	23%	11%	17%	17%
System Built After 2000	Salt Lake City	17%	15%	34%	22%	21%	23%	5%	5%	14%	5%	9%	9%
System Built After 2000	Tampa Bay Area	13%	8%	23%	15%	9%	7%	4%	3%	9%	3%	5%	6%

Auto Ownership in Transit Zones and Regions									
		Transit Zones				Regions			
				Vehicles per Household				Vehicles per Household	
System Size	Region	Vehicles per Household	Vehicles per Person	Owners	Renters	Vehicles per Household	Vehicles per Person	Owners	Renters
Extensive	Boston	1.10	0.45	1.52	0.84	1.52	0.59	1.85	1.05
Extensive	Chicago	1.13	0.44	1.53	0.82	1.54	0.55	1.83	1.00
Extensive	New York	0.66	0.25	1.20	0.44	1.26	0.46	1.76	0.70
Extensive	Philadelphia	1.04	0.41	1.29	0.71	1.51	0.57	1.74	0.96
Extensive	San Francisco Bay Area	1.24	0.51	1.72	0.98	1.75	0.63	2.07	1.32
Large	Los Angeles	1.18	0.39	1.89	0.96	1.70	0.55	2.04	1.30
Large	Portland	1.27	0.56	1.81	0.96	1.77	0.69	2.05	1.30
Large	Washington	1.06	0.48	1.43	0.82	1.69	0.63	1.98	1.18
Medium	Atlanta	1.13	0.48	1.56	0.90	1.80	0.66	2.06	1.28
Medium	Baltimore	0.93	0.39	1.44	0.56	1.60	0.61	1.89	1.02
Medium	Cleveland	1.16	0.48	1.61	0.83	1.64	0.65	1.89	1.08
Medium	Dallas	1.37	0.54	1.71	1.21	1.74	0.63	2.00	1.33
Medium	Miami	1.20	0.44	1.55	0.96	1.51	0.58	1.69	1.17
Medium	Pittsburgh	1.33	0.55	1.56	0.93	1.55	0.63	1.77	1.00
Medium	Sacramento	1.39	0.60	1.74	1.12	1.76	0.65	2.01	1.34
Medium	San Diego	1.37	0.48	1.83	1.13	1.75	0.62	2.03	1.39
Medium	Seattle	0.87	0.45	1.60	0.66	1.80	0.71	2.09	1.32
Medium	St. Louis	1.12	0.51	1.64	0.83	1.71	0.66	1.93	1.14
Small	Buffalo	0.99	0.43	1.42	0.77	1.48	0.59	1.76	0.95
Small	Denver	1.12	0.52	1.60	0.85	1.80	0.70	2.05	1.31
Small	Galveston	1.12	0.45	1.50	0.91	1.67	0.63	1.91	1.19
Small	Jacksonville	0.72	0.40	1.45	0.59	1.68	0.65	1.88	1.26
Small	Memphis	0.82	0.38	1.55	0.72	1.63	0.61	1.88	1.14
Small	New Orleans	1.04	0.51	1.46	0.81	1.45	0.55	1.75	0.97
Small	Syracuse	0.74	0.26	1.49	0.54	1.58	0.61	1.83	1.05
System Built After 2000	Charlotte	1.10	0.54	1.62	0.81	1.80	0.69	2.03	1.32
System Built After 2000	Houston	1.26	0.50	1.68	1.13	1.67	0.58	1.95	1.25
System Built After 2000	Las Vegas	0.89	0.44	1.29	0.84	1.61	0.60	1.86	1.21
System Built After 2000	Little Rock	0.74	0.41	1.20	0.65	1.69	0.67	1.92	1.26
System Built After 2000	Minneapolis--St. Paul	1.05	0.44	1.52	0.75	1.77	0.68	2.01	1.15
System Built After 2000	Salt Lake City	1.34	0.58	1.83	1.11	1.97	0.64	2.20	1.40
System Built After 2000	Tampa Bay Area	1.08	0.47	1.38	0.94	1.54	0.65	1.67	1.20