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# Affordable-Accessible Housing In A Dynamic City

## *Why and How To Increase Affordable Housing Development In Accessible Locations*

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*This classic 34-unit apartment building located on a half-acre lot near two bus lines and a neighborhood commercial center is a good example of affordable-accessible housing.*

### **Abstract**

This report describes practical ways to increase the supply of *affordable-accessible housing*, which refers to lower priced homes located in areas with convenient access to essential services and activities due to good transport options and accessible land use. This typically consists of lower-priced apartments, townhouses, duplexes, small-lot single-family and accessory suites located in neighborhoods with shops, schools, healthcare and jobs that are easy to reach by walking, bicycling and public transit. This helps achieve numerous economic, social and environmental objectives. Demand for affordable-accessible housing is growing. Some current transport and land use policies discourage such development, leading to a shortage in many communities, particularly in growing cities. Various policy and planning reforms described in this report can increase affordable-accessible housing development. For illustrated examples of various affordable-accessible housing types see the *Affordable-Accessible Housing Photo Essay* ([www.vtpi.org/aff\\_acc\\_photo.pdf](http://www.vtpi.org/aff_acc_photo.pdf)).

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## Contents

Executive Summary .....	3
Introduction .....	6
Defining Affordability .....	9
Defining Accessibility.....	13
Defining Affordable-Accessible Housing .....	14
Affordable-Accessible Housing Benefits and Cost .....	16
Dynamic City Planning .....	18
Barriers to Affordable-Accessible Development .....	20
Affordable Housing Economic Analysis.....	21
Affordable-Accessible Housing Development Strategies .....	27
Examples .....	36
Conclusions.....	41
References.....	44



*Affordable-accessible housing typically consists of lower-priced, low-rise apartment buildings, townhouses and small-lot single-family homes located in urban neighborhoods with nearby services, good walking conditions, and moderate- to high-quality public transit service.*

## Executive Summary

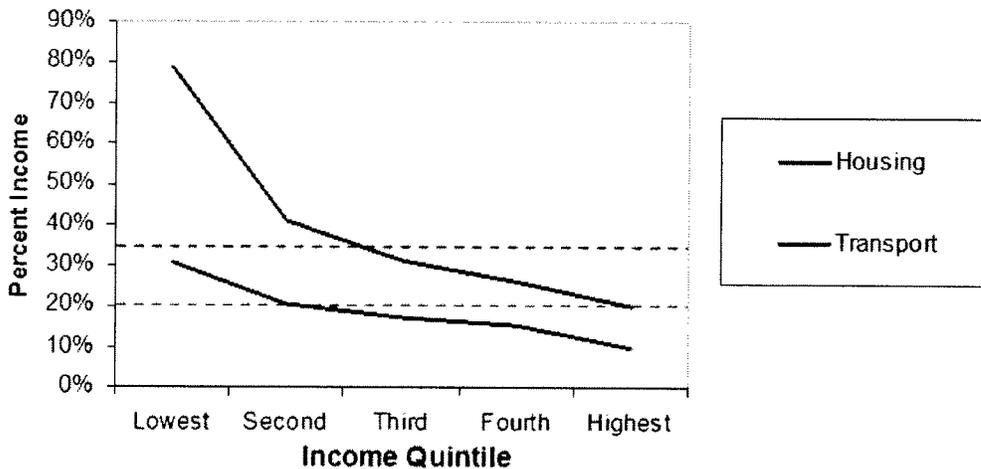
This report integrates three planning issues:

1. *Affordability.* Experts recommend spending less than 32% of total household budget on housing (rents or mortgages, basic utilities and maintenance) and less than 18% on transportation, or 45% on housing and transport combined. Many lower- and middle-income households exceed these levels (Figure ES-1).
2. *Accessible (also called "location efficient") development.* People who live or work in more accessible, multi-modal areas have better access to goods, services and activities, tend to own fewer vehicles, drive less, and rely more on alternative modes than in more automobile-oriented, sprawled communities.
3. *Dynamic planning.* Communities must respond to changing demands and conditions. Current demographic and economic trends are increasing demand for affordable-accessible housing, and increasing the benefits to society of accommodating this increased demand.

*Link to Sustainability*

*Affordable-accessible housing* refers to lower priced housing located in areas with good access to basic services and activities. Increasing the supply of affordable-accessible housing can provide various savings and benefits, including reduced homelessness and associated problems, government savings, consumer savings, improved safety and public health, energy conservation and greenspace preservation. It increases economic, social and environmental sustainability.

**Figure ES-1 Housing and Transport Expenditures by Income Quintile (BLS 2007)**



*Housing and transport are unaffordable for many lower- and medium-income households.*

Many current policies and planning practices discourage accessible-affordable housing development. These include restrictions on building height, density and type; generous minimum parking requirements; and fees and taxes structured to favor fewer, more expensive units. Many of these barriers reflect inaccurate assumptions (affordable housing occupants are dangerous), and outdated policies (generous parking supply is necessary and beneficial to society). Dynamic cities must adjust these policies to reflect growing demands for affordable-accessible housing.

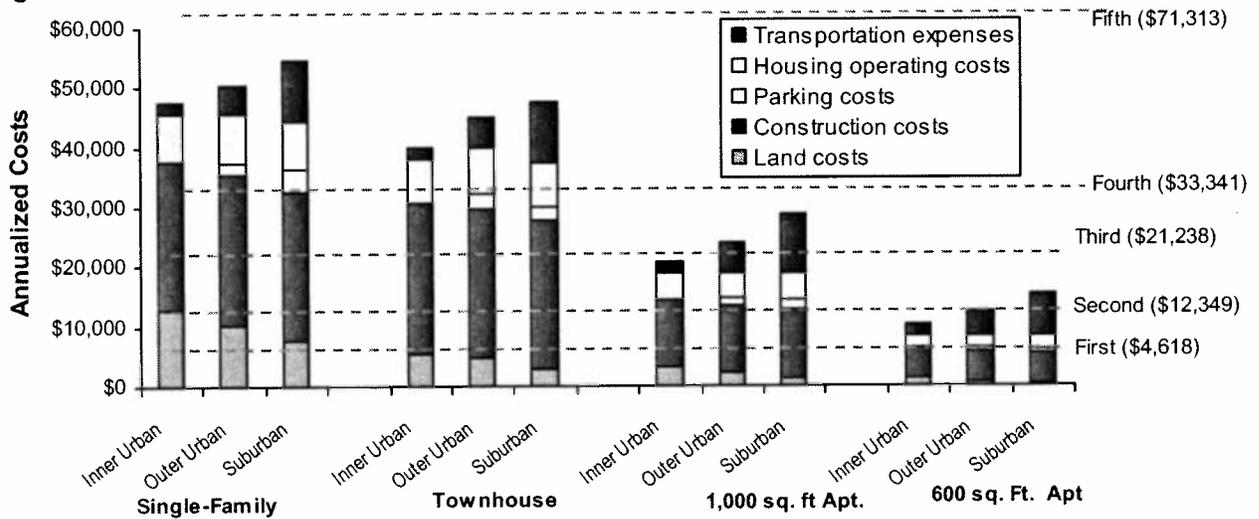
MYTH BUSTER

There are many possible ways to increase housing and transportation affordability, as summarized in Table ES-1, but some are better than others because they reduce rather than shift costs, and support other strategic objectives such as reducing vehicle traffic and sprawl. For example, special rent subsidies benefit some groups but displace others, and rent controls reduce the incentive to develop more lower-priced housing. Urban fringe development may reduce land costs but increases transport costs, including financial costs and accident risk, and increases pollution emissions and sprawl-related costs. The *Housing Affordability Analysis Spreadsheet* developed for this study can be used to evaluate the effects of various policy changes on total housing and transport affordability.

Some relatively modest policy reforms can greatly improve affordability and accessibility, and therefore the lives of physically and economically disadvantaged people. These include changes to zoning codes to allow more diverse housing types, reduced parking requirements, improving walking and cycling conditions, and improved public transit service. Even if the new housing is moderate price, it will contribute to future affordable housing supply as it depreciates.

Figure ES-2 illustrates housing and transport expenses of various housing types and locations. The dashed lines indicate the maximum expenditures considered affordable for each income quintile (fifth of total households). Urban apartments tend to have the lowest total costs.

**Figure ES-2 Annualized Expenses Compared**



This figure compares housing and transport costs of various housing types. The dashed line indicates maximum affordable housing and transport expenditures for income quintiles (fifth of total households).

For small low-income households (one or two people with less than \$2,400 monthly budget), the most practical affordable housing options are usually secondary suites, small apartments or shared single-family houses in accessible areas where services and activities are easily reached without a car. Multi-modal accessibility is particularly important for people who cannot drive due to disabilities or legal constraints. Such housing is not appropriate for all households, but it should be available to anybody who needs it.

Quote?

**Table ES-1 Affordable-Accessible Housing Development Strategies**

Strategies	Impacts
<b>Ineffective and Sometimes Harmful</b>	
Cheap suburban development	Reduces housing costs but increases transport and sprawl costs
Rent control	Benefits existing residents but reduces the incentive to build more lower-priced housing
Forbidding rental-to-owner conversions	Benefits existing residents but reduces incentive to build more lower-priced housing
Urban blight (allow some neighborhoods to become undesirable)	Reduces housing costs but harms communities and concentrates poverty
Targeted housing subsidies	Benefits people who receive subsidies, but not others
<b>Effective But Costly</b>	
General housing construction and purchase subsidies	Reduces total housing costs, but does little to increase overall affordability
Inclusionary zoning	Helps some households purchase homes but seldom includes rentals and may reduce total housing development
Large social housing developments	Concentrates poverty
Subsidizing suburban transportation	Requires significant subsidies and imposes external costs
<b>Most Effective and Beneficial</b>	
Affordable housing targets	Encourages communities to accept affordable housing
Address community concerns	Reduces neighborhood opposition to affordable housing
Density bonus	Encourages developers to build more affordable housing
Density requirements	Encourages developers to build more housing
Structure Fees and Taxes to Favor Affordable-Accessible Development	Reduces the costs of affordable-accessible housing compared with more costly and sprawled housing
Allow and Encourage Secondary Suites	Encourages homeowners to provide rental housing
Improve design process	Improves design quality which can reduce opposition
Affordable housing maintenance programs	Preserves existing affordable housing stock
Smart growth reforms	More compact development, which reduces costs such as parking
Improve affordable transportation options	Improves accessibility and reduces household costs
Implement transportation management policies	Supports use of efficient modes
Expedite development review	Reduces affordable housing development costs and delays
Reduced and more accurate parking requirements	Reduces parking costs, particularly for affordable-accessible housing
Unbundle parking	Reduces housing costs for households with low vehicle ownership
More accessible, multi-modal suburban development	Reduces housing and transportation costs in suburban areas
Identify parcels suitable for affordable-accessible development	Helps developers find sites for affordable, infill development
Dynamic zoning	Allows development policies and zoning codes to respond to changing demands
Brownfield remediation	Makes contaminated land available for development
Provide free or inexpensive land	Encourages development of affordable housing.
Resource efficiency design	Reduces occupant utility costs
Targeted tax and fee exemptions	Reduces affordable-accessible housing costs
More favorable tax policies	Reduces affordable-accessible housing costs

*This table summarizes strategies identified in this study to increase affordable-accessible housing supply.*

## Introduction

People need adequate housing to be healthy, happy and successful. Housing inaffordability is a major problem, particularly in growing cities where affordable housing demand exceeds the existing stock of older, less expensive residences. Increasing housing affordability is both an act of generosity and a practical way to solve problems and achieve various planning objectives:

- Reduced homelessness and associated problems.
- Financial savings and flexibility to lower-income households.
- Accommodating more lower-wage workers, students and retirees, thus supporting local economic development.

Yet, despite broad support for more affordable urban housing, many current planning practices discourage such development, particularly within existing urban neighborhoods. Some obstacles reflect legitimate concerns, such as traffic and parking congestion, that can be addressed with appropriate policies, but many objections reflect outdated and inaccurate assumptions, such as fear that affordable housing attracts dangerous residents and reduces nearby property values.

### **Castana Development Example** ([www.cookstreetvillage.ca](http://www.cookstreetvillage.ca))



The Cook Street Village is a popular neighborhood commercial center in Victoria, BC. It contains about fifty businesses along six blocks. Buildings on the street range from one to four stories.

In 2003 a developer proposed building the Bohemia, a three-story mixed-use commercial and residential building with 26 residential units, and the Castana, a four-story building with 45 residential units on land previously occupied by three single-family homes. A third of the units would be moderate-price rentals. The city council rejected the proposal due to objections by the neighborhood association and local residents to the project's excessive size, parking and traffic generation, and modern design. In 2006 the developer proposed an alternative, three-story design with 19 units in the Bohemia and 22 units in the Castana, which was approved. The total number of residential units declined from 71 to 51. These units are larger and none will be rentals.

This illustrates typical resistance to affordable-accessible development. Community objections lead developers to build fewer, higher-priced units. Affordable rental units are the first to be eliminated.

Some programs to address housing inaffordability target specific groups with special housing needs, such as people with disabilities or single-parent households, but such programs only address a small share of the problem. Most households that face unaffordable housing are lower-income workers, students and pensioners that do not qualify for special housing support. Affordable housing programs that favor specific groups can reduce housing affordability for other groups, unless they increase total affordable housing supply.

True affordability requires more than low rents and mortgages. Housing is not really affordable if located in isolated areas with high transportation costs. True affordability therefore requires *affordable-accessible housing*, that is, appropriate, lower-priced housing located where basic services and activities are easy to access without using an automobile. Affordable-accessible housing is the opposite of *gentrification*: it allows households with diverse incomes, abilities and needs to live together in attractive, diverse and dynamic neighborhoods.

In traditional peasant societies, rural land reform is often promoted as a way to increase poor household's economic opportunity. In modern, industrial societies, affordable urban housing plays a similar role: it allows poor households to access economic opportunities, including better education, employment and affordable services.

Affordable-accessible housing development was common at most times and most parts of the world. Apartments and small houses were constructed where residents could easily walk to services and reach jobs by public transit. However, between 1970 and 2000 relatively little affordable-accessible housing was built in North America, leading to a shortage of such housing in many cities. Many factors contributed to this decline, some of which reflect outdated policies and planning practices. It now makes sense to reexamine and reform such outdated policies.

There are many possible ways to increase housing affordability, but some are better than others because they:

- Reduce rather than shift costs, and so minimize subsidy requirements.
- Reduce total costs, including utilities and transport expenses, not just rents and mortgages.
- Increase consumer options, allowing households to choose the bundle of housing and transport that best meets their needs.
- Support other strategic planning objectives such as reducing government costs, energy consumption, pollution emissions and land consumption.

This report investigates these issues. It identifies current policies that discourage affordable housing development in accessible locations, explores why such policies exist, and describes strategies that reduce the costs of constructing basic housing in accessible locations with the hope that this will increase supply and reduce prices for such housing. These strategies support and are supported by other smart growth and sustainable transport policies.

**Memo From Future Self: Hope For The Best But Prepare For the Worst**

Todd Litman, *Planetizen Blog* ([www.planetizen.com/node/39418](http://www.planetizen.com/node/39418)).

Planning issues often seem to be conflicts between the interests of different groups, such as residents versus developers, or motorist versus transit users. But planning concerns the future, so it can consist of conflicts between the interests of our current and future selves.

For example, the city of Vancouver is developing an Ecodensity Policy that increases infill development, particularly affordable housing and commercial development along major public transit corridors. It's a controversial policy with lots of opposition from residents who assume that it contradicts their interests. "It will just increase traffic and parking problems," they object. But they should think again. They may want affordable housing and better transport options in the future.

For example, a relative of mine who opposes Ecodensity lives in a relatively inexpensive apartment in a desirable Vancouver neighborhood and drives most days to work. Sometime in the future her landlord will probably raise the rent or redevelop the building, forcing her to search for more affordable housing, while increasing urban traffic, rising fuel prices and aging may make driving more difficult, forcing her to search for more affordable commute options. Her future self may benefit a lot from Ecodensity. Even if she stays in her apartment and continues to drive she will benefit from overall reductions in housing prices and traffic congestion. Vancouver housing will not become really cheap, nor will traffic congestion disappear, but Ecodensity can reduce these problems, so housing costs and traffic congestion never become extreme.

Imagine what a message from yourself a couple decades in the future might say concerning the type of development policies your community should establish now. If you are lucky and selfish the message might favor restrictions on affordable, infill housing and automobile-oriented transport planning. However, if your future self might be physically disabled or poor, or concerned about physically and economically disadvantaged neighbors, your future self will want lots of affordable housing located in areas with good travel options, and plenty of local services that support healthy and happy lifestyles, such as local parks and inexpensive shops. Wow, we just reinvented Ecodensity!

Planning decisions we make today will affect our quality of life in coming years and decades. Since our future condition is unknowable, it makes sense to create communities that do a really good job of caring for disadvantaged people, because that could be us.

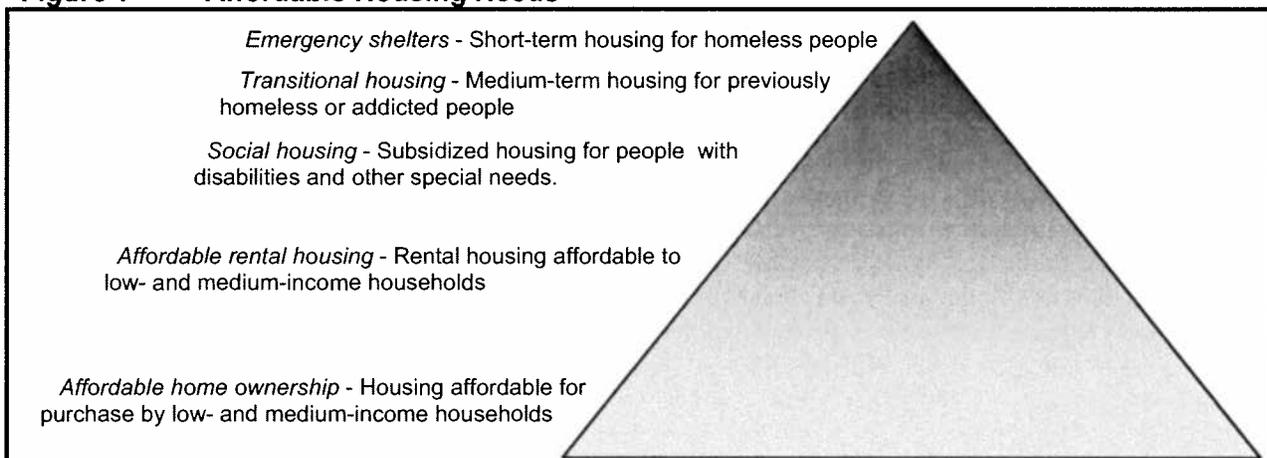
Memo from future self: Hope for the best but prepare for the worst by increasing the supply of affordable housing and transport options in the community where you will want to live.

## Defining Affordability

*Affordability* refers to people's ability to purchase *essential* (or *basic*) goods and services, such as adequate housing, healthy food, and medical care. It means that basic living expenses are less than a household's income (Litman 2007).

*Affordable housing* generally means that total costs (rents, mortgages, basic utilities, and maintenance) of appropriate housing total less than 30% to 35% of a household's income (Hulchanski 1995). For a household with \$1,800 month net income, this means less than \$630 per month in total housing expenses. The term *affordable housing* often refers to subsidized *social housing* for people with special needs (physical or mental disability, severe poverty, etc.), but that is actually a minor portion of total affordable housing demand. Most affordable housing is occupied by low-wage workers, students, and people living on pensions, who pay their own rents without subsidy. This is sometimes called *workforce housing*. The figure below illustrates various affordable housing needs, ranging from a small group that needs emergency shelter or subsidized housing, to a much larger group that needs affordable rental or owned housing.

**Figure 1 Affordable Housing Needs**



*Affordable housing needs range from a small number of emergency shelters serving people with acute needs, to a large number of affordable rental and owned homes.*

*Affordable transportation* generally means that less than 20% of household budgets are devoted to basic transport, that is, access to essential services and activities such as health care, school, work, basic shopping, plus some social and recreational activities. For a household with \$1,800 monthly net income, this means less than \$360 per month spent on transport.

Households often face tradeoffs between housing and transportation costs: cheaper homes are often in more isolated locations where basic transport is more expensive. As a result, many experts recommend using an *affordability index* that combines housing and transport costs (CNT 2008). Housing and transport should together total less than 45% of income. For a \$1,800 net monthly income household this means less than \$900 total housing and transport expenses.

How affordability is defined and calculated can vary, leading to confusion. Maximum budget shares range from 30% to 35% for housing and 45% to 50% for housing and transport, but even these values may be excessive to allow low-income households to purchase other necessities such as healthy food and healthcare (Williams-Derry 2010). Some housing cost data consider only rents and mortgages, while others include maintenance and utility costs. Calculations may be based on *gross incomes* (including taxes), *net income* (after taxes), or *expenditures*.

Table 1 shows how average household budget expenditures changed during the last century. Housing and transportation expenditures both increased significantly during this period, offset by declines in food and clothing expenditures. Figure 2 illustrates these trends.

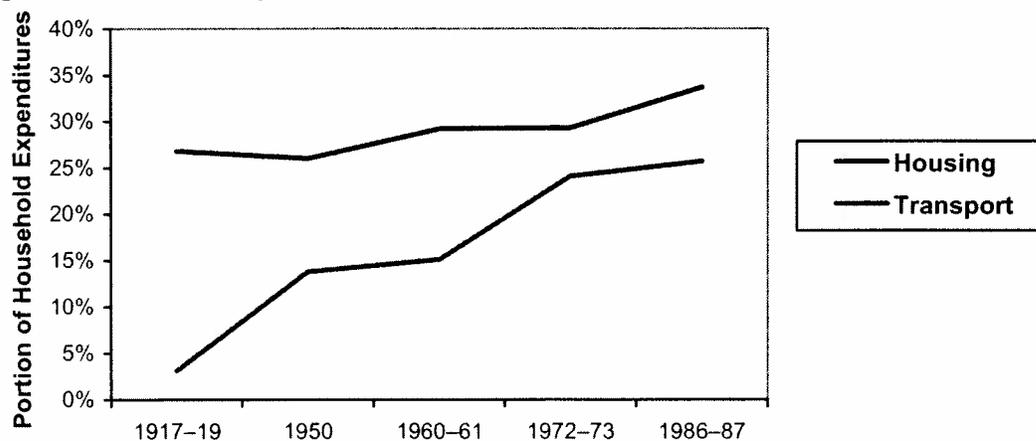
**Table 1 Average Household Expenditures** (Johnson, Rogers and Tan 2001)

Component	1917-19	1950	1960-61	1972-73	1986-87
<i>Housing</i>	26.8%	26.0%	29.2%	29.3%	33.7%
<i>Transportation</i>	3.1%	13.8%	15.1%	24.1%	25.7%
Food	41.1%	32.5%	26.0%	22.6%	19.4%
Clothing	17.6%	11.6%	10.3%	8.4%	5.2%
Health care	4.7%	5.1%	6.6%	4.7%	4.0%
Other	6.7%	11.0%	12.8%	10.9%	12.0%

*This table indicates U.S. urban household expenditures during the last century.*

These shifts may reflect increased food and clothing affordability, and increased housing and transportation quality (larger and more comfortable homes, more motorized travel, increased total mobility), but they may also reflect a reduction in housing and transport affordability, that is, a decline in the quality of affordable transport options (walking, cycling, public transit, etc.) and less accessible land use patterns which increase the amount of travel required to access activities, forcing people to spend more money to maintain a given level of accessibility. This increase in transport costs tends to be particularly burdensome to lower-income households, as described below.

**Figure 2 Housing & Transport Expenditure Trends** (Johnson, Rogers and Tan 2001)



*This figure illustrates how housing and transportation expenditures grew as a portion of household budgets during the Twentieth Century.*

Table 2 shows selected household expenditures by income quintile (fifth of households) from the Bureau of Labor Statistics' *Consumer Expenditure Survey*. This indicates that many lower income households spend more on housing and transportation than considered affordable. Even in the lowest income quintile (households earning an average of \$10,531) spent \$3,242 on average on transport, primarily automobiles.

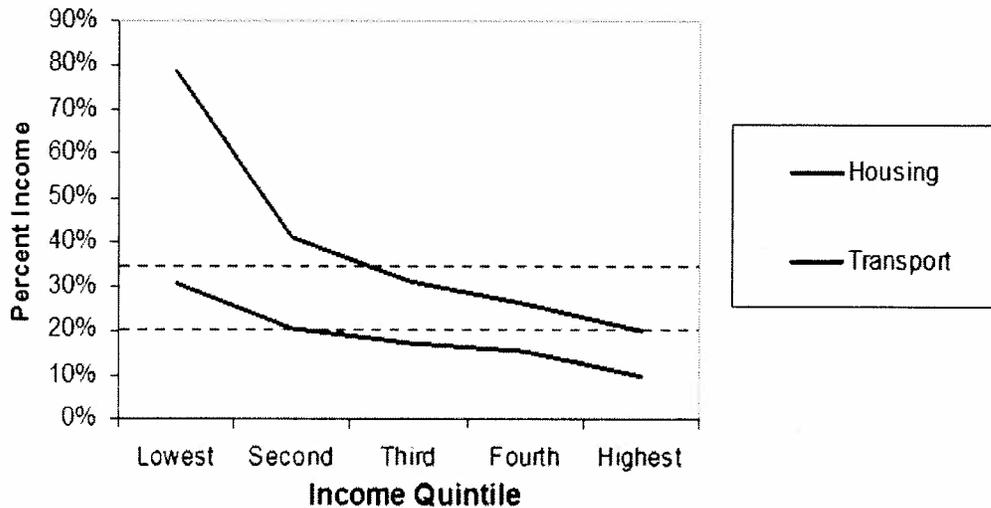
**Table 2 2007 U.S. Household Budget Data by Income Quintile (BLS 2007)**

Quintile	All	Lowest	Second	Third	Fourth	Highest
Income before taxes	\$63,091	\$10,531	\$27,674	\$46,213	\$72,460	\$158,388
Average annual expenditures	\$49,638	\$20,471	\$31,150	\$42,447	\$57,285	\$96,752
Persons	2.5	1.7	2.2	2.5	2.9	3.2
Earners	1.30	0.50	1.00	1.40	1.80	2.00
Vehicles	1.9	0.9	1.5	2	2.4	2.8
Housing	\$16,920	\$8,285	\$11,390	\$14,388	\$19,017	\$31,492
<i>Housing-percent income</i>	26.8%	78.7%	41.2%	31.1%	26.2%	19.9%
Transport	\$8,758	\$3,242	\$5,717	\$7,926	\$11,058	\$15,831
<i>Transport-percent income</i>	13.9%	30.8%	20.7%	17.2%	15.3%	10.0%
Housing and Transport	\$25,678	\$11,527	\$17,107	\$22,314	\$30,075	\$47,323
<i>Housing and Transport- % income</i>	40.7%	109.5%	61.8%	48.3%	41.5%	29.9%

*This table indicates that housing and transportation are unaffordable to a major portion of households.*

Figure 3 illustrates how the portion of household budgets devoted to housing and transportation tend to be unaffordable for lower income households.

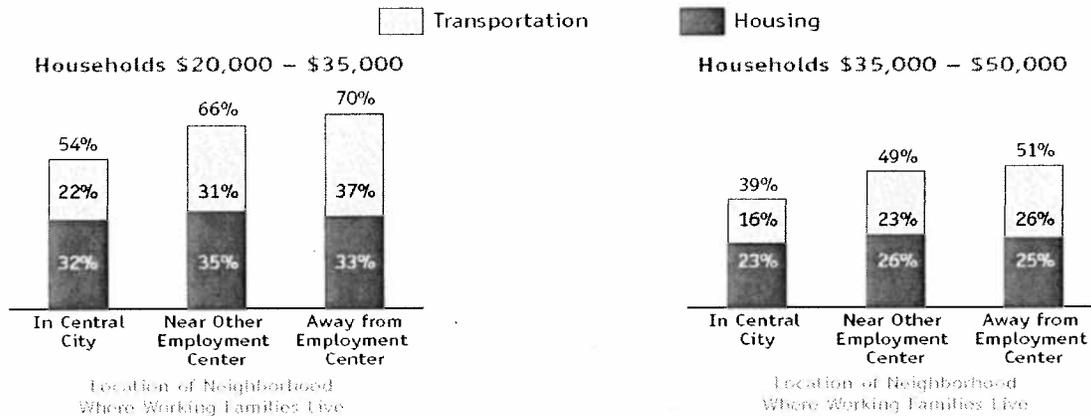
**Figure 3 Housing and Transport Expenditures by Income Quintile (BLS 2007)**



*The portion of household budgets devoted to housing and transport is unaffordable for most lower-income households (those in the first and second quintile).*

Several studies examine how housing and transport affordability vary by geographic location (CNT 2010). Lipman (2006) found that transport costs range from about 10% in multi-modal communities up to about 25% in automobile dependent communities, as illustrated in Figure 4. Makarewicz, et al. (2008), ULI (2009) and CHP (2009) all found similar patterns: lower-income households tend to bear excessive housing costs in urban areas, and excessive transport costs in suburban areas. The greatest total burden tends to occur in automobile-dependent areas.

**Figure 4 Share of Income Spent on Housing and Transport (Lipman 2006)**

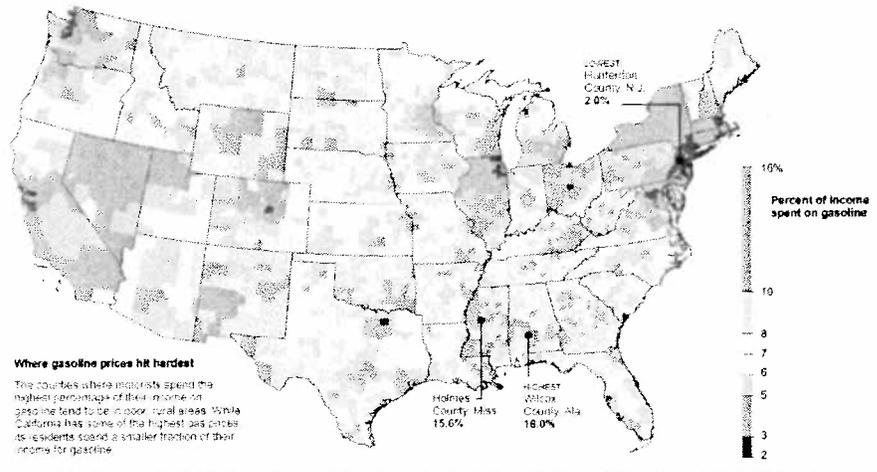


Source: Center for Neighborhood Technology calculations.  
 NOTE: Employment centers are job locations with a minimum of 5,000 employees.

*The portion of low- and moderate-income household budgets devoted to transport and housing increases with distance from urban centers. Lower housing costs are more than offset by higher transport costs.*

Housing foreclosure rates tend to be higher in more automobile-dependent areas, indicating high financial risk (NRDC 2010; Leinberger 2010). In such areas, transport costs are high and households are vulnerable to fuel prices spike (Figure 5), vehicles failures and traffic accidents. Residents of more accessible locations enjoy more options and less risk.

**Figure 5 Share of Income Spent on Fuel (Krauss 2008)**



*Rural residents face major financial burdens when fuel prices spike.*

## Defining Accessibility

*Accessibility* (or just *access*) refers to the ease of reaching goods, services, activities and destinations, which together are called *opportunities* (Levinson and El-Geneidy 2006).<sup>1</sup> For example, grocery stores provide access to food; libraries and the Internet provide access to information; paths, roads and airports provide access to destinations and therefore activities (also called *opportunities*). Various factors affect accessibility (Litman 2008):

- *Mobility* (ease of physical travel).
- *Transportation options* (quality of walking and cycling conditions, rideshare and public transit services, automobile transport, carsharing and taxi services).
- *Affordability* (costs of transport options relative to incomes).
- *Land use accessibility* (the geographic distribution of services and activities).
- *Connectivity* (connections among roads and paths, and therefore the directness of travel).
- *Mobility substitutes* (quality of telecommunications and delivery services).
- *User information* (ease of obtaining information on transport options).

Increased accessibility tends to reduce transport costs and improve economic opportunities (better shopping, schooling and employment options), particularly for people with disabilities and low incomes. It is therefore important that affordable housing be available in accessible locations, with some units designed to accommodate people with disabilities.

Table 3 compares transport options and costs for a typical moderate-income, two adult household. In a very accessible location the household requires no vehicles and has low transport costs. In a moderately accessible location it owns one vehicle and has moderate transport costs. In an automobile-dependent location it owns two vehicles and bear high transport costs.

**Table 3 Typical Household Transport Costs By Geographic Location**

	Very Accessible and Multi-modal	Moderately Accessible and Multi-Modal	Automobile Dependent
Typical examples	Well-planned transit-oriented development	Older urban neighborhood and new transit-oriented development	Conventional suburban or rural development
Transport options	Poor automobile travel. Good quality walking, cycling, public transit, carsharing, taxi, telework and delivery services.	Moderate quality automobile, walking, cycling, public transit, taxi and telework	High quality automobile. Moderate to poor quality walking, cycling, taxi and telework.
Mobility for non-drivers	Good	Moderate	Poor
Vehicle ownership	0	1	2
Annual transport expenses	\$2,000	\$4,000	\$8,000

*Households can significantly reduce transportation costs by choosing accessible locations.*

<sup>1</sup> *Accessibility* also refers to facilities and services intended to accommodate people with disabilities, but a more specific term increasingly used by planners is *universal design*.

## Defining Affordable-Accessible Housing

*Affordable-accessible housing* refers to adequate quality housing, affordable to household budgets, located in accessible locations where a vehicle is not needed to access common services and activities, so lower-income households can spend less than 45% of their total budget on housing and transport. It typically consists of basic, low-rise (2-4 story) apartments and condominiums, townhouses, duplexes, small-lot single-family, and secondary suites, located in neighborhoods with commonly-used services (stores, schools, healthcare, parks), good walking and cycling conditions, and high quality public transit service.

This integrates several planning concepts:

- *Affordable housing* refers to inexpensive but adequate housing, but does not explicitly consider accessibility and transport costs and so can be located in inaccessible areas. To their credit, many affordable housing advocates do consider accessibility an affordable housing planning objective.
- *Location-efficient development* refers to residential and commercial development in accessible areas with relatively low transportation costs.
- *Livable community* refers to a community with affordable and appropriate housing, supportive community services, and adequate mobility options, which together facilitate personal independence and engagement of residents in civic and social life (AARP 2005).
- *Transit-oriented development* refers to residential and commercial development located with easy access to high quality public transit service. Proponents often try to include a mix of housing options, including some affordable rental units.
- *New urbanism* and *smart growth* refer to compact, mixed, multi-modal urban development. This includes mixing housing types (single-family, townhouses, apartments, etc.) and price ranges.

### Affordable-Accessible Housing Checklist

- Inexpensive but adequate housing (costs less than 35% of household budgets).
- Energy efficient (to reduce costs and maintain comfort).
- Some units designed to accommodate people with disabilities.
- Accessible location (commonly-used services located within an easy 10-minute walk and numerous jobs located within a convenient 30-minute transit trip). This includes:
  - Affordable food stores
  - Coffee shops and restaurants
  - Medical and dental services
  - Schools
  - Parks and recreation centers
  - Public transit
- Multi-modal (high quality walking, cycling, public transit, carsharing and taxis).
- Universal design (transportation facilities and services accommodate people with disabilities).
- Affordable telephone and Internet service.
- Unbundled parking (so households are not forced to pay for parking spaces they do not need).
- Transportation and housing total less than 45% of household budgets.

Examples  
of ...  
Various housing types can be affordable-accessible.

- *Small-lot urban neighborhood housing.* Stand-alone houses on 3,000 to 6,000 square foot (e.g., 50 x 100 ft) lots.
- *Secondary suites and accessory units.* Additional units incorporated into single-family homes, including basements, attics, lane houses, and converted garages.
- *Duplexes and townhouses (row houses).* Houses with one or two shared walls, and ground-floor entrances (each unit has its own front door).
- *Lowrise (2-4 story) apartments and condominiums.* These can be affordable, particularly if built using simple, standard, woodframe construction, and no elevators (which add significant costs).
- *Highrise (5+ stories) apartments and condominiums.* These buildings tend to be more costly to construct but may be cost effective where land prices are high.
- *Residential-over-commercial.* It is often possible to build housing over ground-floor retail.
- *Parking lot redevelopment.* Many older buildings and shopping malls have parking lots suitable for development if managed more efficiently or replaced by parking structures (CNT 2006).
- *Conversions of non-residential buildings.* Some older industrial or commercial buildings in an accessible location are suitable for conversion to residential.

General trends...  
Affordable-accessible housing development was common in the past and continues in many parts of the world. Until about 1975, private developers built inexpensive apartment buildings and other compact housing types in urban areas, but such development has declined. Between 1950 and 2000 many cities experienced population and economic declines, which created abundant affordable housing, but exacerbated various problems: concentrated poverty and associated social problems, potential workers isolated from jobs, reduced building maintenance and infrastructure investment, and increased sprawl. Many factors that contributed to urban decline are now reversing. Current trends are increasing demand for affordable-accessible housing (Leinberger 2008; Litman 2009; Nelson 2006):

- *Aging population.* The portion of residents over 65 years of age is projected to approximately double between 2010 and 2050. Older people tend to demand smaller, more accessible homes.
- *Smaller households with fewer children.* Household size and the portion of households with children declined significantly in recent decades.
- *Stagnant incomes.* Real wage and incomes are likely to decline among lower-income households (the first two income quintiles) due to deindustrialization and global competition.
- *Rising fuel prices.* As fuel prices rise, demand for more accessible locations tends to increase.
- *Growing congestion.* As traffic and parking congestion increase, the value of more accessible, multi-modal locations and alternative modes tends to increase.
- *Changing attitudes about urban living and investment value.* Cities are increasingly considered exciting, healthy and attractive places for successful households to reside. Recent housing market trends increase the financial return on urban real estate investments.
- *Health and environmental concerns.* Research indicates that urban living tends to be safer, healthier and protects the environment compared with sprawl (CDC 2005; Ewing, et al. 2007).

## Affordable-Accessible Housing Benefits and Cost

Compared with more costly, automobile-oriented housing, affordable-accessible housing provides various economic, social and environmental benefits:

- *Reduced homelessness and associated problems.* This type of housing is suitable for people who are currently, or at risk of becoming, homeless. Stable housing, in turn, improves physical and mental health, increases economic opportunity (it helps residents obtain education and employment), and reduces problems such as public drunkenness.
- *Allows aging-in-place.* Many people are forced to move to a new community when they downsize or become unable to drive. Affordable-accessible housing suitable for seniors and people with disabilities allows residents to remain in their communities through lifecycle changes.
- *Increased household savings and affordability.* Affordable-accessible development tends to reduce housing and transport costs, providing savings, particularly for low-income households.
- *Congestion reduction.* Residents of more accessible, multi-modal locations tend to drive less, and so cause less traffic congestion.
- *Road and parking facility cost savings.* Residents can own fewer motor vehicles and drive less, which reduces parking congestion, and parking costs to governments and businesses.
- *Accident reductions.* Urban residents tend to have significantly lower (typically less than half) per capita traffic fatality rates than residents of sprawled locations.
- *Energy conservation and emission reductions.* Compact, multi-family housing tends to consume less energy for heating and cooling than single-family housing, and urban residents tend to consume less fuel and emit less pollution than residents of automobile-dependent locations.
- *Increased personal security.* Increasing pedestrian traffic and public surveillance tends to increase personal security in urban neighborhoods.
- *Smart growth benefits.* More compact, accessible urban development tends to reduce public service unit costs, and preserve openspace (Litman 2005a).
- *Increased economic opportunity.* Improved access to education and employment tends to increase employment rates and wages, particularly for people with disabilities.
- *Economic development benefits.* In many communities, high housing and transport costs limit the pool of lower-wage employees, and therefore local business development, and discourage students, pensioners and artists from living in a particular area, thereby reducing the economic and social activities they support. More compact, accessible, development also increases economic development by supporting agglomeration efficiencies.
- *Increased transit system efficiency.* Affordable-accessible housing concentrates more transit users in areas with good transit service, increasing load factors and reducing cost per passenger-mile.

Affordable-accessible housing is the opposite of *gentrification* (the displacement of lower-income households by wealthier households as urban neighborhoods become more attractive). It allows households with diverse incomes, abilities and needs to live together in attractive, diverse and dynamic neighborhoods. It allows lower-income employees to live close to businesses, economically and socially disadvantaged children to attend good schools, and creative people (students, artists and entrepreneurs) to live, work and participate in a community. It is a key strategy to support social diversity and economic innovation.

However, affordable-accessible housing can also impose some costs.

- *Smaller lawns and gardens, and less access to openspace.*
- *Reduced privacy and quiet.* Residents of multi-family housing and compact neighborhoods tend to have less visual privacy and are exposed to more noise than in suburban locations.
- *Lost views and sunlight.* Tall buildings often block views and solar access.
- *Increases in some development costs.* Some development costs are higher in urban areas, including sidewalks and stormwater management.
- *Increases in some local public service costs.* Lower-income households may increase demand for certain public services, including schooling, welfare, and public transportation.
- *Increased transit crowding.* Increases in peak-period transit ridership without increased service can lead to crowding.

MYTH  
BUST

Critics sometime argue that affordable-accessible housing increases social problems and costs such as poverty, crime, drug abuse, alcoholism, and mental illness, but this is a misconception. Although lower-priced urban housing is sometimes associated with social problems, this does not mean that increasing the supply of affordable-accessible housing will increase these problems. On the contrary, increasing affordable-accessible housing supply can reduce these problems by giving poor, addicted and mentally disturbed people more stability and opportunity. Most affordable-accessible housing residents are responsible citizens, including lower-wage workers, students and pensioners.

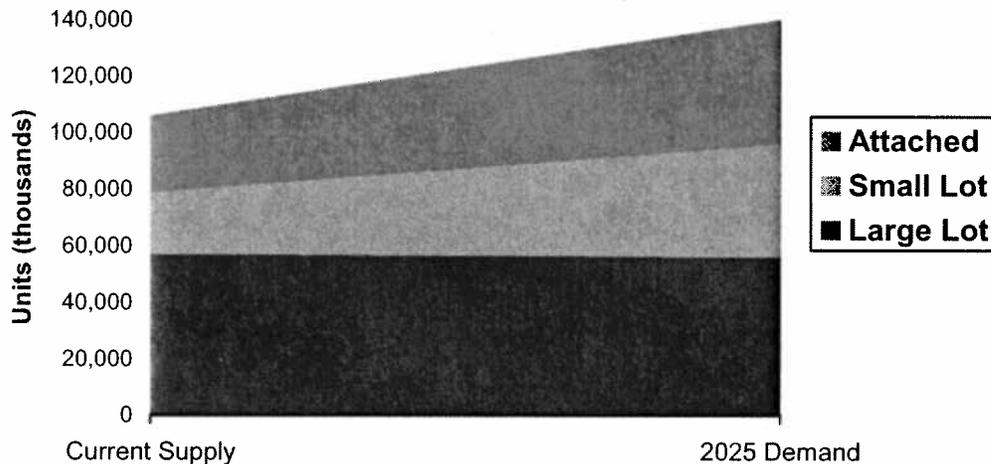
It is understandable that individual residents and neighborhoods oppose nearby affordable housing projects, due to fear of local impacts from concentrated poverty, drug abuse, alcoholism, and mental illness. However, this does not justify public policies that discourage affordable-accessible housing development. If such development becomes more widespread many of the impacts people fear will be less concentrated and decline overall.

## Dynamic City Planning

To be economically and socially successful cities must be dynamic, that is, they must respond to changing demands and conditions. For example, cities must accommodate new transport modes (ports, railroads, roadways, airports, etc.) and utilities (water, sewage, gas, electricity, telephone, cellular phone, wireless, etc.), accommodate population and business growth by expanding development opportunities and public services, and respond to changing housing needs by supporting development of housing types that satisfy unmet demands.

During most of the Twentieth Century, as automobile ownership increased and cities became more dispersed, there was sufficient urban housing and a shortage of suburban housing stock. For reasons mentioned earlier (aging population, rising fuel prices, changing consumer preferences, etc.), demand is shifting to smaller, more accessible housing. Suburbs will not be abandoned altogether but most demand for large-lot suburban housing will be satisfied by existing stocks, as Baby Boomers downsize and sell their homes (Litman 2009; Nelson 2006). The greatest unmet housing needs will be for smaller homes in accessible locations to house the growing number of young adults and seniors.

**Figure 6** U.S. Demand For Housing By Type (Nelson 2006)



*Housing market demand analysis based on consumer preference surveys indicates that during the next two decades demand for large-lot housing will decline slightly, so current supply is sufficient to meet future needs, but demand for small lot and attached housing will approximately double.*

Many of these households have significant wealth and can choose expensive-accessible housing, such a million dollar condominiums, but a significant portion of this demand is for affordable housing. If a city's affordable-accessible housing demand was for 20,000 units in 1990, it is probably 40,000 today, and will be 60,000 in 2030. Many urban regions are tens of thousands of units short of market demand for affordable-accessible homes.

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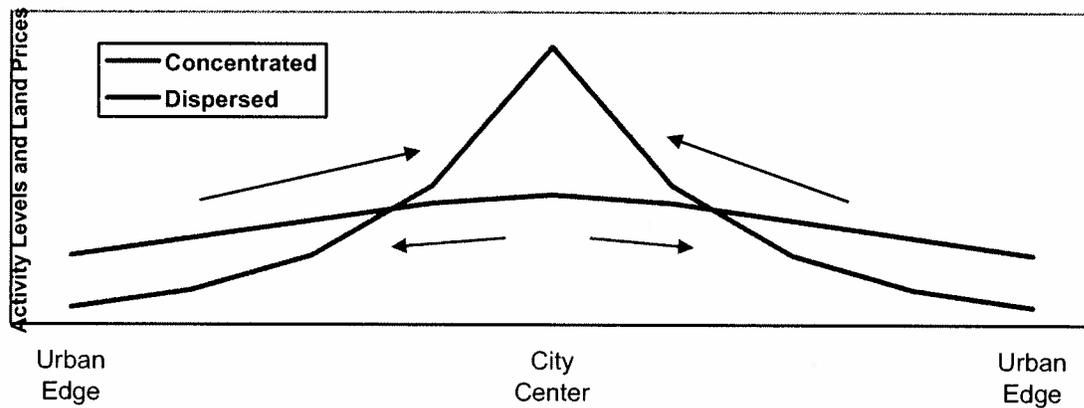
**Table 4 Forces of Concentration and Dispersion**

Forces of Urban Concentration	Forces of Urban Dispersion
More non-drivers	More people are motorists (can drive and have a car)
Higher transport costs (road tolls, fuel prices, travel times)	Lower transport costs (road tolls, fuel prices, travel times)
Improved urban livability	Degraded urban livability
Improved public transit service	Reduced urban transit service
Activities and industries require more interaction	Activities and industries require less human interaction
Increased preference for urban living	Increased preference for suburban living

*Forces of concentration increase activity levels and land prices toward the city center. Forces of dispersion spread out activities and reduce the price difference between urban and suburban land.*

There are both advantages and disadvantages to living in more accessible urban neighborhoods. Urban development patterns reflect tension between forces of concentration and dispersion, as indicated in Table 4. Many of the current trends described previously favor more accessible, compact development. For example, aging population, rising fuel prices, increasing traffic congestion, and improved urban livability are all increasing demand for urban housing and business location. A rational real estate market will respond to such demands by increasing the supply of affordable, accessible housing within existing urban areas.

**Figure 7 Concentrated Versus Dispersed Development**



*Forces of concentration (blue) increase activity levels and land prices toward the city center. Forces of dispersion (red) spread out activities and reduce the price difference between urban and suburban land.*

However, current planning practices respond poorly to changing demands; they assume that factors such as land use density and mix should remain fixed in existing neighborhoods. This may be justified on the grounds that existing residents should be able to maintain the environmental qualities they selected when they moved in, but this may occur at the expense of potential future residents. For example, a particular neighborhood might have an 80:20 ratio of single- to multi-family housing, although given current demands the optimal ratio is 50:50. The challenge for public officials is to find ways to allow neighborhoods to evolve toward a more optimal density and mix while preserving the attributes that people truly value, such as safety and quiet.

## **Barriers to Affordable-Accessible Development**

*This section describes specific barriers to affordable-accessible housing development.*

### *Inaccurate Problem Definition*

Housing affordability programs often focus on serving special needs, such as people who are homeless or have disabilities. While important, this fails to address the larger but less visible problem of housing inaffordability for moderate-income households. A narrow problem definition can result in targeted and inefficient solutions that only address a small portion of problems and require large subsidies per beneficiary. Some strategies favor one group over others or exacerbate future problem by discouraging lower-priced housing development.

### *Institutional Barriers*

Current planning practices tend to favor new suburban develop over urban infill; single-family over multi-family; and automobile travel over alternative modes (Levine 2006). For example, most jurisdictions require generous minimum parking supply, with little or no discount for urban infill, making affordable-accessible housing relatively costly to develop. Similarly, many jurisdictions spend far more to accommodate increased automobile travel than alternative modes.

### *Fee and Tax Structures*

Development fee, taxes and utility rate structures often discourage affordable-accessible housing development (Nelson, et al. 2008).

- Fees and taxes charged per housing unit, rather than based on floor area or transaction value, favor development of fewer, more expensive units over smaller, affordable housing.
- Multi-family housing tends to bear higher tax rates than single-family (Goodman 2006).
- Fees and taxes that fail to reflect the lower costs of providing public services to infill development compared with sprawl, the lower costs of providing public services to smaller households, and the lower costs of providing roads and parking to households that own fewer motor vehicles, discourage affordable-accessible housing development.
- Fees and taxes that apply within but not outside urban areas tend to favor sprawl over infill.

### *Neighborhood Opposition*

Despite general support for more affordable housing, individual residents and neighborhood associations often oppose specific affordable housing projects due to concerns about local impacts. Some of this opposition reflects ignorance or exaggerated fears (for example, of lower-income household's criminality), or problems that can be addressed with appropriate policies (such as traffic and parking management programs to address congestion problems), but such opposition may be understandable and even rational, since if other neighborhoods successfully exclude lower-priced housing, those that do not can bear excessive social problems. However, from a broader perspective such opposition is harmful since it concentrates social problems and reduces affordability overall. Many residents are ultimately harmed by their own opposition to affordable housing which they eventually require.

## **Affordable Housing Economic Analysis**

*This section describes various factors that affect affordable-accessible housing costs. For more discussion see Ford (2009) and Miller (2008).*

### *Land Prices*

Land is a major portion (typically 30-50%) of total housing costs. Raw (undeveloped) land prices range from less than \$50,000 per acre in rural areas to more than \$1,000,000 per acre in urban areas, but higher land prices are generally offset by higher densities in urban areas. Urban housing reduces land per housing unit by having less greenspace (lawns and gardens), more stories, and smaller size units. This smaller unit size reflects a combination of smaller household size, higher land costs, older housing stock and higher construction costs.

Land prices are affected by the potential profitability of development, so urban land values tend to increase if zoning codes and planning practices allow higher densities. As a result, in certain circumstances affordable housing mandates can keep land prices affordable. For example, if a parcel's allowable density increases by 50% its price may increase proportionately unless the additional units are required to be affordable, or a development fee or land value tax (a levy on the unimproved value of land, reflecting the relative value of its location)<sup>2</sup> captures some or all of the additional profit (Rybeck 2010).

### *Development Costs and Fees*

Land development includes *soft costs* (planning, subdividing and other legal approvals) and *hard costs* (ground preparation, retaining walls, driveways, sidewalks, stormwater management, utility connections, etc.). Urban parcels are often already improved, making redevelopment of existing sites cheaper in some ways than greenfield development, but in other cases, special costs, such as contaminated soil remediation or additional infrastructure (such as sidewalks) make urban development more expensive. Many jurisdictions impose development fees to help finance expansion of public roads, parks and libraries. Rural communities generally impose smaller development fees because they provide fewer public services, but suburban and rural development often requires onsite water and sewage systems that increase development costs.

### *Construction Costs*

Construction costs vary depending on housing type and quality. They typically range from \$125 to \$250 per square foot depending on construction type (wood frame is cheaper than concrete), design (simple and standard is cheaper than complex and special), material and finish quality, time and location (construction costs increase during boom periods and decline during busts), and amenities (such as the number and quality of appliances included). High-rise buildings have higher construction costs because they which require concrete structures and special features such as elevators and stronger windows.

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<sup>2</sup> *Land Value Tax* ([http://en.wikipedia.org/wiki/Land\\_value\\_tax](http://en.wikipedia.org/wiki/Land_value_tax)).

### *Parking Costs*

Parking facility costs include additional land and construction costs for driveways, parking lots and garages (including structured and underground parking), or special *in lieu* fees paid to governments to provide parking facilities off-site. Conventional parking standards, which typically require at one or two parking spaces per housing unit, can more than double land costs per unit. Structured parking reduces land requirements but typically costs \$25,000 to \$50,000 per space, and so only becomes cost effective where land prices exceed about \$3,000,000 per acre. Parking typically represents 5-15% of total land and construction costs, and more if conventional parking requirements are applied to lower-priced housing in areas with expensive land.

Parking demand is highly variable, depending on demographic (income and age), geographic (land use density and mix), and management factors (how parking spaces are assigned, regulated and priced). Most middle-age, higher-income residents in automobile-dependent communities with unpriced parking typically own at least one vehicle and so demand two or more parking spaces per unit, but residents of affordable-accessible housing tend to demand less parking, particularly if parking is unbundled (residents pay separately for parking rather than having it automatically included in rents), and there are amenities such as bicycle parking and carshare services.

### *Financing and Transaction Costs*

Developers use construction finance loans, which are then converted to permanent loans by building owners with somewhat lower rates after projects are completed. Construction finance costs vary depending on project duration, the developer's credit rating, and market conditions. Building owner financing costs depend on their credit rating and market conditions. Affordable-accessible housing tends to have relatively high interest rates because it is often developed by smaller firms and occupied by households with weaker credit ratings that pay smaller deposits. Financing and transaction costs (including profits, fees and taxes on sales) increase the price consumers ultimately pay for housing.

Even modest additional costs or delays early in the development process can significantly increase housing prices. For example, a \$10,000 per unit additional expense or six month delay early in the development process can add \$20,000 to the final costs, due to carrying costs. This forces developers to target higher-priced markets, and so must incorporate other costly features, such as nicer finishing and appliances, increasing the retail price by \$30,000, making it unaffordable to many households.

### *Operation*

Total housing costs include various ongoing costs such as property taxes, condominium or resident association fees, utilities (water, sewage, garbage, electricity and heating), and maintenance (including reserve funds for major repairs such as painting and roof replacement). Taxes, fees and utilities tend to increase with building size and value, and maintenance and utility costs tend to increase with building age.

Table 5 summarizes these housing cost categories.

**Table 5 Housing Cost Categories**

Category	Description	Typical Values
Land	Raw land costs	From \$10,000 in rural areas to \$2,000,000 in typical urban neighborhoods, and even higher in major city centers.
Development costs	Costs of preparing land and providing services, including roads, sidewalks, water, sewage, electricity and other utilities, and municipal development fees	From \$5,000 in existing urban areas to \$50,000 for undeveloped suburban and rural locations. Development fees typically range from \$10,000 to \$40,000 per unit.
Construction	Costs of constructing houses	\$150 to \$250 per square foot. Higher for concrete construction, and higher quality design, materials and amenities.
Parking	Costs of building driveways and garages	\$10,000 for a short driveway, \$20,000 per space for a basic garage, \$50,000 for underground garage
Finance and transactions	Costs of financing development and ownership, plus profits, taxes and fees	8% annual for construction finance, 5% for ownership finance.
Operation	Maintenance, property taxes, condominium or resident association fees, and basic utilities (electricity and heating)	20-30% of mortgages or rents.

*This table summarizes the various costs of housing.*

The *Affordable-Accessible Housing Analysis Spreadsheet* ([www.vtppi.org/aff\\_acc\\_hou.xls](http://www.vtppi.org/aff_acc_hou.xls)) calculates total housing and transportation costs in specific situations, taking into housing and transportation costs. Users can see how changing factors such as land costs, density, building size, parking supply, financing, operations and transportation costs affect total costs and affordability.

For example, Table 6 illustrates the costs of a small-lot single-family home if located in a very accessible inner urban neighborhood, a somewhat less accessible outer urban neighborhood, and an automobile-dependent suburban community. The top half of the table shows the various inputs, the bottom half indicates the output. For example, it assumes that land prices range from \$1.5 million in the inner urban location to \$500,000 in suburban locations, and has inputs for other factors such as development costs, parking supply, construction costs, utility costs, and transportation costs. These inputs are used to calculate outputs such as total annualized costs.

This analysis assumes that urban areas have higher land prices and somewhat higher densities, and urban households own fewer vehicles and drive fewer annual vehicle-miles than in suburban areas. In this analysis, Inner Urban residents are assumed to accept a 50 x 70 foot parcel, compared with a 60 x 100 foot parcel in the suburban location, and forego automobile ownership, providing parking and transportation cost savings.

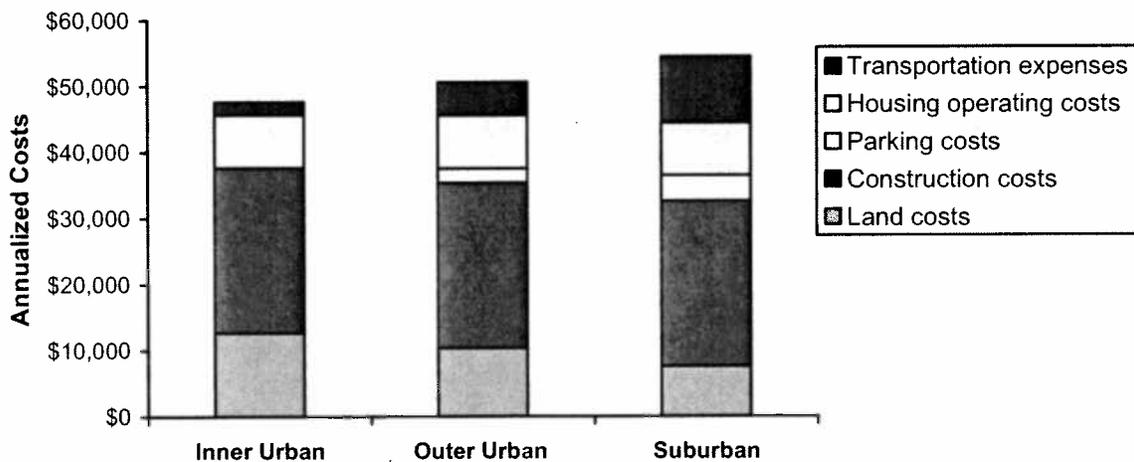
**Table 6 Small-Lot Single-Family House – Selected Input and Outputs (Litman 2010)**

	Inner Urban	Outer Urban	Suburban
<b>Inputs</b>			
Undeveloped land costs (per acre)	\$1,500,000	\$1,000,000	\$500,000
Land development costs (per acre)	\$200,000	\$200,000	\$200,000
Development fees (per unit)	\$10,000	\$10,000	\$10,000
Developed land costs (per acre)	\$1,820,000	\$1,300,000	\$780,000
Building height (stories)	2.0	2.0	2.0
Unit size - interior space (sq. feet)	2,000	2,000	2,000
Density (units per acre)	12	10	8
Parking spaces (per unit)	0.0	1.0	2.0
Construction costs per sq. ft.	\$150	\$150	\$150
Type of parking	None	Garage	Garage
Basic utilities (water, sewage, electricity)	\$4,000	\$4,000	\$4,000
Annual vehicle expenses (including rentals)	\$500	\$4,500	\$9,800
Annual public transit & taxi expenses	\$1,500	\$500	\$200
<b>Outputs</b>			
Annualized land costs (unit per year)	\$12,639	\$10,336	\$7,528
Annualized construction costs per unit	\$25,000	\$25,000	\$25,000
Annualized parking costs per unit	\$0	\$2,164	\$3,930
Total annual operating costs per unit	\$8,020	\$8,036	\$7,958
Total annual transportation expenses	\$2,000	\$5,000	\$10,000
<b>Total</b>	<b>\$47,659</b>	<b>\$50,536</b>	<b>\$54,417</b>

*This table summarizes key inputs and outputs used in the “Affordable-Accessible Housing Analysis Spreadsheet” for this analysis.*

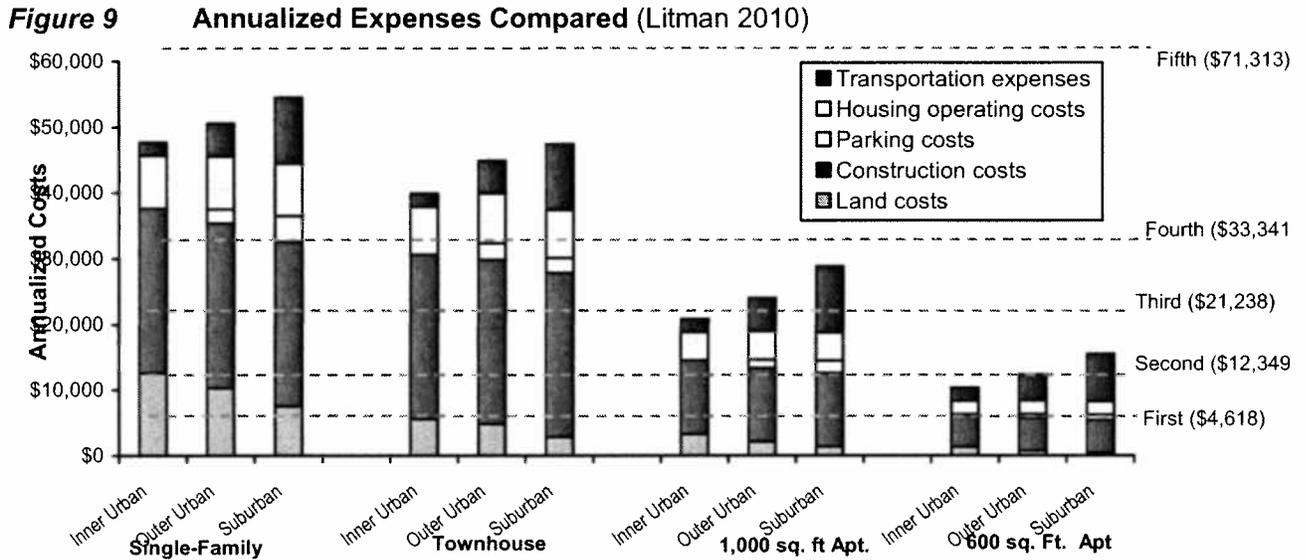
Figure 8 illustrates analysis results. In this situation, higher urban land costs per acre are offset by reduced land required per housing unit and by lower parking and transport costs, resulting in lower total costs for the inner urban location. This is not always the case. Urban residents may pay more in total, particularly if they own vehicles and pay for costly parking spaces.

**Figure 8 Small-Lot Single-Family Annualized Expenses (Litman 2010)**



*This figure compares typical costs for a small-lot single-family home at urban and suburban locations.*

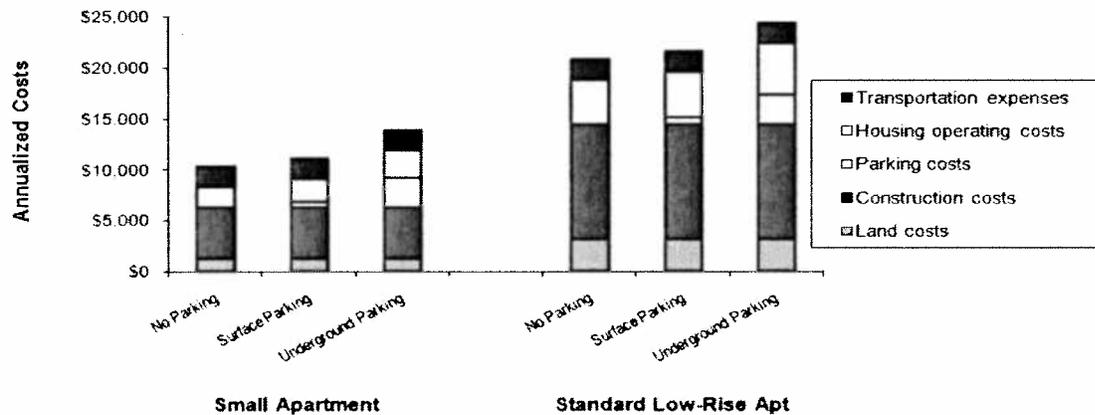
Figure 9 illustrates housing and transport expenses of various housing types and locations. The dashed lines indicate the maximum expenditures considered affordable for each income quintile (fifth of total households). Urban apartments tend to have the lowest total costs.



This figure compares the costs of various types of housing in three locations. The dashed line indicates maximum housing and transport costs considered affordable for a \$2,400 monthly household budget.

This spreadsheet can be used to evaluate the impacts of specific policy and design options. For example, Figure 10 illustrates the impacts of adding surface parking at \$8,000 per space, or underground parking at \$35,000 per space, to inner urban apartments. For a small, affordable apartment, underground parking increases total housing costs by 34%. For a standard-size low-rise apartment the increase is just 17%.

**Figure 10 Small Apartment With Parking Options (Litman 2010)**



This figure illustrates parking cost impacts. One \$35,000 underground parking space adds 34% to the total cost of a small urban apartment but only 17% to the cost of a standard price apartment.

Similarly, changes in density, unit size, construction costs, profits, taxes, fees, interest rates and incorporating elevators can all have significant impacts on total housing costs and affordability. Unit costs tend to have much greater impacts on lower-priced than higher-cost housing.

**Table 7      Typical Savings**

Cost Reduction Strategy	Typical Net Monthly Savings		
	Small-Lot Single-Family	Low-rise Apartment	Small Urban Apartment
Reduce raw land costs from \$2,000,000 to \$1,000,000	\$942	\$301	\$63
Reduce parking supply by one parking space	\$150	\$100	\$80
Increase density 50%	\$377	\$124	\$65
One fewer vehicle (with additional transit and taxi fares)	\$250	\$250	\$250
20% cheaper construction costs	\$516	\$258	\$97

*This table indicates typical savings from various cost reduction strategies.*

The most affordable new housing typically consists of smaller, urban, low-rise apartments, similar to the numerous apartment buildings constructed before 1975. Under the following conditions it is possible to produce such housing with approximately \$750 monthly rents:

- \$1.2 million per acre for construction-ready land (\$140,000 for a 50' x 100' parcel).
- Twelve, 600-square-foot apartments per 50' x 100' parcel, three stories with no elevator.
- \$100 per square foot construction costs (including all fees and taxes).
- Minimal off-street parking provided, and parking is unbundled (so residents are not forced to pay for a parking space unless they choose to).
- 7% construction finance for 12 months; 6% 20-year ownership mortgage; 10% real estate profit, fees and taxes.
- 5% annual maintenance; 4% annual property taxes; 10% annual property management fees and profits; and \$700 annual for basic utilities.

Such housing is affordable to low income households (e.g., under \$1,800 per month income), provided it is located in an accessible area where an automobile is not needed to access services and activities. For people who for any reason cannot drive (due to disability or legal constraints), this high level of accessibility is essential.

Even with favorable policies, new unsubsidized housing is seldom truly affordable to lower-income households. Most lower priced housing consists of older homes that have depreciated. Housing typically loses 10-20% of its value, and sometimes much more, after a decade of use, due to wear-and-tear and changing consumer preferences. As a result, increasing the supply of moderate-priced housing tends to increase the supply of future affordable housing.

## **Affordable-Accessible Housing Development Strategies**

*Various strategies can facilitate affordable-accessible housing development. Some are better than others overall because they reduce total costs (rather than simply shifting costs or requiring subsidies) and support strategic planning objectives such as reduced vehicle traffic and sprawl.*

### *Ineffective and Sometimes Harmful Strategies*

#### **Cheap Suburban Development**

As discussed earlier in this report, housing is often cheaper and easier to construct at the urban fringe than in more accessible neighborhoods due to lower land costs, less local opposition, and avoidance of some infrastructure costs (such as sidewalks and stormwater connections). However, such savings are often offset by higher future household transport costs.

#### **Rent Control**

Rent controls regulate landlords' ability to raise rents. This is justified on grounds that rental housing is a partial monopoly, since moving is costly (if a store raises prices on a product, shoppers can usually shift products or stores, but if a landlord raises rents, occupants would need to spend considerable time and money to find and move to another home). Rent controls can therefore protect renters, particularly those with lower incomes. However, rent controls reduce housing investment profits and so discourage developers from constructing lower-priced rental housing. It favors existing residents over new residents, and owners of new building (who can set rents without restrictions) over owners of older buildings. Since rent control is most prevalent in urban jurisdictions it tends to reduce affordable-accessible housing development.

#### **Forbidding Rental-To-Owner Conversions**

Jurisdictions sometimes prohibit owners from converting rental units to condominiums in order to protect the supply of affordable rental housing. However, this reduces the supply of affordable condominiums, and reduces the incentive for developers to build more rental units.

#### **Urban Blight**

In many cities, particularly those with declining populations, affordable-accessible housing is available in blighted neighborhoods. Although such areas offer low rents and mortgages, they are unsafe and inconvenient places to live, and such problems tend to increase overall because they are concentrated. For example, children raised in blighted neighborhoods tend to have higher crime and drug use rates, and are less economically successful than if they live in mixed income neighborhoods, and such areas often lack basic services such as grocery stores and childcare.

#### **Targeted Housing Subsidies**

Another common strategy that may have undesirable unintended consequences is to subsidize rents of particular groups. However, unless this increases total affordable housing supply, such subsidies may simply drive up rents, allowing the subsidized households access to homes but displacing others. For example, if the affordable-accessible housing supply is fixed, offering rent subsidies to people with disabilities will force other households (such as students and service workers) to accept less desirable housing options (higher price, lower quality or less accessible).

## *Effective But Costly*

### **General Housing Construction and Purchase Subsidies**

Policies such as low interest rates, mortgage interest tax deductions, and public infrastructure investments (such as urban fringe roads and utility lines) support construction and purchase of all housing. These may allow some lower-income households purchase homes, but they are not very efficient at increasing affordability. They primarily help middle- and higher-income households purchase more valuable homes than they otherwise could, much of the additional value is capitalized into land values (if interest rates decline 10% for all home buyers they can all bid 10% more for a given home), and such policies do not address the most severe affordable housing needs, which generally require low-priced, rental housing.

### **Inclusionary Zoning**

*Inclusionary zoning* refers to requirements that a portion of units (typically 10-20%) in new developments be affordable. This may permit off-site construction of the affordable units or cash-in-lieu payments into an affordable housing fund. This helps create affordable housing as communities grow, and if required of all developers these cost are largely capitalized into land values, minimizing the burden on individual developers or governments. However, this approach generally satisfies only a small portion of affordable housing demand, since most of the additional housing is for purchase rather than rented, and it can be unfair, since it gives a large subsidy to a small number of households that are allowed to purchase the affordable homes. It tends to increase the cost of other housing units and so may reduce total housing construction.

### **Large Social Housing Developments**

In the past, some governments constructed large social housing projects, often to displace older slums. However, such housing does not address underlying problems (racism, poverty, social isolation, etc.), and by concentrating poverty tends to exacerbates these problems.

### **Subsidizing Suburban Transportation**

Affordable housing is sometimes constructed in automobile-dependent suburbs, for cheaper land and more desirable neighborhoods. Governments and charities must then expand public transit service and subsidize automobile ownership, despite high direct and indirect costs. Transit service is costly to provide to dispersed locations and so requires large subsidies. Subsidizing automobile ownership is also costly; even lower-income households typically spend \$4,500 annually to own and operate a vehicle, and the additional driving exacerbates other problems such as congestion, road and parking facility costs, accidents and pollution emissions.

### **Sweat Equity and Volunteer Construction**

Housing can sometimes be built by owners or volunteer work parties. This is common in developing countries where homes are built with traditional methods and scrounged materials, and for simple buildings in rural areas where construction skills are common, but is less appropriate for modern urban buildings which require more specialized materials and skills. Many people who most need affordable housing cannot contribute significantly to home construction due to disabilities and heavy work schedules. Amateur built housing often has imperfections that cause future problems and reduce resale values. A more feasible approach may be to help suitable lower-income household purchase structurally sound but neglected homes that require minor repairs (cleaning, painting, gardening, etc.).

### *Most Effective and Beneficial*

#### **Affordable Housing Targets**

Strategic plans can establish specific targets to increase affordable housing supply at regional, municipal and neighborhood levels. This can help determine whether current policies are adequate and effective, or additional policy changes are warranted. It can also help force individual neighborhoods to accept more affordable housing.

#### **Address Community Concerns**

Much resistance to affordable-accessible development reflects fear of increased local crime and social problems, reduced property values, and parking problems. Much of this fear is inappropriate, or can be addressed with appropriate local policies. The *Community Acceptance Tool Box* (NPH 2009) and *Overcoming Opposition To Multifamily Rental Housing* (NMHC 2007) provide guidance on addressing these concerns.

#### **Density Bonus**

Allow higher densities and greater heights than zoning codes normally allow in exchange for more affordable housing units. This supports compact, affordable, infill development while preventing land value increases that would result if increased density were allowed for higher priced housing units. This is often most appropriate along neighborhood edges, such as on arterials and adjacent parcels.

#### **Density Requirements**

Establish minimum recommended or required building density and height in accessible locations to create more affordable residential development. For example, require at least four story buildings along major arterials, and three stories along minor arterials, with flexibility to allow design variation.

#### **Development Fee and Tax Reform to Support Affordable-Accessible Development (HUD 2008)**

Development fees, taxes and utility rates can be reformed to correct existing biases in favor of lower-density, single-family development, and to provide discounts or exemptions for smaller and cheaper units, for housing with lower vehicle trip and parking generation rates, and for compact, infill development (Nelson, et al. 2008). Special discounts and exemptions can be offered for affordable housing, similar to lower tax rates for heritage buildings and seniors.

#### **Allow and Encourage Secondary Suites**

One of the most common and acceptable ways to increase affordable housing is to allow or encourage *secondary suites* (also called *accessory units*) including separate housing units in basements, attics and converted garages (also called *lane housing* if located behind a house, connected to a back lane or ally). Local policies can support such development (Toderian 2010).

#### **Improve Design Process**

Opposition to infill development sometimes reflects unhappiness with design as much as with density. Municipal governments can support design contests, planning workshops and community involvement to help develop more acceptable designs. This can shift the debate away from whether development should occur to the type of building that will be constructed.

**Affordable Housing Maintenance and Rehabilitation Programs**

Many communities have an existing stock of affordable housing, some of which is poorly maintained and may become uninhabitable. Targeted assistance programs can help maintain and restore this housing stock. This can include support for elderly residents on fixed incomes, and owners of older, low-priced apartment buildings. Some programs involve low-interest loans that must be repaid when the building is sold.

**Smart Growth Reforms**

Various policies and planning practices can encourage more compact, mixed development. Such measures can reduce development costs, by allowing denser development and reducing parking requirements, and increase overall accessibility. Some smart growth policies, particularly urban growth boundaries, tend to increase housing costs.

**Table 8 Smart Growth Reforms (Litman 2005b)**

Strategy	Description
Comprehensive community planning	Community has a planning process which identifies strategic transport and land use goals, objectives and targets
Intergovernmental coordination	Effective coordination among various levels of government
Location efficient development	Development is located and designed to maximize accessibility
Location-based fees	Structure development fees based on the costs of providing public services
Smart tax policies	Correct tax policies that encourage sprawl
Locate and design public facilities for smart growth	Locate and design schools, parks and other public facilities for multi-modal accessibility
Reform zoning codes	Reduce excessive parking and setback requirements, and restrictions on development density and mix
Encourage urban redevelopment	Encourage redevelopment of existing urban areas with infrastructure investments and brownfield clean up
Growth controls and openspace preservation	Limit urban expansion, particularly on ecologically valuable lands
Transport planning reforms	Improve alternative modes and encourage more efficient transport
More neutral transport funding	Reduce dedicated roadway and parking funds. Apply least-cost planning
Mobility management	Implement mobility management as an alternative to roadway expansion
Parking management	Implement parking management as an alternative to parking facility expansion
Educate decision-makers	Educate decision-makers about smart growth policies and benefits.
Land use impact evaluation tools	Develop better tools for evaluating land use impacts.

*This table describes smart growth reforms that support urban development and increase accessibility.*

**Improve Affordable Transportation Options**

Improving affordable transport modes (walking, cycling, public transit, taxis and carsharing) provides direct savings to households. By reducing residents need to own and travel by automobile this allows reduced parking requirements and development fees, which in turn allows more compact development, and reduces one of neighbors' main objections to infill development. Households in automobile-dependent areas typically own twice as many vehicles and generate more than twice as many local trips as they would in a more multi-modal location.

**Implement Transportation Management Policies**

Transportation management policies can help households reduce their vehicle ownership and use, and so can provide transportation and parking cost savings. These measures include commute trip reduction programs, campus transport management programs, more efficient road and parking pricing, and support for alternative modes such as ridesharing (carpooling and vanpooling), carsharing, and cycling facilities.

**Expedite Development Review and Approval**

Expedite the development review process for affordable housing in order to reduce their costs and make such projects more attractive to developers.

**Reduced and More Accurate Parking Requirements**

Reduce minimum parking requirements and adjust them in response to demographic, geographic and management factors, such as those described in Table 9. Affordable-accessible housing occupants tend to own fewer vehicles and so require fewer parking spaces than in most jurisdictions. More efficient parking management, described in Table 9, can further reduce the number of parking spaces needed to serve a particular location.

**Table 9 Parking Requirement Adjustment Factors (Litman 2006)**

Factor	Description	Typical Adjustments
Residential Density	Number of residents or housing units per acre/hectare.	Reduce requirements 1% for each resident per acre (e.g. 15% where at 15 residents per acre and 30% at 30 res. per acre).
Land Use Mix	Range of land uses located within convenient walking distance.	Reduce requirements 5-10% in mixed-use developments. Additional reductions with shared parking.
Transit Accessibility	Nearby transit service frequency and quality.	Reduce requirements 10% within ¼ mile of frequent bus service, and 20% within ¼ mile of a rail transit station.
Carsharing	Whether a carsharing service is located nearby.	Reduce residential requirements 5-10% if a carsharing is located nearby, 4-8 spaces for each carshare vehicle in a residential building.
Walkability	Walking environment quality.	Reduce requirements 5-15% in walkable communities, and more if walkability allow more shared and off-site parking.
Demographics	Age and physical ability of residents or commuters.	Reduce requirements 20-40% for housing for young (under 30) elderly (over 65) or disabled people.
Income	Average income of residents or commuters.	Reduce requirements 10-20% for the 20% lowest income households, and 20-30% for the lowest 10%.
Housing Tenure	Whether housing are owned or rented.	Reduce requirements 20-40% for rental versus owner occupied housing.
Pricing	Parking that is priced, unbundled or cashed out.	Reduce requirements 10-30% for cost-recovery pricing (i.e. parking priced to pay the full cost of parking facilities).
Unbundling Parking	Parking sold or rented separately from building space.	Unbundling parking typically reduces vehicle ownership and parking demand 10-20%.
Parking & Mobility Management	Parking and mobility management programs implemented at a site.	Reduce requirements 10-40% at worksites with effective parking and mobility management programs.

*This table summarizes various factors that affect parking demand and optimal parking supply.*

**Table 10 Parking Management Strategies (Litman 2006)**

Strategy	Description	Typical Reduction
Shared Parking	Parking spaces serve multiple users and destinations.	10-30%
More Accurate and Flexible Standards	Adjust parking standards to more accurately reflect demand in a particular situation.	10-30%
Remote Parking	Provide off-site or urban fringe parking facilities.	10-30%
Walking and Cycling Improvements	Improve walking and cycling conditions to substitute for automobile travel and expand the range of destinations serviced by a parking facility.	5-15%
Increase Capacity of Existing Facilities	Increase parking supply by using otherwise wasted space, smaller stalls, car stackers and valet parking.	5-15%
Mobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.	10-30%
Parking Pricing	Charge motorists directly and efficiently for using parking facilities.	10-30%
Improve Pricing Methods	Use better charging techniques to make pricing more convenient and cost effective.	Varies
Financial Incentives	Provide financial incentives to shift mode, such as cash out.	10-30%
Unbundle Parking	Rent or sell parking facilities separately from building space.	10-30%
Bicycle Facilities	Provide bicycle storage and changing facilities.	5-15%
Improve User Information	Provide convenient and accurate information on parking availability and price, using maps, signs, brochures and electronic communication.	5-15%
Improve Enforcement	Insure that parking regulation enforcement is efficient, considerate and fair.	Varies
Overflow Parking Plans	Establish plans to manage occasional peak parking demands.	Varies
Address Spillover Problems	Use management, enforcement and pricing to address spillover problems.	Varies

*This table describes various parking management strategies and indicates how much they typically reduce the amount of parking required to serve a destination.*

### **Unbundle Parking**

A specific way to reduce housing costs and allow more development in accessible locations is to unbundle parking, which means that parking spaces are rented separately from housing units. For example, rather than charging \$1,000 a month for an apartment with two “free” parking spaces, charge \$800 per month for the apartment plus \$100 for each parking space, so renters are not forced to pay for parking that they do not need. This is particularly appropriate for affordable-accessible housing since occupants tend to own fewer than average vehicles.

### **Smart Growth Suburban Development**

Suburban communities can create more compact, accessible communities by developing more compact and mix activity centers (such as downtowns and villages), insuring provision of some affordable housing in centers, and improving affordable travel modes (walking, cycling and public transit) and roadway connectivity (Larco 2010).

### **Incorporate Affordable Housing In Transit-Oriented Development**

Special efforts can be made to incorporate affordable housing suitable for families with children into transit-oriented developments (Bierbaum, Vincent and McKoy 2010).

**Address Neighborhood Concerns**

Neighborhood opposition often results from concerns that can be addressed with better information or responsive policies, as described in the table below.

**Table 11 Potential Responses To Neighborhood Concerns**

Problem	Potential Responses
Fear of lower-income neighbors	Education about the types of households that occupy affordable housing and their neighborhood risks.
Traffic congestion	Analysis about the relatively low trip generation rates of affordable-accessible housing residents (typically half or quarter of average units).
Parking congestion	Analysis of affordable-accessible housing parking demand (typically less than half of average units), and improved parking management and enforcement.
Increased noise	Improved noise regulation enforcement.
Shading from tall buildings	Consider solar access in building design to minimize shading.
Reduced property values	Research concerning actual property value impacts (in many situations property values actually increase if higher density development is allowed).
Higher property taxes (if property values increase)	Offer tax deferments, so residents do not pay higher taxes until they sell their property.

*Many neighborhood impacts can be addressed with improved design, management and education.*

Affordable-accessible housing can be located and designed to maximize neighborhood acceptance. The following can help reduce community opposition.

- Locate on larger and busier streets (which already have significant ambient traffic and noise).
- Locate adjacent to existing multi-family or commercial building on at least one side.
- Locate on corner lots (since there are fewer adjoining homes).
- Reflect neighborhood design practices (similar style, materials, color, etc.)
- Protect privacy and solar access as much as possible.

The most acceptable development within existing neighborhoods generally consists of incremental expansion of existing buildings, such as secondary suites, additions, garage conversions and subdividing larger houses into multiple units (NB 2009). A standard 60' x 100' residential lot can usually accommodate a 4-8 unit, two- to four-story apartment building provided parking requirements are moderate. If two adjacent lots can be assembled, 10-20 affordable units can be created. Corner lots are best for larger infill development because they impact fewer adjacent properties and offer better views and more natural light to occupants. It is often possible to build midrise (four to eight-stories buildings) at the edge of residential neighborhoods, such as along a collector or minor arterial street. This can be totally residential or mixed commercial and residential. Existing one-story retail buildings can often be rebuilt with additional stories for residential. Higher rise buildings tend to be more acceptable in larger activity centers, such as central business districts and shopping centers.

**Identify Parcels Suitable For Affordable-Accessible Development**

Governments or private organizations can maintain a database of building lots suitable for higher density infill development.

**Dynamic Zoning**

Incorporate automatic adjustments to zoning codes to achieve strategic objectives. For example, automatically increase the allowable heights of single-family parcels adjacent to a commercial development by one story, and allow automatic conversion to multi-family on these parcels after ten years. Similarly, allowable densities, building heights, floor area ratios (FARs), suites, and uses could automatically increase in certain areas or for certain land use categories, based on a time schedule (e.g., a 5% annual increase) or specified criteria (such as when the supply of affordable housing declines to a certain point).

**Brownfield Remediation**

Brownfields are development sites whose economic potential is constrained by perceived or real environmental contamination. Many of these are old industrial sites located within urban areas, suitable for affordable-accessible housing. Cleaning up these sites, by enforcing legal requirements on past owners or through subsidies can make them suitable for development.

**Provide Free or Inexpensive Land for Affordable Housing**

Governments often control various land parcels, including outdated public facilities (schools, utility workshop, old offices, etc.) and land acquired through unpaid taxes. They can donate or sell at a discount appropriate parcels to affordable housing development, particularly for social housing to accommodate people with disabilities and other special needs.

**Resource Efficiency Design**

To be affordable, housing should be designed and built to minimize utility costs, including energy and water consumption. Such housing should incorporate features such as insulation and weatherization; natural lighting, cooling and ventilation (such as windows that open); and water efficiency fixture.

**More Favorable Tax Policies**

A variety of taxes and fees are applied to housing development, including sales taxes on land, materials and services; development fees; building permit fees; utility connection fees; and property value taxes, particularly land value taxes. Many of these fees can be reduced or eliminated for qualifying affordable housing, both to improve affordable housing supply, and because the occupants of such housing tend to impose lower costs on society than residents of larger and more expensive housing. Federal and state tax policies can also be reformed to support accessible-affordable housing (AIA 2010). A land value tax that shifts property tax burdens from buildings to land value tends to encourage more compact, accessible development, and reduces land speculation (Rybeck 2010).

*Affordable-Accessible Housing Strategies Summary*

Table 12 illustrates typical household housing and transport costs and strategies for reducing these costs. Of course, actual costs may vary depending on housing type and location.

**Table 12 Affordable Housing Cost Reduction Strategies**

<b>Cost Category</b>	<b>Annual Expense</b>	<b>Cost Reduction Strategies</b>
Land	\$5,000	Cheaper land, higher density, smaller lawns, smaller setbacks, narrower roads and driveways
Development costs	\$2,000	Lower development fees, faster approval, discounts and exemptions for lower-priced housing.
Construction	\$8,000	Smaller units, cheaper materials, shared walls, standardized design and materials, avoid special amenities such as elevators.
Parking	\$2,000	Fewer parking spaces, smaller spaces and driveways, surface lots rather than garages, cheaper materials.
Borrowing	\$4,000	Lower interest rates, longer payback periods
Operating expenses (maintenance and utilities)	\$6,000	Smaller units, smaller yards, more durable design and materials, increase energy and water efficiency.
Property taxes	\$1,000	Cheaper housing, lower tax rates, special exemptions and reductions for lower-income households.
Transportation	\$8,000	Better accessibility, alternative modes, cheaper vehicles and fuel
<i>Total</i>	<i>\$38,000</i>	<i>Housing subsidies and tax exemptions.</i>

*This table illustrates typical housing and transport costs, and strategies for various strategies for reducing these costs for new, more affordable housing.*

## Examples

Examples of affordable-accessible housing development policies and projects are described below. For smart growth versus conventional housing cost comparisons see Miller (2008).

### Analysis

#### Location Efficient Development And Mortgages

The *Institute for Location Efficiency* ([www.locationefficiency.com](http://www.locationefficiency.com)) promotes *location efficient development*, which consists of housing located in accessible areas where transportation costs are reduced, and *location efficient mortgages*, which means that lenders recognize these savings when evaluating households' borrowing ability, and so allow households to borrow more for a home if it is in a more accessible location.

#### Austin Smart Growth Matrix

Austin, Texas uses a Smart Growth Matrix ([www.ci.austin.tx.us/smartgrowth](http://www.ci.austin.tx.us/smartgrowth)) to analyze development proposals. It evaluates projects with respect to Smart Growth objectives including location, proximity to transit, urban design characteristics, compliance with neighborhood plans and projected tax revenue. Financial incentives may be available to developments with high scores, such as waiver of development fees and public investment in infrastructure such as water and sewer lines, streets and other facilities.

#### GreenTRIP ([www.transformca.org/GreenTRIP](http://www.transformca.org/GreenTRIP))

*GreenTRIP* is a Traffic Reduction + Innovative Parking certification program for new residential and mixed use developments. It rewards projects that reduce traffic and greenhouse gas emissions. GreenTRIP expands the definition of green building to include transport to and from the buildings. Each certified project receives a *Project Evaluation Report* which describes the project location, details and inventories how the project meets GreenTRIP standards. This typically includes features such as an accessible and multi-modal location (near shops and other services, good neighborhood walkability, near public transit), parking management, carshare services, discounted public transit passes, and affordable housing. The program provides the following support:

- *Tailored Traffic Reduction Strategies* – Experts work with developers, designers and operators to identify the most appropriate transport and parking management strategies.
- *Public Hearing Testimony* - GreenTRIP staff will explain the traffic and greenhouse gas reducing benefits achieved by GreenTRIP Certified projects to decision-makers and the public.
- *Market Differentiation* - Use of the GreenTRIP name and logo in promotional materials, and a plaque to mount on the project when built.

As of March 2010 the following projects were certified:

*The Crossings* ([www.transformca.org/files/SLCrossingsProjEvalRpt.pdf](http://www.transformca.org/files/SLCrossingsProjEvalRpt.pdf))

*Parker Place* ([www.transformca.org/files/ParkerPlace\\_ProjEvalRpt.pdf](http://www.transformca.org/files/ParkerPlace_ProjEvalRpt.pdf))

*Station Park Green* ([www.transformca.org/files/StationParkGreenProjEvalRpt.pdf](http://www.transformca.org/files/StationParkGreenProjEvalRpt.pdf))

*The Ohlone* ([www.transformca.org/files/OhloneProjEvalRpt.pdf](http://www.transformca.org/files/OhloneProjEvalRpt.pdf))

#### Oil Vulnerability Index

Fishman and Brennan (2009) developed an *Oil Vulnerability Index* which assesses household financial risks from oil price increases. The analysis indicates that fast-growing outer suburbs are particularly vulnerable to oil price rises due to their high levels of automobile travel and relatively low incomes. Future petrol price increases are likely to place significant financial stress on such households.

### **Location Efficiency Reduces Housing Foreclosure Rates**

A study titled *Location Efficiency and Mortgage Default* (Rauterkus, Thrall and Hangen 2010) used a sample of over 40,000 mortgages in Chicago, Jacksonville, and San Francisco to model the probability of mortgage default based on home location factors. The analysis found that, after controlling for other household factors such as income, default probability increases significantly with the number of vehicles owned, and decreased with higher neighborhood Walk Scores in high income areas but increases with higher Walk Scores in low income areas. The results provide additional justification for smart growth development and urban revitalization policies, because designing neighborhoods that reduce motor vehicle ownership and use is beneficial to borrowers and banks as well as the environment.

### *Policies*

#### **Mixed-Income Housing TOD Action Guide** ([www.mitod.org/tools.php](http://www.mitod.org/tools.php))

The *Mixed-Income Housing TOD Action Guide* describes many of the same strategies recommended in this report to help create more affordable-accessible housing:

- [Adjust Zoning to Promote Diversity](#)
- [Brownfield Remediation](#).
- [Community Land Trusts](#)
- [Condominium Conversion Controls](#)
- [Development Agreements](#)
- [Fast Track Permitting](#)
- [Fee Waivers, Reductions, Deferrals](#)
- [First-Right-of-Refusal Laws for Tenants and Nonprofits](#)
- [Implement physical transit-access improvements](#)
- [Improve transit knowledge](#)
- [Incentive-Based Zoning](#)
- [Inclusionary Zoning](#)
- [Joint Public/Private Development](#)
- [Land Banking](#)
- [Limited Equity Housing Co-ops](#)
- [Linkage fees](#)
- [Parking Maximums for Transit Areas](#)
- [“Project Based” Section 8 Preservation](#)
- [Provide greater access to transit discounts and resources](#)
- [Public Land Dedication or Write-Downs](#)
- [Public Land Disposition Plan](#)
- [Reduced Parking Requirements](#)
- [Regulatory Accommodation for Small Sites](#)
- [Rent Control](#)
- [Self-help programs](#)
- [Site parks & schools](#)
- [Site social service facilities](#)
- [Subsidized housing redevelopment/renovation](#)
- [Support start-up nonprofit developers](#)
- [Target-property Acquisition & Rehabilitation funds](#)
- [Tax Forgiveness for Back Taxes on Affordable Housing Opportunity Sites](#)
- [TOD-Targeted Homeownership Assistance](#)
- [TOD-Targeted Housing Financing](#)
- [Transfer taxes](#)

**Policy Toolkit for Equitable Transit-Rich Neighborhoods** ([www.dukakiscenter.org/TRNEquity](http://www.dukakiscenter.org/TRNEquity)).

This website provides information on various policy tools that can help protect and increase the supply of affordable housing and encourage public transit use in transit-rich neighborhoods, with examples of each strategy. These include

- *Comprehensive planning.* Communities can develop comprehensive strategies to preserve existing affordable housing and produce additional affordable housing in neighborhoods near existing or planned transit stations.
- *Broad-based community engagement.* Community-based organizations and nonprofits can work together to ensure that a broad cross-section of community residents participate effectively in local land use planning efforts around transit stations.
- *Community benefits agreements.* When community coalitions negotiate benefit agreements with developers of transit-oriented and other development projects, cities often incorporate the terms into their development approvals and therefore ensure that the deal is legally binding.
- *Funding for land and property acquisition.* To keep projects affordable, developers must have access to financing before land and properties become too expensive. Such funding is needed to preserve existing affordable housing and to acquire (and, in some cases, landbank) vacant or commercial land for subsequent housing production.
- *Preserve existing affordable rental housing.* Existing affordable rental housing in neighborhoods where transit is planned should be preserved. Preservation strategies should target both subsidized affordable housing and unsubsidized, lower-priced housing that is at risk of becoming unaffordable as market rents rise.
- *Production of affordable housing.* Increased production of affordable and workforce housing in TRNs can slow the rate of rising rents and housing prices. Such housing can be built both as stand-alone residential projects and as part of mixed-income and mixed-use development projects.
- *Corridor-based tax increment financing districts.* Tax Increment Financing districts can be created on a corridor-wide basis and a portion of the revenues generated can be dedicated specifically to the preservation and development of affordable housing throughout the corridor.
- *Inclusionary zoning.* Communities with transit stations can adopt inclusionary zoning requirements to ensure that a modest share of newly-constructed rental and homeownership units in the area around the station are affordable.
- *Attract core and potential transit riders to transit-rich neighborhoods.* Reinforce the self-selection processes by which people predisposed to transit use purposely choose to live near a transit station.
- *Support zero-vehicle households.* If residents can live in transit-rich neighborhoods without owning a car they will be more likely to walk and use transit and will also be able to reduce their transportation expenses, leaving more resources available for housing and other necessities; and
- *Reduce the availability of parking.* Reducing or eliminating off-street parking requirements, and encouraging unbundling of parking (parking is rented separately from building space) helps reduce vehicle ownership and use, and makes housing more affordable.
- *Encourage carsharing.* The easy availability of shared cars in transit-rich neighborhoods and transit-oriented developments may reduce automobile usage and ownership and allow residential developments to be built with fewer parking spaces.

**Vancouver EcoDensity Program** ([www.vancouver-ecodensity.ca](http://www.vancouver-ecodensity.ca))

The city of Vancouver's EcoDensity Program is increasing density throughout the city in order to reduce environmental impacts, ensure necessary physical and social amenities, and support new and different housing types as a way to promote more affordability. The program increases density in a variety of contexts (i.e. in lower density areas; along transit routes and nodes, neighbourhood centres,). It supports density that is high quality, attractive, more energy efficient, and respects neighbourhood character. This requires reforming some existing policies, bylaws, incentives and zoning to reduce barriers and promote ideas that will create communities that are sustainable, livable and affordable.

**King County Land-Use Regulations** ([www.metrokc.gov/permits/codes/CompPlan](http://www.metrokc.gov/permits/codes/CompPlan))

The *King County Comprehensive Plan* supports smart growth by reducing the annual rate of residential development on unincorporated land from about 12% to below 5% since 1994. A proposed new policy would allow the county to reject or modify development projects because of their global warming impacts. To encourage smart growth the county will offer developers "carbon credits" for transfer of their rural development rights to urban areas, described as a cap-and-trade scheme at a local level.

**Residential Garage Conversions** ([www.ci.santa-cruz.ca.us/pl/hcd/ADU/adu.html](http://www.ci.santa-cruz.ca.us/pl/hcd/ADU/adu.html))

Santa Cruz, CA has a special program to encourage development of *Accessory Dwelling Units* (ADUs, also known as *mother-in-law* or *granny* units) to increase housing affordability and urban infill. These often consist of converted garages. The city has ordinances, design guidelines and information for such conversions. A Vancouver, BC firm *Smallworks* ([www.smallworks.ca](http://www.smallworks.ca)) specializes in small lane-way (alley) housing, typically converted garages.

**Redeveloping Parking Lots (CNT 2006)**

The study, *Paved Over: Surface Parking Lots or Opportunities for Tax-Generating, Sustainable Development?* ([www.cnt.org/repository/PavedOver-Final.pdf](http://www.cnt.org/repository/PavedOver-Final.pdf)) evaluates the potential economic and social benefits if surface parking lots around transit stations were developed into mixed-use, pedestrian friendly, transit-oriented developments, with case studies of nine suburban communities with rail transit service in Cook County, Illinois. The analysis concludes that such development could help meet the region's growing demand for affordable, workforce, senior, and market rate housing near transit, and provides various other benefits including increased tax revenues and reduced per capita vehicle travel. The parking lots in these nine case studies are estimated to be able to generate 1,188 new residential units and at least 167,000 square feet of new commercial space, providing additional property tax revenues in the hundreds of thousands of dollars per year at each site, plus significant reductions in trip generation and transportation costs compared with more conventional development.

**Live Near Your Work Incentives**

The state of Maryland's *Live Near Your Work* (LNYW) program provides a minimum of \$3,000 in direct cash assistance to home buyers moving to designated neighborhoods surrounding major employers ([www.dhcd.state.md.us/lnyw/index.cfm](http://www.dhcd.state.md.us/lnyw/index.cfm)). Local governments designate the LNYW areas and administer the program within their jurisdictions. Participating employers - businesses, non-profits, colleges, universities, and government agencies - set eligibility requirements, promote the program to their employees and provide matching resources.

**Accessible Suburban Multi-Family (Larco 2010)**

Nearly a quarter of all suburban housing is multifamily, but such development tends to have poor accessibility due to poor sidewalk, path and road connections to nearby commercial areas. The enclave nature of most suburban multifamily housing results, in part, from regulatory and planning practices that promote enclave design. This includes a general lack of specificity in multifamily codes; code-dictated buffers between dissimilar uses; a general lack of street network regulation for multifamily developments; a perception by planners that multifamily housing should primarily act as a buffer between commercial and single-family uses; a general un-welcoming attitude towards this development type; and a general lack of attention given to this housing typology. Various policy and planning reforms can improve suburban accessibility, including street connectivity standards; programs to create more sidewalks, crosswalks and pedestrian shortcuts; shifts to smaller parking lots, and walkability improvements within developments to facilitate pedestrian travel.

**Attracting Residents to Transit-Oriented Neighborhoods (MTC 2010)**

The report, *Choosing Where We Live: Attracting Residents to Transit-Oriented Neighborhoods* (MTC 2010), identifies various housing market segments and describes ways to make urban development more attractive in response to each groups' specific needs and preferences. It includes specific recommendations for improving walking and cycling condition, transit service quality, neighborhood livability (quiet, cleanliness and safety), school quality and accessibility, parking management, and urban housing affordability.

*Projects*

**Travel Time and Housing Price Maps ([www.mysociety.org/2007/more-travel-maps/morehousing](http://www.mysociety.org/2007/more-travel-maps/morehousing))**

This interactive mapping system shows both travel times to the city center and housing costs for various locations in London. It can be used to identify neighborhoods that have a desired combination of accessibility by different modes and housing affordability.

**Cochrane Affordable Development ([www.abag.ca.gov/services/finance/fan/cochrane.htm](http://www.abag.ca.gov/services/finance/fan/cochrane.htm))**

Cochrane Village is an affordable housing development in the Morgan Hill Ranch Business Park. In the late 1980s the business park struggled to find business occupants, in part because of high employee housing costs, so businesses, local government and a non-profit developer cooperated to build 96 apartments and town houses, a playground and daycare facility, located with convenient access to retail shops.

**Rich Sorro Commons, San Francisco, California (USEPA 2006)**

Rich Sorro Commons is a mixed-use project with 100 affordable units and approximately 10,000 square feet of retail. Conventional standards would require 130 to 190 parking spaces but it was constructed with only 85 parking spaces due to proximity to high quality public transit services, carshare vehicles in the building, and tenants' relatively low incomes. The avoided parking requirements free up space for a childcare center and more ground-level retail, which generate additional annual revenues (each 300 square-foot space avoided provides \$7,740 in additional annual rent at \$25.80 per square foot), making housing more affordable. Two carshare vehicles are available to residents, giving them access to a car without the costs of ownership – a particularly important benefit for low-income households.

## Conclusions

Experts recommend that households spend less than 32% of their budget on housing (including rents, mortgages, maintenance and basic utilities) and less than 45% on housing and transport combined. Many lower- and middle-income households exceed these targets.

*Affordable-accessible housing* refers to appropriate housing priced within lower-income household's budgets, located in areas where essential services and activities are easily reached without an automobile. For typical low-income households, the most practical affordable-accessible housing option is generally an inexpensive apartment, townhouse, small-lot single-family homes, or accessory suite located in an urban neighborhood or small town, where basic services (shops, schools, medical care and jobs) are easily accessible by walking, bicycling and public transit. This high level of accessibility is particularly important for people who for any reason cannot drive an automobile due to physical disability or legal constraints.

Increasing affordable-accessible housing supply can provide many economic, social and environmental benefits, including reduced homelessness and associated problems, consumer savings, economic development, improved public health and safety, energy conservation, environmental protection, and public cost savings. It supports truly sustainable development.

During periods of economic decline, cities often have an adequate supply of affordable housing consisting of older, inferior quality houses located in blighted areas. These cities can benefit from policies and programs that rehabilitate existing housing, support affordable transport options (walking, cycling and public transit), and help maintain services and jobs in older neighborhoods. In economically growing cities, the demand for affordable housing often exceeds supply. In such situations it is particularly important for policies to support development of more moderate and lower-priced housing in accessible locations.

Many current development policies and planning practices discourage accessible-affordable housing development. These include restrictions on building density and size, restrictions on multi-family housing, generous minimum parking requirements, plus regulation, tax and fee structures that favor fewer, more expensive units. Many of these barriers reflect inaccurate assumptions and outdated policies, for example, that all housing requires abundant parking and lower income residents are dangerous. Dynamic cities must adjust policies and planning practices in response to changing demands and conditions.

Affordable-accessible housing development may challenge conventional assumptions about what constitutes an ideal neighborhood. Current development practices, such as restrictions on multi-family housing and generous parking requirements, favor conformity, segregation and consumption. Affordable-accessible housing reflects an assumption that social diversity and resource efficiency are desirable objectives.

There are many possible ways to increase housing and transport affordability, but some are much better than others because they reduce total costs and support other strategic objectives such as reducing vehicle traffic and sprawl, as summarized in Table 12.

**Table 12 Affordable-Accessible Housing Development Strategies**

Strategies	Impacts
<b>Ineffective and Sometimes Harmful</b>	
Cheap suburban development	Reduces housing costs but increases transport and sprawl costs
Rent control	Benefits existing residents but reduces the incentive to build more lower-priced housing
Forbidding rental-to-owner conversions	Benefits existing residents but reduces the incentive to build more lower-priced housing
Urban blight (allow some neighborhoods to become undesirable)	Reduces housing costs but harms communities and concentrates poverty
Targeted housing subsidies	Benefits people who receive subsidies, but not others
<b>Effective But Costly</b>	
General housing construction and purchase subsidies	Reduces total housing costs, but does little to increase overall affordability
Inclusionary zoning	Helps some households purchase homes but seldom includes rentals and may reduce total housing development
Large social housing developments	Concentrates poverty
Subsidizing suburban transportation	Requires significant subsidies and imposes external costs
<b>Most Effective and Beneficial</b>	
Affordable housing targets	Encourages communities to accept affordable housing
Address community concerns	Reduces neighborhood opposition to affordable housing
Density bonus	Encourages developers to build more affordable housing
Density requirements	Encourages developers to build more housing
Structure fees and taxes to favor affordable-accessible development	Reduces the costs of affordable-accessible housing compared with more costly and sprawled housing
Allow and encourage secondary suites	Encourages homeowners to provide rental housing
Improve design process	Improves design quality which can reduce opposition
Affordable housing maintenance and rehabilitation programs	Preserves existing affordable housing stock
Smart growth reforms	Encourages more accessible, compact development, which reduces some costs, such as land, parking and transport.
Improve affordable transportation options	Improves accessibility and reduces household costs
Implement transportation management policies	Supports use of efficient modes
Expedite development review	Reduces affordable housing development costs and delays
Reduced and more accurate parking requirements	Reduces parking costs, particularly for affordable-accessible housing
Unbundle parking	Reduces housing costs for households that reduce vehicle ownership
More accessible, multi-modal suburban development	Reduces housing and transportation costs in suburban areas
Identify parcels suitable for affordable-accessible development	Helps developers find sites for affordable, infill development
Dynamic zoning	Allows development policies and zoning codes to respond to changing demands
Brownfield remediation	Makes contaminated land available for development
Provide free or inexpensive land	Encourages development of affordable housing.
Resource efficiency design	Reduces occupant utility costs
Targeted tax and fee exemptions	Reduces affordable-accessible housing costs
More favorable tax policies	Reduces affordable-accessible housing costs

*This table summarizes strategies identified in this study to increase affordable-accessible housing supply.*

Increasing affordable-accessible housing generally requires a combination of strategies. The *Housing Affordability Analysis Spreadsheet* ([www.vtppi.org/aff\\_acc\\_hou.xls](http://www.vtppi.org/aff_acc_hou.xls)) developed for this study can be used to evaluate the housing and transport cost impacts of various policy changes.

Some relatively modest policy reforms, such as allowing more diverse housing types, incremental increases in density, reduced parking requirements, and improved walking and cycling conditions, can increase housing and transport affordability and therefore the quality of life for physically and economically disadvantaged people. Most communities can significantly increase affordable housing supply by allowing more secondary suits, small-lot single-family and townhouses, and modest-size (two to four story) multi-family housing within existing residential neighborhoods, and mid-rise (more than four- to ten-story) multi-family along arterials and in downtown areas. Even if the new housing is moderate price, it will contribute to future affordable housing supply as it depreciates. Improving the quality of affordable modes (walking, cycling and public transport) increases affordability and helps achieve other planning objectives.

To people earning middle-class incomes, the potential savings may hardly seem worth the trouble. For example, unbundling parking costs – which requires changing to zoning codes, development practices and municipal parking policies, overcoming neighborhood opposition, and increased parking regulation enforcement – typically provides \$50 to \$150 per month savings to the 20-40% of households that own fewer than average vehicles. Similarly, increased densities, smaller housing units, and more accessible locations each provide modest net financial savings, and are only suitable for some households (not every household can fit into a small apartment or reduce their vehicle ownership and rely on alternative modes). But for lower-income households, such savings can be very important. For example, for a \$1,800 monthly budget household, \$120 per month savings typically increases their discretionary budget (the money they can spend on goods other than basic food, shelter, transport and healthcare) by 20-40%, providing a large increase in financial security and quality of life.

Of course, housing needs and preferences are diverse, even among lower-income households. Some need large homes to accommodate large families. Some need to own an automobile for business or personal use. Some enjoy gardening and so want more greenspace than available in an urban apartment. Many households want to live in neighborhoods that have certain attributes, such as quality schools, particular recreational or cultural amenities, or proximity to certain friends or relatives. Affordable-accessible housing must accommodate such demands. Doing so maximizes social welfare.

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