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OF THE REGULATION OF SECONDARY UNITS

Martin Gellen

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ECONOMIC ASPECTS OF THE REGULATION
OF SECONDARY UNITS

Martin Gellen

The Problem

A secondary unit is a dwelling unit added to an existing residential structure (often in a basement or attic), which uses space that is surplus to the primary dwelling or dwellings in the structure. As such, it is an accessory use. A secondary unit can also be added onto an existing structure as an extension in the rear yard or, in some cases, by building a second story onto a one-story house.¹ Be it an "add-on" or an "add-in," a secondary unit is created by physical conversion of the existing stock, thereby increasing the intensity of its use. Whichever form they take, secondary units are normally smaller than primary units--often less than 600 square feet--and contain separate bathroom and sometimes separate kitchen facilities but usually no parking. They are perfect for single-person households that require small units at low rents.

Central cities have many legal secondary units. Most are "guest rooms" in large, older middle-class urban homes or basement units developed during the housing shortage of the 1940s (Winnick and Shilling, 1957: 76-77, 114-115). The problem today is that new secondary units are being created illegally without approved building or alteration permits. The

major reason they are built without permits is that existing density controls would, in most instances, not allow an extra unit on the lot. Where density standards are not a problem (in the case of a one-unit building in a district zoned for up to four units per lot, for example), the secondary unit is still required to have an off-street parking space, the construction cost of which is so high as to be prohibitive.

The current wave of illegal secondary conversions represents a response by the private market to the gap between the full economic rent of conventional apartment construction and the much lower market rent levels in the existing stock. New construction has always cost more. In the middle 1960s, new apartments in the United States had a median rent 24.5 percent above that of prevailing market rates (U.S. Department of Housing and Urban Development, 1968: 21). This gap has widened for almost a decade, however, as the annual inflation of construction costs outpaced the growth of incomes. Conventional rental housing has consequently become relatively unprofitable to build. Rosen (1979) estimates that market rents in the United States would have to rise by at least 30 percent for rental apartment construction to be economically feasible; in California today the required increase would be on the order of 45 percent. Assuming that new apartments rent at a 25-percent premium over existing units, Rosen's estimates imply that market rents are 50 percent or more below the required rents of new construction.

Secondary units, on the other hand, can be produced at an economic rent below market rates. These units are cheaper to produce for a variety of reasons. First, part of their production costs consists of sunk capital. Land, structure, and mechanical systems are already in place.

Expenses for laying foundations, putting in roofs, and framing are not required. Secondly, a part of the labor can be performed by the owner of the building himself. Participation of the owner-builder minimizes the cash required for the initial investment.

Using space standards devised by the American Public Health Association and 1970 Census data, William Baer has estimated that as many as 15.7 million housing units in the United States are underutilized, of which 78% are owner-occupied (1979: 223-224). Based on extremely conservative assumptions, Baer estimated that an additional 1.8 million units could be converted from these. Given the decline in average household size that has occurred during the 1970s, a similar analysis of the 1980 Census will show a much higher rate of underutilization and yield an estimate of conversion potential probably well above 5 million units.

Local governments throughout California are considering the legalization of secondary units in order to encourage, as well as to control, their development. The economic impacts of legalization, however, have never been sorted out properly. Density standards by themselves represent only one facet of the complex structure of municipal regulation which prevents legal conversions. Building codes, parking requirements, tax levies, and the costs of the permit application and review process itself tend to discourage just as many if not more homeowners from undertaking legal conversions as do density standards.

The little evidence that we have regarding citizen response to more permissive zoning for secondary units supports this inference. San Anselmo, California, passed an ordinance regulating secondary unit conversions in July 1976. Only a few permit applications have been made

under the ordinance, but local planners believe that hundreds of units have been converted illegally in the town during the same period (Frazis, 1981). A study of single-family conversions in the New York-New Jersey area revealed that in those towns which had revised their planning codes to allow secondary unit conversions, substantially fewer homeowners came forward to legalize their units than had been anticipated (Tri-State Regional Planning Commission, 1981).

How, then, can legal secondary unit conversion be encouraged? How do property owners benefit from building secondary units illegally? What effects do compliance with building codes have on production costs? What factors other than regulation and taxation affect the production and operating costs of this type of housing? What other types of public action--besides planning code revision--could local governments take to encourage decent, safe, and sanitary housing in the form of secondary units?

Methodology

The approach selected for this study was to investigate the factors affecting the production and operating economics of secondary units by simulating the development process itself. Four types of residential architecture common to the San Francisco-Oakland metropolitan area were selected. All were single-family structures except one, which contained two units before conversion. Floor plans were obtained from records kept by the San Francisco Department of City Planning and from the Community Design Center in Oakland. The simulation strategy was to estimate first the development costs for illegal units, based on a set of designs and

specifications. With these estimates, plus others for the appropriate market rents, rates of return on investment were computed for different categories of owners, adjusting both cash flows and capital costs for specific hypothesized impacts of regulation. The results are illustrative only; nevertheless, they serve to clarify some of the complex trade-offs that regulation in this area must face.

The Production-Investment Model

The simulations were based on a simple rate-of-return-investment model.

$$C_0 = \frac{\sum_{t=1}^T B_t}{(1+r)^t}$$

where

C_0 = the initial capital cost, or production cost;

B_t = annual periodic cash flows;

T = the holding period in years;

r = the Internal Rate of Return.

The model assumes that producers of secondary units expect to make a profit in some form. Either they seek an income stream stretching into the future to be used for consumption, or they wish to accumulate equity by reaping an entrepreneurial profit from the production, assembly, and sale of a valuable income-generating asset.

For the project to be feasible, the Internal Rate of Return must exceed the yield available to the owner from alternative investments.

Small property owners--especially homeowners--will probably not compute the Internal Rate of Return when they decide to convert. Most will likely use a current earnings ratio: expected annual cash-flow for the first three to four years divided by the initial capital cost. The Internal Rate of Return, which captures the effect of appreciation and capital gains, is more appropriate when profit from sale of the accessory unit is the investment objective.

This investigation focused only on those inputs that had market prices--materials and professional labor. "Sweat equity" was expressed as the savings in total cash outlay achieved through substitution of owner for paid labor, less the additional costs incurred when materials are purchased at retail prices.

$$C_0 = M + L - (L - L' - X)$$

where

- M = total cost of materials when job is performed by a general contractor and owner does not participate;
- L = total cost of labor when job is performed by a general contractor and owner does not participate;
- L' = total cost of labor when owner participates: $L > L'$ (if no participation then $L' = L$);
- X = additional cost for materials incurred when owner participates; this is equal to the difference between contractor's price and the retail price.

If the owner does not participate, then the third term on the right-hand side will be zero.

Several factors affect the relative composition of costs and the absolute size of C_0 . These include (1) the type of existing construction,

(2) the owner's "instrumental capital" in the form of his/her construction skills, experience, and equipment, and (3) the degree of compliance with building and planning codes. Let us look at each of these briefly.

Building Form and Development Costs

The type of existing construction, its design, layout, and degree of obsolescence will determine in part the amount of structural modification required, and consequently the amount of materials and labor required. In addition, conversion of many older homes and duplexes will usually require that the electrical service must be upgraded. In some cases, connectors to the primary drain must be modified.

For this study, four distinctive types of residential construction commonly found in the San Francisco Bay Area were selected.

Case A is a three-story, wood-frame Victorian house in the Haight-Ashbury district of San Francisco which had been converted to a duplex in the 1940s. Both units are rentals. In this particular case, the owner plans to improve the ground-floor basement by adding a 500-square-foot studio apartment and a small sauna.

Case B is a three-bedroom house in the Sunset district of San Francisco. Built in the late 1930s, the structure contains a ground-floor basement and a one-car garage, with living quarters on the second story.

These bi-level houses are representative of much of the one- and two-family housing stock in San Francisco, as well as the surrounding SMSA. Bi-level houses contain a basement and garage on the ground floor, with the living area on the stories above. They are especially suitable for secondary unit conversion because of their large ground-floor basements. Table 1 shows the numbers and proportions of dwelling units with basements in the San Francisco-Oakland SMSA as of 1970. Approximately 248,000

CASE A

Studio Apartment (500 s.f.)

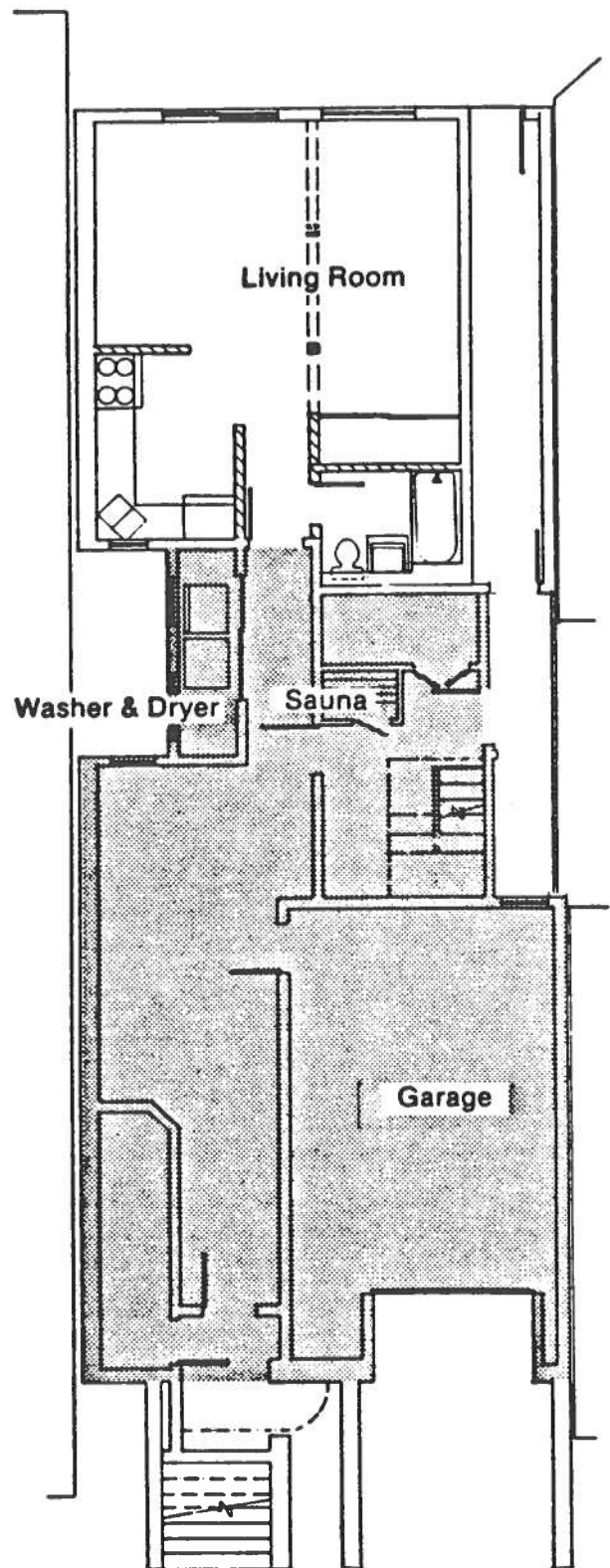
SAN FRANCISCO VICTORIAN

New walls
Removed walls



1 10 20

New unit shown in white



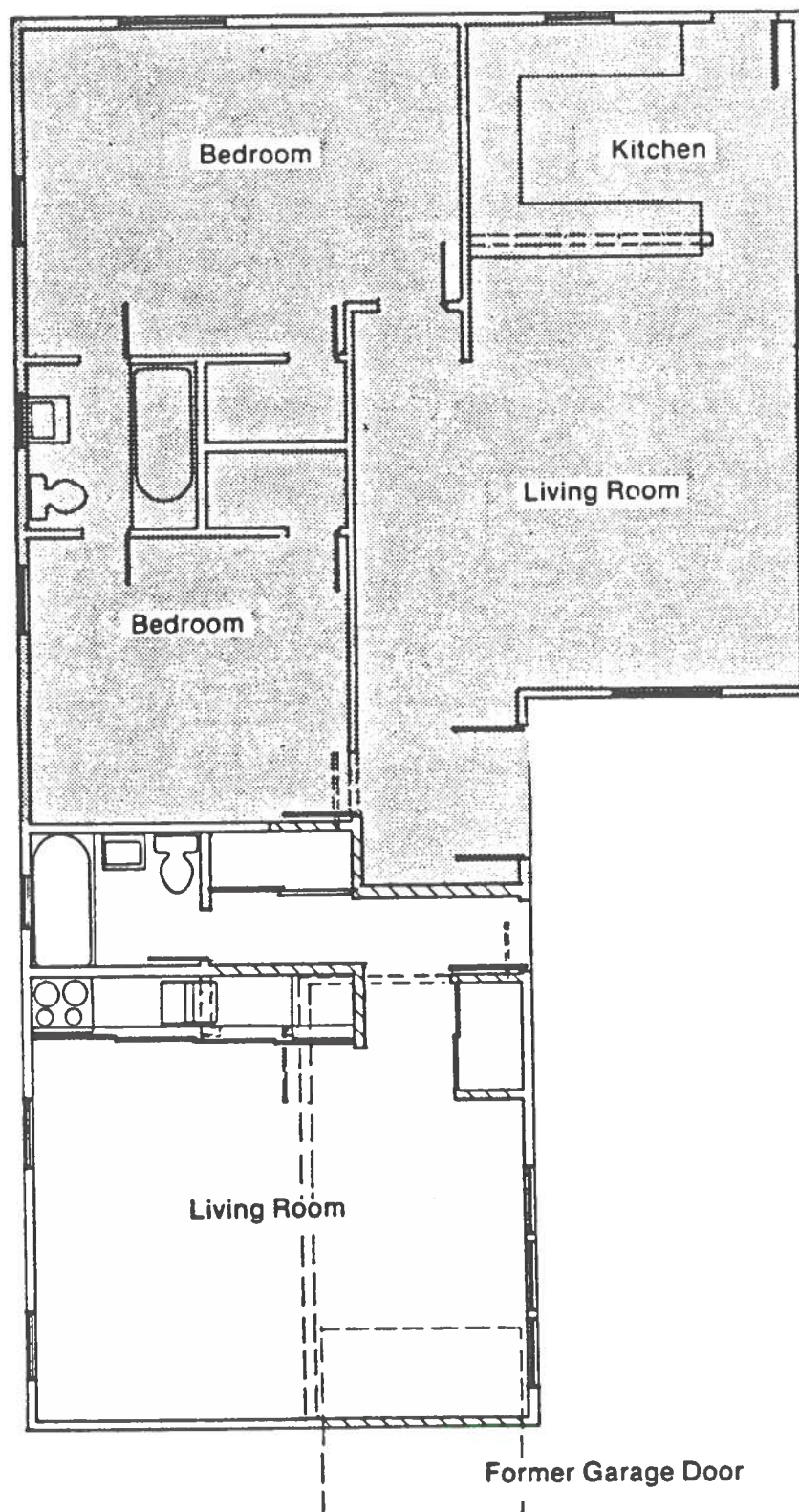
CASE C

Studio
Apartment (437 s.f.)

EAST BAY
POSTWAR TRACT

New walls
Removed walls

1 10
New unit shown in white



single-family units (37 percent of the entire metropolitan single-family stock) have basements. Even if only half of these have basements that are appropriate for secondary unit development, the conversion potential is significant.

Case C is a three-bedroom tract home built in the East Bay during the immediate postwar era. The house lies on flat ground and has no basement. It does, however, have an attached garage, which is to be converted, along with one of the bedrooms, to a small studio of 437 square feet. This structure is typical of the inexpensive tract housing built in California in the 1950s.

Case D involves a small house on a deep lot. The typical lot in the flat areas of the East Bay suburbs subdivided after World War II was 50'x100'. The older parts of these suburbs, however, were laid out with lots measuring 50'x200'--particularly in Hayward, San Leandro, and unincorporated areas of both Alameda and Contra Costa Counties. In this instance, we were interested in the feasibility of adding a 780-sq.ft. detached cottage in back of the house at the rear of the lot. The unit was designed as a self-contained apartment with a shed-roof, living room, dining room, bedroom, and kitchen. A sliding glass door and small sun deck at the rear of the structure were added at a cost of approximately \$1,800.

Owner Participation

Another factor is the amount of owner participation in the project. Owner labor--sweat equity--is a crucial input because most home owners operate with a severe budget constraint. Cash available for investment consists primarily of liquid savings--usually between \$10,000 and \$20,000 for young families and perhaps higher for retired home owners. Borrowing is generally avoided by illegal producers, chiefly because no financial institution will make a loan on improvements installed without a valid permit. If illegal producers borrow at all, it is probably in the form of short-term personal loans at very high rates.

Owner participation can take two forms. The owner can perform all construction management duties, thereby eliminating the need for a general

Table 1
Residential Units with Basements by City and County,
San Francisco-Oakland SMSA

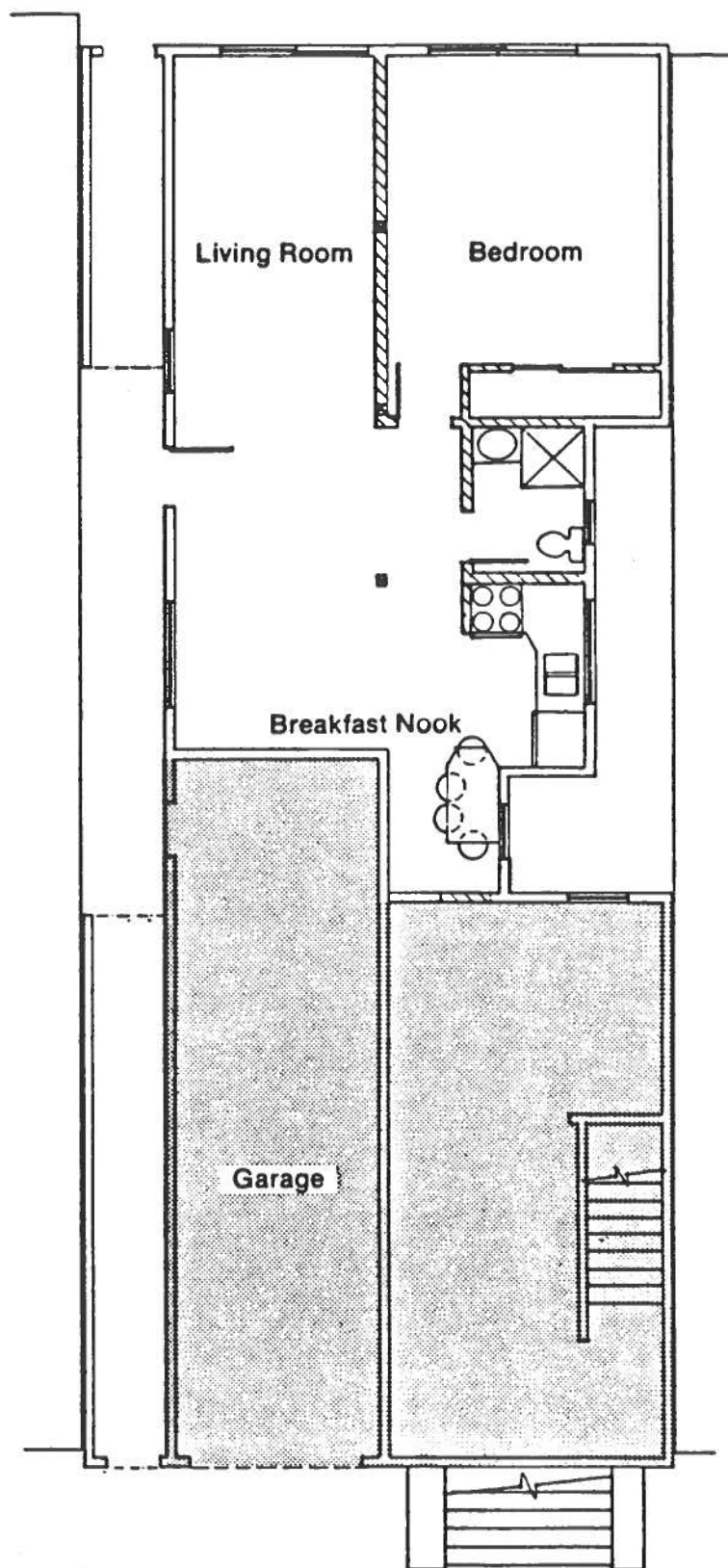
	(1)	(2)	(3)	(4)
	Number of Units with Basements	(% of All Units in Jurisdiction)	Number of Single-Family Dwellings with Basements	(% of All Single-Family Units in Jurisdiction)
<u>Alameda County</u>				
Alameda	8,386	(34)	5,004	(47)
Berkeley	23,028	(49)	11,795	(57)
Castro Valley	3,153	(22)	2,878	(24)
Fremont	1,214	(4)	1,088	(5)
Hayward	2,124	(7)	1,548	(7)
Livermore	749	(7)	659	(7)
Oakland	74,714	(51)	38,795	(54)
San Leandro	3,700	(15)	2,782	(15)
Balance of county	9,748	(20)	8,568	(22)
TOTAL	127,033	(33)	73,325	(32)
<u>Contra Costa County</u>				
Antioch	1,216	(14)	1,041	(14)
Concord	891	(4)	763	(4)
El Cerrito	3,436	(37)	3,217	(43)
Richmond	4,385	(16)	3,273	(17)
Walnut Creek	1,489	(10)	634	(8)
Balance of county	15,854	(17)	13,755	(17)
TOTAL	27,271	(15)	22,683	(16)
<u>Marin County</u>				
Novato	594	(7)	485	(7)
San Rafael	4,097	(29)	2,699	(33)
Balance of county	17,211	(36)	13,545	(37)
TOTAL	21,902	(31)	16,729	(32)
<u>San Francisco</u>	242,883	(78)	88,745	(86)
<u>San Mateo</u>				
Burlingame	4,122	(36)	2,641	(35)
Daly City	15,941	(72)	13,038	(83)
Menlo Park	1,318	(13)	860	(13)
Pacifica	3,562	(36)	3,346	(38)
Redwood City	2,608	(12)	1,842	(14)
San Bruno	4,281	(38)	3,801	(41)
San Carlos	2,321	(25)	1,952	(27)
San Mateo	7,720	(26)	4,700	(26)
So. San Francisco	4,817	(34)	3,882	(35)
Balance of county	12,251	(24)	10,435	(25)
TOTAL	58,941	(31)	46,497	(34)
<u>SMSA TOTAL</u>	478,030	(42)	247,979	(37)

Source: 1970 Census, San Francisco-Oakland SMSA.

CASE B

One Bedroom
Apartment (800 s.f.)

SAN FRANCISCO
SUNSET DISTRICT



New walls
Removed walls

1 10 20

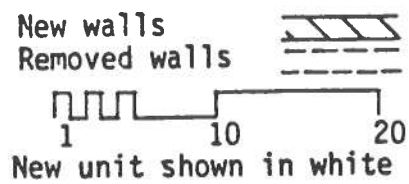
New unit shown in white.

CASE D

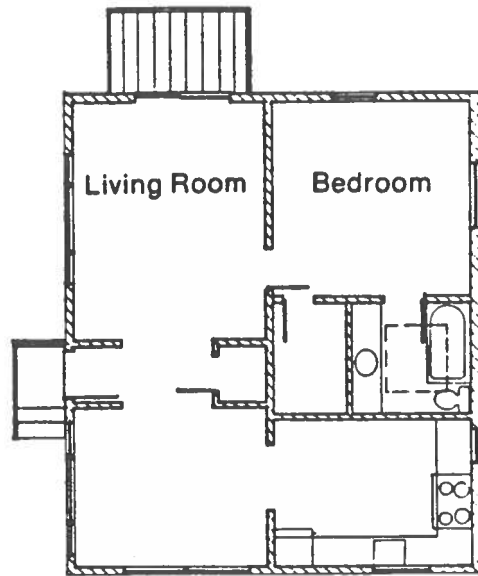
Add-on Unit (780 s.f.)

EAST BAY COTTAGE

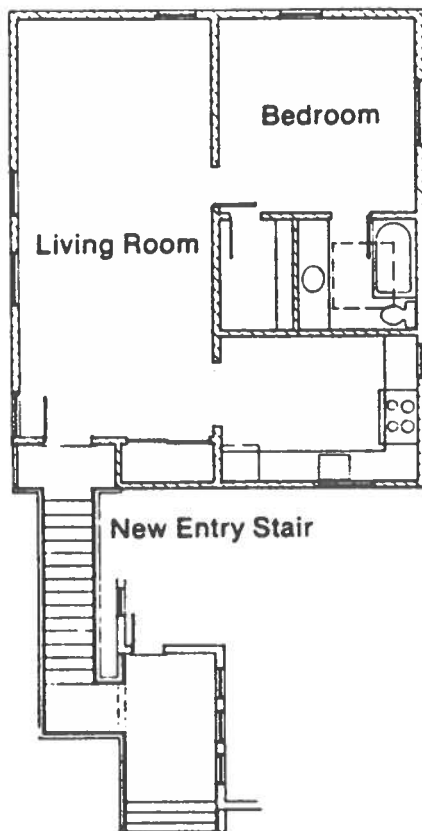
New walls
Removed walls



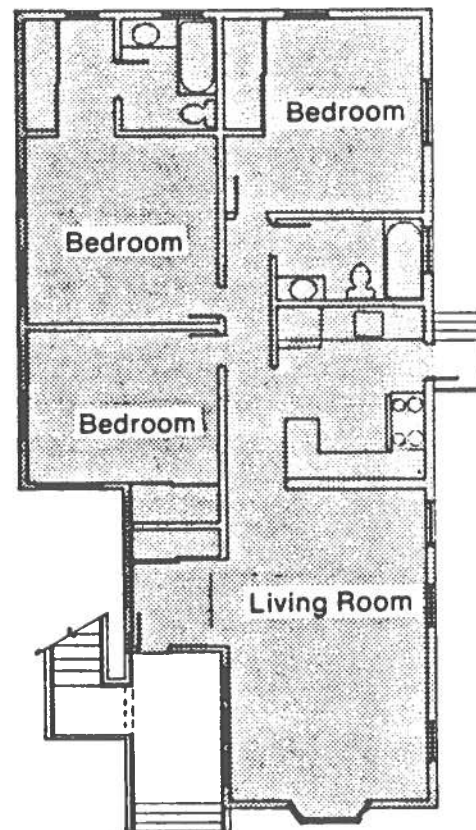
1 10 20
New unit shown in white



OPTION A: Rear Yard Addition



OPTION B: Second Story Addition



Existing House

contractor. The owner-builder can also perform some of the direct construction work. For those with few skills and little experience, training can be obtained at small cost through night schools or housing advisory centers, which provide technical assistance for owner-builders.

For sensitivity analysis, the degree of owner participation in production was set at four distinct levels.

- Level 1 - The owner hires a general contractor who purchases all materials, hires all subcontractors, and performs all work not farmed out to subcontractors. The subcontractors apply a markup of 20 percent above cost, and the general contractor adds another 33 percent.
- Level 2 - The owner acts as his own general contractor. He purchases some materials, and hires subcontractors, but performs none of the labor himself. Subcontractors take a 33-percent markup above cost.
- Level 3 - The owner acts as general contractor as in Level 2, but performs a number of tasks requiring only simple mechanical skills and no experience in construction, i.e., tearing out walls, installing appliances, painting, or clean-up.
- Level 4 - Same as in Level 3, but the owner also performs tasks requiring advanced skills and experience, such as the installation of appliances, cabinets, electrical switches and sockets, and plumbing fixtures, and the laying of floors.

All purchases made directly by the owner are at retail prices with markups of 30 percent on lumber and 45 percent on plumbing fixtures, appliances, and electrical equipment. Given this structure of costs and prices, the bulk of the savings achieved by substitution of owner for professional labor occurs in the more labor-intensive aspects of construction such as electrical work, demolition, finishing, and painting.

The Effects of Building Codes

The effects of building codes on new construction have been discussed elsewhere (Seidel, 1976). The long-standing criticism of building code regulations has been directed at their "excessively high" standards. Most of the cost impact of building codes on secondary units, on the other hand, stems from the fact that basements and garages were not originally designed to be habitable and that many are probably not appropriate for conversion in the first place. For example, the Uniform Building Code requires all habitable rooms to have at least one window equal in total area to at least 10 percent of the floor area of the room, or a minimum of 10 square feet in the case of rooms between 100 and 700 square feet. For a studio apartment of 500 square feet excluding the bathroom, window space of 45 square feet would be required. This may be difficult to achieve with basements if they are too far below ground level. In the case of San Francisco, where many single-family houses are attached to other buildings on both sides, the rear wall of the basement will be the only vertical surface that can accommodate windows at all. Meeting the code may require putting in a large sliding glass door at a cost of \$1,000, as opposed to smaller gliding aluminum panel windows on several walls when the building is unattached. These, by contrast, only cost \$100 each.

Basements may also present problems in terms of meeting code-required ceiling heights. The minimum ceiling height specified by the Uniform Building Code is 7'6" for all rooms except the kitchen. Even in bi-level houses, basement ceilings are rarely greater than 8 feet. With only 6 inches to spare, it is close to impossible to install both an insulated floor and a finished ceiling. If pipes and ducts hang from above, a suspended ceiling is necessary. Invariably, many basement conversions end up with less than 7'6" ceilings.

On the other hand, complying with electrical codes is in the better interest of the owner-developer no matter what the cost might be, whether the unit is legal or otherwise. Older houses with 100 amps service should be upgraded to 200 in order to minimize the increased risk of fire from the strain placed on the electrical system by the secondary unit, especially if electrical heating is installed.

In our construction analysis, we first assumed that the owner chose to build the unit up to code standards even when illegal. The code-compliant units were designed based on requirements of the San Francisco Building Code for Cases A and B, and the Uniform Building Code for Cases C and D. This assumption seemed warranted especially in the case of owner-occupied dwellings where the owner shares the same personal risk of health and safety as his prospective tenant. Next, expected savings from noncompliance with various relevant provisions of the building code were estimated. These provisions included those prescribing standards for materials such as gypsum board, floor insulation, minimum window area, fire detection devices, duct and exhaust vents, and the electrical service.

The Problem of the Planning Code

The impact of the planning code on capital costs is more problematic. In cases where density standards do permit the addition of a secondary unit, planning regulations also require that off-street parking be provided for each new dwelling unit. The cost of adding a parking space on flat, vacant land starts at \$1,800 today. For an existing dwelling, the addition of a second or third parking space would require major structural modification costing well over \$10,000. In cities like San Francisco, the creation of additional off-street parking in the vast majority of single-

family homes is all but impossible unless front-yard setbacks are used. In most RH-1 zones, the use of the front lawn for an additional parking space would probably be unacceptable to neighbors. In the analysis that follows, we have assumed that the provision of off-street parking does not enter into the cost calculation.

Estimation Procedures

Based on the designs for the secondary units illustrated above and corresponding specifications, itemized costs were derived using the 1980 edition of the Home Tech Estimator. Prices from the Estimator were adjusted for (1) local area cost modifications appropriate to Northern California, and (2) an inflation factor of 17 percent for the eighteen-month period from January 1980 to July 1981.²

We assumed that the owner had no special skills or experience in purchasing or contracting. This is clearly not realistic, but as a working assumption it greatly simplified the analysis.

Two other qualifications are important here. First, the designs used in this simulation represent above-average-quality rental units with special amenities incorporated in each case. Quite a few secondary units in the real world are probably of lower quality, and consequently cost somewhat less to build. One of our research objectives, however, was to determine the cost of a unit that was both up to code and comparable in finish, fixtures, and appliances to moderately-priced conventional rental apartments, except perhaps for the lack of parking.

Second, although we included no explicit contingency fund, we did incorporate a factor for wastage in the itemized cost estimates. This was

set at 15 percent for interior finish (drywall, floor installation, ceiling installation, painting, and carpentry), and 10 percent for ductwork, plumbing, and electrical supplies. These are conservative assumptions; for inexperienced owner-builders and subcontractors, the wastage factors would be higher.

Construction Analysis

Table 2 compares total and average conversion costs broken down by building type and level of owner participation for secondary units built up to code.³ Costs for units built below code are about 12-15% less. Average costs for the two San Francisco units are quite similar despite their different sizes. The primary reason for this is the cost of creating a separate bedroom and the extra window space consequently required for Case B. If this unit were remodeled as an 800-square-foot studio, total development costs would be \$5,000 less, and the average cost about \$6.30 lower.

The two San Francisco basements also involve different conversion problems. The Victorian studio was a partially finished basement with a concrete slab; the walls and ceiling had to be installed. The basement in the Sunset District house had finished walls but no ceiling. Moreover, the bathroom could accommodate only a shower, whose installation, including ceramic tiles, involved more expense than a bathtub would have. In order to merge the garage and junior bedroom for the East Bay studio, the bearing wall had to be torn out and the floors rebuilt. The structural work itself amounted to over \$14 per square foot.

Table 2

Total and Average Conversion Costs of Secondary Units
Built Up to Code by Type and Degree of Owner Participation

Degree of Owner Participation					
Type of Unit	No Owner Involve- ment	Owner as General Contractor	Owner as General Con- tractor and Minimum Par- ticipation	Owner as General Con- tractor and Maximum Par- ticipation	
A. San Francisco Victorian Studio	Total Per ft ²	\$21,860 \$43.72	\$17,489 \$34.98	\$16,054 \$32.11	\$14,021 \$28.04
B. San Francisco Sunset District					
1-bedroom option	Total Per ft ²	32,632 40.79	26,125 32.67	24,441 30.55	22,730 28.41
Studio option	Total Per ft ²	26,402 33.00	21,140 26.43	19,457 24.30	17,745 22.18
C. East Bay Studio	Total Per ft ²	21,639 49.52	17,261 39.50	14,391 32.93	12,270 29.11
D. East Bay Cottage 1-bedroom	Total Per ft ²	62,980 78.18	49,058 62.90	46,430 59.50	41,260 52.90

Clearly, the basement units are the cheapest and easiest to convert. A completely finished basement with a ceiling height in excess of 8 feet could be converted up to code for about \$25 per square foot; a partially finished basement up to code would cost in the neighborhood of \$28-\$32 per square foot. Because of the extensive structural modification required, the East Bay studio costs more--about \$35 per square foot. By contrast, the East Bay cottage--the self-contained unit constructed from scratch as a rear-yard addition--comes in at about \$60 per square foot.

Table 3 illustrates the effect of owner participation on total conversion costs. Given our assumptions, owner management can reduce the initial capital outlay required by roughly 20 percent. Owner labor can increase these savings to between 25 and 33 percent. The large savings in Case C arise from the extensive amount of tear-out work required for removing the walls and floors.

The relative affordability of secondary units over conventional apartment construction can be assessed by comparing these estimated average costs with those in Table 4. The Class D apartment house consists of twenty-four units in a two-story, wood-frame, stucco building of 12,000 square feet per story. In 1981 dollars its "hard cost" was \$920,515, or \$38.35 per square foot. This does not include the cost of garages, site improvement, land financing, overhead, or profit. Using the industry rule of thumb, according to which construction by itself accounts for 45 percent of total development cost, including profit and overhead, gives us a total capital cost of \$2,045,600, or approximately \$85 per square foot. In other words, in the Bay Area today the average development cost of a new apartment building would amount to roughly \$85 per square foot. Secondary

Table 3

Percentage Change in Total Conversion Costs
As a Result of Owner Participation

Building Type	Levels of Owner participation		
	Owner as General Contractor	Owner as G.C. and Minimum Participation	Owner as G.C. and Maximum Participation
A. San Francisco Studio	-20.0	-26.6	-35.9
B. San Francisco One-Bedroom	-20.0	-25.1	-30.4
C. East Bay Studio	-20.2	-33.5	-41.2
D. East Bay Cottage	-19.5	-23.9	-32.3

Table 4

Bay Area Construction Costs,* July 1981
(Average Costs)

- | | |
|---|-------------------------|
| 1. Bay Area Single-Family Home:
3 bedrooms, 2 baths, wood frame structure. | \$42.97/ft ² |
| 2. Bay Area Class-D Apartment:
2-story, wood frame structure. | 38.35/ft ² |

Sources:

1. Construction Analysis Project Management Section, Bank of America, July 1981 (includes cost of garage, driveways, walks, and landscaping).
2. Marshall & Swift Publication Co., reported in Northern California Real Estate Report, July 1981 (does not include cost of garage or other site improvements).

* Cost of material and labor only.

units produced by conversion are about a third the cost by comparison, and with owner-participation, even less.

Some might be surprised that secondary unit conversion costs are only slightly less than per-square-foot construction costs. Because less materials and construction labor are required, one would expect that the hard cost of secondary unit conversions would be half or less of the hard cost of conventional apartment construction. There are several reasons why this is not the case. First, the general contractor's markup for overhead and profit is 33 percent for conversions, instead of the homebuilder's or apartment builder's traditional 15 percent. Second, small individual projects cannot benefit from the quantity discounts on materials available from suppliers that are possible for multiunit projects, especially those with five units or more. Finally, professional builders on larger projects can achieve additional savings per unit through more efficient production methods and less wastage than can owner-builders and subcontractors doing remodeling work. These factors taken together will tend to drive up the average hard costs of conversions relative to new construction.

Investment Analysis

For the investment analysis we specified a set of investment objectives for two representative types of investors: a Retired Couple and a Young Couple.

1. The Retired Couple own their home free and clear. They have accumulated a nest egg of some \$85,000 over their working lives. They invest primarily for income and have most of their savings in money-market certificates and government bonds and the rest in utility stocks. They live on income from these investments plus Social Security. Their marginal tax bracket is 20 percent.

2. The Young Couple bought their home several years ago with an 85 percent mortgage. They have about \$30,000 in savings that they made by investing in a condominium. Although they will invest for income to defray part of their housing costs, they are primarily interested in accumulating equity. They expect to sell their home in a few years in order to trade up to a bigger house. They hope to reap an entrepreneurial profit from building a secondary unit in the form of a capital gain upon sale. Their marginal tax bracket is 32 percent.

The Retired Couple view the secondary unit investment as an alternative to the purchase of an annuity or bond. Because they are primarily concerned with acquiring an income stream of indefinite duration, a simple Current Earnings Ratio (CER) was used as a measure of financial feasibility. Their opportunity rate of return is the Baa bond rate--16 percent today. Baa bonds are medium-risk securities with an investment term of seven to ten years. On an after-tax basis, this would produce for the couple a return of 13.7 percent. Given the operating risks and management problems of an illegal unit, we have set the minimum after-tax CER for this household at 16 percent.

The Young Couple, on the other hand, expect to earn an entrepreneurial profit in the form of a capital gain upon sale. Their holding period is four to five years. The corresponding opportunity rate of return would be that available from speculation in small homes or condominiums--a minimum of 18 percent on an after-tax basis. Because it allows us to incorporate a reversion value, the Internal Rate of Return (IRR) was used as a measure of financial feasibility for this case.

The base rents for our computations were derived from Table 5. We adjusted these for the location, size, and unique characteristics of each unit. Operating expenses in the first year when costed out came to 18% of gross rents.

Table 5

Estimated 1981 Rents for San Francisco and Oakland

	San Francisco ¹	Oakland ²
Studio	\$357	\$200-250
One-Bedroom	470	325-400

1. San Francisco Department of City Planning, 1980. These are median rents based on an annual sample drawn every June from the classified ads of the Sunday Examiner. The better-quality units tend not to be advertised in newspapers; the true median is therefore probably somewhat higher. San Francisco also has a rent stabilization system that allows rents to be raised to market whenever the unit goes vacant; the system controls rents on occupancies, not on units per se. The DCP estimates were adjusted upwards for inflation to mid-1981 levels by 10 percent.

2. Marian Wolfe, "The Alameda County Rental Housing Market," February 1981 (unpublished). These rents for the last quarter of 1980 were derived from interviews with real estate brokers and property managers in Berkeley, Oakland, Hayward, and Fremont. The studio rent applies to buildings with ten units or more, and varies within the range indicated. Rents for one-bedroom units are based on comparables in two-to-four-unit buildings. By contrast, one-bedroom rents in buildings of ten units or more are between \$250 and \$295. These units are in newer buildings and are generally smaller than the one-bedroom units in older "multiples."

Tax Evasion

Owners of illegal units may choose to practice tax evasion. This includes both local property taxes and state and federal income taxes.

Property taxes are only a fraction of the potential tax yield from an illegal unit that is lost to government through evasion. For example, a unit that costs \$15,000 to build and grosses \$3,600 per year would, if legal, be paying \$180 in property taxes during the first year of operation and \$154 in state and federal income taxes from an owner in the 36-percent marginal tax bracket. Assuming the owner is depreciating the unit over fifteen years at 175 percent of straight-line, property taxes in the sixth year of operation will have risen to \$207 and state and federal income taxes to \$1,005.

The amount of residential rental income in the United States that is legally subject to income but goes "unreported" is substantial. Unreported income represents "off-the-books" income earned but not declared by those who file income tax returns. According to Simon and Witte (1982), from 35% to 50% of rental income is not reported to the IRS. The only published empirical study of tax compliance (Groves, 1958) found that rental income was relatively well reported for most multiple-unit rental buildings (86%) but was less so for rented rooms (68%), rented single-family homes (65%), and sublet lodgings (30%).

The investment analysis performed here assumes that owners of legal units declare all reportable rental income and owners of illegal units do not. Owners of legal units, of course, can practice tax evasion, and owners of illegal units may choose not to do so. The former, however, are

more likely to report because property tax and other records would be incriminating in the event of an IRS unit. The risk for owners of illegal units is far less, by comparison, because no public records of the unit exist, and payment of rent can be made in cash.

Results of Sensitivity Analysis

Tables 6 and 7 display rates of return for each of the cases under varying assumptions regarding owner participation and legal status.

These results show that, even given the relatively high opportunity rates of return used in this analysis, legal secondary units that are built up to code are almost financially feasible at current market rent levels. If the cost of capital in today's financial markets were to drop 250-300 basis points, the returns on legal units would look even better. At the very limit, a legal secondary unit of 500 sq.ft. is feasible if its capital cost does not exceed \$14,000, or approximately \$28 per sq.ft. Average costs would be lower if regulatory barriers were modified and more tax incentives for conversion provided.

There is also no question that illegal units will always be more profitable to own and operate than legal units. But the difference in rates of return between legal and illegal units are not so large that a combination of supply incentives with minimal permitting requirements and moral exhortation could probably dissuade countless homeowners from taking the illegal route⁴ while still allowing for an ample number of conversions. The social cost of tax evasion is lost revenue, which most levels of government today can ill afford. Legal conversions would also be in the better interest of renters of secondary units, whose rights as tenants

Table 6
Sensitivity Analysis of Current Earnings Ratios
for Secondary Unit Investment by Retired Couple

Case	Level of Owner Participation			
	None	Owner as General Contractor	Owner as General Contractor and Minimum Participation	Owner as General Contractor and Maximum Participation
<u>Illegal</u>				
A. San Francisco Studio	16.6*	20.8**	22.6**	26.6**
B. San Francisco One-Bedroom	16.3*	20.4**	20.8**	23.6**
C. East Bay Studio	12.9	16.2*	18.9**	21.4**
<u>Legal</u>				
A. San Francisco Studio	11.9	14.9	16.3*	18.7**
B. San Francisco One-Bedroom	11.8	14.7	15.1	16.9*
C. East Bay Studio	9.7	12.1	14.5	16.4*

Assumptions:

1. Rents increase at 5 percent annually; vacancy factor of 4.2 percent of scheduled gross.
2. Total operating expenses (water, garbage, electricity and gas, insurance and maintenance) increase at 7 percent annually.
3. Holding period is 10 years.
4. No reversion.
5. Cost of legal unit is 12% greater because of code compliance; cost of legal units includes permit and inspection fees.
6. Illegal unit pays no income and property taxes. Legal unit taxes: (a) property taxes (1.2 percent of value) increase at 2 percent annually; (b) marginal income tax bracket of investor is 20 percent; (c) depreciable basis = initial capital cost, depreciation method = 15 years accelerated.

* Minimum expected return (16-18%).

** Better than expected return (18%+).

Table 7

Sensitivity Analysis of Internal Rate of Return
for Secondary Unit Investment by Young Couple as Investor

Case	None	Level of Owner Participation		
		Owner as General Contractor	Owner as General Contractor and Minimum Participation	Owner as General Contractor and Maximum Participation
<u>Illegal</u>				
A. San Francisco Studio	18.66*	24.87**	27.44**	32.63**
B. San Francisco One-Bedroom	17.36	23.89*	24.50**	28.28**
C. East Bay Studio	8.70	14.59	18.92*	22.24**
<u>Legal</u>				
A. San Francisco Studio	9.51	14.24	16.38	19.77**
B. San Francisco One-Bedroom	9.38	14.38	15.10	17.70
C. East Bay Studio	1.97	6.37	10.21	12.99

Assumptions:

1. Rents increase at 5 percent annually; vacancy factor of 4.2 percent of scheduled gross.
2. Total operating expenses (water, garbage, electricity and gas, insurance and maintenance) increase at 7 percent annually.
3. Holding period is 5 years with sale at end of 5th year.
4. Reversion value = 5.5 times annual gross rents.
5. Cost of legal unit is 12% greater because of code compliance. Capital cost of legal units includes permit and inspection fees. Illegal unit pays no income and property taxes.
6. Illegal unit pays no income and property taxes. Legal unit taxes: (a) property taxes (1.2 percent of value) increase at 2 percent annually; (b) marginal income tax bracket of investor is 36 percent; (c) depreciable basis = initial capital cost, depreciation method = 15 years accelerated.

* Minimum expected return (18-22%).

** Better than expected return (22%+).

under law would be better protected. There are a number of things that cities could do in this regard.

Zoning Regulations. The simplest and most radical way to legalize secondary units is to change the definition of a housing unit in districts that are now zoned for one- and/or two-family structures. A housing unit would be defined to consist of the number of primary units per lot stipulated by current zoning plus an additional unit as an accessory use subject to restrictions, e.g., setbacks, size, compliance with life-safety standards of building codes. Some type of re-regulation of residential zoning is needed, however, to permit conversions while maintaining the quality of single-family neighborhoods. This could be done by giving neighborhood residents new forms of zoning control over adverse environmental influences. For example, to permit conversion would require relaxing the off-street parking requirement. Off-street parking requirements became widespread in the 1950s and 1960s. Their initial impact was to raise building costs, primarily for apartment developers (Smith, 1962: 103-125). Currently, most cities impose the requirement across the board: i.e., every new residential unit added to the stock must have its own off-street parking space. A case could be made for relaxing the parking requirement in the case of secondary units if at the same time a preferential parking system were established to control parking by commuters and overflow from commercial areas, or traffic barriers and diverters were permitted. There are other kinds of tradeoffs that could also be made.

The Permit Process. Some simplification of permitting procedures for secondary units conversions would also help. The permit process is

oriented primarily toward professional developers who have the financial resources to cover the costs and time required for multi-agency review and approval. Permitting procedures should be minimal, subject to no discretionary review, and relatively inexpensive. Inspections should be minimized as well. Because of the unique physical problems of conversions, cities should also consider developing a special set of building code standards for secondary units that are fairly strict with respect to fire-safety regulations but lax with respect to such things as ceiling heights and window placement. In general, the methods and procedures of "flexible" code enforcement, which were pioneered by the National Housing Services (Ahlbrandt, 1976) and used in many local housing rehabilitation and conservation programs through the country, should also be applied to regulating secondary-unit conversions.

Technical Assistance. Tables 6 and 7 above show that the degree of owner participation has a substantial effect on the rate of return on investment. This finding suggests that technical assistance for unskilled or inexperienced owner-builders of secondary units would improve their returns and perhaps the general safety and quality of the housing produced. For these reasons cities should consider fostering Housing Advisory Centers. These organizations provide information, training, and other services for owner-builders and are usually financed by client fees. HACs could provide valuable assistance to owners who wish to legalize existing units as well as those who want to develop new ones. The HAS can educate owner-builders about code standards and provide technical aid in both design and production. Fees could be subsidized by foundation grants or government grants for support of programs aiding owner-builders of secondary units. Permit processing bureaus could play a valuable role by

referring permit applicants to HACs.

Credit. Legalized units can be mortgaged by financial institutions; illegal units cannot. Because they face high interest rates and home prices, home buyers with the most severe affordability problems probably don't have the spare cash to convert a basement or the rear of their houses. Tax-exempt mortgage revenue bond issues, ordinarily targeted for rehab and purchase of single-family homes, should make secondary unit conversions eligible wherever possible. Some portion of Community Development Block Grant funds should be made available as low-interest loans for low- to moderate-income homeowners both for upgrading of secondary units and for new conversions.

Utility Costs. Because of the prohibitive expense of separately metering converted units, most secondary units are charged high marginal rates for electricity and natural gas consumption instead of the basic lifeline rates. The tenant, or the owner, or both end up paying the extra cost. In lieu of individual metering, cities should consider the creation of a license for secondary unit owners that would give the holder right to claim a second lifeline rate. As utility rates increase, the opportunity cost of not having such a license would offset the incentives for tax evasion. A provision of this type would also help keep the rents of secondary units down.

Income Tax Incentives. Congress has allowed investment tax credits for rehabilitation of nonresidential structures. Why shouldn't these be extended to secondary units? The long-run net costs to the U.S. Treasury would be small if such incentives at the same time discouraged owners from practicing tax evasion. The real estate lobbies are already pressing

Congress to extend the investment-tax credit and other subsidies to new apartment construction. Because of the lower capital cost of secondary units, a tax credit for residential conversions by comparison would produce three times as many rental units per billion dollars of tax subsidy. At the very minimum, Section 167(k) of the Internal Revenue Service Code should be extended to homeowners who undertake conversions. This law allows an investor who rehabilitates residential structures for low- and moderate-income occupancy to write off the cost of improvement over a five-year period. Most secondary units would qualify as low- and moderate-income housing, even under HUD's Section 8 criteria.

Rental housing is going to be increasingly expensive and difficult to produce in the future throughout much of the United States. Secondary unit conversion represents a unique opportunity for our society to provide adequate rental facilities at minimal public and private costs. Not only do conversions draw upon private initiative in the broadest possible way, but the social costs of increased densities and new residential development are spread much more equitably across the urban population as a whole. If, as Sternlieb and Hughes predict (1980: 13), the "baby-bust" of the 1970s will shrink the demand for rental accommodations in the 1990s, many converted structures could be re-merged and the secondary units easily removed. By this means we could avoid the terrible the social costs of abandonment and neighborhood decline that excess market supply has generated for the Bronx, parts of Chicago and other cities.

NOTES

1. Secondary units can also be included in new construction, either legally or illegally. Legally the additional unit can be placed atop the garage--and illegally in the basement. New construction can also be designed with the potential for conversion of surplus space at little additional cost. Many builders do this today in duplexes and four-plexes, where the primary units are condominiums and the basement of the structure includes a recreation room with bathroom. The secondary unit is usually owned and operated by the HOA.

2. A number of checks were made with local contractors, hardware stores, and building material wholesalers to validate these estimates. We found extensive variation in quoted prices, both wholesale and retail. Our estimates tended to be on the high side. These model units could probably be developed at lower costs if the owner-developer hires nonlicensed contractors, searches for bargains on materials, and draws upon personal contacts in the construction trades in order to obtain materials at wholesale prices.

3. Complete specifications and an itemized breakdown of the costs can be found in Martin Gellen, "A House in Every Garage," Center for Real Estate and Urban Economics, University of California, Berkeley, 1982.

4. A number of recent studies of tax evasion suggest that moral and ethical issues do play a role in the decision to practice evasion. See Spicer and Lundstet (1976) and Witte (1980) for some recent critiques of expected utility models of tax evasion.

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