

Washington University Journal of Law & Policy

Volume 3 *Evolving Voices in Land Use Law: A Festschrift in Honor of Daniel R. Mandelker*

January 2000

Methods of Determining Amortization Periods for Non-Conforming Uses

Margaret Collins
Cambridge Economic Research

Follow this and additional works at: https://openscholarship.wustl.edu/law_journal_law_policy



Part of the [Land Use Law Commons](#)

Recommended Citation

Margaret Collins, *Methods of Determining Amortization Periods for Non-Conforming Uses*, 3 WASH. U. J. L. & POL'Y 215 (2000),
https://openscholarship.wustl.edu/law_journal_law_policy/vol3/iss1/9

This Discussion on the National Level is brought to you for free and open access by the Law School at Washington University Open Scholarship. It has been accepted for inclusion in Washington University Journal of Law & Policy by an authorized administrator of Washington University Open Scholarship. For more information, please contact digital@wumail.wustl.edu.

Methods of Determining Amortization Periods for Non-Conforming Uses

Margaret Collins*

In the mid 1990s the Planning Department of the Hong Kong government became interested in the American concept of the amortization of non-conforming uses to eliminate noxious land uses threatening the viability of residential areas. Dan Mandelker, my former law professor, led a panel of international experts. The panel served as advisors to the Hong Kong planners on the American experience with amortization and to help them establish a well-conceived, comprehensive, and legally-defensible approach to establishing an amortization system in Hong Kong. Dan provided the historical and legal perspectives, while my own research focussed on techniques to determine amortization schedules for phasing out non-conforming uses. This article provides a brief summary of Professor Mandelker's work and then discusses nuts-and-bolts approaches to (1) determining the costs to be amortized and (2) setting the amortization period to recover those costs.

* Margaret Collins, AICP, is a former student of Daniel Mandelker's. While she was a graduate student at Washington University, Ms. Collins co-authored *Reviving Cities with Tax Abatement*, with Professor Mandelker and Gary Feder. During the 1980s, she was a Director of Roger Tym and Partners, a leading United Kingdom firm of Urban and Land Economists. In the early 1990s she returned to the United States to establish Cambridge Economic Research, a consulting practice specializing in local and regional economic development strategies. Her practice has advised on planning real estate development issues in Asia, South and Central America, the Caribbean, Europe, and in Africa. With Professor Mandelker, she has done a significant amount of work for the planning department of the Hong Kong Special Administrative Region on the applicability of American planning techniques and development practices to the challenges faced by land use practitioners in Hong Kong. Her practice is based in Cambridge, Massachusetts.

I. HISTORICAL CONTEXT

Amortization in the American planning system is a technique for the removal of non-conforming uses after the value of a non-conforming use has been recovered—or amortized—over a period of time. In some instances zoning ordinances set time periods for phasing out different types of non-conforming uses. Since the value of the use has been amortized, no compensation is payable after the expiration of the period. The United States is the only country in which this technique has been used.

The beginnings of amortization can be traced from the birth of zoning ordinance in 1916, but it was not until the early 1950's that amortization began to be more widely adopted. The technique was used sporadically until 1965. During this period, it became apparent that amortization was most effective in eliminating uses having structures with relatively low values, like non-conforming signs or sheds with outdoor storage. The use of amortization was curtailed in 1965, when congress adopted the Highway Beautification Act. The Act provided for compensation of non-conforming billboards on federal highways. In 1978 Congress amended this Act to specifically prohibit amortization of non-conforming billboards on federal highways. Although cities can still amortize non-conforming billboards not located on federal highways, this has become more difficult politically. While only eight states expressly authorize amortization of non-conforming uses, some courts have held that a statutory general welfare provision may confer the power to amortize. A survey of 489 cities showed that, although planners in 159 cities had access to amortization programs, only 27 cities had actually used them.

The use of amortization to eliminate non-conforming uses has been fragmented and, for the most part, limited to uses where there has been little or no substantial investment in structures. There is no general consensus on methods of setting amortization periods, particularly for major structures; this is partly because the technique has been rarely applied to high value buildings. There are some exceptions to this rule

that are highlighted in the following sections to illustrate methods for amortizing buildings that have been found acceptable by American courts.

II. VALIDITY

The amortization technique, as applied to non-conforming uses, has been described as more of a postponement than a solution. It has the virtue of cushioning the economic shock; it has the vice of delay. Courts have held that the validity of application of an amortization technique need not depend on exact compensation for all economic loss. In order to be a *reasonable* exercise of the police power, the termination process must mitigate the private loss by allowing the owner a reasonable period to recoup his investment in the non-conforming use.

The process of determining amortization periods is not merely a matter of accountancy, it is rather a “balancing test” weighing the private cost against the public gain. Also considered is the magnitude of the cost to the owner and its economic impact on the business and the individuals concerned. It is not required that the nonconforming property have no value at the termination date. The determination of whether or not the period is reasonable involves a careful weighing of the public gain to be derived from the removal of the use against the private loss which removal would entail.

The amortization technique is perhaps more art than science. Indeed, there is no universally-accepted approach to amortization. Approaches used vary widely and have been subject to court tests of reasonableness from a variety of perspectives. This article is devoted to illuminating what exists of sound methodology to determine reasonable amortization periods for non-conforming uses.

There are two principal steps to be undertaken in calculating amortization periods: (1) The costs to be amortized must first be established. These are called “unrecoverable costs.” (2) The amortization period to recover these costs must then be established.

III. BASIS FOR UNRECOVERABLE COSTS

The basis for the calculating the unrecoverable costs to be amortized must be established. A consistent base for calculating unrecoverable costs in all situations can be proscribed by ordinance or it can be determined on a case-by-case basis. As in conventional property value appraisal techniques, there are three main approaches to understanding value for the purposes of determining unrecoverable costs: (1) The owner's investment in the premises; (2) The fair market value as determined by recent sales of comparable properties; (3) The replacement cost—for the purposes of amortization is defined as the cost of comparable premises in a different location.

Table 1 illustrates the differing results yielded by these three methods by applying them to the same case. The fair market value approach results in base costs of \$75,000. The owner's investment method yields base costs of \$45,000, while the replacement cost methods results in the lowest base costs of \$35,000.

It is possible to specify the basis to be used to determine unrecoverable costs by ordinance. Alternatively, the appropriate base could be determined on a case-by-case basis. The advantage of the case-by-case approach is that it gives the zoning authority flexibility in choosing a method suited to the individual circumstances of the business. Establishing a uniform basis for all cases by ordinance, however, reduces vulnerability to charges of arbitrariness in valuing unrecoverable costs.

If there is a choice of basis, the owner's investment is likely to provide a lower basis for calculation of unrecoverable costs than the other two methods, given the appreciation in property values over time. In some cases, however, it is more beneficial to the enforcement authority to consider replacement costs as the basis. Using replacement costs can yield lower base values in cases where the cost of relocation premises will be less than the residual value of the present non-conforming site. In Table 1, the application of the three methods to the same case is examined. In this case, the replacement cost approach yields the lowest base for unrecoverable costs.

Table 1
Application of Three Alternative Methods to the Same Case to
Assess the Basis for Valuing Unrecoverable Costs

Fair Market Value	
Fair Market Value of Building	\$100,000
Minus the Value of the Land	(\$10,000)
Minus Salvage Value of Building	(\$15,000)
Base Unrecoverable Costs	\$75,000

Owner's Investment	
Owner's Investment in Building	\$70,000
Minus the Value of the Land	(\$10,000)
Minus Salvage Value of Buildings	(\$15,000)
Base Unrecoverable Costs	\$45,000

Replacement Cost of Premises	
Land at New Location	\$10,000
Construction Costs	\$50,000
Base Costs	\$60,000
Minus Salvage Value of Buildings	(\$15,000)
Minus Resale Value of Land	(\$10,000)
Base Unrecoverable Cost	\$35,000

Tables 2, 3, and 4 present full details of three real cases of amortization of non-conforming uses that were heard by state courts. In all three cases the court accepted the particular method of calculation. In *Murmur Corp v. Dallas Board of Adjustment*¹ (Table 2) and in *Neighborhood Committee on Lead Pollution v. Board of*

1. 718 S.W.2d 790 (Tex. App. 1986).

*Adjustment*² (Table 3) the owner's investment in the site was the basis. In contrast, in *Los Angeles v. Gage*,³ which is considered to be a seminal case on amortization, the replacement cost of property was the basis for calculation of the owner's unrecoverable cost (Table 4).

A. *Determining the Owner's Investment*

Since amortization is concerned with establishing periods during which an owner can recoup her investment nonconforming uses, the owner's actual investment has normally been upheld by courts as a valid basis for determining unrecoverable costs. It is, of course, necessary to also consider the cost of replacement premises in calculating the owner's unrecoverable costs, but this can also be factored in to adjust the base value after it is determined, as will be discussed shortly.

In establishing the base value of the property in question, there are a number of options for determining the amount of the owner's investment:

- (1) The original purchase price of the land, the buildings, or both (in the case of non-conforming uses in non-conforming structures). This is always relevant.
- (2) Any investment in improvements made after the original purchase but before the date on which the ordinance was passed creating the zoning change.
- (3) Any investment in improvements made after the date of the zoning change that made the use non-conforming.

In calculating the owner's investment in the property, the original purchase price of the property is, of course, a fundamental component.

2. 728 S.W.2d 64 (Tex. App. 1987).

3. 127 Cal. App.2d 442 (1954).

Investment in improvements made after the property up to the date that the use became non-conforming is usually added to the base price. Investment after the date of the ordinance that made the use non-conforming is generally disallowed; in the *Murmur* case presented in Table 2, the court refused to consider the cost of installing pollution control equipment that was installed after the date of the zoning change, even though it was mandated by environmental regulations. The court regarded this as a normal expense of keeping abreast of technological and regulatory changes in the industry and not as an investment.

In order to avoid ambiguities, amortization legislation should be clear on what investment is allowable in adjusting unrecoverable costs. In determining base investment values for amortization, it is important to distinguish between investment in the site and investment in the building. In the *Murmur* case the court held as invalid an attempt to amortize a non-conforming lead smelter on a conforming site, because the Dallas Board of Adjustment had considered the value of site in determining the amortization period instead of the value of the non-conforming building. This is a technicality that would not have affected the amortization period, since, as noted in a dissenting opinion, the owner had no real investment in the structure. Nonetheless, the amortization action was held to be invalid by the court. However, the method of calculation was accepted but not the basis.

Table 2 <i>Murmur Corp. v. Dallas Board of Adjustment</i> Calculation of Unrecoverable Costs for Amortization of a Lead Smelter 1986		
Site & Non-Conforming Use:	26.7 acres of land with non-conforming lead reclamation smelter	
Area covered by lead Smelter:	6.5 Acres	
Date of Purchase:	May 1984 (10 Years after the ordinance was passed)	
Date of Ordinance	1974	
Date of Termination	1990	
Purchase Price of Site	\$25,000	
Present Value of Site	\$2.50 sq. ft. / \$707,850 for the 6.5 acres	
Demolition Cost of Lead Smelter	\$225,000	
Original Purchase Price of Site	\$25,000	
Plus Site Works Needed for Disposal:		
Demolition Costs	\$225,000	
Environmental Clean Up	\$504,000	
Subtotal	\$729,000	
Total Investment		\$754,000
Minus Residual Value:		
Site Value @ \$2.50 sq.ft. / 6.5 acres	\$707,850	
Salvage Value of Structure & Equipment	500,000	
Subtotal		\$1,207,850
Unrecoverable Investment/(Profit) from Disposal		(\$453,850)
Amortization Period for Smelter	Immediate Termination. Owner has no investment in Structure	

B. Depreciation Methods

Courts have upheld the right of zoning boards to allow for depreciation of an owner's investment in property. The Internal Revenue Service (IRS) has established the following depreciation periods for different classes of property:

<u>Class of Property</u>	<u>IRS Depreciation Period</u>
• Office Machinery & Vehicles	5 Years
• Office Furniture & Fixtures	7 Years
• Non-Residential Real Estate	31.5 Years
• Residential Rental Property	27 Years

More accelerated depreciation is allowable for certain classes of property acquired during defined time periods. In calculating net taxable profits, depreciation of business property is allowable as a deduction from the gross income of the business. Other methods of determining the useful life span of a structure can be used, but the IRS periods are popular because they are legally defensible.

There are three main methods of depreciation: straight line, double-declining balance, and sum of the years digits. The double-declining balance and the sum of the years digits methods allows for accelerated depreciation during the early years of the amortization period. A cement plant with a value of \$1 million would have a depreciated value of \$633,333 in year 5 under the straight line method. Under the double-declining balance method, it would be worth \$438,946. Under the sum of the years digits method it would be valued at \$435,417 in year 5.

Depreciation can be calculated from the date of construction. As a concession to the property owner, however, most ordinances start the time clock on the date that the use became non-conforming. The way in which depreciation is generally used to adjust the basis for determining the unrecoverable costs is best illustrated in Table 3 with the *Neighborhood Committee on Lead Poisoning* case. This case involved the amortization of a lead smelter. The company's investment in the facility up to the date of the zoning change was \$3 million. The zoning change occurred 10 years before the company was given notice that it must cease operation in 6 years. The plant had a useful life of 14 years

for tax depreciation purposes. Straight-line depreciation was calculated from the date of the zoning change, rather than from the date of the original investment in the structure. The basis for unrecoverable costs was determined to be \$857,153 (ten-fourteenths of the value of investment up to the time of the zoning change). The base value is not always depreciated in determining the amortization period, but courts have found this a valid method of reducing the amount of unrecoverable costs, since an owner can be regarded as having recouped his investment by taking the full depreciation of the structure as a tax deduction.

Table 3 <i>Neighborhood Committee on Lead Poisoning vs. Board of Adjustment</i> Calculation of Unrecoverable Costs for Amortization of a Lead Smelter 1986	
Property:	Non-Conforming Lead Smelter
Date of zoning Change:	1974
Purchase Price:	\$3,000,000
Amortization Period:	6 years, excluding 10 years that had passed since the zoning change.
IRS Depreciation Period for Smelter:	14 years, of which 10 had passed since the zoning change
Depreciated Value of Structure:	\$857,153
Owner's Return on Investment	15%
Calculation of Amortization Period Conducted by the Board of Adjustment	
Unrecoverable investment in structure at Date of Termination	\$857,153
Annual return on investment (15% of above line)	\$128,571
Number of years needed to recoup investment	6 Years

Decision: The amortization period prescribed by the local authority was held to be reasonable.

C. Factors Increasing & Reducing Depreciated Unrecoverable Costs

After determining the depreciated base value, this value is then adjusted for a number of factors which can either increase or reduce the amount of unrecoverable costs. Factors that may reduce the owner's unrecoverable costs include the resale value of the site in a conforming use and the salvage value of the building.

Factors that reduce the owner's unrecoverable costs include the:

- Salvage value of buildings
- Salvage value of capital equipment
- Value of land in a conforming use
- Tax depreciation
- Investment recovery at and after the effective date of the ordinance
- Nuisance value
- Inevitability of relocation

Factors that increase unrecoverable costs include:

- Demolition
- Investment in improvements after purchase
- Environmental clean up
- Appreciation of value of land & buildings
- Value of a relocation site
- Relocation costs
- Loss of business good will
- Moving costs
- Costs of advertising a new location

Other factors that can either increase or reduce recoverable costs are:

- Nature of the business
- Character & type of structure
- Expected annual income
- Existence of lease obligations.

In the *Gage* case, presented in Table 4, the basis for unrecoverable costs was the cost of replacement premises, estimated at \$10,000. From this the value of the existing premises in a conforming residential use was deducted (\$7,500) and moving costs of \$2,500 were added to the damages for a total of \$5,000 in unrecoverable costs.

Non-Conforming Use :	Plumbing Supply business in a residential structure
Gross Revenue of Business:	\$125,000 to \$350,000 a year
Cost of Replacement Property	\$10,000
Resale Value of Current Property	\$7,500
Cost of Moving Inventory	\$2,500
Amortization Period	5 years from passage of the ordinance
Factors Considered in Determining that the Amortization Period was Reasonable	
Replacement Cost of Property	\$10,000
Minus Residential Resale Value	<u>7,500</u>
Unrecoverable Investment in Premises	2,500
Plus Moving Costs	<u>2,500</u>
Total Unrecoverable Costs	\$ 5,000
Gross Annual Sales for the past five years	\$1,000,000
Percent of Costs	0.5%

Decision: The five year amortization period was held to be reasonable by the California court because the cost to the non-conforming business would be slight in relation to total gross sales over the five year amortization period. This minor loss would be exceeded by the public benefits entailed in elimination of the non-conforming use.

A growing component of site disposition costs is environmental clean-up works. Virtually all old heavy industrial sites now require expensive treatment before they can be disposed of for reuse. The availability of a relocation site in the market area is sometimes a factor. There have been cases where courts have held invalid the amortization of uses where there are no sites available for relocation in the market area. In the *Murmur* case (see Table 2) the demolition and environmental cleanup of the site, some \$754,000, was added to the \$25,000 acquisition cost of the site. From this total was deducted the value of the site in a conforming use and the salvage value of the structure and equipment. Since the residual value of the site exceeded the unrecoverable costs by \$453,850, the Dallas Board of Adjustment considered *Murmur* to have no investment in the structure and terminated their operations without an amortization period. (This action was held to be invalid because it considered the value of the site against the value of the non-conforming building. The site was in a conforming use which was not subject to termination.)

IV. THE CONCEPT OF “RECOUPMENT” OF UNRECOVERABLE COSTS

Inherent in the amortization technique is the principal that a municipality can order an establishment to cease operations for a vital public purpose if it allows the property owner sufficient time to *recoup* his investment in the property. In the previous sections, I examined various definitions of the concept of the “owner’s investment” and demonstrated the ways in which the investment can be depreciated and adjusted to allow for both costs and gains involved in disposal and resale of premises. Yet, just what is meant by the concept of “recoupment of costs” is also open to debate and definition.

Conventional amortization approaches establish fixed periods for termination of uses, which are based on the “useful life” of the structure. The fixed period normally begins on the date of the zoning change rather than on the date that the owner took possession of the premises and began to depreciate them for tax purposes. Since the time allowed by the IRS depreciation period will have been more than sufficient to fully depreciate the property for tax purposes, then the owner is regarded to have recouped his costs. As previously noted, the courts have been amenable toward IRS depreciation periods.

In a limited number of cases courts have not agreed that because a building has been depreciated for tax purposes it has no market value. In most cases, however, the fundamental principal that amortization need not fully compensate the owner for all losses, but must reduce those losses to a tolerable level. In the *Gage* case illustrated in Table 4, the “bottom line” uncovered costs amounted to \$5000 after calculating the replacement versus cost of property, deducting the resale value of the non-conforming site, and adding moving costs. Gage’s annual gross sales during the 5-year amortization period totaled \$1,000,000. Since \$5,000 is just 0.5% of \$1,000,000, the court found that the cost to Gage would not be onerous compared to the public gain to be realized by the cessation of a plumbing supply business in a residential neighborhood. The California Court therefore upheld the 5-year amortization period for the non-conforming use as valid.

V. ESTABLISHING REASONABLE AMORTIZATION PERIODS

There are two principal methods for determining the amortization period: (1) the fixed period approach and (2) case-by-case methods, the most common of which we call the “Recoupment of Investment” method. The fixed period approach has been applied to signs and modest structures in which there is minimal investment. Fixed amortization periods for more substantial structures can range up to 60 years. The recoupment of investment approach has been used successfully in some cases to retire uses with more substantial buildings. The American Planning Association’s Model Statute on amortization authorizes local authorities to use either or both methods, depending upon the case. Ways to determine the amortization period using both the fixed period and case-by-case methods are examined below.

A. Fixed Periods

Traditionally, conventional amortization provisions have not been based on sophisticated financial analysis. Provisions for amortization in most zoning ordinances set up schedules specifying varying periods for categories determined by use or by the value of the non-conforming structure. As has been discussed, uses involving open storage with minimal investment in structures and non-conforming

uses in conforming buildings have been relatively easy to amortize. High value structures have presented thorny problems because of the long periods required to amortize them, which render conventional amortization approaches ineffectual in terminating these uses. Attempts to amortize high value buildings have been limited to cases where they constitute a severe nuisance.

Table 5 shows the amortization periods that have been upheld by court decisions for various types of uses. Non-Conforming uses in conforming buildings have typically been amortized in 1 to 5 years. Periods upheld for minor structures and outdoor storage have ranged from 6 months for a riding stable in a residential area of Dallas up to 7 years for dog kennels in an Omaha neighborhood. A limited number of more major structures have been successfully amortized. These have been deemed to constitute a substantial nuisance to their environs and have been given periods ranging from 10 years for gas stations and up to 20 years in the case of a cement plant. Table 6 presents amortization time periods that are recommended in model zoning guidelines.

Class of Use	Use	Time Period	State
Non-Conforming uses in conforming buildings	Grocery Store	1 year	LA
	Plumbing Supply Store	5 years	CA
	Check Cashing	18 months	MD
	Adult Stores	1-5 years	Numerous
Minor Structures & Open Storage	Riding Stable	6 months	TX
	Junkyards	1 to 5 year	Numerous
	All Non-Building Uses	1 year	WA
	Billboards & Signs	2 to 5 years	Numerous
	Dog Kennels	7 years	NE
Major Structures	Cement Plant	20 years	CA
	Gas station	10 years	FL
	Gas Station	25 years	TX
	Lead Smelting Plant	16 years	TX

Single-Family Residential Uses	Exempt
Signs & Minor Structures	3 years
High Density Residential Uses	10-20 years
Commercial & Office Buildings	20-30 years
Factories & Hotels	40-50 years

Source: The Zoning Report, July 23, 1993

In the middle of this century, most major cities adopted ordinances calling for a comprehensive application of amortization to the full gamut of industrial and commercial structures. This became almost nonsensical for major uses, which were granted extremely long amortization periods. A 1954 Los Angeles zoning ordinance provided amortization periods of up to 40 years, and the time clock did not start for another 20 years. Portland, Oregon's 1956 zoning ordinance provided for periods of up to 60 years for commercial and industrial structures and did not take effect for 15 years.

Since mid-century most municipalities have ceased attempting to specify set periods for high-value nonconforming structures. Some municipalities found that long amortization periods could entail more liabilities than benefits. Granting a 60-year life to a use that constitutes a nuisance in a neighborhood can be a serious deterrent to investment in conforming structures. Moreover, long amortization periods have been shown to discourage investment and maintenance in structures, further exacerbating their blighting influence on the surrounding neighborhood. Within a time frame of 30 to 60 years, an area could be totally altered, and thus, the public purpose served by amortization, like the pot of gold at the end of the rainbow, may have disappeared at the end of the amortization period.

Today, zoning codes authorizing amortization of major land uses are rare. There are exceptions to this general rule, however, such as West Hollywood, California's zoning ordinance that sets out the schedule for amortization of a comprehensive range of uses and structures, which is

presented in Table 7. Up until 1986 the city of West Hollywood was part of Los Angeles County. The county permitted a range of uses, mainly manufacturing and night clubs, that became illegal in the zoning ordinance that was adopted by the city in 1986. The ordinance specified that all non-conforming uses with a value of under \$500,000 should be amortized in five years. Non-conforming buildings in conforming uses are given three years. Periods from 35 to 50 years are granted to major industrial and commercial structures. Longer periods are granted to masonry and fire-resistant structures than to wood frame buildings.

Class	Use	Termination Period
Minor Structures & Uses	Buildings valued at less than \$500,000 Non-conforming uses in conforming structures	3 years 5 years
Structures with light combustible or wood frames	Stores & factories Any other building not specified elsewhere	35 years 25 years
Structures of heavy timber or masonry	Single & Multi-family residential uses Structures with retail below & residential above	40 years 40 years
Fire Resistive Structures	Single & Multi-Family Residential Uses Theatres, warehouses, stores, & garages Factories and industrial buildings	50 years 50 years 50 years

Source: West Hollywood, CA zoning ordinance.

After the ordinance was passed, the existing six to eight non-conforming manufacturing plant in the city were issued notices that they would need to terminate in 20 years. These included such establishments as dye works and metal plating operations. The authorities consulted, however, fully expected the city to grant the plant an indefinite stay of execution. It is considered politically impossible for the city to terminate manufacturing employers. Instead, the city has begun to work with non-conforming uses like nightclubs to “legalize” them. Measures in this direction include shortening operating hours, requiring facelift improvements, and bringing structures into compliance with fire and building codes. Auto repair establishments, although legal uses, were given notices in 1991 that they must enclose their premises within 5 years or cease operations. The deadline has been extended twice in order not to cause small businesses undue hardship in the present business climate. In practice, it appears that amortization in West Hollywood has worked out to be more useful as a leveraging tool to encourage owners to rehabilitate non-conforming structures and operate them in a manner sensitive to the surrounding residential uses than to terminate them. With the threat of closure hanging over their heads, non-conforming uses have been cooperative in complying with city regulations.

Today, the amortization provisions in the zoning codes of most municipalities are confined to non-conforming signs. Table 8 contains examples of the most common means of application of amortization today. Two typical examples are presented. In Bolder, Colorado amortization periods of from 1 to 10 years are established based on the original cost of the sign. In San Francisco periods are assigned to non-conforming signs according to the type of sign; wall, wind, gas station, flashing, moving, roof, freestanding, and freeway signs are distinguished among for the purposes of assigning amortization periods.

Table 8 Amortization Periods for Non-Conforming Signs in Zoning Ordinances	
Bolder, CO	
Original Cost of Sign	Termination Period from Date of Installation
Under \$1,000	3 years
\$1,001- 3,000	4 years
\$3,001- 10,000	5 years
Over \$10,000	7 years
San Fransisco, CA Non-Conforming Signs Within Special Sign Districts	
Type/Location of Non-Conforming Sign	Period for removal (from date of ordinance)
Painted Wall Signs	1 year
Wind Signs	1 year
Gas Station Signs	1 year
Signs with Flashing Lights	3 years
Signs with Moving Parts	3 years
Roof Signs	5 years
Freestanding Signs	5 years
Signs Near Landscaped Freeways	5 years
Sign Near Non-Landscaped Freeways	10 years

B. Case-by-Case Approaches to Determining Amortization Periods

Fixed amortization periods are appropriate for non-conforming uses with little or no investment in construction as well as for those in conforming buildings. Yet, as discussed earlier, they are of little practical use in terminating high-value non-conforming structures that may have a serious blighting effect on the neighborhood.

Amortization of major structures should be limited to uses that pose serious health, safety, or environmental threats to neighboring residential areas. In these extreme cases, major structures should be amortized on a case-by-case basis to enable the zoning authority to establish a reasonable termination schedule that considers the

circumstances of the business affected and the options open to it in terms of recoupment of recoverable costs. In addition, case-by-case methods generally provide shorter amortization periods than fixed periods set by the type of use or structure. This section looks at the merits and drawbacks of two such methods that have been proposed.

C. Recoupment of Investment Method

The most commonly-used case-by-case method is the Recoupment of Investment method which uses basic financial calculus to determine the amount of time necessary to realize the value of an investment plus any return that is required by the investor. This method was used in the *Neighborhood Committee* case (Table 3) to phase out a lead smelter in a residential area. The owner's initial \$3 million investment was adjusted for 10 years of straight-line depreciation since the zoning change. This yielded an adjusted unrecoverable cost of \$857,153. The court then called in an expert witness who estimated the average rate of return for the lead smelting industry to be around 15% or \$128,600 a year. At that rate the unrecoverable investment would be amortized in six years.

A hypothetical example of how this method can be used to establish a reasonable period for a business to recoup its investment in the premises is set out in Table 9. The case presented is that of car repair shop on the ground floor of an apartment building. The initial investment in equipment and improvements to the premises was \$200,000. The useful life of the improvements is seven years for IRS purposes. The zoning change was made three years ago, so the depreciated value of the improvements is now \$114,285, using the straight-line method of depreciation. The annual net income generated by the shop, at 15% of the investment, is \$30,000. With a required return on investment of 15% (including a 5% cost of capital and a 10% risk factor), it will take four years to amortize a unrecoverable costs of \$114,285 with a required return of 15%; that is, a period of four years is sufficient for both return *of* investment and return *on* investment. The amount of unrecoverable costs amortizable will, of course, be adjusted by other factors, for example: the salvage value of the equipment (if the business is closing) or (for operations which are relocating) the moving cost and the difference in prices for premises at the new location.

Table 9 Recoupment of Investment Model for Determining Amortization Periods For Nonconforming Uses	
$n = \frac{\log n (1 - P_i/A)}{\log n (1/1 + i)}$ <p>where, n = amortization period P = base cost (adjusted value of business investment) A = Annual Income i = rate of return</p>	
	Hypothetical Case Assumptions
Non-Conforming Use: Investment: Date of Zoning Change: Useful Life of Equipment: Method of Depreciation: Depreciated Value: Annual Income from Shop: Required Return on Investment:	Car repair shop on the ground floor of an apartment building \$200,000 1997, 3 years ago 7 years Straight line \$114,285 \$30,000 15%
Amortization Period Prescribed:	6 years

Although it is more complicated than setting fixed periods for categories of uses and structures, customizing the above approach to each individual case should maximize judicial approval of amortization periods and minimize spurious claims that specific amortization periods are arbitrary and unreasonable. Amortization periods based on the return-on-investment analysis have the added advantage of being shorter than amortization periods based on the economic life of the nonconforming structure, thus eliminating the nuisance occasioned by the use sooner than would fixed periods. There are three reasons for this:

- (1) Some nonconforming uses will earn monopoly profits, particularly those that are local-serving; this will expedite the

return of investment.

(2) A shorter amortization period will mean that the owner can take accelerated depreciation for tax purposes, thus increasing her cash flow and providing her with a quicker return on investment.

(3) A 25-year amortization period normally will fully return the investment in any structure. Yet most structures have “useful economic lives” in excess of 25 years.

Even if the required rates of return and income from nonconforming uses cannot be determined with absolute precision, courts have upheld most amortization periods. Courts have traditionally held that decisions by zoning commissions carry a strong presumption of validity. The person challenging a zoning decision has the burden of proving that the zoning commission’s action was wholly arbitrary and unreasonable and was not related to the public health, safety, morals, or general welfare. Thus, even if the action of the zoning commission is questionable, the commission’s decision will be upheld if it has a reasonable basis.

As noted throughout this section, courts have supported the view that: (1) the owner of a nonconforming structure may be required to accept some loss upon termination of his business and (2) as the benefit to the public from such termination increases, the owner’s loss may also increase. This is fundamental to the application of amortization to substantial uses and structures.

VI. INNOVATIVE ALTERNATIVES TO CONVENTIONAL AMORTIZATION

A number of ideas for innovative alternatives to and hybrids of amortization have been advanced in the recent literature of amortization; three are presented below. With the exception of amortization agreements, I am not aware of cases in which they have actually been used.

A. Amortization Agreements

Amortization agreements between property owners and municipalities have been used in California to expedite termination of nonconforming uses. A decision by the California courts upheld an

agreement under which a municipality granted a special permit to allow an expansion of a nonconforming mobile home court in return for the operator's promise to abandon the use in three years rather than in the five years permitted by the ordinance. This is a very interesting approach, particularly for sites with a high value redevelopment potential, and one that may have applications in Hong Kong.

B. Alternative Hybrid Approaches with Compensation

Subscribing a fixed time period for amortization of non-conforming uses has obvious advantages of administrative simplicity for the enforcing body. However, as I have discussed, it has the disadvantage of entailing extremely long periods for major uses.

In cases where the nuisance impact of a nonconforming use is severe, it has been suggested that amortization be combined with partial compensation to remove the use as quickly as possible. One author has suggested that a shorter period could be assigned to major uses if the remaining useful life of the structure could be counterbalanced by compensation. This approach calls for compensating the owner for the remaining utility of the building after the expiration of the amortization program. This alternative hybrid approach combines the police power of amortization and the compensation required by eminent domain.

Rodney Cobb, a staff attorney for the American Planning Associates, has examined an innovative technique involving shorter amortization periods and partial compensation with the parties who are benefiting from termination of the use paying the compensation. This has been somewhat inelegantly labeled "ZSAFED"—Zoning by Special Assessment Financed Eminent Domain. If, for example, the surrounding neighbors benefit most by removal of a nonconforming use, then compensation would be financed by a special assessment levied on those surrounding properties. If, on the other hand, the community as a whole benefits from the termination of the use, then compensation should spring from the community's general funds.

C. Conformity Inducements

Other alternatives to conventional amortization approaches have been used to induce on-site conformance. In cases where it is feasible for an owner to alter a use to the extent that it will be brought into

conformance with present zoning, a municipality may induce them to conform to the zoning ordinance by granting special rights or concessions. These increased rights might include the transferring of development rights, the granting of a longer amortization period, permitting and licensing concessions, and property tax concessions.

VII. SUMMARY & CONCLUSIONS

There is no single, agreed upon method of determining amortization periods in the United States. The methods presented in this article have arisen out of litigation, rather than from any specific guidelines. They may, however, present a workable structure for development of a comprehensive, consistent, and reasonable system for Hong Kong.

Amortization provisions in zoning legislation should be as specific as possible in defining the following terms:

- The basis for valuing the property or the relocation of the business
- Unrecoverable Costs,
- Depreciation/Useful Life spans for different classes of uses
- When the Depreciation & Amortization periods begin
- Residual property values
- “Recoupment” of unrecoverable costs

These are potentially very ambiguous terms. Vagueness in defining them could lead to charges of arbitrariness in application of the ordinance. On the other hand, legislation should provide for enough flexibility to allow authorities to choose the best approach to calculating amortization periods on a case-by-case basis.

Fixed amortization periods can be appropriate for uses involving only a minor investment in improvements, but the very long periods required to amortize the high value structures make fixed periods an ineffective way to terminate them. Instead, a well-based case-by-case approach should be taken for major structures. The best approach is probably the Recoupment of Investment model presented in Table 9 that uses financial analysis to determine the amortization period. One such approach that we would advocate is the Financial Analysis Method presented in Table 9.

In generating estimates necessary to gauge whether or not an owner's recoverable costs have been amortized, enforcing authorities should be as conservative as possible in estimating factors that will hasten the amortization period and equally liberal in estimating factors which will increase it. This will enhance the appearance of reasonableness and reduce the vulnerability to claims of arbitrariness in setting the periods.

Even if the required rates of return and income from nonconforming uses can not be determined with absolute precision, courts have upheld most amortization periods if they appear to have a reasonable basis in objective research and data-gathering processes. Courts have traditionally held that decisions by zoning commissions carry a strong presumption of validity. The person challenging a zoning decision has the burden of proving that the zoning commission's action was wholly arbitrary and unreasonable and was not related to the public health, safety, morals, or general welfare. Thus, even if the decision of the zoning commission is questionable, the decision will be upheld if it has a reasonable basis.

Finally, it is important to keep in mind that amortization does not purport fully to compensate a property owner for all actual and potential actual and opportunity costs, such as future profit potential. It is merely a way of cushioning the economic blow that must be experienced by the private owner to compel him to cease an operation that infringes on the rights of other property owners. Courts have held that the owner of a nonconforming structure may be required to accept some loss upon termination of his business. It is recognized that, as the benefit to the public from amortization increases, the owner's loss may also increase.