DISPARATE GROWTH

IN

HAMILTON'S CENTRAL AREA

BY

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ABSTRACT

This paper attempts to quantify disparate growth in Hamilton's Central Area. The spatial variation over time of three economic indicators was studied to do this. These indicators were property tax assessments, and multi-family and single-family property sales. The Central Area was divided into four geographic zones so that the indicator change could be associated with different parts of the Area. The results indicate that the northeastern sections of the Central Area experienced and are continuing to experience slower economic growth compared to the southwestern sections.

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1.0 INTRODUCTION AND OVERVIEW

> " The downtown is still regarded in most municipalities as the heart of the community. Community residents and the municipality have a vital interest in the long-term health of the downtown because of its role in the community and because of the employment and tax base it represents." (Prov.MMAH,1985,pg.1.14).

> " The downtown has been viewed as the centre of urban life and the motor of the city's economy. It has contained the greatest variety of visitors, activities, and facilties. It has been the focus of government offices, cultural facilities, and economic activity." (Friedrichs,Goodman et al., 1987,pg.1).

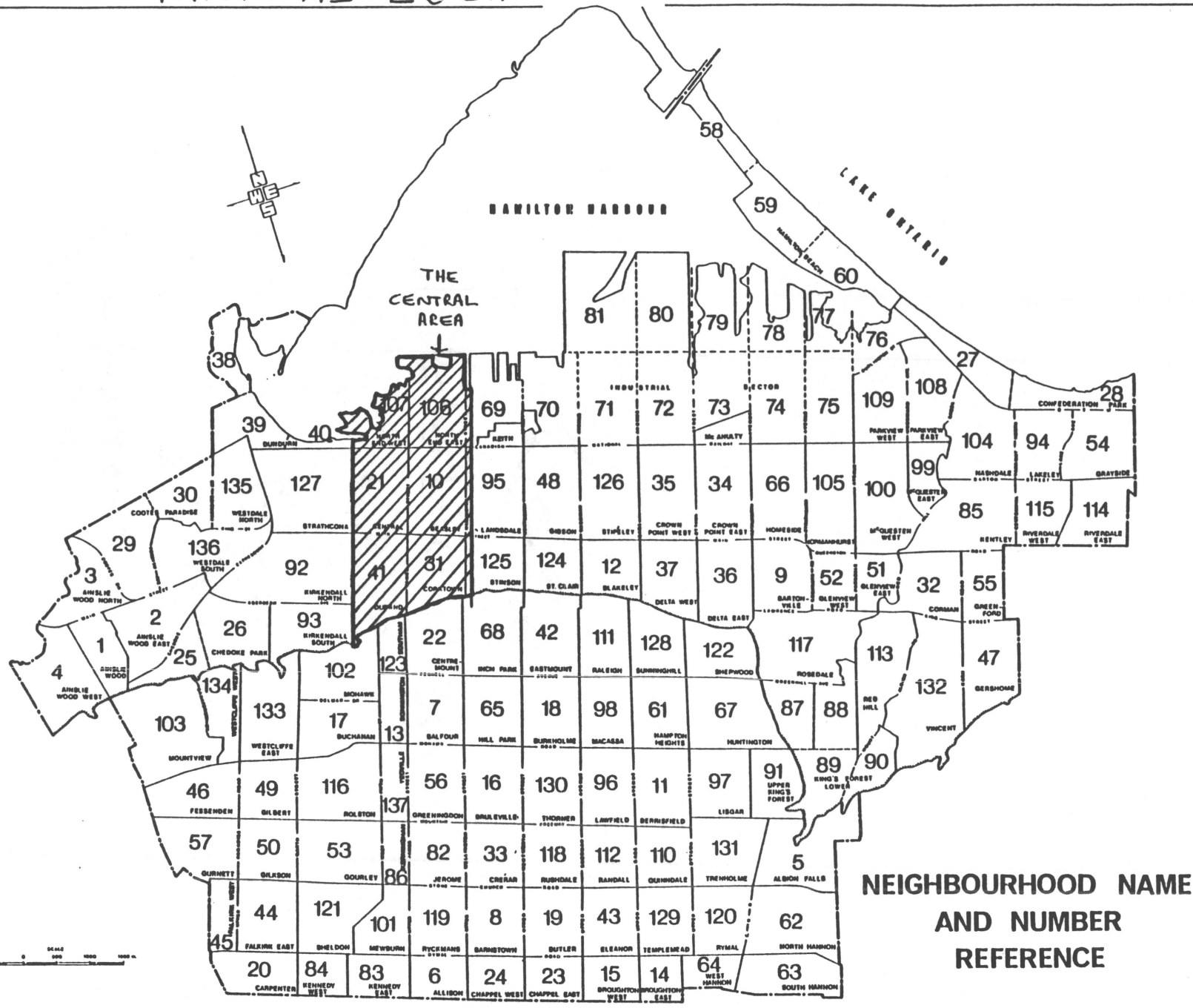
> " The Central Area's role is (within the region of Hamilton-Wentworth) as the Regional Centre providing high order commercial, institutional, and cultural services to the residents of the area, stressing the importance of a healthy, vibrant, well-designed, human-scale environment to the economic well-being of the Central Area." (Planning & Dev. Dept., Reg.Mun. of HW, 1986,pg.1).

Hamilton's downtown (henceforth referred to as the Central Area of the Region of Hamilton-Wentworth) has indeed become the focal point for the Region's commercial, institutional, and cultural services and this fact is consistent with the objectives of the Municipal and Regional governments. The landscape geography of the Central Area has undergone dramatic, large-scale transformations which city officials proudly view as an urban renewal success story unique in the Canadian context. Examples such as the "five minute- $500,000,000 walk" (the term used to describe the immensely successful conglomeration of activities at the corner of King and James streets such as Jackson Square, the Convention Centre, Copps Coliseum, and the Sheraton hotel, to name a few) are permanent reminders of the significance of the Central Area to the Region and its residents. This

significance cannot be overemphasized because the Central Area has become entrenched into the lives of average, everyday citizens. How else can one explain the fact that in a recent survey that asked people to identify what feature of Hamilton stood out in their minds, over 50% of the mentioned features are specifically located in the Central Area? (Minchak,1989).

The Central Area is much more than a central marketplace. First and foremost, it is a place to live as 73% of the land in the Area is used for residential purposes (Central Area Plan, 1986). The Central Area is defined by the Regional Planning and Development Department as the area of land bordered by Victoria Ave. to the east and Queen St. to the west, and the escarpment on the south to Hamilton Harbour on the north. Within these boundaries there are six neighbourhoods located wholly within the Central Area: the neighbourhoods of Durand, Corktown, Central, Beasley, North End East and West with portions of Landsdale and Stinson neighbourhoods. It is these preset boundaries that this study will use and follow to ensure consistency (see Map A1 on following page). All of these areas contain large residential populations who rely on the Central Area for employment, commerce, education, and recreation. As is typical of most central city residential neighbourhoods, the Central Area is heterogeneous in its ethnic composition which has translated into the development of stable ethnic areas (such as James St. N.). The prevalence of residential

MAP A1: LOCATION OF THE CENTRAL AREA



NEIGHBOURHOOD NAME AND NUMBER REFERENCE

land use adds to the importance of the Central Area to the rest of the City and Region because the Area is a socially and economically diverse centre.

Further adding to the importance of the Central Area is the large amount of office development and institutional uses found in the Area. Both tiers of local government head offices call the Central Area home as does the Board of Education, the Central Library, and the Hamilton District Chamber of Commerce. In short, the functions and land uses in the Central Area reflect the Area's social and economic position within the Region as a whole, and are an consistent with the quotes introduced in the beginning of this section.

Because of the Central Area's importance, it is absolutely vital to address, study, and alleviate problems that exist there. What are these problems? It has become clear that certain sections of the Central Area have prospered more than others. At first glance this may seem like an elementary statement, but in the Hamilton context it is a very vivid circumstance. For example, retail activity in Jackson Square is bustling with business while store vacancies "prop-up" only a couple of blocks away despite relatively low rents. Development has grown unevenly in the Central Area resulting in a geographic shift of economic and social growth towards the west and away from the east. There exists significant differences in the quality and value of comparable housing stock within a few blocks. The Central

Area possesses numerous sharp contrasts within itself which are realized in the form of socio-economic disparaties.

The purpose and goal of this study is to attempt to quantify this disparate development and to discuss those characterisitics of the Central Area that promote it. It is this author's view that the Central Area cannot afford to be differentiated into sections where whole neighbourhoods are subjectively classified as "winners" or "losers". By tracking and quantifying changes over time it is hoped that the rate of disparate development can be determined and planned for. Despite this, the Central Area is continuing to prosper in general and this study does not mean to suggest that this is not the case nor that this is not desirable. This study's ultimate objective is to bring further attention to this issue as "burying our heads in the sand" is not a solution. In the study's most geographic context and theoretical extreme, this study discusses nothing less than the existance, development, and expansion of Hamilton's inner city.

2.0 LITERATURE REVIEW

The problems associated with the Central Area are far from unique in urban geographical theory and practise. The body of literature discussing urban renewal, revitalization, growth, and inner city decline provide many examples and explanations that are comparable to Hamilton's Central Area.

The very concept of urban renewal presupposes that a part of a city was or is in some state of deterioration, and the function of development is to stop and reverse this decline through renewal or revitalization. This study is consistent with the basic objectives of this body of literature in that it tries to identify decline, quantify its magnitude, and make some sense of the decline's effect on the city. Therefore the goal of this study is similar; however, time and place is different and associated with that are broad social, economic, and geographic factors which play a key role in this scenario.

Bradbury, Downs, and Small (1982) provide a detailed account of the nature of urban decline in the United States. They discuss in great detail and scope all aspects of urban decline and provide a useful, working definition of urban decline:

> " This sudy postulates that every urban area has certain basic social functions that contribute to the well-being of its residents and of society in general. Any change that

> reduces its ability to perform these functions contributes to what we call "functional decline." In its functional sense, urban decline means changes that somehow impair the functioning of a city or other urban agglomeration." (Bradbury,Downs,Small,1982,pg.19).

At this point defining terminology associated with urban decline is important. McGahan (1986) provides an excellent analysis of the characterisics of the inner city. According to McGahan, the inner city "represents the central core of an urban area. It is a dense, congested area, containing the oldest housing stock in which the central business district (CBD) expands, and it functions as the point of initial settlement for new groups of immigrants and migrants" (McGahan,1986,pg.205). From this, the inner city can be divided into four distinct areas: declining areas, stable areas, revitalized areas, and areas subject to massive redevelopment. McGahan refers to declining areas as those parts of the inner city that are suffering from a very visible, physical deterioration. Land use is mixed while land use changes are frequent which discourages maintenance and improvement of properties. Despite this, there are areas that contain working-class, ethnic communities that are socially and physically stable neighbourhoods (ie. "stable areas", McGahan,1986,pg.205). "Revitalized areas" refer to the sections of the inner city which experience a return of affluent, middle-class residents seeking to live in areas near the downtown core. This area is typified by the purchase of older homes which are rehabilitated and restored. "Areas subject to massive redevelopment", refers

to both the private and public renewal projects which have transformed the landscapes of many downtowns from older, residential communities to high-rise apartment and office complexes. McGahan's distinctions are particularly useful because they all can be found in the Central Area. In conjunction with McGahan's characterizations, the defintion of inner city decline used by this study is: the deterioration of the physical, social, and economic conditions of the inner city relative to other metropolitan areas (as defined by Dr. Vera Chouinard, McMaster University, 1987).

There are many theories on the formation of the inner city in geographic literature and a prominent one is Burgess' Concentric Zone Model (Medhurst & Lewis,1969,pg.3). Burgess suggested that a central zone is surrounded by a transitional zone which is made up of old, decaying housing and being developed for business or industrial purposes. This "zone of transition" is the inner city. Surrounding the zone of transition is a working-class residential zone which is encircled by a zone of higher-class residences. The key to Burgess' explanation is the process of urban growth and expansion in the form of increased population and changes in land use. During periods of expansion, each zone expands into its neighbouring zone and the zone of transition suffers because of its increased population and already unstable land use patterns. Thus, this zone acts as a boundary between the CBD and residential areas which

accounts for its "zone of transition" moniker.

In fact there are many broad factors within a urbanized society that work against the "health" of the inner city. Bourne cites several of these factors including the fact that as cities get older, the older housing stock gets "filtered down" to lower socio - economic classes (Bourne,1982). This concept of filtering and its relationship with the inner city is discussed by Home, where "all social groups improve their housing position by upward mobility through the housing markets. But, it also leads to large-scale abandonment of older inner city housing as demand for them declines." (Home,1982,pg.142).

Bourne also notes the decline of manufacturing in central and inner city locations as a further detriment. The movement of manufacturing activity away from the central city to more peripheral locales can be traced to society's increased mobility of goods and people. As a result "there was a large-scale decentralization of jobs and people" (Home,1982,pg.4). Naturally a loss of employment would significantly deteriorate the inner city's socio-economic condition. However, as Bourne and Home point out, there was little that could have been done to prevent or foresee such structurally complex, social changes. Home cites other factors contributing to the process of industrial rationalization such as federal government commitments in dispersing employment to depressed regions, increased home

ownership ideology, social policies favouring modern suburban housing, and the disruptions of slum clearance and redevelopment (Home,1982.pg.4). Some of the "blame" lies with governmental and political systems in general which have concentrated on suburban growth and development. This study does not intend to indict governments for their efforts, but their transportation infrastructure projects and suburban housing programs contributed to the historical decline of the inner city nonetheless. Finally, as employment and population disperses, similar effects occur in the retail, services, and office sectors of the urban economy. The following scenario adds to the inner city's woes:

> " The relocation of population to the urban fringe, and the subsequent increasing inner city traffic density resulted in a change of transport costs, more favourable to the sub-centers than to the CBD. Since transport costs often determins shopping activities, decentralization of population is followed by a decentralization of retail and services. In addition, the increasing residential population surrounding the subcenters allows them to offer more specialized goods, which were formerly supplied by the CBD. Similarly, the improved transport and communication facilities is positively correlated with the decentralization of private offices." (Friedrichs & Goodman,1987,pg.3).

It is now clear the inner city decline is generally a product of urbanization. As such, its formation was inevitable and impossible to plan for considering the fundamentally, interrelated socio-economic forces that spurred the process. Consequently, any efforts to alter these effects (ie. renewal, revitalization, or

redevelopment) are automatically facing an uphill struggle. Despite that there exists much literature and examples on such efforts.

Inner city revitalization can be defined as "the upgrading of physical, economic, and social conditions in inner city neighbourhoods through private and public investment" (as defined by Dr. Vera Chouinard, McMaster University, 1987). Perhaps the best and most long-term efforts is the revitalization of residential areas and housing stock. A case study of Toronto by Kary (Bunting & Filion,1988) identifies a trend towards the restoration of deteriorated urban property (usually in lower-class residential areas) by the upper- and middle-classes (this process is referred to as "gentrification"). The result in this case has been that through gentrification, older residential areas in Toronto, such as Cabbagetown/Donvale, underwent dramatic changes in price relative to other areas of the city. This area has gone from a period of depressed housing values to being among the most expensive residential districts in the region. Kary offers the concept of a "rent-gap" as a possible explanation where "because of decay, land values are depressed to levels below that which might be expected or possible. Through renovation, this gap is closed as profitable reinvestment brings house and land values back up to above-average levels." (Bunting & Filion,1988,pg.72). Similar residential improvements in the inner city are discussed by Williams (1988, regarding

gentrification in Washington D.C.) and Varady (1986).

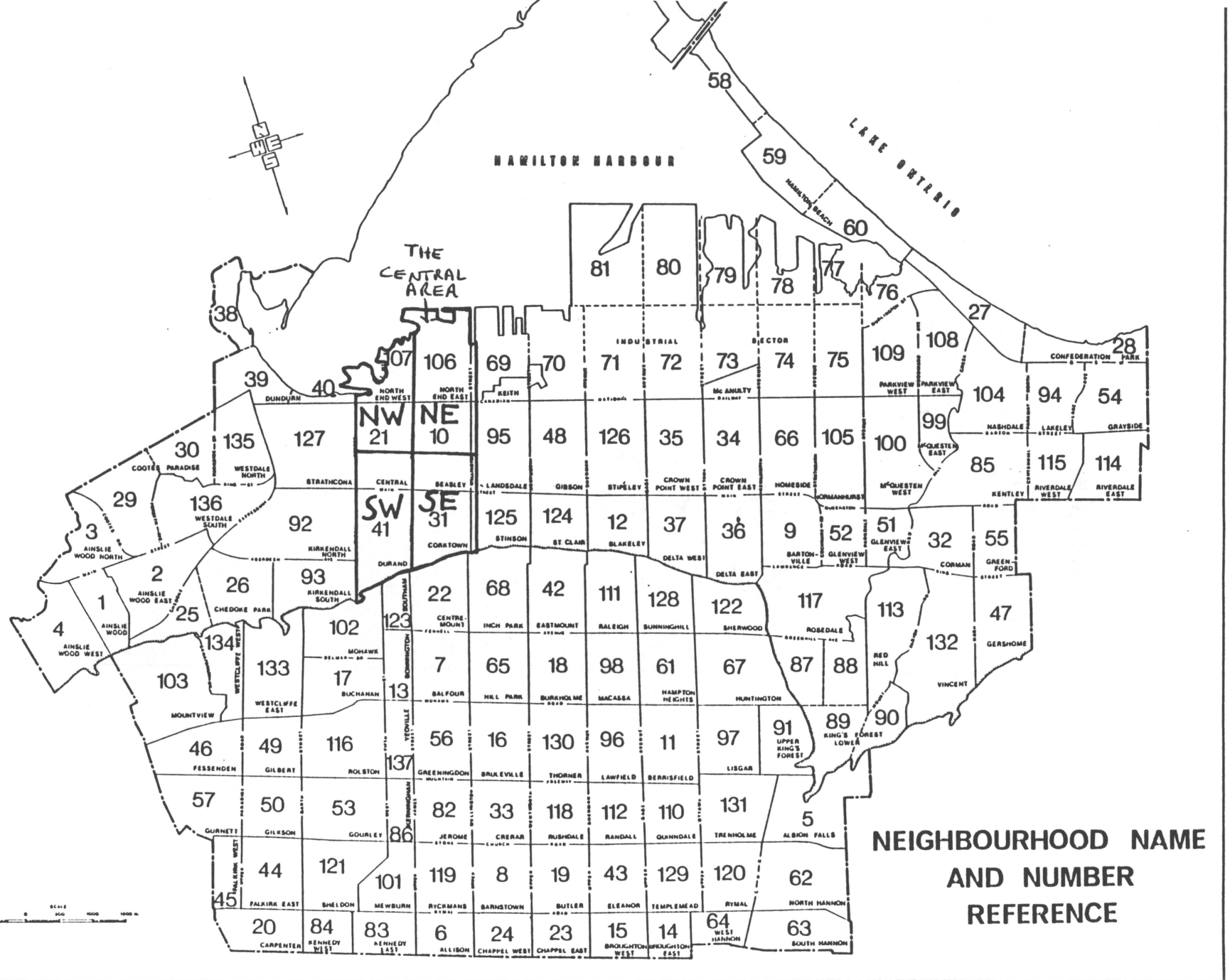
Apart from the residential revitalization efforts are the large-scale, redevelopment and land use conversion projects that have met with varying degrees of success. Hamilton is a perfect example of large-scale redevelopment which has the beneficial effect of improving the business and investment climate in the CBD. In today's urban form, the CBD is in competition with other commercial centres in the city. It competes for the consumer spending dollar, the location of retail and office activity, and for municipal revenue-raising functions. With the combination of public and private investment, developments such as Jackson Square have "bred new life" into the CBD because of the economic growth that it helps "spin-off". However, such projects are costly, long-term oriented, and are directly linked to the overall economic status of the entire city and region. On a smaller-scale, the restoration and reuse of large, vacant manufacturing buildings and factories has had mixed success throughout North America and Europe. These buildings are problematic for the inner city because they represent decay, decline, and obsolecence. Conversion of these buildings into condominiums, training schools, or day care centers is a genuine alternative to the wrecking-ball or leaving them empty. These efforts have been successful in the inner cities of Boston, Montreal, and Mouscron, Belgium (Plan Canada,1988,29:1).

merely rundown shanty-towns with deplorable living conditions. Rather, they can and often are perfectly stable areas that provide affordable housing with the convenience of close proximity to the CBD. However, if the social and economic factors that lead to its expansion are not monitered and planned for, the inner city can become a centre for crime, racial tension, and absolute poverty (as is the case with many cities). It is this fact that must not be ignored.

3.0 DATA COLLECTION, METHODS, AND RESULTS

3.1 Basic Assumptions

As previously stated, one of the objectives of this study is to quantify the disparate growth in the Central Area. To accomplish this, several operational assumptions and clarifications must be made. Firstly, in order to show disparate growth in the Central Area, the Area was divided into four geographical zones of relatively similar land area sizes. The Area was divided by these boundaries: James St. and York/Wilson Sts. James St. separated the Central Area into eastern and western sections where anything west of James St. was considered in the western section and similarly, anything east of James St. was considered part of the eastern section. York/Wilson separates the Area into northern and southern sections where anything north of York/Wilson is part of the northern section and anything south is part of the southern section. Therefore, the Central Area has been divided into four quadrants: the northwest (NW: all land and uses west of James St. and north of York/Wilson), the northeast (NE: all land and uses east of James St. and north of York/Wilson), the southeast (SE: all land and uses east of James St. and south of York/Wilson), and the southwest (SW: all land and uses west of James St. and south of York/Wilson, see Map A2 on the following page). The designation of James St. as the east-west boundary is consistent with the actual city boundary, but the York/Wilson designation as the north-south boundary differs from the city one (which is King St.). The


HAMILTON HARBOUR
LAKE ONTARIO
THE CENTRAL AREA
NW
NE
SW
SE
INDUSTRIAL SECTOR
NEIGHBOURHOOD NAME AND NUMBER REFERENCE

logic behind this is that York/Wilson, in reality, separates areas of the Central Area that differ substantially in terms of commercial and residential land uses. For example, north of York/Wilson, there is a large amount of manufacturing land uses as opposed to the retail and commercial uses concentrated to the south of York/Wilson. Also, as one goes north past York/Wilson, the majority of land uses become residential and the area is characterized by blocks of relatively low-priced homes. Essentially, York-Wilson is a boundary that differentiates the commercial downtown core from the residentially and manufacturing dominated northern section of the Central Area.

Dividing the Central Area into four zones is necessary because it allows for growth to be measured in, and related to geographic groupings. As such, the variation of certain indicators in each zone can provide a semblance of how much growth has occurred and where. For this study there were three major indicators used: property tax assessments of businesses, multi-family housing sales, and single family housing sales. These indicators were especially useful because their variation over time was available. Ideally, indicators such as rents per square foot and vacancy rates (for commercial and office land uses) would be used, but the nature of that data provided only a static description (the data was available for only one time period). Conversely, the data available for the indicators used in the study was of a dynamic nature, where the changes

could be measured and their location noted over time.

The working contention or hypothesis that this study takes is that the northeastern portions of the Central Area are continuing to experience slower economic growth compared to the southwestern portions. This hypothesis presupposes that the northeastern portions were recently in a state of decline when compared to the southwestern portions and that this decline has continued or increased. Thus, the hypothesis can be interpreted as a statement addressing the issue of uneven growth leading to continued disparity in the socio-economic conditions of different sections of the Central Area.

Several important assumptions about relationships must be made to address this hypothesis. The majority of this study's statistical basis is concentrated on property tax assessments and single and multi-family property sales, and it is these indicators that will be used to quantify disparate growth which depends on the following assumed relationships between the indicators and growth: 1) a high level of growth is directly associated with increases in property tax assessments, 2) a high level of growth is directly associated with increases in the sale price of multi-family properties and 3) a high level of growth is directly associated with increases in the sale price of single-family properties. Thus, related to these assumptions is a further relationship which contends that a higher level

of indicator increase is directly associated with a higher level of growth when compared to the same indicator increase in another zone. Once these assumptions and relationships are established then the variation of the indicators can address the hypothesis.

3.2 Property Tax Assessments

Property tax assessments are supposed to represent what the property could realize in sale price if it were put on sale in the open market. The actual assessment amount for a given property in Ontario is based on the 1974 value and changes in the assessment can occur positively or negatively (they can increase or decrease). A decrease in the assessment, more often than not, occurs when the assessment is seen as being too high, for the property, by a court. On the other hand, an increase is attributed to an improvement in the property (usually via a physical improvement or addition). An example of such an increase is Jackson Square whose assessment increased by several hundred thousand dollars once the Phase IV section of the mall opened a few years ago. That is an extreme example, but it is indicative of the capital improvement needed to increase an assessment.

The property tax assessments were collected for 169 properties in the Central Area for the years of 1981, 1985, and 1988. These years were chosen because they span most of the decade in which Hamilton went through periods of economic recession, recovery, and downtown redevelopment and

the assessments would reflect how this recovery and redevelopment has translated into Central Area growth. The 169 properties were selected on the basis that they were identified as properties that are being used for business purposes. This was determined upon examaning the Region of Hamilton-Wentworth's 1989 Business Directory which lists the majority of businesses in the region and their location. Of the 169 assessment values, 27 are located in the NW and NE study zones while 63 are located in the SE zone and 52 are in the SW zone. The assessments represent all industrial and commercial sectors including manufacturing, construction, transportation and storage, communication and utilities, wholesale and retail trade, finance and insurance, real estate and insurance agencies, and business services (assessments belonging to properties that housed government, health, and social services were not collected as this study feels that these services are not private businesses). It was impractical to control for the type of business for two reasons. Firstly, if the properties were classified by sector, then the sample sizes of each sector in each zone would have been reduced, which would prevent any form of significant statistical analysis to be used. Secondly, some sectors are so diverse (ie. manufacturing could include activities ranging from bakeries to clothiers and from printers to metal products) that classifying them would be a large, subjective process open to anyone's interpretation. As a result, this study groups all private activities together and makes a point of stating that the implications

for what can and can't be inferred (by doing so) are understood and appreciated. Differentiating the sectors would have been ideal but beyond the scope of this study.

In 1981, the SW zone had by far the largest average assessment at $342,058 for its 52 properties while the other zones lagged behind at: NW - $106,602 , NE - $37,687 , SE - $119,762. Please keep in mind that these assessment figures are for business properties and not residential (thus the large averages). However, these figures are somewhat misleading because a very large value will affect the averages (ie. Jackson Square was assessed at over $5 million). Therefore the assessments per square foot of lot size were used to offset this. To a degree, the assessed value divided by the square footage of the lot size would control for the extremely high values by measuring all assessed values in this manner. The lot sizes had to have been used because the assessment rolls don't reveal the total floor space of the property which would have again been the ideal measure. The lot sizes, however, do represent the area of the property, which relates the property to its overall significance in the Central Area and reflects a geographic concentration of activities at a given location. Again the SW zone is the largest at $12.90 per square foot of lot size, but the SE zone is not far behind at $11.84/sqft. The NW zone stood at $4.36/sqft and the NE was at $1.31/sqft in 1981. The disparity between the northern sections and the southern sections of the Central Area (in

1981) becomes apparent in table A:

1981 PROPERTY TAX ASSESSMENTS

ZONE	SAMPLE SIZE	AVG.ASSMT VALUE	PER SQFT
SW	52	$342058	$12.90
SE	63	$119762	$11.84
NW	27	$106602	$ 4.36
NE	27	$ 37687	$ 1.31

source: 1981 City of Hamilton assessment rolls

The difference between the southern and northern sections continued to increase, indicating a possible trend of continued business improvement towards the south, through to 1988. The SW zone's average assessed value increased by 49.1% from 1981 to 1988 compared to only 7.01% for the NE, 5.06% for the SE, and 2.44% for the NW zone. In terms of assessment averages, the differential increases reinforced the already existing gap as seen in table B:

ASSESSMENT INCREASES (1981-88)

ZONE ($)	TOTASS81	SQFT81	TOTASS88	SQFT88	%INCREASE
SW	342058	12.90	510010	19.24	49.10
SE	119762	11.84	125818	12.43	5.06
NW	106602	4.36	109199	4.46	2.44
NE	37687	1.31	40327	1.40	7.01

source: City of Hamilton assessment rolls for 1981 and 1988
abbreviations: **TOTASS81(88)** - average total assessment figure for a zone in 1981 or 1988
SQFT81(88) - assessed value per square foot of lot size in a zone in 1981 or 1988
%INCREASE - the average increase of total assessments between 1981 and 1988

To summarize these results, the SW zone has the largest

assessment values by far compared to its neighbouring zones both in terms of total assessed value and per square footage of lot size. The SE zone possesses the second largest assessment figures while the NW and NE zones are substantially smaller. Also, the SW zone experienced an increase that was much higher than the other zones. These facts would tend to support the hypothesis that the southwestern portions are continuing to experience economic growth relative to the northeastern portions.It would be dangerous to statistically infer anything from these results; nevertheless the data reveals that the southern portions of the Central Area have contained and continue to contain the highest assessements of the four zones and that the SW zone has undergone the highest increases of all the zones which would tend to support this study's hypothesis.

One possible explanation of the disparate levels of tax assessments and their increases could be the large - scale construction that has occurred in the Central Area. As previously stated, the Area has witnessed massive redevelopment and this would lead to assessment revaluations and increases. To try and control for this, exactly the same calculations were done on the assessment data except for those properties whose assessments increased by over 50% between 1981-88. This study assumes that a 50% increase in an assessment indicates that the property has undergone substantial reconstruction or expansion, and it would be useful to do the same analysis that excluded such

construction projects. Essentially, for these results, those properties were treated as if they never existed. There were 15 such properties of the original 169 where six of them were located in the SW and SE zones while one was located in the NW and two were located in the NE zone. Because, these properties were regarded as non-existant, their absence from the data set significantly altered the averages and produced somewhat conflicting results compared to the original assessment results (see table C below).

ASSESSMENT RESULTS EXCLUDING CONSTRUCTION

ZONE	($) TOTASS81	SQFT81	TOTASS88	SQFT88	%INCREASE
SW	306648	15.35	302200	15.13	-1.00
SE	126584	13.10	123946	12.82	-2.08
NW	110582	4.37	113205	4.47	.88
NE	37535	1.30	37657	1.31	.33

source: City of Hamilton assessment rolls for 1981 and 1988

These results confirm the original results that the southern zones maintained and continue to maintain the highest assessment levels, but they contradict the original increase results as there is a trend of decreasing assessments in the southern zones while the northern zones increased nominally. The Table C results show greater stability of assessments for properties that have not undergone construction in the northern zones than the southern zones. However, this is misleading because construction is a main cause of assessment increases. Construction usually increases the value of the property and therefore the assessment as well. Thus, the analysis that excluded properties that have

undergone substantial construction, partly avoids what this study is trying to show: how much growth has occurred in the Central Area and where. The absolute figures of assessments indicate a significant southern bias, especially to the southwest.

3.3 Multi-Family Property Sales

The second major indicator that was looked at is the multi-family property sales (or as the Metropolitan Hamilton Real Estate Board [MHREB] calls them - investment properties). According to the MHREB, these properties are distinguished by the fact that they are large, older homes that can provide accomodation to three or more families. More often than not, the buyer of such a property purchases it to rent to possible tenants and in that sense the property is a form of investment, as it is not a business or a single-family home. The MHREB classifies these properties mostly under four headings: 3-family units, 4-family units, 5-8 family units, APCO (apartment complexes) and CIC (property also has commercial function attached). The data for these properties represent the total number of sale transactions in each zone of the Central Area in the years of 1985 and 1988.

Several clarifications regarding the data and its collection must be made. Firstly, the data used for these indicators was collected by the MHREB as is their practise. It represents the total amount of transactions that the

MHREB was aware of through their multiple listings service. It is possible that more transactions occurred either privately or that were not part of the listings service, but there is no way to estimate this figure which should be small and thus unnecessary because the sample sizes are large enough to begin with. Secondly, the data was extracted from the MHREB's computer, whose files go back to only 1985. All relevant measures are taken from their computer's files and their is no reason to doubt its validity. The fact that the data can only be compared back to 1985 (as opposed to 1981 for the tax assessments) is dissapointing, but does not significantly subtract from the data's usefulness. Lastly, the MHREB divides the region into its own zones. For the Central Area, their boundaries are slighlty larger where the eastern boundary is Wentworth St. (as opposed to Victoria) and the western boundary is Dundurn St. (as opposed to Queen St.). The northern and southern boundaries remain the same. This fact doesn't affect this study significantly because the type of housing and properties found in this expanded area do not differ much at all from the kind found in the original boundaries - they are very similar in value and quality. Other than that, the four zones of the Area remain intact.

The NW and NE zones did not experience nearly as many transactions as the SW and SE zones (ie. in 1988 there were 17 sales in the NW while only 8 in the NE, compared to 39 in the SW and 75 in the SE zone), probably due to an

overall lack of multi-family properties as compared to the southern zones which have an abundance of them. This fact must be kept in mind when one looks at and begins to interpret the transaction results. Table D shows the results in both average sale price and average sale price per square foot between 1985 and 1988:

MULTI-FAMILY PROPERTY SALES

ZONE ($)	AVGSP85	SQFT85	AVGSP88	SQFT88	%INCREASE
SW	236908	52.50	230923	56.70	-2.53
SE	85452	27.30	185917	58.80	117.57
NW	96200	22.90	229759	50.00	138.83
NE	46467	13.59	106375	32.50	128.93

source: MHREB records of sales transactions
abbreviations: **AVGSP85(88)** - the average sale price of a property in a zone in 1985 or 1988
SQFT85(88) - the average sale price per square foot of lot size in a zone in 1985 or 1988
%INCREASE - the percentage increase of the average sale price of a property in a zone between 1985 and 1988

These results show that the SW zone had a large difference in sale price to begin with, but this gap has been substantially diminished. Indeed, the average sale price in the SW zone has decreased while all the other zones have experienced huge increases. The northern zones had the two largest percent increases and this would tend to conflict with the hypothesis. What tends to support the hypothesis is the fact that the western zones possess the highest averages for 1988 and that the SE zone is close behind. The NE zone, although it increased in average sale price substantially, continues to "lag" behind the other three and is in a sense

isolated (in terms of value) from the others. This would also tend to support the hypothesis. It is here that the nature of the data must be carefully examined. All the zones, and particularly the SW, have included in the data set the APCO and CIC transactions whose average sale price is high enough to distort the data set (sometimes as high as $1.72 million for one property). To obtain a more accurate analysis of multi-family home prices, both the APCO and the CIC transactions were eliminated from the data set and the same analysis was done (see Table E below):

MULTI-FAMILY PROPERTY SALES EXCLUDING APCO & CIC

ZONE	($) AVGSP85	SQFT85	AVGSP88	SQFT88	%INCREASE
SW	95105	28.50	229392	61.50	141.20
SE	72200	28.60	162165	52.20	124.61
NW	48900	19.20	155064	44.10	217.10
NE	46467	13.60	106375	32.50	128.93

source: MHREB records of sales transactions

Once the APCO and CIC have been removed from the data set the results become more consistent. The SW zone continues to maintain the highest averages in 1985 and 1988 but it experienced an increase of 141.20% while the NW zone had the largest increase at 217.10%. The NE zone continued to be isolated as it maintained the lowest averages although they increased by 128.93% which is more probably a reflection of the housing market which "boomed" in Hamilton during that time. The trend that comes out of this analysis is that the western zones saw greater increases in average sale price which supports the hypothesis as well. Also, the data set

was large enough for a comparison of 3-family unit sales between only the SW and SE zones. This is useful because one can control for the type property and see if any significant difference exists on an east-west level. The 3-family units in the SW zone increased from $92,950 in 1985 to $218,400 in 1988 while the SE zone went from $65,460 in 1985 to $132,335 in 1988. In terms of square feet per lot size, the SW went from $26.5/sqft (1985) to $63.1/sqft (1988) while the SE went from $19.4/sqft (1985) to $47.5 (1988) translating into a 134.97% increase for the SW and a 102.16% increase for the SE. To summarize, the multi-family property reveals that the western zones increased more in terms of sale price than the eastern zones. This differs slightly from the tax assessments which reported a southern trend in assessed value increases. Despite this, the multi-family data supported the assessment data in that the NE zone lagged behind all the other zones in sale price growth which tends to confirm the hypothesis.

3.4 Single-Family Property Sales

The single-family property sales data was collected in exactly the same manner as the multi-family data (through the MHREB's records). As such, the same changes in boundaries and validity of records apply to this data analysis that applied to the multi-family property sales. The major difference is that the sample size of this data was much larger; 176 in the smallest set with 303 in the largest. The large sample sizes are especially beneficial in

this analysis because all four zones have large sample sets and the type of property (single-family residential) is basically contolled for. This is a good indicator because it reflects what the housing market considers as more desirable residential parts of the Central Area. Assuming, market forces are consistent and equal through all zones of the Area, then one can get an impression of which zone in the Area is more desirable to live in.

The nature of the data did not lend itself to the use of the per square foot of lot size analysis because the amount of data was very large and that measure was not included. As a result, the mean and median sale prices were used for the most part. The results are shown in Table F below:

SINGLE FAMILY PROPERTY SALES

ZONE ($)	AVGSP85	AVGSP88	%INCSP	MEDSP85	MEDSP88	%INCMSP
SW	73393	156542	113.29	63000	131900	109.37
SE	39540	93770	137.15	37500	88600	136.27
NW	40651	90419	122.43	39375	88000	123.49
NE	33360	79537	138.42	31500	76750	143.65

source: MHREB records on sales transactions
abbreviations: **AVGSP85(88)** - the mean sale price of single-family property sales in a zone in 1985 or 1988
%INCSP - the percentage increase of the mean sale price in a zone between 1985 and 1988
MEDSP85(88) - the median sale price of a single-family property in a zone in 1985 or 1988
%INCMSP - the percentage increase of the median sale price in a zone between 1985 and 1988

in both 1985 and 1988 and this is to be expected given the previous results on the tax assessments and multi-family property sales. However, in general these results do not support the hypothesis because the eastern zones of the Central Area grew (in terms of mean and median sale price) faster than the western zones. Also, the NE zone was the leader in this respect as it experienced the highest growth rates of all the zones. If we assume as we did that market forces operate consistently and equally across all the zones, then these results suggest that the eastern zones (particularly the NE) are becoming a more viable residential area compared to the other zones. However, this may reflect a kind of "spill-over" effect - where, as the prices in the SW zone become very high, the same increases occur in the neighbouring zones because they can offer similar housing stock that is less expensive and located just a few blocks away.

3.5 Statistical Analysis

"There are many statistical problems in which we must decide whether an observed difference between two sample means can be attributed to chance" (Freund,1982, pg.296). It is this problem that this section wishes to address. Ideally, the statistical measure that would have been used is the T-test, but the data collected was sufficiently skewed as to significantly affect the T-test to the point that its results would have been meaningless. To offset this, this study uses a non-parametric alternative to

the two-sample T-test for the difference between two means known as the U-test. This test enables us to analyze the difference between two means without having to assume a normal distribution of data which the T-test requires. This fact is the U-test's main advantage - the difference between two means can be analyzed despite a distribution that is severly skewed.

Operationally, this test involves two hypotheses: 1) a null hypothesis that states that the two means come from identical populations and 2) an alternative hypothesis that states that the two U-test are not equal and therefore do not come from the same populations. The theory behind the determinations of the U-tests is provided in the appendices (pg.46). The results are shown in Table G below:

U-TEST COMPARISONS OF 1988 MEANS

COMPARISON	PTX1	PTX2	MFP1	MFP2	3FAMU
NW TO NE					
U1	258	223	41	41	-
U2	471	427	95	71	-
Z1	-1.84	-1.92	-1.57	-1.02	-
A/R NULL	A	A	A	A	
SW TO SE					
U1	1510	848	1216	970	227
U2	1766	1774	1709	1435	435
Z1	-.72	-3.07	-1.47	-1.62	-2.02
A/R NULL	A	R	A	A	R
NW TO SW					
U1	1115	927	412	369	-
U2	289	269	251	149	-
Z1	4.23	3.86	1.43	2.32	-
A/R NULL	R	R	A	R	

(cont'd on following page)

U-TEST COMPARISON OF 1988 MEANS (cont'd)

COMPARISON	PTX1	PTX2	MFP1	MFP2	3FAMU
NE TO SE					
U1	1368	1260	479	413	-
U2	333	165	121	107	-
Z1	4.56	5.51	2.76	2.70	-
A/R NULL	R	R	R	R	
SW TO NE					
U1	622	527	29	29	-
U2	782	623	283	267	-
Z1	-.83	-.58	-3.59	-3.53	-
A/R NULL	A	A	R	R	
SE TO NW					
U1	654	574	705	366	-
U2	1047	908	570	544	-
Z1	-1.73	-1.64	-.68	-1.14	-
A/R NULL	A	A	A	A	

abbreviations: PTX1 - all property taxes
PTX2 - property taxes excluding construction
MFP1 - all multi-family properties
MFP2 - multi-family properties excluding APCO & CIC
3FAMU - 3 family units for only SW and SE

note: the U-TESTS examines the mean values of the data while a (-) means that no U-TEST was done for that column

U1 represents the U-test of one population while U2 represents the U-test of the population it is being compared to. Z1 represents the statistic for large-sample U-tests and it is this figure that determines whether or not the null hypothesis is accepted (A) or rejected (R). In this case, the level of significance is taken at .05 and upon examination of the T-test tables (they are used because with a large U-test sample the distribution is approximated as being normal), the critical value stands at 1.96. Thus, we reject the null hypothesis when the -Z1 is less than -1.96 and when Z1 is greater than 1.96. If the Z1 value falls between -1.96 and 1.96, the null hypothesis must be

accepted. All calculations and theoretical bases are discussed in the appendices (pg.46).

U-tests could not have been done on the single-family residential data because only the processed data was available and not the raw data needed to rank populations as is required by the analysis. Also, T-tests could not have been done because of data's skewed distribution.

There were four indicators that could have been compared to each possible zone combination. The combination of zone comparisons is equal to six and thus the total number of U-tests was 24 plus the U-test that compares 3 family-units between the SW and SE zones makes the total number of U-tests at 25. The results indicate a definite geographic pattern of accepting or rejecting the null hypothesis. For example, the null hypothesis was accepted in all indicator measures when the western zones were compared to the eastern zones (except for property taxes excluding construction and 3 family units). What is meant by comparing western to eastern zones is the NW zone to the NE and the SW zone to the SE. Conversely, when the comparison was north to south (ie. NW zone to SW and NE zone to SE) all but one of the indicators (the multi-family properties with APCO and CIC) rejected the null hypothesis. The cross comparisons (the SW zone to the NE and the SE zone to the NW) showed no real pattern as half of the indicators accepted or rejected the null hypothesis (SW to NE) while the SE to NW comparison

accepted the null hypothesis for all indicators. What this indicates is that there exists a significant difference of almost all indicator means when they are compared on a north to south basis.

3.6 Summary

Three indicators were used as the basis for this section: property tax assessments of 169 business properties in the Central Area, multi-family property sales, and single-family property sales. If the assumptions made at the beginning of this chapter are taken into account, then the following generalizations may be made. The property tax assessments showed that when construction was included in the analysis, there was a considerable disparity between the southern and northern zones in the Central Area both in terms of absolute value and assessment growth rates. Hence the disparity grew and this would tend to support the hypothesis that states that the northeastern portions of Hamilton's Central Area are continuing to experience slower economic growth relative to the southwestern portions. Also, the multi-family sales records show that the western sections of the Area witnessed higher sale prices which grew faster than the eastern zones. The NE zone, in particular, lagged severly behind the others in both of these respects. However, in terms of single-family house sales, the northern sections (especially the NE zone) experienced the fastest increases in average sale prices although they remained the lowest in absolute value. The U-test analysis revealed that

when the data samples were compared on a north to south basis, there was a significant difference of means which was not the case in a east to west comparison. It is difficult to properly infer from this analysis (since this study is not based on statistical inference), but it would seem (based on the results) that the southern and western zones have become more condusive to investment compared to the north and eastern zones. This however has apparently not cost the north and eastern zones in terms of residential viability. Their sale prices have increased by the largest amount which would indicate that the market views these zones as perfectly viable and stable residential areas.

4.0 DISCUSSION AND CONCLUSION

This section will focus on the conditions and characteristics of the Central Area that promote disparate growth. Up to this point, this study has identified the problems associated with disparate growth, how these problems relate to the Central Area, and has justified the need for attending to these problems. Also, this study has attempted to quantify disparate growth in the Area by documenting the changes in tax assessments and property sales. Hence, the next logical step is to discuss what aspects of the Area promote disparate growth. This discussion is of a speculative nature, in the sense that it is not necessarily based on the data results in the previous section. Despite that, the arguments made in this section will identify relevant forces that promote disparate growth in the Central Area.

"The clustering in downtown Hamilton is impressive: for anyone living near the city hall, the theatres, concert halls, art gallery, coliseum, shopping, and restaurants are all within a kilometre's walk" (Peace & Burghardt,1987). This qoute neatly sums up the most spatially evident feature of the Central Area - the centralization of commercial, retail, and office activity between James and Bay Sts. and between Main and York Sts (referred to by this study as the "Core" of the Central Area). This Core is one of the most successful examples of long-term urban renewal in North

America and has been an important contributer to the recovery of Hamilton as a city since the 1960's. The city and region continue to reap the benefits that have been produced since the Core's redevelopment occurred not more than twenty years ago. Ironically, it is the Core's dominance that, this study argues, helps propel disparate growth in the Central Area.

A recent history of the Core provides insight into its highly centralized development. In the late 1960's, the Central Area was in the throws of economic and social decline which spurred the need for some form of renewal in the Area. Beginning in the 1970's and lasting through the 80's, many developments took place that effectively halted the decline. However, the vast majority of these developments were concentrated at the Core. For example, Lloyd D. Jackson Square (Phase 1) was developed in 1972 while Hamilton Place (1973), the Robert Thomson Building (1977), the Hamilton Art Gallery (1977), the new Hamilton Public Library (1980), the new Farmer's Market (1980), the Hamilton Convention Centre (1981), the Ellen Fairclough Building (1982), the Standard Life Centre (1984), the Sheraton Hotel (1985), Copps Coliseum (1986), and the new Canadian Imperial Bank of Commerce Building (1987), were all developed literally within yards of each other (Peace & Burghardt,1987). As further evidence of the success of the Core, consider that in a recent survey that asked Hamiltonians to specifically identify what feature of the

city stood out most to them, over 50% of the 735 mentioned features were major developments in the core (Minchak,1989). The renewal efforts clearly intended to create a civic square which would give Hamilton and the Central Area a recognizable identity. The Core has become the most recognizable landmark in the city and in that sense it has accomplished the long-term goals behind its development. It has added to the vitality and spirit of the Area, both socially and economically. Clearly, the Core's development was successful because it transformed the Central Area from a declining centre to a thriving one, sparking further development, and providing a sense of pride and rejuvination to the city and its residents.

As usual, however, too much of a good thing can be detrimental and the Core (despite its considerable benefits) has produced some negative effects. The most significant of which is the decreased customer traffic along the eastern end of King St. (in the Central Area), James St. N. and other streets such as John St. that are less central to the Core. This fact was addressed by The Hamilton Spectator who reported in their Oct.4/88 business section - "Empty Stores Begging for Tenants: Gaps in Streetscape Signal Changes Downtown". Jackson Square is the largest shopping complex in the Central Area and is an important attraction of the Core. The Square is nothing less than competition for the individual merchants along King and James Sts. The problem is that there really isn't much competition at all - the

Square is "winning" the battle for customer traffic. Jackson Square sales figures report that the mall merchants (in aggregate) have had their dollar sales increase steadily since 1981. In 1981, the group sales total (all sales for all merchants in the mall in 1981) exceeded $7.4 million while in 1984 it rose to over $10.4 million and in 1987 it rose to over $13.8 million. Over this time period, the Square has gone through development which has added to the number of merchants which would possibly account for the steady rise in sales. However, when one compares the cumulative sales per square foot figure (provided by Jackson Square management), the increase is even more clear. In 1981, this figure stood at $233.27 per square foot, while in 1984 it was $256.29 and in 1987 it was $364.83. Regardless of the way one examines these sales figures, the fact of the matter is that Jackson Square is economically healthy and is getting better, thereby making itself a formidable competitor to the small merchants just outside the Core.

Valid arguments suggest that the Core is drawing people into the Central Area, and that this is beneficial for all businesses in the Area. In all liklihood, it is true that more people visit the Area for shopping, recreational, or business purposes, but this argument is far too simplistic because it doesn't take into account the possibility that people are drawn to the Core and not its business neighbours. The Central Area has to compete with all the malls in other parts of the city (ie. Limeridge Mall

or the Centre Mall) for customers. It has several disadvantages in this competition. For example, malls in other parts of the city offer free and convenient parking while parking in the Central Area is expensive and often difficult to find. This is extremely problematic for the independant merchants because not only do they have to compete with other malls for customers, they also have to compete with the Core for these customers once they arrive in the Central Area. The Core has three large, indoor lots (Jackson Square, Convention Centre, and the municipal lot at Macnab and York) while parking space availibilty becomes more scattered the further away one goes from the Core. Essentially, the Core has its customer attracting features centralized, while the independant merchants are fragmented geographically (despite their Business Improvement Area iniatives).

The result has been a trend of investment towards the Core (and thus the west) which translates into commercial vacancies along eastern King St. and James St. N. (and thus away from the east). In many ways, the western section of the Central Area is vibrant and growing while the eastern sections are viewed in an opposite light - as decaying and declining. Investment can take many forms (ie. business development or residential revitalization) and the west is considerably more condusive to generating a pro-investment environment. The western sections of the Central Area are more desirable for business and residents than the

eastern sections. Consider the amount of renewed housing stock (or gentrified housing stock) in the Durand area as an example of the westward shift in investment (in this case residential investment). The development forces, over the last twenty years, have combined to alter the complexion of the Central Area in favour (as it turns out) of the west, and this is very problematic for the Central Area as a whole.

The eastern sections contain at least two characterisitics that work against it. Firstly, the northeastern sections possess many manufacturers and therefore manufacturing land uses. This is a result of the long-term historical evolution of the Central Area. Today however, these properties are viewed as old, ugly, and outdated, and detract from the general appeal of the northeast of the Area. They are not compatible with the type of investment seen in the west, and the quality of homes and businesses in the northeast sharply contrast to that of the west as a result. Secondly, the east has no "anchor" to compete with the Core for investment or customers. "Anchor" refers to an investment inducing or business attracting facility that is comparable to the Core in terms of the type and quality of services offered. This concept and the need for an anchor has been recognized and expressed by city officials as well, and part of their policy objectives is to develop an eastern anchor (along King St.) that will "act as an alternative focal point to Jackson Square for commercial

and retail activity" (Central Area Plan,1986). It is believed that an eastern anchor will attract greater customer traffic towards the east and increase the continued viability of independant merchants in the east. Currently, there is no such anchor and this fact contributes significantly to the disparate growth in the Central Area.

The large-scale renewal and redevelopment of the Central Area has been extremely successful in transforming its function and image. This study does not seek to indict this transformation, but shares the view that Hamilton's downtown renewal was a success rarely found in the North American context. The development of the Core has produced much more benefits than it has costs. It is the landmark associated with the city and region. What this study has attempted to stress is that the Central Area as a whole is experiencing fundamental changes in its geography that may produce sharp contrasts. The economic health of the city and the region is such that the Municipal and Regional governments can deal from a position of strength and effectively plan for these changes. This study has also stressed that the Central Area is a place to live and not soley a marketplace. The changes occurring will affect residents and this should be our greatest concern. It is the people of Hamilton and the Central Area that make up the city and the region and this fact must always be remembered. The Central Area is vital to the region and its residents and as such, this study has tried to discuss and measure the

forces behind its changing form, so that a greater understanding and appreciation can be achieved.

The analysis of property assessments and sales revealed that disparaties exist between neighbouring sections of the Central Area, regarding both the total value and growth rates of the indicators. This was particularly true of the assessments and the multi-family property sales. However, the single-family property sales did not confirm our hypothesis because the northeastern zone possessed the largest increases. Despite this, the contrasts within the Area are vivid, and the dominance of the Core is a prominent feature of the Area that promotes disparate growth. The Central Area is a source of pride for the city and region, and its stability and vitality will be enhanced if this issue of disparate growth is addressed.

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APPENDIX

U-TEST CALCULATIONS: THEORY AND PROCEDURES

The U-Test is a non-parametric alternative to the two-sample T-TEST for the difference between means. The U-test was used in this study because the property tax assessment and property sales data had a skewed distribution which rendered T-TESTS inappropriate. The study divided the Central Area into four zones and each zone contained four data sets that could be compared to each other. Therefore, the combination of zone comparisons was six (NW-SW, NE-SE, NW-NE, SW-SE, SW-NE, and SE-NW) and the number of data sets was four, thus the total number of U-TESTS equals 24 plus a U-TEST for 3 family units between the SW and SE makes the final total at 25.

To do a U-TEST, one compares two data sets by firstly combining the sets into one large set (but each value is differentiated by its specific data set) and this set is ranked in ascending order. The sum of the ranks for each original data set gives us W1 or W2 while N1 and N2 represent the sample size of each original data set. These are used to get the statistics U1 and U2 which are determined by: $U_1 = N_1 N_2 + \frac{N_1(N_1+1)}{2} - W_1$

or $$U_2 = N_1 N_2 + \frac{N_2(N_2+1)}{2} - W_2$$

In practise, it doesn't matter which of these statistics is used as they are calculated from a comparison of each other's original data sets. Because the data is from large

sets, the mean and standard deviation of the U1 (or U2) statistic must be determined and they are calculated by:

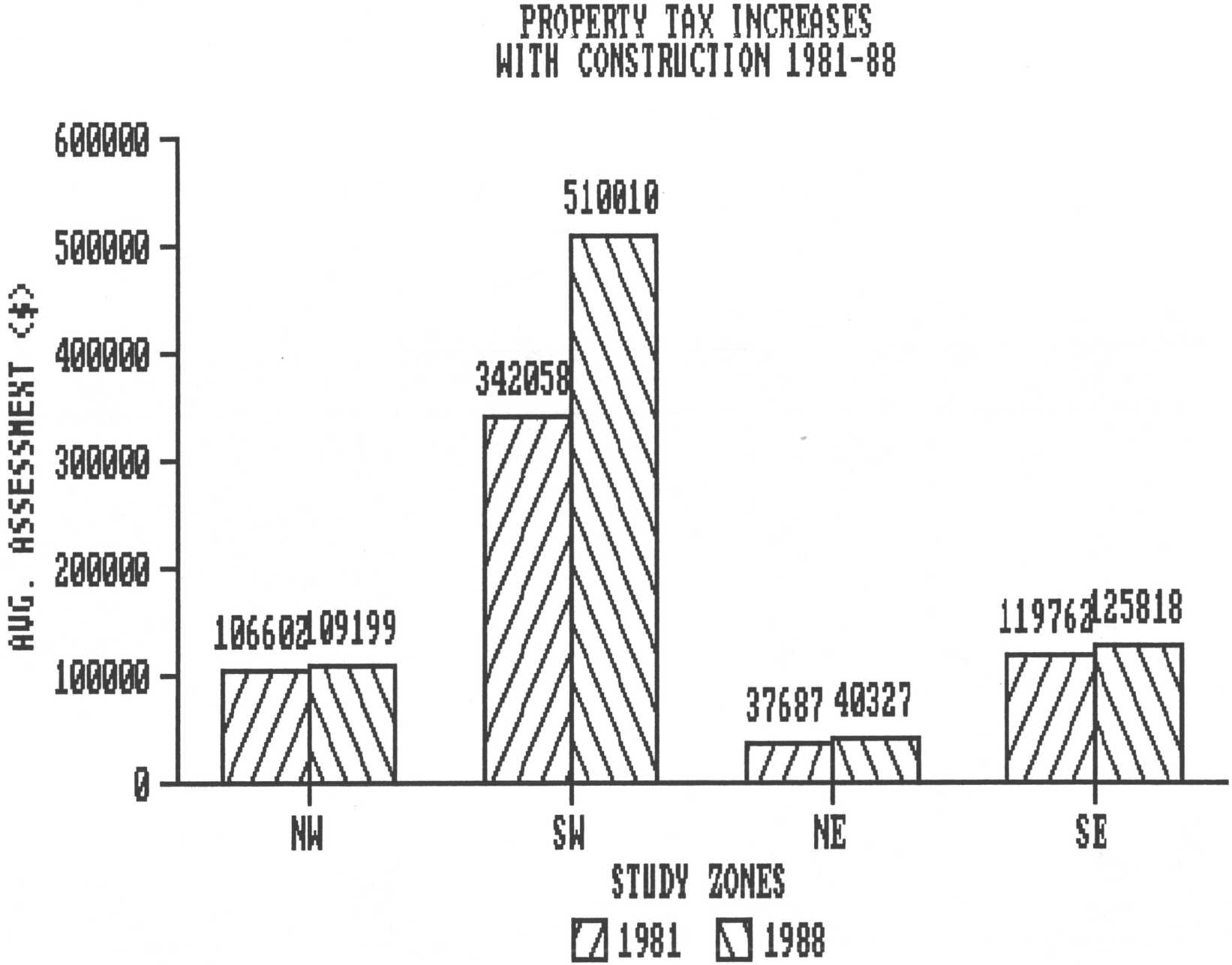
$$\text{MEAN U1} = \mu_{U_1} = \frac{N_1 N_2}{2}$$

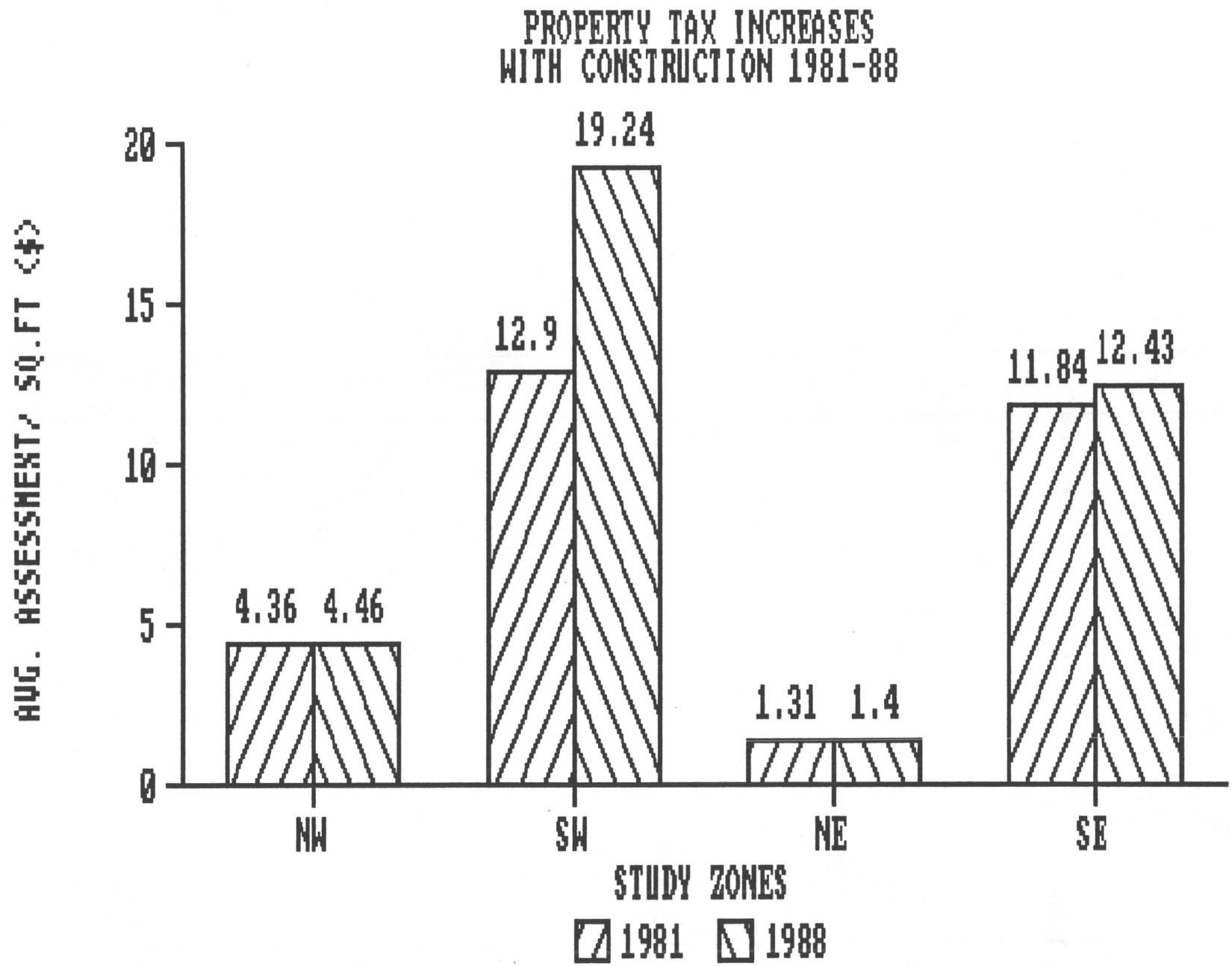
and STANDARD DEVIATION U1 = $$\sigma_{U_1} = \sqrt{\frac{N_1 N_2 (N_1 + N_2 + 1)}{12}}$$

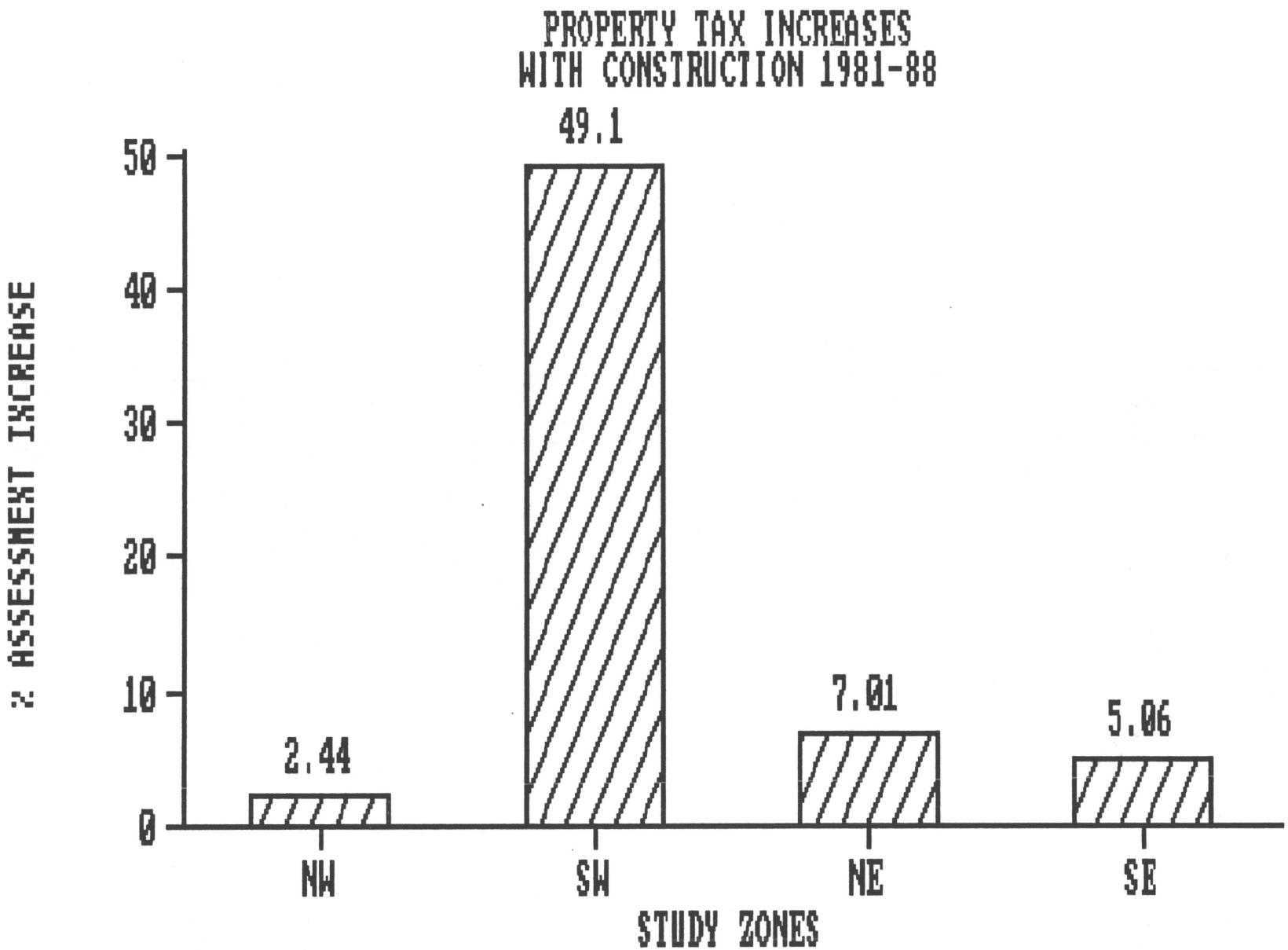
These values are used to calculate the statistic for large-sample U-Test which is:

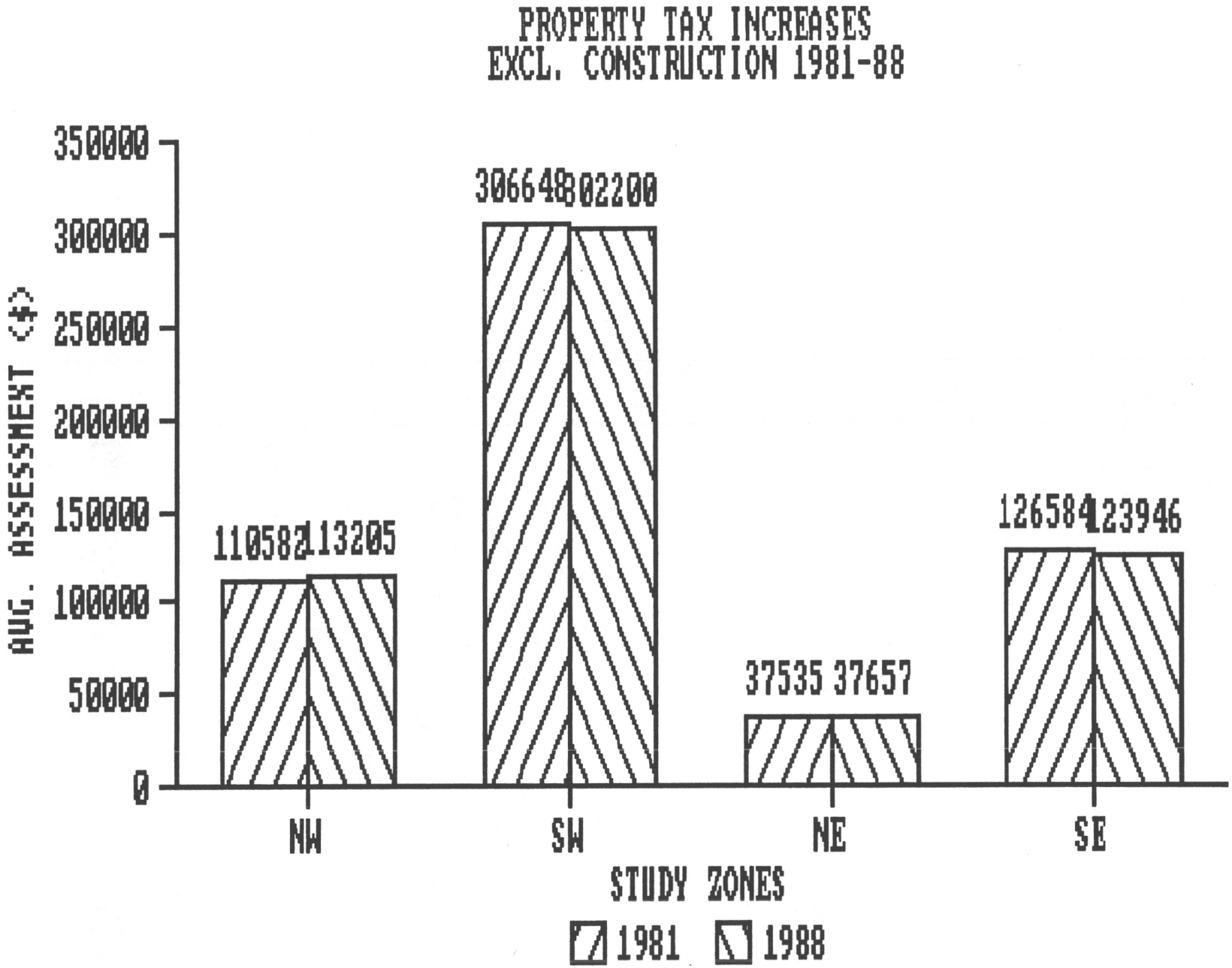
$$Z = \frac{U_1 - \mu_{U_1}}{\sigma_{U_1}}$$

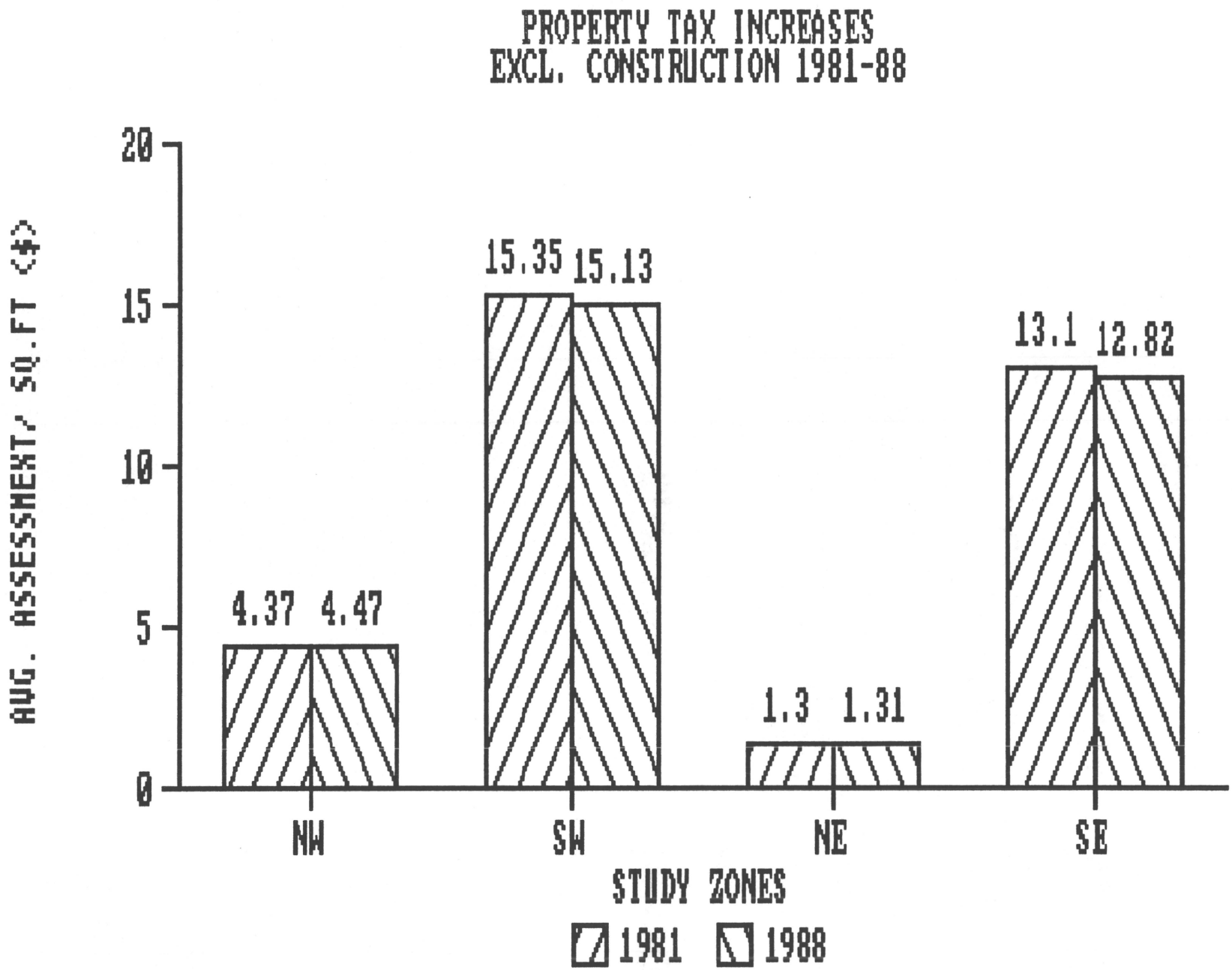
Also, this test uses two hypotheses: 1) a null hypothesis - that the means come from identical populations and 2) an alternative hypothesis - that U1 does not equal U2. The study assumed a level of significance of 0.05 and the value of 1.96 is the value that Z is compared with to see if the null hypothesis is rejected or accepted (the value of 1.96 was obtained from the T-value tables because a normal distribution is approximated with large-sample U-TESTS). Thus, when the alternative hypothesis is that U1 U2, then we reject the null hypothesis if $Z < -1.96$ or if $Z > 1.96$. Any values for Z lying between -1.96 and 1.96 means that the null hypothesis is accepted (all methods from Freund,1982, pg.465-73).

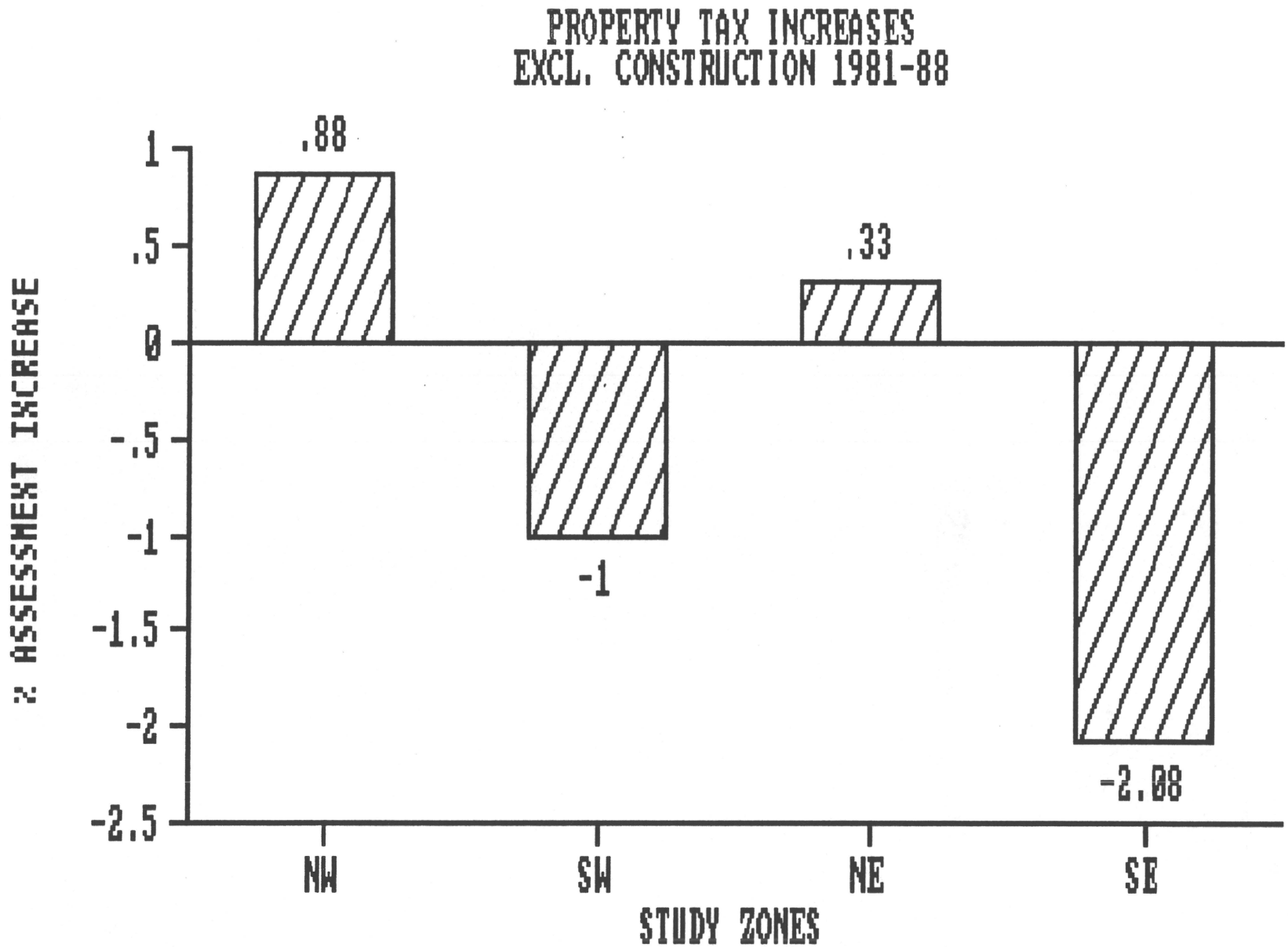

PROPERTY TAX INCREASES
WITH CONSTRUCTION 1981-88
AVG. ASSESSMENT ($)
600000
500000
400000
300000
200000
100000
0
106602
109199
342058
510010
37687
40327
119762
125818
NW
SW
NE
SE
STUDY ZONES
1981
1988

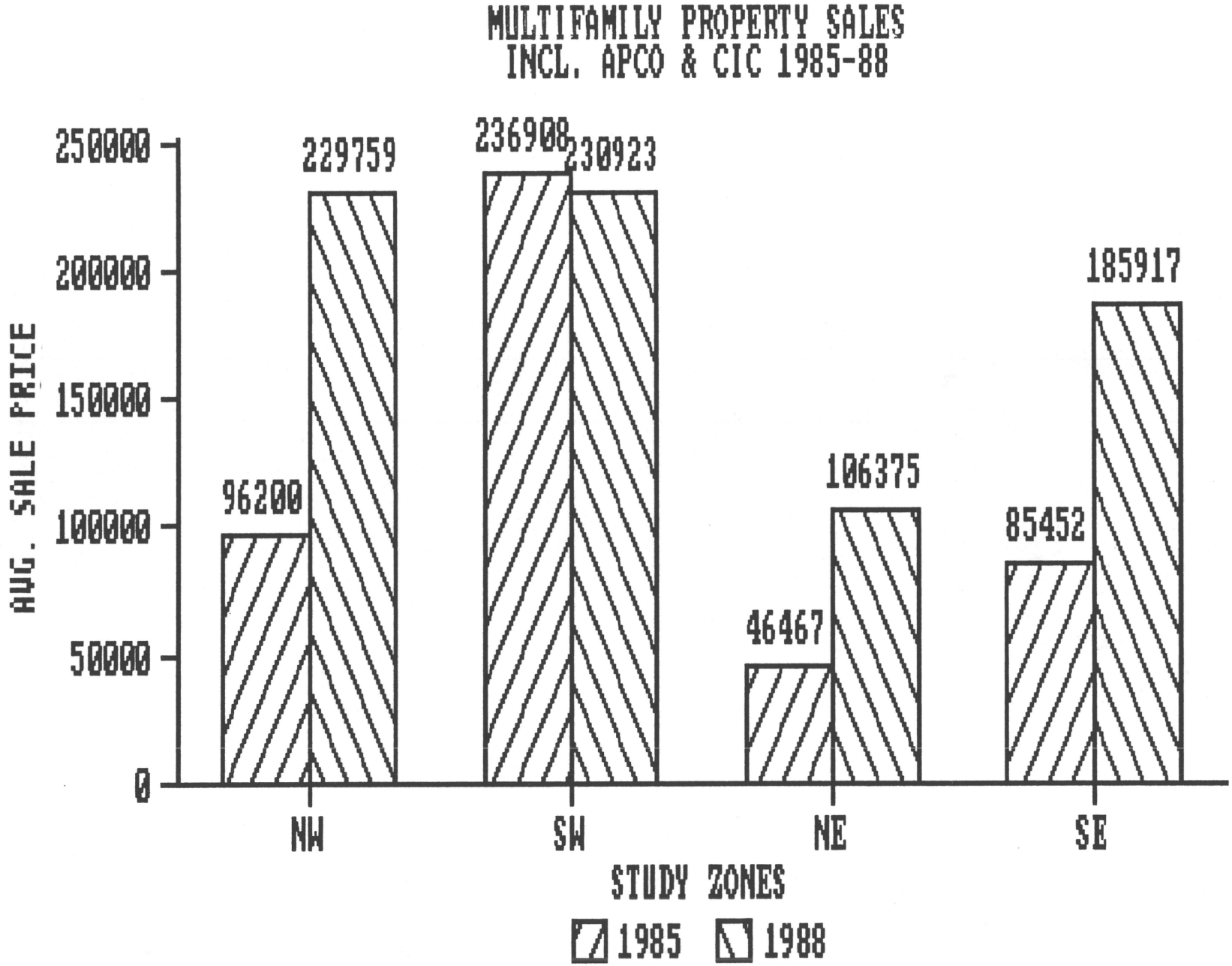

PROPERTY TAX INCREASES
WITH CONSTRUCTION 1981-88
AVG. ASSESSMENT/ SQ.FT ($)
20
15
10
5
0
4.36
4.46
12.9
19.24
1.31
1.4
11.84
12.43
NW
SW
NE
SE
STUDY ZONES
1981
1988

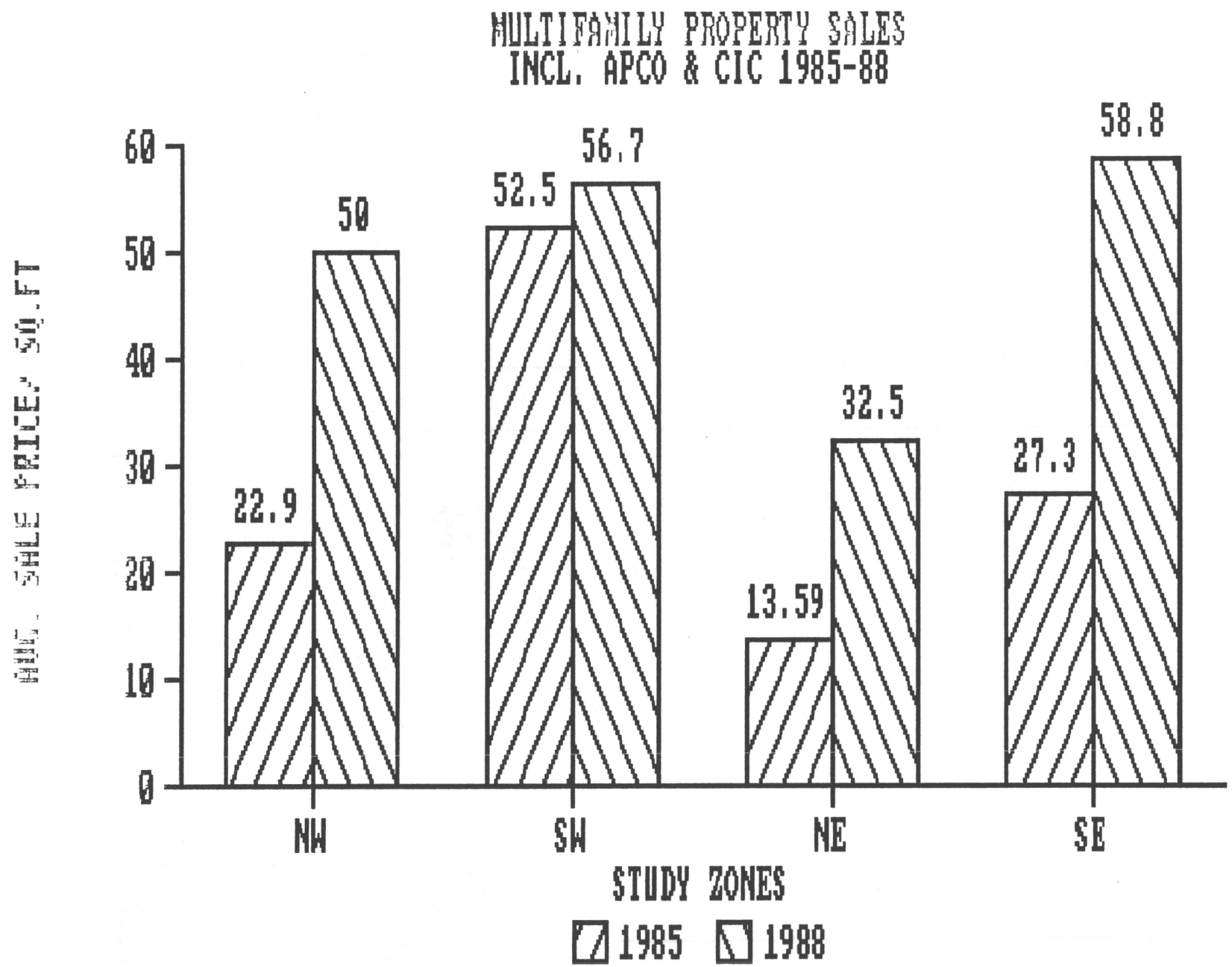

PROPERTY TAX INCREASES
WITH CONSTRUCTION 1981-88
% ASSESSMENT INCREASE
50
40
30
20
10
0
49.1
2.44
7.01
5.06
NW
SW
NE
SE
STUDY ZONES

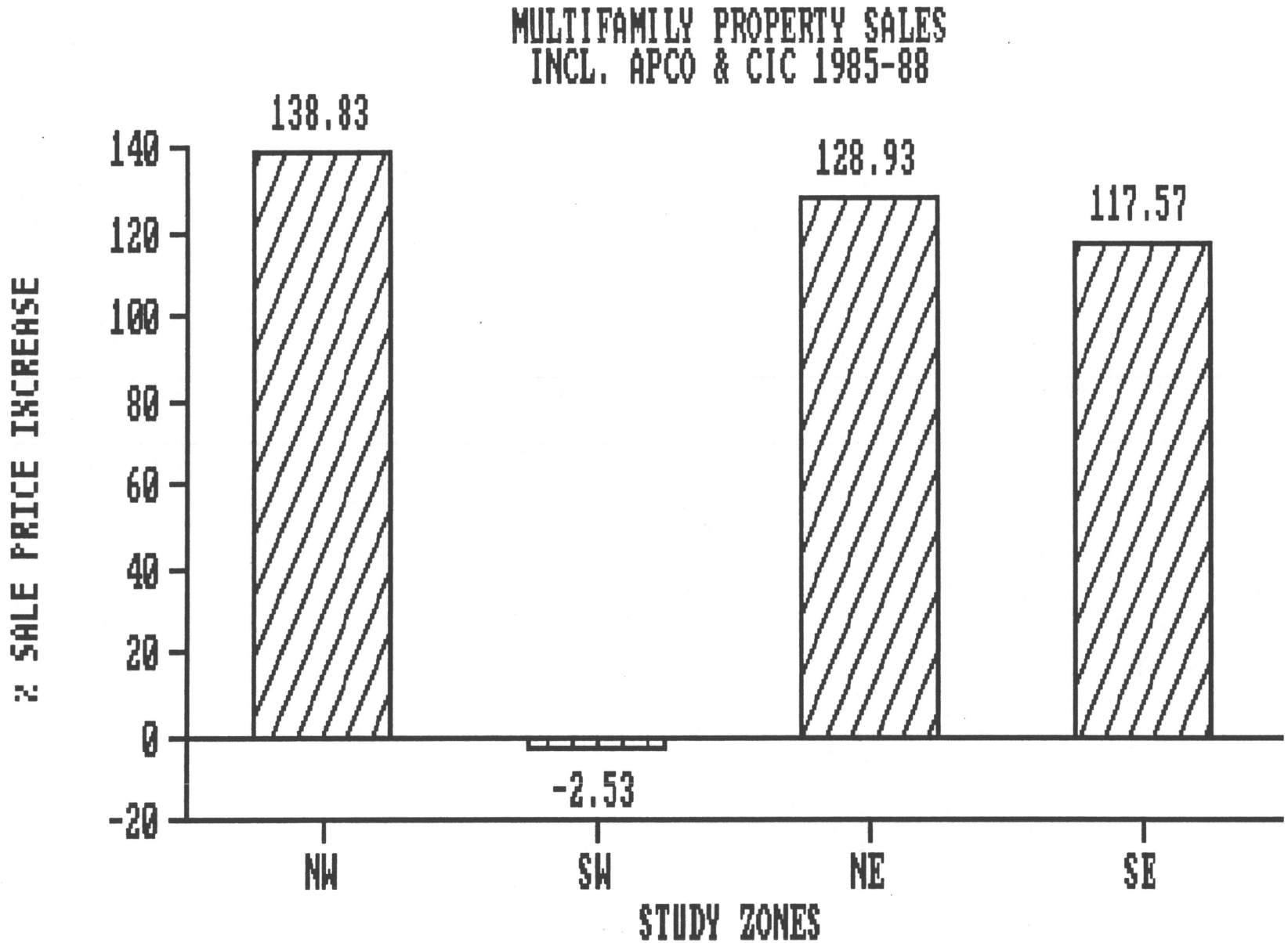

PROPERTY TAX INCREASES
EXCL. CONSTRUCTION 1981-88
AVG. ASSESSMENT ($)
350000
300000
250000
200000
150000
100000
50000
0
110582
113205
306648
302200
37535
37657
126584
123946
NW
SW
NE
SE
STUDY ZONES
1981
1988

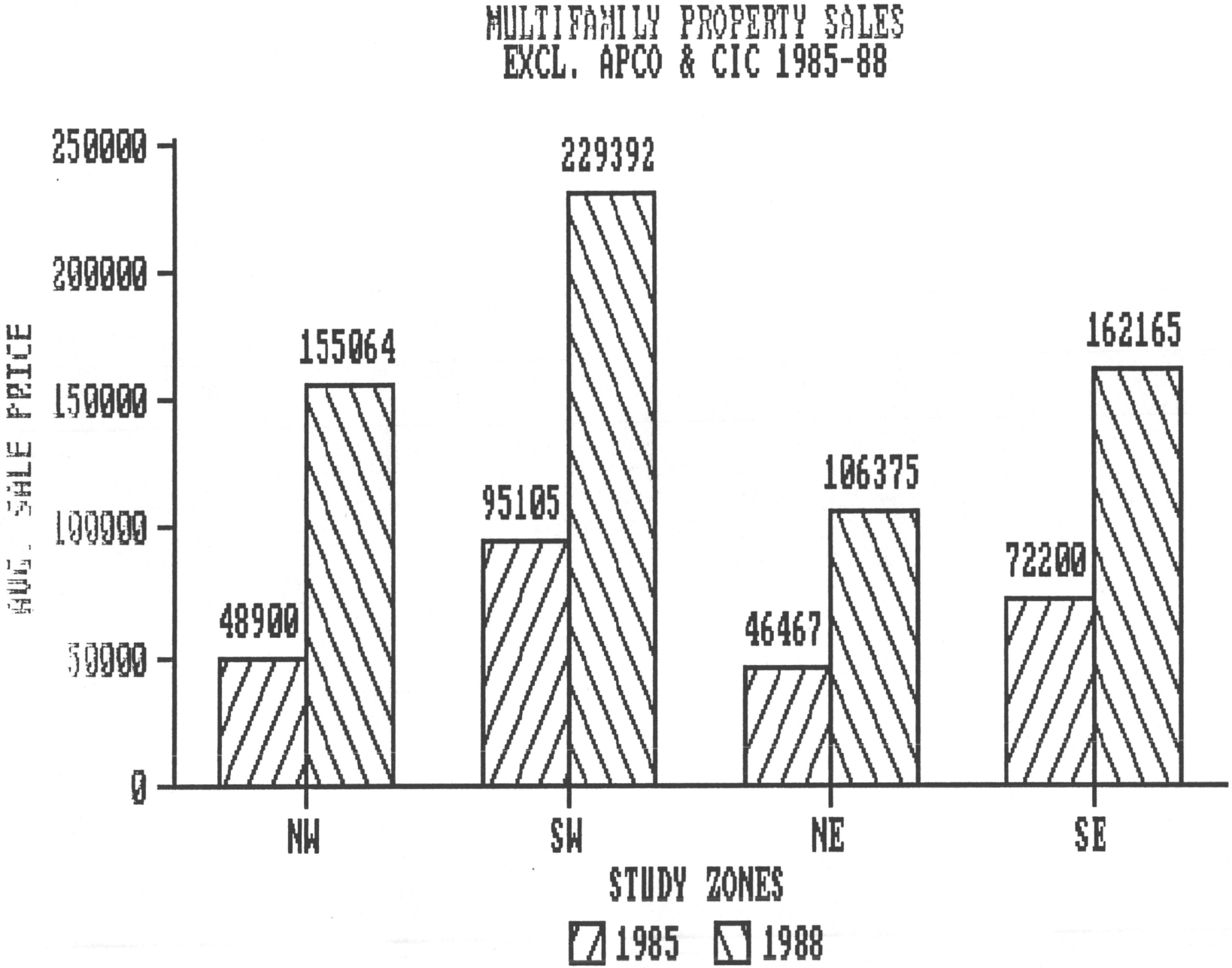

PROPERTY TAX INCREASES
EXCL. CONSTRUCTION 1981-88
AVG. ASSESSMENT/ SQ.FT ($)
20
15
10
5
0
4.37
4.47
15.35
15.13
1.3
1.31
13.1
12.82
NW
SW
NE
SE
STUDY ZONES
1981
1988

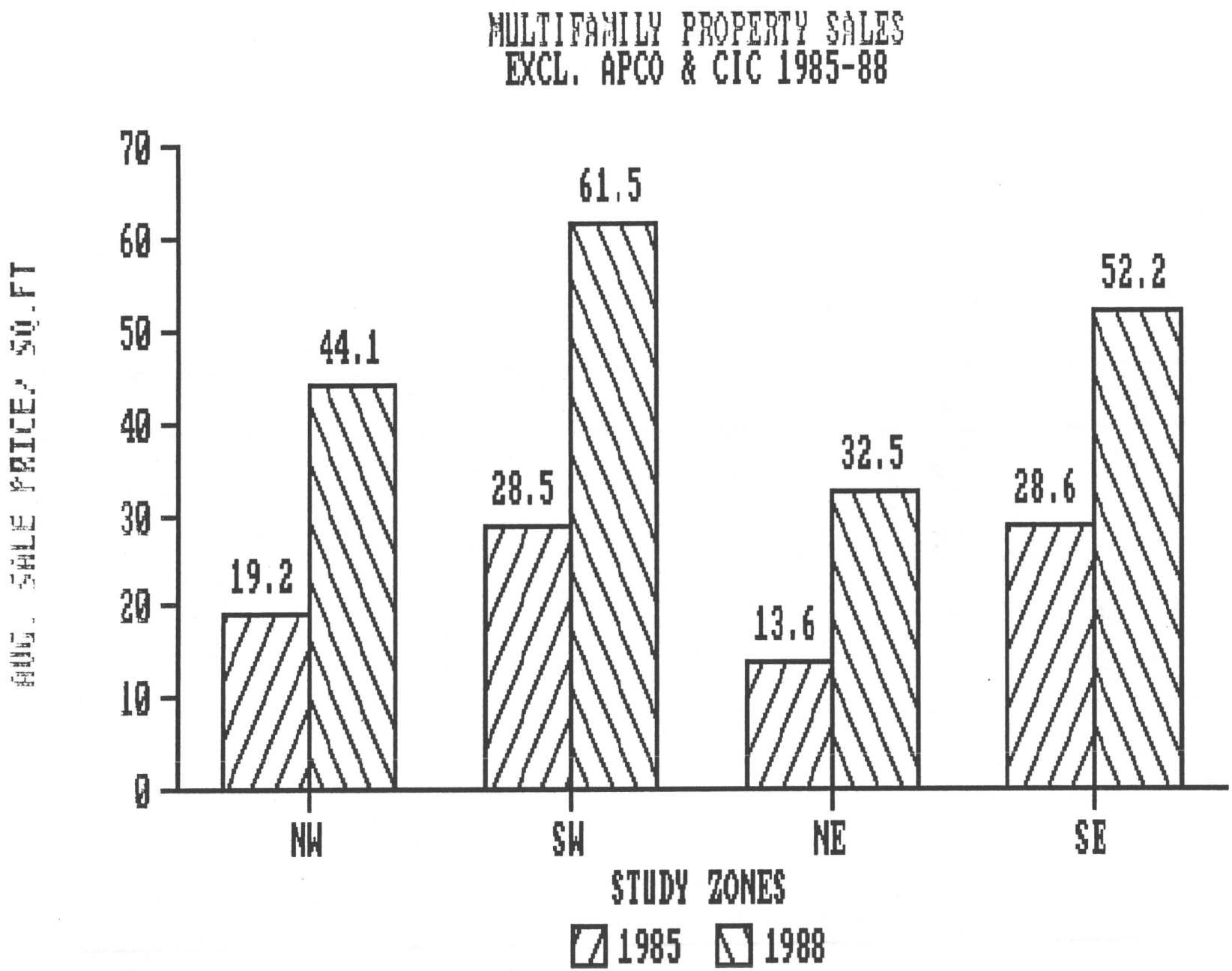

PROPERTY TAX INCREASES
EXCL. CONSTRUCTION 1981-88
% ASSESSMENT INCREASE
1
.5
0
-.5
-1
-1.5
-2
-2.5
.88
-1
.33
-2.08
NW
SW
NE
SE
STUDY ZONES

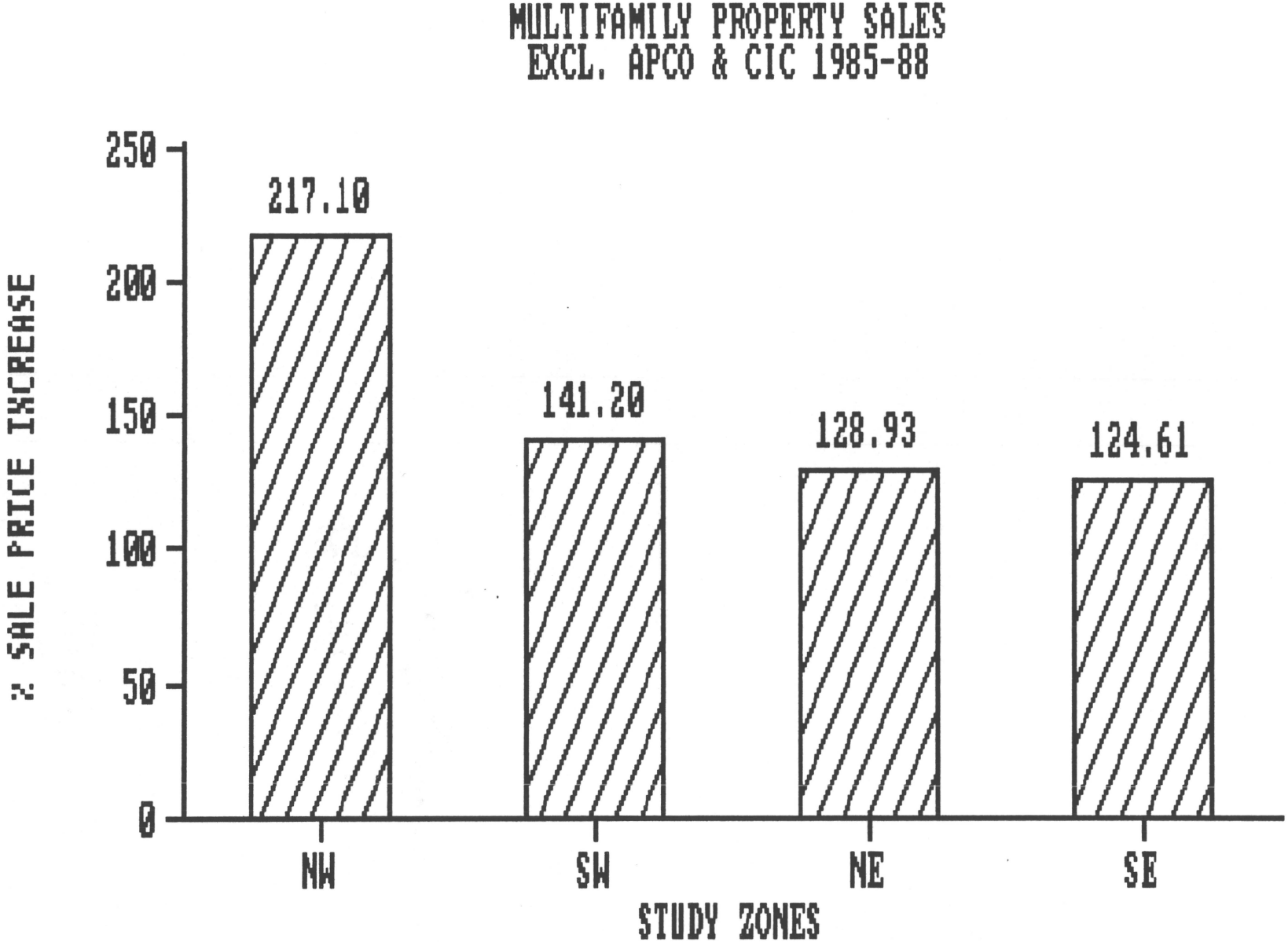

MULTIFAMILY PROPERTY SALES
INCL. APCO & CIC 1985-88
AVG. SALE PRICE
250000
200000
150000
100000
50000
0
96200
229759
236908
230923
46467
106375
85452
185917
NW
SW
NE
SE
STUDY ZONES
1985
1988

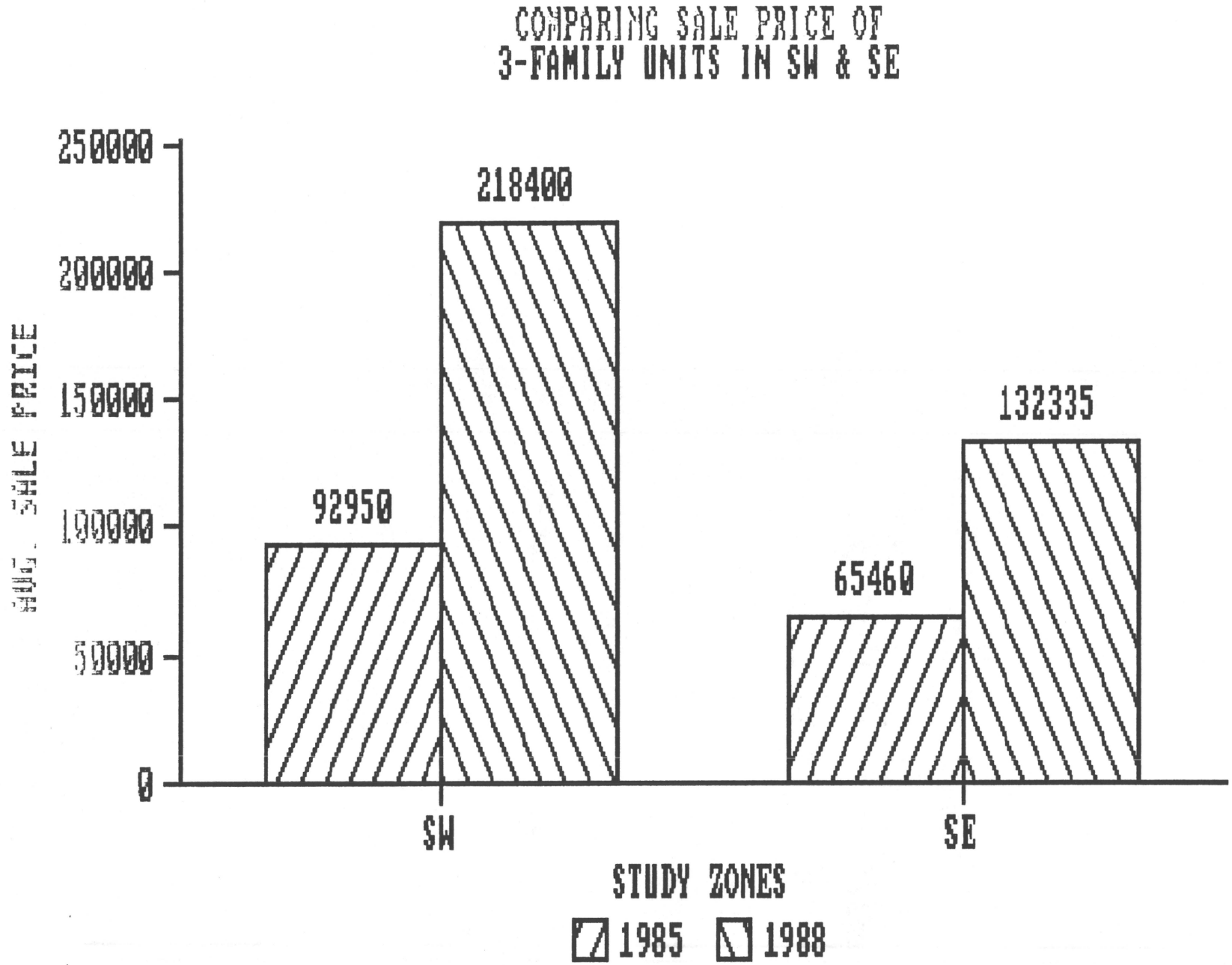

MULTIFAMILY PROPERTY SALES
INCL. APCO & CIC 1985-88
AVG. SALE PRICE/ SQ.FT
60
50
40
30
20
10
0
22.9
50
52.5
56.7
13.59
32.5
27.3
58.8
NW
SW
NE
SE
STUDY ZONES
1985
1988

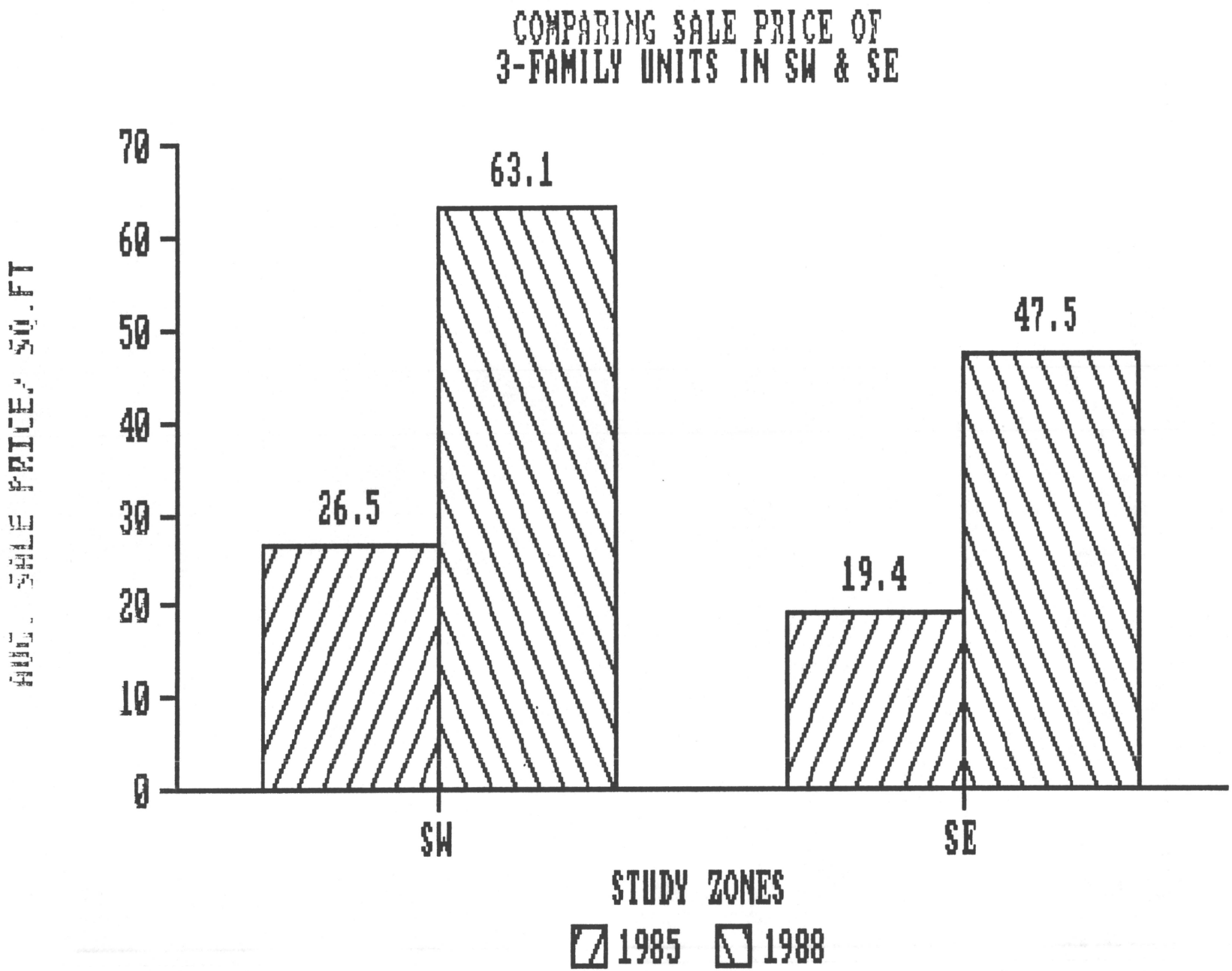

MULTIFAMILY PROPERTY SALES
INCL. APCO & CIC 1985-88
% SALE PRICE INCREASE
140
120
100
80
60
40
20
0
-20
138.83
-2.53
128.93
117.57
NW
SW
NE
SE
STUDY ZONES

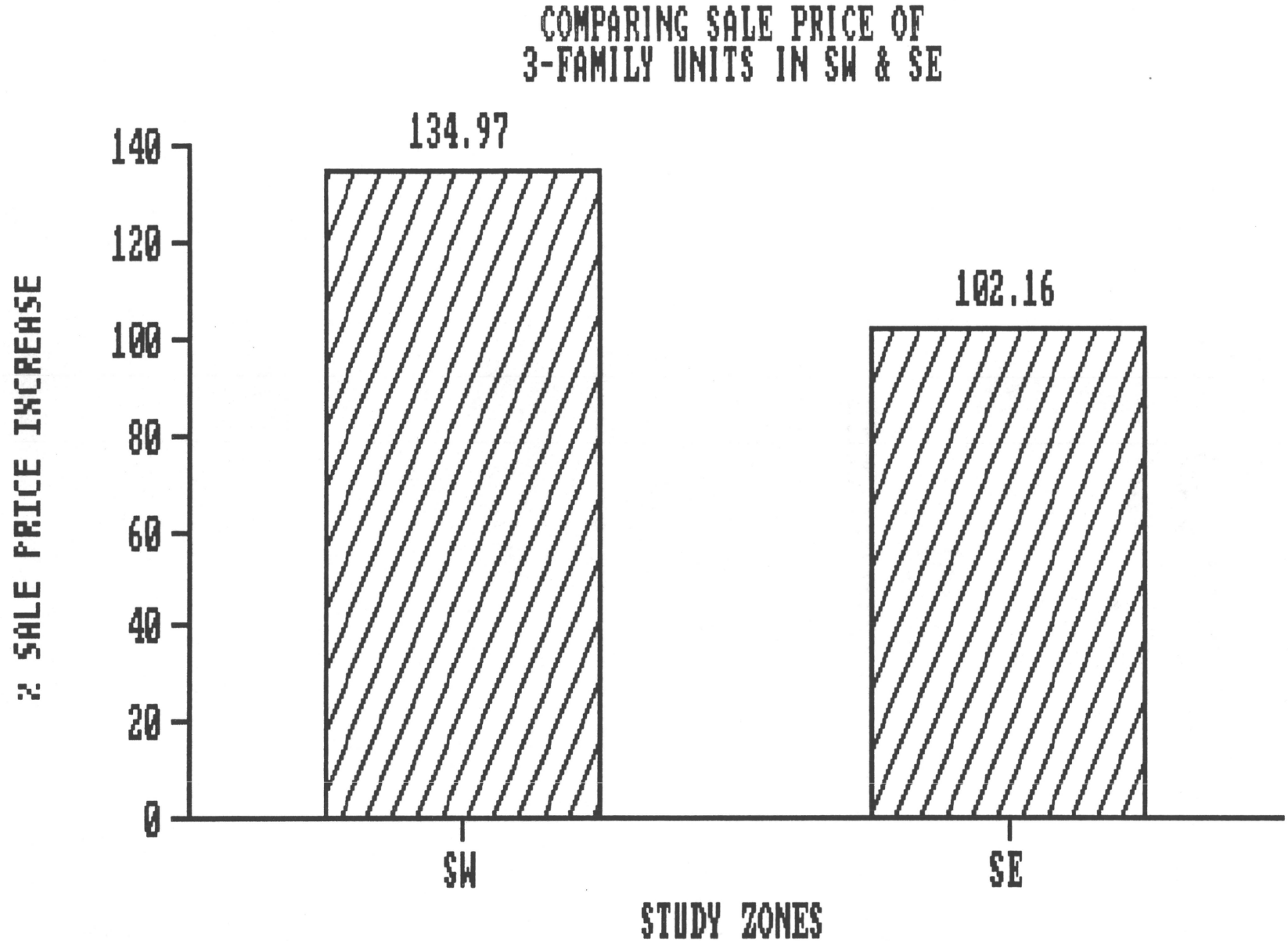

MULTIFAMILY PROPERTY SALES
EXCL. APCO & CIC 1985-88
AVG. SALE PRICE
250000
200000
150000
100000
50000
0
48900
155064
95105
229392
46467
106375
72200
162165
NW
SW
NE
SE
STUDY ZONES
1985
1988

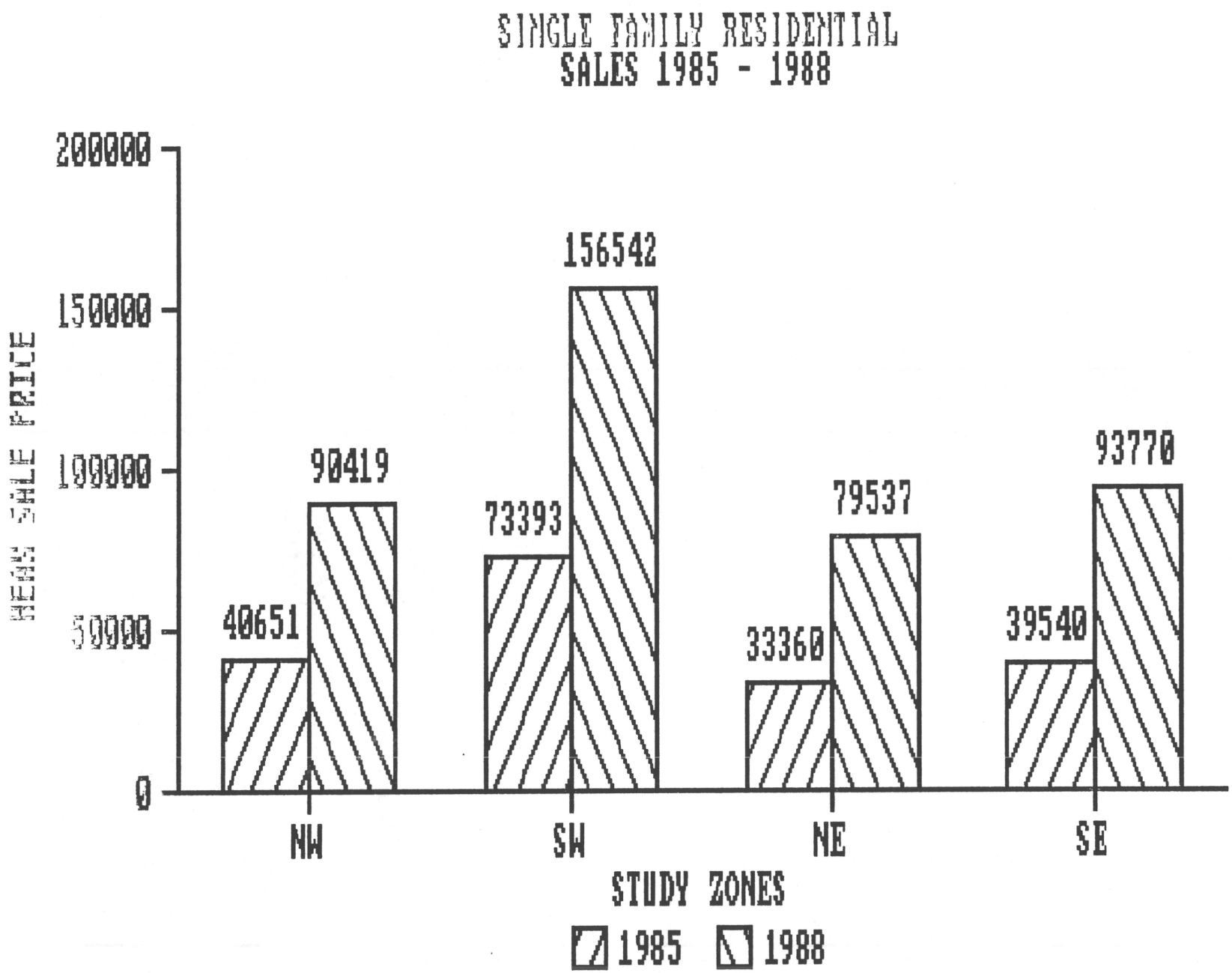

MULTIFAMILY PROPERTY SALES
EXCL. APCO & CIC 1985-88
AVG. SALE PRICE/ SQ.FT
70
60
50
40
30
20
10
0
19.2
44.1
28.5
61.5
13.6
32.5
28.6
52.2
NW
SW
NE
SE
STUDY ZONES
1985
1988

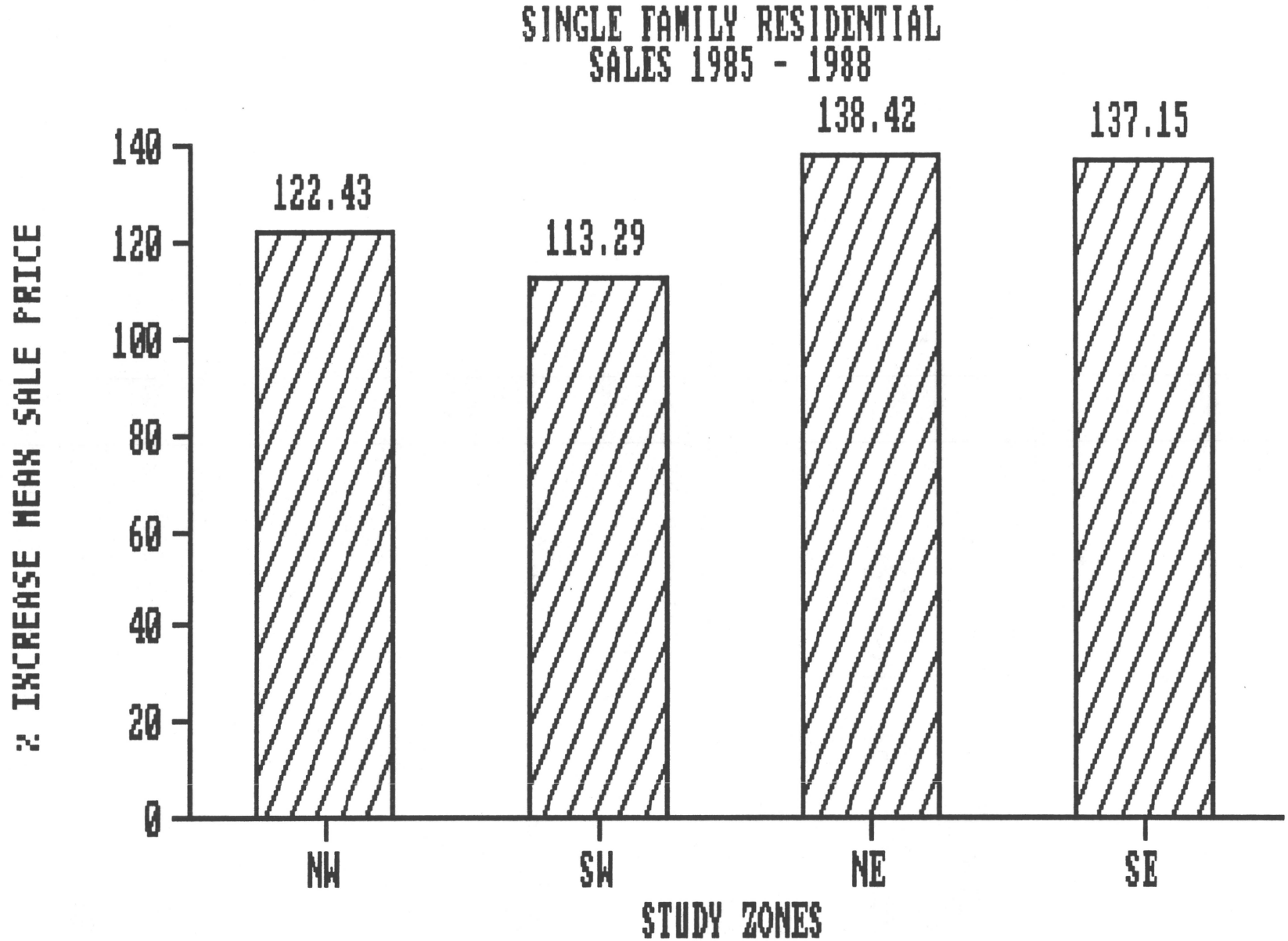

MULTIFAMILY PROPERTY SALES
EXCL. APCO & CIC 1985-88
% SALE PRICE INCREASE
250
200
150
100
50
0
217.10
141.20
128.93
124.61
NW
SW
NE
SE
STUDY ZONES

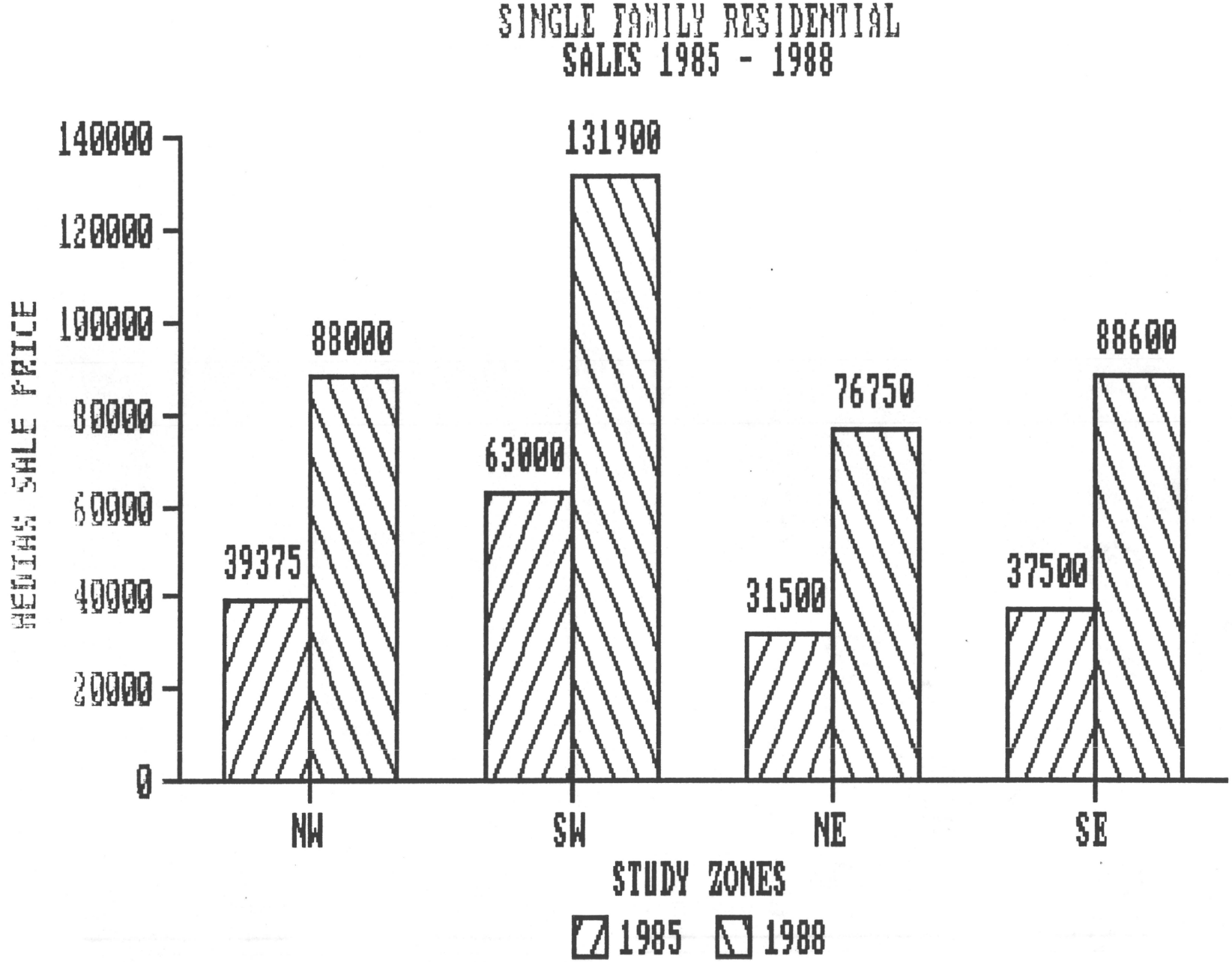

COMPARING SALE PRICE OF
3-FAMILY UNITS IN SW & SE
AVG. SALE PRICE
250000
200000
150000
100000
50000
0
92950
218400
65460
132335
SW
SE
STUDY ZONES
1985
1988

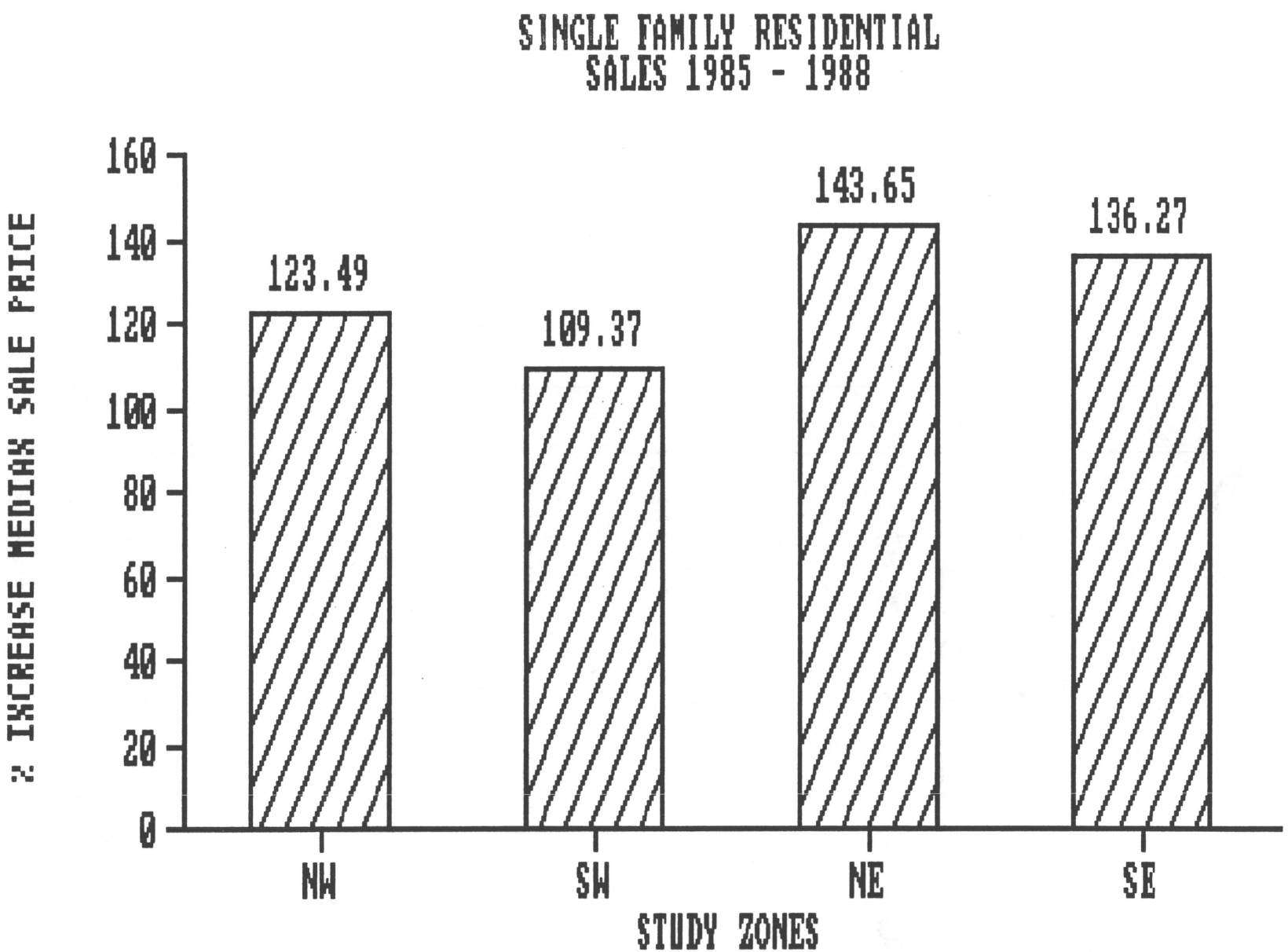

COMPARING SALE PRICE OF
3-FAMILY UNITS IN SW & SE
AVG. SALE PRICE/ SQ.FT
70
60
50
40
30
20
10
0
63.1
47.5
26.5
19.4
SW
SE
STUDY ZONES
1985
1988


COMPARING SALE PRICE OF
3-FAMILY UNITS IN SW & SE
134.97
102.16
140
120
100
80
60
40
20
0
% SALE PRICE INCREASE
SW
SE
STUDY ZONES


SINGLE FAMILY RESIDENTIAL
SALES 1985 - 1988
MEAN SALE PRICE
200000
150000
100000
50000
0
40651
90419
73393
156542
33360
79537
39540
93770
NW
SW
NE
SE
STUDY ZONES
1985
1988


SINGLE FAMILY RESIDENTIAL
SALES 1985 - 1988
% INCREASE MEAN SALE PRICE
140
120
100
80
60
40
20
0
122.43
113.29
138.42
137.15
NW
SW
NE
SE
STUDY ZONES


SINGLE FAMILY RESIDENTIAL
SALES 1985 - 1988
MEDIAN SALE PRICE
140000
120000
100000
80000
60000
40000
20000
0
39375
88000
63000
131900
31500
76750
37500
88600
NW
SW
NE
SE
STUDY ZONES
1985
1988


SINGLE FAMILY RESIDENTIAL
SALES 1985 - 1988
% INCREASE MEDIAN SALE PRICE
160
140
120
100
80
60
40
20
0
123.49
109.37
143.65
136.27
NW
SW
NE
SE
STUDY ZONES