Walnut Hills: An Analysis of Current Conditions
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1.0 INTRODUCTION
Where is Walnut Hills today in terms of development? How can we assess this with less bias and comprehensive thought? These questions and many more gave us direction into our approach of an analysis of current conditions in Walnut Hills.

In the first part, this paper has attempted to present a historic summary of the neighborhood in the context of the city of Cincinnati and Hamilton County. In the second section we attempt to outline and analyze the socio-economic characteristics, physical and spatial characteristics, and infrastructural characteristics of the neighborhood. Characteristics of socio-economic data are analyzed based on the population, age, race, income, poverty, employment and economic base characteristics. The physical and spatial characteristics of the neighborhood have been laid out by looking at the current land uses, land changes since 1970, zoning regulations. The physical infrastructure of the neighborhood has been analyzed based on the transportation network, traffic entry and exit points, topology, parks and public spaces. In the third part Social Area Analysis has been performed by overlapping five socio-economic and physical feature indicators to determine the current situation of the neighborhood. Finally, to answer our research questions we conclude with the assessment of the neighborhood in the context of US inner city neighborhood growth and decline pattern since 1950’s.
2.0 WALNUT HILLS HISTORIC SUMMARY

Orientation
Walnut Hills has had a variety of activity from localized industry to a minor union hub of cable cars to what we find today, a mixture of good housing stock, outstanding architecture but many degraded sectors in the neighborhood.

Walnut Hills is a hilltop neighborhood located just northeast of Cincinnati’s Central Business District (CBD). Walnut Hills is bounded by the neighborhoods of East Walnut Hills to the east, the East End and Mt. Adams to the south, Mt. Auburn and Corryville to the west and Evanston and Avondale to the north. The physical boundaries of Walnut Hills include Interstate-71 and Victory Parkway to the north, Interstate-71 and Reading Road to the west, Eden Park and Columbia Parkway to the south, and Victory Parkway and Woodburn Avenue to the east.

Several streetcar lines met in Walnut Hills at the intersection of two major roads - Gilbert and McMillan. Called Peebles Corner, it was once the busiest intersection in the city, but now struggles to keep businesses

A brief history
Mound-building Native Americans who enjoyed the area’s rich resources and strategic views of the Ohio River Valley originally inhabited Walnut Hills. In the 18th century we find our first non-native inhabitant, Reverend James Kemper.

Reverend James Kemper became the first resident in 1794, buying 150 acres to establish a farm, he named his estate Walnut Hill Farm. Kemper was Cincinnati’s only Presbyterian minister and the founder of the First Presbyterian Church. In 1804 he built his home and is know to be the oldest house in Cincinnati (“Walnut Hills Beginnings“ 1883, 2).

Access to Walnut hills was limited and Kemper needed a way to get from the First Presbyterian Church down to the city, so he and his sons built what is now called Kemper Lane. Kemper Lane winds from McMillan down to Columbia Parkway, along Eden Park’s eastern border. By the 1840s, a small business district had emerged around the intersection of Montgomery Pike and McMillan. In 1849, the city of Cincinnati proposed legislation to annex the slopes of Walnut Hills up to McMillan Street. Montgomery Pike was modernized from downtown up to Walnut Hills in 1868. The widened, paved and landscaped road was renamed Gilbert Avenue, after Cincinnati’s first engineer Alfred West Gilbert.

Activity was booming in the area and The Mt. Adams incline was completed in 1874, largely to provide a convenient way for basin residents to visit Eden Park. In 1898, mechanical streetcars were replaced electric cars (Whalen 1983, 2-3).

With the influx of people in the area, the need for learning institutions was prevalent, by the late 19th century; Walnut Hills had developed a reputation as a center of learning, religion and important institutions. Several prominent churches in the neighborhood gave it the nickname “Hill of the Churches.” The Public Library of Cincinnati in 1906, built its first Carnegie-sponsored branch in Walnut Hills on the corner of Kemper Lane and Taft Road.

In the early twentieth century specialized employment could be had in Walnut Hills. It was dubbed “Time Hill” and was home to the Frank Herschede Clock Company and Gruen Watch Company which moved from the basin to Walnut Hills in 1912 and 1917, respectively (Shear 1983, 5-7). Across the street from the Gruen Watch Company was Beau Brummel Ties, Inc. which produced neckties from 1936 until 1982 when it was closed. In 1915, Henry Ford built a Model-T truck factory on Lincoln Road in Walnut Hills. Ford was considering building his second production hub in Cincinnati 1915 until 1940 and provided some of the best wages in the city for Walnut Hills residents (Cincinnati Business Courier 14 August 2002).

Even though jobs were in Walnut Hills there were people leaving, by the 1930s and 1940s, changes in demographics had led some of the more affluent residents to leave for newer suburbs, such as Hyde Park. Along with the residents movement came the highway system, leading residents further away. As residents gained more income they felt the need to live in a newer larger suburbs.
There has been some efforts of late to bring life back into the area. The 1990 Uptown Comprehensive Plan considered Walnut Hills along with its neighboring zones to the west and tried to connect them as interdependent communities. In 1992, the Planning Department issued the updated Walnut Hills Community Plan which called for rezoning of several areas, including Peebles Corner and the Gilbert-Lincoln business districts. The Community Plan also outlined goals for improvements in housing, business development, and other needs including creating “a strong visual identity, developing off-street parking and emphasizing Peebles Corner as a transportation node” (Cincinnati Post 28 April 1992 in Tubb)

### 3.0 SOCIO-ECONOMIC CHARACTERISTICS

The socio-economic characteristics of Walnut Hills from 1970 to 2000 has been analyzed based on the census tracts 19, 20, 21, 35, 36, and 37. These six census tracts cover the greatest area of the neighborhood. There are other census tracts parts of which come within the Walnut Hills neighborhood area boundary but only to a minor extent and the error has not been counted in the analysis.

**Population**

The population change in Walnut Hills has shown a steady decline since 1970, from 16,718 in 1970 to 9,426 in 2000, but it has been declined at a decreasing rate. This rate of decline is also found to be higher than Hamilton County (Table 3.1).

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
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<tbody>
<tr>
<td>1970</td>
<td>16,718</td>
</tr>
<tr>
<td>1980</td>
<td>11,861</td>
</tr>
<tr>
<td>1990</td>
<td>10,546</td>
</tr>
<tr>
<td>2000</td>
<td>9,426</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>-29.1%</td>
</tr>
<tr>
<td>1980</td>
<td>-11.1%</td>
</tr>
<tr>
<td>1990</td>
<td>-10.6%</td>
</tr>
<tr>
<td>2000</td>
<td>-2.4%</td>
</tr>
</tbody>
</table>

source: Census Data

**Age**

The below working age population (below 18 years) has declined from 28.6% in 1970 to 23.4% in 2000 in a steady pattern. The old age population (above 65 years) has also decreased from 17.3% in 1970 to 15.6% in 2000. However, the working age population (from 18 to 65 years) has increased over the years from 54% in 1970 to 64% in 2000. But the absolute number of working people has also declined with the decline in population (Figure 3.1).

**Racial Composition**

The racial composition has been divided into black, white and other races. The composition shows a dominance of black population in the neighborhood since the past three decades as opposed to Hamilton County (Figure 3.2 & 3.3).

source: Census Data
Figure No. 3.3.

![Race: Hamilton County](chart)

source: Census Data

The racial segregation over the space within the neighborhood has also been analyzed based on the census tracts divisions. Index of Dissimilarity has been used to identify the measure of racial segregation, which reveals about 65.6% segregation between the whites and blacks distributed unevenly over the space in 2000 (see Appendix A).

**Income**

The income pattern has been determined by the average household income since. Although an increase in average household income is observed in Walnut Hills from $26,784 in 1970 (in 1999 $ value) to $37,640 in 2000 yet has been less than Hamilton County although (Figure 3.4).

Figure No. 3.4.

![Avg. HH Income (1999 $ value)](chart)

source: Census Data

However, analyzing the per capital income among the various races reveals a high degree of income inequality between the blacks and whites in 2000. The per capital income among whites is $41,592 whereas among blacks is $12,230. Thus the per capital income of Walnut Hills which is $19,555 in 2000 cannot highlight the low income level of the majority of the population which is black (Figure 3.5).

Figure No. 3.5.

![Income Distribution (in 1999 $ value)](chart)

source: Census Data

**Poverty**

The share of people living in poverty is extremely higher in Walnut Hills than compared to Hamilton County and thus signifies a large percentage of "poor" people within the neighborhood. It has been reported that 32% of people lived in poverty in 1970 which increased to 38% in 1980 and 1990 and then again decreased to 32.7% in 2000 (Figure 3.5). The spatial concentration of poverty is higher in the northern part of the neighborhoods, census tracts 35, 36 and 37 (Map ???) in 2000 which are almost equal to the definition of "ghettos", i.e. 40% of people living in poverty.

Figure No. 3.5.

![Population living in poverty](chart)

source: Census Data

**Unemployment**

The share of unemployed people in Walnut Hills has been higher than Hamilton County since 1970. It was 3% in 1970 and increased to 5.5% in 1980 and then decreased steadily to 4.8% in 2000. This trend can be related to the changing pattern of poverty from 1970 to 2000 (Figure 3.6).
Employment Pattern

The changing pattern of employment in the neighborhood was observed since 1960, the shift has been significant from manufacturing sector to technical, sales, administrative services sector which became an important sector in 1980s. However, the data from 2000 reports the dominance of health and educational services as the major employment sector with 23.5% workforce in Walnut Hills. The other important sectors with more than 10% employment are the Professional, scientific, management, administrative and waste management services; Manufacturing; Arts, entertainment, recreation, accommodation and food services; and Retail services (Figure 3.7).

Economic Base

The economic sectors of Walnut Hills has been compared with that of Hamilton County in terms of employment to determine the basic economic sectors by the locational quotient (LQ) analysis method. The outcome of the analysis suggests the following sectors as basic sectors (where LQ>1):

- Information; Finance, insurance, real estate, rental and leasing services; Professional, scientific, management, administrative and waste management services; Educational, health and social services; and Arts, entertainment, recreation, accommodation and food services (see Appendix B).

The total number of people employed in basic sectors was 2236 and non-basic sector was 1464. Thus, the economic base multiplier in Walnut Hills, given by total employment / basic employment, is 1.65. This signifies that an increase of 1 basic job will raise the total number of jobs by 1.65.

4.0 PHYSICAL AND SPATIAL CHARACTERISTICS

This section explains the physical and spatial characteristics of Walnut Hills in terms of housing characteristics, Land Use, and the location of various activities over the space.

Housing

The housing characteristics has been explained in terms of the housing age and conditions, housing value, tenure and vacant units. According to a “windshield” survey conducted in 1987, the condition and age of housing units across Walnut Hills suggest that 52.22% are in good conditions, 39.11% are in sound conditions, 5.98% are in fair conditions, and 2.69% are in poor conditions. It was used standardized criteria to judgement. (Walnut Hills Community Plan, 1991).

The median value of housing units is highest in the south-eastern part of the neighborhood, census tract 20, which is $135,200 whereas the median housing unit value of the neighborhood is $87,600. Thus it suggests the existence of lower value housing units located in the other parts of the neighborhood.

The tenure status of the housing units reveal the majority of rented housing units across the neighborhood. The private ownership of housing has been high only in the southern part of the
Map 4.1. Physical Characteristics. Image Source: CAGIS

- **Interstate connection**
- **east-west connection**
- **north-south commercial axis**
- **east-west commercial axis**
- **residential medium-low income**
- **residential multi-family low income**
- **residential medium/high income**
- **neighborhood equipments**
- **commercial**
- **manufacturing**
- **parks & open areas**
- **commercial nodes**
- **office**
Map 4.3. Zoning Code. Source: CAGIS
neighborhood which are dominated by the well off people. There are various programs by the local non profit organizations to increase the housing ownership rate among the medium income level people through developing cheaper multi-family housing units within the community, which has been successful to a great extent. (Walnut Hills Redevelopment Foundation)

The share of vacant housing units has increased from 4% in 1970 to 15% in 2000. In terms of spatial distribution of the vacant units, the number is higher in the northern part of the neighborhood where share of “poor” people is also higher.

**Land Use**

The land use characteristics of the neighborhood suggest the dominance of uses like Residential, followed by Commercial, Offices, and Industrial. However, the land use pattern has changed in this way from 1970 to 2000 with a net loss of 26% of its housing units up to the 1980s and an additional loss of 433 units for demolition until the 1990s. The residential developments from 1971 until 1991 still couldn’t make up to the loss. In 2003 there were two residential and an office development projects managed by the Walnut Hills Redevelopment Foundation – the Alexander historical building with 83 housing units, 11 townhomes and 1 single-family house which is handicapped equipped, and the EBTech Center an affordable e-business space. One of the major changes since the 1970s was in the neighborhood boundary on the east side. It was reduced and now follows the Victory Parkway. The present land use categorization shows the following distribution of land uses in the neighborhood:

Location of various activities
The major activities within the neighborhood have been identified as Commercial, Industrial, Residential and Institutional.

Residential areas were identified in four main groups (A, B, C, I in Map 5.1). The first area (A) is located between Gilbert Ave and I-75, south of MLK, this area is characterized as a low income, medium to high density housing, sited in small lots (fig 4.1). Since 1970 the increased change from residential to other uses within this area resulted in a zoning change to Mixed Use that reflects better the actual land uses. The second area (B) is located between Gilbert Ave and Victory Parkway, south of McMillan ST, and is characterized as a medium to high income, and medium to low density housing (fig 4.2 and 4.3). This area also changed the zoning code from 1971 in order to fit better the existing uses that area distributed in Office, Multi-Family, and Mixed Use zones. The next area (C) is located in the northeast portion of the neighborhood bellow MLK Corridor. The opening of this avenue in the late 1960s contributed to the changes on the land use. Together with the residential use there are a number urban equipment, such as schools, recreational areas, church and so on (Fig 4.4). This also resulted in updates on the zoning code to accommodate the changes. The other area (I) is located in the northwest part of the neighborhood, between Gilbert Ave and I-75. It is characterized as a low income, medium to high density housing, sitting in small lots and multi-family buildings (fig 4.5).

(Community Plan Update 1991)
Commercial activities are mostly clustered around the eastern portion of McMillan and Taft St. It used to be three centers considered NBDs, but since De Sales Corner is not part of Walnut Hills anymore there are two – Peebles Corner and Gilbert-Lincoln corner, both exhibit signs of disinvestment. The illustrative map shows the main north-south and west-east commercial axis (Gilbert Ave, McMillan St, Taft St - Fig 4.6). A buffer was designed along Gilbert Ave and the Peebles corner to highlight their importance (map 5.1).

Industrial activities are located mostly along the transportation corridors between I-75 and reading Road (G, Map 4.1, fig 4.7) and remain like that since the 1970s. Although the north portion between Florence and Gilbert is zoned as Industrial the land use has been changing to Office buildings (H on Map 4.1, fig 4.8). Besides this area Office business activities are located in the southeastern portion of the neighborhood.
5.0 PHYSICAL INFRASTRUCTURE

The physical infrastructure of Walnut Hills appears to be stagnant. New development in the area is sparse. Besides a few buildings on the Southwestern portion near the highway it did not appear any new buildings were in the neighborhood.

We took notes on the infrastructure during our windshield survey. We noticed sidewalks to be in decent condition, minor cracks and general wear and tear was visible. A GIS analysis of sidewalks showed complete coverage on side and main streets.

Transportation

Roads at times were hard to navigate due to the one-way street network. Most streets were in good condition. Once the street patterns were learned, navigation was smooth.

The road connectivity map (map 5.3) shows the classification between streets. We have highway 75 that runs North South and is a major entry port in the neighborhood. Major and Minor Arterials are shown in green these streets provide great access to get across town in a relatively fast manner. The cut through both East and West and North and South. The collectors are yellow. These provide different access points to the arterial streets.

In the past it is seems the rail and river could have been used as transportation methods in the neighborhood. It does not seem that either have much direct impact in the neighborhood now. Rail still exists to the North and South of Walnut Hills and could be used in the future for commuter rail, if the rail system in Cincinnati ever took off.

Looking at the bus routes in the area one can it is completely covered. Connecting residents to places of employment is an important transportation feature.

Topography

The terrain of the area is flat where you find the central business area. Towards the North and South there are slopes that give the area unique character, this is where you find the main parks in the neighborhood (Map 5.2).
Map 5.2: Contours and Parks. Source: CAGIS
Map 5.1. Neighborhood Services.
Source: CAGIS
5.3 Transportation Network. Source: CAGIS
Parks /public areas

Parks are a main draw to Walnut Hills and have been since the neighborhood was founded. Parks are scattered throughout the neighborhood and the most apparent is to the South which is Eden Park. This park draws visitors both local and non local alike. It has great views of the city, and offers a different atmosphere from the neighborhood (Map 5.2).

Utility network

The neighborhood is serviced by two substations. Utility poles are owned by Cincinnati gas and electric and Cincinnati Bell telephone. There is complete coverage in the neighborhood and appears to be less poles near heavy commercial use. The poles may be buried in this area to lessen the amount of overhead lines.

6.0 SOCIAL AREA ANALYSIS

This section analyzes the spatial variations of socio-economic and physical conditions within the neighborhood based on the census tract divisions. Five indicators have been selected for the purpose of social area analysis, which are:

1. Percent Black Population (Map 6.1)
2. Percent Population living in poverty (Map 6.2)
3. Per Capital Income (Map 6.3)
4. Percent Housing Ownership (Map 6.4)
5. Percent Vacant Housing Units (Map 6.5)

The methodology consisted of rasterizing each of the five indicators, which then have been weighted and overlaid to create the composite social analysis map. The weightage given to the five indicators are as follows:

1. Percent Black Population - 20%
2. Percent Population living in poverty - 40%
3. Per Capital Income - 30%
4. Percent Housing Ownership - 5%
5. Percent Vacant Housing Units - 5%

Map 6.1. Data Source: Census Tract

Map 6.2. Data Source: Census Tract
Map 6.3. Data Source: Census Tract

Map 6.4. Data Source: Census Tract

Map 6.5. Data Source: Census Tract

Map 6.6. Data Source: Census Tract
The composite social analysis map (Map 6.6) categorizes the neighborhood area into three major conditional categories - good, fair, and poor. The results show that the census tracts 21, 35, 36, and 37 are of poor condition, census tract 19 is of fair condition and only census tract 20 as of good condition. So it can be concluded that 55% of the neighborhood area is poor, 22% is fair, and only 23% is good.

7.0 CONCLUSION
Walnut Hills can be described as an inner city neighborhood of Cincinnati Metropolitan Core, which developed in the 1920's. The growth and decline pattern of this neighborhood can be compared to any other inner city neighborhoods in the US, that was confronted with the problems of out-migration of the rich, concentration of “poor” black population, and decline of the physical conditions since the 1950s due to the phenomenon of suburbanization, urban sprawl, and growth of ‘automobile-based’ cities.

The Walnut Hills Redevelopment Foundation and other non profit organizations, formed during the 1960s and 1970s, have attempted to pursue housing and commercial development programs through adaptive reuse and revitalization of old buildings. But some of these buildings refurbished in 2003 are still vacant and was unanle to boost up commercial and other economic activities in the neighborhood. There are still existence of blight and derelict areas, concentrated poverty and decayed infrastructure in many pockets throughout the neighborhood, which needs to be addressed with proper renewal programs.

REFERENCE

Data sources:


Webpages:

http://www.whrf-cincinnati.org

www.socialexplorer.com
Appendix. A. Index of Dissimilarity

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<thead>
<tr>
<th></th>
<th>CT 19</th>
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<th>CT 36</th>
<th>CT 37</th>
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<td>422</td>
<td>884</td>
<td>1267</td>
<td>1599</td>
<td>1861</td>
<td>6976</td>
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\[ \left| \frac{X_i}{X} - \frac{Y_i}{Y} \right| \]

Index of Dissimilarity \[ \frac{1}{2} \left( \sum \left| \frac{X_i}{X} - \frac{Y_i}{Y} \right| \right) = 0.65601 \]

source: Census Tract data, www.census.gov

Appendix. B. Location Quotient Analysis

<table>
<thead>
<tr>
<th>Economic Sectors</th>
<th>Walnut Hills</th>
<th>Hamilton County</th>
<th>Locational Quotient</th>
<th>Basic Sector</th>
<th>Non-basic Sector</th>
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<tbody>
<tr>
<td>Agriculture, forestry, fishing and hunting, and mining</td>
<td>0.0%</td>
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<tr>
<td>Construction</td>
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<tr>
<td>Manufacturing</td>
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<td>Wholesale trade</td>
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<td>Retail trade</td>
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<td>Transportation and warehousing, and utilities</td>
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<td>Information</td>
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<td>Finance, insurance, real estate and rental and leasing</td>
<td>9.8%</td>
<td>7.9%</td>
<td>1.3</td>
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<td>Professional, scientific, management, administrative</td>
<td>13.1%</td>
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<td>1.1</td>
<td>485</td>
<td></td>
</tr>
<tr>
<td>and waste management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational, health and social services</td>
<td>23.5%</td>
<td>20.8%</td>
<td>1.1</td>
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<tr>
<td>Arts, entertainment, recreation, accommodation and</td>
<td>10.7%</td>
<td>8.6%</td>
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<td>food services</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other services (except public administration)</td>
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<td>4.6%</td>
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<td>Public administration</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>1464</strong></td>
<td></td>
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</tbody>
</table>

Total Employment = 3700

Base Multiplier = \( \frac{(2236+1464)}{2236} = 1.65 \)

source: Census Tract data, www.census.gov