THE INFLUENCE OF THE DADE COUNTY MASTER PLAN UPON DEVELOPMENT AROUND THE FLORIDA TURNPIKE

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Dade county is one of the fastest growing regions in the United States. This growth is to be channeled by the Metropolitan Dade County Master Plan and thus will be controlled growth rather than the haphazard growth that has occurred in other urban areas. Prior research suggests that intensive development should occur at the interchanges of the Florida Turnpike. However, because the Comprehensive Master Plan allows for only specific residential and industrial densities, it is believed that development will be restricted at some interchanges. This paper attempts to show the influence of the Comprehensive Master Plan on development around three interchanges of the Florida Turnpike using land values and zoning regulations as surrogates for development.

Review of Literature

The notion that accessibility affects urban residential land values has roots with von Thünnen. Later researchers found that improved transportation hastens development and increases land values in adjacent areas. One of the first studies by geographers of highway development which noted resulting geographic change was by Garrison et al.[1] They concluded that location at strategic places was critical to the success of business establishments and that location influences the price one must pay to purchase or rent facilities.

Illustrative of highway impact studies is a 1968 report by the Secretary of Commerce of a nationwide highway impact analysis. He found that 172 of 183 study segments along highways increased in land values. The largest concentration of annual rates of change was between 6 and 18 percent. Lands adjacent to the Dallas Central Expressway appreciated in value an average of 74.1 percent. Lands adjacent to the Jacksonville Expressway were studied from 1952 to 1960. Within 150 feet of the roadway land prices increased 36 percent, within 300 feet, 47 percent and within 500 feet, 25 percent.[2]

During the late 1960s and early 1970s controlled access highways came into prominence. Attention focused on interchanges as sites of reduced travel time for commuters and where maximum visual and physical exposure for businesses prevailed. "Among areas affected by highways, interchange areas have experienced relatively great economic activity, especially through more intensive forms of land use."[3]

Research by Hart and Bourne illustrated how highways caused development to "leapfrog" partially developed land and focus on subdivisions farther from the central city.[4] Muller envisioned suburbia emerging as the outer city, spatially arranged about freeway interchanges. He opined that we are witnessing the rise of curvilinear outer cities whose freeway spines function as both lifelines and main streets of suburbia.[5]

Numerous reports provide empirical evidence of the influence of highways on interchange development.[6] The consensus was that highways profoundly influence land values and subsequent development. Tremendous appreciation in land values and numerous changes in zoning often were seen. However, none of the studies were performed where a comprehensive development plan was present. Since development densities are restricted about the Florida Turnpike, the changes in land use and land values usually induced by transport improvements may be less than those reported elsewhere.

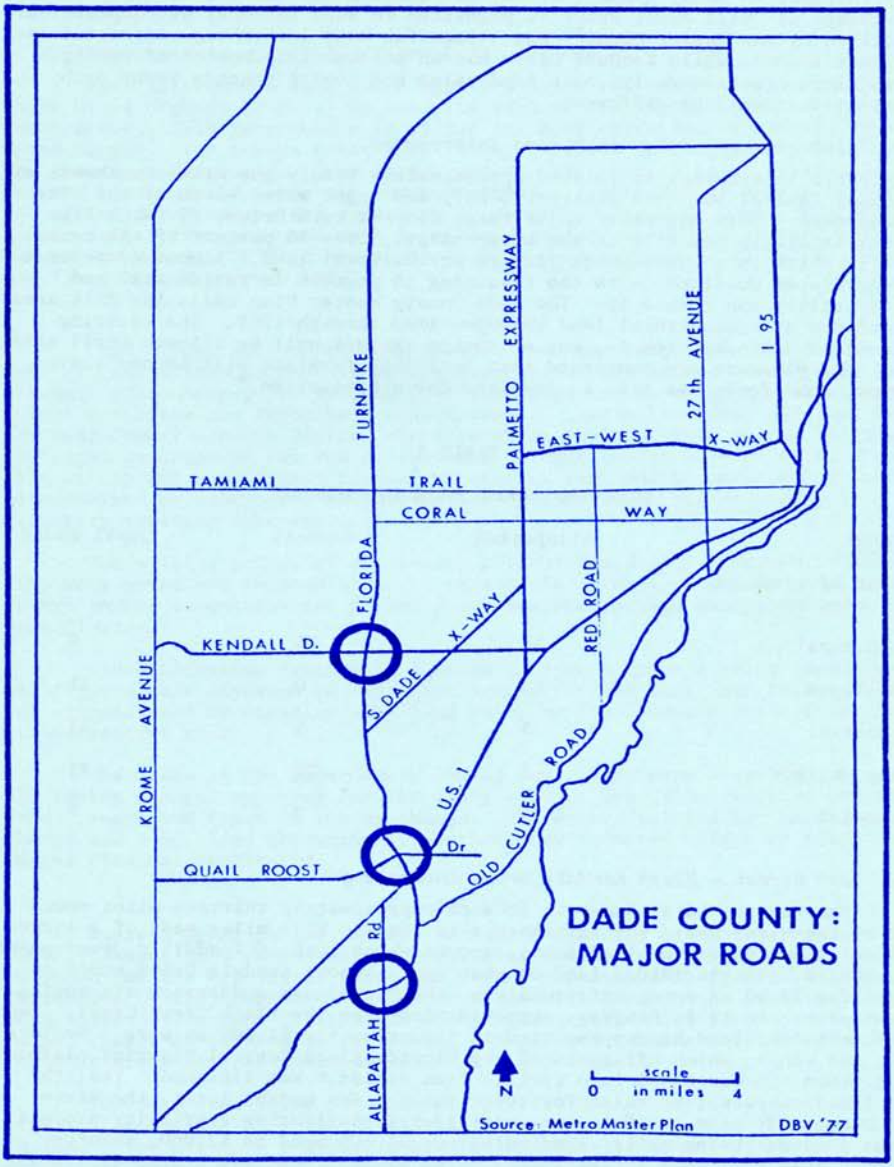
TURNPIKE
PALMETTO EXPRESSWAY
27th AVENUE
I 95
EAST-WEST
X-WAY
TAMIAMI
TRAIL
CORAL
WAY
FLORIDA
RED ROAD
KENDALL D.
X-WAY
KROME AVENUE
S DADE
U.S. 1
OLD CUTLER ROAD
QUAIL ROOST
Dr
Rd
ALLAPATTAH
DADE COUNTY:
MAJOR ROADS
N
scale
0 in miles 4
Source: Metro Master Plan
DBV '77

Fig. 1

Study Area

Three interchange areas of the Florida Turnpike were chosen for the study: Allapattah Road, Kendall Drive, and Quail Roost Drive (Fig. 1). The interchange at Quail Roost Drive is permitted to have the most development, as prescribed by the Master Plan.[7] The Allapattah Road interchange is restricted from development, while Kendall Drive has an intermediate amount of zoning restrictions. Consequently, both land value and zoning changes about each intersection should be different.

S. W. 112th Avenue - Allapattah Road Interchange

This interchange is located approximately twenty-one miles southwest of the Miami Central Business District (CBD), and eight miles north of the city of Homestead. Only one other major road, Coconut Palm Drive, (S. W. 248th Street) is within one mile of the interchange. Over 30 percent of the census tract in which this interchange lies is agricultural land. Almost 60 percent is undeveloped woodland, with the remaining 10 percent in residential and public utility use (Table 1). The Dade County Master Plan calls for this area to continue as agricultural land and open land through 1985. The existing residential units can remain, but no zoning changes will be allowed until after 1985. The planners are concerned that available farmland will become scarce. However, some feel this area is destined for urbanization.[8]

TABLE 1

LAND USE AROUND EACH INTERCHANGE

LAND USE	Allapattah	Kendall	Quail Roost
Percent of tract in each category			
Agricultural	30	75	0
Undeveloped	60	0	21
Residential	3	5	33
Public Utility	7	20	41
Commercial	0	0	5

S. W. 88th Street - North Kendall Drive Interchange

The Kendall interchange is located approximately thirteen miles southwest of the Miami CBD. The interchange is located five miles west of a large regional shopping center (Dadeland), around which much of Kendall's development is centered. In the 1930s, land on what would become Kendall Drive could be bought for $1.00 an acre; unfortunately, the "land" was underwater six months of the year. In 1958, Congress approved funds for the Black Creek Canal. Two years later the land had appreciated to approximately $1,000 an acre. By late 1962, the canal, which officials of the Florida Flood Control District claimed would "turn the wasteland into fertile farm fields," was finished. Yet, the farm fields were not to exist for long. Only a few months later, the State Road Department made the four-lane paving of Kendall Drive a priority project. As the road was being built, land value per acre jumped to $2,000, then to $5,700. Many felt land in the Kendall area was the "hottest" commodity in the real estate market. Today, the average family income of $20,000 (twice the Dade County average) reflects the affluent nature of the area.

The census tract data (1970) for this interchange shows five percent of the land in residential and 75 percent in agricultural use. The remaining 20 percent is divided among inland water, public utilities, and parks. The Master Plan allows for all this development, and calls for a low medium density of five homes per acre until 1985.

S. W. 200th Street - Quail Roost Drive Interchange

This interchange is located eighteen miles southwest of the Miami CBD. South Dixie Highway (U.S. 1) is one mile east of the interchange, via Quail Roost Drive. This interchange is by far the most urbanized of all the studied interchanges. The census tract data (1970) indicate that only 21 percent of the area is undeveloped. Over 33 percent of the vicinity is in residential use and 5 percent is commercial or industrial. Institutional public utilities and agriculture compose the remaining 41 percent. The Dade County Master Plan allows this interchange the most intensive development of the studied regions. Low medium density of five homes per acre as well as industrial and business use is permitted through 1985.

Data Sources

Land values and zoning changes were obtained (where available) for parcels of land within a one-half mile radius of the Turnpike's three study interchanges. The changes for 1960 to 1977 were recorded to determine sale prices before and after the Turnpike's construction. Land values were obtained from the Dade County Clerk's Office, where recorded deeds of land sales, listing the legal description and the buyers' and sellers' names were on file. Transfers within the same family to governmental or semi-public agencies, or those entered into by executors, administrators, trustees, or others acting in a fiduciary capacity were excluded.

The selling prices of all tracts of land displaying a change in ownership were noted and reduced to a per acre basis. Those with more than one change in the seventeen-year period were transformed into change per acre per year figures.

Since inflation could play a large role in a tract's price appreciation, all figures were adjusted to represent prices for the base year 1959. This was accomplished by dividing each land value by the Consumer Price Index for its respective year.

The files of the Dade County Zoning Department were consulted to ascertain all zoning changes approved for the study areas. The files reported owners' names, years and types of zoning change. These were tallied for each interchange and subdivided according to whether they occurred before or after the Master Plan was instituted.

Analysis

Table 2 presents the results of a data analysis of land values and zoning changes in a format which facilitates comparison. Significant support is shown for the hypothesis that land values and zoning changes have been influenced by the Comprehensive Master Plan. The interchange with the least permissive development (Allapattah Road) showed great differences in land value, change in land value and zoning change when compared with the Quail Roost interchange, the most permissive for development.

The mean land value per acre of $587 for Quail Roost was substantially higher than Allapattah's $92 [$(t=1.88)$, significant at $\alpha=.05$]. The mean *change* in land value per acre per year exhibited a disparity from 6.18 percent to 35.62 percent for Allapattah and Quail Roost [$(t=1.27)$, insignificant at $\alpha=.05$].

TABLE 2

STATISTICAL RESULTS

	Allapattah	Kendall	Quail Roost
Number of tracts	18	24	23
Number of tracts with value changes	12	20	18
Number of value changes before Master Plan enactment	8	30	18
Number of value changes after Master Plan enactment	7	4	4
Number of value appreciations	13	33	20
Number of value depreciations	2	1	2
LAND VALUE			
Land value per acre, in adjusted dollars			
mean	91.78	397.39	586.98
standard deviation	119.19	1167.12	1212.76
median	37.60	134.64	155.31
minimum	3.82	16.67	7.15
maximum	879.12	5850.00	5372.01
range	875.30	5833.33	5364.86
Change in value per acre, in percent			
mean	42.23	415.13	204.05
standard deviation	97.21	660.02	586.12
median	-2.10	134.37	36.51
minimum	-90.58	-87.06	-94.77
maximum	240.85	2352.01	2399.65
range	331.43	2439.07	2494.42
Change in value per acre, per year, in percent			
mean	6.18	117.33	35.62
standard deviation	15.46	254.45	92.42
median	1.70	46.16	10.27
minimum	-22.65	-12.44	-11.85
maximum	33.28	1176.01	399.94
range	55.93	1188.45	411.79
Regression, land value versus year*			
Y intercept	-364.94	-834.15	-636.79
slope	6.48	13.63	11.45
t	1.12	3.10	2.02
r	.2070	.4410	.3204
N	30	42	38
ZONING CHANGES			
number of zoning changes	0	19	34
Number of zoning changes before Master Plan enactment	0	5	21
Number of zoning changes after Master Plan enactment	0	14	13

*For the Quail Roost and Kendall interchanges a few outliers are omitted from the regressions because their radical land value increases are due to zoning changes.

The results of regression calculation between land value and year illustrated that an acre of land appreciates $11 per year for the Quail Roost interchange area, while an acre appreciated only $6 per year about Allapattah Road.

This information, utilized in conjunction with the fact that thirty-four zoning changes occurred for the Quail Roost area while none occurred for the Allapattah Road area, helps depict the dissimilar developmental pressure about these two interchanges. More development and hence more zoning changes and higher land prices may have occurred about Quail Roost due to its proximity to U.S. 1 and its history of previous development. Yet this development can take place only because of the more permissive zoning. If development is restricted, as it is about the Allapattah Road interchange, land price and zoning changes would not be so evident.

The Kendall interchange seems to be somewhat of an anomaly. Due to its proximity to the CBD, Miami International Airport, and other areas of very intensive development just to the east, land speculators seem to be ignoring the ramifications of the Master Plan. Presently, land prices are too high for development with the given zoning restrictions, so it is theorized that the land owners are holding their lands until after the 1985 Master Plan restrictions are removed. The revised Master Plan (year 2000) allows for more liberal development, and the affluent nature of the area suggests that these land owners can "wait out the plan."

Although the number of zoning changes (nineteen) at Kendall is lower than Quail Roost's thirty-four, some of the other data are contradictory. The land value per acre was consistent with the hypothesis, as Kendall's $397 is less than Quail Roost's $587, and more than Allapattah's $92 [(t=.53 and 1.23), insignificant at α=.05]. The mean *change* in land value per acre per year, however, departs from the expected value. Kendall's data depicted an increase of 117.33 percent per year [(t=1.66), insignificant at α=.05]. Kendall's percent change per year of 117.33 percent was substantially greater than Allapattah's 6.18 percent [(t=2.50), significant at α=.05].

The results of the regression were also somewhat contradictory. Kendall's regression illustrates a per acre change of $13 per year, while Quail Roost's was only $11 per year. Both of these figures illustrated greater appreciation than Allapattah's $6 per year, however.

Conclusion

The current Dade County Master Plan appears to be fulfilling its function of shaping development and preventing urban sprawl. Since the Plan was adopted over two years ago, twenty-eight Plan amendments have requested development in areas set aside for open space and agriculture; all were refused by Metro commissioners.

Despite strong pressure from some political groups and almost all contractors and builders, the plan has been upheld. The Commission continues in its belief that more than enough property remains available for development without necessitating undue economic pressures on residents by forcing them to fund urban services for outlying areas. Thus the plan does not inhibit all growth; rather, it attempts to encourage growth in an orderly, rational, and most importantly, economic manner.

It must be remembered, however, that the Master Plan was incorporated during a period of sky-rocketing land sales in South Dade. These two conflicting forces, the plan and the sky-rocketing of land prices, inhibit an adequate prediction of the future development about a major new access route leading to areas prime for development.

The results of this paper have significance for urban planners and geographers contemplating the effects of a master plan on highway interchange development. Differences in land value and zoning changes about three differently zoned interchanges show the influence of a master plan in this study. Quail Roost Drive, with permissive zoning, appears destined for the most intensive development, whereas the interchange at Allapattah Road seems to be undergoing the least developmental pressures, a fact consistent with its restrictive zoning. The Kendall interchange, while somewhat inconsistent with the hypothesis, represents an area that deserves more research to uncover the basis for the anomalies in its development.

* * *

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