

Differential Influence of an Interstate Highway on the Growth and Development of Low-Income Minority Communities

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ABSTRACT

The purpose of the research on which this paper is based was to measure the changes in land use and related economic and environmental variables that were attributable to the location and operation of a portion of an Interstate highway in the Scotlandville community of Baton Rouge, Louisiana. More specifically, the research was designed to determine the degree to which low-income minority communities experience unique highway impacts. The research was conducted in two phases--a baseline assessment phase and a follow-on, longitudinal phase. In the baseline phase, measures were taken of several significant variables including (a) land use on a parcel-by-parcel basis; (b) recreational patterns; (c) traffic volumes and residential densities; (d) number and variety of minority businesses; (e) housing types, quality, and conditions; and (f) street types and conditions. The follow-on phase was completed after the highway was completed and opened to traffic. A comparison of these two sets of data constitutes the assessment of the highway impacts on this community. The literature was carefully examined and the reported impacts on nonminority communities were summarized for comparison with the Scotlandville community. One conclusion reached was that many of the highway impacts identified in Scotlandville were similar to those reported in other communities. The major exception is that, whereas highways generally induced commercial developments around major interchanges in nonminority communities, the highway does not appear to attract new businesses in minority communities. Scotlandville has experienced no appreciable economic developments that can be attributed to the location and operation of the highway. Further, displaced minority businesses experience great hardships in relocating and often cease to operate when displaced.

A careful review of the available literature related to highway impacts on communities reveals that several studies have been conducted to determine the various influences of highways on the growth and development of communities throughout the United States. However, if planners and decision makers want to know how these influences apply to minority communities, they must draw inferences from what is known about majority communities. This study hypothesized that minority communities experience unique consequences of highway location and that these consequences affect community structure, growth, and development patterns. It is therefore valuable to document the growth and development trends occasioned by the location and operation of a major highway that displaced a significant portion of the households and businesses in a minority community.

DEFINITION OF PROBLEM

The location and operation of highways and other transportation facilities in economically disadvantaged minority communities have generally resulted

in economic, social, and environmental consequences that have not been identified and reported in the existing body of research literature. Because disadvantaged minority communities frequently are chosen for the location of new transportation and redevelopment projects, there is a need to set forth the major structural, growth, and development consequences to these communities that must coexist with the new facilities. The major areas of influence are usually associated with land use, population and residential densities, growth and development of minority business enterprises, quality and type of housing, and numerous related neighborhood elements.

Current literature on the subject of impacts of transportation facilities indicates that much has been accomplished in this general area, but in no instance has there been an analysis of the effects in a black community on land use and its implications for minority businesses and recreational space. Most existing related studies cover a city-wide area or highway corridor, not a segment of the route to assess the impact on a population subset that has differentiated problems and characteristics. Because entrepreneurial, housing, and social and recreational opportunities are distinctly differentiated for blacks and most other minority groups, separate impact studies must be conducted at the neighborhood level if reliable empirical data are to be assembled. An attempt to do so and to compare the results with the documented experiences of other cities is presented here.

OBJECTIVES OF THE RESEARCH

The purposes of the research were to measure the changes in land use that were attributable to the location and operation of a portion of an Interstate highway in the Scotlandville community of Baton Rouge, Louisiana, and to determine the degree to which low-income or minority communities experience unique impacts. A detailed analysis of the land use changes permits an assessment of the highway impact on minority business enterprises, population and residential densities, and recreational space. The research was aimed at assessing these impacts and comparing them with impacts reported for nonminority communities.

RESEARCH METHODOLOGY

This study documents the essential growth and development changes that occurred in Scotlandville, Louisiana, a minority community, as a result of the location of a major highway bypass in the community. It is not considered sufficient merely to ascertain the impacts in the study area; a comparison with findings in nonminority communities is also made.

This research was conducted in two phases--a baseline assessment phase and a follow-on longitudinal phase. In the baseline phase, measures were taken on several significant variables including (a) land use on a parcel-by-parcel basis; (b) recreational patterns; (c) traffic volume and residential densities; (d) number and variety of minority businesses; (e) types, quality, and condition of housing; and (f) types and conditions of streets. An assessment of the same variables was accomplished during the follow-on phase as a means of assessing the changes that occurred between 1974 and 1984. This follow-on assessment was made after the Scotlandville bypass was completed and opened to traffic (February 1984). A comparison of these two sets of data constitutes the assessment of the highway impacts on Scotlandville. The overall research design required that (a) the highway impacts in the study area be assessed and (b) the outcomes be compared with the findings reported in the literature on majority communities. The comparison permitted testing the hypothesis that the consequences of highway projects in minority communities are significantly different from those that occur in majority communities. The relevant literature was carefully reviewed and summarized to highlight impacts on communities throughout the nation.

The researchers recognized the limitations inherent in this study. Not all of the community changes that occurred or failed to occur could be attributed exclusively to the highway (the community could not be placed in a test tube), nor could all of the differences identified in the comparison with findings in majority communities be related to the minority characteristics of the area. Despite these inherent limitations, the research was believed to be extremely useful (a) in setting forth the probable differences and similarities with which future studies can make comparisons and (b) in highlighting the probable differences and similarities for planners, decision makers, and scholars. Thus, because the literature contained no studies on minority communities, such a study would be useful just as a case study, even if no comparisons were made or differences highlighted.

In addition to studying community impacts, the impacts on displaced households and businesses were assessed with the before-and-after relocation approach.

STUDY AREA

The study area is Scotlandville, an unincorporated, low-density, predominantly black residential community in an area of about 8 mi² north of the central business district of Baton Rouge, Louisiana (Figure 1). The residents of Scotlandville tend to be homeowners, which indicates a condition of economic independence and a potential for community improvement. This independence is continuously being reinforced by the interlocking family ties and the racial homogeneity in the area. Scotlandville is more than 95 percent black. Before the highway was built, it had a population of about 26,300.

The industrial areas to the immediate north and south and the residential areas to the far north and south of Scotlandville generated an immense amount of traffic on Scenic Highway and Scotland Avenue during the morning and evening rush hours. Because these two thoroughfares merge into one street (Scenic Highway) in the center of Scotlandville, the portion of Scenic Highway from the point of merger to Airline Highway was one of the city's greatest traffic bottlenecks. The Scotlandville bypass is that portion of Interstate 110 (begun in 1970 and completed in 1984) from Airline Highway through the center of Scotlandville to Scenic Highway (Figure 2). This bypass is about 3.2 mi in length. It intercepts the traffic north and south of Scotlandville from both Scenic Highway and Scotland Avenue and channels it to the south and north via an elevated expressway, thus reducing local street congestion.

ASSESSMENT OF COMMUNITY IMPACTS

Between 1974 and 1984 a number of changes occurred in the Scotlandville community that were directly related to the construction of the bypass. Some of the important changes that occurred between 1974 and 1984 were in land use, quality and type of housing, street conditions and patterns, traffic patterns and volume, recreational facilities, and number of minority enterprises.

Land Use

Some changes in land use in Scotlandville were expected as a natural consequence of highway construction activities. One obvious change was the conversion of land, mostly vacant and residential, to transportation uses. Another expected change was the conversion of vacant and residential land to joint recreational and right-of-way use. Although there were 6,416 parcels of land in the study area in 1974, there were 6,002 after the highway was built. This meant that the highway right-of-way absorbed many parcels, even though additional parcels were created through the subdivision of larger parcels. Nevertheless, there were no substantial changes in the proportion of residential parcels recorded during this time period: residential parcels constituted about 81.5 percent of the total parcels in 1974 and 80.4 percent after completion of the highway in 1984.

On an acreage basis, the percentage of land devoted to residential use in 1984 was approximately the same as it was in 1974 (21.3 and 21.6 percent in 1974 and 1984, respectively). Thus the initial expectation regarding the possibility of increased overcrowding in the area was not realized. Part of the reason for this appeared to be the relocation to areas outside of Scotlandville of many residents who were directly affected by the highway. Another reason may be the relative unattractiveness of many



FIGURE 1 Scotlandville study area.

vacant parcels for residential construction because of the close proximity of these parcels to the highway. Whatever the reason, the proportion of land devoted to residential use was largely unchanged between 1974 and 1984, though the actual number of acres devoted to housing did increase somewhat.

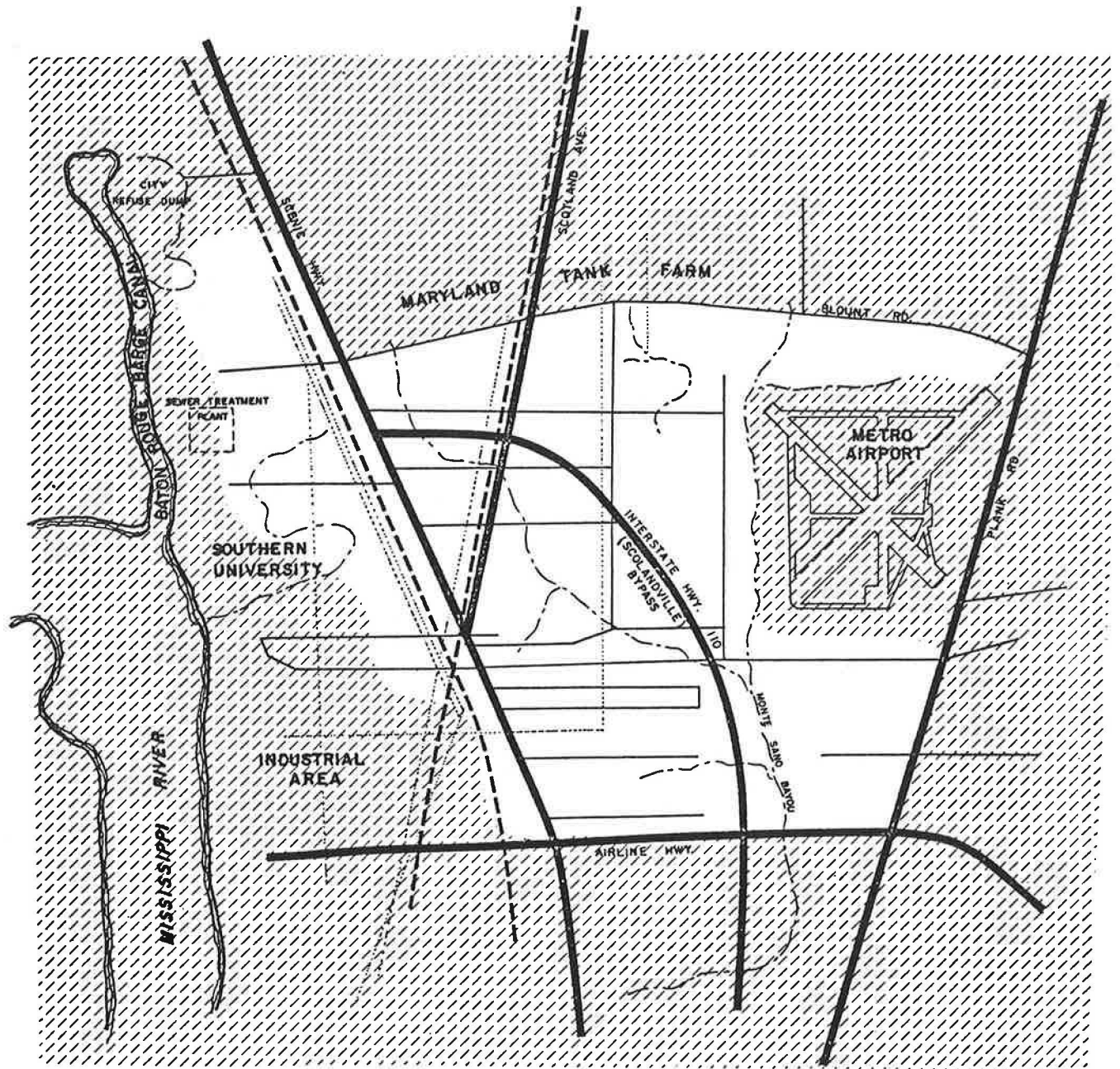
The number of acres devoted to recreation, transportation, communication, and utilities increased during the study period. For transportation, the change was from 15 percent of the total acreage in 1974 to 18 percent in 1984. Comparable figures for recreation were 1 and 4 percent, respectively, for 1974 and 1984. Of course, such increases were not unexpected. Finally, that the proportion of acres devoted to residential use remained the same while many houses were eliminated to construct the right-of-way and some recreational facilities means that a significant amount of land was subdivided and, subsequently, used for the construction of dwelling units.

Types of Housing

The total number of residential structures was 5,039 in 1974 and 4,828 in 1984, which represents a 4.2 percent decline during the 10-year period.

There were changes in the types of housing units during the study period. There was a slight decrease in the percentage of single-family and two-family units. There was, on the other hand, a significant increase in the percentage of multifamily units.

A significant number of displaced households (more than 51 percent) relocated outside of Scotlandville, the conversion of vacant land to residential uses was not accompanied by new quality construction, and the upgrading of existing residences did not appreciably occur. Further, there has been an increase in the percentage of multifamily units and a decrease in the proportion of single-family units in a neighborhood that had a strong tradition of single-family units. For Scotlandville, "multi-



LEGEND

- Commercial Oil & Gas Pipeline
- Railroad
- - - - - Open Drainage Canal

FIGURE 2 Boundaries and physical constraints.

family" may generally be equated with lower quality housing.

Though the location of the highway is not the only cause of these changes in housing type and quality, it was unquestionably a significant contributing factor. The displaced households are directly attributable to the location of the highway. Although higher population and residential densities were anticipated, household density actually decreased because a majority of the residents who were displaced moved outside of Scotlandville and have not been replaced as anticipated. The highway has

also contributed to the unattractiveness and undesirability of some sections of Scotlandville as a neighborhood. This, among other things, means that the normal population growth has not been sufficient to increase the number of households in the area.

When the 1970 and 1980 census data are contrasted, several important differences can be noted: (a) there was a decline in the number of housing units, (b) the population of the study area declined significantly, (c) there was a decline in overcrowding, (d) there was a decline in the percentage of homeowners, and (e) there was a decline in the pro-

portion of substandard units (based on plumbing and other internal facilities). There was an increase in the median rent and house value, which mostly reflects inflation during the decade.

Conditions and Patterns of Streets

In 1974 the streets in the Scotlandville area were plagued with many deficiencies. The system of streets was haphazardly designed, and streets were poorly maintained. Moreover, there were many open ditches and a noticeable lack of curbs and gutters in much of the area. Taken together, these deficiencies contributed to blight in the area and reflected the haphazard manner in which the community was originally developed and maintained.

Since 1974 there have been several important changes in street conditions in the community. Many of these changes relate directly to the location of the Scotlandville bypass. A survey of street conditions revealed that many streets, notably the major arterials and other streets linked to the bypass, have been significantly improved. The streets representing the major arterials were classified as poor in some areas, fair in other areas, and good along limited sections in 1974. However, each of the major arterials (Harding Boulevard, Scotland Avenue, and Scenic Highway) has been upgraded and is now classified as good (Figure 3).

Major improvements have been made to Airline Highway, Scenic Highway, and Harding Boulevard because they interface with the bypass through interchanges. Harding Boulevard, a major collector and

through street in Scotlandville, and Airbase Avenue, the main access street to the local airport, have been resurfaced with concrete and widened into four-lane streets. Airline Highway between Plank Road and Scenic Highway has also been resurfaced as has Plank Road. These arterials are now classified as good, and the improvements cited are attributable to the location of the Interstate highway.

In 1974 portions of both Scenic Highway and Scotland Avenue were classified as poor in some sections and fair in others. These arterials represented the through streets for north-south traffic. (It was the traffic bottlenecks generated during peak-hour travel along these arterials that served as one of the major justifications for constructing the bypass.) In conjunction with completion of the bypass, these two arterials have been resurfaced and widened to four lanes. In addition, curbs, gutters, and sidewalks have also been added. These improvements, along with the operation of the bypass, have relieved rush-hour traffic congestion and caused improved local street conditions. These major improvements were intended to accommodate the increase in traffic volume generated by the bypass. Improvements have not been as significant for the other neighborhood and collector streets in Scotlandville.

A summary assessment of overall street conditions is given in Table 1. These data make it clear that the changes that have occurred have generally been improvements.

Despite the actual differences in total street mileage surveyed in the two studies, the data indicate some overall improvement in street conditions because the percentage of good streets (39 percent)

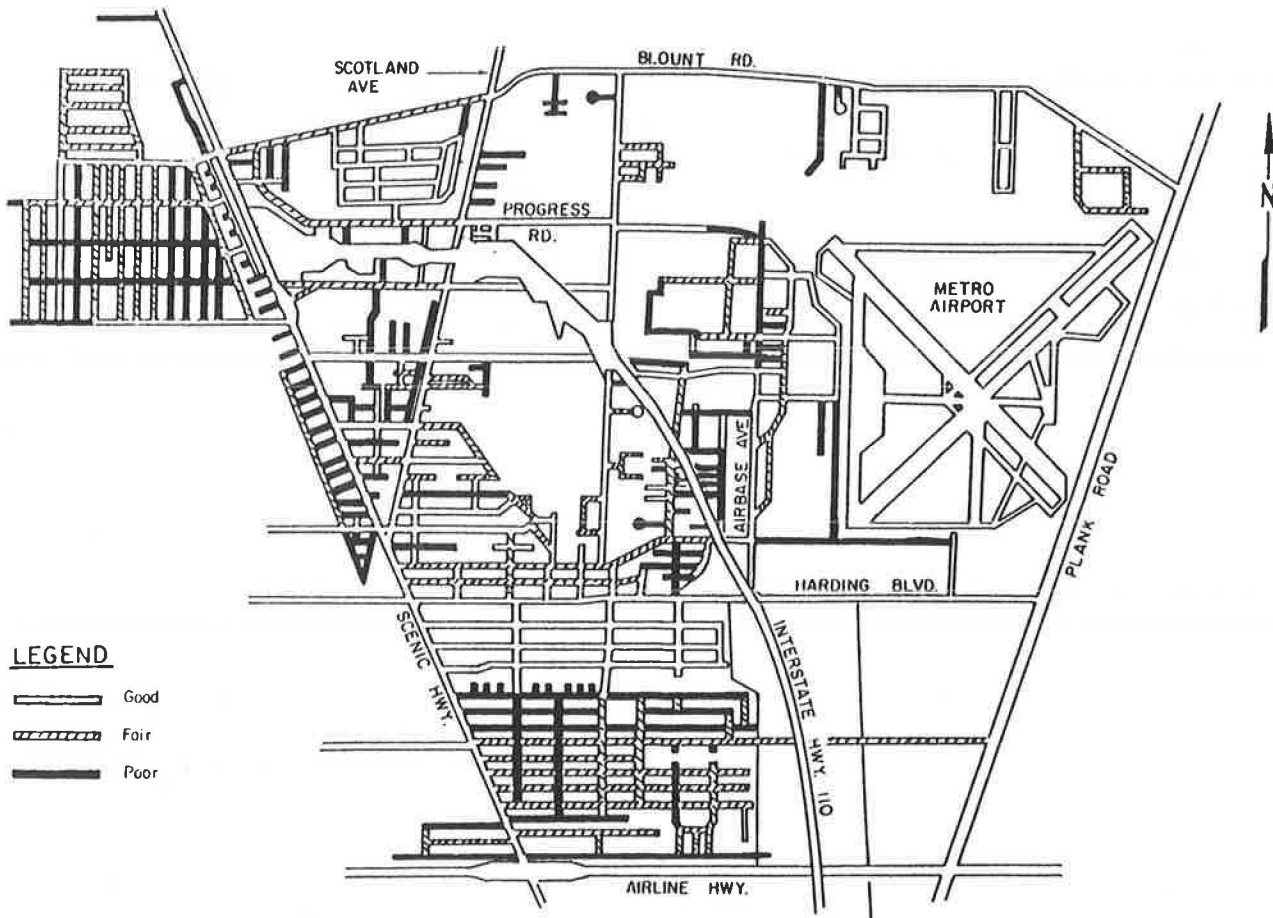


FIGURE 3 Street conditions after highway construction.

TABLE 1 Changes in Street Conditions, 1974-1984

Condition	1974		1984	
	Miles	Percentage	Miles	Percentage
Good	15.45	21.10	28.07	39.13
Fair	29.61	40.44	23.97	33.41
Poor	<u>28.16</u>	<u>38.46</u>	<u>19.70</u>	<u>27.46</u>
Total	73.22	100.00	71.74	100.00

in 1984 has increased over that reported in 1974 (21 percent) and the percentage of poor streets has declined from 38 percent in 1974 to 27 percent in 1984. The poor circulation resulting from dead-end streets in the area just north of Harding, where residential displacement was the highest, has improved somewhat as a result of the bypass. The presence of curbs and gutters along area streets and the general improvement of street drainage facilities since the baseline study are significant.

Traffic Pattern and Volume Changes

The purpose of the bypass was to relieve the major Scotlandville arterials of much of the through traffic. Thus the volume of traffic on Scenic Highway, Scotland Avenue, and Harding Boulevard was expected to decline after the completion of the highway, allowing for better circulation of local traffic.

Findings clearly confirm that, with the exception of Harding Boulevard, all arterials have significantly less traffic since the construction of the

highway. However, the traffic that now uses Harding flows without serious problems because that street has been widened to a four-lane highway.

The relief of traffic congestion on Scenic Highway and Scotland Avenue has made internal vehicular circulation much easier than it was in 1974. However, the change in traffic patterns has resulted in a decline in business activities or growth for some businesses on Scotland Avenue and Scenic Highway.

Recreational Facilities

The total amount of land devoted to recreation has increased rather substantially during the study period. This has been largely due to the efforts of the highway planners to return to the community large portions of the unused right-of-way in the form of expanded recreational space and facilities (Figure 4).

Referred to locally as the Scotlandville Park System, these facilities are located between Airline Highway on the south and Rosenwald Street on the north. The system is located on both sides of the highway structure, with a substantial proportion directly beneath the elevated segment of the highway.

Through systematic observations, the number of recreational participants and the kinds of activities in which they engaged were determined. Facilities contained in the park system include areas for team sports, trails, picnic grounds, and related facilities adjacent to the highway.

Together, these designated areas appear, at least on the surface, to offer substantial recreational

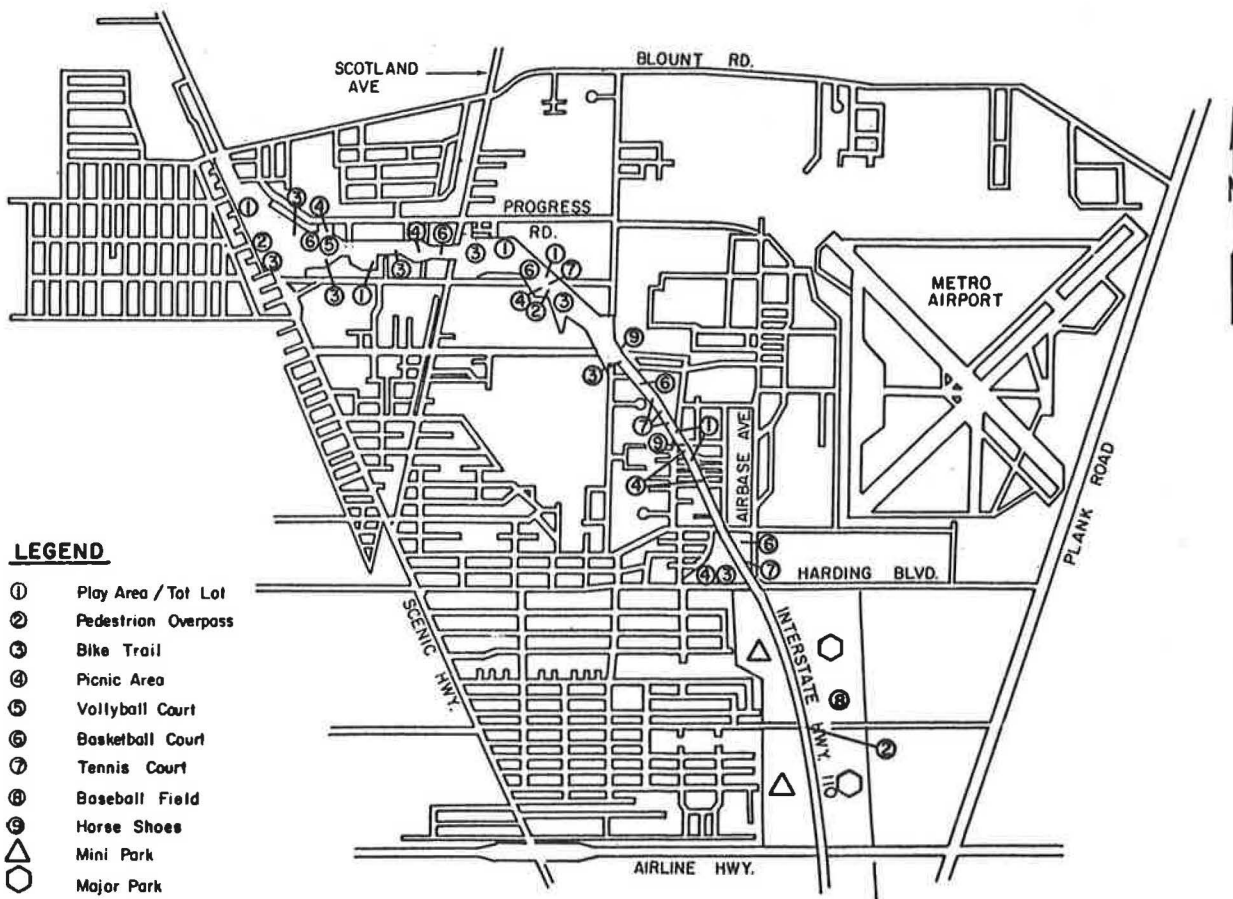


FIGURE 4 Recreation facilities adjacent to the highway.

opportunities where few existed in the past. Utilization of these facilities has been much less than expected. After having made head counts of park visitors on at least 20 different occasions in different areas and at different times (Table 2), researchers estimated that the entire park system was used by a fraction of 1 percent of the community's residents. Moreover, a vast majority of these users were teenage males.

TABLE 2 Current Activity Patterns in Park System

Type of Activity Observed	Average No. of Participants During 20 Visits
Outdoor games or sports	14
Trail use	4
Picnicking	18
Outdoor recreation by concrete stretch	15

Because of the expressed desire of community residents for more recreational facilities and the inference drawn that new facilities would attract more widespread usage, park utilization was expected to be high. [See Thornton (1) for results of a household survey describing use of recreational facilities, level of satisfaction with facilities, and suggestions for improvements as of 1979.] Recent discussions with park users and community leaders, however, revealed several reasons for underutilization of the park. The reasons include lack of toilets and running water, improper maintenance, inadequate lighting and supervision, and inadequate police protection in view of wooded locations and reported instances of crime in the area. In addition, it is widely known that traffic accidents pose a problem where parks have been located beneath expressways. Indeed, on numerous occasions, large trucks have managed to break through guardrails and land inside park areas. Perhaps this knowledge has added to the fear some residents have expressed about parks adjacent to portions of the Scotlandville bypass, which, in turn, may have contributed to the problem of underutilization. In sum, the addition of park space and facilities has served to enhance the area's physical environment and to increase the recreational opportunities for some community members, but the existing facilities do not readily lend themselves to frequent use by a significant segment of the community.

Impact on Minority and Other Businesses

The impacts of the highway on area businesses were of two broad kinds--businesses displaced by the Interstate facility and its effects on the remaining businesses (existing and prospective). There were 33 displaced businesses.

It was hypothesized during the highway planning phase that the transportation facility would affect local businesses in a number of ways. Important among the anticipated negative impacts were (a) the location of large chain store operations near the interchanges that would place the smaller, independent, community-oriented businesses at a competitive disadvantage and (b) changes in travel patterns after the highway was built that would negatively affect local traffic-dependent businesses. Though it is difficult to isolate the impact of the highway on minority business opportunities in Scotlandville because of the complexity of the changing environment in which these enterprises operate, the direction of selected highway influences on minority businesses can be underscored.

The highway has not had the anticipated impact of attracting large-scale, established chain store operations. Quite the contrary appears to be occurring: established chain store operations that constituted a nearby shopping center closed after the highway was completed. Although the highway was not a factor in its closing, its proximity to a four-way interchange did not prevent the cessation of operations. It can be argued that the entrance and exit ramps did not directly connect to the shopping center, but it is equally true that some advantage of this proximity to the highway could have been taken with additional streets. Significantly, only in one instance did the several interchanges in the study area generate a new business enterprise. A small local automobile repair and parts shop has located near an interchange and shows signs of great expansion potential. However, there is a complete absence of new retail outlets of the chain store variety taking advantage of the traffic volume in the area. Further, the highway facility has not significantly generated any new businesses--majority or minority--in the study area.

The tabulation of area minority businesses for 1974 and 1984 indicates that there were declines in a few types of businesses and increases in others. One factor that contributed to this slight change of business mix was the number of minority businesses displaced that did not continue operating in the Scotlandville community--they either ceased operations altogether or relocated outside of Scotlandville. The other causative factors were normal attrition and the organization and development of new enterprises. The total number of minority businesses in 1984 (213) was smaller than the number in existence in 1974 (244). This leads to the conclusion that this highway has not, on balance, encouraged the development of new minority business; indeed, when the displacement factor is considered, it has probably contributed to a slight decline in the number. There is no evidence available that the highway has had a positive impact on minority businesses. The change in the flow of traffic away from the black business district, the displacement of 33 minority businesses, and the development of only one minority business along the new Interstate facility lead to the conclusion that the facility has had a slight negative impact on these enterprises. Further, the normal growth of businesses along the streets of the heavily traveled black business district would probably have occurred in the absence of the highway. That fewer businesses exist after a 10-year period lends additional weight to the conclusion that the influence of the highway on the growth of this sector of the community was negative.

SUMMARY OF MAJOR HIGHWAY IMPACTS ON OTHER COMMUNITIES

Perhaps the most comprehensive and up-to-date assessment of highway impacts on population and housing characteristics was performed by Burkhardt et al. (2). This study included case materials from Baltimore, Cleveland, Hartford, and Wichita. Impact categories analyzed and compared across impact and control neighborhoods within these cities included population changes, changes in housing market conditions, business activities, and uses of local facilities. These researchers hypothesized that there would be decreases in total population, number of housing units, standard units, and owner-occupied units; they projected increases in minority households, vacancies, median rents, house values, and overcrowdedness in the affected neighborhoods. All of these were held to detract from the overall attractiveness of neighborhoods.

The findings of Burkhardt's study are noteworthy and reinforce some of the findings reported elsewhere in the literature. First, considerable variation in the magnitude and direction of highway effects from one city to another was found. For example, both Cleveland and Baltimore had large minority populations, but highway construction had a strong depressant effect on adjacent neighborhoods only in Cleveland. In Baltimore, most comparisons of impact and control neighborhoods revealed no statistically significant differences. Second, new highway construction neither stimulated nor detracted from aggregate improvements. Finally, this research showed that highway effects are much more discernible at the block level than at the census tract level and that such effects depend strongly on proximity to the highway.

Studies (3,4) suggest that limited-access highways are guarantors of neither community development nor community demise. Rather, they appear to reinforce trends that were in evidence before the highway program (5). In addition, although the impact of new highways in the aggregate appears to be minimal in most instances, the impact is much more noticeable in densely populated areas.

A brief summary of highway impacts and the cities in which they occurred is given in Table 3. These impacts will provide standards against which the results of the present investigation will be compared.

FINDINGS

Similarities with Other Communities

A number of highway impacts, which were quite similar to those found in other communities, were identified in the Scotlandville community. Specifically, housing relocatees were generally better off in terms of housing accommodations, though this was less true for tenant-relocatees than for homeowners. Also, although financial burdens were reported by a minority of relocated households, complaints were more likely to emanate from the ranks of tenant-relocatees. The tendency has been for smaller businesses located in a highway corridor to experience significant financial hardship or to cease operations, or both. This, too, was the pattern observed in Scotlandville. Further, as in other communities, the Scotlandville bypass resulted in an increase in

multifamily units, a general increase in accessibility, and a minimal increase in housing vacancy rates.

Impacts Unique to Scotlandville

There were several impacts that appear to be unique to Scotlandville (and by inference to minority communities). First, there was no increase in neighborhood traffic volume directly attributable to the new bypass. This, however, was not unexpected, inasmuch as the bypass was designed to remove through traffic from the heavily congested streets in the local area. Second, unlike other areas, Scotlandville did not experience large increases in commercial or industrial development in the general vicinities of the new highway interchanges. This is true even though vacant and usable land exists at all three interchanges built in the community. Indeed, because of the loss of some minority businesses, the community has actually experienced a loss of jobs, a pattern that is quite the opposite of that observed in majority communities.

Other Impacts Not Reported in Studies on Other Communities

Street types and conditions, accessibility to various parts of the community, and internal circulation were significantly improved. Further, group recreational facilities were scarce in the community before the highway was built and significant improvements, which were attributable to the highway, were observed after it was built. Residents, however, make limited use of the newly constructed recreational facilities (which accompanied the highway) because of wooded or secluded locations, lack of security, and lack of proper supervision by the local government.

SUMMARY AND CONCLUSIONS

A majority of displaced businesses were small, community oriented, and not reestablished as were displaced households. Indeed, the majority of the displaced businesses ceased operations as a result of displacement. Though this finding parallels impacts

TABLE 3 Highway Impacts in Selected U.S. Cities

Variable	Balti- more, Md.	Cleve- land, Ohio	Hart- ford North, Conn.	Hart- ford South, Conn.	Wich- ita, Kans.	Wilming- ton, Del.	Winston- Salern, N.C.	Char- lotte, N.C.	Ra- leigh, N.C.	Dur- ham, N.C.	Greens- boro, N.C.	Allen- town, Pa.	North Spring- field, Va.	Belle- vue, Wash.	Puy- allup, Wash.	Kings- dale, Wash.	Grin- land- nell, Iowa	Scot- land- ville, La.
Total population	0	D	D	0	0	D	0	I	I	0	I							D
Minority popula- tion	D	0	D	0	0	I												D
Multifamily units							I	I	I	I	I	I	I	I	0	I	I	0 ^a
Property value							I	I	I	I	I	I	I	I				I
Housing vacancy	0	I	0	0	0	I		I	I	I	I							I
Employment																		I
Substandard housing	D	D	I	I	0	D												D
Commerce and industry							I	I	I	I	I							D
Owner-occupied units	I	0	0	0	0	D												D
Accessibility							I	I	I	I	I	I	I	I	I	I	I	I
Traffic							I	I	I	I	I							D
Total housing units	0	D	0	0	0	D												I
House value	0	I	D	0	0	0												
Decentralization of business activity							0	0	I	0	I							

Note: D = decreased, I = increased, 0 = remained the same.
^aAfter inflation is considered.

assessed in other areas, all of the businesses displaced in Scotlandville were small and minority owned; reestablishment is more difficult for such businesses, and the percentage of cessations is significantly higher. A general conclusion here is that small, community-oriented businesses require a more comprehensive relocation package, including greater compensation and more extensive reestablishment assistance, than was provided for those businesses displaced by the Scotlandville bypass.

The contrast between Scotlandville and other communities was perhaps the most salient with regard to the impacts of the new highway on economic sectors. Whereas new highway construction has typically aided the economic development of affected communities as new development projects have sprung up in areas surrounding Interstate interchanges, this pattern was absent in the Scotlandville area. A major and unique impact of the Scotlandville bypass is the general failure of the highway to generate the kind of industrial and commercial developments and accompanying employment opportunities observed in majority communities. Perhaps this could more accurately be termed a failure to result in a benefit than an adverse effect. Nonetheless, this failure has held true even though vacant and usable land is available at all three interchanges built in the community. Not only have there been no new development projects, but one medium-sized shopping center located near the largest Interstate interchange in the area closed between 1974 and 1984. In addition, the loss of 33 businesses, with an accompanying loss of jobs for local residents, was directly linked to the highway. Further, the failure of the highway to generate new business or industry also means that property values have not increased. It is theorized here that the racial characteristic of the neighborhood is the factor that accounts for the lack of significant commercial development.

Certainly, no limited-access highway can single-handedly guarantee growth or demise of any community. On the whole, it may be said that the Scotlandville experience supports the premise that communities are generally better off with a highway than without one. Although there have been no significant differences in land use, no marked changes in housing quality, and no economic development resulting from bypass construction, the negative impacts have been minimal except for adverse effects on the business sector. Traffic reduction, better street conditions, improved internal vehicular circulation, increased access, reduced population density, and improved recreational facilities are among

the benefits attributable to the bypass. This leaves room for only two important recommendations. The first is that special reestablishment assistance in the form of counseling and greater financial aid should be given small businesses that are displaced. These small businesses make an important contribution to their communities in terms of both economics and service; they should not be forced to close because of insufficient financial help or inadequate counseling. Black businesses have a special relocation and reestablishment problem. The second recommendation is that the location of recreational facilities adjacent to and under highways warrants further and careful study before future investments of this nature are made.

The permanent injury to a high proportion of displaced, small minority businesses and the general failure of the highway to generate the kinds of commercial developments observed in many majority communities are the significant differential impacts that must be noted.

REFERENCES

1. C.H. Thornton. An Assessment of Highway Induced Changes on a Predominately Black Community. Office of University Research, U.S. Department of Transportation, 1979.
2. J.E. Burkhardt et al. Community Reactions to Highway Construction: An Empirical Determination of Actual Socio-Economic Impacts in Highway Development. Ecosometrics, Inc., Bethesda, Md.; FHWA, U.S. Department of Transportation, 1983.
3. J.E. Burkhardt. Impact of Highways on Urban Neighborhoods: A Model of Social Change. In Highway Research Record 356, HRB, National Research Council, Washington, D.C., 1971, pp. 85-94.
4. J.E. Burkhardt et al. Highway Impact as a Factor in Neighborhood Change, Vol. 1: Physical and Economic Measures of Neighborhood Change. Resource Management Corp., Bethesda, Md., 1971.
5. F.X. Mahady and D.C. Tsitsos. Economic Impact of I-78 in Allentown, Pennsylvania. In Transportation Research Record 812, TRB, National Research Council, Washington, D.C., 1981, pp. 7-8.

Publication of this paper sponsored by Committee on Application of Economic Analysis to Transportation Problems.