

Highway Development: Community Attitudes and Organization

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This paper has three major divisions: (a) social characteristics; (b) attitudes; and (c) community complexity.

"Social characteristics" presents an overview of population changes in the three study areas with which the Pennsylvania State University impact project has dealt. Relative to dates of highway improvement, characteristics of migrants to the areas can be compared with those of persons of longer residence. Also included are materials that relate social characteristics, occupation, income, amount of education, etc., to residents' use of the improved highway facility.

"Attitudes" deals with a variety of questions related to highways in the study areas. These include community leaders' and other citizens' degree of acceptance of the facility at the time of construction and after construction, conception of the purpose of the highway, responsibility for construction and maintenance costs, and benefits and disbenefits incurred. The expressions of attitudes could be related to selected social characteristics and degree of use.

"Community complexity" relates highway development to changes in the number of local government functions. The governmental changes considered are those that occurred during the 1950's in one or more of the 39 communities considered in the Monroeville study. They include such functions as planning, zoning, subdivision control, and annexation. These developments are of interest to protection of right-of-way and traffic flow and are examined in that light.

•THIS PAPER is but one from a number of completed and projected papers based on data gathered and analyzed by members of the highway impact research staff of Pennsylvania State University. The research, initiated by a land economist, has been continued by him along with a transportation economist and a sociologist. The major objectives of the research, as set forth in the original proposal in 1958, include the following:

1. The measurement of economic and social changes in selected areas of the Commonwealth where highways are being constructed or improved, including changes in (a) value of real property and capital worth of business establishments, (b) land use and tenure, (c) volume of production and retail sales, (d) farm enterprise organization and farm income, (e) commercial employment and wages of hired labor, (f) real estate taxes, (g) population, (h) levels of living and community values, and (i) community organization.
2. The determination of which changes are attributable, wholly or in part, to highway improvement.
3. The correlation of changes with distance from the highway, traffic volume, and other selected measures of road service.

4. The determination of principles and standards for objective economic evaluation of new highway improvement projects.

To date, research has been carried out at three sites in Pennsylvania—Monroeville, Blairsville, and four interchanges in the vicinity of York. Each of these sites has contributed to the variety found in the overall research task (Figs. 1, 2, and 3).

This report deals almost exclusively with selected aspects of population, community attitudes toward highway development, and changes in community organization (objectives 1g, 1h, and 1i).

Highway Developments

During the 1950's, Monroeville experienced three major highway changes: (a) completion of the Pittsburgh Interchange of the Pennsylvania Turnpike, 1951; (b) the Penn-Lincoln Parkway East opened to through traffic, 1959, providing a 4-lane, limited-access thoroughfare into Pittsburgh although not located within the borough limits; and

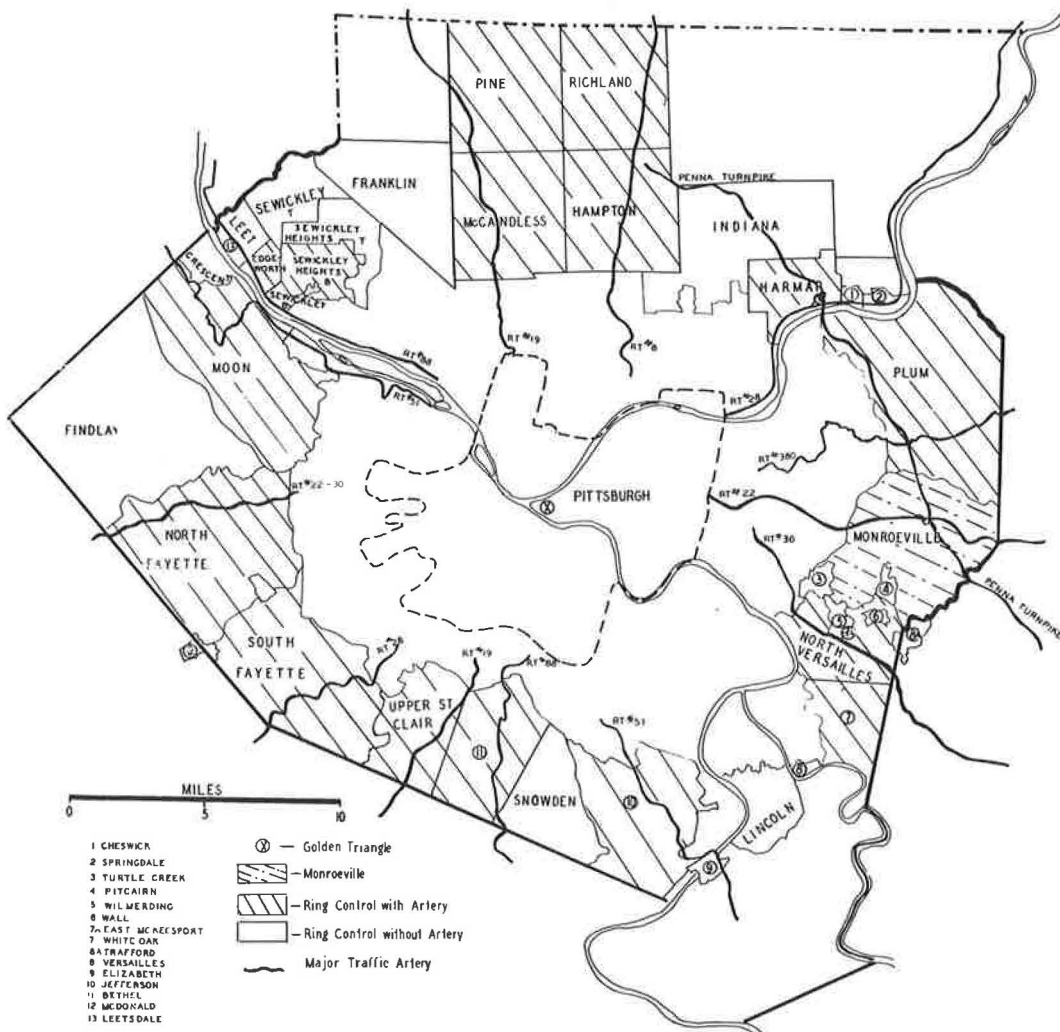


Figure 1. Monroeville and ring control communities, Allegheny County, Pa.

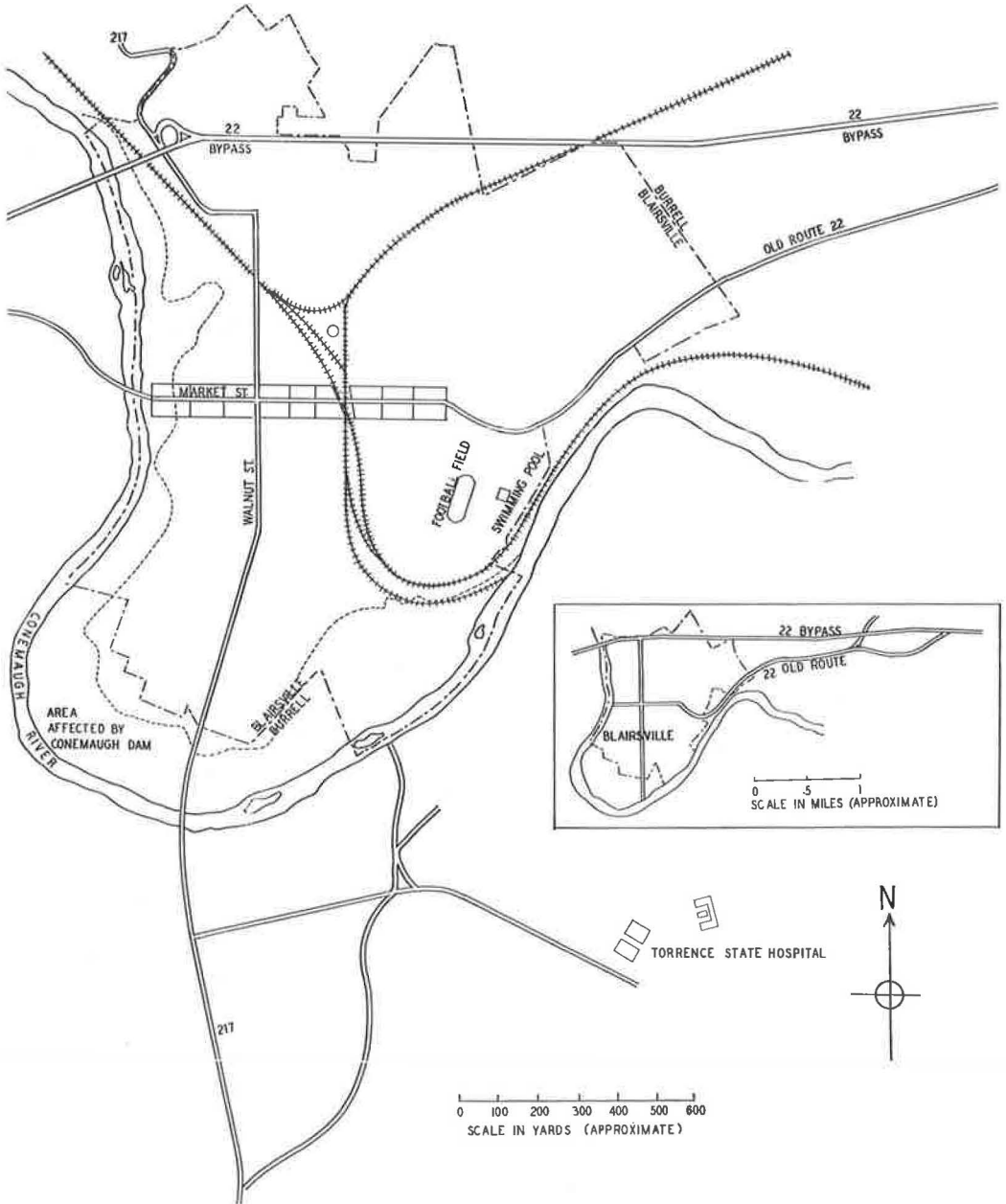


Figure 2. Blairsville, Pa., and vicinity.

(c) US 22 through Monroeville was widened from 33 to 50 ft. The widening was completed in 1957. Beyond these completed events, Monroeville, at the time of the research fieldwork, immediately faced construction of the Penn-Lincoln Parkway Extension which would allow through traffic to bypass the community's business district (6).

Blairsville's highway development was completed in 1953. It consisted of the relocation of US 22, which formerly had traversed the community through the business district. Relocated as a four-lane highway, US 22 now crosses the northern end of the

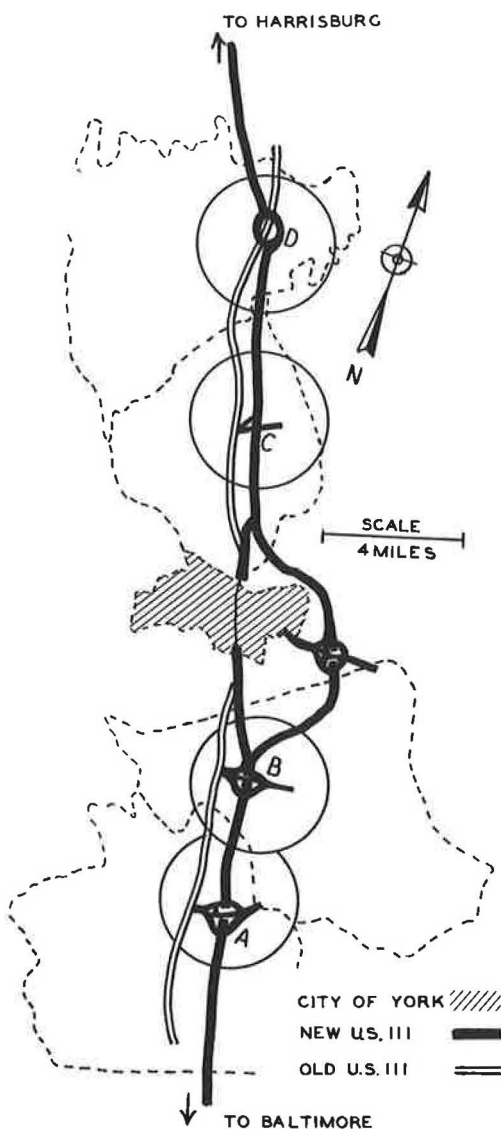


Figure 3. York, Pa., area interchange communities.

numerically and on a percentage basis, was greater than that of any other civil subdivision equidistant from downtown Pittsburgh. Further, for the period under study, 1950-58, the growth of communities on major arteries leading to Pittsburgh was significantly greater than that for those equidistant communities not so located. Increase for the former was 39 percent; for the latter, it was only 3 percent (6).

Blairsville is also on US 22, about 45 miles east of Pittsburgh. The community suffered a loss of 70 people (1.4%) according to 1950 and 1960 census figures. Its change was not significantly different from that of seven neighboring communities with which it was compared. Intercensal estimates indicate that Blairsville's population decline may be at least partially attributable to Federal acquisition of about 800 properties for flood control. However, Indiana County, in which Blairsville is located, experienced a loss of 2.3 percent during the decade.

borough. Officially, however, the old roadway through Market Street is retained as an alternate route (11).

The major highway change in the York area was the construction of Interstate 83 to supersede US 111, the Susquehanna Trail. Various sections of the new route were opened in 1956, 1957, and 1958. The development included a bypass to the east of York City and several interchanges. Four of these interchanges, excluding the ones on the bypass, constitute the impact research team's third site.

Unfortunately, the completed changes had all occurred before research was undertaken in the areas. The first two sites were studied as historical "crash" programs and served two major functions: (a) to add to the growing fund of knowledge relative to highway impact, and (b) to acquaint the researchers with the specific data necessary for impact analysis. With this background, the researchers were prepared to undertake a program of considerable intensity, one projected tentatively for a five-year period. This latter effort is now under way at the York area interchanges.

Location and Population

Before launching into any detail concerning community attitudes and organization, it may be well to place the research sites in geographic perspective and to offer some description of their populations. Location may indicate that a community lies within the "sphere of influence" of a more dominant center. Population size or change may indicate needs that can be satisfied only by organizational change.

Monroeville on US 22 lies approximately 14 miles east of Pittsburgh, in Allegheny County and therefore within the Pittsburgh SMA. The borough grew from 7,841 in 1950 to 22,446 in 1960. Its growth, both

The York area interchanges on US 111 (Interstate 83) are all within 8 miles of downtown York. Two of the interchanges are to the north of York and two to the south. This site includes all or part of seven civil subdivisions. The population increase for these communities was nearly 60 percent, from 13,438 in 1950 to 21,464 in 1960. The county showed an increase of 17.6 percent while the city's population declined 9.1 percent. To the extent that York County grew and the city of York declined, the directions of population trends for the research site were similar to those at the Monroeville site. There the county also grew while the metropolitan center declined. In any event, in Allegheny and York counties, the research communities themselves grew, evidence of a potential for receptivity to change. In fact, it may be assumed that the recent migrants to the areas, at least those whose migration had been voluntary, had intentionally sought change and had not moved haphazardly into just any community.

Yet changes in sheer numbers, growth or decline, probably do not provide the total setting of population facts to substrate an understanding of change or its acceptance. At least one other question must be answered: what the characteristics are of the migrants to the communities under study. This question is partially answered by referring to a few characteristics—occupation, income, education, and age. Here, the findings are comparable to those of many other studies dealing with migrants.

On the whole it can be stated that migrants to the study areas raised somewhat the communities' occupational levels. Incomes of migrants averaged higher than did those of non-migrants. Migrant formal educational achievement was also higher. The average age of migrants was generally lower. Thus migrants could be expected to be those with the work experience and financial ability to deal with change, the education to view change rationally rather than emotionally, and the youth and energy to carry through a proposed adaptive program. Further, in some instances, youth may be the only worthy opponent of abstract, hidebound tradition.

ATTITUDES

Many believe that attitude studies must be taken with the proverbial "grain of salt." It is argued that the findings of such studies do not guarantee that respondents will behave in a particular way, actually support or oppose a specific issue when the time for action arises. The faux pas of the political pollster are frequently cited as evidence to justify such a belief. Relative to highway-related attitudes, Kelly (7) recognizes opinions as "an indication of public reaction"; but he also cautions that opinions are expressions of the respondent's attitude at the time of the interview and do not necessarily result from considered thought. Kelly's reference is to opinions concerning homesite selection but may be considered pertinent to opinion surveys generally. There is perhaps the suggestion that the responses are an unimportant "reaction," that opinions may be fleeting, or that they are given merely to satisfy the investigator.

Nonetheless, there is evidence to support the deduction that, in the absence of corroborating facts, such attitudinal expression is the best available indication of subsequent behavior or of the immediate behavioral milieu. If this deduction is accurate it is possible, at least relatively and qualitatively, to estimate the existing degree of acceptance of past and ongoing change. Perhaps it is also possible to infer the potential acceptance and implementation of future change in a given locale. The triteness of the statement that attitudes do not exist in a vacuum need not be argued. Attitudes expressed about highways may very well reflect sentiments regarding economic, political, and social facets of local community life. Because these areas of activity are important to a community and because highway development can affect them, highway development assumes a place of concern in community affairs.

A paper by Vidich and Bensman (13) exemplifies a combined economic and political measure of a community's interest in roads, and contends that roads and issues related thereto "constitute the central area of decision making on the town board. . . interest in roads is indicated in the town tax structure and budget." In their research community, in 1957, expenditures exclusive of State funds, for local roads constituted approximately one-fifth of the town's budget.

By this measure, Monroeville and Blairsville both exhibited greater interest in that same year. Expressed in similar fashion, the average of expenditures for local roads

in the York area communities was about 43 percent of total expenditures. This average hides considerable intercommunity variation which existed. The two boroughs, small in area, spent smaller proportions on streets and highways than did the large townships. The range was from 4 to 85 percent. Compared to the 43 percent of total expenditures spent by the communities for streets and highways, these seven civil subdivisions had the following major expenditures: general government, 18.5 percent; fire protection, 6.5 percent; police protection, 2.3 percent; and building regulation, planning, and zoning, 2.3 percent. On the whole, the York area communities, as evidenced by their expenditures for streets and highways, can be classified as road conscious.

In the subsequent presentation of the findings of the attitude surveys in the three research locations, usually three different attitudinal comparisons are made: (a) community leaders are compared with a sample of other citizens of the community; (b) leaders are compared on an intercommunity basis; and (c) citizens are compared on an intercommunity basis. To an extent, the York area data mar the neatness of design; rather than deal with each of seven individual communities separately, leader samples have been aggregated. The various citizen samples have been treated similarly.

In Monroeville, researchers drew a judgment sample of 25 respondents representing local government, newspaper, school, church, and business interests. The government officials were intentionally selected to include those who had been in office as township officials at the time of the construction of the turnpike interchange and those in office, as borough officials during the community's period of rapid growth. The latter, it was felt, were and had been immediately involved in any decisions related to problems thought to stem from highway change and would thus be actively concerned. The sample of 216 Monroeville citizens was randomly drawn from the Monroeville School Census Roster which includes all persons 21 years of age or older.

Selection of Blairsville's leaders was determined by frequency of appearance of their names in the local semiweekly newspaper over a period of approximately 10 years and by frequency of identification of their names by other interviewees. Forty-two interviews were conducted, 26 with local businessmen. The Blairsville citizen sample of 100 respondents was drawn randomly after stratification based on residential land use; i. e., single dwelling, multiple dwelling, and mixed residential-commercial.

Leaders in the York area interchange communities were chosen from a list of "selected" leaders (reputational approach) named by respondents from the sample of households in the area. Subsequent interviews with "selected" leaders led to duplication of names on the original list. An effort was made to elicit names of persons other than those who always or usually agreed with the respondent. Twenty-one interviews were conducted: 8 respondents were professionals, and 13 were farm proprietors. Of the 21, 15 held elective or appointive offices, including township supervisor, township treasurer, member of school board, and member of planning commission. Some were engaged in political interest broader than those limited to the community level. The sample of 397 citizens was selected in a manner similar to that used for Blairsville.

The distributions of responses include only those that the analyst considered to be definite responses; thus, the total numbers of responses frequently do not equal the total sizes of the samples. Throughout, the χ^2 test was used to determine for statistically significant difference. Using this test, χ^2 values of 3.841 and 5.991 indicate significant differences for tables of four and six cells, respectively. The arbitrarily selected level of confidence of 5 percent to which those values pertain means that values of that size or greater would have a probability of occurring by chance no more than five times in 100.

The research dealt with attitudes related to the following items: the purpose of the major route through the community, whether recent highway construction had been beneficial or detrimental, preconstruction approval or disapproval, the amount of money spent on highway construction locally, and the responsibility for financing highway construction locally.

Purpose of Major Route Through Community

With reference to the appropriate Federal route number, respondents were asked what they believed the purpose of the major thoroughfare through the community was.

For statistical analysis, responses were classified as universalistic or particularistic. Universalistic responses included "a major East-West route," "a major expressway," "military route," and "Interstate route." Particularistic answers included "access to Pittsburgh" (in the case of Monroeville residents) or "fastest way to York" (for the York area interchange community residents), "the way I go to work," or other responses of a local focus.

Table 1 shows that as to the purpose of the major route, there were no basic attitudinal differences between the leaders and other citizens in each of the three communities. Because this table provides sufficient illustration and because most other leader-citizen comparisons are similar, subsequent tabular presentation of these distributions is omitted.

Intercommunity comparisons in Table 2 give evidence of differences. The majority of Monroeville leaders gave locally-oriented responses. Majorities in Blairsville and the York area expressed broader purposes for the local major routes.

Intercommunity comparison of citizens shows pronounced differences. All Monroeville responses were particularistic, as compared to 32 percent in the York area and 17 percent in Blairsville.

Table 2 and additional statistical testing showed that the attitudes of Monroeville's leaders differed significantly from those of leaders in Blairsville and the York area. Leaders in the latter two communities were more inclined to think alike. It has been suggested to the researchers that the use of different techniques for selecting community leaders may have led to the differences reported here. Though such may be the case, differences of the same magnitude were not revealed regarding either attitude toward recent or proposed highway changes.

As to the purpose of the respective thoroughfares, Monroeville citizens were more "provincial" than were those in the York area and Blairsville; further, York area

TABLE 1
PURPOSE OF MAJOR ROUTE THROUGH COMMUNITY: ATTITUDES

Test Area	χ^2		Interview Type	Attitude		
	Value	Range		Universalistic	Particularistic	Total
Monroeville	3.13	0.10 > p > 0.05	Leader	2	18	20
			Citizen	0	66	66
			Both	2	84	86
Blairsville	0.119	0.80 > p > 0.70	Leader	17	2	19
			Citizen	53	11	64
			Both	70	13	83
York	0.035	0.90 > p > 0.80	Leader	16	6	22
			Citizen	190	88	278
			Both	206	94	300

TABLE 2
PURPOSE OF MAJOR ROUTE THROUGH COMMUNITY: ATTITUDES

Interview Type	χ^2		Test Area	Attitude		
	Value	P		Universalistic	Particularistic	Total
Leader	25.70	< 0.001	Monroeville	2	18	20
			Blairsville	17	2	19
			York	13	8	21
			Total	32	28	60
Citizen	120.48	< 0.001	Monroeville	0	66	66
			Blairsville	53	11	64
			York	190	88	278
			Total	243	165	408

TABLE 3
RECENT LOCAL HIGHWAY CONSTRUCTION:
CITIZEN ATTITUDES

Test Area	Attitude ¹		Total
	Beneficial	Detrimental	
Monroeville	204	2	206
Blairsville	74	16	90
York	<u>372</u>	<u>25</u>	<u>397</u>
Total	650	43	693

¹ $\chi^2 = 30.44$; $0.70 > p < 0.001$.

citizens were more locally oriented than those of Blairsville. The explanation lies perhaps in a degree of dependency, the need to commute to the nearby metropolis. Blairsville has no metropolis nearby, at least not on the route under consideration. Beyond this, the major route had in fact become Monroeville's main business street, sufficient condition for existence of locally-oriented statements of purpose.

Recent Highway Change

There is little question as to whether recent highway construction was favorably received by residents of the communities studied. Substantial majorities of both leaders and other citizens reported that recent changes had been beneficial. Twenty of 21 leaders in Monroeville, 22 of 27 in Blairsville, and 18 of 20 in the York area felt recent construction had benefited their local areas. Among York area leaders, even the two who noted some detriment reported that basically they approved the changes. In all three study areas, the citizen group likewise expressed very general favor: 95 percent reported benefit in Monroeville, 82 percent in Blairsville, and 94 percent in the York area. As with the York area leaders, a few citizens in the York area noted some detrimental aspects but on the whole approved the recent changes. Table 3 gives the distributions; differences are statistically significant.

Blairsville citizens were more mixed in their feelings than citizens in the other two areas were. A reasonable explanation of the differences appears related to what the citizens conceived as the intent of the changes. In Monroeville, for example, changes appear to have been thought intended to benefit the local citizenry. More traffic meant more business; through traffic meant easier access to the central city; widening meant alleviation of congestion. To York area citizens, the new highway was thought intended to remove through traffic, especially large trucks, from their local roadways and to provide them better access to the city of York or possibly even to Harrisburg or Baltimore. The intent in Blairsville, however, was interpreted as different. Local residents were split in their perceptions. To most, the relocation of the major route meant alleviation of congestion, better access to the business district, and safer intra-community travel. To the minority, it meant bypass, loss of transient trade, and an eventual "ghost town." Nonetheless, even in Blairsville, where, early in the research, antipathy had been sensed, the majority favored the recent highway development. This finding came as somewhat of a surprise to the researchers.

Proposed Highway Change

The most comparable developments in the three areas were the bypass situations. Monroeville was soon to be bypassed, and Blairsville and the York area communities had to an extent already experienced such a change. Monroeville residents were asked to express their sentiments about the forthcoming change; others were asked to recall

TABLE 4
PROPOSED HIGHWAY CHANGE:
CITIZEN ATTITUDES

Test Area	Attitude ¹		Total
	Approval	Disapproval	
Monroeville	169	9	178
Blairsville	44	13	57
York	<u>287</u>	<u>19</u>	<u>306</u>
Total	500	41	541

¹ $\chi^2 = 21.31; p < 0.001.$

TABLE 5
HIGHWAY EXPENDITURES:
CITIZEN ATTITUDES

Test Area	Attitude ¹			Total
	Too Much	About Right	Too Little	
Monroeville	8	130	41	179
Blairsville	15	40	6	61
York Area	<u>18</u>	<u>211</u>	<u>52</u>	<u>281</u>
Total	41	381	99	521

¹ $\chi^2 = 29.88; p < 0.001.$

their feelings at the time of proposed construction. Again, in all instances the expressions of leaders did not vary markedly from those of other citizens; and favorable expressions considerably outnumbered the unfavorable. Eighteen of 20 Monroeville leaders, 20 of 24 in Blairsville, and 18 of 20 in the York area responded in favor of the proposed change. For the citizens, however, there were intercommunity differences. The distributions are given in Table 4. Once more, mixed feelings in Blairsville are evident.

Generally speaking, attitudes toward highway construction improved through time. Only time will tell whether Monroeville will perceive its bypass as beneficial, but it is known that in the other communities under study slightly more responded favorably after completion of the proposed changes. None of the differences was found statistically significant; however, the data do support the notion that highway changes in the three areas were initiated and concluded in a reasonably favorable attitudinal climate.

Highway Expenditures

The citizen samples in each case were asked to express their feelings about the amount of money spent locally on highway development and who should be responsible for the costs involved. It must be assumed that few actually had knowledge of the amounts spent, but beliefs may frequently be a basis for action even in the absence of facts. Table 5 shows that nearly three-quarters of all respondents felt that the amount had been about right and that nearly one-fifth thought too little had been spent. Blairsville

was the only community in which those who felt too much had been spent outnumbered those who felt expenditure had been too little. Because the Blairsville project was smaller than those in the other two areas, the analyst is almost forced to conclude that local publicity, along with the previously expressed idea of intent, must have had some influence. Concerning this item of amount spent, Monroeville and the York area were similar; each differed from Blairsville.

Responses placing responsibility for highway costs were classified as universalistic or particularistic. The former included "everyone," "the people of the State," "the United States," and other broad-base responses. Particularistic included "citizens of the community," "users" (specifically truckers), and other more specifically-oriented answers. There were no real differences from one community to another. Universalistic responses were given by 84 percent in Monroeville, 85 percent in Blairsville, and 89 percent in the York area. Monroeville, "provincial" in viewing the purpose of the highway, was quite prone to suggest that payment for the thoroughfare should be widespread.

Although the preceding data offer some evidence of attitudes toward highway change, they may also indicate community receptivity to other changes that frequently accompany highway development and its concurrent changes in population and social composition.

COMMUNITY ORGANIZATION

In studying data gathered during the Monroeville field work, it became evident that a number of changes in community organization had occurred during the period under study. The most common changes, and those for which data were most readily available, concerned a movement toward comprehensive community planning. Local communities had added a number of formal functions and made other changes which added to the complexity of overall local government. Subsequently, two questions were raised: how these changes could be measured and whether highway communities differed from those not on major arteries.

An index that provides some indication of relative complexity and with which relative change can be quantified simply was developed as a measuring instrument. This Index of Community Complexity weights each of 11 changes, one or more of which occurred in Monroeville and the other 38 civil subdivisions roughly equidistant from downtown Pittsburgh. Weights were assigned and then slightly modified on advice from the University's Institute of Public Administration. The weighting is as follows: master plan, 7; planning commission, 6; zoning commission, 5; land subdivision control, 4; school district change (formation of jointure or amalgamation), 3; building code, 3; sewer authority, 3; water authority, 2; annexation, 2; parking authority, 1; and classification change, 1. Thus, the maximum index score possible is 37. As of 1960, none of the communities had attained the maximum; but, interestingly, Monroeville with its three recent highway changes had a score of 33, highest for all of the communities on the ring. It was followed closely by Cheswick Borough with 32 and McCandless Township with 31, both on major arteries to Pittsburgh. At the end of 1949, the average index score for communities not on major arteries was 7.3 and reached 14.9 in 1960. By way of contrast, communities on major arteries exhibited an average score of 13.5 at the beginning of the period and increased to 21.3 in 1960. Highway communities, then, were more complex at midcentury and at the end of the subsequent 10 years. Using the proposed index, it can be suggested that complexity in the highway communities preceded that in the non-highway communities by approximately a decade. It may be remembered that population was greater and increased more in highway than in non-highway communities; and it may be expected that changes in an index, composed of the items just listed, would parallel population growth. Generally such an expectation would be very reasonable, but analysis of the York area data tends to indicate the absence of a one-to-one relationship.

After having examined the Monroeville data, the index items and weights were applied to each of the seven civil subdivisions in the York study area. It was not expected that those communities would be found to be as complex as communities in the Pittsburgh area. York County is more rural than is Allegheny County, and the study communities

reflect the historical dominance of agriculture. Yet some change is occurring as evidenced by the index scores.

The study period for the York area communities is 1956-62. As of the first date, the average index score for the seven civil subdivisions was 4.57; by the summer of 1962, the score had increased to 10.57. The low scores substantiate prior expectations regarding the relative simplicity of communities in less urbanized areas. The rather small difference in the before-and-after score is no doubt partially attributable to the shorter length of the study period than that examined for the boroughs and townships in the Pittsburgh area. It is hoped that the York area communities may eventually be studied for an equal period, at least through 1965.

The researchers observed that the degree of change was not comparable throughout the area and sought to "explain" the intercommunity variation. For this purpose, four communities, accounting for 84 percent of the total population of the seven study communities, were selected. Each of these townships is located at a different interchange in the York study area. They thereby offer evidence of the receptivity to change in each of the interchange impact areas. Because field work at these interchanges is continual, the civil subdivisions are here known only as A, B, C, and D; and population figures are not detailed.

Townships B and C are the two largest of the four. Likewise, they were largest in 1950 and showed the greatest growth, both in raw figures and in percentages, during the subsequent 10 years. Township B had an index score of 9 in 1956 and by 1962 had reached 21, highest in the study group. Township C started the period with a score of 8 and attained a score of 20 by 1962. To this extent, population size and growth matched the increases in index scores, but the correlative relationship did not hold for the remaining two communities.

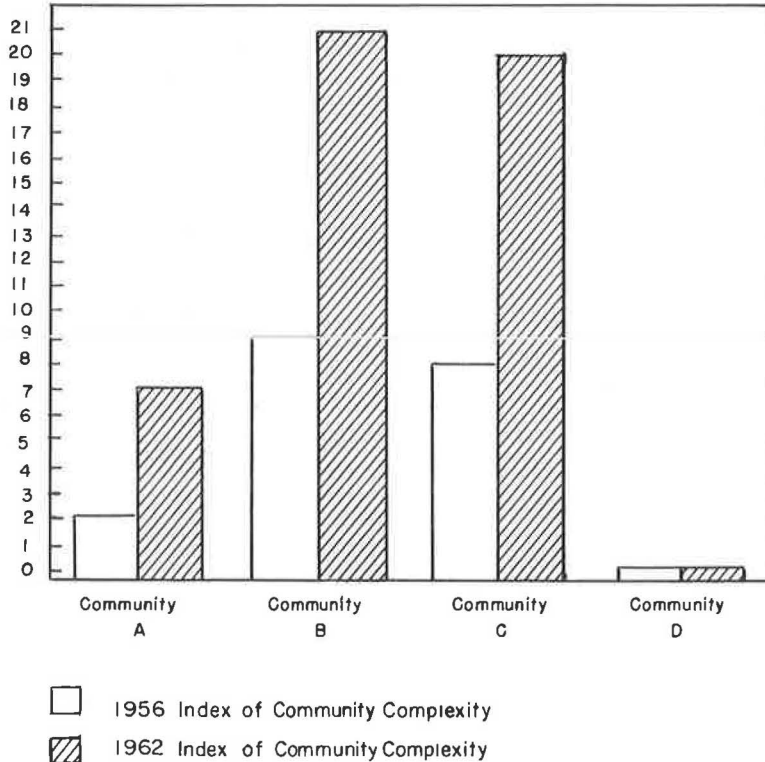


Figure 4. Indexes of community complexity, selected York study area communities.

Township A was smaller than D in 1950 and 1960. Its numerical and percentage growth was also considerably less, but A's change in complexity score exceeded that of D. The score for A was 2 in 1956 and 7 in 1962. Township D had a score of 0 in 1956 and did not change throughout the six-year period (Fig. 4). Population change, growth, alone apparently did not explain change as measured by the index.

Subsequently, another attempt to account for variations in changes in community organization hypothesized a relationship between degree of change and social class composition. With modification, the technique suggested by Bell and Meier (2) was used to quantify three socio-economic variables. Respondents were then classified as upper, middle, and lower class. Using the Edwards classification, occupation was weighted from 13 for professional to 1 for laborer. Income was weighted from 10 for over \$25,000 per year to 1 for less than \$2,000. Education was weighted from 8 for collegiate graduate study to 1 for no formal education. The social class rating for each respondent was established by adding his weights on each of the three variables. The possible range is from 31 to 3. The range for all respondents in the four interchange impact areas was from 27 to 5. The cutoff points used in this study were upper class, 27-21; middle class, 20-11; and lower class, 10-5. Figure 5 shows composites of social class ratings of interchange area respondents. The figure points up the "superiority" of migrants; but more crucial to the explanation sought, it illustrates rather vividly that change was more likely to have occurred in areas with high average social class ratings. Comparing Figures 4 and 5 shows the apparent interrelatedness of complexity and social class scores.

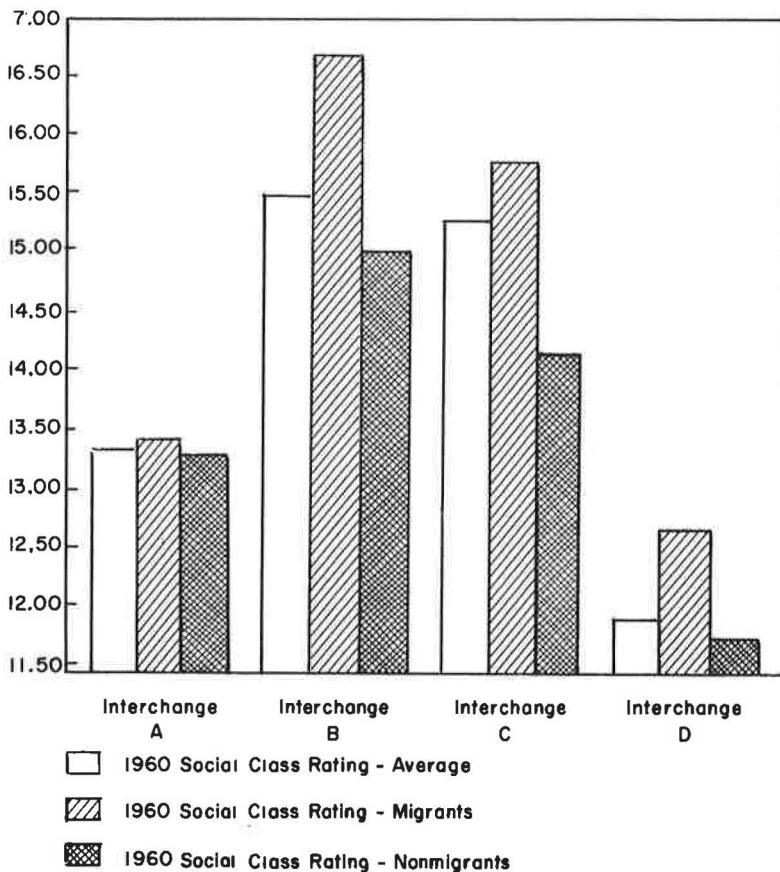


Figure 5. Social class ratings, York study area.

As previously mentioned, the data for changes in community organization in the York interchange areas represent a period of only about six years. Whether additional changes can be expected, perhaps, in the near future may best be determined by turning to the opinions of local leaders.

Sixteen of the 21 leaders interviewed did not favor a change in the classification of their civil subdivisions. They contended that it was not necessary and would be too expensive. None saw an immediate need for a parking authority. The majority (12) felt that no annexation was necessary. They were about evenly divided on the need for a water authority; 11 felt that such an authority was not necessary.

The remaining seven items of the index had majority support. Fifteen felt that a sewer authority was needed; some pointed out that, should the population density reach a given point, the State through its health department would no longer permit septic tanks. The leaders unanimously favored building codes; specific comments were made regarding the need to protect property values. Thirteen favored some form of school merger; those opposed felt that it was not necessary or was too expensive. All favored land subdivision control; although 17 favored zoning, 20 were favorable toward a planning commission. Nineteen believed that a master plan was necessary; reasons included "better community development" and "the protection of property values." If these leaders are influential in the area, it appears that the communities' complexity scores will rise. The weights of the items on which there are clearly favorable majorities total 30. The present range of scores is 0 to 21. Further, the County Planning Commission is extremely active. This extracommunity influence has already proved effective in some of the communities.

The researchers are aware that the complexity index does not measure community organization as a whole and that changes in index scores do not begin to measure all changes in community organization. Yet each of the items in the index is an aspect of organization, and change in a township's index score is evidence of effort to exert control over local destiny. Additionally, it may be inferred that implementation of such changes is evidence of a social climate conducive to the acceptance of other changes.

ATTITUDES AND ORGANIZATIONAL CHANGE IN CONTEXT

As previously stated, attitudes (in this case, attitudes about highways) may reflect sentiments toward other aspects of community life. Organizational change must likewise be viewed in broad perspective. Besides the changes in population and organization analyzed in this report, the communities under study were dynamic in many other respects. Governmental costs were rising, and school enrollments were increasing. Land use changes were occurring; and, in most cases, a new leadership was emerging. Industrial changes also influenced the study communities. For example, in a decade, Monroeville added 13 manufacturing concerns; Blairsville had a net loss of two. Seventeen manufacturing firms entered the York study area between 1956 and 1962. Similar changes are evident in other business enterprise.

Thus, though migrants may bring new attitudes to an area, overall local attitudes are conditioned by ongoing economic and political events. Change is not wrought solely by population changes or by migrant-non-migrant variations per se; for these are, in turn, influenced by pervasive community conditions.

Economic conditions, as set forth in the research objectives, are subject to considerable attention from the Penn State impact research staff. Traffic volume and patterns are being studied and integrated with other findings. The latter will permit a greater understanding of urban-suburban interdependence relative to employment and to recreation and other leisure-time activities.

A major undertaking is the development of a simultaneous systems model for the study of interchanges throughout the State. This model incorporates such variables as type and age of interchange, topography, availability of water and other utilities, distance from population centers and other interchanges, distance from other transportation facilities, and prior existence of settlement at the interchange site. From a conceptual model it is hoped that a predictive model will result. Knowledge of community attitudes and organization can contribute to the predictive analysis.

SUMMARY AND INTERPRETATION

It is to be expected that the introduction of a major change into a community will be met by responses that vary from opposition to acceptance. Further, it may be expected that change fostered by an outside agency could be considered an invasion. A State Highway department is an example of such an outside agency, one that prefers community acceptance of its programs. Reciprocally, acceptance of highway development is essential to community well-being. Thiel (12) has stated:

A highway needs to not only facilitate the transport of goods and people but to be generally acceptable to residents of the area through which the facility passes. Without this acceptance, a highway can result in such harmful effects as lowered land values—since land values depend in such an important way on how people feel about property and the surrounding area—and general community blight.

Acceptance of any change may be related to the rapidity with which that change seems to bring favorable results. Nelson (10) and his associates state, "The source of change most easily grasped is that of swift and radical alterations in the environment of the community." Following presentation of examples of changes of that nature, they go on to say, "Somewhat more slowly comes the change which follows from altering the route of a major highway, but it still occurs rapidly enough to be seen within a single person's experience." Highway changes, as such, in the study areas were readily seen in a short period of time; without question, most felt the effects had been beneficial. The general acceptance of highway development is now a new finding. Even when losses occurred in an area of development, Young (16) found that only a minority of businessmen attributed losses specifically to construction of the freeway. Further, Thiel recently summarized other studies that illustrate general satisfaction.

On an intercommunity basis, the tenor was one of comparable acceptance. Differences found were only in degree of acceptance; majorities in all three areas favored recent changes. A minority in Blairsville obviously felt that the community had been dispossessed of through traffic on its main business street and had suffered through loss of the business that traffic implied.

Invariably leaders and other citizens were in accord, favorable toward the changes. The data tend to substantiate Washburne's (14) thesis that psychologically, leaders of a group tend to be those members who are aggressive, but whose ideas are essentially the same as those of the rest of the members of the group.

Findings here tend to reiterate those of Westby and Wiley (15) who studied three Michigan communities. They concluded that the theme running through their findings was the general favorableness of opinion and the relative lack of variation between and within communities.

Knowledge of the attitudes of local leadership is especially important. According to Washburne (14), "...in critical situations men will be inclined to accept the suggestions of leaders and propagandists if they seem to provide an adequate interpretation of the problems facing them."

Education of the leadership seems particularly appropriate to mitigate any discontent among them. As Vidich and Bensman (13) point out:

The rural non-farm population which commutes to work to the nearby industrial centers is, of course, as dependent upon roads as the farmers. When road issues arise, they will follow the lead of any group which has a gripe and is willing to express it.

Other changes are obviously concomitants of highway change. In a 1961 publication (3) it was contended that changes in population, political boundaries, zoning, planning, and land use would be influenced by ongoing highway development. The Monroeville and York area data for community complexity validate these notions.

Highway communities in the Pittsburgh area appear, on the whole, to be more complex than non-highway communities. The York area communities, where major highway change has been more recent, exhibit community complexity of a lesser degree but

moving toward increased complexity. The findings show differential adoption of organizational changes, related not only to population size and change but also perhaps to variations in social class composition.

For many, at least for community leaders, most governmental changes treated in this research are considered improvements. These improvements have occurred in a social climate conducive not only to highway change but also to organizational change. Frey (4) has warned that the presence of a highway does not guarantee community improvement, and that only by means of local planning and adequate controls can communities assure an orderly, stable, and more satisfactory growth and land use pattern. He and his associates (5) have discussed some of the problems that can arise from the location of major highways in the absence of planning: congestion, ribbon development, and neighborhood bisection. Barnett (1) in discussing the location of free-flowing arterial routes says that these routes are best located when, in addition to satisfying the fundamental needs of traffic, they divide one neighborhood from another.

The reciprocity of highway and community interests is self-evident. There is need for knowledge about the goals and attitudes of both. A highway facility is equally available as asset or liability to a community's future. The community does have an opportunity to participate in highway planning. Open hearings permit citizens both to teach and learn. To cope with increasing highway demands, members of highway departments must continue to learn something of the communities involved.

Moses (8) states:

Our parkways, turnpikes, expressways, thruways, and other roads, which are being multiplied and improved to keep pace with the output of cars and the demands of the traveling public, will increase enormously the pressure on our highway system and promote mutual attraction and gradual unification of the country and the town.

Few would argue that this unification can be accomplished without foresight and intelligent planning on the part of both highway planners and community residents. Commitment to a mutually satisfactory relationship is important. If one would perceive the highway-community relationship as systemic, one in which there is reciprocal impact, some suggestions from Loomis and Beegle (9) may be appropriate:

The greater the felt need for a cultural item, for example, the easier it is to relate a proposed change to the ends of the system involved. Further, the better a cultural trait is understood, the easier it will be to introduce the change.

Or perhaps it should be said that the better a cultural trait is understood, the easier it will be to introduce the change if that change is accepted; i. e., felt to be beneficial.

Highway changes in or near the communities studied were generally found to have been accepted; and, seemingly, local leaders and other citizens have made some move toward adaptation to those changes. Through those efforts they may in fact be effecting a protection for the road facility. One could readily question whether highway protection would ever arise as a community goal in an atmosphere of hostility, rejection, or even suspicion of highway objectives.

The limitations of these findings, relative to generalization about acceptance of highway change and willingness of any community to participate in its own reorganization, is not argued here. Each community is a different case. Moses (8) suggests:

In studying any particular community, there is no quick, smooth categorical answer to the never-ending challenges of growth and change. Intelligent citizens should study the main forces at work, the pulls and pressures. Much depends on the traditions of the town, on its special interests, on types of leadership and the strength of advocates of conservative improvement as against radical and revolutionary uprooting.

Radical and revolutionary uprooting may best be prevented by advance highway and com-

munity planning. Nelson (10) recognizes the multiplicity of factors involved in such planning:

Community development programs must be sensitive to changes in the composition of the population and must anticipate changes that may result from economic or social forces.

Rather than economic or social forces, "it might be preferable to say economic and social forces."

Within the broader framework of economic and political conditions, knowledge of population and population change, social characteristics, and attitudes of community citizens and their leaders is necessary to the understanding of the relationship between highway development and community change. Such knowledge may be the key to a reciprocal relationship that is mutually beneficial.

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