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ABSTRACT

This monograph provides a format for teaching about busing, either to prospective teachers or to students, on all levels of the educational process. A model is developed that can be used by students themselves in the development of methods of improving human relations and studying problems of democracy and American life. The model presented here is that of a game that has been formulated to study the implications and effects of a busing policy. It involves a definition of the actors (those people who participate in the decisions), the rules by which these people may interact, the objective parameters (the "facts") that "set the stage" for the interactions and the attitude parameters (the "emotions"), that govern the people's feelings. Hopefully the effect of "The Busing Game" will be to explain the reasoning behind the formulations of the parameters so as to facilitate the use of this tool in teaching and learning. Originally the model was done as a project for a "Foundations of Education" class in which the instructor stated that if the students were to give presentations, the presentations should be fun and involve everyone in the class. This forced the author to look into the busing question, and the social decision-making process as a whole, to examine the parameters, both objective and subjective, and to determine the roles and attitudes of the players in such a drama. (Author/JM)

W2-30

THE BUSING GAME

by

Allen C. Goodman

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FORWARD

I would like to thank Gloria Rainey of Cleveland State University for the original impetus and encouragement to write this paper. She was the "infamous" instructor who implied that learning should be fun. I would also like to thank L. Charles Miller and Stanley Greenberg, and the members of the Seminar on Race and Class in Urban Areas of the Institute for Social and Policy Studies at Yale University for their sometimes acerbic, always helpful comments and suggestions. Of course, my typewriter and myself take full responsibility for all errors in logic, formulation and spelling.

New Haven, Connecticut
December, 1972

INTRODUCTION

One of the more complex and intriguing social problems of the present and recent past has been that of "busing", specifically "busing to bring about racial integration in our schools." Encompassing many fields of the social sciences, studies such as the Coleman Report contend that a mixing of races and social classes would, by itself, bring about an optimal (economists would call it "Pareto Optimal") improvement in the total education received by all. Socially and politically the issue has been important since the Brown v. Topeka Supreme Court decision of 1954. Many questions have been raised, most notably the "neighborhood school" controversy, the idea of "open housing" and the "politicization" of the whole busing question as most notably observed in the Wallace presidential campaigns of 1968 and 1972.

The question to be examined here is how a teacher is to treat this very timely issue, what can he learn about it and what information could he, or should he impart to his students when and if confronted by the busing question. A teaching and learning tool is essential to explore the interactions and problems inherent in the manifestation of such a social change. Implications of this question involve the training of teachers on the university level and the development of a model that can be used by students themselves in the development of methods of improving human

relations and studying problems of democracy and American life.

The model presented in this paper is that of a game that has been formulated to study the implications and effects of a busing policy. Originally the model was done as a project for a Foundations of Education class in which the instructor stated that if the students were to give presentations the presentations should be fun and involve everyone in the class. In order to do so, the author was forced to look into the busing question and, the social decision-making process as a whole, to examine the parameters, both objective and subjective, running the gamut from the factual statements to emotional outbursts, and to determine the roles and attitudes of the players in such a drama. The original purpose of the game was to teach its players about busing, to bring out its more complex facets to a group of prospective teachers, and hopefully, to shed some light upon the complex interactions that influence all of those who are part of the city as a whole.

The purpose of this monograph is to provide a format for teaching about busing, either to prospective teachers, or to students on all levels of the educational process. It involves a definition of the actors (those people who participate in the decisions), the rules by which these people may interact, the objective parameters (the "facts") that "set the stage" for the interactions and the attitude parameters (the "emotions"), that govern the people's

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feelings. Hopefully the effect of "The Busing Game" will be to explain the reasoning behind the formulations of the parameters so as to facilitate the use of this tool in teaching and learning.

INTERACTIONS

One way to attack the busing question is to analyze the arguments for and against and to try to break them down into their component parts. In other words, one must ask who is involved in the conflict, and what are the objective, subjective and interaction aspects involved? This would consist of a list of current stands on busing, both pro and con. The following may not be an exhaustive list, yet hopefully it would categorize the basic points often advanced by both sides in the dispute. Certainly a good exercise in any classroom would be a discussion of the merit of some of the assumed stands vis-à-vis busing.

The arguments for "busing to achieve racial balance" are:

1. Inner city schools are ill-equipped material-wise. This includes deficiencies in supplies, audio-visual equipment, desks and chairs, auditorium and gymnasium space, books, lockers, etc.. Busing would allow students in these schools to enjoy the benefits enjoyed by students who attend schools that are better equipped.

2. The inner city schools get the inexperienced teachers - when a teacher gets seniority at a given school, he wants to move to a school that is "better" (i.e. a school in a more affluent area where students are more amenable to

learning, or where equipment, salaries, fringe benefits and/or other considerations may be quantitatively higher or qualitatively better). (Note: The situation exists in many areas that the inner city schools or school systems, will pay higher salaries than neighboring suburban school districts, to attract teachers who might not have wanted to teach in these inner city schools in the first place.)

3. Housing is still racially discriminatory, even in the wake of various "fair housing" bills that have been passed. There are still some neighborhoods that are closed to certain groups. Busing is seen as a remedy until housing itself becomes truly open and people can buy where they wish without any neighborhood, social, or other pressure, outside of the ability to make payments on the house. In that many neighborhoods are advertised on the basis of their "good" schools, busing would be the remedy for people who would like to send their children to these schools, yet can not, because they are not able (for non-economic reasons) to purchase a home in the given school district.

4. The poverty atmosphere in the inner city school makes learning very difficult. Specifically, there are many factors that contribute to this atmosphere, including economic poverty (poor clothing and nourishment), poor background as far as education is concerned both in the home attitude and in the peer group pressure that may come from the society itself. Often the parents have not achieved a high level of educational attainment themselves, and are either unable or unwilling to provide an atmosphere that is conducive

to learning. This would include a situation where one or more of the parents is not at home at all, or where both of the parents work full-time. Busing, say its advocates, at least provides the opportunity for a good atmosphere in the school where the student from a poor learning atmosphere is exposed to the better learning habits of others, hopefully benefitting from them.

5. People should get to know one another. If our goal is an integrated society, then we should learn to live together. Starting in college (if ever) is too late. If students grow up without knowing people who are different from themselves, they won't or can't know that a black student doesn't have to hate all whites, or that all ethnic minorities don't hate each other. If a black child doesn't know any whites outside of the ones he sees on television (what a horrible thought it is to think that all subsets of society are as they are portrayed on television) then how is he to know if what militant blacks or whites say about the other races is true? Integration of the schools will accomplish this, and at this time, busing is the most tenable way of integrating the schools.

6. Studies such as the Coleman Report "prove statistically" that society as a whole benefits from busing. This study states that in a situation involving "advantaged" and "disadvantaged" children, the advantaged children do not do worse as a result, and disadvantaged children do better. In an economic context, this is known as "Pareto Optimality." That term defines a state of society where there is some sort

of change that makes at least some members of society "better off" without making any members of that same society "worse off." If busing, as such, makes some disadvantaged students learn more, without hurting the learning of the other students, then it would be said to be Pareto Optimal and thus beneficial to society. As such, a practice like busing would be subject only to a comparison of the costs and their corresponding benefits (in economic parlance, a cost-benefit analysis), where social benefits would have to be given a money value in determining the feasibility of such activities. Where court-ordered busing were the situation, such activities would proceed regardless of the cost-benefit considerations.

7. The Supreme Court says that it must be done. Without a Constitutional amendment saying otherwise, the "law of the land" must be followed. (At this time, this question looms very large, especially considering the President's and Congress's contemplating overturning Supreme Court decisions by means other than by Constitutional measures.)

8. Busing would dampen neighborhood turnover (specifically a very fast change in population of an area, usually from white to black, and usually racially motivated) due to a fear of changing schools, because with school systems independent of neighborhoods, the neighborhood schools might not turn over as the neighborhood does.

The arguments against "busing" are:

1. The "neighborhood school" argument - children

should not have to take a bus to school when there is a school within walking distance. This is especially important in the case of the elementary school child who may be unable to cope with problems brought about by strange neighborhoods, people and schools.

2. The family moved to where it is (close to the neighborhood school, to the school system with the better reputation, to the neighborhood where blacks, whites, ethnics, and so on are excluded) for that very reason. Busing would negate the personal benefits gained by having moved and would promote the possibility of the family being in the same situation as it was before it did move.

3. Moving disadvantaged children into the school district may result in the downgrading of the curriculum of the school as a whole. (As the percentage of high achievers would necessarily go down, it could give the school board cause to withdraw certain advanced placement programs, special learning programs, etc.., to the detriment of the students that are already there.)

4. The predominant group in the school (either black or white) wants its own culture to dominate. One might find, for example, a resistance of blacks to having whites bused in, due to fear of the imposition of white culture, values and activities on the other group (in this case, blacks).

5. Integration is unimportant. People should live with whom they want to live and go to school with whom they wish. If people want to get together, this is fine but it should not be forced in the schools. (This idea seems

especially pervasive insofar as reaction to busing across political and municipal subdivisions and boundaries - for example, from town-to-town, county-to-county, etc.)

6. Busing is a waste of money. It involves spending our hard earned money, in a time of scarcity, on something that does not improve education. This money could be better spent on equipment, books, higher teachers' salaries, or in other ways, that, according to the conventional wisdom, would unquestionably benefit students. If our schools are already as good as we want them, then let's cut taxes. Let's save the little man who can't fight the intellectuals at City Hall or in the colleges or the courts.

7. Integration by busing is physically and financially impossible. First, there are not enough buses available to do the job, their rental would be too high, drivers' salaries would be too high, the outright purchase would cost too much. Where are the schools going to get the money to pay for this, short of the federal government, and if the government has all of this money to distribute, why doesn't it spend it on more worthwhile programs? The layout of many urban areas makes busing unfeasible. In many cities one side of town is all black, the other side is all white and the necessary busing to achieve integration would have to be carried out on a massive scale. This might result in students having to ride on school buses for two and three hours per day. Also, there are not enough of the various population groups inside city boundaries to provide true integration.

We would have to bus across city lines and this is legally ical. The logistics can be stymied by geographic enecks such as rivers or l kes. There may be very few bridges across a given river and filling them up with school buses during a normal rush hour would cause monumental traffic jams.

8. Students will be bused into inferior schools and dangerous neighborhoods. This is the negative counterpart to reason #1 for busing, with the added notion that not only are schools in poor neighborhoods poor, but the neighborhoods themselves are dangerous and the children might be harmed in such situations.

9. Students from a given neighborhood will be antagonistic toward outsiders and there will be serious disharmony and the possibility of violence. This could be most relevent at the outset of such a busing program where community and individual passions may be vehement and emotional.

10. Only the less affluent are affected by busing. The more affluent can move to another district or send their children to private or parochial schools, thus avoiding the issue entirely. The poor and lower middle class (economically) are stuck as guinea pigs in an experiment that they don't like, because they can not afford to move elsewhere, or to send their children to other schools.

THE PLAYERS

The game is composed of interactions on three levels of government. The local level includes city and county

politics, the state level would bring in a more regional outlook and the national level would bring in actors who would be interested in interactions on a higher level, commeasurate with that of a higher court system.

In that the city, itself, has become the most conventional unit used in defining the busing issue, local actors have been assigned as residents of the city itself. Five actors have been assigned to each city. The roles follow:

Mayor - This role is to reflect events and attitudes that affect the city as a whole, and the actions of the mayor of the city in particular.

School Superintendent - This role is to reflect the events and attitudes affecting the school system as a whole. It is his job to plan curriculum, financing and busing if it is so ordered. The "buck" stops with him as far as the running and planning of the school district is concerned. Hopefully he can consult with the school board before making his decisions, so as to minimize frictions between himself and the community as a whole, but he is empowered to ignore their wishes and may have veto power to overrule them if he sees fit, subject to incurring their enmity regarding subsequent actions.

School Board - This is divided up into three roles. Citizen White is created to represent the viewpoint of a white member of the community. It must be emphasized that the role itself does not necessarily embody a presupposition of his race's attitude toward busing (this is drawn separately) but once the role is assumed and the attitude taken, he is

to assume a white person's perspective toward the problem. Citizen Black has a similar role. The third member of the board is designated as Citizen Other and is a role that would reflect the attitude of the community as a whole toward busing. The three citizens, thus would represent attitudes of the community in this school board. In this context they will interact most prominently with the Superintendent, but also might interact with the Mayor or possibly with officials on a higher level.

Moving up to the state level, the game adds the role of Governor. This role has several facets as an intermediary between the national government and local politics. On the local level the governor might act as an arbitrator of squabbles between players on the local level. Voting rules might allow him to swing decisions and plans of action in various ways, depending on the coalitions formed. On the state level he would represent the distribution of funds and of moral suasion concerning actions that might be beneficial to the community or the state. On the national level, his role might be to represent the state in any kind of action that might affect it; in this case, actions concerning busing.

The national level has presented problems in formulation to the extent that one might question which actors and roles might best represent the national level in local and state affairs. One choice would be to have one role as that of the President, offering bills to Congress and public pressure to the country as a whole in supporting actions that he,

himself, might think beneficial. A more realistic role, it is believed, is that of the Court System (in this case, the Supreme Court) which would have more direct and instantaneous short run effects upon all levels of activity than does the President. In this game, the Supreme Court would be entitled to make binding rulings concerning questions of busing, and could also suspend other orders, given ample cause and reason. The Court would consist of three members, one of whom would be designated Chief Justice, each with independently drawn attitudes on the busing question. There could be room for rules concerning voting, dissenting opinions and the like. In that most of the "action" concerning school busing concerns the courts and is the result of their actions, this formulation would seem to be most realistic.

One might reasonably question the omission of the legislative branches on various levels of government. The answer would be the "value judgment" that in a short run simulation, such as this, the role of legislature at any given time would probably be more that of a forum for public opinion rather than a law-making body. The actual implementation of laws and statutes governing busing, integration and so on can be achieved in other manners, such as instantaneous data, in the form of current events. In a much larger simulation such roles might be useful, but the roles in this game have been created to embody many of the functions of the legislative branch.

OBJECTIVE PARAMETERS

Having defined the players, it now becomes necessary to describe the conditions under which they will play. The first of the two sets of parameters will be described as objective parameters - those parameters that can be either quantified or graphically specified so as to be unambiguous in interpretation, given the methodology by which they are defined.

The first group in this set would concern the purely geographical aspects of the city to be bused. One must examine the types of streets to be used, but more specifically the cost of using them, both in tolls, gas and maintenance, and perhaps more importantly, in time, which may be the binding constraint. One of the oft-heard objections to busing is that the children should not have to spend an excess amount of time on the school buses, thus making one objective of this study to minimize the travel time needed to get to the school.

Another set of geographical considerations of a city is the group of "bottlenecks" that may occur at various locations. For example, a busing plan from one side of a city to the other may seem perfectly feasible until it is realized that many school buses will have to cross the one bridge across the river which bisects the city, during the morning rush hour. So one can see that the existence of bodies of water, for example, within the city's boundaries can be a serious sort of bottleneck.

The cliché-ridden "other side of the tracks" illustrates another kind of bottleneck. Outside of the sociological implications of this phrase, railroad concourses also divide neighborhoods because they are crossed by very few thoroughfares, making straight line evaluation of time and distance meaningless. In the same category is the set of business districts, which could include the Central Business District and the Central Industrial District of a city. These areas may also be areas of high density and/or heavy traffic. Also they represent areas where few people live or go to public school, thus becoming "dead-weight" areas when it comes to estimating travel time and costs in any kind of school transport plan.

All of these parameters abstract in a curious way from the actual physical size of the city. In an analogy to the "weakest link of the chain," the transportation to various places in a city is only as good as its access through its most severe bottlenecks. The early history of New York City was fraught with incidences such as this - its nature as an island, first as a premier port, then in its inability to accomodate railroad transport. In a city such as Los Angeles a good freeway system can reduce the size of a geographically large city, whereas in a city like Boston natural bottlenecks may work against fast transportation from one area to another. The case of Philadelphia's infamous Chinese Wall (a thirty block long railroad concourse , stretching across the downtown Philadelphia business district)

was the instance of a man-made barrier cutting a city into two parts.

The second group of objective parameters concerns the demographic characteristics of the city, from the city as a single entity, to the city as a set of individual neighborhoods, which are usually grouped together as school districts. The use of the population as a whole in the city is important in determining the absolute number of facilities needed in the city as a whole and also in the apportionment of funds through such programs as "revenue sharing." It is, of course, invaluable to future planners, as are projections of populations for various decades into the future. Population density is a second measure, probably more useful on the neighborhood level. It would be rather foolish, without prior assumptions, to divide up the city into school districts, assuming constant population in each neighborhood, as this would lead to overcrowding of some schools, and under-utilization of others, and to a waste of resources.

For integration purposes, of course, the breakdown of population on a racial basis is necessary, both on the local level (the city as a whole) and the neighborhood or school district level. How much more specific one would want to become would be largely a function of both interest, and time and money, to do an adequate analysis. Ethnic and religious accounts might be useful to the extent that one might want to know whether parents would send their children to parochial schools if a busing plan were to be implemented. If one were to delve even further into this direction, one

would want some measure of income and ability fornon-parochially oriented parents to send their childrento private schools, once again in the event of a [illegible]ion involving forced busing. [illegible] racial accounting would be vital in the formulation of an algorithm for busing children so as to maintain proper ratios of blacks to whites in the given school districts, and to minimize the time involved in the bus ride used to achieve this racial integration.

A third set of parameters in the set of objective parameters is an amalgam of the first two sets, a set of institutional parameters. Specifically, one asks where the various neighborhoods are, where, exactly, the schools are located, and how the school districts are drawn. It involves an interaction of the racial and geographic parameters. Often school districts follow natural geographic boundaries, sometimes they are cut up by manmade barriers such as freeways. Still other times they are drawn in such a way as to preserve existing neighborhoods, to keep blacks with blacks, whites with shites, and so on. The too,. one can not look at the specific locations of schools with total neutrality. It is evident that if schools were built at a given time with busing and/or easy access from all other parts of the city in mind, they would not have been built where they were. They can not be moved and their accessibilities are slow to change - indeed, they are among the least flexible of all of the parameters in question.

Then there is money. The fourth group in the set of objective parameters involves reams of theory on school finance,

and no real attempt will be made here to advance any startling revelations. In the short run one can define three major expenses in running a school system:

a. Salaries of teachers and administrators

b. Maintenance and overhead (fixed expenses)

c. Books and supplies

In the long run one would have to include a fourth category of expenses, namely construction of new units. The debt service on past construction could be included in category b, and the title changed to Fixed Expenses, meaning that whether the schools were open or not, these expenses would have to be paid.

How this money is raised is also the subject of volumes of both constitutional law and economic literature, and perhaps the best approach is to take that of a fixed amount, raised essentially by local property taxes, subject to the variations of the failures of school levies, and to the re-evaluation of the tax base. The amount at hand is limited, and may serve as one of the more prominent constraints on school spending. Certainly school finances must be included in a list of objective parameters concerning busing in the city schools.

Thus the objective parameters give a background to the more human aspects of the conflict. The list is not meant to include every objective parameter that might be considered; indeed a given set of rules might define others and discard some of the aforementioned groups. Still, they put the bargaining into a real world, and give ample framework for a data

collection and quantification effort so necessary in the mathematics of the busing question.

ATTITUDE PARAMETERS

Of course the issue in the busing controversy is PEOPLE, how do they act, what do they think and why do they do all of the above? The original task of this game was to teach teachers about human relations, specifically so that as members of the profession they could understand one of the more controversial contemporary issues. Attitudes may not be rational, they are often not measurable - indeedtwo people with ostensibly the same attitudes may express them totally differently, and in actuality have different viewpoints upon the problem that they might have, at first, thought that they were seeing from the same angle. Essentially the purpose was to have the teachers play the roles of the protagonists and the problem was to devise parameters that would be useful in explaining the nonquantifiable aspects of busing both in theory and in the gaming sense.

The first attitude parameter would concern race. Regardless of what a black person were to think of busing, or integration, he would think it as a black person. He would bring certain historical background to the game, have certain emotion and gut feelings that would influence his judgments and decisions. Likewise, a white person would have some kind of heritage of feeling about others, about education and about society in general, and this attitude must be fathomed in order to allow a meaningful interaction between

protagonists in any sort of discussion. In certain parts of the country, the American Indian has come to feel the effects of busing on his formerly "separate but equal" status (in some sections of the South, "triple" school districts have been known to exist) and in given situations, players could use the role of an American Indian and bring his viewpoint into the interaction. Likewise, Chicanos and Puerto Ricans might be considered in situations where their outlooks might differ from that of the larger part of the community. Certainly one can not ignore the race aspect. It is literally what busing "is all about."

A second parameter is an individual's attitude toward integration. He would be said to be for integration if he could answer the question, "Do you believe in integrated schools?" positively. Being against would be a negative answer, or one could be neutral on the matter. The question is phrased essentially the way that public opinion polls are run, and the author would agree that it is at best a superficial way of determining attitude, yet perhaps the best that one can do on any sort of mass interview.

A third parameter is an individual's attitude toward busing. He would be said to be for busing if he could answer the question,"Do you believe in busing to achieve racial integration in the schools?" positively. Once again, being against would be a negative answer, and one could be neutral on the matter.

The final parameter would be an individual's attitude

toward law and rules in general, specifically it could be considered his intensity of feeling on the busing issue. Is this person generally passive toward the enactment of laws he does not like, or is he vocal in his opposition? Would he wage a vigorous fight against legislation that is currently in committee, or does he read the comics and sports page every morning and leave the law-making to the politicians? Regarding busing, will he accept the busing of his children to other schools, or other children to his school, or will he go out and picket, or perhaps overturn school buses? Certainly his attitude might differ if he has a child in the school system as opposed to if he merely lives in the city that is affected by the busing order.

The four aforementioned attitude parameters are concerned with a rather static view of this individual, saying, in effect, "this is what he is." One must then want to ask what the individual <u>does</u> and he must be given some stimulus so as to perceive and analyze his reactions. These would be the <u>Current Events</u> parameters. In the context of the busing question there might be any number of types of news. There might be some current events that would color people's attitudes toward busing more favorably. One might imagine headlines in a newspaper, such as:

PRESIDENT SUPPORTS BUSING

HUMAN RELATIONS CONFERENCE IS SUCCESSFUL

INTEGRATION PROCEEDS WITHOUT INCIDENT

that would cause people to think that busing might not be such a bad idea. On the other hand one could imagine headlines

such as:

WHITE GANG ASSAULTS BLACK GIRL IN PARK

VANDALISM COSTS CITY HALF MILLION DOLLARS

CHRISTIAN ACADEMY TO OPEN IN TOWN

that might galvanize opposition to busing. Of course, as we ought to be aware, a given current event might galvanize opinion both ways, indeed polarization in racial question is not unknown, and would be a not-unexpected feature in such a busing situation.

There might also be issues that are totally unimportant, and others that are ambiguous. There might be no news at a given period of time, or there might be headlines such as:

U.S. DEVALUES DOLLAR TEN PER CENT

MOON LANDING IS 'AOK'

Do events like this have an effect on people's opinions and attitudes, and should they be included in a model? Or are these instances of "irrelevant alternatives", needless diversions, complicating an already complicated problem, or being simply too much for any ordinary player or citizen to handle?

The possibilities for assigning roles are many. It could be done randomly, on the assumption that attitudes toward busing are random. Or one could unbalance the probabilities to reflect what he might think is the true sentiment about busing, then have a random or assigned draw. Perhaps the most interesting variation might be to make a careful assignment of roles and attitudes to study a desired interaction situation, varying at given times, the previously mentioned

objective parameters, and/or the rules by which the game is to be played.

TOOLS - An Analytical Map

Simple maps of cities often do not incorporate transportation costs or times, nor do they give any measure of the population, either in density, total population or racial make-up, save the few streets that might be named after national heroes. To incorporate these aspects into the analysis, and to make the game possible, a different type of map can be drawn, incorporating several of the important objective parameters.

The boundaries of a city signify, in most cases, the natural limits of any busing activity. The area of the city can be divided into squares of equal sizes to signify smaller areas that are bound by traffic arteries (main thoroughfares - similar maps have used triangles or hexagons to approximate the irregularities of boundaries, however squares would generally correspond to the way that streets are usually set up, that is, running at right angles to each other). Each square has several attributes. It takes a given number of minutes to cross, both horizontally and vertically, and a slightly longer time to cross diagonally. (Some cities, such as Chicago which are laid out with a "checkerboard" of streets may lend themselves to the omission of the diagonal crossing feature.)

Furthermore, each of the squares is assumed to have a given population which is the same for all residential squares

in the city. This, of course, abstracts from the idea of varying densities for different areas of the city. It could be remedied by the drawing of squares to scale. That is, any square would have a given number of people. The larger the square, the less dense the population. Thus one might expect to see smaller squares in the higher density areas of the inner cities, and larger squares in the outer rings of the cities. It would make computation of travel time more difficult and require, perhaps, an undue emphasis on mathematical manipulation of pertinent information. In either case the population could be computed for the city as a whole, simply by counting the residential squares, and multiplying them by the fixed density of population.

Three demographic categories have been chosen to describe the populations of each square. A square may be made up predominently of whites, may be a mixture of blacks and whites, or may be made up predominently of whites. For ease in computation, one could assume that the predominently black square was all black, that the mixed square was half white and half black and that the predominently white square was all white. A fourth type of square could be used to describe business and/or industrial districts where few or no people would live. The populations of these squares would be assumed to be zero.

Once again, it could be argued that more types of categorizations should be used to describe racial composition in given areas. This might seem valid, except for the empirical observation that any given block in real life usually

consists almost entirely of whites or blacks, especially in the children that it sends to public schools. One sees very few "well-mixed" neighborhoods. Especially where a neighborhood is just gaining a large black population, or where the population has just recently turned from white to black, one sees very few whites in the schools, the remaining whites in the neighborhood usually going to either private or parochial schools. The more complicated breakdown or racial composition can be done. For the game purposes it is not necessary.

Perhaps the best way to describe the analytic map is to explain an example. City F radiates from a central business and industrial district that grows along the river that bisects the city, and along the lake to its north. The city has a population of 209,000 which is divided up, as indicated on the map, among blacks and whites. The symbols indicating the racial compositions of the various blocks ought to be reasonably self-explanatory. Obviously the river divides the city into black and white halves rather effectively.

The model looks at the secondary schools of City F and, as with all other cities, assumes that each secondary school serves an equal number of residents, in this case approximately 40,000. The school districts are arbitrarily drawn and the schools are placed at the intersections of transportation thoroughfares. City F thus has five secondary school districts ranging in population from 27,000 to 54,000 and in racial composition from almost all black (district #1)

to 95% white (district #3).

The river is a severe bottleneck in that it can only be crossed on one of the four bridges shown and any one of these bridges takes three minutes to cross. Each of the blocks in this city is three minutes long, and four minutes diagonally and an octagonal tool can be devised to describe the isochrons (set of all points a given traveling time away from another point) around any given point. (Although the analytical maps to not contain parochial schools, or private schools, their inclusion would pose no major problems. It would, in the author's view, needlessly overcomplicate an already involved problem.)

There might be a very legitimate question about the efficacy of assuming constant travel times for very diverse parts of the city and ignoring the obvious differences in types of thoroughfares. The answer would be that most school-bus trips are made up of very short increments, which could not really take advantage of the use of freeways or other high-speed roads. The construction of new freeways or high-speed transit could be accounted for by reducing the travel time per black along any given gradient that would define the high speed transportation. Likewise, inordinately slow roads or construction areas could be represented by an increase in travel time along the gradient of the bottleneck.

City F in the diagram was originally designed to represent Cleveland, Ohio. While reducing Cleveland to about one third size regarding population, it seems to capture

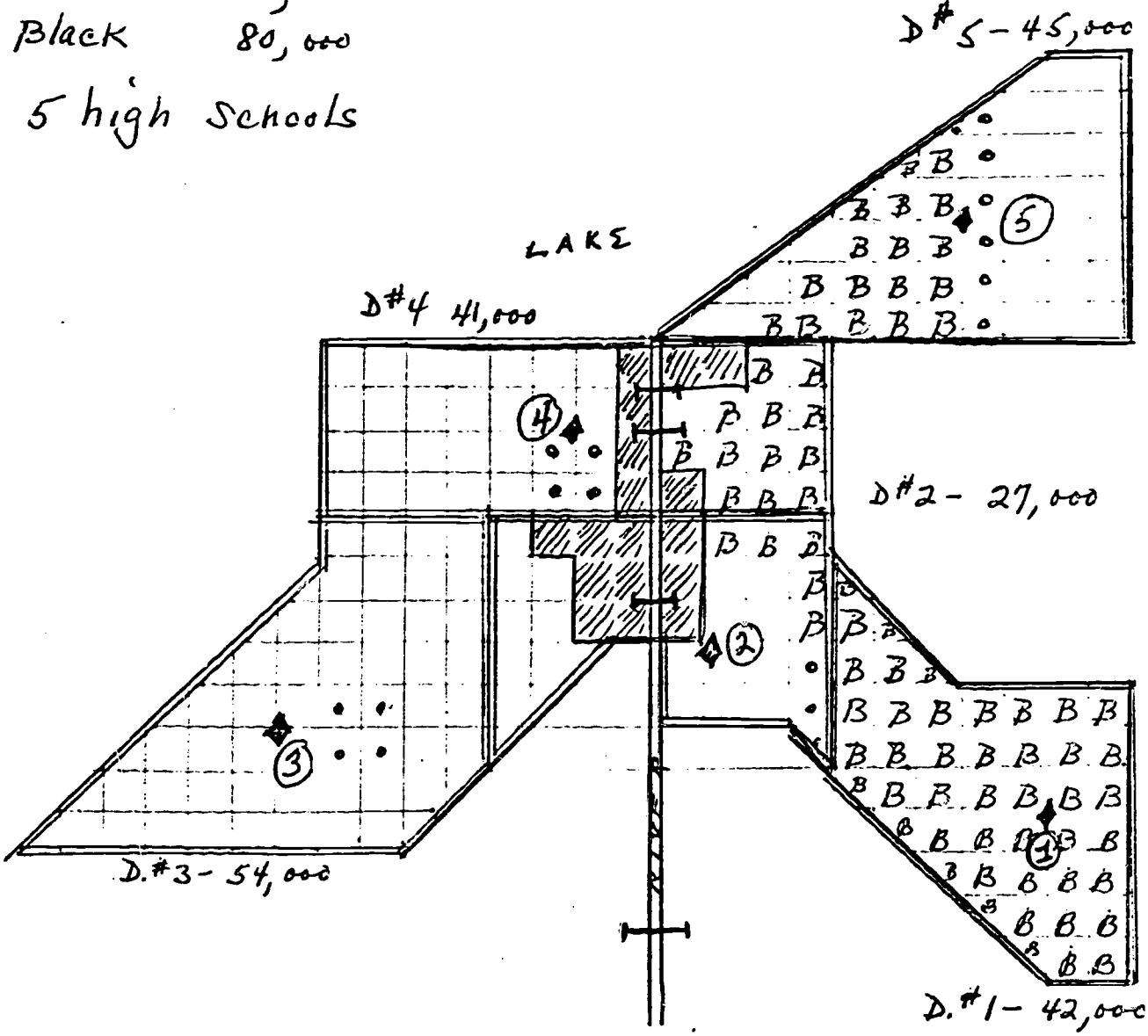
many of Cleveland's population and physical characteristics. The actual school districts have been collapsed inot the five that are used and the boundaries on the map are no more arbitrary than those that are actually used to construct the city's school districts. Often in examining the drawing up of school districts, one sees instances of "Gerrymandering" that would impress the most cynical political pro, keeping whites together in one school, the blacks in another. This map, hopefully, does no more or no less.

City F - 209,000 population

White - 130,000

Black 80,000

5 high Schools



BRIDGE

◆ → High School

① - district number

B - Area is predominantly black

□ - Area is predominantly white

⊙ - Area is 50% white - 50% Black

SCHOOL DISTRICT BOUNDARY LINE

School District #1 almost 100% BLACK

School District #2 75% white 25% Black

School District #3 95% white 5% Black

School District #4 66% white 34% Black

School District #5 55% white 45% Black

RULES - The Busing Game

(Author's Comment: The game has actually been played and there are indeed attitude cards, current events cards, city maps, and financial tables that the author could supply on request. The following is a set of rules that would be used to play this game - a teacher might find it useful to modify some of them depending on the ability level of the class for which the game would be used.)

Starting the Game - Each player will draw a role card which will assign him a role as one of the following:

Member of the School Board
- Citizen Black
- Citizen White
- Citizen Other

School Superintendent

Mayor

Governor

Member of the Supreme Court
- Chief Justice
- Associate Justice (2)

The three Citizens comprise the school board, having been elected by the voters of the city. The Supreme Court will be considered to be "national" in scope.

Each player will then draw an attitude card showing his initial attitudes toward (1) busing to achieve racial integration (2) integrated schools, and (3) whether he has

a child in the school system.

The players will then seat themselves according to a plan that will put them with members of their given city and state. The mayor of each city will draw to determine his city's financia position (for less advanced classes, the financial part of the game might be omitted).

Opening Premise - It is January 1. The public school system of your city has come under a blanket order by the Supreme Court to achieve complete integration by September 1, the beginning of the new school year (and the end of the game). Your attorneys have appealed this order, asking for a delay in its implementation, and the case is now under litigation.

Objectives - The object of the game is to maximize the city's score according to the following criteria:

1. Equal Population - The population of each school district should be no more than 43,000 or less than 37,000.
2. Minimal Travel Time - The student should have to travel no more than one half hour by bus to school. Any distance of over twenty-four minutes will be considered to require busing.
3. Racial Integration - The students must be assigned to school districts in the same proportion of black-white as the city as a whole. This is noted on city maps.
4. Racial and Civic Harmony - The three citizens

of each city's school board will evaluate their superintendent and his redistricting plan. This evaluation will be on a point system. For example, out of a possible ten points, how would you rate his plan and performance.

5. The budget of the school system must be in balance, reflecting sound fiscal judgment.

The Players

The Supreme Court - Its three members rule upon appeals by the individual cities concerning the blanket court order regarding racial integration and its role in quality education. They may also rule upon similar requests by a coalition of governors.

The Governor - He can work on the state level with the local school systems. If he does not approve of a given situation he may call a conference of mayors, or petition the Supreme Court.

The Mayor - Representing the entire electorate, he can advise his school superintendent who, in turn, can consult with him if he runs into problems with redistricting.

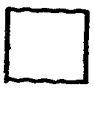
The Superintendent - He must draw up a plan for redistricting the schools in his city by September 1. He will be given several copies of a map of a city with outlined school districts and racial composition. The Superintendent may consult with, and use the help of the three Citizens who comprise the school board.

The Citizens - Comprising the school board, they are to work with the superintendent on a redistricting plan. If they disagree with him, they may go to the Mayor, or the Governor to get support for their actions.

IMPORTANT - The Citizens will be asked to give evaluations of their superintendents' redistricting plans at the end of the game.

Legend - In acting their roles the participans use the following legend to analyze their cities:

EACH square on the map represents an area where 1,000 people live. It takes three minutes to cross a square vertically or horizontally, four minutes to cross diagonally.

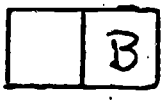

Indicates an area where 75% or more of the population are white. For computational simplicity we will assume a population of 1,000 whites, no blacks.


Indicates an area where 75% or more of the population are black. For computational simplicity we will assume a population of 1,000 blacks, no whites.


Indicates an area where the black-white ratio is about half-and-half. For computational simplicity we will assume that there are 500 whites, 500 blacks.


Indicates a predominantly business and/or industrial area where few people live. We will assume a zero population for these areas.

EXAMPLE: An area like this would have 1,000 blacks, 1,000 whites.



So would an area like this.

◆ Location of an existing secondary school. There should be one secondary school for every 40,000 residents. During the course of the game a new school can not be built. Existing schools may be closed with the school board's consent.

═══ Indicates the existing boundaries of school districts.

(1) School district number.

Each city is assumed to have a "normal" transportation system and traffic flow except where rivers, lakes, railroads and bridges are noted. Any time interval of larger than twenty-four minutes from a student's home to school will be assumed to require busing. During the course of the game new bridges can not be built except as the result of a current events card.

The Play - After examining their city plans the school board may decide to comply with or fight the order. Up to thirty minutes may be spent preparing a five minute argument against the order, if this is the consensus of the school board and administration (either through informal agreement or formal voting procedures).

After the Supreme Court has heard the pleas, it can do one of the following:

(a) Order full integration and busing to continue as per previous order. If so, all school districts in the city must comply with all of the quality education criteria.

(b) Waive the racial integration criteria (i.e. school districts must maintain racial balances consistent with the overall racial composition of the city as a whole.) pending

further litigation. These criteria are then also waived as criteria for scoring.

The "equal population" and "minimal travel time" criteria may not be waived as they are considered to be non-negotiable goals to be pursued in the interests of better education.

Revenue - The total revenue available for a city's school system is determined by lot to be either $600, $650 or $700 per student per year. This is raised, for the most part, by local property taxes.

The revenue is divided as follows:

70% - Wages and Salaries

15% - Fixed Expenses - This includes maintenance, debt service and so on, items which must be paid whether the school is in session or not. It also includes any busing that may now be in effect for students who are, at present, more than 24 minutes from their schools.

15% - Books and Supplies

In each school system there are:

50 students per residential square going to secondary school.

25 students per teacher, yielding a total of two teachers per residential square in the city.

1 school bus for every ten residential squares - additional buses must be purchased.

Any distance greater than 24 minutes from the assigned school must be bused, using one bus per square. The cost per year per existing bus is $4,000. A new bus costs $10,000

to purchase, plus the $4,000 to run, so the total cost would be $14,000, the first year, to purchase and operate a new school bus.

The school system must balance its budget. It may finance its busing operation in two ways:

1. Reduce the number of teachers. This saves $10,000 per teacher per year. Up to 20% of the teachers may be released.

2. Reduce the money spent on books and supplies. The fixed expenses are just that and can be reduced only by eliminating any busing that was already taking place.

Current Events and Time Constraints - After 15, 30, 45 and 60 minutes, Local, State and National current events cards will be drawn, by the Mayor, Governor and Chief Justice respectively. These current events may affect the individual or community decisions or attitudes in a variety of ways - financially, emotionally, or perhaps not at all. The game may end for individual cities if the given cities have completed their plans to the citizens' satisfaction after 60 minutes, and after the last current events card is drawn. All other cities must turn in final plans after 75 minutes.

Some Hints on How to Play - The Superintendent takes a decision or plan to the school board (the three Citizens) for approval. If there is a division of attitude there can be a formal vote. If the Citizens agree with him by either a 3-0 or 2-1 vote, he may go ahead. If he loses by 1-2, he can appeal to the Mayor. If the Mayor agrees with the

Superintendent, the school board is overruled. If the vote is 0-3 against the Super, he must come up with another plan. If the mayor vetoes the school board's decision, they may take it to the Governor. If he agrees with them, the decision will remain as they originally voted.

A coalition (two or more, if available) of governors may appeal federal orders, to the Supreme Court. The Court's decisions will stand for the duration of the game, unless reversed by the Court itself.

Much of the change considering equal education may come through the redrawing of school district boundaries, or reallocation of funds, but other methods may be considered, depending on the financial and emotional aspects of a given game as well as the individual plans of the cities themselves.

Scoring - Scoring is based on the criteria for quality education. The aim of the cities in this game should be to maximize their scores, or to achieve some minimum score needed to convince the Supreme Court of their good intentions regarding quality education.

1. Equal Population - (5 points per school district) Full score for 37,000 to 43,000. Subtract one point for every 1,000 below 37,000 or above 43,000.

2. Minimal Travel Time - (5 points per school district) Subtract one point for every square that must ride more than thirty minutes to its assigned school.

3. Racial Integration - (5 points per school district) Subtract one point for every multiple of 5% that the school

district's racial mix varies from that of the city as a whole.

4. Racial and Civic Harmony - The three Citizens evaluate the superintendent and his redistricting plan on a scale of C (lowest) to 10 (highest).

5. Financial - If the amount of money spent for the given year is greater than the total revenue, by more than 5%, the city can not qualify for Winning the game. Any deficit must be accompanied by a statement explaining how the city would plan to finance the deficit in the upcoming year.

Scoring Formula (using all criteria) -

$$S = \frac{\Sigma(EP) + \Sigma(MTT) + 2 \times \Sigma(RI) + [(\#\text{School D.sts})/3] \cdot \Sigma(RCH)}{(\#\text{S.D.}) \times 30}$$

Scoring Formula (waiving racial integration criteria) -

$$S' = \frac{\Sigma(EP) + \Sigma(MTT) + [(\#\text{School D.sts.}/6)] \cdot \Sigma(RCH)}{(\#\text{S.D.}) \times 15}$$

The method of scoring the game is arbitrary. It was designed to reflect the objective and emotional results of the play of the game. For example, it has been seen repeatedly the adoption of a busing plan that might meet all of the objectives of the planner, and the courts, yet leave the community so polarized that the implementation of such a plan is clearly unfeasible, short of civil in the community as a whole. Can one really say that such a community is better off; or even better, or more virtuous, or any other measure of well-being, than an community that has developed a busing policy that, although less fair, keeps peace in the community? The attempt to quantify emotion is, of course, an arbitrary measure - yet hopefully it is successful in emphasizing that one can not always assume that people act according to what may be some planner's definition of

rationality, and that rational behavior might not make everyone "psychically" happy.

The original version of the game did not include a scoring system, as the primary idea was to study reaction, rather than to win or lose; indeed if the human relations aspect is all that is required, then the scoring system could be omitted. A further question is whether one can really speak of "winning and losing" in this aspect of decision making and the social process. Yet financial and electoral reward is often based upon the ability to quantify at least some aspect of the results of a policy, so whether one likes it or not, he or she is constantly under the pressure of being scored or being declared winner or loser.

THE GAME AS A TEACHING DEVICE

The model described is a master model of the busing question, taking into account all of the ramifications of the controversy. For various levels of teaching it might be advantageous (as mentioned in various sections of the paper) to omit certain parts of the model (most notably, the financial part, which might be too mathematical for less advanced students). What follows is a description of how the game might be used in a high school Problems of Democracy course to discuss education and black and white relations.

Assuming that the class in question would have class periods forty to firty minutes long each day of the week, the rules of the game could be passed out on the preceeding Friday to be perused over the weekend. On the following

Monday, roles would be chosen and attitudes formulated. On Tuesday the cities could argue among members about the need for a busing plan in the city and whether they would be challenging the court order. On the Wednesday the cities would be allowed to argue any court order in front of the Supreme Court (and in front of the class). The Court would have Wednesday night to mull over the arguments and bring back the decision on Thursday. Thursday and Friday could then be used for final planning in the game and discussion of the game and its implications.

It must be emphasized that the parameters concerning time in the formal rules of the game are advisory and nothing more. As a teaching device, the game is most important to convey the idea of reactions rather than to adhere to any artificial time limits. Still, it would be a good idea to impress upon the students that time often is a factor in decision making. We often can not make the optimal decision, because in doing so we were harried, hence a hasty and perhaps regrettable choice.

For schools where audio-visual facilities are available, this game situation could provide a good opportunity for students to examine their own actions and reactions. If video-tape cameras could be set up in an inconspicuous manner, perhaps the students could later see their conduct as others see it. Perhaps, too, the idea of a person's actions being recorded might change his conduct, making him say things different from what he might have said otherwise.

This would not really be unusual, as it happens in public life constantly, and it might be a good discussion point to ask whether actions would have differed had they not been recorded on video-tape.

Discussing current events and human relations should be fun. Too often it is not. The Busing Game hopefully provides a format to make social discussion enjoyable as well as to show students the whole problem. One must look beyond the superficial aspects of a social problem, such as the busing problem and equality in education. Too often the two of them have been mistaken for the same issue, when in reality busing is but one tool to be used in the quest for equality in education. Most importantly, The Busing Game might teach students and teachers what questions to ask about social issues. It may not answer them - perhaps they are unanswerable in this period in our social system - but at least the inquiry has been made. We can do no less than that.

APPENDIX - THE SCORING FORMULA

Since city sizes differ, one would want S to be a scale free measure of success in meeting the quality education criteria. S will be defined as:

$$S = \frac{\text{Total points achieved}}{\text{Total points possible}}$$, with 1.00 as the highest possible score.

Looking at the numerator:

$\Sigma(EP)$ - Refers to the sume of the school district scores concerning equal population.

$\Sigma(MTT)$- Refers to the sum of the school district scores concerning minimal travel time.

$\Sigma(RI)$ - Refers to the sum of the school district scores concerning racial integration.

$\Sigma(RCH)$- Refers to the sum of the three citizens' evaluations of the quality education plan.

N = Number of school districts in the city.

$$\frac{\text{Total achieved}}{\text{Total possible}} = \frac{\Sigma(EP) + \Sigma(MTT) + 2\Sigma(RI) + (N/3)\Sigma(RCH)}{5N + 5N + 10N + (N/3)x30}$$

The racial integration points have been given a double weight so as to emphasize the importance of this criterion. The racial and civic harmony points have been weighted so as to count for half of the total score achieved. The denominator collapses into 30N, so the formula becomes

$$S = \frac{\Sigma(EP) + \Sigma(MTT) + 2\Sigma(RI) + (N/3)\Sigma(RCH)}{30N}$$

Waiving the racial integration criteria the formula becomes.

$$S' = \frac{\Sigma(EP) + \Sigma(MTT) + (N/6)\,\Sigma(RCH)}{15N}$$