

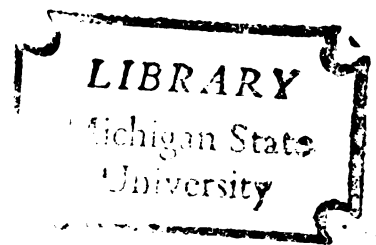
CONSEQUENCES OF A DISADVANTAGED AND MINORITY
ORIENTED MANPOWER TRAINING PROGRAM

Dissertation for the Degree of Ph. D.

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RALPH W. BONNER

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This is to certify that the
thesis entitled
CONSEQUENCES OF A DISADVANTAGED AND MINORITY
ORIENTED MANPOWER TRAINING PROGRAM
presented by

Ralph W. Bonner

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of the requirements for
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ABSTRACT

CONSEQUENCES OF A DISADVANTAGED- AND MINORITY- ORIENTED TRAINING PROGRAM

By

Ralph W. Bonner

This dissertation evaluates the effectiveness of a manpower training program designed for minorities and disadvantaged persons, with emphasis on training completion and retention in the work force. A number of researchers have identified factors related to individual program success. This research explores such factors as dropout rate, wage rate, pre-employment level, and post-employment level of the trainees.

The research methodology used in this study included a questionnaire and individual interviews as instruments for data collection. The questionnaire was mailed to 380 participants out of 1,250 possible with 114 responding. A smaller sample of trainees, along with contractors, government officials, and supportive service personnel, was interviewed to complete the information provided in the questionnaire.

The findings of this study, administrative observations of the writer, and the results of interviews with persons involved in the training program have led to the following conclusions and recommendations:

1. Assistance in relational skills must be given to foremen, co-workers, and trainees in order for manpower programs for the disadvantaged and minorities to succeed.

2. Upgrading programs can be used to increase not only minority hiring but also union membership.

3. The provision of an orientation that is motivational as well as educational conducted by the supportive service consultants for trainees in conjunction with supervisors is a prerequisite to insure success.

4. Government, industry, and labor can work together smoothly for their mutual advantage and progress in both the economic and social arenas.

5. The contractors should be awarded contracts consistent with their individual firms' needs and the tasks to be performed.

6. Completion of the program is a valid criterion of a trainee's success.

This study demonstrated that beneficial training experiences have been provided directly by highway construction contractors for minority and disadvantaged persons. It also points out that supportive counseling added to the training program will enable many of the trainees to succeed in moving into the ranks of the highly paid skilled construction workers.

CONSEQUENCES OF A DISADVANTAGED AND MINORITY
ORIENTED MANPOWER TRAINING PROGRAM

By

Ralph W. Bonner

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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DOCTOR OF PHILOSOPHY

College of Social Science

1977

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1977

Dedicated to my grandparents,
Amanda Howland Bonner and Samuel Montgomery Bonner,
the providers of the foundation.

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CHAPTER I

THE PROBLEM

Introduction

In September of 1970, the Federal Highway Administration (FHWA) of the U.S. Department of Transportation issued Interim Order 7-2(2). (See Appendix A.) This Order was the result of a study conducted by the U.S. Department of Labor, which projected a shortage of 50,000 skilled workers in the highway construction industry in the near future (134:18). Interim Order 7-2(2) was set forth to establish a continuing on-the-job training program for federal-aid highway construction projects, whereby basically unskilled minority and disadvantaged workers acquire new skills to compete more equitably for higher paying employment within the highway construction industry.

Interim Order 7-2(2) supplemented existing training programs, such as apprenticeship, and reached occupational areas where no formal training programs existed. The Order's further purpose was to encourage a substantial participation of minorities and disadvantaged workers in on-the-job training opportunities. In order to comply with the Order, State Highway Departments are responsible for selecting projects which in their opinion are capable of supporting a training program; and further, to have the

requirements for training established in the construction contract bid proposals.

In selecting projects capable of supporting a training program, the State Highway Department takes into consideration the dollar value of the contract, the type of work, the geographic location, the duration of the contract, the normal workforce, the availability of minorities and disadvantaged for training, the potential for effective training on that project or in that area, the need for additional journeymen in the area, its need to fulfill its own goals of the number of trainees per year and, finally, consideration of a ratio of trainees to journeymen that would be between 10 to 1 and 4 to 1, depending on the craft involved.

In order to secure uniformity in the approach to training by contractors and in order to understand as much as possible the requirements and procedures, the Michigan Department of State Highways through its Urban Programs Office offered the following guidelines:

1. It is the contractor's responsibility on projects which contain the On Job Training Supplemental Specification to submit to the Highway Department in writing a letter stating in which trades he intends to employ trainees. This letter should be presented to the Department at the pre-construction meeting and should be referenced to the project involved. The number of trainees listed in the Contractor's letter must agree with the number set forth in the proposal.
2. The next step the contractor must take is the establishment of a training program. It is important that the contractor act as expeditiously as possible on this requirement. An approved program must be in existence before substantial work begins in the area which this trainee's skills are involved. Since upgrading is permissible under the provisions of the 7-2(2) Order a contractor may well

wish to set aside some of the initial steps in this program, feeling that the employee whom he is going to upgrade had had sufficient orientation and safety training. It should also be kept in mind that neither the Department nor the Federal Highway Administration is interested in unreasonably long programs. On the other hand they are not interested in short programs which tend to raise men to the journeyman status before they are qualified. The program, when being submitted, must be in writing.

3. The next step which the contractor must go through in order to comply with the Training Order is the selection and identification of the trainee. In selecting the trainee the primary objective of the contractors should be to enroll minority trainees. It is also clear in the Order that it is not intended and should not be used to discriminate against any applicant for training whether he is a member of the minority group or not.

In upgrading of current employees, it is recognized that a number of these will not be minorities but in moving them from lower skilled classifications to higher skilled classifications it is very important that the contractor consider his minority posture when choosing employees to replace the new trainee in the lower classification.

4. As soon as the trainee has been chosen and is brought on to the job site or before any training begins it is important that he be introduced to the project engineer and to whomever it might be that the project engineer has assigned as being responsible for keeping track of the training provisions in the contract. It would be considered proper for the contractor to advise the project engineer in writing of the complete identification of the trainees giving not only their names and social security numbers but addresses and the trades in which they are going to be trained as well as the anticipated date of starting.

The national training goal set by the Federal Highway Administration for trainees annually is approximately 10,000. This number is divided among the states taking into consideration their portion of federal-aid money and the percentage of the national minority population in residence in that state. (See Appendix B.)

Michigan's quota for the year 1971 was 378 trainees; 1972, 385 trainees; 1973, 385 trainees; 1974, 282 trainees; and 1975, 282 trainees. Beginning with December 1970, the Michigan

Department of State Highways included the training requirement in contract bid proposals for certain jobs.

The state's suggested goals have not been met in the past because of over programming of training units, small rate of turnover in labor force, and unrealistic goals. At the root of these problems are many variables which need to be studied in depth to determine the merits of the program as it relates to completed trainees and their place in the road-building industry.

Purpose of the Study

The primary objective of this study was to evaluate the effectiveness of FHWA Interim Order 7-2(2) with special emphasis on retention of trainees from 1971 through 1975 by the training contractor or the road-building industry.

As a secondary objective it is intended that some useful guidelines necessary for program success in terms of training and retention of trainees can be formulated.

Plan and Scope of Research

This study deals with the nature and quality of an existing manpower-related training program.

The plan of research was divided into two general task areas. First, an intensive study of relevant literature was made. This effort not only was a search for useful findings from previous similar studies, but also was an aid in determining appropriate methodology.

Second, in performance of this study, the researcher consulted with individuals including trainees, apprentices, graduates of training programs, dropouts, civil rights personnel, highway contractors, unions, state and federal officials, and contractors providing supportive services to the program.

The geographic base for the research was the state of Michigan.

Procedures in the Study

The major data of the research study came from questionnaires sent to a random sample of the trainees who were registered in the program, in most instances between six months and a little over two years after the completion of their programs.

In addition to questionnaires to trainees in the sample, interviews were conducted with selected contractors, supportive service consultants, union officials, and manpower officials. Another source of data was the writer's knowledge about the organizations being studied, which was acquired during the course of his administrative role with the Michigan Department of State Highways and Transportation. The purpose of the interviews was to obtain more intensive data on issues covered in the questionnaires, as well as to provide some validation for questionnaire response.

A complete mix of population was utilized to provide a comprehensive representation of the trainees over a long enough period of time to avoid bias that might be reflected if all the trainees are drawn from a specific program year (e.g., 1971, 1972, 1973, 1974, or 1975).

The questionnaire was sent to each trainee's home address. There was one follow-up for a wrong address returned by the postal service. Thus, the number in the search sample consisted of those questionnaires responded to on the initial and secondary efforts by the researcher.

This study was concerned with analyzing factors related to greater or lesser individual success, and with major dependent variables related to criteria for success. The two major criteria utilized in this study are those which have generally been accepted by manpower training programs.

Definition of Terms

This section provides a definition of the major terms used in this study.

Apprenticeship is a training system in which a person learns a skilled trade on the job under an experienced craft worker and in related classroom instruction. Apprentices are paid while they train, usually at progressive rates from a starting wage of about half the journeyman's rate up to 90 percent of full pay near the end of their apprenticeship.

Institutional Program is "classroom training and on-the-job preparation designed into one program."

Secondary Labor Force Participation is made up of those relatively disadvantaged in the competitive labor market, the minority, under-educated, unskilled potential worker; the adult woman re-entering the world of work; the youth requiring a special lift into employment; the employable welfare mother; the potentially

employable physically and mentally handicapped; and special groups such as probationers and prison releasees. For this large group of new and/or potential new entrants, the familiar classifications of "employed-unemployed," "employable-unemployable," and "in the labor force-not in the labor force" become at least imprecise and probably misleading. This class of secondary new entrants comprises the basic challenge to manpower policy aimed at the fullest and best utilization of all human resources.

A Disadvantaged Person is:

1. A member of a family defined as "poor" according to the Office of Economic Opportunity (OEO) guidelines.
2. A person who is not suitably employed. This means either he is unemployed or he is under-employed because he is working beneath his skill, or is threatened with unemployment because his skill is obsolete; or he is hindered from seeking work because of personal, family, transportation, motivational, or attitudinal problems.
3. A person who has one or more of the following characteristics:
 - a. A school dropout who failed to graduate from high school.
 - b. A member of an ethnic minority group.
 - c. Under 22 years of age.
 - d. Over 45 years of age.
 - e. Physically, mentally, or emotionally handicapped.

Journeyman--Any craftsman considered by the union capable of performing all the major duties of a particular work classification.

Minority Groups--An employee may be included in the minority group to which he appears to belong, or is regarded in the community as belonging. As defined by U.S. federal agencies for employment purposes, minority group persons in the United States are identified as Black Americans, Spanish-surnamed Americans, American Indians, Asian Americans, Aleuts, and Eskimos.

Summary

During the years 1968-1973 there was a maze of manpower training programs designed to help the disadvantaged, each going its own way, each with its separate funding pipeline, each with its own approach to solving the employment problem among the disadvantaged. The result of this uncoordinated maze was a lack of effectiveness, leading to cynicism on all fronts--among the disadvantaged whom the programs were designed to help, among the private sectors whose representatives were expected to provide jobs for the graduates of manpower training programs, and among the taxpayers who pay for the programs. But they saw no reduction in the unemployment rolls. The disadvantaged were maze-bright. Their environment and their training had taught them to spot dead ends, to beware of promises that lead nowhere.

The training programs which existed were, to a large extent, this kind of dead-end maze. Their goal--jobs for the disadvantaged who had completed training--was the one element they could not consistently deliver.

Too often, therefore, training programs were forced to become an end in themselves. Because there was no promise of a job,

no promise that the maze would have an open end, participation became an exercise in futility; the disadvantaged trainee became like a laboratory animal, run through a set of federally funded experiments for which there was no purpose other than to sustain the experimenter.

For the disadvantaged, the understandable result was frustration and cynicism. Each new program became one more false trail in the maze of establishment promises to help. It is little wonder that "lack of motivation" was often cited as one of the greatest individual barriers to employing the disadvantaged. Without the job at the end of the road, there was no goal to strive for.

The answer clearly lay in providing jobs for those who completed training programs. And because 7 out of every 10 jobs in the United States are in the private sector, the source of jobs was obvious. Manpower programs have recognized the need for job commitments from industry (146:4).

CHAPTER II

MANPOWER CHALLENGES OF THE 1970'S, ECONOMIC AND SOCIAL IMPLICATIONS: A SURVEY OF LITERATURE

Man is the only creative animal on earth, though paradoxically his resistance to change sometimes can be heroically obstinate. He builds institutions in order to preserve past innovations, but in that very act often fails to promote the environment for growth of new ones, and so there are gaps that trouble our times (28:1).

"Manpower" is a relatively new word in the lexicon of social and economic affairs. The concern with manpower is not with the traditional definitions relating to the physical strength of an individual or the collective work of a group of people, but rather, with a new meaning the word has assumed as a result of the government's growing interest in training the unemployed, the underemployed, and, especially, the disadvantaged. Government manpower policy has two basic goals: (1) to promote the full development of our human resources by assisting individuals--particularly the poor and the disadvantaged--in their adaptation to the world of work and in the fulfillment of their employment potential; and (2) to contribute to national economic stability and growth. It is the interaction of these two aims that defines the word "manpower," and that will comprise the manpower policy discussed in this chapter (28:1).

The manpower field also includes all those services related to work, employment, and unemployment. It deals, as Heyel says, with ". . . anticipating human resource requirements, taking into account current and likely future demands for skills and probable availability of individuals with such skills [and] . . . with the policies and programs that are used to attempt to coordinate supply and [demand of manpower]. . . (126:29).

The manpower field ranges broadly from the administration of the federal-state unemployment compensation program to job training programs and includes such activities as research and demonstration, investigations of employment trends, evaluation of programs, the development of employment and unemployment policies, and special training programs such as the Job Corps, the Neighborhood Youth Corps, and the Work Incentive Program.

The manpower field, which has relied on economics and management sciences, sees employment as the solution to the problems of people; although specialists may differ on specific alternatives (e.g., provisions for training, or for subsidies to employers of less productive workers), all agree that the solution is work (126:29).

The labor force, as a concept and a measurement, is an economic indicator of prime importance, but it is an important social indicator as well. The size and behavior of that labor force inform us not only about the performance of the economy--changes in national income or in business-cycle conditions--but also about social conditions that reflect the opportunities for

satisfying jobs, the consumption of leisure, and, on the negative side, the despair of unemployment. Examining the literature showing the composition and deployment of the labor force points up a wide range of social and economic issues, including the status and role of women, the American paradox of poverty amid affluence, and at least one aspect of racial injustice--unequal employment opportunities.

Changes in labor force behavior are both a cause and an effect of these wide-ranging phenomena, and it is a challenge to the social scientist to separate cause and effect. First, the social scientist must define and measure such concepts as the "labor force" and "poverty." Second, he must specify and measure the relationships between such variables. At the beginning of his task and at the end, he must work within a theoretical framework that gives meaning and relevance to the concepts and the relationships that are being measured (142:694).

The labor force is, in the aggregate, basically an economic concept. The tools of macroeconomics have been developed to influence the size and composition of the labor force--in particular, to maintain at high levels the proportion of the labor force that is fully employed while accommodating the sometimes competing objectives of economic efficiency, growth, and price stability.

At the individual (or micro) level, the behavioral decisions are involved, in the following sequential fashion: (1) participating in the labor force (or not participating), (2) seeking a job, (3) taking a job (or remaining unemployed to continue the search

for employment), (4) deciding what job (or, sometimes more fundamentally, what career) to take, and (5) moving to a better job. Although the techniques and amount of empirical economic research needed to analyze these decisions have advanced rapidly in recent years, the behavioral context is increasingly recognized as only partly susceptible to economic analysis or, at least, to conventional economic analysis (142:706).

First of all, there is recognition of the family context and the involvement of all family members in the behavior pertaining to labor force activities.

The second important way in which the analysis of labor force behavior must draw upon related disciplines in the social sciences is in the determination of the cultural and legal environment in which the individual and family decisions take place. Particularly as economic growth and increases in per capita income permit more time to be spent in activities other than market work, the value systems of the society regarding education, leisure, retirement, and, again, the role of women, become important to analyze (142:706).

Another set of policies to cope with employment and income insecurity consists of programs to raise the productive capacities of people. The challenge here is mainly one of determining which among alternative programs--compensatory education, school dropout prevention, health programs, training programs, and the like--work well enough to justify their costs. It is probably safe to say that most citizens have an exaggerated view of the potential

effectiveness of these programs. Using an investment yield of 10 percent as a reasonably good rate of return, then a \$20,000 investment (in training, for example) is required to raise the worker's income just \$2,000 a year--say from \$3,000 per year to \$5,000. The income improvement is modest, yet the amount of the investment far exceeds any offered in training programs aimed at the low-income population. Nevertheless, the inequality in the distribution of wealth in the United States, particularly the disadvantaged position of many minority groups, calls for huge investments to assure them fair participation in the spheres of production and consumption in American life. Income maintenance programs offer only a base on which to build in order to eliminate the under-employment that is a product of poverty and discrimination (142:708).

The U.S. Department of Labor estimates that during the 1970's approximately four million people will enter the labor force each year. New labor force entrants in the 1960's averaged 3.4 million people each year. Roughly half the new entrants replace--numerically--workers leaving the labor force because of death, disability, or retirement. The other half comprises the annual net growth of the total labor force (143:709).

Social Implications

At a time when major changes are occurring in social welfare and social work practice, the manpower field is likely to continue at its current level and perhaps grow larger. Further, it

is a field that needs the skills of social workers, both because manpower is not related to a single professional discipline and because social work, particularly as it is now being taught in many undergraduate and graduate schools, is uniquely fitted to working with manpower problems.

The decade of the 1960's was one of growth and change in many areas of social policy. The dramatic proliferation of federal manpower programs was one significant manifestation of the growing social responsibilities assumed by the government. Before 1961, only limited governmental funds were allocated to improve the functioning of the labor market and to provide remedial services for disadvantaged workers. At the beginning of the decade, there was no such thing as a manpower policy, or even a distinguishable set of manpower programs to help those who experienced difficulties in competing for sustained gainful employment. During the next ten years, however, federal efforts grew significantly in scale and in scope. Employment services, vocational education, and rehabilitation for the disabled were expanded and reshaped (20:1).

A wide range of new programs and approaches were initiated providing training for the technologically displaced: public employment for youths, the aged, and those on welfare; subsidies to private employers to hire, train, and retain disadvantaged workers; residential vocational education for teenagers; basic education for adults; and many other services. Expenditures on

these manpower programs increased more than tenfold over the decade, reaching a level of nearly \$3 billion in fiscal 1970 (20:2).

Effective manpower training represents one of the critical challenges to American business and industry because the pressure on the business community to expand employment opportunities has been coming more and more from governmental agencies. To put the importance of training programs into some kind of perspective, we need to look at what has been happening in the labor market.

Of particular significance is the development of what I call the "job economy." America has become a nation of employees. Ninety percent of the nation's labor force are employees. Once upon a time we were a nation of farmers; later on we were artisans and shopkeepers. As the society became urbanized and industrialized, self-employment declined and working as an employee in business, industry, and government significantly increased. Today, the job has become the most important economic activity in the lives of most Americans because it is through the job that one obtains the income to underwrite a particular style or standard of living. Not only does the job provide income, it is the means of obtaining other economic benefits: workmen's compensation, unemployment compensation, social security, retirement, hospitalization, surgical and life insurance, paid leisure time, training, and upgrading, to cite the most common benefits (146:1).

Moreover, a job has important psychological benefits. One becomes a somebody if he has a decent job. Work is a badge of honor for many Americans. Work creates status for many Americans.

Being employed can improve one's self-image. A job--a good job, a well-paying job, a meaningful job--is the goal of most Americans. It is for these reasons that America must have effective manpower training and supportive programs--programs that produce results, programs that are more than window dressing, programs that are not a public relations gimmick, programs that permeate the entire business firm and are not confined just to the statement of company policy. Training programs must be reflected in the very soul of the corporation in its commitment to developing human resources so that workers can use their maximum potentialities in the market place (146:2).

The nation has a long history of wasting its human resources. However, in the past two decades, society has made a highly significant change in social policy. We have moved from a policy of exclusion to a policy of inclusion. Under the policy of exclusion, all kinds of barriers were established which prevented or precluded Blacks and others from active participation. American society discriminated against them, denied them employment opportunities, and failed to provide adequate education and training. Unrealistic standards for apprenticeship and for jobs, both in and out of government, excluded Blacks from consideration (146:2).

Equal employment opportunity has at long last begun to create an awareness on the part of employers of the importance of utilizing all of the nation's manpower resources. It is, indeed, ironical that it was and is the Black men and women who are forcing American employers to think through their approach to personnel

administration and manpower utilization. In this thrust, all three branches of the federal government are involved in efforts to facilitate greater utilization of minority manpower resources. Congress has enacted legislation, the executive branch has implemented that national intent, and the federal courts have upheld both the intent of the legislation and its implementation (146:3).

Economic Implications

Following a period of employment stability in the first half of 1974, the nation's labor force bore the brunt of the disquieting economic trends that surfaced in the late summer and accelerated in the fall and winter. Recession, inflation, and energy dependency together contributed to declines for the year as a whole in real national output, real disposable income, output per man-hour, and real weekly and hourly compensation. These downward movements were matched or exceeded by fourth-quarter declines in personal consumption expenditures (particularly for durable goods and energy) and in residential construction outlays.

After experiencing relatively little change in the first two quarters of 1974, the labor force reacted quickly to the general slowdown in economic activity. Total employment dropped by about 440,000 jobs between December 1973 and December 1974, with the losses concentrated in the goods-producing sector, especially in automobile manufacturing and construction. The labor force continued to grow, but at a slower and more uncertain pace than that achieved in previous years.

Most significantly, the deteriorating employment situation boosted the unemployment rate from 5.2 percent, where it had remained for most of the first half of 1974, to 7.2 percent in December and to 8.2 percent in January 1975. Unemployment rose in 1974 among most major labor force groups, but increases were particularly sharp among blue-collar workers, blacks, adult women, teenagers, and younger veterans. Unemployment among adult men also began to surge upward, reaching 5.3 percent in December and 6.0 percent in January 1975 (a level still substantially short of the postwar high of 7.9 percent reached in October 1949, however). On the other hand, the fourth-quarter unemployment rate for male household heads was 3.7 percent, in contrast to a rate of 6.6 percent for female household heads (112:3).

The deteriorating employment situation brought about a sharp increase in the jobless rate of adult women as well as in that of adult men, although the latter have usually borne the brunt of cyclical downturns. The teenage rate, already quite high, also posted a further small rise toward the end of the year.

The unemployment rate for black workers approached 13 percent by the end of 1974 and remained about twice as high as the white rate, as it had been for most of the last two decades. The maintenance of the 2:1 ratio between the two rates, even during the period of economic deterioration, meant, in effect, that a larger number of black than of white workers were being added to the unemployment rolls. Jobless rates for adult black male and

female workers in December 1974 were 9.3 percent and 10.9 percent, respectively (112:33).

In contrast to the job losses registered later in 1974, unemployment did not rise during the first half of the year, despite the lack of any substantial employment growth. The stability of unemployment levels during this period stemmed from a sharp slowdown in labor force growth, brought about by a dip in the participation rates of adult men and teenagers. In general, the labor force participation rate of adult women continued its secular rise during 1974, keeping the overall participation rate at or near its post-World War II high.

Largely because they have gradually increased their representation in the labor force entrants and reentrants, women accounted for a much greater share of total unemployment in late 1974 than during previous periods when the national rate was at similarly high levels. Adult women and teenagers accounted for over 60 percent of total unemployment in late 1974, while they made up only about 42 percent in early 1958 and 46 percent in late 1960, two previous periods of high unemployment when the overall rate was also rising. And, while adult women represented 28 percent of the unemployed in each of the two earlier periods, they accounted for 35 percent of those who were jobless in the final quarter of 1974 (112:23).

Employment declines in late 1974 were greatest in the transportation equipment industry, reflecting principally the steel drop in demand for automobiles. And the consequences of the

declines in auto manufacturing and sales were, of course, also being felt among other industries that act as suppliers to the auto manufacturers. In addition, there were sharp job cutbacks in industries that depend heavily on construction activity and had experienced harsh effects from the slump in home building (e.g., lumber; furniture; stone, clay, and glass; and appliances) (112:23).

At 3.9 million in the fourth quarter of 1974, employment in contract construction had dropped about 240,000 from its level of a year before. The principal cause of the decline was the continuing slump in housing starts that began in 1973 and worsened during 1974. For example, with housing starts plummeting, the unemployment rate for workers in construction jumped from 8.6 to 13.7 percent between the final quarters of 1973 and 1974 (112:24).

Of the total number of persons outside the labor force in the fourth quarter of 1974, more than nine out of ten were reported as not wanting a job now. The great majority of these were women who were keeping house (60 percent), retirees (15 percent), and students (12 percent). The nonparticipants reported as wanting a job now--although not looking for work--numbered about 4.7 million and consisted of 1.5 million men and 3.2 million women (112:31). For women who wanted work, family responsibilities were most frequently cited as the reason for not seeking employment; among men, the common reason was school attendance.

In the fourth quarter of 1974, there were 845,000 nonparticipants who wanted a job but were not looking for work because

they felt their search would be in vain. These so-called "discouraged workers" are persons who:

- have looked for work in the past but could not find a job.
- think there is no work available.
- feel they lack the necessary skills or education.
- have some other personal handicap.
- believe that they would be considered too young or too old by employers.

The ranks of discouraged workers include very few men of prime working age. Instead, the large group consists of women, who accounted for two-thirds of the total discouraged in 1974. These women, together with male teenagers and elderly men, accounted for about 85 percent of all discouraged workers (112:32).

The average unemployment rate for Vietnam-era veterans aged 20 to 34 was 6.4 in the last quarter of 1974, up from around 5 percent during the first three quarters of the year. Unemployment among nonveterans of the same age group was generally higher--rising continuously during the year, from 5.4 percent in the first quarter to 7.5 percent in the last (112:35).

The rapidly changing age composition of the veteran group has been an important factor in the decline of the veteran unemployment rate below that of the nonveteran group. Since most Vietnam-era veterans were separated from the Armed Forces several years ago, they have now entered age brackets with lower unemployment rates. Consequently, the proportion of veterans in the 20- to

24-year age group, where the jobless rate remains at relatively high levels, is now much smaller than it was three years ago.

In addition to younger veterans, black veterans of all ages suffer disproportionately in terms of unemployment. Nearly one out of four black veterans aged 20 to 24 years was unemployed by the last half of 1974, compared to less than one in ten white veterans and less than one in eight black nonveterans in the same age group. The unemployment rate for all black veterans fluctuated between 10.5 and 12 percent throughout 1974. In contrast, the jobless rate for white veterans ranged from 4.0 to 5.5 percent during the year (112:35).

The worsening of the employment situation in 1974 had an adverse effect on both white and black workers, with the jobless rates for both groups rising substantially from the 3-1/2 year lows they had reached in the third and fourth quarters of 1973. By December 1974, the rate for blacks had risen to 12.5 percent, while that for whites had reached 6.4 percent, both exceeding by a considerable margin the highest levels reached in the 1969-71 downturn. In fact, neither of these rates had been as high since the early 1960's (112:34).

While there was at least a temporary narrowing of the black-white unemployment rate ratio during previous slowdowns, such a phenomenon had not yet manifested itself in late 1974. Instead, the ratio remained at its historic 2:1 level--indicating, in effect, a much more rapid deterioration in the job situation of blacks than in that of whites.

This 2:1 ratio does not prevail across all age-sex groups, however. In the fourth quarter of 1974, for example, the unemployment rate ratio between black and white adult women was 1.8 to 1, while among teenagers (whose unemployment rates have been highest) the black-white ratio of joblessness exceeded 2 to 1. Since 1971, the unemployment rate for black teens has averaged more than 30 percent, roughly 2.5 times the rate for white teens (112:34).

Over the past decade, blacks have made considerable progress in their struggle to move upward on the ladder of occupational status. Although blacks are still over-represented relative to whites in the blue-collar and service occupations and under-represented in the white-collar ranks, the disparity has been significantly reduced since 1964. Fewer than one out of five blacks worked in white-collar occupations in 1964; ten years later, however, about one in three blacks had white-collar jobs. And gains were made within the professional and managerial ranks, as well as in clerical and sales (112:34).

Within the blue-collar group, where the proportion of blacks remained relatively stable over the 1964-74 period, there was significant upward progress, as substantial numbers of them left the ranks of the unskilled and entered the operative and craft trades. There also was a significant reduction in the proportion of blacks in service occupations, particularly private household (112:34).

According to the Department of Labor, there were 912,000 enrollees in training programs (including summer trainees) as of June 30, 1971, end of the fiscal year. Of this total, 91 percent were "disadvantaged," 54 percent were members of minority groups, and 75 percent were young people under 22 (95:18).

Many statistics were available, but they could not obscure the fact that the numerous manpower training programs were far from meeting the needs of the construction industry. Control of manpower training and supply was still largely in the hands of the building trades unions.

President Nixon, in an address in mid-summer of 1969, spoke of "the terrible tangle of confusion and waste" in the various federal manpower training programs. Secretary of Labor James D. Hodgson admitted: "We don't want for program . . . we have wanted for focus." And that lack, too, is still much in evidence (134:18).

Against the confusion and contradictions enveloping present and proposed training programs must be placed the hard fact that the construction needs of the United States cannot be met unless the supply of skilled workers is greatly increased. A survey of future construction manpower needs shows an anticipated labor shortage amounting to 786,000 job openings in the building crafts between 1970 and 1975 (134:18).

Apprenticeship is the program that has most affected the construction industry. Whatever the faults of this system, it continues to do a job, of sorts. The traditional method of apprentice training produces annually the usual small number of

well-qualified journeymen. In 1972 the total number of graduating apprentices in all crafts was 21,400 (134:19).

In 1971 there were 57,000 first-year apprentices. More than 17,000 dropped out during the year, for one reason or another, although it is to be expected that many of these have not been entirely lost to the industry (134:19).

A prime reason for the high rate of attrition can be attributed to the length of apprentice training. Daniel Mardian, chairman of the Associated General Contractors' Manpower and Training Committee, has called for shortening all apprenticeship programs, increasing the ratio of apprentices to journeymen, establishing advance training courses with the purpose of giving specialized training to journeymen, and simplifying entrance requirements for the apprenticeship programs for those trades requiring manipulative skills by using only tests which measure knowledge and aptitude.

Mardian declared that contractors have "abdicated" to labor their management responsibilities of training. "This situation has developed," he said, "because of the construction industry's apathetic and spasmodic participation in the Joint Apprenticeship Committees. Labor today has a virtual strangle-hold on the training system at the national, state, and local levels" (134:19).

Responses to Special Manpower Needs

For the new entrants into the labor market, the anti-poverty manpower programs of the 1960's put the "cart" of lack of job

preparation and training before the "horse" of adequate job opportunities.

After an initial thrust aimed at meeting the job problems of primary labor force participants arising from technological and economic changes, the manpower programs of the 1960's turned toward the employability and employment problems of persons relatively disadvantaged in the competitive labor market. These actual or potential new entrants into the labor force were burdened by limited education, limited job experience and training, ill health and other poverty life burdens, lack of knowledge of and access to job openings, and were discriminated against on grounds of race or by artificial hiring standards and dysfunctional labor market institutions and procedures. The target population of these manpower programs was originally and still is unemployed males, especially minority group members. For many, the problem is initial entry into the labor force. For others, the issue is entry into the primary labor force and out of casual, poverty-level under-employment or unemployment.

Programs to aid the disadvantaged new labor force entrant were aimed at developing each individual's employability, at altering labor market procedures to facilitate actual employment, and at job development and job creation. Initially, emphasis was on affecting the supply side of the labor market equation, to overcome the presumed vocational deficiencies of the secondary labor force. Employability preparation was viewed essentially as skill training, primarily on an institutional basis. This was the main thrust of

the Manpower Development and Training Act of 1962 as amended and of the Vocational Education Act, even as significantly amended in 1963.

This approach accepted without question the hiring standard, "training first--jobs later," even though most private employment training is done "on the job." As the programs turned more and more toward the disadvantaged and those without vocational experience, program emphasis changed (143:712). Orientation to the world of work, job readiness, and preparation for the discipline and structure of employment became primary objectives. General educational levels--ability to read, write, and do simple arithmetic--have become a major generic component of job preparation. Finally, an entire range of supplementary supportive services was found necessary--health aid, legal assistance, family problem assistance, and extensive counseling on all work-related problems. The shift of program emphasis was clearly away from specific skill training to much more generic and broadly based manpower services necessary to prepare the job-seeker for private employment and on-the-job training (143:712).

The next major development turned emphasis to on-the-job training by private employers subsidized to hire hard-core, disadvantaged unemployed workers. At the end of the 1960's, this program, developed by the U.S. Department of Labor and the National Alliance of Businessmen and known as JOBS, dominated manpower policy for the supply side. A special program, the Work Incentives Program (WIN), was initiated in the 1967 Social Security

Act public assistance amendments and aimed at moving employable welfare clients into "suitable" jobs. The target population of this effort was primarily welfare mothers of dependent children. The President's 1970 manpower report described WIN as "one of the largest manpower programs" of the future. Only the Neighborhood Youth Corps school and summer programs had greater total enrollment (143:712).

In 1970, the Nixon Administration proposed the registration of almost three million welfare recipients in "an employability plan [of] manpower services, training, and employment . . . to enable [them] to become self-supporting and secure and retain employment and opportunities for advancement" (143:712). This is indicative of the size of this potential source of new entrants into the labor supply.

In between plans to intervene on the supply and/or demand side of the labor market, efforts developed to improve the market's operation to eliminate inequities and barriers preventing the secondary labor force from getting a "fair shake." "Job developers" and "job development" plans were hooked into manpower recruitment and training programs. "Selling" employers on the idea of hiring workers previously excluded from consideration was attempted through publicity, public relations, personal contacts, and community drives. In addition, broader dissemination of information about available jobs and available workers was undertaken with special efforts to find the inactive unemployed and guide them toward employment opportunities. The federal and state employment

services and units of the anti-poverty manpower programs carried on this effort, and U.S. Labor Department Youth Opportunity Centers and local Community Action Manpower Programs were set up throughout the country, located primarily in ghettos and slums (143:712).

Basic malfunctions in the labor market have created major obstacles to secondary labor force participation in employment. These comprise the intimately inter-related factors of excessively high employment qualification and racial discrimination. It has been well but belatedly established that both private and public employers follow rules for hiring that often bear no relation to job performance, rules that are even often dysfunctional in this regard and enforce a screening out of disadvantaged job applicants (143:712). As described by S. M. Miller and Frank Riessman, two expert observers:

We have become a credentialled society where one's educational level is more important than what he can do. People can not obtain jobs that they could well fill because they lack educational qualifications. Negroes who dropped out of the educational steeplechase before a high school diploma can not get jobs. . . . The assumption is that we have a very well organized economy with a rational purpose and methodology . . . but any probing of this rational surface reveals the confusion and ambiguity which prevail (143:713).

Few laws had more administrative groundwork laid in advance than did the Comprehensive Employment and Training Act (CETA). These preparations were made to help ease the transfer of manpower program responsibilities from the federal to state and local levels, as called for by CETA.

In large part, the preparatory activities grew from a general agreement among those concerned with manpower policies

that the responsibility for planning and administering manpower programs should be decentralized to state and local governments. Experience with manpower programs--which were given birth by the Manpower Development and Training Act of 1962 (MDTA) and the Economic Opportunity Act of 1964 (EOA)--argued for decentralization. It was hard to shape programs in Washington which could meet manpower needs in a nation that spans a continent and has great regional and local variations. Efforts to spawn a body of categorical programs, each meeting a particular set of needs, had their own inflexibilities in terms of funding levels, eligibility requirements, and services (112:3).

Change is difficult and, in the manpower field, it presented special problems. For years, state and local governments largely were bypassed in the planning, funding, and administration of manpower programs. Until these units of government gained control over the vital manpower functions--as they now have done under CETA--they had little incentive to develop manpower expertise.

As it became ever more apparent that it was not feasible to run most manpower programs from Washington, the Manpower Administration began assessing local capabilities and developing local muscle for manpower planning and administration. Among the agency's efforts were: grants to the chief executives of states, cities, and counties to pay for manpower planning staffs and to help them explore various aspects of manpower programming; pilot area and state programs to test the potentialities of a comprehensive, decentralized approach to manpower needs; evaluation studies of

these pilot projects to assess and compare experiences with comprehensive programming in a variety of situations; and the development of a technical readiness in the Manpower Administration to help states and localities take over the manpower reins (112:3).

The Comprehensive Employment and
Training Act of 1973

The Comprehensive Employment and Training Act of 1973 (CETA) introduced new concepts to the administration of federally funded manpower programs. The law established a flexible, decentralized system of federal, state, and local manpower activities. It provided and expanded essential job-related services which replaced rather restrictive federal categorical programs. CETA's major purpose is to provide the economically disadvantaged, the unemployed, and the under-employed with the assistance they need to compete for, secure, and hold jobs challenging their fullest capabilities--in brief, manpower programs (112:11).

Manpower programs cover testing, counseling, skills training in the classroom or on the job, and basic education. They cover supportive aid like child care and arrangements for transportation to job and training sites. They include job restructuring, job development, work experience, and public employment. And under CETA, state and local officials will be able to experiment with ideas that have never been tried before.

Most of these services were available under earlier legislation. What is new is that CETA streamlines the delivery of this assistance by:

1. Consolidating programs under one legislative umbrella;
2. Removing the restrictive funding requirements for programs which formerly had specific categorical labels, and combining the funds into one grant; and
3. Decentralizing planning, design, and administration of local programs from the Federal Government to State and local governments. They become Prime Sponsors under the act, eligible for direct grants of Federal manpower funds (112:12).

Although there are special situations, Prime Sponsors are usually (1) units of local government such as cities or counties with a population of 100,000 or more; (2) combinations of local units, one of which has a population of at least 100,000, called consortia; (3) entire states; or (4) a state serving the balance of its territory not included in any local Prime Sponsor's area. The act sets no limitation on the amount of funds that can be appropriated for manpower services through the fiscal year that ends June 30, 1977. For fiscal year 1975, President Ford requested \$2.1 billion for CETA activities (112:12).

Private Involvement in Manpower Programs

Federal outlays for manpower programs increased nine-fold from 1961 to 1968 (78:3). The increase in expenditures was accompanied by changes in the goals and emphases of federally supported manpower programs. A major shift was the intensified efforts of private employers to help train and employ the poorly educated and unskilled. Federal appropriations for manpower programs administered by the Department of Labor through the Comprehensive Employment and Training Act of 1973 amounted to \$2.57 billion in fiscal 1975 as compared with \$2.2 billion in 1968 (113:34).

The increasingly active role of private firms began in the 1960's for reasons of publicity and profit, continued because it had budgeting advantages, and finally became the preferred practice because it seemed to be an effective way to guarantee jobs to disadvantaged participants. Because the channeling of manpower and anti-poverty funds from public agencies to private firms has been substantial, and because the public-private partnership has profound significance for the economy and society, it is imperative to understand the experience and implications of these programs.

Private employer involvement in manpower programs for the disadvantaged was most evident since President Johnson's manpower message of January 1968, when he announced the formation of Job Opportunities in the Business Sector (JOBS), a major effort to induce greater private participation in manpower programs. However, there were a number of precedents. From its beginning, the Job Corps contracted with private business firms to operate centers--a decision made because of the mystique of business efficiency and the expected favorable reaction of Congress and the public (78:171).

On a broader scale, the Manpower Development and Training (MDTA) program encompassed both institutional and on-the-job training (OJT) with the latter rising from 6 percent to 48 percent of the total effort between 1963 and 1968. Simple economies encouraged this shift in light of the fact that the MDT budget remained relatively stable over the years. By avoiding stipend

and equipment costs, OJT could enroll three trainees for the price of one institutional trainee, a consideration that strongly favored OJT. Also persuasive was the fact that, once enrolled, the OJT worker had a job, while the institutional trainee still had to be placed when the training was completed. To overcome the difficulties of placing disadvantaged persons in OJT "slots," the Labor Department sought assistance from private firms specializing in training, hoping that employers would be more responsive to entries from corporate officials than to appeals by government bureaucrats; but the efforts were without success.

The Concentrated Employment Program (CEP) also began with an objective of providing brief orientation courses for the disadvantaged and then placing them with private employers. The failure of these experiments forced the government to raise the level of subsidies to employers to induce them to hire the disadvantaged. By the summer of 1967, following riots in various cities, the emphasis was upon offering "instant jobs" (113:3).

On the other hand, training programs had worked well for residents of suburbs and small cities who lived near where the jobs were located. But such programs proved frustrating for ghetto residents who too often ended their participation with only a "hunting license" to seek jobs which remained illusive for reasons of location or discrimination. If employers had determined to "hire now and train later," ghetto residents would have believed their message. To be sure, prevocational training is presumably necessary even for entry-level unskilled and

semi-skilled jobs. But, it was reasoned, the training might be more acceptable if offered at the work site and on the payroll. To induce employers to change their hiring practices and to offer "guaranteed jobs, the government stood ready to pick up the tab for the extraordinary costs incurred" (113:4).

As business exerts greater initiative and ingenuity in exploring social fields, there is gradually evolving a new kind of partnership with federal, state, and local governments that holds great promise for the future. Governments, pressing against the limits of what can effectively be accomplished through public agencies, have been turning increasingly to business and other private organizations for help in carrying out public functions.

Beginning in the 1960's, the federal government encouraged business to perform an increasing variety of social tasks that had been regarded as almost exclusively governmental responsibilities, such as training disadvantaged persons, rebuilding the ghettos, helping blacks and other minorities establish their own enterprises. Inasmuch as business could not be expected to undertake many of these social tasks mostly at its own expense, government has sought to provide sufficient inducement to get the desired amount of business participation. Contract subsidies are being used increasingly to induce corporations to employ and train disadvantaged people who normally would not have been considered qualified for jobs (48:50).

This tendency, sometimes called "privatizing" the public sector, reflects growing governmental and public acceptance of four important propositions:

1. That the goals of American society can be realized only through a massive, cooperative effort of government, industry, labor, and education. Increasingly, it is felt that the cooperative participation of the private sector is required not only for national defense and space exploration but also for advances in health care, improvement of education, and elimination of poverty.

2. That government's basic role through the political process is to determine the nation's goals, set the priorities, develop the strategies, and create the conditions for carrying out the work most effectively to the satisfaction of the public.

3. That business, with its profit-and-loss discipline, has an especially significant role in the actual implementation of social programs because it is a proven instrument for getting much of society's work done and because its top executives, with their diverse management capabilities and their involvement in community affairs, are normally well fitted to deal with today's socioeconomic problems.

4. That the incentive for profit is the only practicable way of unleashing the power and dynamism of private enterprise on a scale that will be effective in generating social progress. Social consciousness and good citizenship, while important prerequisites, cannot realistically be expected by themselves to bring business resources to bear on the country's social problems on

the massive scale that is needed. To achieve this, government must create the market conditions that will induce business enterprises to apply their operational capabilities to those public tasks they can carry out more efficiently than other institutions (48:51).

This clarification of the most suitable and effective roles for government and business--and, indeed, for other institutions such as education and labor--is fundamental to the development of a viable national strategy for achieving the level of social progress that the public is demanding. It involves a substantial change in patterns of institutional responsibilities which have developed since the 1930's but are now clearly inadequate to the country's needs. Government at all levels seems likely to function best as a market creator, systems manager, and contractor of social tasks rather than as an actual operator of every kind of public service (48:52).

The most desirable and effective form of governmental action to get business to contribute its dynamism to appropriate social areas is to create adequate markets in which private enterprise can compete as vigorously and efficiently as it does in consumer markets. This is the best way to bring the full force of market dynamics into play in the social and public service sector, and to achieve the drive for productivity and performance that is so conspicuously lacking in many of these sectors today. Moreover, the creation of competitive markets will minimize the risk of a

social-industrial complex developing along lines of the so-called military-industrial complex (48:52).

The transportation field offers a good example of some of the ways in which government can provide the additional incentives to create a market and induce the entrepreneurial thrust of business to achieve desirable social results.

Government could create major new markets not only in such areas as urban redevelopment and the building of new cities, but also in mass transportation, medical services, education, and many municipal services. The market-creation technique essentially is to bring about adequate demand conditions to attract competitive sources of supply. This can be done by pooling demand, when government, for example, assembles an entire land area required for urban renewal; or by enhancing purchasing capabilities, as in the case of subsidies to home buyers; or by providing credit and profit incentives to suppliers such as home builders (48:53).

Hard-core unemployment is another social problem area where incentives were instituted in 1968 to attract business involvement after three decades of generally unsuccessful governmental efforts to train and find jobs for disadvantaged persons. The federal JOBS (Job Opportunities in the Business Sector) program, spearheaded by the National Alliance of Businessmen, provides for Department of Labor contracts with business enterprises to reimburse them for the special costs involved in the extensive education and training required by unemployed persons with little or no skill and experience. Through December 31, 1970, total

hiring under the JOBS program had reached 610,000 of which about 30 percent was accomplished under contract subsidy. Some 309,000 of these employees remained on their original jobs at the end of 1970, and many others left for more desirable jobs elsewhere (48:54).

The evidence clearly indicates that many of the goals of American society can best be realized by developing a system of incentives for private firms to do those social jobs which business can perform better and more economically than other institutions. Indeed, the entrepreneurial thrust of business--if encouraged, guided, and carefully audited by government at all levels--may well be indispensable in achieving a permanent solution to urban and other socioeconomic problems that have seriously overtaxed the capacity of public agencies.

A more extensive system of incentives should be developed quite carefully to ensure that the most appropriate measures are used to produce the desired action by business enterprise, that these are tailored precisely to each situation, and that the results are evaluated by competent agencies and reported to the public (48:55).

Government contracting for services and supplies in fiscal 1975 amounted to \$82 billion or 25 percent of federal government expenditures (54:122). Most contracting was for military procurement, space exploration, and research and development; and about 80 percent of these contracts contained incentives for performance to achieve preset cost or price targets and included

penalties for inadequate performance. There also is a considerable variety and an increasing amount of contracting-out of social tasks (48:55).

The federal government pays cash subsidies to a wide variety of recipients, ranging from farmers to commercial airlines. As a form of subsidy, cash payments offer some obvious advantages in that their cost is easily determined and controlled. They are administered readily because the recipients are clearly identified and subject to loss of payments if they violate program requirements. Cash payments also are the only type of subsidy that is identified explicitly in the federal budget and is subject to the discipline of the appropriation process (48:56).

Direct loans outstanding to the private sector at the close of fiscal 1970 amounted to some \$51 billion in federal funds. Nearly \$15 billion of this represented housing loans, and most of the rest was for export credit, agricultural credit, and small business loans. Federal credit is extended primarily to meet those needs "affected with the public interest" which entail risk that limits the availability of private credit. Credit guarantees, and mortgage and other insurance are designed to reduce risk, facilitate financing, and provide further incentive for business to undertake socially desirable activities (48:56).

Tax incentives in the form of timing advantages include such provisions as accelerated depreciation, current deductions for what might otherwise be capital items (as in the case of research and development expenditures), and soil and water

conservation expenses. Other measures which provide incentives through differential tax treatment include such items as percentage depletion and capital gains. The benefits of the resulting increase in investment and in economic activity tend to be widely dispersed (48:56).

On the other hand, where the focus on desirable social goals is much narrower, there may be some question as to the value of tax incentives. Under these conditions, it may be difficult to use tax incentives effectively because they cannot be applied specifically to individual company and job requirements, administered with the degree of assurance required, or easily altered to meet changing conditions.

In developing a much more extensive system of economic incentives so that business can and will undertake more of the nation's social improvement tasks, two guiding principles will be of special importance:

1. Greater business involvement should be induced only in those areas of activity in which private enterprise is qualified to do a better job than other institutions. In areas such as education, professionals are certainly better qualified than businessmen to teach students. But business can and should be encouraged to contribute its managerial and organizational skills to strengthen the performance of educational and other institutions when necessary, although not in any sense of displacing them.

2. The specific incentives provided to business should be primarily contractual in nature, or in the form of subsidies

reflected in the expenditure side of the federal budget rather than in the form of special tax incentives. The budgetary process is the best means for allocating public funds among the full spectrum of competing public requirements, since the allocation is subject to legislative and public scrutiny and review. The process is increasingly being accompanied by performance evaluation to determine how well the intended objectives are met. Its integrity should be respected and it should be utilized to the fullest (48:57).

There also is a wide variety of governmental controls, regulations, and disincentives designed to influence the social performance of business. Government contractors, for example, have been forbidden to discriminate in hiring and promotions. This prohibition has been extended under the Civil Rights Act of 1964 to all employers of 25 or more persons. Another example is the extensive body of regulations that have been developed in recent years to reduce air and water pollution from industrial and other sources (48:57).

These and other regulatory measures are essential in many fields to insure that all businesses, not only the financially strong and more socially responsible, act in accordance with the public interest. While business should develop its capacities for self-regulation and self-policing to the fullest extent possible, there are bound to be areas beyond the effective reach of these self-imposed constraints which can be regulated effectively only by government. This has proved to be the case with various

automobile safety features, initiated by individual companies, which had to be prescribed as standard equipment through federal regulations. And it also has proved essential in pollution abatement, where competitive pressures militated against an adequate response from all industry. The business world has in some cases responded better to environmental needs under a government system of general regulations that apply to all competitors, cover all sources of pollution including municipalities and agriculture, and distribute the cost burden equitably (48:58).

The converging of two trends--the business thrust into social fields and government's increasing use of market incentives to induce even greater business involvement--is gradually bringing these two powerful institutions into a constructive partnership for accelerating social progress. This emerging partnership is more than a contractual relationship between a buyer and seller of services. Fundamentally, it offers a new means for developing the innate capabilities of a political democracy and a private enterprise economy into a new politico-economic system capable of managing social and technological change in the interest of a better social order. It will not be an exclusive partnership, for other private institutions, especially universities, also will play very significant roles. Still, the government-business relationship is likely to be the central one in the last quarter of the twentieth century (48:59).

More effective means must be found to harness the technology, managerial capability, and efficiency of business, in a

large-scale organized manner, to assist government and other institutions to resolve major socioeconomic problems. These problems, by their very nature, require the best qualities and skills of both government and business plus, in some respects, the knowledge and research resources of universities.

New hybrid types of public-private corporations may need to be developed to combine the best attributes of government (funds, political capacity, public accountability) and of private enterprise (systems analysis, research and technology, managerial ability) in the optimum mix for dealing effectively with different kinds of major socioeconomic problems such as modernizing transportation, rebuilding the cities, and developing backward regions of the nation (48:59).

More and different types of such institutions should be chartered as needed by appropriate governmental entities: a city, state, group of states in a region, or the federal government. The most important characteristic of these public-private corporations would be the best combination or mix of public and private resources to achieve designated objectives (48:60).

Management already is engaged in the process of change and revitalization of the corporate structure to improve economic and social performance and political accountability to its constituencies and society (48:60).

The need now is for new, innovative business relationships with government--federal, state, and local. Public expectations of more effective social action from both business and government

are very great. They call for renewed appraisal of the respective capabilities and roles of both institutions, and increased creativity in defining relationships between them (48:61).

It would be very surprising if certain trends in corporate social responsibility, which we already can envisage, do not continue into the future. They are, in a sense, inter-related. The most visible of these trends will be the extent of social impact of the corporation, and this will carry over to all of the activities of the organization whether or not they have any overt "social intent."

The second is that the weight will shift toward compliance with mandated demands by government. For those legal scholars who are observing closely, the still unmet task of compliance with existing civil rights and environmental legislation is astounding.

Third is the progressive integration of "social" and business issues. Part of this stems from the fact that "social" demands must be carried out by, and therefore integrated into, regular business operations. Another aspect of this factor is the type of response to a particular social demand--whether it increases or decreases profits and, therefore, must be considered constructively in its business impact.

A fourth point might be considered a subsidiary to the foregoing. However, it is too important to be buried as a subcategory. This is the fact that voluntary actions will be thought of and planned increasingly as part of the overall business strategy (1:21).

The roots of these developments are visible in the various board and management committees which are being set up to handle corporate social responsibility. The next five or ten years probably will see a proliferation of such management systems. After that, unless there is a new wave of issues to be processed, these systems will atrophy as the present issues of concern become a regular part of doing business naturally.

The belief in the eventual atrophy of these systems stems from an historical study of labor relations in the steel industry. It is reinforced by a recent experience with an affirmative action officer who showed a record of minority hires which he began in 1969. Stopped in 1973, his comment was, "We don't have to keep track of that anymore. That one is licked and now we have to attend to promotion" (1:21).

CHAPTER III

THE APPRENTICESHIP SYSTEM--ITS IMPORTANCE

Operational Perspective

In order to understand the reasoning behind the establishment of the special training program 7-2(2) by the Federal Highway Administration, a discussion of the apprenticeship system and its ramifications must be considered. Apprenticeship is the program that has most affected the construction industry. Whatever the faults of this system, it continues to do a job of sorts.

The U.S. Department of Labor, in its recent publication, "The National Apprenticeship Program," propagandized thusly: Apprenticeship, in simplest terms, is training in those occupations requiring a wide and diverse range of skills and knowledge, as well as maturity and independence of judgment. It involves planned day-by-day, on-the-job training and experience under proper supervision, combined with technical studies in subjects related to the trade (113:1).

As practiced by modern industry, apprenticeship is a businesslike system in which the young worker entering industry is given thorough instruction and experience, both on and off the job, in all the practical and theoretical aspects of the work required in a skilled occupation, craft, or trade.

As apprentices progress in training, they mature, acquire additional skills, and master the application of those already learned. Through rotation from one division of work to another and instruction in technical subjects related to the trade, they develop independence of judgment. This enables them to be productive during their entire period of training.

Most apprenticeship terms range from one to five years, depending upon the particular trade involved. To master a particular trade requires: (1) learning all or most of the skills of the trade, (2) perfecting the use of each specific skill, (3) bringing each skill up to the speed and accuracy required on the job, and (4) learning to use specific skills in combination with other skills. On the industrial front, the craftsman transforms the ideas and diagrams of the scientist and engineer into the finished product. He builds, installs, operates, and services the machines in our factories, shops, and offices. He helps to build and maintain our atomic installations and performs many varied jobs essential to the smooth running of our industrial machine (113:1). The degree of skill acquired and exercised by the craftsman affects the quality of the work performed. To assure the highest skills, sound, effective training is necessary. Apprenticeship provides the means to bring together in a common effort all segments of the economy to establish and maintain the effective training of the nation's youth and achieve a continuing source of skilled manpower. It provides guidance and leadership to youths wishing to become skilled in their chosen trades.

Equally important, it provides the mechanism necessary to keep training practices abreast of changing industry needs.

When jobs to be performed require extensive knowledge and skill, training for craftsmanship involves preparation, not for a simple skill, but for the many varied skills and related practices required for all-around proficiency (113:1).

Well-planned, properly supervised apprenticeship can:

1. Provide trained craftsmen to meet present and future needs.
2. Assure a supply of skilled workers adequate to meet community needs.
3. Help assure the public of those quality products and services that only trained hands and minds can produce.
4. Increase worker productivity.
5. Give workers greater job security.
6. Improve employer-employee relations.
7. Minimize the need for supervision of journeymen (initiative, imagination, and ability are developed).
8. Develop supervisors.
9. Provide the versatility necessary to meeting changing conditions.
10. Attract capable young men and women to industry.
11. Raise general skill levels in industry (113:2).

For the young worker entering employment, apprenticeship holds these important values:

1. The opportunity to develop employability to assure economic security.
2. The guarantee of a wage with regular increases while developing skills.
3. Recognition as a skilled worker upon completion (113:2).

Cooperation between management and labor is essential to effective apprenticeship programs. Employers provide the jobs; journeymen are the instructors, passing on skills and know-how to apprentices. In the American apprenticeship system, management and labor, with government and education, work together at the national, state, and local levels (113:2).

At the national level, joint committees set up by national employer associations and international unions develop standards which serve as guidelines for developing local apprenticeship programs. National joint committees stimulate local affiliates to develop and conduct programs and provide information on new techniques, materials and changes in technology, and other training developments (113:2). They also employ national apprenticeship directors, whose responsibilities include assistance to local joint apprenticeship committees.

The Federal Bureau of Apprenticeship and Training (BAT) encourages and assists industry in the development, expansion, and improvement of apprenticeship and training programs. Through its field staff, with offices in every state, the bureau works with local employers and unions and with state apprenticeship agencies.

Apprenticeship agencies recognized by the U.S. Department of Labor have been established by 29 states, the District of Columbia, the Virgin Islands, and Puerto Rico. Each obtains policy guidance from apprenticeship councils composed of employer, labor, and public representatives. A number have staffs to assist employers and unions in the development, expansion, and improvement of apprenticeship programs. Their work is carried on as an integral part of the national apprenticeship system in cooperation with the Bureau of Apprenticeship and Training.

Apprenticeship programs combine experience and training on the job with related and theoretical instruction. The experience

and training of a machinist apprentice, for example, are usually supplemented by instruction in trade theory, blueprint reading, mechanical drawing, safe working practice, trade mathematics, physics, and other subjects related to the job. Related instruction usually is given in local trade or vocational schools or other educational institutions. However, some sponsors conduct their own instruction programs or use supervised correspondence courses (113:3).

Basic standards for good apprenticeship programs are those requirements necessary to assure uniform and effective training to develop the skills required of journeymen. Minimum training and administrative standards are identified and must be incorporated in programs submitted for registration by recognized state apprenticeship councils or the U.S. Bureau of Apprenticeship and Training.

National Training Standards

1. Work Processes

An outline of work processes in which the apprentice will receive supervised work experience and training on the job and the allocation of the approximate time to be spent in each major process or division of the trade.

2. Planned Related Instruction

Provision for organized related and supplemental instruction necessary to provide apprentices with knowledge in technical subjects related to the trade. This may include supervised correspondence or self-study courses, as approved by applicable law or by policy of the registration agency. A minimum of 144 hours each year of apprenticeship is recommended.

3. Progress Evaluation and Records

The periodic review and evaluation of the apprentice's progress, both in job performance and related instruction, and the maintenance of appropriate progress records.

4. Number of Apprentices to Be Employed

A ratio of apprentices to journeymen consistent with proper supervision, training and continuity of employment.

5. Equal Opportunity in Apprenticeship

Equal opportunity in recruitment, selection, and all phases of employment and training, in compliance with title 29, Code of Federal Regulations, part 30, as amended, and with State Equal Employment Opportunity Plans filed and approved pursuant to this regulation. All programs must be conducted and operated in a nondiscriminatory manner in all aspects of apprenticeship without regard to race, religion, color, sex, or national origin.

6. Term of Apprenticeship

A term of apprenticeship consistent with training requirements as established by industry practice, but in no case less than 1 year or 2,000 hours.

7. Probationary Period

A probationary period reasonable in relation to the apprenticeship term, with full credit for such time toward completion of apprenticeship.

8. Safety Training

Safety training for apprentices on the job and in related instruction (113:4).

Union and Employer Attitudes Toward Apprenticeship

The construction apprenticeship system has been accused of many evil and sinister things. It has been charged with failing to meet the manpower needs of the construction industry, with being union dominated (in essence only a crime from a management standpoint), with being a prime contributor to the inflationary wage settlements in the industry, with failing to discharge its proper social responsibility, with flagrant racial discrimination, with using antiquated training techniques, and in general, with being an outmoded institution that has no place in the latter part of the twentieth century (125:17).

The apprenticeship system is unquestionably guilty of some of these charges. Others must be classified as exaggerated. It should be understood that the apprenticeship system, per se, is not guilty of anything. It is the people who control the system who must bear the guilt, if any. The basic tenets of labor-management apprenticeship training, on-the-job training correlated with related classroom instruction, represent a sound concept around which to build a training program.

The legal framework establishing apprentice training could not be broader. The National Apprenticeship Act of 1937 is an extremely innocuous piece of legislation, consisting of only three paragraphs. The Act authorizes and directs the Secretary of Labor to "formulate and promote the furtherance of labor standards necessary to safeguard the welfare of apprentices" and to "bring together employers and labor for the formulation of programs to apprenticeship" (125:17). Labor, management, and the Department of Labor have been left virtually free from legislative edicts, to develop whatever system of apprentice training they wanted.

It is doubtful that many members of that 1937 Congress ever suspected that the Bureau of Apprenticeship and Training, in carrying out its legislative responsibility to employers and labor, would be so short sighted as to employ only members of the various labor unions. This does not mean that these men are not sincerely and honestly attempting to carry out their equal responsibility to employers and labor, but it does mean that

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because of their backgrounds, training, and experience, it is it is impossible for them to give impartial service (125:17).

This is the only fact that makes the apprenticeship system something other than an equal labor/management system of training. In a football game this would be like giving the home team the authority to make up its own rules while the game was in progress (125:17). Were it not for this one fact, employers could not say that the unions are responsible for the apprenticeship system's troubles. Because of it, apprenticeship is in fact something less than a 50-50 proposition. This situation has seriously impaired the credibility of the Bureau of Apprenticeship and Training within the construction management community.

Probably the most serious offense that can be levied against the Bureau of Apprenticeship and Training is that it has failed to promote and develop unilateral (management only) apprentice training programs. In past years it has been virtually impossible for nonunion contractors to develop and register their own apprentice training programs.

Before leaving the question of "union domination," it should be noted that aside from the "totally union" Bureau of Apprenticeship and Training, the apprenticeship system is indeed a joint venture; the Federal Committee on Apprenticeship and Training, the various national joint committees, and the local joint apprenticeship committees (JAC's) are all composed of an equal number of representatives from labor and management. The only way in which either party can gain domination is through

acquiescence by the other party. Certainly, the troubles with apprenticeship do not start and stop with the Bureau of Apprenticeship and Training. In fact, BAT is far less to blame for the current troubles with the apprenticeship system than labor and management (125:18).

The problem concerning the length of apprenticeship for the various trades can in no way be blamed on BAT. BAT is willing to register training programs that are two years in length, provided the National Joint Training Standards for that particular trade indicate that such a training period is appropriate. However, the various National Joint Apprenticeship Committees, which are responsible for developing training standards, have indicated that apprenticeship periods should be between three and five years. Consequently, it is virtually impossible for local groups to develop a registered training program calling for a shorter training period, regardless of local conditions (125:18).

National Joint Apprenticeship Committees could not unilaterally reduce all apprenticeship terms, even if they wanted to. For some union representatives to agree to reduce the apprenticeship period, they must have the approval of their rank and file members. The chances of this are slim. While the attempts to reduce the apprentice training periods officially at the national level have met with little success, many local joint apprentice committees have been quietly operating training programs that are considerably shorter than national joint training standards (125:18).

So far, the basic question of whether or not it is necessary to reduce the apprenticeship period has been ignored. Local joint apprenticeship committees should have a certain degree of flexibility in determining their apprenticeship term. The apprenticeship period has a certain degree of flexibility (i.e., a certain number of people who will enter a three-year program, who would not enter a four-year program) (125:18).

Consequently, it is only logical that the manpower conditions of a local area should have considerable bearing upon the length of the apprentice period, as well as other criteria for employment. If manpower is in short supply in a given area, then every reasonable effort should be made to make the apprentice programs in that area more attractive, up to and including reducing the apprenticeship term. If the opposite situation exists, consideration should be given to make the program requirements more stringent in order to attract only those persons who are highly interested in apprenticeship. The people who control the apprenticeship system apparently have not been willing to provide local joint apprentice committees with this flexibility (86:19).

One of the most frustrating aspects of the "manpower shortage dilemma" is that some areas that claim to have shortages in specific trades have qualified applicants waiting to get into the apprenticeship programs for these same trades. This fact has given rise to the claim by organized labor that contractors have failed to give the apprenticeship system a fair chance. Organized labor also is quick to point out that while most collective

bargaining agreements permit contractors to employ one apprentice for every five (or in that general vicinity) journeymen, the actual ratio is much smaller. For example, there are approximately 800,000 union carpenters and there are only about 30,000 carpenter apprentices--a ratio of 1 to 26. For operating engineers, the ratio is 1 to 110; for plasterers and cement masons, 1 to 23; and for bricklayers, 1 to 15 (125:19).

In most areas where apprenticeship programs exist, there are a small number of contractors who actively support the apprenticeship system. Most do not, presumably because they are either opposed to apprenticeship or, up to now, they have had more pressing problems (125:19). In reality, it is probably a combination of both factors. Most contractors feel that drastic changes must be made in the apprenticeship system, but, until recently, manpower and training have not been particularly important to them. With sporadic shortages already cropping up (less in the 1970's because of construction slowdown), with increased pressures to assimilate minorities, with the advanced age of the current work force, and with the optimistic predictions for the next 30 years, this situation is rapidly changing. Manpower and training are fast becoming number one problems of the industry.

The Department of Labor and contractors have, of course, been partners in this apprenticeship business; these partners are far from blameless. Organized labor spends more time and effort trying to defend the existing system than trying to improve it. Organized labor has been slow in recognizing the value of new

training techniques, slow in turning attention to the needs of disadvantaged persons, and slow in recognizing the need to initiate progressive change in the apprenticeship system. This change is needed now, and will desperately be needed in the near future, if the construction industry is to stand a chance of competing effectively in the manpower market. These same criticisms, to a lesser degree, could also be leveled at contractors (125:20).

It may be that unions are afraid of new training techniques because they know that such techniques also will dictate more basic changes in the system: changes in the apprenticeship term, curriculum, selection criteria, instructional methods, instructor qualifications, apprentice qualifications, and impact on jobs. Construction unions are living in the past, still fighting for security and survival, something they won long ago. They are no longer fighting the establishment. They are the establishment, with all the accompanying power. It is time they focused their primary attention on the responsible exercise of this power.

An argument also is made that massive manpower shortages, resulting from the restrictive operation of the apprenticeship system, are the primary cause of the inflationary wage spiral that has taken place over the last few years. A comparison of the wage settlements in areas where known shortages exist, with settlements in areas where high unemployment exists (assuming other factors are reasonably equal), will give an indication as to what little effect manpower conditions have on the settlements. Inflationary wage settlements cannot be attributed to "supply

and demand," but directly to the "horrendous imbalance" at the collective bargaining table (125:20).

In summary, unions use apprenticeship as a means of job and wage control. By maintaining control of apprenticeship, unions are able to standardize the skill content of their crafts and protect their wage rates. Union craftsmen can maintain their wages only if they have lower unit costs than the alternatives available to an employer. Apprenticeship, by maintaining craft identity, also strengthens the craft union as an institution and makes it possible for the union to supply competent workers to maintain its jurisdiction. If the union acquires many unqualified or incompetent workers, the employer has a strong incentive to mechanize, become nonunion, or look elsewhere for his workers (26:13).

Unions also take an interest in apprenticeship programs as a means to prevent the excessive use of low-wage apprentices in competition with their journeyman members, as a means of controlling the supply of labor and as a technique for providing job opportunities to friends and relatives.

Blacks and Apprenticeship

Between rhetoric and reality, a number of developments during the 1950's and 1960's focused attention on the problem of equal apprenticeship opportunities. The clashes between increasingly militant civil rights organizations and discriminatory unions during the 1950's drew attention to the absence of minorities from

many unions and apprenticeship programs. While the unions' motives for exclusion were not based entirely on racial considerations, the vigor with which they defended their restrictive policies, and the fact that there were few if any blacks in their unions, made it difficult to avoid the racist conclusion. These contests gave the apprenticeship issue a symbolic significance which often obscured the quantitative importance to blacks of the jobs they were likely to get through apprenticeship training. As presently constituted, apprenticeship programs are not quantitatively very important (26:3).

The apprenticeship question also attracted attention as a solution to some of the economic problems facing young black males during the 1950's and 1960's. Declining employment opportunities in jobs traditionally open to them, together with population shifts which increased the number of young black males, caused these groups to experience declining relative labor force participation rates, rising unemployment rates, and declining relative incomes during these years. The urgency of the need to get more minorities into the skilled trades is indicated by the U.S. Department of Labor's projections of nonwhite employment and unemployment patterns. Between 1965 and 1980, the nonwhite labor force is expected to increase by 41 percent as compared with an increase of 28 percent for whites. These projections are based on the high population increases expected among nonwhite youths. Nearly half of the projected increase in the labor force between 1965 and 1970 (3.5 million of 7.6 million) was among workers 14 to 24 years old;

nonwhites in this age group increased by nearly 30 percent compared with 20 percent for whites. As a consequence of these projections, by 1980 nonwhites in the 14 to 24 age bracket are expected to constitute 14 percent of the total labor force as compared with 12.3 percent in 1970. Coming at a time of declining opportunities in the unskilled and semi-skilled jobs, these projected increases make it obvious that unemployment rates among black youths will continue to increase ominously unless something is done to produce significant shifts in traditional racial employment patterns (26:4).

Although as presently constituted, apprenticeship programs are not important enough quantitatively to have much impact on this problem, the fact that these programs provide skilled job opportunities primarily for male youths obviously makes apprenticeship opportunities qualitatively very important to minorities.

Efforts to get more blacks into apprenticeship programs increased tensions between the civil rights movement and the apprenticeship establishment (unions, employers, and specialized government agencies). During the early 1960's civil rights pickets sought to halt work at some construction sites, and civil rights leaders threatened unions with legal proceedings designed to get more blacks into apprenticeship programs. Various levels and branches of government responded to these developments by adopting measures designed to cool tensions and increase the number of blacks in the skilled trades. It became very clear during these disputes that there was much mutual misunderstanding

between the apprenticeship establishment and the civil rights movement. There was, therefore, an obvious need to clarify the issues, to evaluate the measures being taken to promote equal apprenticeship opportunity, and to make recommendations for further remedial action (26:5).

The Retention of Minority Apprentices

The U.S. Department of Labor began funding the Apprenticeship Outreach Program in late 1967, and by the end of fiscal 1973 had moved about 23,000 minority youths into apprenticeship training via this route.

This joint effort by the federal government, organized labor, and human rights groups to break down barriers for minorities seeking to enter the high-paying crafts has had some measurable impact. By the end of calendar year 1972, the number of minorities in apprenticeship programs registered with the Manpower Administration rose to 14.4 percent, compared with only 6 percent at the end of 1967. But there is important new evidence that the program needs to be strengthened. Outreach as presently constituted does a good job of recruiting minorities and getting them into the trades, but has not been provided resources for keeping them in training until they become journeymen (140:27).

This is one of the observations of a study, "Improving the Retention Rate of Indentured Apprentices Placed by Apprenticeship Outreach Programs," completed in May of 1973 by Brandeis University (140:27). The study found that among the many reasons

minority apprentices drop out, three predominate: discrimination because of race, customs and traditions of the industry, and on-the-job problems that are unique to the construction industry (such as constant shifting of job sites and supervisors).

The author of the Brandeis study, Dennis Derryck, conceded there are few reliable data on the dropout rate of apprentices placed through Outreach. A 1970 study of Manpower Administration-funded Outreach projects by the Boise Cascade Center for Community Development showed a dropout rate of 48 percent. But all these projects were less than three years old, and apprenticeship lasts three to five years. So the total that dropped out before making journeymen is not known. A recent study of apprenticeship in Wisconsin, which is considered to have one of the best programs in the nation, showed that slightly more than half of all apprentices failed to complete their training (in line with the national rate for all apprentices) (140:27).

Failure to complete apprenticeship is a particularly serious matter for minorities. Apprentices placed through Outreach usually are selected carefully, and their recruitment and pre-apprenticeship training involve the expenditure of federal funds. Also, minorities have had fewer opportunities to enter apprenticeship than whites and have fewer alternative paths to good jobs in the construction industry.

The study calls for greater emphasis on retention. It recommends strengthening Outreach organizations so they can become more effective advocates for minority apprentices once they are

on the job, instead of devoting nearly all their efforts to recruiting minorities and preparing them for apprenticeship. And it urges that a broader spectrum of people share responsibility for the apprentice's education and training. This responsibility now rests mostly with the coordinator of the Joint Apprenticeship Committee, a local body governing apprenticeship and usually consisting of representatives of labor and industry.

The study also suggests permitting dropouts to reenter the program, requiring minority apprentices to attend union meetings, raising apprentice wages in areas where they are low, and active enforcement of laws barring job discrimination.

Under the Apprenticeship Outreach Program, the Manpower Administration awards contracts to local sponsors to establish a personalized tutoring organization to assist minority youths in preparing for specific apprenticeship examinations. Courses run 4 to 12 weeks, depending on the type of entry test to be given and trainee needs. By 1973, 117 local projects were being operated by such sponsors as the Urban League, local AFL-CIO Building and Construction Trades Councils, and the Recruitment and Training Program. In Michigan, the Flint Urban League is funded with an Out State Labor Education Advancement Program with offices in Flint, Lansing, Saginaw, Battle Creek, Grand Rapids, and Muskegon.

Some 68 percent of the unions polled indicated that they conducted orientation programs for apprentices. The orientation items varied considerably. By order of frequency they were: wages, 47 percent; apprenticeship standards, 28 percent; safety

rules, 25 percent; and work responsibilities, 22 percent. Other items, such as related training, general work attitude, transportation, and probationary periods, received little, if any, attention in most of the orientations. "What can be safely concluded is that the orientation mechanism is not the means for acquiring a body of knowledge that should be imparted to every apprentice" (140:29).

Lack of information about their duties and about the customs of the industry might lead some apprentices to the mistaken belief that they are the victims of discrimination. For example, apprentices traditionally are assigned the most menial and disagreeable work on the construction site. But minority youths--especially those who have not been properly briefed--might not view it in that context.

On-the-job support is particularly critical to retention. Yet few minorities get this kind of help. And the job supervisor--the person who has the greatest contact with apprentices--is seen as giving most of his time to white trainees. Whites also get more overtime, black apprentices say. A number of inactive minority apprentices cited lack of work as their reason for dropping out. In the construction industry, job referrals usually are controlled by the unions (140:30).

The Brandeis report casts doubts on whether the institutional arrangements to help apprentices are very effective. Of the minority apprentices, more than half reported getting no help from the Joint Apprenticeship Committee, the job supervisor, the

union business agent, or the shop steward. More than 40 percent reported receiving no help from the JAC coordinator or the Outreach staff. Whites did better, but only marginally.

Lack of motivation does not account for dropouts among minority apprentices. Minorities applying for apprenticeship volunteer for the program, receive no stipend, attend tutoring in the evenings for as long as 12 weeks, and many continue to hold full-time jobs. In addition, there are hidden costs that many absorb in taking time off from work to complete the application process. From the eyes of the apprentice, it is discrimination and the lack of acceptance on the job that most significantly contribute to disliking the job. Moreover, the minority apprentice classifies his problems as ones in which he has no control or ones he cannot resolve himself (140:31).

Three types of recommendations for improvements are made, each with its own set of assumptions. These are described as the "no change reality," the "marginal change reality," and the "ideal change reality" (140:31).

The "no change reality" assumes that the construction industry will continue to resist the presence of minorities in the crafts. Minorities will not be barred from entry, but they will find it hard to stay in long enough to become journeymen. The major recommendation within this reality setting is the active enforcement of anti-discrimination legislation. Such enforcement effectively changes union customs and traditions, improves retention, and affects the economic well-being of apprentices in a

positive way. This route would increase the hostility of union workers to minorities and would shift power in present bargaining arrangements from the unions to the federal government (140:32).

The "marginal change reality" assumes that some crafts will make minor changes that can affect minority retention, but that the power structure will remain essentially the same. Within this setting, the JAC coordinator retains the primary responsibility for the education and supervision of apprentices, but he will be given some help. Sharing his responsibilities during apprentices' first year would be a supervisory committee composed of shop stewards, job supervisors, business agents, journeymen, instructors of apprenticeship classroom training, and Outreach Program representatives (140:32).

Specifically, these committees would put together improved orientation programs for apprentices that would emphasize the unions' role as social organizations. Within this context, the requirement that all apprentices attend a minimum number of union meetings would not be unreasonable. Getting to know fellow workers and officials through union meetings helps apprentices solve those problems on the job that cannot be resolved solely by the individual himself. Successful apprentices attend union meetings with far more frequency than those who drop out.

The committee also would schedule work for the first-year apprentices so as to minimize their being shifted from one job to

another, and yet give apprentices greater freedom to seek reassignment from jobs they do not like (140:32).

Within this framework, Outreach workers could become on-the-job advocates for apprentices. To achieve this, Outreach staffs are urged to acquire a firmer understanding of job problems and economic benefits that bear on apprenticeship and to increase on-the-job contacts with shop stewards, coordinators, and job supervisors to improve working conditions, job placement, and technical assistance for apprentices. To do this would require larger Outreach staffs. This recommendation is given added weight by the fact that Cleveland, where minority apprentice retention was best of the four cities studied, had the largest Outreach staff and conducted active follow-up programs (140:32).

The "ideal change reality" assumes that the industry wants to make changes that will help retain all apprentices in an effort to cut the human waste and the economic losses involved in drop-outs. The one specific recommendation made within this assumption is for better pay in those areas where wages are low. Some unions traditionally keep apprentice beginning pay "significantly lower" than the average starting pay for apprentices, which is 50 percent of journeyman wages.

Beyond the call for higher pay, the recommendations are confined to a summary of the general characteristics an ideal apprenticeship system should possess. These include use of modern training techniques and greater flexibility in the length and pace of training and in movement between related occupations.

The major point is that the good work done by the Outreach Program can be maintained over the long haul only if much more attention is paid to the integration of the new minority apprentice into the social system of which the union is a central institution. Part of the "traditions and customs" of the unions entail "not only who should enter a particular craft but also who should succeed after entry."

The JAC coordinators often are former union officials and tend to sanction the workers' decisions about who succeeds and who fails. The minority apprentice's own ability is not a major criterion in determining his retention. Knowing where and how to get help is important (140:32). Thus the minority apprentice must cope with a new social environment and an unfamiliar trade, both of whose customs and traditions often are alien to him. And he must do this without support from what had been, up to the point of entry into apprenticeship, his most effective representative--the Outreach Program.

The study concludes that a policy that places such a burden on minority apprentices clearly is inadequate, because of the lack of supportive counseling services (140:32).

Nonapprentice Sources of Training in Construction

Other than completion of an apprenticeship program, training in construction is gained essentially through the informal and unstructured acquisition of skills in the production process itself. Such training is actually impeded by the severe seasonal fluctuations in activity characteristic of the industry.

The development of construction skills outside the industry occurs in four broad areas: training or experience in industries other than construction; formal education, including both vocational and standard high schools; military service; and informal instruction by friends and relatives.

The process of imparting construction skills in other industries is largely informal. According to one government study, the number of construction craftsmen who undergo formal training in company schools is negligible.

Carpentry skills are much more likely to be acquired in other industries than are masonry skills. Over one-fifth of all carpenters are employed outside construction (124:23).

In addition, proficiency at carpentry work is more likely to be found in persons classified in other occupations, from the farmer to the do-it-yourself homeowner. Farm work, of course, entails such chores as building fences and other structures that involve a basic knowledge of working with wood. Furthermore, a number of carpenters seem to acquire their skills in industries other than construction or agriculture (124:21).

Operating engineers are workers who are skilled in the maintenance and operation of all power construction equipment ranging from air compressors to steam shovels. In this trade, there has long been an informal training procedure in which a worker serves four years as an oiler, during which time he is expected to "pick up" the trade by observation and self-learning.

To start with, an extremely large number of engineers reported some background on the farm. While operating a tractor and operating construction machinery are by no means the same, they both involve the manipulation of heavy equipment over unpaved terrain (124:23).

Furthermore, a number of operators have been truck or bus drivers. While driving a truck is even less closely related to operating construction equipment than is running a tractor, both involve moving and directing large vehicles. A large number of engineers have been employed as auto and truck mechanics. Again, this type of employment necessarily imparts (or requires) a general working knowledge of how machines run. Previous employment on highway or public works crews, sometimes involving the actual handling of heavy equipment, also helps in developing skills.

The training of operating engineers is probably best summarized in the following way. It often begins outside the craft (and outside the construction industry). But the kind of training obtained elsewhere is only the most rudimentary kind. Essentially, it involves merely an acquaintance with moving parts. The real skill is then obtained on the job in construction, by an informal process of learning and experience (124:23).

In summary, the making of an operating engineer involves a kind of inter-industry "cooperation" which is not nearly as important--numerically at least--in the other crafts (124:24). The main area for training in the military is the Navy Construction Battalion (Seabees); similarly, a number of operating engineers

served with the Army Corps of Engineers. Both of these agencies perform construction work of various kinds in the United States and abroad.

Vocational training in the public schools has long been the neglected stepchild of the American education system. It is, therefore, not surprising that few workers manage to move directly into a journeyman position upon completion of a vocational curriculum. In some areas, building trades unions, concerned over the establishment of a potentially competitive and nonunion work-force, have succeeded in limiting vocational course offerings in the schools. These observations suggest that in-school vocational education, in and of itself, does not seem to have provided a significant number of craftsmen (124:24).

The construction industry has often been characterized as nepotistic. Indeed, when racial discrimination in apprenticeship began to emerge as a national issue, primary attention was focused on the alleged practice of giving special consideration to relatives of current union members. Whether or not conscious discrimination was in fact widespread, it is true that substantial numbers of construction craftsmen do indeed follow in their fathers' footsteps (124:25).

It seems reasonable to conclude that the primary means of skill acquisition is training, formal and informal, within the construction industry itself. For bricklayers, skills are developed almost exclusively within the operation of the industry. The only exception is learning from friends and relatives, and it could

easily be argued that even this method is in essence indigenous to construction. Carpenters rely to a greater degree on outside sources, particularly farm work and the military. Most electricians are trained formally through apprenticeship, although military training and formal vocational education also contribute (124:26).

FHWA Interim Order 7-2(3)

The purpose of this order was to provide supportive services to the highway construction industry in relation to approved training programs established by FHWA Interim Order 7-2(2) (see Appendix D).

Supportive services means those services, provided in connection with approved on-the-job training programs for highway construction workers, which are designed to increase the overall effectiveness of such training programs through the performance of functions determined to be necessary in connection with given training programs, but which are not generally considered as comprising part of on-the-job actual craft training.

In Michigan supportive services were provided by the Road Builders Service Program of the Urban League of Flint in the Detroit-Metro area and surrounding counties and Lynn and Associates covered out-state Michigan and the Upper Peninsula.

Waylon V. Lynn, president of Lynn and Associates, depicted the following as services to be provided (147:4).

- I. Technical Assistance in connection with the administration of on-the-job training programs being sponsored by individual or groups of contractors and/or minority groups. This service will consist of, but not be limited to:
 1. Assistance in establishment of educational programs for minority group trainees (reference is to job-related programs).
 2. Assistance to training instructors in the presentation of training curriculum.
 3. Assistance in evaluation of work activities of staff with regard to administration of the training program, and recommendations for direction.
- II. Recruiting Services--in connection with the administration of on-the-job training programs being sponsored by individual or groups of contractors and/or minority groups. This service will consist of, but not be limited to:
 1. Assistance to contractors in establishment of referral sources most likely to yield minority group applicants.
 2. Assistance to contractors in personal contact recruiting from the minority community.
 3. Assistance to contractors in disseminating information to the minority group population on training and employment opportunities available.
- III. Monitoring, Counseling, and Orientation services--in connection with the administration of on-the-job training programs being sponsored by individual or groups of contractors and/or minority groups.
 - A. Orientation Services
 1. Assistance to contractors in presenting a comprehensive report of the relationship of the individual trade and craft, for which the minority group employee is being trained, to the highway construction industry as a whole.
 2. Assistance to contractors in presenting the contents of a particular program in which a trainee is enrolled.
 3. Assistance to contractors in presenting a general orientation to new employees including working hours, job locations, job performance expectations, job advancement potential, fringe benefits, etc.
 4. Assistance to minority group applicants in obtaining necessary documents, i.e., social security card, birth records, diplomas, etc.
 - B. Monitoring Services
 1. Assistance to contractors in developing an effective monitoring system for training programs.

2. Assistance in developing trainee I.D. cards, and achievement certificates. (Achievement certificates will be developed along the guidelines indicated in F.H.W.A. Interim Order 7-2[2].)
3. Assistance in developing training program reporting systems within a given company.
4. Assistance in maintaining periodic reports and documenting performance under 7-2(2) training program.
5. Provision of follow-up services to contractors on minority group program participants at intervals necessary to assure positive program results. Intervals proposed are; 7, 14, 30, 60 and 90 days.

C. Counseling Services

1. Assistance in helping minority group trainees develop and maintain appropriate work and study habits.
2. Assistance to minority group trainees in developing good working relationships with fellow employees.
3. Assistance in resolving personal problems that directly or indirectly relate to job performance and attitude. (Reference is to trainee problems.)
4. Assistance to contractors in developing and maintaining a trainee's enthusiasm for his particular training program, and the benefits to be derived from completing the training program and obtaining a marketable skill.
5. Assist contractors in understanding and dealing with the economic, sociological, and psychological ramifications of minority group subcultures as it affects minority group employees. This includes work habits, attitudes, transportation, education, and special training needs.

IV. Training Services--in connection with the administration of on-the-job training programs being sponsored by individual or groups of contractors will include, but not be limited to:

1. Assistance to contractors in developing inter-company training programs, utilizing their own personnel in the presentation of job-related materials. This service will also include assistance in obtaining lecture material, visual aid material, etc.
2. Training sessions for management personnel in understanding and dealing with the problems involved in administration of a meaningful program.
3. Assistance to minority group trainees in enrolling in remedial training courses within their own communities, to upgrade their educational levels. This service will include utilization of community and

governmental sponsored programs designed for this purpose. (Participation in this kind of a program will usually be limited to the seasonal shut down periods of the construction industry.)

4. Usage of the Kellogg Center for Continuing Education, on the campus of Michigan State University, East Lansing, Michigan, for training purposes. Co-ordinator of these services will be Dr. Daniel Kruger, Professor of Labor and Industrial Relations, Michigan State University. Dr. Kruger will also act as advisor in instances of training instituted at locations other than the Kellogg Center.

CHAPTER IV

PROCEDURE AND ANALYSIS

The primary objective of this study is to evaluate the effectiveness of the Federal Highway Administration (FHWA) Interim Order 7-2(2), with special emphasis on retention of trainees from 1971 through 1975 by the training contractor or the road building industry. As a secondary objective it was intended that some useful guidelines necessary for program success in terms of training and retention of trainees can be formulated.

Population and Method of Selection

The major data of the research study came from a questionnaire (N = 380) sent to a random sample of 1,250 trainees registered in the program, at their homes, in most instances between six months and a little over two years after the completion of their programs. We received 114 completed forms, which is a 30 percent response rate.¹

¹The required sample size in this study is related to: (1) the desired level of precision of the population proportion estimate; (2) the variance characteristics within population proportions; and (3) the size of the population to be sampled, that is the number of trainees who participated in the 7-2(2) Program in Michigan from 1971 through 1975.

The influence of the above factors on determining the sample size will be illustrated using the formula for estimating the minimum sample for a simple random sample without replacement:

Instrument and Procedures Used in Obtaining
the Data for the Study

In addition to questionnaires mailed to trainees in the sample, a face-to-face pretest was administered to 21 randomly selected trainees. Interviews were conducted with selected contractors, supportive service consultants, union officials, and manpower officials. The purpose of the interviews was to obtain

$$n = \frac{\left(\frac{tS}{d}\right)^2}{1 + \frac{1}{N} \left(\frac{tS}{d}\right)^2}$$

where n = minimum number of trainees to be sampled and surveyed to estimate the population characteristics within a specified level of precision;

t = student "t" value at the 95 percent level of confidence;

s = standard deviation of the sample proportion about the population proportion;

d = acceptable difference ($\pm$) between the sample proportion and the population proportion. For this study, the 10 percent level of error will be tolerated.

N = total number of trainees in the program (1,250 trainees).

The term "t" which is the level of confidence and "d" which is the level of error tolerated are called level of precision. They have substantial influence on the required survey sample size. The required sample size is directly proportional to the level of confidence specified in the survey and inversely proportional to the level of error tolerated.

The standard deviation of the sample proportion (S) can be estimated without having prior estimate of the population proportion by maximizing the values of the proportion. That is:

$$S = \sqrt{P(1-P)} = \sqrt{(.5)(.5)} = .5$$

The value of "t" at the 95 percent level of confidence is 1.96.

Thus, by substituting the values of "S," "t" and "d" in the sample size formula to determine the minimum sample size, we get:

$$n = \frac{\frac{(1.96)^2 (.5)^2}{(.1)^2}}{1 + \frac{1}{1250} \frac{(1.96)^2 (.5)^2}{(.1)^2}} = 96$$

Thus, the minimum size required for the level of precision desired is 96 trainees. Since 114 trainees were selected at random, we can conclude that the proportion (or percentage) obtained from the sample survey is well within the 95 percent confidence interval and the 10 percent error level (17:21).

more intensive data on issues covered in the questionnaires, as well as to provide validation for questionnaire responses.

A complete mix of population was utilized to provide a comprehensive representation of the trainees over a long enough period of time to avoid bias that might be reflected in all the trainees having been drawn from a specific program year (e.g., 1971, 1972, 1973, 1974, or 1975). The questionnaire was sent to each trainee's home address. There was one follow-up for a wrong address returned by the postal service. Thus the number in the search sample consisted of those questionnaires which were responded to on the initial and secondary efforts by the researcher. A copy of the questionnaire is in Appendix C.

This study was concerned with analyzing factors related to individual success in the program. The major dependent variables should relate to criteria for success. The two major criteria to be utilized in this study will be those which have generally been accepted by manpower training programs. These criteria are:

1. Whether the trainee dropped out or remained in the field for which he was trained.
2. The trainee's job earnings in the periods during and following the end of the program. For the purposes of this study the latter criterion was separated into its three components:

- a. The wage rate of the post-training jobs,
- b. The degree of unemployment in the period between completing the program and the time of receipt of the questionnaire,
- c. The wage rate of pre-training jobs (59:37).

In addition to the three criteria of dropout, wage rate, and employment level, one other criterion was used as a dependent variable in this study, as an index of a trainee's more or less successful utilization of his program training experience. This was the nature of the job obtained in the post-program period--specifically, whether the job was or was not in the skill that the trainee had learned in the training program.

Analyzing the Data

In order to analyze the data, several preliminary steps were taken:

1. The instrument was constructed in such a way that the questions could be answered for the most part by means of marking an "x" in the circle of the pre-designed response.
2. The questionnaire provided additional spaces for open-ended responses so that subjective data could be collected.
3. Except for subjective material, which was evaluated separately, questionnaire data were coded and processed for computer analysis.

The last phase of the research is the following data analysis.

General Characteristics:
An Overview (Table 1)

Of the 114 who responded to the questionnaire, 112 were men and 2 were women. The minority status of the respondents was: 62.3 percent were black, 13.2 percent were Spanish surnamed, 7.8 percent were American Indian, and the remaining 16.7 percent were white. All were in the prime working ages, 18-54 years of age; 45.6 percent of the sample were between 24 and 29 years of age, while 37.7 percent were over 30 years old. Only 60.7 percent had not completed high school. Just 25.4 percent received welfare benefits within the last five years and 77.2 percent had received unemployment compensation in the last two years.

Their families were of a modest size, excluding the 17.5 percent who had five or more in the family unit. The average size of household was 2.9 persons. About three-fifths (58.8 percent) of the families were intact; 12.3 percent indicated divorced or separated status, while the remaining 28.9 percent were single. A majority (83.3 percent) stated that they were the major financial support of their family. Over three-fourths (77.7 percent) have lived in their present area seven or more years. Just over half (51.8 percent) were born in Michigan.

Table 1.--Characteristics of trainees enrolled in 7-2(2) (N = 114).

Trainee Characteristics	Number in Sample	Percent of Total
<u>Minority Group</u>		
Black	71	62.3%
Spanish surnamed	15	13.2
American Indian	9	7.8
Oriental	0	0.0
White	19	16.7
Total	114	100.0%
<u>Sex</u>		
Male	112	98.2%
Female	2	1.8
Total	114	100.0%
<u>Age</u>		
18-23	19	16.7%
24-25	30	26.3
26-29	22	19.3
30-34	18	15.8
35 and over	25	21.9
Total	114	100.0%
<u>Education</u>		
8th grade or below	13	11.6%
9th to 10th grade	12	10.7
11th grade	43	38.4
12th grade or over	44	39.3
Total	112	100.0%
<u>Number of Dependents</u>		
One	30	26.3%
Two	18	15.8
Three	19	16.7
Four	27	23.7
Five or more	20	17.5
Total	114	100.0%
<u>Prior Military Service</u>		
Veteran	40	35.4%
Nonveteran	73	64.6
Total	113	100.0%

Table 1.--Continued.

Trainee Characteristics	Number in Sample	Percent of Total
<u>Marital Status</u>		
Married	67	58.8%
Divorced	6	5.3
Separated	8	7.0
Widowed	0	0.0
Single	33	28.9
Total	114	100.0%
<u>Length of Residence in Area</u>		
0-2 years	5	4.5%
2-4 years	9	8.0
4-6 years	11	9.8
7 or more years	87	77.7
Total	112	100.0%
<u>Place of Birth</u>		
Michigan	59	51.8%
Out of state	55	48.2
Total	114	100.0%
<u>On Welfare in Last Five Years</u>		
Yes	29	25.4%
No	85	74.6
Total	114	100.0%
<u>Received Unemployment Compensation in Last Two Years</u>		
Yes	88	77.2%
No	26	22.8%
Total	114	100.0%
<u>Major Contribution to Financial Support of Family</u>		
Yes	95	83.3%
No	16	14.0
Undecided	3	2.7
Total	114	100.0%

Employment Status (Table 2)

All (114) persons in the study were questioned regarding their present status with respect to what has been their past work history. In addition, determinations were made about their welfare status, contacts with the employment security office, and employment-related health problems. About one-half (49.2 percent) were employed full time at the time of the survey and 44.7 percent were unemployed, with a scant 6.1 percent falling into the part-time employment category. Over half (52.5 percent) of those surveyed who were employed indicated they have held a job three or more years, while over 92 percent have worked sometime within the last two years for a period of over three months.

Over three-fourths (77.2 percent) received unemployment compensation within the last two years and only 25.4 percent were on welfare in the last five years.

Over nine-tenths (94.1 percent) of the unemployed are registered for a job with the employment security office and only 30.7 percent have been tested by the employment security office. Just 6.1 percent stated they had a physical defect or health problem. Of those, 28.6 percent said they were refused a job as a result of those medical reasons.

Training History and Status (Table 3)

Over three-fourths (77.9 percent) of the respondents started in the training program in the years 1973, 1974, and 1975. Only 45.6 percent of the responding trainees completed training

Table 2.--Employment history of trainees in 7-2(2) at time of study
(N = 114).

	Number in Sample	Percent of Total
<u>Employment Status</u>		
Full time	56	49.2%
Part time	7	6.1
Unemployed	51	44.7
Total	114	100.0%
<u>If Employed, Longest Ever Held a Job</u>		
0-3 months	1	1.5%
4-12 months	13	19.4
1-2 years	18	26.9
3 years or more	35	52.2
Total	67	100.0%
<u>How Much Worked in Last Two Years</u>		
0-3 months	8	8.0%
4-6 months	10	10.1
6-12 months	32	32.5
12-15 months	25	25.2
16 months or more	24	24.2
Total	99	100.0%
<u>Received Unemployment Compensation in the Last Two Years</u>		
Yes	88	77.2%
No	26	22.8
Total	114	100.0%
<u>On Welfare in Last Five Years</u>		
Yes	29	25.4%
No	85	74.6
Total	114	100.0%
<u>Unemployed Registered with M.E.S.C.</u>		
Yes	48	94.1%
No	3	5.9
Total	51	100.0%

Table 2.--Continued.

	Number in Sample	Percent of Total
<u>Tested by M.E.S.C.</u>		
Yes	35	30.7%
No	79	69.3
Total	114	100.0%
<u>Any Physical Defects, Handicaps, or Health Problems?</u>		
Yes	7	6.1%
No	107	93.9
Total	114	100.0%
<u>Ever Refused Job for Medical Reasons?</u>		
Yes	5	4.4%
No	109	95.6
Total	114	100.0%
<u>Work History of Unemployed</u>		
Worked in past	51	100.0%
Did not work in past	0	0.0
Total	51	100.0%

and 49.1 percent of the respondents indicated their training programs are incomplete or still in the process of being completed.

About seven out of ten (69.9 percent) of the trainees were newly hired and the remaining 30.1 percent were upgrades (working for the contractor and placed in the program). Only 34.6 percent of the trainees in the sample have been promoted since entering the training program. Over three-fifths (63.2 percent) of the respondents stated they actually received the training

Table 3.--Training history of trainees in 7-2(2) (N = 114).

	Number in Sample	Percent of Total
<u>Year Started Training</u>		
1971	11	9.7%
1972	14	12.4
1973	21	18.6
1974	26	23.0
1975	41	36.3
Total	113	100.0%
<u>Year Completed Training</u>		
1972	6	5.3%
1973	4	3.5
1974	16	14.0
1975	26	22.8
Incomplete	56	49.1
Drop-outs	6	5.3
Total	114	100.0%
<u>Level at Training Entry</u>		
New hire	79	69.9%
Up grade	34	30.1
Total	113	100.0%
<u>Promoted Since Entering Training</u>		
Yes	38	34.6%
No	72	65.4
Total	110	100.0%
<u>Actually Receive Training in Program</u>		
Yes	67	63.2%
No	39	36.8
Total	106	100.0%
<u>Still Employed by Contractor Who Trained</u>		
Yes	46	40.7%
No	67	59.3
Total	113	100.0%

Table 3.--Continued.

	Number in Sample	Percent of Total
<u>Prior Construction Work</u>		
Yes	76	67.3%
No	37	32.7
Total	113	100.0%
<u>How Did You Get Into Training Program?</u>		
Contractor	39	34.2%
Family/friend	18	15.8
M.E.S.C./Army	4	3.5
Urban League	18	15.8
Union	20	17.5
Lynn and Associates (consulting firm)	1	0.9
Self	14	12.3
Total	114	100.0%

that was listed in their programs. About two-thirds (67.3 percent) of the trainees had prior construction work experience and 40.7 percent are still employed by the contractor who directed their training program.

Union Involvement (Table 4)

About seven out of ten (71.9 percent) of those holding union membership are either operating engineers or laborers. Three-fourths (75 percent) of the trainees joined the union while in the training program. The trainees indicated they were classified by the union 8.8 percent as helpers, 28.9 percent as trainees, 21.9 percent as apprentices, and 33.4 percent as journeymen.

Table 4.--Union affiliation of the trainees.

	Number in Sample	Percent of Total
<u>Union Membership</u>		
Operating Engineers	22	19.5%
Teamsters	5	4.4
Laborers	37	32.8
Electricians	1	0.9
Cement Masons	4	3.5
Iron Workers	3	2.6
None	31	27.4
Carpenters	10	8.9
Total	113	100.0%
<u>Classification</u>		
Helper	10	8.8%
Trainee	33	28.9
Apprentice	25	21.9
Journeyman	38	33.4
None	8	7.0
Total	114	100.0%
<u>When Did You Join Union?</u>		
Before training	42	37.5%
During training	42	37.5
After training	6	5.4
Never	22	19.6
Total	112	100.0%

Problems and Assistance
During Training (Table 5)

The secondary objective of this study was to develop some useful guidelines necessary for program success in terms of training and retention of trainees. The questionnaire was constructed to determine, on the basis of the information obtained, what problems were encountered during the training programs. It referred only to those problems which might stand in the way of continuous

Table 5.--Problems and assistance during training.

	Number in Sample	Percent of Total
<u>Nature of Problem</u>		
Supervisors	16	27.1%
Co-workers	11	18.6
Transportation	12	20.3
Too short program	8	13.6
Too long program	3	5.1
Low wages	2	3.4
Dismissal after project completion	3	5.1
Contractor's poor record keeping	2	3.4
Seasonal work	2	3.4
Total	59	100.0%
<u>Assistance Received</u>		
Counseling	35	53.0%
Financial	11	16.7%
Transportation	1	1.5%
Tutoring	11	16.7%
Referral	8	12.1%
Total	66	100.0%
<u>Provider of Assistance</u>		
Flint Urban League	20	29.4%
Lynn and Associates	4	5.9
M.E.S.C.	2	3.0
Friend/family	10	14.7
Union	15	22.0
Co-workers	3	4.4
Supervisor	9	13.2
Highway employees	2	3.0
Other	3	4.4
Total	68	100.0%

employment. Therefore, those concerns listed could be considered inclusive of all the job-related problems confronted by the trainees.

The 114 trainees in the study were affected by a variety of conditions. They had many problems which had important bearing

on their employability and active functioning in their respective training programs, as shown in Table 5.

In addition to the major problems shown in this table, those responding reported the following problems in proportions of more than 2 percent as impediments to their progress in the program:

1. Low wages
2. Union
3. Discrimination
4. Physical
5. Company deficiencies
6. Seasonal employment
7. Supervisors
8. Transportation
9. Co-workers
10. Too short program
11. Too long program
12. Dismissal after project completion

These problems were not mutually exclusive; one person might have had several problems. Some problems were much more likely to be found in trainees working for one contractor than another and variations corresponded with differences in general characteristics of the training programs and union involvement. The problems can be found in Table 5.

The major sources of assistance with problems were the Urban League of Flint and unions. However, the proportion of problems found was greater than the proportion of those asking for services. Assistance was given only when the trainee requested it. This may help to explain the discrepancy between problems expressed and help which was given to the trainee.

The following tables and analyses are the results of an effort to further evaluate the stated success criteria of this study.

Income and Welfare (Table 6)

Is there a significant relationship between the trainee's income and whether the trainee is or was on welfare in the past five years?

Table 6 shows the income categories for the trainees who have and have not been on social welfare in the past five years. The table shows that 29 (25 percent) have received some sort of welfare within the last five years and 85 (75 percent) have not.

The chi-square test ($\chi^2 = 9.7$, $df = 4$) was significant at $\leq .05$ level of significance. This indicated there are significant differences between the distribution of those trainees who have been and those who have not been on social welfare as it relates to income. Further analysis indicated that as income increased, fewer trainees are or have been on social welfare, and that 25 out of the 29 trainees (85 percent) had an annual income below \$9,000.

Attitude Toward Training and Promotion on Job (Table 7)

Is there a significant relationship between the promotional status of trainees and their attitude toward their training?

To analyze this hypothesis, data from two questions were cross-classified. The first question was: Were you promoted on

Table 6.--Income and welfare.

Have you been on welfare in last five years?	Income Earned Last Year					Total	%
	\$5,999	\$6,000- 8,999	\$9,000- 11,999	\$12,000- 14,999	\$15,000 and over		
Yes	12	13	3	0	1	29	25
No	23	24	24	10	4	85	75
Total	35	37	27	10	5	114	100
% in response	30.7	32.5	23.7	8.8	4.3		100

the job? The second question was: Do you feel your training was beneficial?

Table 7 shows the data from the cross-classification of the two variables. Thirty-eight (33 percent) were promoted, while 72 (67 percent) either were not or did not qualify for promotion due to the nature of work they did (part time, etc.).

A chi-square test of significance was used (chi-square value = 13.41, df = 2), which was significant at $\leq$ the .01 level of significance. Further analysis of the data indicated that the majority of those who were promoted felt that their training was beneficial (94 percent). Of those who did not receive promotion, again the majority felt that their training was beneficial (64 percent).

Table 7.--Promotional status and attitude toward training.

Was training beneficial?	Promotion on Job		Total	%
	Yes	No		
Yes	36	46	82	74
No	2	26	28	26
Total	38	72	110	100
% in response	33	67		100

Note: There were four "no responses."

Employment Status and Year
of Training Completed (Table 8)

Is there a significant relationship between the year in which the individuals completed their training and their present employment status? In other words, we wish to test the hypothesis that the employment categories, full time, part time, and unemployed are significantly related to the year of training completion.

Table 8 shows the classification results of the 114 subjects in the survey study by employment status and the year they completed their training. Notice that some had not yet completed their training when the survey was conducted. There were 56 (49 percent) full-time employed, 7 (6 percent) part-time employed, and 51 (45 percent) unemployed. However, of the 51 unemployed 26 (23 percent of the total) had not completed their training yet.

The chi-square test ($\chi^2 = 16.3$, $df = 10$) was significant at $\leq .01$ level of significance. This indicates that there is a significant relationship between employment status and year of training completed. Further analysis of the data indicates that those who finished their training in the earlier years (1972 and 1973) are employed either on a full- or part-time basis. Many of those who graduated in later years (1974 and 1975) were unemployed.

Grade Completed and Income
Earned Last Year (Table 9)

Is there a significant relationship between the trainee's income and the grade he completed in school?

To analyze this hypothesis, data from two questions were cross-classified. The first question was, "What was your income

Table 8.--Employment status and year training completed.

Employment Status	No Response	Year Completed Training				Total	%
		1972	1973	1974	1975	Incomplete	
Full time	4	6	2	9	7	28	49
Part time	0	0	1	1	3	2	6
Unemployed	2	0	1	6	16	26	45
Total	6	6	4	16	26	56	114
% in response	5.2	5.2	3.6	14	23	49	100

last year?" The second question was, "What grade did you complete in school?" Table 9 shows the income categories for the trainees and the grade they completed in school. The table shows that 27 (23.7 percent) of the total earning between \$9,000 and \$14,999 had an eleventh grade education or more. The table also reflects that 60 percent of those who earned over \$15,000 had completed at least the eleventh grade. It also is interesting to note that 87 (76.3 percent) of the respondents had completed the eleventh grade.

The chi-square test ($\chi^2 = 9.6$, $df = 16$) was not significant at $\leq .05$ level of significance. This indicates that there is no significance between grade completed and income earned last year. Further analysis indicates that 25 (21.9 percent) had less than a tenth grade education, but their incomes were distributed throughout the total income range.

Grade Completed and Year Completed Training (Table 10)

Is there a significant relationship between the year completed training and the grade completed in school by the trainee? In other words, we wish to test the hypothesis that grade completed in school might be significantly related to the year of training completion. Table 10 reflects the two-way cross-classification of these factors. The table shows that 24 (20.2 percent) of those who completed training in 1975 had more than an eleventh grade education.

Table 9.--Grade completed and income earned last year.

Income Last Year	No Response	Grade Completed			Total	%
		8th or below	9-10	11-12		
Below \$5,999	0	3	4	13	15	30.7
\$ 6,000- 8,999	1	3	4	15	14	32.5
\$ 9,000-11,999	1	4	4	9	9	23.7
\$12,000-14,999	0	1	0	5	4	8.8
\$15,000 and over	0	2	0	1	2	4.4
Total	2	13	12	43	44	114
% in response	1.8	11.4	10.5	37.7	38.6	100.0

Table 10.--Grade completed and year completed training.

Grade Completed	No Response	Year Completed Training				Total	%
		1972	1973	1974	1975	Incomplete	
No response	0	0	0	1	0	1	1.8
8th or below	2	2	0	3	1	5	11.4
9th to 10th	1	2	0	3	2	4	10.5
11th to 12th	2	1	3	3	13	21	37.7
Over 12th	1	1	1	6	10	25	38.6
Total	6	6	4	16	26	56	114
% in response	5.3	5.3	3.5	14	22.8	49.1	100.0

The chi-square test ($\chi^2 = 22.89$, $df = 20$) was significant at $\leq .05$ level of significance. This indicates that there are no significant relationships between grade completed in school and the year the trainee completed training. Further analysis indicates that 13 (11.4 percent) had an eighth grade or below education. It is also interesting to note that 56 (49.1 percent) of the respondents had not completed their training, and of these 46 (40.3 percent) had 11 or more years of education.

Income and Union Membership
(Table 11)

Is there a significant relationship between the trainee's income and when he became a member of the union?

To analyze this hypothesis, data from the two questions: "What was your income last year?" and "When did you join the union?" were cross-classified to ascertain the significant relationship. Table 11 shows the income categories for the trainees and also when they joined the union. The table shows that 42 (36.8 percent) of the trainees joined the union during the course of their training program. It also reflects that 22 (19.3 percent) never joined the union. Of those who joined during training, 11 (9.6 percent) earned between \$9,000 and \$14,999. Also, of those who never joined the union, 18 (15.8 percent) earned \$8,999 or below.

The chi-square test ($\chi^2 = 20.02$, $df = 16$) was significant at $\leq .05$ level of significance. This indicates that there are no significant relationships between the two factors--income and

Table 11.--Income and union membership.

Income Last Year	No Response	When Joined Union			Total	%
		Before	During	After		
Below \$5,999	1	9	14	1	35	30.7
\$ 6,000- 8,999	1	10	17	1	37	32.5
\$ 9,000-11,999	0	15	7	3	27	23.7
\$12,000-14,999	0	5	4	0	10	8.8
\$15,000 and over	0	3	0	1	5	4.4
Total	2	42	42	6	114	
% in response	1.8	36.8	36.8	5.3	19.3	100.0

when the trainee joined the union. Further analysis shows that 84 (73.6 percent) joined the union before or during training and the income of 34 (29.7 percent) was \$9,000 to \$15,000 or more. It is also noteworthy to point out that two (1.8 percent) of those who never joined the union made over \$12,000.

Suggestions From Trainees

The following list of 35 suggestions for changing training programs was compiled from the written material submitted by the trainees.

1. Need experience with more pieces of equipment.
2. More advertisement in minority communities.
3. Programs should be outlined better and shown to trainee.
4. Contractor should be made to stick to program.
5. Need to receive certificates after completing training.
6. Should be allowed to finish programs.
7. People who have not finished should be given priority.
8. Trainees should be encouraged to stay in company/industry.
9. Sixty percent of journeyman's wages while training is not enough.
10. Work is temporary and seasonal, needs some permanent commitment.
11. Establish industry clearing house of available trainees after finishing trainable hours with a specific contractor.
12. Increase payment to contractor and include a retention clause in contract.
13. Better supervision by contractors' instructors (staff).

14. Lengthen programs/more time on equipment.
15. Evening tutoring and other work-related classroom activities.
16. Better supervision of company's records by state on trainee's behalf.
17. Training (human relations) for foreman.
18. Try working more closely with established apprenticeship programs.
19. Structured orientation program (industry emphasis).
20. Promise (if successful) job security.
21. Increased chances for promotion.
22. Give company flexibility of job site in training.
23. Let the trainee pick his training program.
24. Supportive services consultants should visit more often.
25. One person in charge of training program.
26. Contractor should be more concerned about training program.
27. Trainee should be provided with travel allowances when unemployed for tutoring.
28. Special company-designated trainers are needed.
29. Updated equipment should be used.
30. More union involvement with MDSH&T.
31. "Keep a guy working."
32. Contractor reduce racial prejudice and tensions within his workforce.
33. Follow up as much as possible for employment possibilities.
34. Co-workers should be instructed to help, not hinder.
35. Jobs closer to home.

These responses can be condensed into ten specific improvement areas:

1. There should be more opportunities for trainees to gain experience on several pieces of equipment.
2. Upon completion of training, valid certification should be awarded.
3. Contractors' supervisory staff should be more involved in the role of trainers.
4. Programs should be lengthened to allow more time in the training cycle.
5. Tutoring and other work-related classroom activities should be offered in the off season.
6. There should be developed a structured orientation program.
7. Supportive services should be more readily available.
8. Basic labor rate should be paid while in training; 60 percent of scale is not enough.
9. Unfinished trainees should be given priority in future assignments.
10. The unions should be more involved in training programs.

Profile of the Average Trainee

In order to understand the characteristics of the individuals participating in the study, the following profile is provided.

General Characteristics

The average 7-2(2) trainee is a black male, native-born Michiganiaan who is 26 years old and has had no military experience. He has completed over 11 years of education, is married,

has three dependents, and has lived in the area more than seven years.

Employment History

He is seasonally employed and has worked three or more years, averaging 6-12 months a year. During the off season he receives unemployment compensation and not welfare. He is not registered with M.E.S.C. and has not been tested by M.E.S.C. He has no physical defects, handicaps, or health problems and has never been refused a job for medical reasons.

Training History

He began his training program in the 1974-75 construction seasons and has not finished his program as yet. Upon entering the program he was a new hire who was not promoted since entering training or has no prospects of upgrading when finishing training. He definitely feels the training was beneficial and actually received the training in his designed program. The trainee is not employed by the contractor who initiated his training program, and he has had some prior construction work. He came into the program by either the contractor or union that recruited him.

Unions

If he is a union member, he is either a member of the laborers or operating engineers and is classified as an apprentice or journeyman, depending on whether or not he has completed

his apprenticeship program. He joined the union during his training program.

Problems and Assistance During Training

He has encountered many problems during his program. He has received counseling, financial and referral assistance from the Urban League of Flint or the union.

Case Studies

The following case studies further identify specific life situations of two of the respondents.

Case 1. This trainee is a 30-year-old, single, black male with a tenth grade education. He started his training in the Highway Program in 1974 and completed it in 1975. Although he claims three persons as financial dependents, he is not the major supporter of his family. His income last year was \$7,000. However, he is presently unemployed and has in the past two years collected unemployment compensation, but has never been on welfare. He is a union member (laborer) in a helper classification, joining the union prior to training.

His employer, prior to layoff, was a contractor for a highway project. The trainee feels that his training has been beneficial to him, but does not feel he received the training that was outlined in the program. He points out that transportation was a problem and that he did not receive on-the-job training. This trainee seems anxious to return to work and

suggested that better training may be helpful to achieve this objective.

Case 2. This trainee is a 26-year-old male with a Spanish surname. He is divorced and supports himself only. He is a veteran of the Vietnam war with 20 percent disability from a gun wound and malaria. He is a high school graduate and is presently unemployed. Although he earned between \$6,000 and \$8,000 last year, he is neither on welfare nor collecting unemployment compensation. He seems very bitter, as he claims that he was discriminated against and was fired from his job due to false accusation of wrong-doing.

He does not belong to any union, and when asked his classification, he referred to himself as an "unemployed slob," and that no union wanted him. He started the training in 1974 but never completed it. He feels that his training was not beneficial and that nobody helped him with problems encountered during work. This trainee seems to think that he got into the program under false pretense (by claiming to be a minority group). This trainee, who has never worked in construction before, seems to lack the physical ability to handle the duties of his job. Proper screening prior to training would have pointed out that different job training would have been more appropriate for this person.

Summary

The most desirable outcome of a training program such as 7-2(2) would be to secure employment for all the trainees after the completion of the program. However, 100 percent placement is rare for any type of training program. This program is no exception. Placement of all trainees can be limited by such factors as stringent procedures of hiring construction personnel, poor qualifications and motivation of some of the trainees, and the large number of new workers seeking employment in the highway construction industry. These less-than-ideal situations make it necessary for MDSH&T staff members during the life of the training program to exercise caution when speaking about placement at the end of the program. In fact, it would be unwise to guarantee anyone a job unless there is absolute certainty that this will happen at the successful completion of the program. Most of the trainees of a program such as 7-2(2) have tasted enough false expectations in their lives, and there is no need for them to experience still another.

Yet, there must be a payoff for the trainees as a result of the program or everybody is wasting his time. This payoff should be something more than the wages they may receive while enrolled. Over and above the wages, the contractor should be able to provide entrance for some of the trainees into the highway construction industry job slots held for some of the graduates of the program. In a highly unionized area, entrance may mean assistance in applying for an apprenticeship program. If

some of the trainees have already passed all requirements for an apprenticeship application, the best assistance for these trainees would be to encourage the union to initiate their apprenticeship as soon as possible. More than anything else, the number of actual job entrants is one determinant of the success or failure of 7-2(2).

Besides job openings, the trainees should experience a payoff from the training they received from 7-2(2). If the program was executed properly, the trainees should walk away with information that will assist them in the job market at large. Also, the support and attention of contractors, unions, and supportive service staff should help trainees to believe more in themselves because they know that other people cared for and believed in them.

Many subtle and difficult issues arise when we attempt to establish criteria for judging the "success" of a given program. There are two criteria, however, that have generally been accepted by manpower training programs (59:37). Both of these have been used as the basis for the major analyses of the data in this study.

One criterion is the trainee's job earnings in the period following his program experience. While a person's earnings may not be the only criterion of his success in utilizing his program experience, it should clearly be accepted as at least one very significant criterion. Regardless of a program's concern with other factors, the training programs are, after all, directed toward improving trainees' chances and opportunities in the job

market and, ultimately, this should be the major criterion by which they are judged.

The other criterion by which training programs have been judged has been their ability to retain trainees in the program with "dropout" being viewed to some extent as a failure. There has been some controversy over whether the failure is one of the individual in the program or of the program itself, but the general alarm over the dropout that is expressed in our society attests to the fact that we view it as a failure (59:37). Some concern in this program is raised, not about trainees dropping out on their own, but being unjustly released by the contractors, after a project is completed. The concept of retention is purely a management function, and as such must be exercised fully by the employer.

In the analyses of factors related to a trainee's successful utilization of the 7-2(2) training program experience, four different success criteria were delineated. One was whether the trainee dropped out or remained in the program. The other three were aspects of the trainee's post-program job history: the wage rate of the post-program jobs, the degree of unemployment in the post-program period, and the wage rate of pre-training jobs.

Since this study was conducted in April 1976, prior to the highway industry gearing up for the new construction season, the income earned last year in the program was the only valid criterion to compare income earned before the training experience. Table 12 illustrates this point as a determinant of success.

Table 12.--Income of trainees.

Income Last Year	Income Before Training					Total	%
	<\$5,999	\$6,000 to \$8,999	\$9,000 to \$11,999	\$12,000 to \$14,999	\$15,000 and over		
Below \$5,999	21	8	3	1	0	33	33.3%
\$ 6,000- \$8,999	18	13	4	0	0	35	35.3
\$ 9,000-\$11,999	7	13	4	1	1	26	26.3
\$12,000-\$14,999	2	1	3	3	1	10	10.1
\$15,000 and over	1	1	3	0	0	5	5.0
Total	49	36	17	5	2	99	100.0%
% in response	49.5%	36.4%	17.1%	5.0%	2.0%		

The second success criterion, the degree of unemployment in the post-program period, is shown in Table 2. A factor not to be overlooked in this determinant is the seasonal nature of the industry and the mobility of the projects.

The third success criterion was whether a trainee dropped out or completed the program and if he completed the program, was he placed in a job that he trained for in the first place. The results of this can be found in Table 3.

When discussing the success or failure of any manpower program in terms of an evaluation of its impact, many components must be considered. This is true because these programs are generally conducted on a one-shot basis. Due to the differing assumptions, control groups, data sources, and estimation techniques that have been used in individual studies, attempts to make cross-program comparisons have been almost meaningless.

In viewing the overall achievement of a program, Johnson (145:18) stated that a successful training program is:

1. "ONE IN WHICH TRAINEES ACQUIRE THE KNOWLEDGE AND SKILLS THE TRAINING PROGRAM HAS BEEN DESIGNED TO IMPART."

The data in Table 13 show that 69.3 percent of the respondents received a copy of their training programs and based on this factor 38.8 percent of those in Table 14 who stated they received the training that was outlined in their program, it can be assumed that according to the trainees they were aware of their programs and did acquire the knowledge and skills that the program was designed to impart.

Table 13.--Responses to question: "Did you receive a copy of your training program. . . ?"

	Number	% in Response
Before training	28	35.4%
During training	47	59.5
After training	4	5.1
Total	79	100.0%

Table 14.--Responses to question: "Did you actually receive the training that was outlined in your program?"

	Number	% in Response
Yes	67	58.8%
No	39	34.2
No response	8	7.0
Total	114	100.0%

2. "ONE IN WHICH THE TRAINERS FEEL THE PROGRAM OBJECTIVES ARE BEING MET."

A majority of the contractors and their associations interviewed stated the programs are producing craftsmen who can be retained in their workforces and the industry (Table 15). They all agreed that, except for union apprenticeship, this is the best training program to be developed in the industry in recent years.

Table 15.--Union membership.^a

Union	When Joined Union			Total	%
	Before Training	During Training	After Training		
Operating Engineers	5	15	2	22	27.1%
Teamsters	1	2	2	5	6.2
Laborers	21	15	0	36	44.4
Electricians	1	0	0	1	1.2
Cement Masons	2	1	1	4	4.9
Iron Workers	2	1	0	3	3.8
Carpenters	8	2	0	10	12.4
Total	40	36	5	81	100.0%
% in response	49.4%	44.4%	6.2%		

^aEighty-one out of the 114 sample or 71 percent are members of the union. Of the remaining 29 percent, about 66.7 percent (22 of 33) did not join the union because the contractor was nonunion.

Although formal training has not been part of a contractor's expertise, this opportunity has given them a new outlook into the whole manpower planning picture. As a result, they are becoming more involved in union programs, insisting that more management objectives, such as affirmative action, be met.

3. "ONE IN WHICH THE STUDENTS OR TRAINEES BELIEVE THEY ARE ACQUIRING THE SKILLS DEMANDED OF THEM."

Table 16 refers to this factor. It would be safe to assume that the 66 trainees employed plus the 14 trainees who have positive responses believe they have acquired the skills

demanding of them in the program. Also, Table 17 directly relates to the benefits the trainees feel they have derived from the program.

Table 16.--Responses to question: "If you are not employed in construction, did your training help you in your present job?"

	Number	% in Response
Yes	14	29.1%
No	34	70.9
Total	48	100.0%
	Unemployed	
	Employed	66

Table 17.--Responses to question: "Do you feel the training you've received has been beneficial to you?"

	Number	% in Response
Yes	84	73.7%
No	30	26.3
Total	114	100.0%

4. "ONE WHICH RESULTS IN EMPLOYEMENT FOR THE TRAINEES."

Table 2 shows the employment picture. How many of the unemployed are on seasonal layoff (which would increase the percentage significantly) was not determined.

5. "ONE WHICH SATISFIES THE EMPLOYER OF THE TRAINED GRADUATE."

The attitude expressed by most contractors who have employed graduated trainees is satisfaction with their job performance. They serve two functions for him: They are skilled highway construction workers and they help fulfill his equal employment opportunity obligation to the government.

6. "ONE IN WHICH A TRAINEE IS RETAINED BY THE COMPANY AND/OR INDUSTRY."

The retention of completed trainees is reflected in Tables 2 and 3. These figures show that 55.3 percent of the respondents are still employed somewhere in the industry, indicating the program is successful. The attrition rate for highly screened apprentices is 54 percent.

7. "ONE WHICH SATISFIES THE FUNDERS OF THAT PROGRAM."

The Federal Highway Administration is the sponsor of this program. The Fifth Regional and Michigan Divisional Civil Rights and Construction and Maintenance staffs agree the program is doing the job it was designed to do, namely, developing skilled minority and disadvantaged highway construction workers.

The MDSH&T personnel who have been involved with the program do not doubt the intent of the program, but have problems with the administrative pressures created by the program. Many extra manhours are involved in the proper handling of the paper work to follow the critical path of the trainee from the beginning to the completion of the program. These duties are in addition to regular project duties. They become burdensome when special problems arise. In summation, weighing the positives of the program against the negatives, the program can stand as a moderate success according to the results of this study.

CHAPTER V

FINDINGS AND RECOMMENDATIONS

Purpose of Study

The purpose of FHWA order 7-2(2) was to establish a continuing on-the-job training program for federal-aid highway construction projects whereby basically unskilled workers acquire new skills and thereby obtain the opportunity to more equitably compete for higher paying employment within the highway construction industry. The established program was intended to supplement and encourage participation in existing training programs presently operated by contractor associations, labor unions, and other organizations; encourage the development of such programs where they do not now exist; and in any case assure training opportunities in those areas where no training programs presently exist. It was the further purpose of the program to encourage substantial participation of minority and disadvantaged workers in on-the-job training opportunities.

Evaluation Emphasis

In evaluating the program sponsored by Interim Order 7-2(2), a heavy emphasis was placed upon the questionnaire submitted to the trainees which reflected, in addition to demographic data, their beliefs and attitudes toward the program. Also, acceptance of the program by construction contractors and unions,

and the commitment to the program from state and FHWA personnel involved, were viewed as essential knowledge in compiling this study.

Finally, the writer's experiences during the last six years have been almost totally dependent upon his ability and that of the Michigan Department of State Highways and Transportation staff members to make accurate observations of the norms, goals, and predicted behavior of the contractors, unions, and federal highway officials and their involvement in the problems being studied in this dissertation. Therefore, the recommendations are the result of both the findings from the survey and from those observed responses of the organizations involved in implementing the recommendations. It appears predictable to a fairly high level of probability that the recommendations will be acceptable and sponsorable by the organizations to which they are directed.

Antecedent Conditions

Antecedent conditions, as a term, deals with characteristics which were in existence prior to a new variable being introduced into an environment. In this case, antecedent conditions deals with what, in the area of highway construction skills training for minority group members and economically disadvantaged, existed prior to Interim Order 7-2(2).

Virtually everyone questioned about training programs for the highway construction industry prior to September 1970, the issue date of Interim Order 7-2(2), stated that only two types of

programs had then been in existence: a very informal contractor-sponsored on-the-job training program, which focused solely upon contractor needs; and a union apprenticeship program, which attempted to regulate the number and kind of worker involved in the industry. This can be generalized to the whole United States, certainly to the extent of saying that no previous program met the objectives and purposes of Interim Order 7-2(2) as those programs now in existence meet the 7-2(2) objectives and purposes. The one possible exception to this statement is California. A great number of unions in California have been under severe pressure from the courts to integrate their membership (145:10). This pressure resulted in minority members achieving some recognition in training programs.

Survey Findings

Number, Sex, Age, and Minority Group Status of Population Studied

Of the 114 trainees included in the study, 112 were male (98.2 percent) and two were female (1.8 percent). Of these, 62.3 percent were black, 13.2 percent were Spanish surnamed, 7.9 percent American Indian, and 16.7 percent white in the sample. Their ages ranged from 18 to 54, with 28 being the median age.

Place of Birth and Condition of Health

Over half (51.8 percent) of the trainees were born in Michigan and 48.2 percent were born out of the state. From the standpoint of health and physical fitness, the group appeared to

be normal. Such physical defects as they had did not seem to render them unemployable. Only 6.1 percent indicated physical defects.

Educational Attainment

The educational attainment of the group ranged from fourth grade through four years of college, with the mean grade attainment being 11.0.

Marital Status

Over half (58.8 percent) of the respondents were married; 5.8 percent were divorced, 7 percent were separated, and 28.9 percent were single.

Dependents

The trainees reported an average of 2.9 dependents.

Primary Wage Earners

A majority (83.3 percent) of the trainees were primary wage earners for themselves and their families.

Number on Welfare

Twenty-nine (25.4 percent) of the 114 trainees had received welfare some time during the last five years.

Job Experience Prior to Training

The work history of the trainees prior to training was both erratic and irregular--they were in and out of all sorts of jobs, mostly of a blue-collar nature, 12.3 percent rarely remaining

with one job for more than six months. All had held a job at some time. They had worked mainly in skilled, semi-skilled, unskilled, and service occupations.

Earnings Prior to Training

The mean annual income prior to training was \$6,000.

Unemployment Record

At the time of the study 44.7 percent of the trainees were unemployed. During the last two years 77.2 percent had received unemployment compensation for varying periods.

Length of Residence in Area

Three-fourths (76.3 percent) of the trainees considered in the study were found, following the completion of training, to be residing in the same places where they had lived for seven or more years.

How Trainees Secured Employment Before Training

The three chief means through which the trainees secured employment were the contractors, unions, and the Urban League of Flint. Family and friends were also of considerable assistance.

Relation of Post-Training Employment to Training Received

During the period following completion of training, 40.4 percent of the 114 trainees were employed by the contractor who trained them; 42.1 percent were working with other companies or in a related industry.

Why Employment in Jobs Unrelated to Training

Trainees were employed in jobs unrelated to their training chiefly for two reasons: No work was available in the job for which they were trained, or they found what they considered to be a better opportunity in another field.

Stability of Employment After Training

Even after the trainees had presumably developed a marketable skill, there was still a considerable amount of employment instability among them, as 58.8 percent did not stay with their first job following completion of training.

Attitudes of Trainees Toward Their Post-Training Jobs

A majority of the ex-trainees indicated they liked the work they were doing fairly well. Neither the type of job nor the wages received seemed to have any appreciable bearing on attitude toward the job. Nevertheless, in pointing out the chief difficulties they had with the trainees, many of the employers mentioned "employee attitude."

Why Trainees Left Their Jobs

Interviews indicated that many of the trainees either "up and quit" or were "laid off" or "fired" from their jobs chiefly because they failed to report to work on time, had "the wrong attitude," or could not adjust to working conditions. A number left their jobs, so they reported, to accept a better paying

job. Few left jobs for health reasons. The reasons given by the trainees for leaving their jobs varied from those reported by employers.

Wages Received Following Training

The mean wage received by the trainees after training was \$8,000. Highest wage paid during a given period was over \$15,000 a year for 4.4 percent of the respondents. Moreover, the beginning and highest wages received following completion of training were considerably higher than those received prior to training, and certainly, fuller employment meant larger income.

Job Difficulties Which Might Be Minimized Through Improved Training

Almost one-half of the ex-trainees reported no difficulties with their jobs. Employers had different ideas; employee attitude bothered them most. The performance of certain skills and the ability to meet required speed of performance were problems for several trainees in the beginning.

Trainees' Evaluation of Training Received Through 7-2(2) Program

In the main, trainee reactions were quite favorable. The need for more specialized training and for longer periods was mentioned frequently. The development of job skills and technical knowledge was rated as most helpful by many trainees.

Employers' Suggestions for
Improvement of 7-2(2) Program

Some expressed the belief that the training period was too short, others wanted more specific training on the job, and others wanted improved employee attitude. On the whole, however, employers appeared to be rather well-pleased with the program.

Involvement vs. Authority as Methods of Achieving
Effective Organization: Federal Highway
Administration Interim Order 7-2(2)

Theory and research now available support the view that organizations are created to carry out activities considered desirable by organizational subscribers and/or clientele. Thus all organizations are faced with answering the questions:

1. What is considered desirable organizational activity, or what is the organization in business for?
2. Given limited resources, what is the most effective and efficient way of organizing and carrying out organizational activities?

Some organizations tend to select programs either from past experience or from what important others may be willing to support and finance. Often, in such cases, there is a failure to give scrutiny to the relevance of a program for a given problem. Thus, it is possible for an organization to be busy and to be supported for conducting programs which are irrelevant to the major problems of target populations.

An organization, such as the Federal Highway Administration, has found it convenient to continue selection of activities

in this manner. For example: While not materially meeting the stated program goal of providing training opportunities for disadvantaged and minority persons, the program may meet the unstated purpose of important sponsors whose interest is assuring maintenance of the status quo. It has been my observation in the past that this latter objective has been expressed both verbally and nonverbally by high-ranking government officials, both elected and civil servants. A second explanation for selecting programs in this manner may derive from lack of clarity or a sharp divergence in the definition of what the organization is in business to accomplish. However, there is a tendency for organizational members to reach agreement on some acceptable, non-controversial outcome without regard to its relevancy to the major purposes of the organization.

In my estimation, the Federal Highway Administration is a dynamic organization with constantly changing goals and program emphases. It must develop a different approach to the selection of organizational activity and change agents. The theory of normative sponsorship can fulfill this role (149:3). This approach, if utilized, consists of studying certain principles about the agency as related to this specific Manpower Training Program, which falls within the realm of social planning. They are:

1. Any innovation process needs to be sponsored by some rules of legitimacy within the organization.

2. A test proposition must be developed to illustrate the ways in which the outputs of the agency provide for the consistently logical operational justification for its continued inputs.
3. The administrators must develop systematic approaches to renewal before the program becomes obsolete.

The Federal Highway Administration must constantly seek to design balance sheet devices for evaluating the effectiveness and survival potential of any program developed or demonstrated. The staff and administrators must look at the balance sheet in terms of activities which will produce outcomes considered relevant to the specific and delineated purposes through agreement on factual evidence or a judgment dependent upon probabilities regarding cause and change.

The assessment of the success or failure of any attempt at social change is a difficult task. There are many reasons for this difficulty; no matter how well worked out the proposed program for planned social change appears, when placed into practice, unforeseen developments usually appear to change the design. Furthermore, designs cannot take into account the human factors such as the real ability of the staff to carry out the program.

Conclusions and Recommendations

In view of the findings of this study, administrative observations by the writer, and the results of interviews with

trainees, contractors, federal officials, state highway construction supervisory staff, and supportive service personnel involved with 72-(2), the following conclusions and recommendations have been developed:

1. ASSISTANCE IN RELATIONAL SKILLS MUST BE GIVEN TO FOREMEN, CO-WORKERS, AND TRAINEES IN ORDER FOR MAN-POWER PROGRAMS FOR THE DISADVANTAGED AND MINORITIES TO SUCCEED.

The data in Table 5 pointed out that 45.7 percent of the major problems trainees encountered on the job were the result of supervisors and co-worker harassment and misunderstanding.

One of the most significant relationships that an employee has is with his immediate supervisor or foreman. On construction jobs, the foremen are usually the persons who are directly responsible to see that the work gets done. Many disadvantaged persons may be inclined to see in this person an authority figure who is to be resented. An attitude of this kind can create much difficulty for a person who may already suffer the disadvantage of bringing to his new job a combination of fear of failure and a poor work record. One of the best ways to assist a new employee to accept his supervisor's authority without resentment is to help him learn in a meaningful way that even though supervisors have authority and may on occasion have to exercise it, they are human beings who have typical problems, pressures, and responsibilities.

Something also needs to be said about the relationship between the employee and his fellow employees. This is an especially important matter for the new employee. Everyone who

begins a new job experiences feelings of insecurity, fear, uneasiness, and bewilderment. There seems to be so much to learn the first few days that it is almost overwhelming. The surroundings are strange, the faces are new, and the tasks unfamiliar. Just about everything about the situation contributes to the feeling of insecurity that all new employees experience.

To complicate matters still further, new workers usually go through an informal "testing" period to which they are subjected by their more seasoned fellow workers. This testing is half conscious, half unconscious. It may simply mean that the new worker is being "watched." It may mean that some fellow workers are trying to be especially helpful. It might also mean that some of them are deliberately trying not to be helpful. All of this may add to the discomfort which every new employee feels. But it may be of some help to know that what is going on is simply the normal efforts of the older employees to see, in effect, if the new employee will "pass the test." If he passes the test, he will be liked by his fellow workers. If he fails the test, he may not lose his job, but he may have to work with the uncomfortable feeling that he is not well liked by his fellow workers.

One of the best ways of testing out new and innovative ways of dealing creatively with interpersonal conflicts is by means of role playing. Role playing provides safe opportunities for trying to deal with one's interpersonal relationships in new ways other than the more habitual forms of repression, anxiety,

or rebellion. Role playing is an excellent way to learn by doing.

Since the value of role playing depends upon the creation of psychologically real feelings, it will, in the case of disadvantaged people, be important to begin with friendly, easily handled emotions and work gradually toward more intense emotions that demand greater maturity to handle. The emotionally fearful person will need to establish a gradually growing success pattern in his handling of interpersonal conflicts, just as was needed regarding his work motivation. Repeated failure will make him increasingly insecure and fearful in each new relationship. A series of successes, on the other hand, will create a growing security in relationships.

2. UPGRADING PROGRAMS CAN BE USED TO INCREASE NOT ONLY MINORITY HIRING BUT ALSO UNION MEMBERSHIP.

Historically, most unions have allowed Anglo workmen to become full-fledged journeymen without serving formal apprenticeships, or indeed, even having mastered all phases of their crafts. Particularly in times of high employment, unions have admitted journeymen who were qualified to perform only a small proportion of the work in their jurisdictions.

In light of existing union practices of admitting partially qualified white journeymen, it would not seem inequitable or impractical to ask unions to admit partially skilled minority workers as journeymen, on the conditions that, once admitted, they broaden their skills through upgrading courses, as white

journeymen have done on a regular basis in many crafts. Such a procedure would be used only for minorities with enough construction experience to command the journeyman rate of pay--large numbers of whom have been consigned to trainee or advanced trainee status, without union membership. And it could be used only in those trades whose upgrading courses are offered in enough skill areas to enable new journeymen to broaden their training significantly. Where these conditions exist, however, minority journeymen could be placed not only on jobs but also into the trade unions themselves, with rights and privileges not held by trainees or workers on permits. Moreover, this type of approach should benefit the unions by increasing the demand for courses that sometimes fail to "make" because too few people sign up for them.

3. THE PROVISION OF AN ORIENTATION THAT IS MOTIVATIONAL AS WELL AS EDUCATIONAL, CONDUCTED BY THE SUPPORTIVE SERVICE CONSULTANTS FOR TRAINEES IN CONJUNCTION WITH SUPERVISORS IS A PREREQUISITE TO INSURE SUCCESS.

While it is unrealistic to expect employers to make major modifications in their employment policies to accommodate a small proportion of their work force, it is equally unrealistic to expect that as soon as an individual with an expressive life style obtains a good job that he will acquire an identity as a worker and demonstrate the reliable behavior expected of him in this role. A period of accommodation is necessary on both sides, during which the employer should be willing to tolerate some deviation from what is normally expected of workers as the employee

tries to modify his expressive life style to meet the requirements of the job. The 7-2(2) program was enhanced in terms of effectiveness with employers by providing supportive services to help them to manage this period of transition.

Most manpower programs in the past have emphasized changing the personal characteristics, attitudes, or skills of their participants, and have done relatively little to modify the labor market in which these participants must obtain their jobs. The results of this study indicate that if a program can offer attractive jobs it will have little difficulty recruiting participants. And for the most part, the participants in this study did not need extensive supportive services to prepare them for employment. What they needed was assistance in adjusting to their jobs after they obtained them. To help in this adjustment it is recommended that, for each job for which referrals from a supportive service agency are hired, a schedule of behavioral goals be developed with regard to attendance, punctuality, and production. The development of the schedule should be a joint task of the employer and the supportive service consultant, with each party contributing its own expertise. Each level of expected behavior should be clearly defined and a monetary incentive should be provided when the level is achieved. The overall goal of each schedule should be to bring every worker to regular performance levels and full pay as soon as he demonstrates his reliability and his ability to do the job.

This discussion has stressed altering the job environment in which the training program participant is placed, more so than altering the characteristics of the participants because so many training programs have emphasized changing the participant rather than the job. It is obvious, however, that many of the young men with expressive life styles must change some aspects of their behavior to increase their attractiveness to employers.

An orientation program could, however, serve to prepare the hard-to-employ for the changes in personal habits that will be necessary if they are to retain regular employment. This could be done by setting performance standards in the orientation program that are similar to the standards the individual will encounter on the job. Punctuality and attendance goals could be set and financial incentives provided for meeting these goals.

The orientation program could also make a positive contribution by helping its participants understand the role and responsibilities of supervisors. An orientation program could include training in how to get along with different types of supervisors. This training would aim to help the participants distinguish between their personal relationships with supervisors and the demands that their supervisors must make of them because of the nature of the supervisors' jobs. In other words, it should assist in the development of an understanding of the requirements of the supervisor's job. If the participants develop such an understanding they should be less likely to view

contacts with the supervisors as interpersonal contests and potential threats to their sense of personal worth.

Another point concerning supervision that could be stressed in an orientation-to-work program is the importance supervisors place on the effort that workers demonstrate. The intercorrelations of supervisors' ratings of worker performance indicated that the rating of effort--"How much of the time on the job does this worker try to do his very best work?"--had considerable relationship with almost all the other ratings. This means that if a worker was seen as really trying to do his job, he was likely to be viewed positively on all other aspects of his performance. Conversely, if the worker was seen as loafing or not trying, all of his behavior was likely to be viewed negatively. These correlations suggest that effort--even more than actual performance--is the key to a good relationship with supervisors. An orientation-to-work program should emphasize the importance that effort has on a supervisor's perceptions of a worker's performance.

An orientation program could provide another needed service to its participants by attempting to increase their knowledge of occupations and by providing opportunities for vocational exploration. Too often, the vocational counseling which the hard-to-employ undergo in manpower programs is conducted in an informal vacuum. Most participants really do not know what kinds of jobs they want, except that they desire something better than they have held in the past. Since they seem to define better jobs

primarily in terms of higher rates of pay, the major effort of training programs should be to make available jobs that pay better than those the participants could get on their own. Once employers willing to offer such jobs are located, ways of exposing participants to the jobs should be instituted. These would involve primarily visits to the work sites, but could be supplemented with films, discussions with workers from different occupations, and access to printed vocational information. This exposure would allow participants to make more informed choices among the job alternatives offered by the training program. Assisting the participants to select among alternatives should tend to increase their feelings of commitment to the choices they make. Exposure to job conditions prior to choice should also reduce the shock of exposure to the whirling confusion that new employees often experience when they enter a workplace--particularly a construction site--for the first time.

It appears that for those individuals who have found some meaning for their lives in expressive life styles, jobs that are better than they can normally get are necessary to induce a change to a more traditional worker identity. Such changes will not occur overnight, but if there is sufficient flexibility on the part of employers and the jobs offer real incentive, the development of worker identities is possible.

4. GOVERNMENT, INDUSTRY, AND LABOR CAN WORK TOGETHER
SMOOTHLY FOR THEIR MUTUAL ADVANTAGE AND PROGRESS IN
BOTH THE ECONOMIC AND SOCIAL ARENAS.

On the basis of interviews conducted with officials of the Federal Highway Administration and the Michigan Department of State Highways and Transportation, contracting associations, and the unions, support was found for the training program known as 7-2(2). Naturally, the prime mover, government, was more enthusiastic than management; the unions proved to be the reluctant members of the agreement. But what is so important is that they did cooperate with a minimum of foot dragging. Only isolated cases by a few business agents openly voiced opposition to the program. But at every chance, the unions reminded the government that apprenticeship is the guaranteed way to go in terms of future lasting employment for the program participants.

The program made provisions for the use of apprentices, thereby appeasing the unions and avoiding a major confrontation with labor.

The program from the standpoint of management and labor cooperation was well conceived. It gave something to both sides and demanded compliance from all involved.

Since all three factors had something to realize from the program, a mutual blending of government, labor, and industry can bring about both economic and social gains and at the same time help disadvantaged and minority people become more self-sufficient.

5. CONTRACTORS SHOULD BE AWARDED CONTRACTS CONSISTENT WITH THEIR INDIVIDUAL FIRMS' NEEDS AND THE TASKS TO BE PERFORMED.

The importance of this recommendation is related to the method of trainee number selection required by the FHWA, which tied the assignment of trainees directly to the highway construction project contract specifications. Both individual contractors and contracting associations indicated that this method is not feasible because it is not possible to determine in advance what firm will be awarded the contract, that the successful bidder's workforce can absorb the extra mandatory manpower, and that the contractor actually requires additional craftsmen in a specific category.

It is the consensus of the contractors and their associations that a task force should be developed consisting of federal and state government officials, individual contractors, association representatives, and union officials to develop a statewide strategy for filling the assigned training slots.

6. COMPLETION OF THE PROGRAM IS A VALID CRITERION OF TRAINEE SUCCESS.

It has been noted that completion of the program did not necessarily mean an immediate job placement with the contractor. Only 40.7 percent of the trainees were still employed by the contractor who directed their training program, according to Table 3.

Statistics indicating the employment rate of program graduates are rarely kept. In one state, 100 percent of the

7-2(2) program graduates received employment in the highway construction industry or related industries. This state maintains records to document its statement. Another state has records showing that approximately 65 to 70 percent of the graduates are employed in areas related to their learned skills. Many graduates in this state are waiting for construction-related jobs. Most of them will eventually be placed in positions related to their training; others will find nonrelated jobs.

It is obvious from the foregoing data that program completion is a valid criterion to measure the success of a program. But devices must be developed that indicate the percentage level at which the scale tips from success to failure as it relates to trainee completion or job placement. The challenge for experimental sociology is to develop rating scales of this kind, utilizing the demographic factors of a minority and disadvantaged population.

This study has demonstrated that beneficial training experiences have been provided directly by highway construction contractors for minority and disadvantaged persons. It also points out that supportive counseling added to the training program will enable many of the trainees to succeed in moving into the ranks of the highly paid skilled construction workers. This enhances the self-image of the trainees by giving them feelings of self-worth and dignity in the world of work.

APPENDICES

APPENDIX A

FHWA ORDER INTERIM 7-2(2)

APPENDIX A

FHWA ORDER INTERIM 7-2(2)

1. PURPOSE

The purpose of this order is to establish a continuing on-the-job training program for Federal-aid highway construction projects whereby basically unskilled workers acquire new skills and thereby obtain the opportunity to more equitably compete for higher paying employment within the highway construction industry. The established program is intended to supplement and encourage participation in existing training programs presently operated by contractor associations, labor unions, and other organizations, encourage the development of such programs where they do not now exist and in any case assure training opportunities in those areas where no training programs presently exist. It is the further purpose of the training program established by this order to encourage the substantial participation of minority and disadvantaged workers in the on-the-job training opportunities presented thereby.

2. POLICY

It is the policy of the Federal Highway Administration to require full utilization of all available training and skill-improvement opportunities to assure the increased participation of minority group persons in all phases of the highway construction industry. In order to achieve meaningful gains in the area of equal employment opportunity, a greater training effort is considered necessary. It is the policy of the Federal Highway Administration to require that selected Federal-aid construction contracts that are capable of supporting a training effort will include requirements for such training in the bidding proposals. The State highway departments will determine which projects should include the Training Special Provision (Attachment 2), and the minimum number of trainees to be specified after giving appropriate consideration to the guidelines set forth in Section 3 of this Order. The State highway departments determinations shall be reviewed and approved by the division engineer.

3. GUIDELINES FOR SELECTING PROJECTS AND DETERMINING THE NUMBER OF TRAINEES

- a. Dollar value of the contract
- b. Type of work
- c. Geographic location
- d. Duration of the contract
- e. Total normal workforce that the average bidder could be expected to use

- f. Availability of potential minority or disadvantaged trainees
- g. The potential for effective training
- h. The need for additional journeymen in the area
- i. Recognition of the suggested minimum goal for the State as shown on Attachment No. 1
- j. A satisfactory ratio of trainees to journeymen expected to be on the contractor's workforce during normal operations is considered to fall between 1:10 and 1:4

4. APPLICATION

This Order is applicable to selected federally aided highway construction projects, including Appalachian construction projects, and other State-supervised cooperative construction projects. The special provision set forth in Attachment No. 2 shall be included in the advertised bidding proposal and made a part of the contract for each Federal-aid highway contract that the State determines will support a training effort. Attachment 2 will be used in lieu of paragraph 7b of the special provision attached to FHWA Order, Interim 7-2(1).

5. EFFECTIVE DATE

All projects authorized for advertising later than 45 days after the date of this Order shall have been reviewed by the State to determine if they are suitable for supporting a training program and those found to be suitable will be advertised with the attached special provision included in the bidding proposal. This Order may be implemented sooner if desired.

F. C. Turner
Federal Highway Administrator

Attachments

APPENDIX B

FHWA ORDER INTERIM 7-2(2): ATTACHMENTS 1 & 2

APPENDIX B

FHWA ORDER INTERIM 7-2(2): ATTACHMENTS 1 & 2

September 2, 1970

Attachment 1

Suggested Minimum Annual Goals for Federal-Aid Highway Training Program

<u>State</u>	<u>Number of Trainees</u>	<u>State</u>	<u>Number of Trainees</u>
Alabama	336	Nebraska	43
Alaska	61	Nevada	39
Arizona	105	New Hampshire	27
Arkansas	135	New Jersey	262
California	729	New Mexico	73
Colorado	84	New York	630
Connecticut	107	North Carolina	363
Delaware	29	North Dakota	38
Florida	310	Ohio	407
Georgia	379	Oklahoma	105
Hawaii	109	Oregon	106
Idaho	40	Pennsylvania	459
Illinois	526	Rhode Island	31
Indiana	168	South Carolina	261
Iowa	70	South Dakota	42
Kansas	80	Tennessee	260
Kentucky	138	Texas	556
Louisiana	367	Utah	68
Maine	34	Vermont	31
Maryland	220	Virginia	316
Massachusetts	149	Washington	153
Michigan	378	West Virginia	159
Minnesota	122	Wisconsin	85
Mississippi	283	Wyoming	34
Missouri	204	Dist. of Col.	177
Montana	94		
		ANNUAL TOTAL	9,982

September 2, 1970

Attachment 2

Training Special Provision

This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140.

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade involved. The number of trainees to be trained under this contract will be _____ (amount to be filled in by State highway department). In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the State Highway Department for approval the number of trainees to be trained in each selected classification. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of members of minority groups is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the State Highway Department and the Federal Highway Administration. The State Highway Department and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Existing programs approved by the Departments of Labor or Transportation as of September 15, 1970, shall be considered acceptable under this Training Special Provision, except in those cases where the Secretary of Transportation, the Federal Highway Administrator, or the State Highway Department has determined that the program is not administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts.

Except as otherwise noted below, the contractor will be reimbursed \$800 under this contract for each employee that is trained in accordance with, and for at least the minimum period specified in, the approved training program. As approved by the engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement.

If, in the judgment of the contractor, a trainee becomes proficient enough to qualify as a journeyman before the end of the prescribed training period, and the contractor so employs such trainee, full credit and full payment to the contractor will be made provided that the period of training given, plus the length of employment as a journeyman in the classification for which trained, are equal to, or in excess of, the training period set forth in the approved training program. If the period of training given plus the period employed as a journeyman do not equal or exceed the training period set forth in the approved training program, the contractor will be paid 80 cents for each hour the trainee was trained and employed as a journeyman by the contractor, provided that such payment shall not exceed \$800, under this contract.

If less than the full training specified in the approved training program is provided and a trainee is not employed by the contractor as a journeyman in the classification for which trained, payment to the contractor will be made at a rate of 80 cents for

each hour of training completed, except that the total reimbursement will not exceed \$800, under this contract. However, no payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

APPENDIX C

TRAINING PROGRAM QUESTIONNAIRE

APPENDIX C

TRAINING PROGRAM QUESTIONNAIRE

MICHIGAN STATE UNIVERSITY

SCHOOL OF SOCIAL WORK

EAST LANSING • MICHIGAN • 48824

April 5, 1976

Dear Training Program Participant:

At some time during the last four years (1971-1975) you were involved in a training program while working for a highway construction contractor.

The enclosed questionnaire has been designed to help determine to what extent you have benefited from that training program.

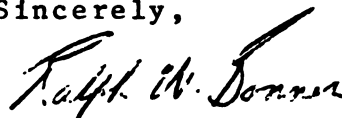
The information gathered in this research project will be used to evaluate the overall training program and to develop ways of helping trainees remain with the company that trained them.

This survey is a project independent of the Michigan Department of State Highways and Transportation.

I would appreciate your filling out the questionnaire and returning it to me in the enclosed self-addressed and stamped envelope by April 23, 1976. Your response will be confidential.

Thank you for your cooperation and assistance in aiding me in this research effort.

Sincerely,



Ralph W. Bonner
Graduate Student

RWB:dp

TRAINING PROGRAM QUESTIONNAIRE

For each item indicate your answer by circling the appropriate response.

1. Age

1. 18-21
2. 22-25
3. 26-29
4. 30-34
5. 35 and over

2. Place of birth

1. Michigan
2. Other _____

3. Minority group

1. Black
2. Spanish surnamed
3. American Indian
4. Oriental
5. Other

4. Sex

1. Male
2. Female

5. Marital status

1. Married
2. Divorced
3. Separated
4. Widowed
5. Single

6. Are you the major contributor to the financial support of your family?

1. Yes
2. No

7. Number of people depending on you for financial support (including yourself):

1. One
2. Two
3. Three
4. Four
5. Five or more

8. Military history--veteran?
 1. Yes
 2. No
9. Type of discharge
 1. Honorable
 2. Regular
 3. Dishonorable
10. How long have you resided in the area?
 1. 0-2 years
 2. 2-4 years
 3. 4-6 years
 4. 7 or more years
11. Have you ever been convicted of a crime?
 1. Yes
 2. No
12. Have you ever been in prison?
 1. Yes
 2. No
13. Income earned last year
 1. Below \$5,999
 2. \$6,000-\$8,999
 3. \$9,000-\$11,999
 4. \$12,000-\$14,999
 5. \$15,000 and over
14. Have you been on welfare sometime within the last five years?
 1. Yes
 2. No
15. Have you received unemployment compensation within the last two years?
 1. Yes
 2. No
16. Current hourly pay rate
 1. Below \$4.99
 2. \$5.00-\$8.99
 3. \$9.00-\$10.99
 4. \$11 or more

17. Employment status
 1. Employed full time
 2. Employed part time
 3. Unemployed
18. If employed, longest you have held a job
 1. 0-3 months
 2. 4-12 months
 3. 1-2 years
 4. 3 years or more
19. If unemployed, have you ever had a job?
 1. Yes
 2. No
20. Approximately how much of the time have you worked in the last two years?
 1. 0-3 months
 2. 4-6 months
 3. 6-12 months
 3. 12-15 months
 5. 16 months or more
21. If unemployed, are you registered with the Michigan Employment Security Office?
 1. Yes
 2. No
22. Do you have any physical defects, handicaps, or health problems?
 1. Yes
 2. No
 3. If yes, explain in #49
23. Have you ever been refused a job for medical reasons?
 1. Yes
 2. No
 3. If yes, explain in #50
24. Have you ever been injured seriously enough to have lost time on a job?
 1. Yes
 2. No
 3. If yes, explain in #51

25. Enter the highest grade in school completed
1. 8th or below
 2. 9-10
 3. 11th
 4. 12 or over
26. Have you ever been tested by the state Employment Security Office?
1. Yes
 2. No
27. When did you begin training in the highway program?
1. 1971
 2. 1972
 3. 1973
 4. 1974
 5. 1975
28. When did you complete training?
1. 1972
 2. 1973
 3. 1974
 4. 1975
 5. Incomplete
29. What was your income prior to training?
1. Below \$5,999
 2. \$6,000-\$8,999
 3. \$9,000-\$11,999
 4. \$12,000-\$14,999
 5. \$15,000 and over
30. Which union are you now a member?
1. Operating Engineers
 2. Teamsters
 3. Laborers
 4. Electricians
 5. Cement Masons
 6. Iron Workers
 7. None
31. What is your classification?
1. Helper
 2. Trainee
 3. Apprentice
 4. Journeyman

32. Did you join the union
 1. Before training
 2. During training
 3. After training
 4. Never
33. Are you still employed by the contractor who trained you?
 1. Yes
 2. No
 3. If not, why not; explain in #52
34. When you entered training were you
 1. New hire
 2. Upgrade
35. Do you feel the training you've received has been beneficial to you?
 1. Yes
 2. No
36. Have you been promoted since entering in the program?
 1. Yes
 2. No
37. What was the nature of problems you encountered during training?
 1. Supervisors
 2. Co-workers
 3. Transportation
 4. Too short program
 5. Too long program
 6. Other, please list in #53
38. Who provided you help with your problems on the job?
 1. Flint Urban League
 2. Lynn & Associates
 3. Other
39. What kind of supportive services did you receive while in training on the job?
 1. Counseling
 2. Financial
 3. Transportation
 4. Tutoring
 5. Referral

40. Have you been upgraded since finishing your training program?
1. Yes
 2. No
41. If you are not employed in construction, did your training help you in your present job?
1. Yes
 2. No
42. Did you receive a copy of your training program
1. Before training
 2. During training
 3. After training
 4. Never
43. Did you actually receive the training that was outlined in your program?
1. Yes
 2. No
44. Did you live near enough to the job you trained on to be home every night?
1. Yes
 2. No
45. Have you ever worked on construction before?
1. Yes
 2. No
46. How did you get into the training program on highway construction?
- _____
- _____
- _____
47. What agency recruited you for your job?
- _____
48. Do you have any suggestions for changing the training programs to made them more effective?
- a. _____
 - b. _____
 - c. _____
 - d. _____

49. (22) _____

50. (23) _____

51. (24) _____

52. (33) _____

53. (37) _____

APPENDIX D

FHWA ORDER INTERIM 7-2(3) AND ATTACHMENT 1

APPENDIX D

FHWA ORDER INTERIM 7-2(3) AND ATTACHMENT 1

1. PURPOSE

The purpose of this Order is to implement the provisions of section 110 of the Federal-Aid Highway Act of 1970 (23 U.S.C. 140(b)), by establishing procedures for the provision of services in support of training programs approved under the provisions of Instructional Memorandums 40-3-70 and 40-3-70(1); and FHWA Orders Interim 7-2(1) and 7-2(2) which are hereby supplemented. Funds made available to implement this Order shall not be used to finance the training of State highway department employees or to provide services in support of such training.

2. POLICY

In order to promote equal employment opportunity and to develop needed skilled construction workers, it is the policy of the Federal Highway Administration to encourage the provision of supportive services which will increase the effectiveness of approved on-the-job training programs conducted in connection with Federal-aid highway construction projects.

3. SUPPORTIVE SERVICES

a. Supportive services means those services, provided in connection with approved on-the-job training programs for highway construction workers, which are designed to increase the overall effectiveness of such training programs through the performance of functions determined to be necessary in connection with given training programs, but which are not generally considered as comprising part of on-the-job actual craft training. Some examples of supportive services are listed in subparagraph 3c below.

b. It is expected that State highway departments will make every reasonable effort to contract for the provision of the supportive services contemplated by this Order to the extent qualified contractors are available. Should the State's efforts prove unsuccessful, these services may be provided directly by the State. Upon the request of two or more States, the FHWA, on behalf of such States, will obtain such supportive services as may be most effectively provided on the basis of a more extensive geographical area. In view of the limited funds made available to some States under this Order, such States are encouraged to consider the pooling of their funds under this provision. In addition to the above, the FHWA may obtain supportive services directly upon its own initiative.

c. In determining the types of supportive services to be provided which will increase the effectiveness of approved training programs, State highway department shall give preference to the following types of services in the order listed:

(1) Services related to recruiting, counseling, transportation, physical examinations, remedial training, with special emphasis upon increasing training opportunities for members of minority groups.

(2) Services in connection with the administration of on-the-job training programs being sponsored by individual or groups of contractors and/or minority groups.

(3) Services designed to develop the capabilities of prospective trainees for undertaking on-the-job training.

(4) Services in connection with providing a continuation of training during periods of seasonal shutdown.

d. State highway departments which desire to provide or obtain supportive services other than those listed above, must obtain prior approval in accordance with subparagraph 4d below.

e. When the State highway department provides supportive services by contract, formal advertising is not required by the FHWA; however, the State shall solicit proposals from such qualified sources as will assure the competitive nature of the procurement. The evaluation of proposals by the State must include consideration of the proposer's ability to effect a productive relationship with contractors, unions (if appropriate), minority groups, minority group trainees, and other persons or organizations whose cooperation and assistance will contribute to the successful performance of the contract work.

f. In the selection of contractors to provide supportive services, State highway departments shall make reasonable efforts to utilize the services of qualified minority organizations or minority business enterprises.

g. As a minimum, State highway department contracts to obtain supportive services shall include the following provisions:

(1) A clear and complete statement of the services to be provided under the contract.

(2) The equal opportunity provisions required by E.O. 11246 and Title VI of the Civil Rights Act of 1964 as set forth in Form FHWA 1273.

(3) The establishment of a definite period of contract performance together with, if appropriate, a schedule stating when specific supportive services are to be provided.

(4) Reporting requirements pursuant to which the State will be periodically advised of the contractor's progress under the contract.

(5) Basis of payment.

(6) The right of access to contract records and the right to audit shall be granted to authorized State and FHWA officials.

(7) Noncollusion Certification.

(8) A requirement that the contractor provide all information necessary to support progress payments if such are provided for in the contract.

Recommended guide agreements appropriate for the subject contracts will be forwarded to regional offices.

4. FHWA APPROVAL

a. Each State highway department desiring to provide supportive services pursuant to this Order, either directly or by contract, shall submit its proposal to the FHWA division engineer for approval and authorization to proceed. The State's proposal shall address itself at least to the items listed in subparagraph 4b below.

b. In reviewing a State's proposal for supportive services, the Division Engineer, in consultation with the Regional Civil Rights Officer, shall evaluate the training program, or programs, relative to which the supportive services are sought, and the proposed supportive services themselves, giving consideration to the following needs:

(1) Counseling.

(2) Recruiting efforts within particular minority or disadvantaged groups.

(3) Pre-entry training.

(4) Off-season training.

(5) Administrative changes.

c. Following approval by the Division Engineer, a project agreement shall be executed providing for FHWA reimbursement to the State. A single project agreement may cover all approved State proposals during a given fiscal year.

d. Joint State proposals, pursuant to which the FHWA will obtain the supportive services on behalf of such States, or proposals to provide supportive services other than those enumerated in subparagraph 3c, shall be forwarded, with the recommendations of the division and regional offices, to the Federal Highway Administrator for approval and appropriate action.

5. MONITORING

a. The performance of State highway departments which provide supportive services directly shall be monitored by the Division Engineer. Civil Rights specialists shall assist in the monitoring of equal employment opportunity as determined by the FHWA Director of Civil Rights.

b. When supportive services are procured by a State, monitoring shall be performed by both the State highway department and the Division Engineer.

c. With regard to multi-State supportive services contracts, as contemplated by paragraphs 3b and 4d above, monitoring responsibility shall be vested in the Regional Administrator when all the States involved are in a single region. When more than one region is involved, monitoring responsibility shall be established at the regional office level by agreement between the Regional Administrators concerned.

d. The general FHWA responsibility for the monitoring functions under subparagraphs a, b, and c above shall rest with Construction and Maintenance personnel; however, in view of the expressed concern of the FHWA in assuring that both the training programs and the supportive services related thereto enhance the opportunities for minority group workers to be trained and employed in the skilled work classifications of the highway workforce, monitoring shall be conducted in close coordination with the appropriate State, division, regional, or Washington Office civil rights officials. State and FHWA civil rights specialists, at the appropriate organizational level, should actively participate in the monitoring function.

e. In addition to the responsibilities assigned under subparagraph 5d above, the Office of Civil Rights, in coordination with appropriate State and FHWA field personnel, shall be responsible for conducting such reviews as are necessary to determine, especially with regard to minority group members, (1) the total accomplishments resulting from the conduct of approved training programs, and (2) the actual effect upon such programs of the supportive services provided pursuant to this Order.

6. REIMBURSEMENT PROCEDURES

a. Section 110 of the Federal-Aid Highway Act of 1970 authorizes the use of up to \$5,000,000 of Federal-aid funds per fiscal year, for fiscal years 1972 and 1973, for administering the provisions of that section. Some \$2,500,000 of these funds will be allotted to the several State highway departments for each of these fiscal years for reimbursement for services obtained under the provisions of this Order. The sums to be allotted to the individual States are shown in Attachment 1 of this Order and are commensurate with the State training goals established by FHWA Order Interim 7-2(2) except that each State is assigned at least \$25,000 per fiscal year.

b. No programming action is required for these funds.

c. With regard to multi-State supportive services contracts, the amount of money involved for each State will be deducted from the amount allotted to the State for that fiscal year.

d. The State must keep a separate account for these funds since they cannot be interchanged with regular Federal-aid funds. In addition, these funds may not be expended in a manner that would provide for duplicate payment of Federal or Federal-aid funds for the same service.

e. Funds made available under the provisions of this Order need not be matched by State funds although voluntary State participation in funding of the activity is encouraged.

f. Where a State does not obligate all its allotted funds during the first 6 months of the fiscal year for which such funds are allotted the funds not placed under obligation will revert to the FHWA to be made available for use by other State highway departments, taking into consideration each State's need for and ability to use such funds.

g. Funds available under section 110 of the Federal-Aid Highway Act of 1970, which are not allotted to the States will be administered by the FHWA.

h. Actual on-the-job training will continue to be funded and administered in accordance with FHWA Orders Interim 7-2(1) and 7-2(2).

i. Projects should be numbered 110-1, 110-2, etc., in each state.

7. EFFECTIVE DATE

No effective date for this Order is established at this time. Supportive services provided pursuant to this Order are not reimbursable until appropriation action with regard to section 110 of the Federal-Aid Highway Act of 1970, is taken by the Congress. Accordingly, no work should be authorized or performed under agreements executed prior to receiving official notification of the availability of these funds. At that time, accounting procedures for FHWA field offices will also be furnished.

Attachment

F. C. Turner
Federal Highway Administrator

May 27, 1971

Attachment 1

Initial Annual Fiscal Year Distribution of Training Funds
to States for Fiscal Year 1972

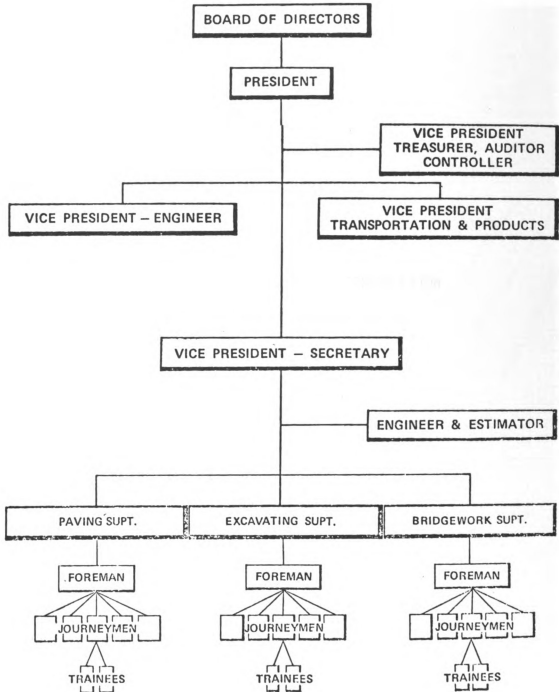
<u>State</u>	<u>Annual Amount</u>	<u>State</u>	<u>Annual Amount</u>
Alabama	\$ 76,571	Nebraska	\$ 25,000
Alaska	25,000	Nevada	25,000
Arizona	25,000	New Hampshire	25,000
Arkansas	30,765	New Jersey	59,707
California	166,133	New Mexico	25,000
Colorado	25,000	New York	143,572
Connecticut	25,000	North Carolina	82,725
Delaware	25,000	North Dakota	25,000
Florida	70,646	Ohio	92,752
Georgia	86,371	Oklahoma	25,000
Hawaii	--	Oregon	25,000
Idaho	25,000	Pennsylvania	104,602
Illinois	119,871	Rhode Island	25,000
Indiana	38,286	South Carolina	59,480
Iowa	25,000	South Dakota	25,000
Kansas	25,000	Tennessee	59,252
Kentucky	31,449	Texas	126,708
Louisiana	83,636	Utah	25,000
Maine	25,000	Vermont	25,000
Maryland	50,136	Virginia	72,014
Massachusetts	33,956	Washington	34,867
Michigan	86,143	West Virginia	36,235
Minnesota	27,803	Wisconsin	25,000
Mississippi	64,493	Wyoming	25,000
Missouri	46,490	Dist. of Col.	40,337
Montana	25,000	Puerto Rico	--
		ANNUAL TOTAL	\$2,500,000

APPENDIX E

ORGANIZATIONAL CHART OF A HIGHWAY CONSTRUCTION COMPANY

APPENDIX E

ORGANIZATIONAL CHART OF A HIGHWAY CONSTRUCTION COMPANY (148:13)

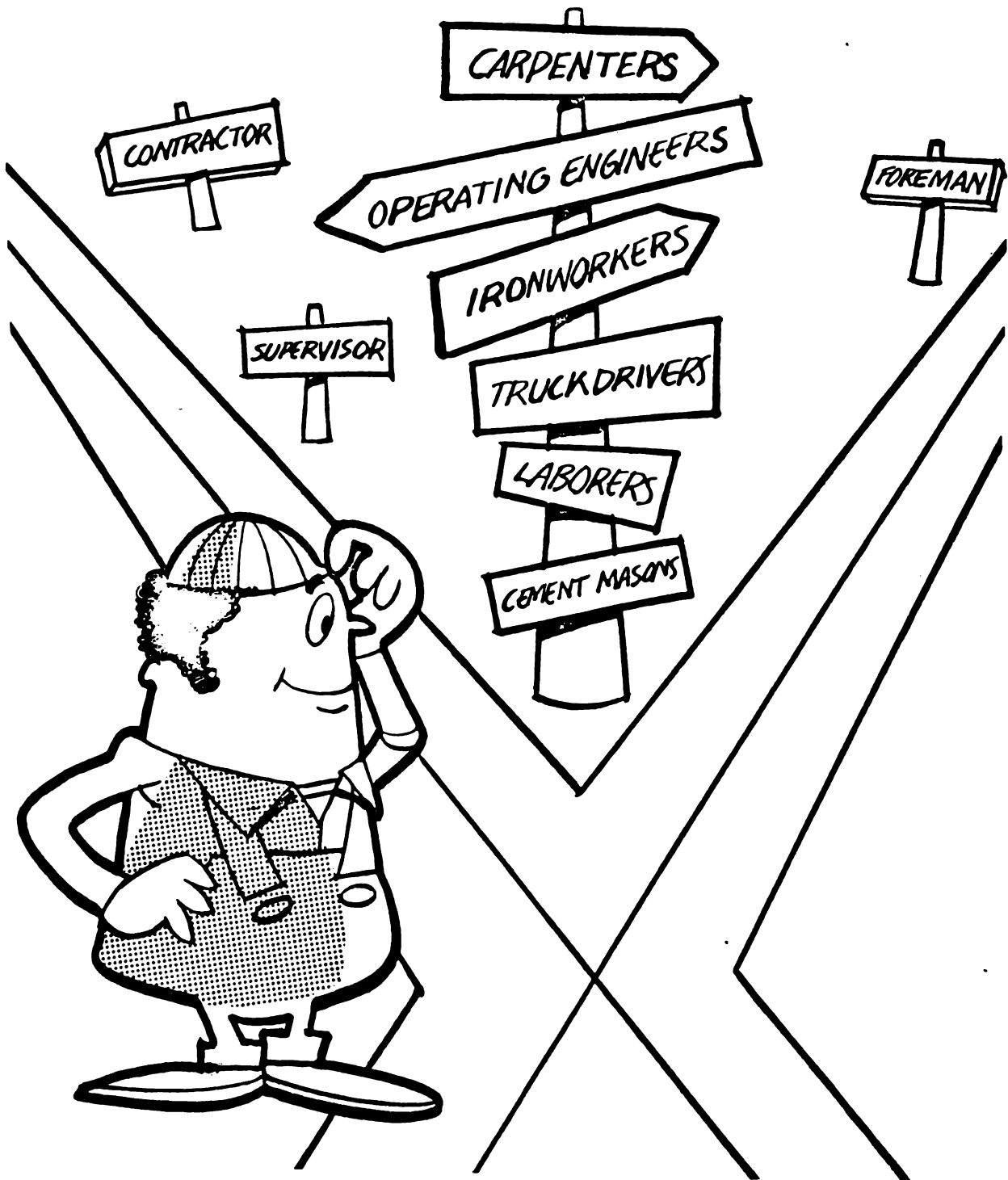


APPENDIX F

JOB OPPORTUNITIES IN HIGHWAY CONSTRUCTION

APPENDIX F

JOB OPPORTUNITIES IN HIGHWAY CONSTRUCTION (148:10)



APPENDIX G

SUMMARY OF TRADES IN HIGHWAY CONSTRUCTION

APPENDIX G

SUMMARY OF TRADES IN HIGHWAY CONSTRUCTION

Carpenters

What They Do: The work of a carpenter embraces almost every type of construction that involves any kind of wood construction. This includes home or residential construction and commercial or heavy construction. A highway carpenter is involved in formwork for overpasses, culverts, piers, columns, and retaining walls.

Work Conditions: The work conditions of a carpenter range from indoor work as in finish carpentry and industrial maintenance to outdoor work as in heavy construction. In terms of outdoor work, a carpenter must often work under unpleasant weather conditions.

Physical Demands: The physical activities in which he is involved range from light to heavy, depending on the job. In any case, he does much climbing, balancing, stooping, kneeling, crawling, reaching, handling, and inspecting with a critical eye. Also, a good combination of motor coordination and manual and finger dexterity is required to operate the many hand and power tools a carpenter must use.

Interests: A carpenter should show an expressed interest in activities that are related to techniques and the use of tools. He should also be a person who takes definite pride and satisfaction in building material things. In addition to the above, he must be able to follow directions closely since he is required to work from blueprints. This requires that he attain limits that are measured in fractions of inches (148:34).

Cement Masons

What They Do: Cement masons must be on hand to assure that the concrete is placed properly and to hand-finish concrete when flaws appear after machine operations. Hand finishing is often required on curbs and gutters, and when an overpass is constructed the cement mason does the required cement masonry work.

Work Conditions: Work is seasonal, because concrete is sensitive to overly high or low temperatures. Concrete is usually placed during late spring, summer, and early fall. Because work is done outdoors, a cement mason must often work under unpleasant weather conditions.

Physical Demands: The physical activities in which he is involved range from light to heavy. They include much stooping, kneeling, crouching, and crawling as well as reaching, handling, fingering, and feeling. Manual dexterity is required for the handling of the tools and other operations. Also, keen eyesight would be a definite asset for a cement mason.

Interests: A cement mason should prefer activities which deal with things and objects and which are of a routine and organized nature carried on in relation to processes, machines, and techniques. He must be able to perform repetitive operations carried out according to set procedures and involving the precise attainment of set limits, tolerance, or standards (148:35).

Heavy Equipment Operators (Operating Engineers)

What They Do: There are four categories of operating engineers: (1) Universal Equipment Operator: this man operates the cranes, derricks, and hoists of all sizes that are used to lift equipment or materials; (2) Grading and Paving Operator: this man operates the tractors, dozers, scrapers, rollers, pumps, pavers, skip loaders, forklifts, lumber carriers, trenching machines, concrete and asphalt spreaders and screeds, and concrete mixers; (3) Plant Equipment Operator: this man operates the plants that prepare much of the material that goes in the various construction jobs; (4) Heavy-Duty Repairman: this is the man who primarily erects, assembles, dismantles, maintains, and repairs the equipment.

Working Conditions: The working conditions are good, but work is seasonal as it is in other construction trades. An operating engineer is subjected to extremes in weather and temperatures.

Physical Demands: Physically the work is not often strenuous, but it is often tiring and demands endurance. He must lift, push, pull, or press 20 pounds in operating levers and controls of machines. His manual and finger dexterity must be good as well as his eye-hand coordination.

Interests: An operating engineer should be content with working situations which are carried on in relation to machines, processes, and techniques. He may need to adapt to routine or repetitive (though often complicated) work that precisely follows written or oral instructions. He must be resourceful enough to be able to apply common-sense understanding to solve practical problems involving many variables (148:36).

Ironworkers

What They Do: There are four kinds of ironworkers who work in outdoor construction: (1) Structural Ironworkers: they erect the steel framework for large buildings, metal storage tanks, the steel frameworks that support large overhead traffic control signs, and other structures; (2) Reinforcing Ironworkers: they set steel bars or rods in concrete forms to reinforce concrete structures; often employed in highway construction for overpasses and other structures; (3) Architectural (also called Ornamental) Ironworkers: they install the kinds of metal products that have usually been fabricated into shape in a factor or shop prior to installation, for example, metal stairways, catwalks, and fences; (4) Riggers and Machine Movers: they set up and rig the hoisting equipment that is used for erecting and dismantling structural steel frames and for moving heavy construction equipment. There is a fifth kind called Shop Ironworkers who fabricate all the metal parts which the outdoor ironworkers use in construction.

Work Conditions: The ironworker's work is seasonal. Since most work is outdoors, ironworkers are subjected to extremes in weather and temperatures. Also, overly high winds often close down high structural work.

Physical Demands: Physical demands on an ironworker vary from light to heavy work. He is involved in standing and walking, stooping, kneeling, crouching, and crawling; also reaching, handling, fingering, feeling, and seeing. He must also do climbing and balancing. It is also particularly true of the structural worker that he will need to make judgments on the basis of visual impressions about size, shape, motion, and distance.

Interests: An ironworker should show an interest in activities related to techniques and the use of tools. He must also be a person who finds satisfaction in his work if he feels rewarded by achieving tangible, concrete, easily measured goals. Adaptability to repetition and routine must be a part of an ironworker's job satisfaction (148:37).

Laborers

What They Do: The work of a laborer includes the loading and unloading of construction materials; the shoveling and grading of earth; the stacking and carrying of materials, including small units of machinery and equipment; the erection and dismantling of scaffolding; the placing, spreading, and vibrating of concrete. Much of this work, once done by hand, is now done by machines which laborers operate. A laborer is also involved in the cleaning up of rubble to provide clean work areas and in all work that must be done below

the level of the ground, such as tunnel construction. This would also include rock drilling, blasting, and other procedures requiring the use of compressed air equipment. Laborers also work in the building materials industry and in Federal Government service positions--for example, post office mail handlers are laborers.

Work Conditions: The work of a laborer is seasonal. As with the other construction trades, the work is carried on outside without shelter. Laborers must work in the wet and cold as well as under hot and dusty conditions.

Physical Demands: Construction work is physically strenuous, and the laborer who does not rely on some skill often gets the heaviest of the jobs. Since it requires frequent bending, stooping, and heavy lifting, anyone seeking a job as a laborer should be physically capable of doing it and emotionally ready to exert himself in this way. He must not only be strong, with good endurance, but his manual dexterity and eye-hand coordination must be good. He must have a decided preference for strenuous work and work with his hands.

Interests: A laborer should prefer activities which deal with things and objects and which are of a routine and organized nature. He should get a sense of satisfaction out of seeing how much he has actually accomplished (148:38).

OTHER TRADES

Painters

What They Do: Painters in highway construction paint structures such as guard rails, signposts, and bridges. They also run the paint-stripping machines used to apply lane and other markings to highway surfaces.

Work Conditions: Insofar as highway construction is concerned, their work is seasonal, but since they can work on many types of indoor jobs, year-round work in general is a probability. They usually do not have to travel long distances to a job.

Physical Demands: The painter's work in highway construction is physically demanding only in that he must sometimes work in awkward positions, including overhead work which is very taxing on the arms (148:39).

Electrical Workers

What They Do: Electrical workers in highway construction install electrical fixtures such as traffic signals and illumination poles.

Work Conditions: Insofar as highway construction is concerned, their work is seasonal, but since they can work on many types of indoor jobs, year-round work in general is a probability. They usually do not have to travel long distances to a job (148:39).

Landscapers

What They Do: Landscape architects and landscape contractors and their crews design and do the plantings for highway beautification and antierosion purposes (148:39).

Truckdrivers

What They Do: Truckdrivers can be divided into two groups: (1) Over-the-road Truckdrivers: they drive the most expensive equipment on our highways and turnpikes; they usually drive tractor-trailers which are the large combination vehicles seen on the highways; (2) Local Truckdrivers: they may drive very heavy trucks but they also often drive lighter equipment; they make deliveries within urban areas; most truckdrivers in highway construction are found in this category.

Work Conditions: In some areas a truckdriver's work is seasonal. During the peak of the construction period the demands of his job will be heavy, requiring him to work long hours under extremes of weather conditions. His job will also require driving under a variety of conditions: from driving in heavy traffic to driving on temporary roads or where there are no roads at all.

Physical Demands: His physical activity can be described as light to heavy physical work. It includes much sitting, lifting, and carrying; some climbing, stooping, kneeling, crouching, crawling, reaching, handling, fingering, and feeling; and the pushing and pulling motions of arms and legs involved in controlling his vehicle and other machinery. He should have good eye-hand-foot coordination and excellent eyesight.

Interests: A truckdriver should be interested in machinery, enjoy working with it, and understand how it functions. He should prefer being involved with things, objects, and processes rather than with ideas and people. His preference should also be with concrete, well-organized routine situations. Finally, he should be able to follow precise instructions (148:40).

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