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EVALUATION AND BENEFIT-COST RELATIONSHIPS  
OF MANPOWER TRAINING PROGRAMS IN N. Y. STATE

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M. P. Catherwood  
Industrial Commissioner

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October 1967

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## HIGHLIGHTS OF THE STUDY

### An Investment in Manpower Training Yields High Return

On the average, the institutional trainees studied increased their annual earnings by \$1,180 or 84.8% during the first year following completion of training. Compared to the cost of training, the increase represents an average first year earnings gain of 54¢ for every dollar that government invested. OJT trainees experienced an average first year earnings gain of \$1,378 after completion of training. Compared to the relatively lower cost to the government of OJT training, the increase represents an average first year earnings gain of \$2.10 for every dollar invested by government. See abbreviated summary on the following page, and for full details; see the tables on pages 72 and 73 in Section VII.

### Manpower Training is Reaching the Hard Core Disadvantaged Person

Currently, more than 50% of the MDTA institutional trainees are Non-White. The educational level of trainees has dropped steadily (over 47% lack a high school diploma) and younger persons, aged 19 - 34, make up the largest group among the trainees. Descriptions of the characteristics of institutional and OJT trainees can be found in Section V beginning on page 18 .

### A High Proportion of the Persons Completing Training Get Jobs

72% of the institutional trainees who completed training had a job at the time of the last report to the Division of Employment. 92% of the OJT trainees were employed at the completion of their training. Additional details regarding the costs of manpower training, both institutional and OJT are contained in Section VI beginning at page 37 .

### Training under the State Manpower Act is Beginning to Assume Sizeable Proportions

Fifty OJT contracts involving 118 projects, and more than 20 different institutional training programs are now underway as a result of State financing. Tables describing the scope and volume of State Manpower Act Training programs can be found in Section IV beginning at page 11 .

COSTS AND BENEFITS OF SELECTED MDTA INSTITUTIONAL AND OJT PROJECTS, NEW YORK STATE, 1963-1967

(Per Trainee Completer)

INSTITUTIONAL PROJECTS

ON-THE-JOB TRAINING PROJECTS

PROJECTS & TYPE	TRAINING COSTS <sup>a</sup>	AVERAGE ANNUAL EARNINGS	EARNINGS GAIN RELATED TO TRAINING COSTS <sup>b</sup>	OCCUPATION	TRAINING COSTS <sup>a</sup>	AVERAGE ANNUAL EARNINGS	EARNINGS GAIN RELATED TO TRAINING COSTS <sup>b</sup>
	TOTAL	DIFFERENCE <sup>e</sup>			TOTAL	DIFFERENCE <sup>e</sup>	
<u>REGULAR</u>							
Lic. Prac. Nurse, NYC	\$3,748	\$+ 1,124	.300	Bricklayer (Appr.)	\$ 957	\$+ 103	.108
Typist (pub. fac.) NYC	1,110	+ 981	.884	Machine Op. Gen.	1,041	+ 2,489	2.391
Typist (pvt. cch.) NYC	1,222	+ 284	.232	Machine Op. Gen.	444	+ 2,785	6.272
Meat Cutter, NYC	1,146	+ 1,366	1.192	Elec. Instal. Tech.	601	+ 1,500	2.496
Auto Mech.(entry)Middletown	2,235	+ 1,055	.472	Nurse Aid	408	+ 2,932	7.186
Mach. Op. Gen., Schen.	2,883	+ 1,776	.616	Machine Op. Gen.	1,778	+ 2,358	1.326
Nurse Aid, Buffalo	427	+ 1,786	4.183	Machine Op. Gen.	688	+ 1,323	1.923
Welder Comb., Wellsville	1,247	+ 2,030	1.668	Electronics Assembler	210	+ 916	4.362
Stenographer, Syracuse	1,891	+ 1,386	.733	Chef - Cook	540	+ 423	.783
Cook (entry) Utica	3,238	+ 1,197	.370	Gas Appl. Serviceman	1,824	- 576	-
<u>MULTI-OCCUPATIONAL</u>				Electronics Mechanic	1,472	+ 4,157	2.820
Lic. Prac. Nurse, Hempstead	7,439	+ 3,179	.427				
Mach. Op. Gen. (youth) Roch.	2,205	+ 1,930	.875				
Mach. Op. Gen. (adult) Roch.	3,673	+ 1,073	.292				
<u>INDIVIDUAL REFERRALS</u>							
Selected Ref., Statewide	1,955	+ 579	.296				
Totals	\$1,047,294 <sup>c</sup>	\$608,174 <sup>c</sup>	-		\$125,300 <sup>c</sup>	\$263,058 <sup>c</sup>	-
Average	\$ 2,204 <sup>d</sup>	+ \$ 1,180 <sup>d</sup>	.535		\$ 656 <sup>d</sup>	+ \$ 1,378 <sup>d</sup>	2.101

a - Data for the three multi-occupational courses, which were not completed at the time of this study, are calculated on the basis of estimated approved costs and training slots.

b - This is a ratio expressing the relationship between the earnings difference resulting from training, and the total average training cost per completer. For example, in the Licensed Practical Nurse Project, New York City, thirty cents in increased earning power were returned per dollar cost of the Project, in the first year alone.

c - Actual total costs or earnings of all selected courses.

d - Results from division of total actual costs or earnings by 475 institutional trainees completed, and 191 OJT trainees.

e - Difference between earnings one year before training, and one year after training.

EVALUATION AND BENEFIT-COST RELATIONSHIPS  
OF MANPOWER TRAINING PROGRAMS IN NEW YORK STATE

SECTION I - INTRODUCTION

Objectives

Education has economic value; it represents a form of investment in human beings. Several studies have offered the conclusion that there is a correlation between education and income, and between education and unemployment. One popular estimate of the difference in lifetime income between a high school graduate and a college graduate is close to \$140,000. A similar income differential may be noted when comparing persons having specific vocational training with persons having no specific occupational preparation.

Relatively little research effort has been devoted to the efficacy of vocational training on a cost-benefit basis, except for isolated research of retraining programs. The immediate stimulus for this survey was a series of questions posed by the Division of the Budget with respect to manpower training programs operated by State agencies. The questions revealed three areas of interest: a) the relationships between training programs and the needs of individuals for training; b) the efficiency with which the various programs accomplished their objectives, and; c) the benefit-cost relationships involved. Questions regarding particular training needs and the progress of State-funded programs also were asked.

A basic objective of this study was to evaluate selected State-operated manpower training programs, on a benefit-cost relationship basis. Another objective was to evaluate a larger universe of State-operated programs from a cost/effectiveness viewpoint. Both evaluations were preceded by a review of the characteristics of trainees.

Hopefully, this study begins the development of a framework within which immediate and long-range policy determinations and funding decisions can be made by the State of New York in the manpower field.

## Scope

The scope of this study, conducted within the extremely narrow time limits, is confined to:

1. Describing the legislative background leading to the present status of public-funded training programs;
2. Developing a series of statistical tables on trainee characteristics, costs, benefits and other existing data regarding MDTA and the State Training programs to date, from which meaningful evaluative material may be derived;
3. Analyzing in depth selected representative programs to provide benefit-cost relationships of manpower training;
4. Presenting abstracts of other cost-benefit studies of manpower training.

## SECTION II - LEGISLATIVE BACKGROUND

### Vocational Education

Until the early years of this century, the nation's need for trained, skilled manpower was met largely by the immigration of European journeymen. In 1917, the Smith-Hughes Act provided annual Federal funds to the States for vocational education in agriculture, home economics and trade and industry in secondary schools. The George-Barden Act of 1946 supplemented the earlier Act and provided for part-time and evening courses for adults in the distributive occupations. The National Defense Education Act of 1958 provided for assistance to States and localities in training for skilled technicians in occupations requiring scientific and technical knowledge. The recent Vocational Education Act of 1963 increased the scope and effectiveness of the Federal-State system of vocational education, removing some of the prior occupational limitations, encouraged counseling services, authorized programs for those not previously covered, and set up a mechanism for close Education-Employment Service cooperation in developing vocational training programs in skills needed by business and industry.

## MDTA

The Manpower Development and Training Act of 1962, a significant new piece of manpower legislation emerged from public awareness of the manpower challenge facing the nation. It represents a new approach within the concept of an active manpower policy by providing a State-Federal cooperative partnership for developing remedial and skill training programs to meet the occupational needs of industry and the individual training needs of the unemployed and underemployed. The State of New York has recognized, supported, and built upon this concept by enactment of its own State Manpower Training Act through Section 23-A of the Labor Law.

### Other Manpower Legislation

Through the MDTA and other recent legislation, the Congress has increasingly emphasized the importance of manpower development programs as a means of promoting the welfare of the worker and furthering the Nation's progress. The Area Redevelopment Act of 1961 provided for training unemployed and underemployed workers in economically depressed redevelopment areas. In 1962, certain parts of the Trade Expansion Act authorized job training for workers laid off or working only part time because of increased imports resulting from trade concessions. Under the Economic Opportunity Act of 1964, education and training have been included among the weapons in the war against poverty. The MDTA amendments of 1963, 1965, and 1966 added significant provisions to increase the Act's effectiveness.

### Goals of MDTA

Basically the MDTA provides that the Federal Government, in partnership with State Governments, will:

1. Identify present and future manpower shortages,
2. Seek out persons who can be qualified to fill these shortages through education and training,
3. Take steps to assure that workers of all ages are trained and available to meet shifting employment needs.

Originally MDTA was directed toward alleviating skill shortages and training programs were confined to occupations where there was reasonable expectancy for employment. MDTA has been re-directed to provide training to the hard-core unemployed and disadvantaged

persons who require special individual assistance to make them employable. Several other features of the original Act have been modified by amendments. A chart of the basic changes in the Act follows.



TABLE 1 - BASIC CHANGES IN MDTA PROVISIONS AND CONCEPTS

	Training Program Directions	Trainee Target Groups	Types and Methods of Training	Eligibility for and amount of Allowances	Other
1962	1. Shortage occupations with reasonable expectancy of employment.	1. Unemployed and underemployed. 2. 25% training funds to youth programs.	1. Specific occupations in class-sizes. 2. Institutional or OJT	1. Average weekly wage or UI rate. 2. Youth (19-21) - \$20. 3. Three years gainful work. 4. Head of family 5. Duration to 52 weeks. 6. Subsistence and travel allowances beyond commuting distance.	1. Funding - 100% Federal. 2. Termination date - 6/30/66.
1963		1. Increased attention to the hard-core unemployed for training opportunities. 2. 25% training slots to youth.	1. Included basic education and pre-vocational training with skill training. 2. Individual referrals on less-than-class size basis started. 3. Multi-occupational programs for disadvantaged youth and adults started.	1. Youth lower age limit to 17 years. 2. Youth dropout-one year out of High School. 3. Added 20 weeks duration for basic education.	1. Establishment of Manpower Advisory Committees. 2. State to assume one-third funding in Fiscal '65.
1965	1. Refresher training in professional occupations. 2. "Reasonable expectancy" modified to include the concept of training to make individuals "more employable".		1. Expanded use of multi-occupational programs.	1. Extend duration to 104 weeks. 2. Additional allowances for dependencies. 3. Permit daily commuting expenses. 4. Reduced period of gainful work to two years. 5. Permits allowances to other than head of family under certain conditions. 6. Liberalized Youth allowances eligibility.	1. Start of labor mobility demonstration program. 2. Removed one-third State funding and required 10% State funding after 6/30/66. 3. Incorporated ARA training into MDTA. 4. Termination date extended to 6/30/69
1966	1. Experimental part-time training for employed. 2. Experimental programs for inmates of correctional institutions. 3. 35% of training slots for alleviating skill shortages. 4. Greater emphasis on OJT programs. 5. Increased attention to occupations in the health field.	1. Special programs for older workers 45 and over. 2. 65% of training slots for the disadvantaged.	1. Basic education need not be tied in with vocational training. 2. Continuation of multi-occupational programs. 3. Coupling of training programs with Anti-poverty programs.	1. Reduced eligibility to one year of gainful work. 2. Eliminates one year out of school provisions for Youth. 3. Permits a second course with allowances. 4. Provides for advance payment of allowances. 5. Incentive payments for relief recipients.	1. Free physical exams for trainees where needed. 2. Extends labor mobility program. 3. Start of submitting annual State Manpower Plan.

NOTE: Other changes in provisions and concepts which do not directly affect this study of manpower training are not shown in this chart.

### SECTION III - MDTA ACCOMPLISHMENTS AND PROGRESS (1962-1967)

In New York State, since the enactment of the MDTA, 551 institutional training projects have been funded and 48,721 trainees have been enrolled at a total estimated cost of over \$108 million. The leading jobs among the 235 occupations for which training was provided are licensed practical nurse, typist, nurses aide/orderly, stenographer, production machine operator (machine operator general) and automobile mechanic.

MDTA training is reaching the hard-core unemployed (See Part V). About 85% of the enrollees were unemployed and 40% had less than three years of gainful employment prior to training. Over 50% of the trainees had not completed high school and 11% had less than nine years of school. Close to half of the trainees were non-white. Approximately 56% of those who completed training obtained training-related employment.

#### Multi-Occupational Centers

A major achievement in training for the disadvantaged was the development of the "Umbrella" or "Multi-Occupational" training program. This program includes training in a variety of specific entry occupations plus an assortment of special remedial and preparatory services such as: basic training in communication and number skills; instruction in personal grooming and job discipline; exploration of vocational areas in training workshops and field trips; individual testing of aptitudes and interests in specific occupational skills. Since the first project was established in April 1964 for 1,000 disadvantaged Rochester youths, 30 more programs including recycled programs, have been approved in 8 upstate locations and New York City. Together they provide training for youth and adults in all of the State's major metropolitan areas. They represent 35% of all trainees approved in the MDTA institutional training program, and their estimated cost of \$59 million accounts for 54% of all funds obligated in the program.

## Coupled OJT

More recently there has been developed a type of program which "couples" the pre-vocational training part of multi-occupational programs with on-the-job training. This coupling of programs should significantly extend the training opportunities being developed for disadvantaged persons by opening additional desirable occupations to them. The State Labor Department's Division of Manpower is developing a series of coupled-OJT projects in the State this year. A typical program trains adults as machine operators. The Board of Education's Manpower Training Center provides 13 weeks of instruction in remedial and basic education, basic shop math, blueprint reading, use and care of precision measuring instruments, and technical terminology.

After the classroom instruction, the trainees are placed in jobs with employers who will conduct on-the-job training programs in their plants. On the job they will learn the operation of specific machines.

## MDTA Expenditures - Fiscal 1967 and 1968

In allocating funds to the states for fiscal year 1967, Congressional actions decreased the total amounts available, and, within those amounts, decreased funds available for institutional programs while increasing funds available for on-the-job training. While not disputing the merits of on-the-job training as a direct lead to employment, the program shift has caused problems in full utilization of institutional facilities previously established.

Under a continuing resolution for allocating fiscal year 1968 funds to the States for MDTA activities, the New York State share has been apportioned as follows:

Apportionment Factor	11.41%
1968 Apportionment	\$29,666,000
Allotted for Institutional Training	20,310,000
Allotted for OJT *	9,356,000

\* Includes \$1.8 million for National OJT contracts administered directly from Washington D.C. by Federal BAT.

The following table illustrates the scope and estimated costs of these programs. Although the MDTA was passed and funded in 1962, training activity in New York State did not begin until early 1963.

TABLE 2 - TRAINING ACCOMPLISHMENTS AND COSTS UNDER MDTA

Institutional Projects

Federal Fiscal Year:	1963	1964	1965	1966	1967	Cumulative
Projects approved	125	142	195	229	125	816
Projects funded	64	115	149	130	93	551
Trainees in funded projects	4360	7335	14,823	16,823	13,492	56,833
Estimated costs of funded projects	\$3m+	\$9m+	\$21m+	\$42m+	\$31m+	\$108m+

OJT Projects

Fiscal Year:	1964	1965	1966	1967	Cumulative
<u>CONTRACTS</u>					
State *	5	17	72	121	215
BAT Regional	8	38	47	31	124
BAT National	<u>INA</u>	<u>INA</u>	<u>INA</u>	<u>INA</u>	<u>INA</u>
Total	13	55	119	152	339

TRAINEES

State *	305	1,032	2,805	5,989	10,131
BAT Regional	337	3,198	4,125	8,178	15,838
BAT National	<u>INA</u>	<u>INA</u>	<u>INA</u>	<u>INA</u>	<u>INA</u>
Total	642	4,230	6,930	14,167	25,969

ESTIMATED COSTS

State *	\$402,367	\$ 598,171	\$1,100,612	\$3,725,053	\$5,826,203
BAT Regional	301,648	2,346,181	2,433,332	4,665,928	9,747,089
BAT National	<u>INA</u>	<u>INA</u>	<u>INA</u>	<u>INA</u>	<u>INA</u>
Total	\$704,015	\$2,944,352	\$3,533,944	\$8,390,981	\$15,573,292

\* Developed by Division of Manpower for funding under MDTA. Does not include programs funded under State Manpower Training Act with State funds.

## Referrals of Individuals on Less Than Class-Size Basis

Early in the experience of MDTA it became apparent that the time consuming but mandated procedure for the development, approval, funding and implementation of class-size institutional projects worked to the disadvantage not only of the trainee candidates who were generally unemployed and immediately available for the training, but, also, of the potential employers who were immediately in need of filling vacancies in shortage job skills. Furthermore, many occasions arose where the demand for an occupation was not of sufficient volume nor was the number of potentially qualified trainees available within a community sufficient to warrant the development of a proposal for training at a normal classroom size.

Thus, the individual method of referral to both public and private schools was devised as an alternate device for MDTA institutional-type training. Most such referrals have been made to private training facilities. However, built-in controls were established which required that these referrals be made only where:

1. No suitable MDTA course is available or contemplated within 45 days in the locality or in any other training center; or, if such course is or will be available, it is not practicable to include the interested trainee because the course has started or all training slots are filled.
2. Training is needed in an occupation for which there is not a sufficient demand to establish a local class-size course; or, the establishment of a regional or a State-wide class-size course is not feasible.

Another feature of individual referral to training under MDTA is that, after the Labor Department has recommended individual referral in the absence of an established available course, the Education Department determines where and when the individual will be given the opportunity for enrollment in a training course, and also determines the estimated costs of the training.



Advantages of this method of training are:

Selection by the trainee of the course and training site is possible where more than one course is available.

The private trade and business schools usually can accept students on a staggered basis, thus avoiding waiting time of the trainee to the date of enrollment.

There is little build-up time needed by the private schools for acquisition of equipment, space and teachers.

The schools have specialized in certain occupations and have developed a working relationship with the employers who normally hire workers in these occupations, thus opening a wider scope for placement possibilities for the graduates.

The following table reveals the status of the "individual referral" program as of July 31, 1967:

TABLE 3 - INDIVIDUAL REFERRALS UNDER MDTA AND SMTA

Manpower Development & Training Act

<u>Federal Fiscal Year *</u> (July 1 - June 30)	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>Cumulative</u>
Number of trainees enrolled	50	374	298	722
Net Estimated Costs (Education and Allowances)	\$205,793	\$994,253	\$620,441	\$1,820,487

State Manpower Training Act

<u>State Fiscal Year *</u> (April 1 - March 31)	<u>1967</u>	<u>1968 **</u>	<u>Cumulative</u>
Number of trainees enrolled	225	112	337
Net Estimated Costs (Education and Allowances)	\$800,560	\$77,108 ***	\$877,668

\* Trainees are not necessarily enrolled in the same period in which project costs are obligated.

\*\* First four months only.

\*\*\* It is estimated that \$1 million will be obligated for the full State Fiscal Year.



Responsible officials in the State Administration and the State Legislature recognized early in the MDTA experience that many complicating and restrictive aspects of the Act prevented the proper exercise of programs to develop the skills needed by industry and the employability of the work force. To solve this problem the State enacted in 1966 Article 23A of the Labor Law, known as the State Manpower Training Act.

This article is designed to expand and improve the State's training programs by relating them more closely to the specific needs of local communities than was possible under the MDTA and by filling training gaps which were left by the complex operation of the Federal Act, particularly in the areas of inadequate funding and policy restrictions.

Close cooperation between the Labor Department's Division of Employment and Division of Manpower with respect to coordinating institutional and OJT training programs, and between the State Education Department and the Labor Department in program development, which operated under the Federal Act, has continued under the State program.

Criteria for course development, selection of trainees for referral, and job development and placement responsibilities of the New York State Employment Service are substantially the same under the State Manpower Training Act as under MDTA. Amounts and rules for payment of training, subsistence and transportation allowances under the MDTA have been generally followed under the State Manpower Training Act. The OJT phase of the State Manpower Training Act has been carried out in a manner quite similar to OJT under the MDTA.

Funds for SMTA for State Fiscal Year 1967 were allocated as follows:

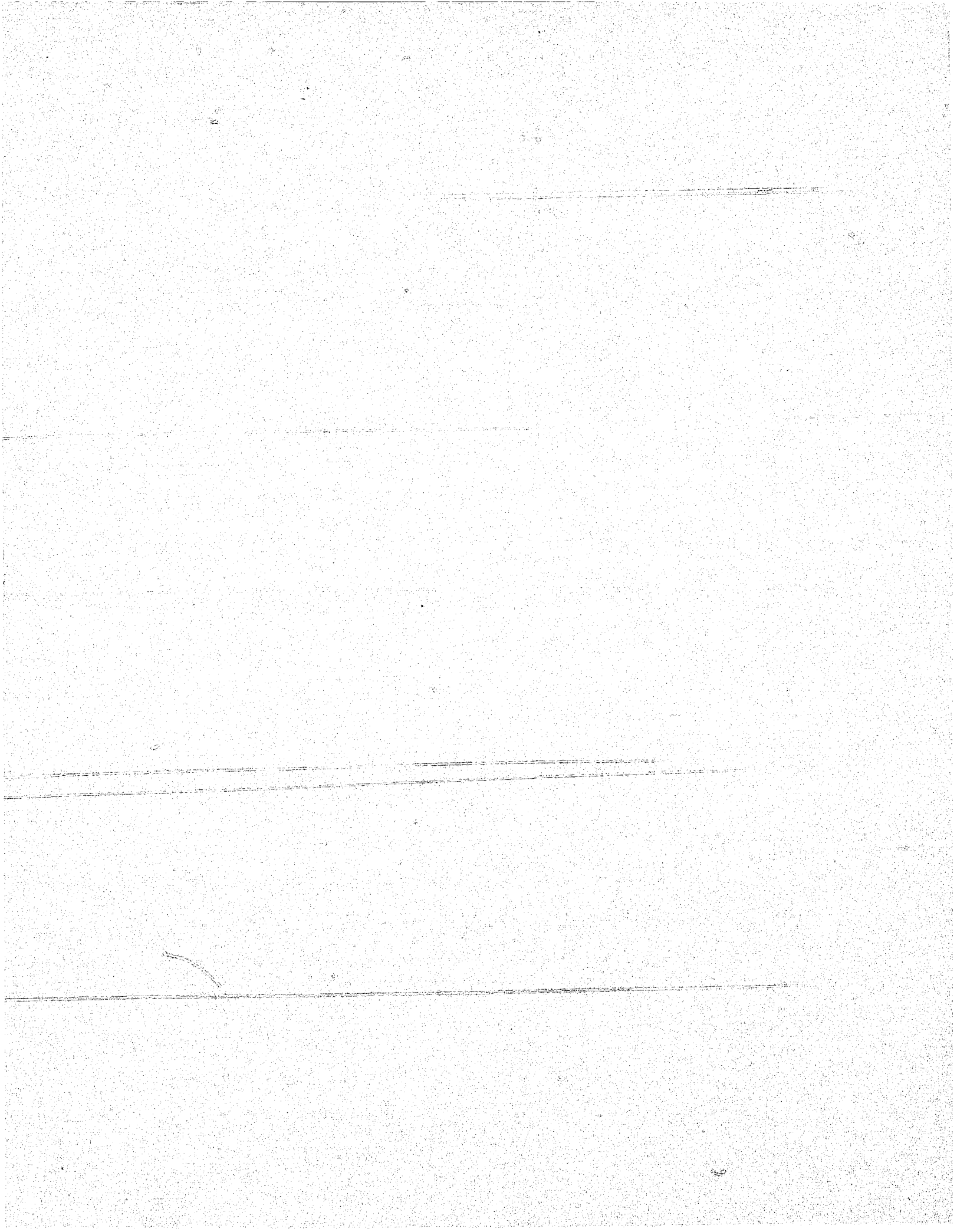
Purpose	Source	
	U.I. Penalty and Interest	General Fund
Individual Referrals	\$ 1,000,000	-
Medical Occupations	-	\$ 1,000,000
Metal Trades & Skill Shortages		
Institutional	-	500,000
OJT	500,000	-
State Agencies Needs	500,000	-
	<u>\$ 2,000,000</u>	<u>\$ 1,500,000</u>

The following tables detail the program activity under the State Manpower Training Act from January 1967 to September 1, 1967.

Tables 4 and 5 list the institutional training projects which have been approved and show their status, and summarize the individual referral program.

Tables 6, 7, and 8 summarize the 50 OJT contracts which have been negotiated between private employers and the Labor Department.

A cost-benefit evaluation of these State financed projects is not possible at this time due to the recentness of their approval.



STATE MANPOWER TRAINING ACT

Table 4 - STATE FINANCED\* INSTITUTIONAL TRAINING PROJECTS

STATUS AS OF SEPTEMBER 1, 1967

MT-1 NO	LOCATION	OCCUPATION	NUMBER OF TRAINEEES	ESTIMATED TOTAL COST APPROVED	APPROVED SECTION	SECTIONS COMPLETED OR IN-PROGRESS						
						SECTION #	START	END	ENROLLED	DROP-OUTS	COMPLETED	IN-TRAINING
106	NYC	Medical Record Clerk	60	\$81,600	3	1	4-10-67	8-25-67	18	3	0	15
100	NYC	Surgical Technician	30	79,387	5	1-2	5-1-67	10-20-67	14	5	0	9
104	NYC	Inhalation Therapy Technician	30	103,760	4	1-2	5-1-67	10-20-67	14	3	0	11
089	NYC	Production Mach. Oper.	60	136,948	3	1	5-8-67	12-8-67	21	4	0	17
						2	6-5-67	1-5-68	19	6	0	13
6208	Schenectady	Welder, Gas Shielded Arc	56	27,524	7	1	3-13-67	4-7-67	8	0	8	0
						2	4-10-67	5-5-67	8	1	7	0
						3	5-8-67	6-2-67	8	2	6	0
						4	6-5-67	6-30-67	8	0	8	0
						5	7-10-67	8-4-67	8	2	6	0
577	Geneva	Welder, Comb.	24	41,541	2	1	4-17-67	9-1-67	7	2	0	5
679	Buffalo	Production Mach. Oper. (Mach. Shop)	60	136,648	4	1	5-8-67	8-18-67	20	6	14	0
						2	6-26-67	10-6-67	19	4	0	15
682	Buffalo	Nurse Aide/Orderly	120	74,390	6	1-4	6-19-67	INA	80	3	39	38
754	Ithaca	Nurse Aide/Orderly	70	66,555	5	1	5-8-67	7-14-67	10	3	.7	0
						2	7-17-67	9-22-67	7	0	0	7
860	Patchogue	Nurse Aide	96	54,083	8	1	5-1-67	6-12-67	12	0	12	0
						2	6-13-67	7-25-67	13	3	10	0
						3	7-26-67	9-6-67	14	2	0	12
6006	NYC	Tissue Technician	32	18,532	2	1-2	6-19-67	7-28-67	24	0	0	24
957	Newburgh	Production Mach. Oper. (Mach. Shop)	30	65,790	2	1	5-1-67	10-8-67	19	8	0	11
864	Bayshore	Production Mach. Oper. (Mach. Shop)	30	92,202	2	1	5-15-67	9-29-67	15	0	0	15
250	Troy	Production Mach. Oper. (Mach. Shop)	30	24,923	1	1	5-8-67	7-7-67	7	3	4	0
6038	NYC	Auto Mechanic (New Car)	15	37,412	1	1	5-15-67	1-9-68	18	1	0	17
6205	Glen Falls	Auto Mechanic	15	40,913	1	1	6-12-67	1-12-68	15	0	0	15
6056	NYC	Auto Service Station Mechanic	15	37,794	1	1	5-15-67	12-29-67	13	0	0	13
6203	Albany	Stenographer	20	42,383	1	1	7-10-67	3-8-68	15	0	0	15
585	Rochester	Auto Mechanic	25	48,637	1	1	5-8-67	12-8-67	16	3	0	13
567	Batavia	Draftsman, Mechanical	20	57,564	1	1	7-10-67	4-30-68	21	1	0	20
TOTAL			778	\$1,268,586	-	-	-	-	471	65	121	285

\* Financed from General Fund

STATE MANPOWER TRAINING ACT

Table 5 - STATE FINANCED\* INSTITUTIONAL AND INDIVIDUAL REFERRAL TRAINING PROJECTS

STATUS AS OF SEPTEMBER 1, 1967

MT-1 NO	LOCATION	OCCUPATION	NUMBER OF TRAINEES	TOTAL COST	APPROVED SECTIONS	SECTION #	SECTIONS COMPLETED OR IN-PROGRESS					
							START	END	ENROLLED	DROP-OUTS	COMPLETED	IN-TRAINING
None	Statewide	Rodman (Engineering Aide)	50	\$ 177,102	2	1	7-24-67	5-10-68	5	0	0	5
255-257	"	Individual Referral	550	1,000,000 /1	-	-	1-9-67	8-9-68	286	INA	58	228
TOTAL			600	\$1,177,102					291	-	58	233

△ FUNDS OBLIGATED THROUGH JULY \$997,149

\* Financed from Special Interest & Penalty Fund

STATE MANPOWER TRAINING ACT

Table 6- STATE FINANCED OJT PROJECTS APPROVED

AUTHORIZED NUMBER OF TRAINEES AND ESTIMATED PER CAPITA COSTS BY OCCUPATIONAL GROUPS

<u>OCCUPATIONAL GROUPS *</u>	<u>NUMBER OF PROJECTS</u>	<u>NUMBER TRAINEES</u>	<u>PER CAPITA COST</u>
01 Architecture & engineering	2	32	\$ 650
21 Computing & account-recording	3	5	206
22 Material & production recording	7	17	264
35 Nurses aide	1	6	260
50 Processing of metal	5	12	515
51 Ore refining & foundry	5	19	508
52 Processing of food, tobacco & related products	2	12	520
53 Processing of paper & related materials	4	18	340
55 Processing of chemicals, plastics, synthetics, rubber, paint & related	1	2	75
56 Processing of wood & wood products	1	10	535
58 Processing of leather, textiles & related	1	15	238
60 Metal machining	15	63	690
61 Metal working	8	28	540
62 Mechanics & machinery repair	8	40	1201
63 Mechanics & machinery repair	4	10	482
64 Paperworking occupations	2	26	320
66 Wood machining	1	2	480
69 Machine trades, not elsewhere classified	6	37	281
70 Fabrication, assembly & repair of metal products	1	2	105
71 Fabrication & repair of scientific & med. apparatus, photo & optical goods, watches, clocks & related	4	18	722
72 Assembly & repair of electrical equipment	5	131	251
73 Fabrication & repair of products from assorted materials	2	7	447
74 Painting, decorating & related	2	3	501
76 Fabrication & repair of wood products	1	200	335
78 Fabrication & repair of textile, leather & rel.	4	69	278
80 Metal fabricating, not elsewhere classified	7	32	911
81 Welders, flamecutters & related	3	11	456
86 Construction occupations, not elsewhere classified	4	85	81
89 Structural work occupa, not elsewhere classified	4	28	688
92 Packaging & materials handling	2	28	324
95 Production & distribution of utilities	1	1	750
97 Graphic art work	2	24	603

\* First 2 digits of D.O.T. Code





STATE MANPOWER TRAINING ACT

Table 7 - STATE FINANCED OJT PROJECTS APPROVED

AUTHORIZED NUMBER OF TRAINEES AND ESTIMATED COSTS BY STATE FISCAL YEAR

<u>STATE FISCAL YEAR</u> (April-March)	<u>NUMBER TRAINEES</u>	<u>PER CAPITA COST</u>	<u>TOTAL COST</u>
1967	164	\$ 649	\$106,556
1968	829	\$ 380	\$315,076
Total trainees	993		
Total average per capita cost		\$ 425	
Total cost			\$421,632

## STATE MANPOWER TRAINING ACT

Table 8- STATE FINANCED OJT PROJECTS APPROVED

NUMBER OF APPROVED TRAINEES AND PROJECTS BY TYPE OF PROJECT

<u>TYPE</u>	<u>APPROVED TRAINEES</u>	<u>NUMBER OF PROJECTS</u>
Non-Coupled	993	118
Coupled	<u>0</u>	<u>0</u>
Total	993	118
Job Entry	742	76
Upgrading	<u>251</u>	<u>42</u>
Total	993	118
Pre-Apprenticeship	106	26
Other	<u>887</u>	<u>92</u>
Total	993	118
Disadvantaged	137	24
Other	<u>856</u>	<u>94</u>
Total	993	118

## SECTION V - TRAINEE CHARACTERISTICS

The principal purpose of this section of the study is to indicate the characteristics of persons enrolled in the various MDTA training programs.

Tables 9 and 10 show the characteristics of virtually all the MDTA institutional enrollees from 1963, when reporting began, until May 30, 1967. Data for individual years show how the tempo of training enrollments was stepped up until it reached a peak in 1966. Cumulative figures from 1963 to 1967 give an idea of the type of trainee in the program during the entire period.

Among the major characteristics reported were: race, number of years of education; years of gainful employment, duration of unemployment, age, and sex.

The most significant points are:

Race - In the beginning of the program, white enrollees outnumbered negroes more than 2 to 1. In 1965, negro enrollees began to outnumber whites. For the entire 4½-year period, the number of negro and white enrollees was about equal.

Education - The educational level of the enrollees has dropped steadily since the start of the MDTA program due to the heavier enrollments of the disadvantaged. The largest group in succeeding years, and for the entire period had 9 to 11 years of schooling.

Age - Persons in the prime working ages of 22-44 constituted the largest group of trainees at the beginning. In later years, younger persons in the age groups 19-34 were the largest group among the trainees because of the policy of opening up more training opportunities to youth and the widening of eligibility for training allowances to youth.

Table 11 analyzes the labor force status of about 50% of the trainees completing courses between 1963 and January 30, 1967. Subsequent to training, it shows how many were unemployed, and how many were not in the labor force (broken down into four major reasons for not being in the labor force).

The employed, the unemployed, and those not in the labor force were further studied by such characteristics as: age, education, public assistance status and training occupation. The number of employed persons having a given amount of hourly earnings is also shown. There is, however, no comparison with prior earnings.

Tables 12 and 13 analyze the characteristics of the OJT enrollees in numbers, and per cent distribution, in the same manner as for the institutional trainees in tables 9 and 10.

The much smaller group of OJT trainees was predominantly male (4 out of 5 persons), and younger than the institutional trainees (over 50% under 22). White OJT trainees outnumbered non-whites by more than a 2 to 1 margin. Close to half of the OJT trainees were high school graduates. Two out of three were unemployed prior to entering OJT training.

TABLE 9

CHARACTERISTICS OF TRAINEES ENROLLED IN MDTA INSTITUTIONAL COURSES BY YEAR ENROLLED  
NEW YORK STATE, CUMULATIVE 1963-MAY 30, 1967

Characteristics	: Total :	Calendar year enrolled				
		:reporting:	1967	1966	1965	1964
Total	41,866	2,204	14,058	12,699	8,212	4,693
Race	41,866	2,204	14,058	12,699	8,212	4,693
White	18,832	1,091	4,807	5,418	4,605	2,911
Negro	18,320	815	7,477	5,822	2,779	1,427
Other nonwhite	823	43	319	252	163	46
Not reported	3,891	255	1,455	1,207	665	309
Family status	41,866	2,204	14,058	12,699	8,212	4,693
Head of family or household	20,045	1,068	7,250	6,141	3,329	2,257
Other	20,169	1,093	5,810	6,044	4,790	2,432
Not reported	1,652	43	998	514	93	4
Education	41,866	2,204	14,058	12,699	8,212	4,693
Less than 8 years	1,488	97	598	490	212	91
8	3,326	237	1,179	1,053	570	287
9-11	17,294	1,012	6,306	5,274	3,162	1,540
12	15,528	703	4,225	4,550	3,697	2,353
More than 12 years	1,982	95	386	617	467	417
Not reported	2,248	60	1,364	715	104	5
Years of gainful employment	41,866	2,204	14,058	12,699	8,212	4,693
Less than 3	16,830	1,053	5,602	5,411	3,479	1,285
3-9	13,323	659	4,318	3,719	2,701	1,925
10 or more	9,515	426	2,858	2,823	1,926	1,482
Not reported	2,198	66	1,280	746	106	-
Number of dependents	41,866	2,204	14,058	12,699	8,212	4,693
0	18,989	1,224	5,871	5,477	4,215	2,202
1 person	7,344	338	2,586	2,356	1,324	740
2 persons	5,476	232	1,817	1,731	1,007	689
3 persons	3,926	159	1,305	1,200	738	524
4 persons	2,103	94	704	655	397	253
5 persons and over	2,393	125	779	762	445	282
Not reported	1,635	32	996	518	86	3
Wage earner status	41,866	2,204	14,058	12,699	8,212	4,693
Primary	23,906	1,333	8,626	7,219	4,062	2,666
Other	16,249	845	4,393	4,943	4,050	2,018
Not reported	1,711	26	1,039	537	100	9
Eligible for allowance	41,866	2,204	14,058	12,699	8,212	4,693
Yes	28,906	1,871	11,594	8,972	4,282	2,187
No	12,960	333	2,464	3,727	3,930	2,506
Type of allowance for which eligible	28,906	1,871	11,594	8,972	4,282	2,187
Regular	11,900	812	3,589	2,328	3,093	2,078
Augmented	10,002	694	5,146	4,132	20	10
Youth	7,004	365	2,859	2,512	1,169	99



TABLE 9 - Continued

## Characteristics of trainees enrolled in institutional programs -- continued

Characteristics	: Total : : reporting:	Calendar year enrolled				
		1967	1966	1965	1964	1963
U.I. claimant status	41,866	2,204	14,058	12,699	8,212	4,693
Yes	8,208	225	1,523	2,403	2,079	1,978
No	31,232	1,827	11,156	9,512	6,022	2,715
Not reported	2,426	152	1,379	784	111	-
Public assistance status	41,866	2,204	14,058	12,699	8,212	4,693
Yes	4,309	280	1,563	1,303	798	365
No	34,461	1,786	10,644	10,514	7,206	4,311
Not reported	3,096	138	1,851	882	208	17
Prior employment status	41,866	2,204	14,058	12,699	8,212	4,693
Unemployed	31,373	1,556	8,870	9,978	6,771	4,198
Family farm worker	54	-	7	24	18	5
Reentrant to labor force	406	54	126	224	2	-
Underemployed	7,791	480	3,906	1,682	1,264	459
Not reported	2,242	114	1,149	791	157	31
Duration of unemployment	31,373	1,556	8,870	9,978	6,771	4,198
Less than 5 weeks	9,008	586	2,931	2,699	1,760	1,032
5-14 weeks	8,014	387	2,159	2,500	1,788	1,180
15-26 weeks	4,659	211	1,219	1,471	1,009	749
27-52 weeks	3,687	135	894	1,337	787	534
Over 52 weeks	6,005	237	1,667	1,971	1,427	703
Prior military service	41,866	2,204	14,058	12,699	8,212	4,693
Veteran	4,325	240	1,357	1,166	848	714
Peacetime service	2,961	12	462	829	1,653	5
Rejectee	1,072	140	409	513	10	-
Other nonveteran	28,114	1,555	9,438	8,815	4,355	3,951
Not reported	5,394	257	2,392	1,376	1,346	23
Handicapped	41,866	2,204	14,058	12,699	8,212	4,693
Yes	2,661	192	874	901	416	278
No	37,614	1,981	12,212	11,296	7,712	4,413
Not reported	1,591	31	972	502	84	2
Age	41,866	2,204	14,058	12,699	8,212	4,693
Under 19 years	7,348	467	2,401	2,528	1,593	359
19-21 years	10,781	623	3,978	3,423	1,916	841
22-34 years	13,234	586	4,616	3,756	2,539	1,737
35-44 years	6,390	296	1,827	1,816	1,389	1,062
45 years and over	4,111	230	1,236	1,176	775	694
Not reported	2	2	-	-	-	-
Sex	41,866	2,204	14,058	12,699	8,212	4,693
Male	21,782	1,072	7,409	6,868	4,217	2,216
Female	20,084	1,132	6,649	5,831	3,995	2,477

SOURCE: U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research (OMPER), special tabulations.

TABLE 10

CHARACTERISTICS OF TRAINEES ENROLLED IN MDTA INSTITUTIONAL COURSES BY YEAR ENROLLED  
 NEW YORK STATE, CUMULATIVE 1963-MAY 30, 1967  
 (Per cent distribution)

Characteristics	: Total : :reporting:	Calendar year enrolled				
		1967	1966	1965	1964	1963
Total	41,866	2,204	14,058	12,699	8,212	4,693
Race	100.0	100.0	100.0	100.0	100.0	100.0
White	49.6	56.0	38.1	47.1	61.0	66.4
Negro	48.2	41.8	59.3	50.7	36.8	32.6
Other nonwhite	2.2	2.2	2.5	2.2	2.2	1.0
Not reported	3,891	255	1,455	1,207	665	309
Family status	100.0	100.0	100.0	100.0	100.0	100.0
Head of family or household	49.8	49.4	55.5	50.4	41.0	48.1
Other	50.2	50.6	44.5	49.6	59.0	51.9
Not reported	1,652	43	998	514	93	4
Education	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 years	3.8	4.5	4.7	4.1	2.6	1.9
8	8.4	11.1	9.3	8.8	7.0	6.1
9-11	43.7	47.2	49.7	44.0	39.0	32.8
12	39.2	32.8	33.3	38.0	45.6	50.2
More than 12 years	5.0	4.4	3.0	5.1	5.8	8.9
Not reported	2,248	60	1,364	715	104	5
Years of gainful employment	100.0	100.0	100.0	100.0	100.0	100.0
Less than 3	42.4	49.3	43.8	45.3	42.9	27.4
3-9	33.6	30.8	33.8	31.1	33.3	41.0
10 or more	24.0	19.9	22.4	23.6	23.8	31.6
Not reported	2,198	66	1,280	746	106	-
Number of dependents	100.0	100.0	100.0	100.0	100.0	100.0
0	47.2	56.4	44.9	45.0	51.9	47.0
1 person	18.3	15.6	19.8	19.3	16.3	15.8
2 persons	13.6	10.7	13.9	14.2	12.4	14.7
3 persons	9.8	7.3	10.0	9.9	9.1	11.2
4 persons	5.2	4.3	5.4	5.4	4.9	5.4
5 and over	5.9	5.8	6.0	6.3	5.5	6.0
Not reported	1,635	32	996	518	86	3
Wage earner status	100.0	100.0	100.0	100.0	100.0	100.0
Primary	59.5	61.2	66.3	59.4	50.1	56.9
Other	40.5	38.8	33.7	40.6	49.9	43.1
Not reported	1,711	26	1,039	537	100	9
Eligible for allowance	100.0	100.0	100.0	100.0	100.0	100.0
Yes	69.0	84.9	82.5	70.7	52.1	46.6
No	31.0	15.1	17.5	29.3	47.9	53.4

TABLE 10- Continued

## Characteristics of trainees in institutional programs -- continued

Characteristics	: Total : :reporting:	Calendar year enrolled				
		1967	1966	1965	1964	1963
Type of allowance for which eligible	100.0	100.0	100.0	100.0	100.0	100.0
Regular	41.2	43.4	31.0	25.9	72.2	95.0
Augmented	34.6	37.1	44.4	46.1	0.5	0.5
Youth	24.2	19.5	24.7	28.0	27.3	4.5
U.I. claimant status	100.0	100.0	100.0	100.0	100.0	100.0
Yes	20.8	11.0	12.0	20.2	25.7	42.1
No	79.2	89.0	88.0	79.8	74.3	57.9
Not reported	2,426	152	1,379	784	111	-
Public assistance status	100.0	100.0	100.0	100.0	100.0	100.0
Yes	11.1	13.6	12.8	11.0	10.0	7.8
No	88.9	86.4	87.2	89.0	90.0	92.2
Not reported	3,096	138	1,851	882	208	17
Prior employment status	100.0	100.0	100.0	100.0	100.0	100.0
Unemployed	79.2	74.4	68.7	83.8	84.1	90.0
Family farm worker	0.1	-	0.1	0.2	0.2	0.1
Reentrant to labor force	1.0	2.6	1.0	1.9	-	-
Underemployed	19.7	23.0	30.3	14.1	15.7	9.8
Not reported	2,242	114	1,149	791	157	31
Duration of unemployment	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	28.7	37.7	33.0	27.0	26.0	24.6
5-14 weeks	25.5	24.9	24.3	25.1	26.4	28.1
15-26 weeks	14.9	13.6	13.7	14.7	14.9	17.8
27-52 weeks	11.8	8.7	10.1	13.4	11.6	12.7
Over 52 weeks	19.1	15.2	18.8	19.8	21.1	16.7
Prior military service	100.0	100.0	100.0	100.0	100.0	100.0
Veteran	11.9	12.3	11.6	10.3	12.4	15.3
Peacetime service	8.1	0.6	4.0	7.3	24.1	0.1
Rejectee	2.9	7.2	3.5	4.5	0.1	-
Other nonveteran	77.1	79.9	80.9	77.9	63.4	84.6
Not reported	5,394	257	2,392	1,376	1,346	23
Handicapped	100.0	100.0	100.0	100.0	100.0	100.0
Yes	6.6	8.8	6.7	7.4	5.1	5.9
No	93.4	91.2	93.3	92.6	54.9	94.1
Not reported	1,591	31	972	502	84	2
Age	100.0	100.0	100.0	100.0	100.0	100.0
Under 19	17.6	21.2	17.1	19.9	19.4	7.6
19-21	25.8	28.3	28.3	27.0	23.3	17.9
22-34	31.6	26.6	32.8	29.6	30.9	37.0
35-44	15.3	13.4	13.0	14.3	16.9	22.6
45 and over	9.8	10.4	8.8	9.3	9.4	14.8
Not reported	2	2	-	-	-	-

TABLE 10 - Continued

## Characteristics of trainees in institutional programs -- continued

Characteristics	: Total : reporting:	Calendar year enrolled				
		1967	1966	1965	1964	1963
Sex	100.0	100.0	100.0	100.0	100.0	100.0
Male	52.0	48.6	52.7	54.1	51.4	47.2
Female	48.0	51.4	47.3	45.9	48.6	52.8

NOTE: Figures for 'not reported' are excluded from percentages. Details may not add to total due to rounding.

SOURCE: U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research (OMPER), special tabulations.

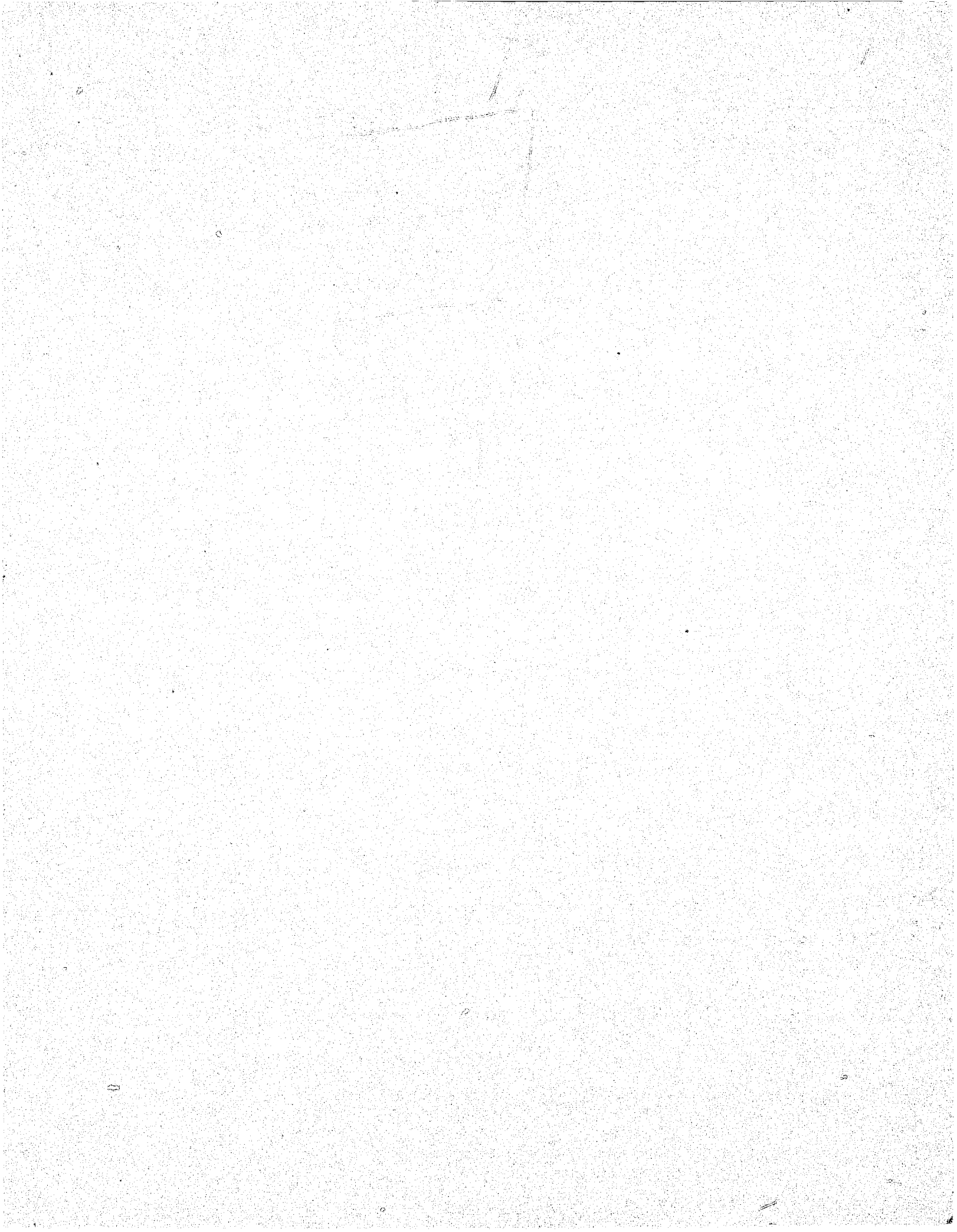


TABLE 11 - CHARACTERISTICS AND CURRENT LABOR FORCE STATUS OF TRAINEES COMPLETING MDTA INSTITUTIONAL COURSES  
NEW YORK STATE, CUMULATIVE 1963 - JANUARY 30, 1967

Characteristics	Total	Labor force status							
		Employed	Unem- ployed	Not in labor force					Not reported
				Total	Keeping house	In school	Illness	Other	
Total	12,779	7,856	1,516	837	204	65	189	379	2,570
Age:									
Under 19	1,429	840	162	128	25	17	14	72	299
19-21	2,506	1,513	260	172	40	19	16	97	561
22-44	7,219	4,524	817	414	113	26	112	163	1,464
45 and over	1,625	979	277	123	26	3	47	47	246
Not reported	-	-	-	-	-	-	-	-	-
Family status:									
Head	6,318	3,774	786	303	53	23	88	139	1,455
Other	6,345	4,025	720	528	150	40	101	237	1,072
Not reported	116	57	10	6	1	2	-	3	43
Education:									
Less than 8 years	222	110	45	11	1	1	4	5	56
8	769	388	144	45	11	1	14	19	192
9-11	4,358	2,475	590	273	58	19	71	125	1,020
12	6,389	4,273	626	425	118	35	78	194	1,065
Over 12 years	909	556	101	75	15	7	20	33	177
Not reported	132	54	10	8	1	2	2	3	60
Wage earner:									
Primary	7,441	4,467	932	352	59	30	97	166	1,690
Other	5,224	3,335	575	478	143	33	92	210	836
Not reported	114	54	9	7	2	2	-	3	44
U.I. claimant:									
Claimant	4,097	2,575	479	207	27	14	54	112	836
Non-claimant	8,523	5,208	1,024	619	175	49	133	262	1,672
Not reported	159	73	13	11	2	2	2	5	62
Public assistance:									
Recipient	1,176	608	168	89	16	5	33	35	311
Non-recipient	11,324	7,099	1,319	730	186	57	151	336	2,176
Not reported	279	149	29	18	2	3	5	8	83



TABLE 11 - Characteristics and current labor force status of trainees -- continued

Characteristics	Total	Labor force status							
		Employed	Unem- ployed	Not in labor force					Not reported
				Total	Keeping house	In school	Illness	Other	
<b>Veteran:</b>									
Yes	1,651	976	248	59	1	3	23	32	368
No	9,900	6,055	1,146	685	180	49	141	315	2,014
Not reported	1,228	825	122	93	23	13	25	32	188
<b>Handicapped:</b>									
Yes	811	464	126	50	5	8	18	19	171
No	11,862	7,344	1,381	781	198	55	171	357	2,356
Not reported	106	48	9	6	1	2	-	3	43
<b>Prior employment status:</b>									
Unemployed less than 5 weeks	2,763	1,707	304	163	27	12	24	100	589
5-14 weeks	2,876	1,802	330	150	29	10	32	79	594
15-26 weeks	1,685	953	236	121	27	11	30	53	375
27-52 weeks	1,208	685	179	79	19	5	20	35	265
52 weeks and over	1,967	1,150	291	208	75	12	58	63	318
Family farm worker	35	26	2	5	-	-	2	3	2
Reentrant	101	57	12	17	5	4	4	4	15
Underemployed	1,923	1,364	145	79	17	9	18	35	335
Not reported	221	112	17	15	5	2	1	7	77
<b>Training occupation:</b>									
Semi-technical, managerial <u>a/</u>	2,051	1,730	60	104	41	9	18	36	157
Draftsman	168	138	4	8	-	3	1	4	18
Licensed practical nurse	1,870	1,587	55	95	41	5	17	32	133
Clerical and sales <u>a/</u>	3,617	2,028	509	312	100	15	84	113	768
General office clerk	1	1	-	-	-	-	-	-	-
Stenographer	985	604	107	90	31	6	26	27	184
Clerk typist and typist	1,494	826	206	154	50	5	38	61	308
Service <u>a/</u>	1,781	1,107	182	161	44	21	36	60	331
Cook	-	-	-	-	-	-	-	-	-
Nurse aid and ward attendant	679	466	64	95	36	12	17	30	54
Agriculture	8	4	1	1	-	-	-	1	2

TABLE 11 - Characteristics and current labor force status of trainees - continued

Characteristics	Total	Employed	Unem - ployed	Labor force status					
				Total	Keeping house	In school	Illness	Other	Not reported
Skilled <sup>a/</sup>	3,388	1,922	468	166	2	8	32	124	832
Welder	392	232	68	29	1	1	5	22	63
Auto mechanic	706	466	58	48	-	2	5	41	134
Auto body repairman	344	203	36	14	-	-	3	11	91
Semiskilled <sup>a/</sup>	1,883	1,048	285	91	17	10	19	45	459
General machine operator	878	611	73	34	1	7	5	21	160
Electrical assembler	-	-	-	-	-	-	-	-	-
Unskilled	51	17	11	2	-	2	-	-	21
Hourly earnings post-training									
\$ .50-.74		3							
\$ .75-1.14		22							
\$1.15-1.24		18							
\$1.25-1.49		977							
\$1.50-1.74		1,871							
\$1.75-1.99		1,604							
\$2.00-2.49		1,816							
\$2.50-2.99		520							
\$3.00 and over		276							
Not reported		749							

<sup>a/</sup> Totals include occupations not shown separately.

<sup>b/</sup> Based on matching MT-101 and MT-103 reports. The MT-103 covers a one-year period after training, but recently-ended courses cover the period only three or six months after training.

SOURCE: U.S. Department of Labor, OMPER, special tabulations.

TABLE 12

CHARACTERISTICS OF TRAINEES ENROLLED IN MDTA ON-THE-JOB TRAINING PROGRAMS, BY AGE AND SEX  
NEW YORK STATE, CUMULATIVE 1963-MARCH 28, 1967

Characteristics	Total reported			Age			
	Total	Male	Female	Under 19	19-21	22-44	45 and over
Total	2,601	2,099	502	594	724	1,124	159
Per cent of total	100.0	80.7	19.3	22.8	27.8	43.2	6.1
Race	2,601	2,099	502	594	724	1,124	159
White	1,525	1,308	217	314	427	672	112
Negro	633	441	192	155	159	299	20
Other nonwhite	42	31	11	8	15	15	4
Not obtained	401	319	82	117	123	138	23
Family status	2,601	2,099	502	594	724	1,124	159
Head of family or household	1,003	906	97	62	164	679	98
Other	1,384	1,032	352	491	499	349	45
Not reported	214	161	53	41	61	96	16
Education	2,601	2,099	502	594	724	1,124	159
Less than 8 years	114	94	20	22	22	56	14
8	177	143	34	36	20	87	34
9-11	955	753	202	272	278	353	52
12	1,109	929	180	245	325	497	42
More than 12 years	170	144	26	8	66	87	9
Not reported	76	36	40	11	13	44	8
Years of gainful employment	2,601	2,099	502	594	724	1,124	159
Less than 3	1,170	928	242	490	499	171	10
3-9	607	493	114	13	118	456	20
10 or more	394	344	50	1	1	295	97
Not reported	430	334	96	90	106	202	32
Number of dependents	2,601	2,099	502	594	724	1,124	159
0	1,330	1,069	261	486	485	319	40
1 person	427	326	101	63	137	191	36
2 persons	264	210	54	19	49	170	26
3 persons	223	191	32	7	25	171	20
4 persons	135	113	22	3	2	117	13
5 persons and over	117	105	12	2	2	101	12
Not reported	105	85	20	14	24	55	12
Wage earner status	2,601	2,099	502	594	724	1,124	159
Primary	1,402	1,251	151	179	302	797	124
Other	995	696	299	376	360	234	25
Not reported	204	152	52	39	62	93	10

TABLE 12 - Continued

## Characteristics of trainees in O.J.T. programs--continued

Characteristics	Total reported			Age			
	Total	Male	Female	Under 19	19-21	22-44	45 and over
Eligible for allowance	2,601	2,099	502	594	724	1,124	159
Yes	303	262	41	48	70	158	27
No	2,298	1,837	461	546	654	966	132
Type allowance for which eligible	303	262	41	48	70	158	27
Regular	169	151	18	2	28	116	23
Augmented	57	46	11	1	10	42	4
Youth	77	65	12	45	32	-	-
U.I. claimant status	2,601	2,099	502	594	724	1,124	159
Yes	173	150	23	11	45	94	23
No	1,933	1,573	360	482	549	786	114
Not reported	405	376	119	101	130	242	22
Public assistance status	2,601	2,099	502	594	724	1,124	159
Yes	137	97	40	49	33	43	12
No	2,001	1,660	341	452	568	859	122
Not reported	463	342	121	93	123	222	25
Prior employment status	2,601	2,099	502	594	724	1,124	159
Unemployed	1,506	1,168	338	417	447	563	79
Family farm worker	4	4	-	1	1	2	-
Reentrant to labor force	45	27	18	17	11	13	4
Underemployed	750	667	83	110	195	401	44
Not reported	296	233	63	49	70	145	32
Duration of unemployment	1,506	1,168	338	417	447	563	79
Less than 5 weeks	659	575	84	162	203	267	27
5-14 weeks	293	230	63	72	83	125	13
15-26 weeks	132	99	33	41	30	51	10
27-52 weeks	160	109	51	72	48	32	8
Over 52 weeks	262	155	107	70	83	88	21
Prior military service	2,601	2,099	502	594	724	1,124	159
Veteran	390	390	-	1	32	310	47
Peacetime service	193	182	11	13	56	111	13
Rejectee	133	133	-	7	61	64	1
Other nonveteran	1,151	819	332	331	358	404	58
Not reported	734	575	159	242	217	235	40
Handicapped	2,601	2,099	502	594	724	1,124	159
Yes	238	175	63	56	79	76	27
No	2,292	1,880	412	525	624	1,015	128
Not reported	71	44	27	13	21	33	4

SOURCE: U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research (OMPER), special tabulations.

TABLE 13-

CHARACTERISTICS OF TRAINEES ENROLLED IN MDTA ON-THE-JOB TRAINING PROGRAMS, BY AGE AND SEX  
 NEW YORK STATE, CUMULATIVE 1963-MARCH 28, 1967  
 (Per cent distribution)

Characteristics	Total reported			Age			
	Total	Male	Female	Under 19	19-21	22-44	45 and over
Total	2,601	2,099	502	594	724	1,124	159
Per cent of total	100.0	80.7	19.3	22.8	27.8	43.2	6.1
Race	100.0	100.0	100.0	100.0	100.0	100.0	100.0
White	69.3	73.5	51.7	65.8	71.0	68.2	82.4
Negro	28.8	24.8	45.7	32.5	26.5	30.3	14.7
Other nonwhite	1.9	1.7	2.6	1.7	2.5	1.5	2.9
Not obtained	401	319	82	117	123	138	23
Family status	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Head of family or household	42.0	46.7	21.6	11.2	24.7	66.1	68.5
Other	58.0	53.3	78.4	88.8	75.3	33.9	31.5
Not reported	214	161	53	41	61	96	16
Education	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 years	4.5	4.6	4.3	3.8	3.1	5.2	9.3
8	7.0	6.9	7.4	6.2	2.8	8.1	22.5
9-11	37.8	36.5	43.7	46.7	39.1	32.7	34.4
12	43.9	45.0	39.0	42.0	45.7	46.0	27.8
More than 12 years	6.7	7.0	5.6	1.4	9.3	8.1	6.0
Not reported	76	36	40	11	13	44	8
Years of gainful employment	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 3	53.9	52.6	59.6	97.2	80.7	18.5	7.9
3-9	28.0	27.9	28.1	2.0	19.1	49.5	15.7
10 or more	18.1	19.5	12.3	0.2	0.2	32.0	76.4
Not reported	430	334	96	90	106	202	32
Number of dependents	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0	53.3	53.1	54.1	83.8	69.3	29.8	27.2
1 person	17.1	16.2	21.0	10.9	19.6	17.9	24.5
2 persons	10.6	10.4	11.2	3.3	7.0	15.9	17.7
3 persons	8.9	9.5	6.6	1.2	3.6	16.0	13.6
4 persons	5.4	5.6	4.6	0.5	0.3	10.9	8.8
5 and over	4.7	5.2	2.5	0.3	0.3	9.4	8.2
Not reported	105	85	20	14	24	55	12
Wage earner status	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Primary	58.5	64.3	33.6	32.3	45.6	77.3	83.2
Other	41.5	35.7	66.4	67.7	54.4	22.7	16.8
Not reported	204	152	52	39	62	93	10

TABLE 13 - Continued

## Characteristics of trainees in O.J.T. programs--continued

Characteristics	Total reported			Age			
	Total	Male	Female	Under 19	19-21	22-44	45 and over
Eligible for allowance	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	11.6	12.5	8.2	8.1	9.7	14.1	17.0
No	88.4	87.5	91.8	91.9	90.3	85.9	83.0
Type allowance for which eligible	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Regular	55.8	57.6	43.9	4.2	40.0	73.4	85.2
Augmented	18.8	17.6	26.8	2.1	14.3	26.6	14.8
Youth	25.4	24.8	29.3	93.8	45.7	-	-
U.I. claimant status	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	8.2	8.7	6.0	2.2	7.6	10.7	16.8
No	91.8	91.3	94.0	97.8	92.4	89.3	83.2
Not reported	495	376	119	101	130	242	22
Public assistance status	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	6.4	5.5	10.5	9.8	5.5	4.8	9.0
No	93.6	94.5	89.5	90.2	94.5	95.2	91.0
Not reported	463	342	121	93	123	222	25
Prior employment status	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Unemployed	65.3	62.6	77.0	76.5	68.3	57.5	62.2
Family farm worker	0.2	0.2	-	0.2	0.2	0.2	-
Reentrant to labor force	2.0	1.4	4.1	3.1	1.7	1.3	3.1
Underemployed	32.5	35.7	18.9	20.2	29.8	41.0	34.6
Not reported	296	233	63	49	70	145	32
Duration of unemployment	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 5 weeks	43.8	49.2	24.9	38.8	45.4	47.4	34.2
5-14 weeks	19.5	19.7	18.6	17.3	18.6	22.2	16.5
15-26 weeks	8.8	8.5	9.8	9.8	6.7	9.1	12.7
27-52 weeks	10.6	9.3	15.1	17.3	10.7	5.7	10.1
Over 52 weeks	17.4	13.3	31.7	16.8	18.6	15.6	26.6
Prior military service	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Veteran	20.9	25.6	-	0.3	6.3	34.9	39.5
Peacetime service	10.3	11.9	3.2	3.7	11.0	12.5	10.9
Rejectee	7.1	8.7	-	2.0	12.0	7.2	0.8
Other nonveteran	61.6	53.7	96.8	94.0	70.6	45.4	48.7
Not reported	734	575	159	242	217	235	40
Handicapped	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Yes	9.4	8.5	13.3	9.6	11.2	7.0	17.4
No	90.6	91.5	86.7	90.4	88.8	93.0	82.6
Not reported	71	44	27	13	21	33	4

NOTE: Figures for 'not reported' are excluded from per cent distribution. Details may not add to total due to rounding.

SOURCE: U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research (OMPER), special tabulations.



TABLE 14

Characteristics of Trainees Enrolled in MDTA Institutional Programs  
United States and New York State, 1966

Table 14 compares the characteristics of institutional trainees in New York State and in the U.S. during 1966, the year when the MDTA program enrolled the largest number of trainees in any single year.

In New York State, the average trainee was younger than in the U.S. While N.Y. State trainees were divided about equally between whites and Negroes, 2 out of 3 trainees in the U.S. were white. The educational level of the U.S. trainee was higher than in New York State. Thus, N.Y. State's emphasis was directed more toward the disadvantaged youth and hard-core unemployed than is shown statistically for the nation.

TABLE 14

CHARACTERISTICS OF TRAINEES ENROLLED IN MDTA INSTITUTIONAL PROGRAMS  
 UNITED STATES AND NEW YORK STATE, 1966  
 (Per cent distribution)

Characteristics	United States a/			New York State		
	Total	Male	Female	Total	Male	Female
Total	162,545	92,000	70,545	14,058	7,409	6,649
Per cent distribution	100.0	56.6	43.4	100.0	52.7	47.3
Age	100.0	100.0	100.0	100.0	100.0	100.0
Under 19 years	12.2	12.3	12.0	17.1	18.8	15.1
19-21 years	21.6	20.6	22.8	28.3	26.9	29.9
22-34 years	37.3	40.8	32.7	32.8	35.9	29.4
35-44 years	16.9	16.0	18.1	13.0	10.9	15.3
45 years and over	12.0	10.2	14.4	8.8	7.5	10.2
Race	100.0	100.0	100.0	100.0	100.0	100.0
White	61.8	66.4	55.7	38.1	46.7	28.7
Negro	35.9	30.9	42.4	59.3	50.0	69.7
Other nonwhite	2.3	2.7	1.8	2.5	3.4	1.6
Family status	100.0	100.0	100.0	100.0	100.0	100.0
Head of family or household	55.7	62.7	46.6	55.5	58.8	51.8
Other	44.3	37.3	53.4	44.5	41.2	48.2
Education	100.0	100.0	100.0	100.0	100.0	100.0
Under 8 years	6.4	8.7	3.4	4.7	6.6	2.6
8 years	9.8	12.6	6.2	9.3	11.6	6.6
9-11 years	36.0	38.2	33.0	49.7	53.9	44.9
12 years	41.4	35.1	49.5	33.3	25.1	42.7
Over 12 years	6.4	5.3	7.9	3.0	2.9	3.3
Years of gainful employment	100.0	100.0	100.0	100.0	100.0	100.0
Under 3 years	35.5	27.5	46.0	43.8	39.5	48.8
3-9 years	38.7	39.5	37.7	33.8	35.4	31.9
10 years or more	25.7	33.0	16.3	22.4	25.0	19.3
Number of dependents	100.0	100.0	100.0	100.0	100.0	100.0
0	47.2	40.9	55.3	44.9	43.3	46.8
1 person	14.9	13.3	17.1	19.8	16.5	23.5
2 persons	12.5	13.3	11.5	13.9	13.3	14.6
3 persons	9.4	11.0	7.3	10.0	11.9	7.9
4 persons	6.5	8.2	4.2	5.4	7.0	3.6
5 persons and over	9.5	13.2	4.6	6.0	8.0	3.7
Wage earner status	100.0	100.0	100.0	100.0	100.0	100.0
Primary	69.6	78.8	57.6	66.3	70.8	61.1
Other	30.4	21.2	42.4	33.7	29.2	38.9

TABLE 14

## Characteristics of trainees in institutional programs -- continued

Characteristics	United States <sup>a/</sup>			New York State		
	Total	Male	Female	Total	Male	Female
Eligible for allowance	100.0	100.0	100.0	100.0	100.0	100.0
Yes	70.5	80.0	56.6	82.5	87.4	77.0
No	29.5	20.0	43.4	17.5	12.6	23.0
Type of training allowance for which eligible	100.0	100.0	100.0	100.0	100.0	100.0
Regular	50.3	52.1	46.5	31.0	32.1	29.6
Augmented	31.3	32.6	28.6	44.4	48.1	39.7
Youth	18.4	15.3	24.9	24.7	19.8	30.8
U.I. claimant	100.0	100.0	100.0	100.0	100.0	100.0
Yes	14.5	19.3	8.2	12.0	15.1	8.5
No	85.5	80.7	91.8	88.0	84.9	91.5
Public assistance recipient	100.0	100.0	100.0	100.0	100.0	100.0
Yes	11.8	9.0	15.5	12.8	10.6	15.4
No	88.2	91.0	84.5	87.2	89.4	84.6
Prior employment status	100.0	100.0	100.0	100.0	100.0	100.0
Unemployed	87.0	87.7	86.1	68.7	70.1	67.1
Family farm worker	1.6	2.5	0.3	0.1	0.1	-
Reentrant to labor force	2.3	0.7	4.6	1.0	0.2	1.8
Underemployed	9.1	9.1	9.1	30.3	29.6	31.0
Duration of unemployment	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 weeks	32.2	36.6	25.5	33.0	38.7	26.3
5 to 14 weeks	23.5	26.6	18.8	24.3	27.4	20.7
15 to 26 weeks	13.4	13.9	12.7	13.7	14.1	13.3
27 to 52 weeks	10.9	10.1	12.1	10.1	9.0	11.4
Over 52 weeks	20.0	12.7	30.9	18.8	10.9	28.3
Prior military service	100.0	100.0	100.0	100.0	100.0	100.0
Veteran	17.5	29.8	1.1	11.6	21.0	0.4
Peacetime service	8.1	13.9	0.2	4.0	7.2	0.2
Rejectee	4.4	7.6	0.1	3.5	6.3	0.2
Other nonveteran	70.0	48.8	98.5	80.9	65.5	99.2
Handicapped	100.0	100.0	100.0	100.0	100.0	100.0
Yes	8.7	12.1	4.3	6.7	8.2	5.0
No	91.3	87.9	95.7	93.3	91.8	95.0

<sup>a/</sup> Per cent distribution based on reports for approximately 68,000 trainees.

NOTE: Details may not add to total due to rounding.

SOURCE: U.S. Department of Labor, Manpower Report of the President and Report on Manpower Requirements, Resources, Utilization and Training and OMPER, special tabulations.

TABLE 15

This is a per cent distribution of the trainees by occupational group in which the person is trained. The distribution is made for the U.S. and New York State separately to compare the differences in occupational emphasis of the two geographic entities.

In the U.S., the largest group of enrollees were trained in skilled, clerical, semiskilled, and service occupations, in that order. In New York State, the largest group was trained in clerical occupations. The next largest group were the skilled, with the semiskilled and semiprofessional group far behind these others, but rather significant in size.

TABLE 15

TYPE OF OCCUPATIONAL TRAINING GIVEN MDTA TRAINEES  
UNITED STATES AND NEW YORK STATE  
CUMULATIVE JUNE 1962-SEPTEMBER 30, 1966  
(Per cent distribution)

Occupational category in which trained	United States	New York State
Total	374,190	29,359
Per cent	100.0	100.0
Professional and managerial	9.1	13.5
Professional	0.9	0.8
Semiprofessional	8.2	12.7
Managerial	0.1	-
Clerical and sales	21.4	28.1
Clerical	19.4	27.8
Sales	2.0	0.3
Service	12.5	11.7
Agriculture	3.4	-
Skilled	27.3	25.2
Semiskilled	17.6	13.1
Other	8.7	8.4

NOTE: Details may not add to total due to rounding.

SOURCE: U.S. Department of Labor, OMPER, special tabulation Table 52.

TABLE 16

This table shows the number of enrollees, by occupation in which enrolled, and by race. The largest group of non-whites, almost one-third, were enrolled in clerical and sales courses. The next largest group took training courses in the service occupations. The largest group of whites (a little more than one-fifth) were also enrolled in clerical and sales courses. The next largest group of whites were enrolled in skilled miscellaneous occupations.

It is significant to note from this table that the existing occupational level pattern for non-whites now existing in the business world is being broken up somewhat by more liberal non-white enrollments in the heretofore restricted professional, managerial, clerical and skilled categories.

TABLE 16

MDTA TRAINEES ENROLLED IN INSTITUTIONAL COURSES BY RACE  
AND OCCUPATIONAL GROUP IN WHICH TRAINED  
NEW YORK STATE, CUMULATIVE 1963-JUNE 30, 1966

Occupational group	Total		White		Nonwhite		Racial data not obtained
	Number	% of total	Number	% of total	Number	% of total	
Total	26,150	100.0	13,414	100.0	10,540	100.0	2,196
Professional and managerial	3,526	13.5	2,085	15.5	1,224	11.6	217
Clerical and sales	7,228	27.6	3,212	23.9	3,448	32.7	568
Service	2,980	11.4	1,041	7.8	1,632	15.5	307
Agricultural	1	(a/)	1	(a/)	-	-	-
<b>Skilled:</b>							
Manufacturing	2,343	9.0	1,319	9.8	786	7.5	238
Nonmanufacturing	438	1.7	262	2.0	152	1.4	24
Miscellaneous occupations	3,900	14.9	2,619	19.5	1,022	9.7	259
<b>Semiskilled:</b>							
Manufacturing	2,633	10.1	1,696	12.6	737	7.0	200
Nonmanufacturing	280	1.1	159	1.2	96	0.9	25
Miscellaneous occupations	703	2.7	386	2.9	262	2.5	55
<b>Unskilled:</b>							
Manufacturing	3	(a/)	1	(a/)	2	(a/)	-
Nonmanufacturing	49	0.2	12	0.1	32	0.3	5
Occupation not reported	2,066	7.9	621	4.6	1,147	10.9	298

a/ Less than 0.1%.

NOTE: Details may not add to total due to rounding.

SOURCE: U.S. Dept. of Labor, OMPER, special tabulations.

## SECTION VI - COST-EFFECTIVENESS OF MDTA TRAINING PROGRAMS

This section of the report is concerned with a) the extent to which MDTA training programs are meeting their immediate training objective; b) the cost to Government, and c) the relative effectiveness of completed programs in terms of dollar cost per unit of accomplishment. The institutional programs analyzed were approved in fiscal years 1962 to 1965 and have been completed; the OJT programs analyzed were approved in fiscal years 1963 to 1967 and have been completed.

### Measures of Effectiveness

For each completed program, effectiveness is measured in terms of the number of persons who entered training, the number who successfully completed training, and the number who subsequently found employment either in a training-related job or in some other job. The per capita costs associated with these processes provide an indication of the relative cost to Government at each stage.

Costs per enrollee and costs per training completer are presented in the tabulations that follow. Cost per completer with a job have not been shown for institutional programs for two reasons; a) no information was available on the employment status of those who did not complete training, many of whom dropped out to take jobs, and b) the information on jobs held by completers did not relate to any one time period either in terms of elapsed time since the completion of the course or to any given date.

Cost per enrollee is an indicator of the relative cost of establishing and conducting the training provided as well as the cost of getting individuals into the program and job referral services.

Cost per trainee completer is a measure indicating the relative cost of providing the training estimated to be required to provide the skills needed for placement.



## Costs and Cost Differences

The cost to Government of each program includes only direct training costs, allowance costs, and overhead costs of State agencies participating in the program. It does not include indirect costs to Government or the costs to the individual trainee through loss of potential earned income.

As will be shown subsequently, costs of similar programs differ markedly. Factors affecting educational costs included instructional services, equipment purchase, building and equipment maintenance and repair, fixed charges such as space rental, as well as other costs such as custodial and utility expense. Operating factors that affected education cost included the duration of the training course, class size, the type of instruction provided and many other factors.

Allowance costs varied by the type of allowance for which the trainee was eligible, the authorized amount of allowance at the time, the proportion of trainees receiving allowances, and other related factors. These costs are associated largely with the characteristics of the individual trainee rather than those of the training program.

General overhead costs relate to all projects in a given fiscal year. They include project development costs and general overhead costs of the State and local Education Departments, the cost of services provided by the State Employment Service, and the State Division of Manpower. The cost of administration of Federal agencies is not included. Overhead costs are affected by a great many administrative factors including problems associated with developing and funding projects, and the proportion of individuals requiring the services provided by the Employment Service.

## Benefits and Program Effectiveness

Meeting skill needs and reducing unemployment are not the only benefits of MDIA training programs. As a result of training activities, numerous correlative benefits may accrue to the community such as; improvement of training facilities, development of an experienced corps of training specialists, and more stable community relations. The individual may enhance his personal skills and develop better social attitudes. These values and benefits are difficult, if not impossible to appraise objectively and quantitatively.

The measure of effectiveness used does not take into account the nature of the job held by the former trainee. If, as a result of special placement efforts, the job obtained for the trainee is one which could have been filled from the available supply of workers without additional training, then the social benefit is minimal. On the other hand, if the job held is one that could not be filled without the training effort and the trained worker vacates a job that can be filled from among the unemployed, then there is a double benefit to society, i.e., the incremental earnings of the trainee and the difference between no earnings for the previously unemployed worker and his present earnings. In short, in some cases it is possible that the training effort produced not one but two jobs. These possibilities are ignored in the computations herein presented.

It is also conceivable that through special counseling and placement efforts, individuals can be directed to jobs on the basis of the skills that they already have. This study does not examine the question of the relative desirability of expending public funds on special services or on training. The effectiveness measured by the denominator of the

cost-effectiveness ratio reflects the combined effect of all services and training provided as well as the efforts of the individual trainee.

#### A. COST-EFFECTIVENESS OF MDTA INSTITUTIONAL TRAINING PROJECTS

##### The Scope of the Survey

Included in this Cost-Effectiveness Section of the Survey are institutional projects approved from the beginning of the program through December 1965. Projects approved in 1966 and 1967 were not included because complete cost data were not available. A total of 310 projects that had 17,980 individuals enrolled for training are included. The sample includes all projects approved and funded in fiscal years 1962 and 1963; all but five projects approved and funded in fiscal year 1964; and all but eleven projects approved and funded in fiscal year 1965. Of the sixteen excluded projects, seven are multi-occupational projects for which complete cost data were not available. Other projects omitted included experimental and demonstration projects, individual referrals, projects financed in whole or in part by private agencies or directly by the Federal Government. Examples of such excluded projects are those assigned to such agencies as: Federation of the Handicapped, Mobilization for Youth, Institute for the Crippled and Disabled, New York City; Abilities, Inc., Long Island; and Crusade for Opportunity, Syracuse.

The cost of experimental and demonstration projects designed as tests of procedures or the feasibility of training were excluded because they are not typical. They provide experience whose cost is properly spread over the cost of all projects. In the case of other types of projects, financial data was not available on educational costs.

The following table is a summary, by Federal fiscal years, of the projects, trainees enrolled, and their post-training employment experience.

TABLE 17- INSTITUTIONAL PROJECTS INCLUDED IN THE SURVEY BY YEAR PROJECT APPROVED AND BY ENROLLEES, COMPLETERS, AND COMPLETERS WITH A JOB

Year Project Approved	Number of Projects	Trainees Enrolled	Trainees Completing Course	Trainee Completers With a Job	Trainee Completers With a Training-Related Job *
Total	310	17,980	13,053	9,437	7,659
1963 (a)	64	3,923	2,865	1,896	1,517
1964	108	5,914	4,334	3,436	2,750
1965	138	8,143	5,854	4,105	3,392

a. Includes 1962

\* See Note on Methodology

Table 18, on the following three pages, lists the relative effectiveness, as measured by the employment status of trainees completing training, of the various occupational training projects.

Overall, of the 17,980 individuals enrolled in training courses in the projects included in the study 73% or 13,053 completed training. Of these, 72% or 9,437 had a job at the time of the last report to the Division of Employment. Four of five trainees with a job had training-related employment.

TABLE 18 - EFFECTIVENESS OF TRAINING AS MEASURED BY THE EMPLOYMENT STATUS  
OF TRAINEES COMPLETING TRAINING, BY OCCUPATION  
(INSTITUTIONAL PROJECTS)

Occupation (1)	: No. of : projects : (2)	: Trainees : enrolled : (3)	: Trainees : completing : course : (4)	: Training : completors : with a job : (5)	: Training : Percent			
					: completors : with a : training- : related : job (6)	: Trainees : completing : course : (4) ÷ (3) : (5) ÷ (4) : training-related : job (6) ÷ (4)		
Total - all projects	310	17,980	13,053	9,437	7,659	72.6	72.3	58.7
Professional, technical, and managerial								
Draftsman, mechanical	1	42	33	25	24	78.6	75.8	72.7
Draftsman, trainee	5	159	121	111	97	76.1	91.7	80.2
Nurse, licensed practical	43	2,567	1,947	1,743	1,721	75.8	89.5	88.4
Optometrist	1	10	7	7	7	70.0	100.0	100.0
Preparation man, printing	1	70	59	31	13	84.3	52.5	32.7
Teacher	1	74	66	60	53	89.2	90.9	80.3
Clerical and sales								
Bookkeeping mach. op.	2	168	128	87	78	76.2	68.0	60.9
Cashier II	1	105	102	75	40	97.1	73.5	39.2
Cashier, hotel	1	114	103	67	54	90.4	65.0	52.4
Grocery checker	2	188	164	104	73	87.2	63.4	44.5
Key Punch operator	4	402	351	264	230	87.3	75.2	65.5
Litho. duplicator op.	2	84	61	47	24	72.6	77.0	39.3
Policy rater	1	24	23	20	13	95.8	87.0	78.3
Stenographer	24	1,974	1,221	847	750	61.9	69.4	61.4
Typist	15	2,194	1,623	1,102	916	74.0	67.9	56.4
Service								
Cook	8	203	139	93	72	68.5	66.9	51.8
Meat Cutter	4	233	172	129	100	73.8	75.0	58.1
Nursery school aide	1	29	26	23	23	89.7	88.5	88.5
Orderly-nurse aide	11	1,676	1,252	989	917	74.7	79.0	73.2
Presser, machine	1	26	19	16	10	73.1	84.2	52.6
Shoe repairman	1	33	26	6	4	78.8	23.1	15.4

Continued

Table 18 continued

Occupation	: No. of projects : (2)	: Trainees enrolled : (3)	: Trainees completing course : (4)	: Training completors with a job : (5)	: Training completors with a training-related job : (6)	: Training : Percent		
						: Trainees completing course : (4) ÷ (3)	: Training completors with a job : (5) ÷ (4)	: Training completors with a training-related job : (6) ÷ (4)
<b>Processing</b>								
Baker	2	52	33	23	18	63.5	69.7	54.5
<b>Machine Trades</b>								
Auto mechanic	33	1,106	772	608	425	69.8	78.8	55.1
Auto service st. mech.	7	323	205	121	80	63.5	59.0	39.0
Auto radiator man	1	48	32	13	5	66.7	40.6	15.6
Deck engine mechanic	1	38	32	22	18	84.2	68.8	56.3
Die maker (steel rule)	1	48	29	7	2	60.4	24.1	6.9
Farm equip. mechanic	3	66	45	35	25	63.2	77.8	55.6
Gas appliance repairman	2	72	58	33	17	80.6	56.9	29.3
Gas engine, repair and main.	1	22	13	7	2	59.1	53.8	15.4
Machine oper., general	26	1,389	912	710	540	65.7	77.9	59.2
Office Machine, S/M	3	170	92	65	54	54.1	70.7	58.7
Offset pressman	2	109	100	63	37	91.7	63.0	37.0
Job setter	1	35	21	9	6	60.0	42.9	28.6
Refrigeration mechanic	1	55	40	17	4	72.7	42.5	10.0
Serving machine, R/M	1	34	18	12	4	52.9	66.7	22.2
Sheet metal fabric mach. op.	1	47	34	25	20	72.3	73.5	58.8
Stitcher machine	3	98	84	6	3	85.7	7.1	3.6
Woodworking mach. op.	4	90	58	35	18	59.2	60.3	31.0
Airplane mechanic	1	55	47	28	27	85.5	59.6	57.4
<b>Bench work</b>								
Camera repair and main.	1	25	20	14	9	80.0	70.0	45.0
Electric motor, R/M	1	22	12	6	1	54.5	50.0	8.3
Serving mach. op.	10	620	511	220	135	82.4	43.1	26.4
Tailor II	2	24	22	11	7	91.7	50.0	31.8
Television service R/M	1	44	30	18	13	68.2	60.0	43.3

Continued



Table 18 continued

Occupation	No. of projects (2)	Trainees enrolled (3)	Trainees completing course (4)	Training completors with a job (5)	Training completors with a training-related Job (6)	Percent		
						Trainees completing course (4) ÷ (3)	Training completors with a job (5) ÷ (4)	Training completors with a training-related Job (6) ÷ (4)
<b>Bench work (cont'd)</b>								
Electrical tester	2	137	82	63	39	59.9	76.8	47.6
Upholsterer	1	14	9	6	3	64.3	67.5	33.3
<b>Structural work</b>								
Auto body, R/M	15	628	457	320	232	72.8	70.0	50.8
Auto mechanic, new car	1	34	19	6	4	55.9	31.6	21.1
Auto painter	1	54	38	10	2	70.4	26.3	5.3
Carpenter, construction	1	11	11	7	7	100.0	63.6	63.6
Electrical appliance, R/M	4	99	67	46	25	67.7	68.7	37.3
Electrical mechanic	6	408	252	204	165	61.8	81.0	65.5
Household appliance, R/M	3	115	92	81	56	80.0	88.0	60.9
Maintenance man, bldg.	3	239	170	91	66	71.1	53.5	38.8
Oil burner installation, R/M	7	324	275	195	108	84.9	70.9	39.3
Painter	1	52	39	20	5	75.0	51.3	12.8
Plumber, maintenance	1	33	26	18	8	78.8	69.2	30.8
Sheet metal worker	3	60	36	32	19	60.0	88.9	52.8
Sheet metal worker (aircraft II)	1	20	11	10	5	55.0	90.9	45.5
Spray finisher	1	25	18	10	1	72.0	55.6	5.6
Washing machine S/M	3	105	66	39	27	62.9	59.1	40.9
Welder, combination	8	349	278	197	122	79.7	70.9	43.9
Welder, heliarc	1	28	28	13	9	100.0	46.4	32.1
Welder, inert gas	3	124	112	37	21	90.3	33.0	18.8
<b>Miscellaneous</b>								
Auto station service att.	5	154	104	78	36	67.5	75.0	34.6

Measuring Effectiveness in Terms of Costs

The following table shows the average project cost per enrollee and per trainee completer in institutional projects.

TABLE 19 - AVERAGE INSTITUTIONAL PROJECT COST BY OCCUPATION  
(Projects Approved 1962-1965)

Occupation	: No. of : projects	: Average project cost	
		: Per : enrollee	: Per : training completer
Total - all projects	310	\$ 1,605	\$ 2,308
Professional, technical, & managerial	52	2,142	2,826
Draftsman, mechanical	1	1,536	1,978
Draftsman, trainee	5	1,383	1,761
Nurse, licensed practical	43	2,144	2,826
Optometrist	1	7,867	11,235
Preparation man, printing	1	1,630	1,965
Teacher	1	1,242	1,447
Clerical and sales	52	1,048	1,464
Bookkeeping mach. operator	2	1,490	1,951
Cashier, II	1	353	427
Cashier, hotel	1	780	909
Grocery checker	2	339	430
Key punch operator	4	621	763
Litho-duplicator oper.	2	1,956	2,658
Policy rater	1	828	928
Stenographer	24	1,371	1,987
Typist	15	637	871
Service	26	1,194	1,676
Cook	8	2,180	3,318
Meat cutter	4	1,189	1,579
Nursing school aide	1	755	893
Orderly-nurse aide	11	419	656
Presser, machine	1	420	576
Shoe repairman	1	1,586	2,034
Processing	2	2,774	4,298
Baker	2	2,774	4,298
Machine trades	92	1,817	2,722
Auto mechanic	33	2,135	3,028
Auto service station mechanic	7	1,046	1,573
Auto radiator man	1	662	979
Deck engine mechanic	1	1,610	1,951
Die maker (Steel Rule)	1	989	1,599
Farm equipment mechanic	3	2,885	4,914
Gas appl. serviceman	2	1,039	1,251
Gas engine repairman	1	1,540	2,555

Continued

Table 19 continued

Occupation	No. of projects	Average project cost	
		Per enrollee	Per training completer
<b>Machine trades (cont'd.)</b>			
Mach. operator, general	26	1,296	2,178
Office mach. service & maint.	3	2,932	5,818
Offset pressman	2	2,099	2,388
Job setter	1	3,469	5,735
Refrigeration mechanic	1	2,161	2,977
Sewing mach., repair & maint.	1	1,765	3,186
Steel metal fabr. mach. op.	1	1,785	2,471
Stitcher machine	3	367	461
Woodworking mach. oper.	4	2,544	3,166
Airplane mechanic	1	6,717	7,809
<b>Bench work</b>			
Camera repair and maint.	1	1,331	1,691
Electric motor repair & maint.	1	2,517	4,539
Sewing mach. operator	10	433	565
Tailor II	2	1,422	1,605
Television service, repairs and main.	1	2,504	3,661
Electrical tester	2	1,672	2,501
Upholsterer	1	2,519	3,902
<b>Structural work</b>			
Auto body repair and maint.	15	2,341	3,419
Auto mechanic, (new car)	1	2,941	5,204
Auto painter	1	833	1,178
Carpenter, construction	1	1,482	1,530
Electric appliance, R/M	4	2,178	3,985
Electronic mechanic	6	2,418	3,915
Household appliance, R/M	3	1,495	1,882
Maintenance man, building	3	1,452	2,004
Oil burner installation, S/M	7	1,390	1,873
Painter	1	302	575
Plumber, maintenance	1	1,297	1,670
Sheet metal worker	3	1,145	1,918
Sheet metal worker (aircraft II)	1	1,533	2,738
Spray finisher	1	775	2,143
Washing machine S/M	3	1,636	2,687
Welder, combination	3	1,027	1,273
Welder, heliarc	1	669	761
Welder, inert gas	3	539	645
<b>Miscellaneous</b>			
Auto serv. station attendant	5	726	1,007
	5	726	1,007

Duration of Training as a Cost Factor

The duration of training affects the cost of instruction as well as the period during which allowances are paid to eligible trainees. Tables 20 and 21 show cost variations by duration of training in weeks for seven occupations in which ten or more separate projects were approved. As might be expected, there was a close association between course duration and total cost per enrollee. Some irregularities appear. These can be attributed largely to differences in allowances paid.

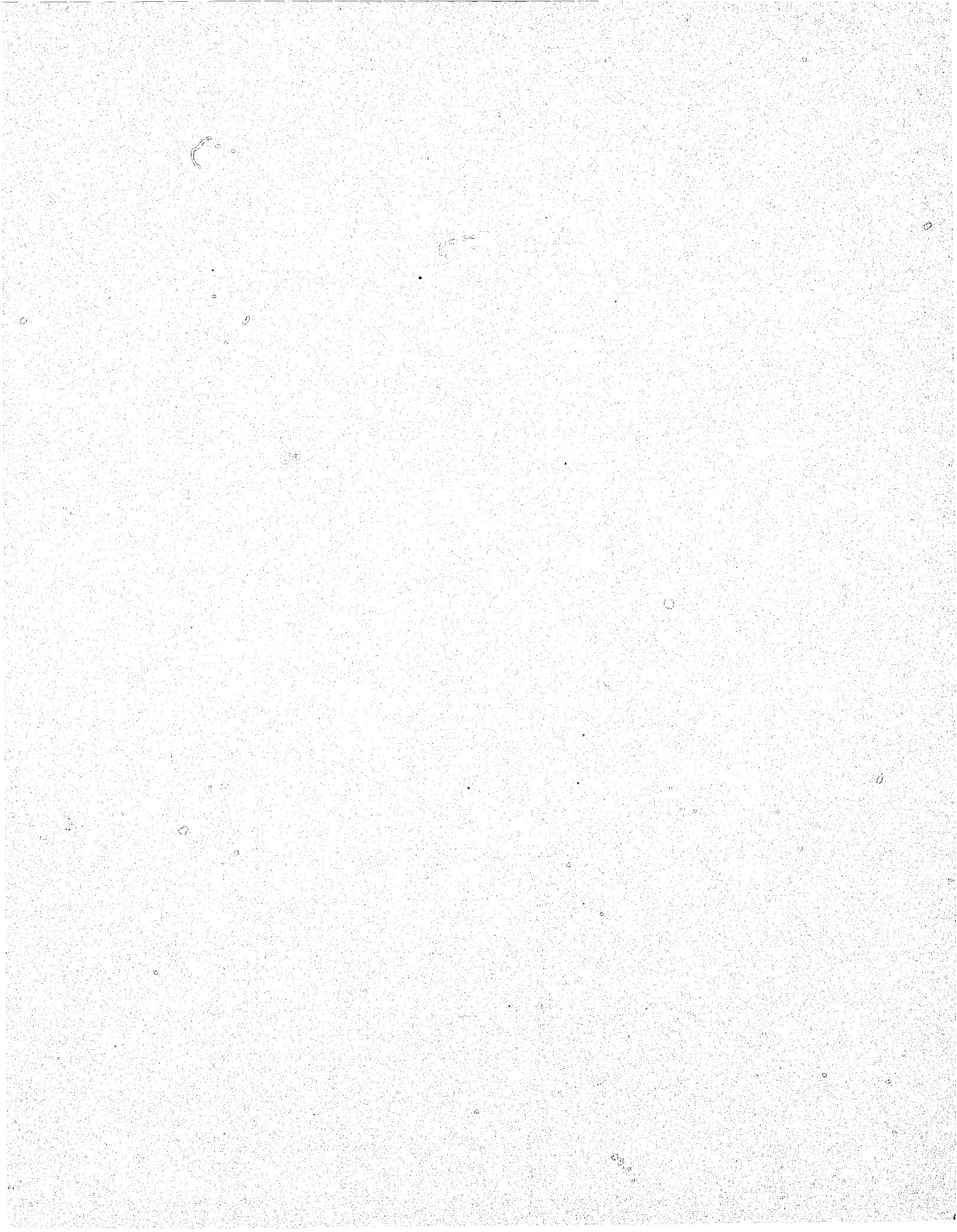


TABLE 20 - AVERAGE INSTITUTIONAL PROJECT COST PER ENROLLEE BY DURATION OF TRAINING (IN WEEKS)  
(SELECTED OCCUPATIONS)

Occupations	No. of projects	Average project cost	Duration training													
			Less than 3 weeks	3 to 5 weeks	6 to 10 weeks	11 to 15 weeks	16 to 20 weeks	21 to 25 weeks	26 to 30 weeks	31 to 35 weeks	36 to 40 weeks	41 to 45 weeks	46 to 50 weeks	51 weeks or longer	No. of projects	Average project cost
Licensed practical nurse	43	\$2,144	-	\$ -	-	\$ -	-	\$ -	3	\$2,178	3	\$1,397	27	\$2,210	10	\$2,182
Stenographer	24	1,371	-	-	-	-	3	740	14	1,314	7	1,757	-	-	-	-
Typist	15	637	-	-	10	585	4	753	1	694	-	-	-	-	-	-
Orderly-nurse aid	11	419	10	414	1	479	-	-	-	-	-	-	-	-	-	-
Auto mechanic	33	2,135	-	-	-	-	9	1,506	15	2,136	2	2,721	6	2,881	-	-
Machine operator, general	26	1,296	3	645	9	1,064	9	1,305	3	1,663	1	2,613	1	2,106	-	-
Auto body, R/M	15	2,341	-	-	1	626	3	2,066	6	1,748	3	2,769	2	4,749	-	-

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TABLE 21 - AVERAGE INSTITUTIONAL PROJECT COST PER TRAINEE COMPLETING TRAINING (IN WEEKS)  
(SELECTED OCCUPATIONS)

Occupations	No. of projects	Average project cost	Duration of training													
			Less than 8 weeks		8 to 15 weeks		16 to 23 weeks		24 to 31 weeks		32 to 39 weeks		40 to 47 weeks		48 weeks or longer	
			No. of projects	Average project cost	No. of projects	Average project cost	No. of projects	Average project cost	No. of projects	Average project cost	No. of projects	Average project cost	No. of projects	Average project cost	No. of projects	Average project cost
Licensed practical nurse	43	\$2,826	-	-	-	-	-	-	3	\$2,504	3	\$1,956	27	\$2,954	10	\$2,836
Stenographer	24	1,987	-	-	-	-	3	\$ 950	14	1,999	7	2,406	-	-	-	-
Typist	15	871	-	-	10	816	4	1,009	1	866	-	-	-	-	-	-
Orderly-nurse aid	11	656	10	647	1	645	-	-	-	-	-	-	-	-	-	-
Auto mechanic	33	3,028	-	-	-	-	9	2,125	16	3,053	2	3,151	6	4,275	-	-
Machine operator, general	26	2,178	3	1,136	9	1,509	9	2,000	3	3,919	1	5,638	1	1,082	-	-
Auto body repairman	15	3,419	-	-	1	886	3	2,747	6	2,534	3	3,476	2	3,265	-	-

### The Cost of Initial and Recycled Projects

Table 22 presents an analysis of 89 projects in five occupations for which training was most frequently provided. Thirty-nine projects were "original" projects and 50 were recycled projects, i.e., the training program was repeated one or more times at the same training facility. In only one occupation, machine operator, general was the overall cost per enrollee less for the recycled project than for the original project. There are two main reasons for this apparent anomaly. For four of the five occupations average training duration was substantially greater than when the training was first given, because the original training schedule was found to be inadequate. Average allowance costs, too, were larger in the recycled projects because of changes in the law permitting increased allowance schedules. Differences in the eligibility characteristics of the trainees contributed to the increased allowance costs. The longer period in which training allowances were paid, associated with increased course duration was also a factor. Educational costs were lower in virtually all recycled projects than in the original ones.

TABLE 22 - AVERAGE INSTITUTIONAL PROJECT COST AND DURATION OF TRAINING  
OF INITIAL AND RECYCLED PROJECTS  
(SELECTED OCCUPATIONS)

Item	: Auto : mechanic	: Auto body : repair and : maintenance	: Licensed : practical : nurse	: Machine : operator : general	: Steno- : grapher
Number of projects	18	9	31	18	13
Original	8	4	13	9	5
Recycle	10	5	18	9	8
Average duration of training (hours)					
Original	892	923	1,478	478	744
Recycle	1,050	910	1,532	545	896
Cost per enrollee					
Original					
Average project cost	\$1,926	\$1,792	\$1,950	\$1,275	\$1,327
Average cost per hour of training	\$ 2.16	\$ 1.94	\$ 1.32	\$ 2.67	\$ 1.78
Recycle					
Average project cost	\$2,390	\$2,646	\$2,209	\$1,269	\$1,426
Average cost per hour of training	\$ 2.27	\$ 2.91	\$ 1.44	\$ 2.33	\$ 1.59
Cost per completer					
Original					
Average project cost	\$3,081	\$2,344	\$2,630	\$2,106	\$2,021
Average cost per hour of training	\$ 3.45	\$ 2.54	\$ 1.78	\$ 4.40	\$ 2.72
Recycle					
Average project cost	\$3,342	\$3,381	\$3,013	\$1,861	\$2,121
Average cost per hour of training	\$ 3.18	\$ 3.71	\$ 1.97	\$ 3.41	\$ 2.37

### Variations in Cost of Training by District

Training costs for the same occupation were higher in some areas of the State than in others. Tables 23 and 24 summarize cost differences for 265 projects in which training for an occupation was provided in more than one labor market district.

A total of 43 projects throughout the State trained workers to be a licensed practical nurse. Average cost per enrollee in these training projects was \$2,144 including the cost of instruction, allowances and overhead. In the Binghamton district, the cost was \$1,836 per enrollee compared with \$2,561 in Albany. Average cost per enrollee for auto mechanic was \$2,135 with a low in the Suburban district of \$1,292 and a high in the Albany district of \$2,677.

Cost differences arise from many factors including educational costs which, in addition to instructional and facility costs, are affected by course duration and also by allowance costs which depend on the characteristics of the trainees.



TABLE 23 - AVERAGE INSTITUTIONAL PROJECT COST PER ENROLLEE BY OCCUPATION AND DISTRICT  
(SELECTED PROJECTS) 1/

Occupation	New York State		New York City		Albany		Utica		Syracuse		Rochester		Buffalo		Binghamton		Long Island		Suburban	
	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost
<b>Total</b>	265	\$1,620	33	\$1,470	50	\$1,907	31	\$1,987	37	\$1,626	18	\$1,097	20	\$1,617	27	\$1,679	22	\$1,407	27	\$1,350
<b>Professional, technical &amp; managerial</b>																				
Draftsman, trainee	5	1,383	-	-	-	-	-	-	2	1,186	-	-	1	1,798	2	1,372	-	-	-	-
Nurse, licensed practical	43	2,144	2	2,259	4	2,561	8	2,132	10	2,089	2	2,124	6	1,949	1	1,836	3	2,030	7	2,229
<b>Clerical and sales</b>																				
Key punch operator	4	621	1	629	3	617	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litho-duplicator operator	2	1,956	-	-	-	-	1	1,458	-	-	-	-	-	-	-	-	3	2,454	-	-
Stenographer	24	1,371	4	1,481	8	1,310	1	1,965	1	1,458	1	666	-	-	4	1,424	2	1,183	3	1,448
Typist	15	637	3	622	3	694	-	-	1	814	1	437	1	397	1	694	2	548	3	723
<b>Service</b>																				
Cook	8	2,180	-	-	4	2,091	-	-	3	2,708	-	-	1	2,447	-	-	-	-	-	-
Heat cutter	4	1,189	3	1,068	1	1,551	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orderly-nurse aide	11	419	3	489	-	-	-	-	2	420	-	-	1	340	1	308	2	447	2	381
<b>Processing</b>																				
Baker	2	2,774	-	-	-	-	-	-	1	3,101	-	-	-	-	-	-	1	2,446	-	-
<b>Machine tools</b>																				
Auto mechanic	33	2,135	-	-	10	2,667	5	2,983	2	2,667	6	1,409	-	-	4	1,800	2	1,297	4	1,292
Auto service station mechanic	7	1,046	2	1,721	-	-	-	-	3	801	-	-	1	806	1	668	-	-	-	-
Farm equipment mechanic	3	2,885	-	-	1	2,933	2	2,861	-	-	-	-	-	-	-	-	-	-	-	-
Machine operator, general	26	1,296	2	1,559	5	1,731	4	1,273	3	1,492	5	599	2	1,090	3	1,541	-	-	2	1,269
Office machine, S/M	3	2,932	2	3,308	-	-	-	-	-	-	-	-	-	-	-	-	1	2,180	-	-

continued



TABLE 23 -- continued

Occupation	New York State		New York City		Albany		Utica		Syracuse		Rochester		Buffalo		Binghamton		Long Island		Suburban	
	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost
<b>Machine tools (cont'd.)</b>																				
Stitcher, machine	3	367	-	-	-	-	1	388	-	-	-	-	1	437	1	275	-	-	-	-
Woodworking machine operator	4	2,544	1	924	-	-	-	-	2	1,907	-	-	1	5,438	-	-	-	-	-	-
<b>Bench work</b>																				
Sewing machine operator	10	433	-	-	-	-	2	379	2	361	-	-	1	350	-	-	1	835	4	417
Tailor, II	2	1,422	-	-	-	-	1	1,488	1	1,356	-	-	-	-	-	-	-	-	-	-
Electrical tester	2	1,672	1	1,439	-	-	-	-	-	-	-	-	1	1,904	-	-	-	-	-	-
<b>Structural work</b>																				
Auto body, R/M	15	2,341	2	1,950	6	2,878	2	3,296	-	-	-	-	2	1,932	1	1,751	2	868	-	-
Electric appliance, R/M	4	2,178	-	-	2	1,552	-	-	2	2,804	-	-	-	-	-	-	-	-	-	-
Electronic mechanic	6	2,418	4	2,016	-	-	-	-	-	-	-	-	-	-	-	1	4,187	1	2,255	-
Household appliance, R/M	3	1,495	-	-	-	-	1	2,075	-	-	-	-	-	-	-	2	1,204	-	-	-
Oil burner installation, R/M	7	1,390	2	1,212	1	1,084	1	2,613	-	-	-	-	-	-	-	2	837	1	1,935	-
Sheet metal worker	3	1,145	-	-	-	-	-	-	-	-	-	876	-	-	2	1,279	-	-	-	-
Welder, combination	8	1,027	1	975	-	-	-	-	1	923	2	1,032	1	680	3	1,191	-	-	-	-
Welder, inert gas	3	539	-	-	2	491	-	-	-	-	-	-	-	1	633	-	-	-	-	-
<b>Miscellaneous</b>																				
Auto service station attendant	5	726	-	-	-	-	2	732	1	951	-	-	-	-	2	606	-	-	-	-

1. Projects for the same occupation provided in more than one district.

TABLE 24 - AVERAGE INSTITUTIONAL PROJECT COST PER TRAINEE COMPLETING TRAINING BY OCCUPATION AND DISTRICT  
(SELECTED PROJECTS)

Occupation	New York State		New York City		Albany		Utica		Syracuse		Rochester		Buffalo		Binghamton		Long Island		Suburban	
	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost
Total	265	\$2,297	33	\$2,519	50	\$2,722	31	\$2,852	37	\$2,440	18	\$1,562	20	\$2,029	27	\$1,610	22	\$1,931	27	\$2,016
<b>Professional, technical &amp; managerial</b>																				
Draftsman, trainee	5	1,761	-	-	-	-	-	-	2	1,637	-	-	1	1,846	2	1,842	-	-	-	-
Nurse, licensed practical	43	2,826	2	3,057	4	3,083	8	3,156	10	2,632	2	3,128	6	2,566	1	2,143	3	2,499	7	2,883
<b>Clerical and sales</b>																				
Key punch operator	4	763	1	766	3	762	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litho-duplicator operator	2	2,658	-	-	-	-	1	1,678	-	-	-	-	-	-	-	-	1	3,638	-	-
Stenographer	24	1,987	4	2,512	8	1,874	1	2,364	1	1,912	1	1,288	-	-	4	1,778	2	1,858	3	2,079
Typist	15	871	3	849	3	933	-	-	1	1,210	1	578	1	526	1	866	2	747	3	964
<b>Service</b>																				
Cook	8	3,318	-	-	4	3,717	-	-	3	2,850	-	-	1	3,120	-	-	-	-	-	-
Meat cutter	4	1,579	3	1,520	1	1,753	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Orderly-nurse aide	11	656	3	719	-	-	-	-	2	1,043	-	-	1	437	1	436	2	579	2	469
<b>Processing</b>																				
Baker	2	4,293	-	-	-	-	-	-	1	4,633	-	-	-	-	-	-	1	3,963	-	-
<b>Machine trades</b>																				
Auto mechanic	33	3,028	-	-	10	3,772	5	3,970	2	3,078	6	2,014	-	-	4	2,631	2	1,781	4	2,504
Auto service station mechanic	7	1,573	2	2,845	-	-	-	-	3	1,069	-	-	1	1,253	1	861	-	-	-	-
Farm equipment mechanic	3	4,914	-	-	1	6,735	2	4,003	-	-	-	-	-	-	-	-	-	-	-	-
Machine operator, general	26	2,178	2	2,907	5	2,762	4	1,704	3	3,423	5	820	2	1,454	3	2,514	-	-	2	2,673
Office machine, S/M	3	5,818	2	7,176	-	-	-	-	-	-	-	-	-	-	-	-	1	3,101	-	-

continued

TABLE 24 -- continued

Occupation	New York State		New York City		Albany		Utica		Syracuse		Rochester		Buffalo		Binghamton		Long Island		Suburban	
	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost	No. of projects	Average cost
<b>Machine trades (cont'd.)</b>																				
Stitcher, machine	3	461	-	-	-	-	1	499	-	-	-	-	1	543	1	342	-	-	-	-
Woodworking machine operator	4	3,166	1	1,505	-	-	-	-	2	2,828	-	-	1	5,501	-	-	-	-	-	-
<b>Bench work</b>																				
Sewing machine operator	10	565	-	-	-	-	2	483	2	502	-	-	1	409	-	-	1	1,062	4	551
Tailor, II	2	1,605	-	-	-	-	1	1,656	1	1,553	-	-	-	-	-	-	-	-	-	-
Electrical tester	2	2,501	1	2,596	-	-	-	-	-	-	-	-	1	2,405	-	-	-	-	-	-
<b>Structural work</b>																				
Auto body, R/M	15	3,419	2	2,730	6	3,669	2	6,512	-	-	-	-	2	2,747	1	2,946	2	1,171	-	-
Electric appliance, R/M	4	3,985	-	-	2	1,876	-	-	2	6,093	-	-	-	-	-	-	-	-	-	-
Electronic mechanic	6	3,915	4	3,205	-	-	-	-	-	-	-	-	-	-	-	1	6,875	1	3,792	-
Household appliance, R/M	3	1,882	-	-	-	-	1	2,612	-	-	-	-	-	-	-	2	1,516	-	-	-
Oil burner installation, S/I	7	1,873	2	1,491	1	1,752	1	3,497	-	-	-	-	-	-	-	2	1,025	1	2,830	-
Sheet metal worker	3	1,918	-	-	-	-	-	-	-	-	1	1,379	-	-	2	2,188	-	-	-	-
Welder, combination	8	1,273	1	1,471	-	-	-	-	1	1,270	2	1,215	1	745	3	1,422	-	-	-	-
Welder, inert gas	3	645	-	-	2	560	-	-	-	-	-	-	-	1	813	-	-	-	-	-
<b>Miscellaneous</b>																				
Auto service station attendant	5	1,007	-	-	-	-	2	1,098	1	1,016	-	-	-	-	2	911	-	-	-	-

## B. COST-EFFECTIVENESS OF MDTA ON-THE-JOB TRAINING PROJECTS

### The scope of the survey

Included in this portion of the survey are all on-the-job training (OJT) projects (1) approved from the beginning of the program, 1963 through 1967, which have completed, and (2) developed by staff of the Division of Manpower. Projects which were negotiated by either the regional or national staff of the Federal Bureau of Apprenticeship and Training are not included because the necessary information was not made available.

### Employment-Effectiveness of Training

Tables 25 and 26 present data relative to the effectiveness of completed OJT projects on the basis of trainee retention and placement.

Overall, of the 3123 persons enrolled in the projects surveyed, 63.4% completed training. It is interesting to note that one, large, not too successful program, accounted for 737 of the total 1141 trainees who did not complete.

Table 25 shows, by fiscal year, the per cent of trainees enrolled who completed and the per cent of trainees completed who had jobs at the time when the training project had completed.

Table 26 shows the same information by type of project. The following is a brief explanation of the various types listed:

**Job Entry** - the objective of this type of project is to provide training opportunities to unemployed, unskilled persons so that they may acquire the skills necessary to obtain a job.

**Upgrading** - this type of project is intended to alleviate skill shortages by providing already employed persons with additional skills which in turn will improve the worker's position in terms of increased wages or job security.

Coupled - when the skill requirements for a given occupation require a substantial portion of theoretical knowledge or when the caliber of trainees is such that basic education is required, it is desirable to combine the on-the-job training with a period of classroom instruction. This type of project is termed "coupled". Responsibility for the development, operation, and administration of the classroom portion (supplemental instruction) is that of the State Education Department. Trainees who qualify are eligible to receive allowances during this portion of the training program.

Pre-apprenticeship - this term applies only to projects which provide training in occupations which are designated as "apprenticeable trades" by the State Apprenticeship Council. The objectives of this type of project are twofold (1) to encourage employers to conduct registered apprenticeship training programs, and (2) provide unemployed and underemployed persons with training in the elemental skills of a trade and thereby increase their chances for success in the apprenticeship program.

For Disadvantaged - this term applies to those projects which were developed especially for the training of disadvantaged persons. It should be pointed out that disadvantaged persons are also served in OJT projects which do not carry this special designation.

MDTA/OJT COMPLETED PROJECTS, (DEVELOPED BY DIVISION OF MANPOWER)

TABLE 25 - NUMBER AND PER CENT OF TRAINEES ENROLLED, COMPLETED AND EMPLOYED  
BY FEDERAL FISCAL YEAR IN WHICH PROJECTS WERE APPROVED

<u>FEDERAL FISCAL YEAR</u>	<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>	<u>PER CENT OF ENROLLED COMPLETED</u>	<u>PER CENT OF COMPLETED EMPLOYED</u>
(July-June)					
1964	297	227	196	76.4	86.3
1965	1469	645	539	43.9	83.5
1966	831	675	667	81.2	98.8
1967	526	435	423	82.6	97.2
TOTAL	3123	1982	1825	63.4	92.0



MDTA/OJT COMPLETED PROJECTS (DEVELOPED BY DIVISION OF MANPOWER)

TABLE 26 - NUMBER OF TRAINEES ENROLLED, COMPLETED AND EMPLOYED BY TYPE OF PROJECT

<u>TYPE</u>	<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED *</u>	<u>% OF ENROLLED COMPLETED</u>	<u>% OF COMPLETED EMPLOYED</u>
Job Entry	2535	1480	1329	58.3	89.7
Upgrading	588	502	496	85.3	98.8
TOTAL	3123	1982	1825	63.4	92.0
Coupled	40	27	27	67.5	100
Non-Coupled	3083	1955	1798	63.4	91.9
TOTAL	3123	1982	1825		
Pre-Apprenticeship	44	40	40	90.9	100
Other	3079	1942	1785	63.0	91.9
TOTAL	3123	1982	1825		
For Disadvantaged	319	232	216	72.7	93.1
Other	3804	1750	1609	46.0	91.9
TOTAL	3123	1982	1825		

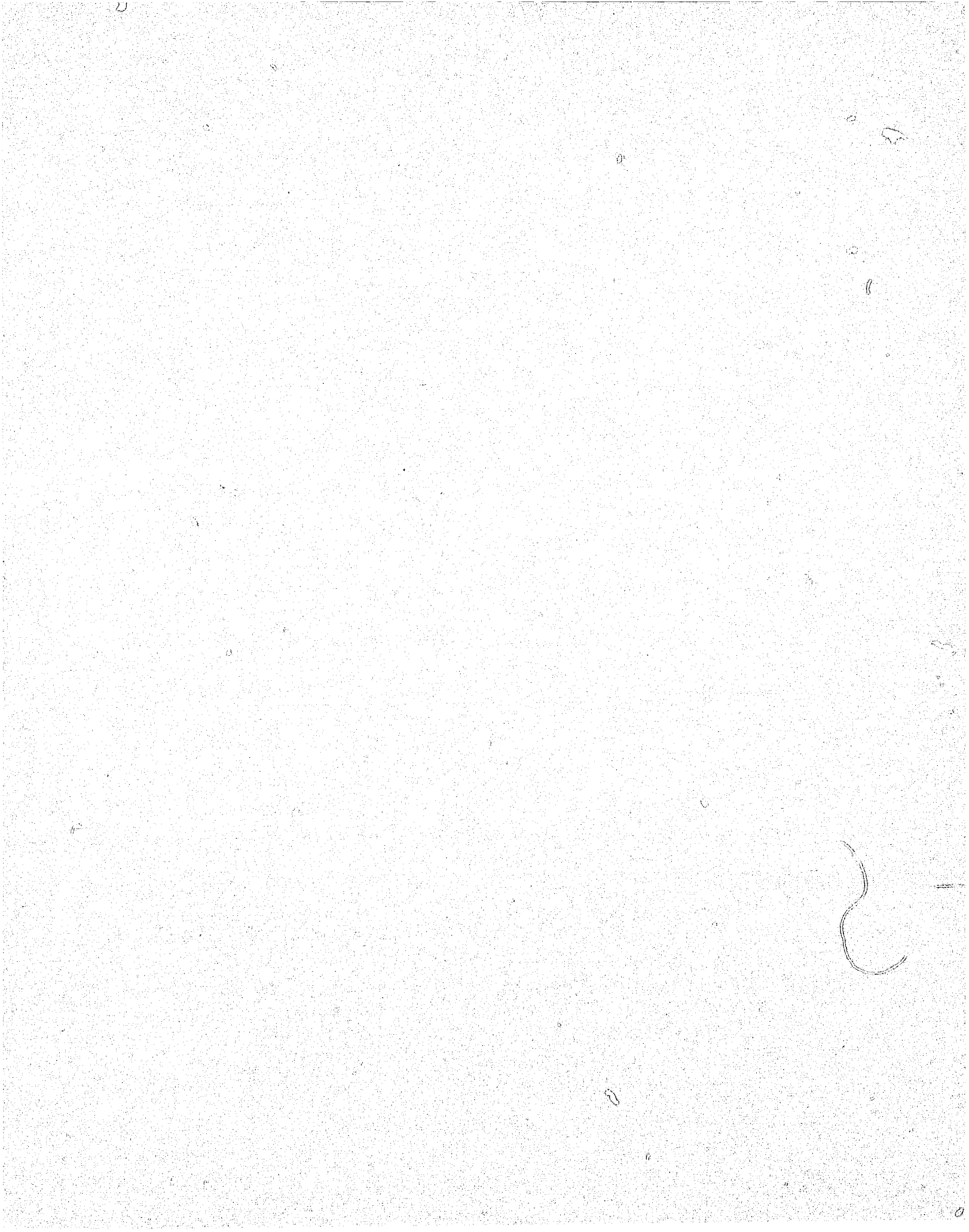
\* As reported upon completion of project

### Cost-Effectiveness of Training

Unlike institutional training, Government bears only a portion of the total training costs in OJT projects. In each case, a contract is negotiated with the OJT sponsor (usually an employer) by the Division of Manpower. This contract itemizes those training costs which will be reimbursed to the sponsor by the U.S. Government. Each contract is evaluated individually as to its "reasonableness" by the approval agency i.e., the Federal Bureau of Apprenticeship and Training.

Table 27 shows the number of trainees and per capita costs borne by the U.S. Government for OJT trainees enrolled, completed and employed, by Federal fiscal year. This table does not include State-funded OJT projects. Data for State-funded projects appear on page 16.

Table 28 shows the number of MDTA/OJT projects, trainees and per capita costs by occupational grouping.



MDTA/OJT COMPLETED PROJECTS, (DEVELOPED BY DIVISION OF MANPOWER)

TABLE 27 - NUMBER OF TRAINEES AND COSTS FOR TRAINEES ENROLLED, COMPLETED AND EMPLOYED BY FEDERAL FISCAL YEAR IN WHICH PROJECTS WERE APPROVED

<u>FEDERAL FISCAL YEAR</u> (July-June)	<u>NUMBER TRAINEES</u>			<u>PER CAPITA COST</u>		
	<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>	<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>
1964	297	227	196	\$ 735	\$ 962	\$ 1114
1965	1469	645	539	324	738	883
1966	831	675	667	410	504	510
1967	526	435	423	405	490	504
Total trainees	3123	1982	1825			
Total average per capita cost				\$ 400	\$ 630	\$ 684

TABLE 28

## MDTA/OJT COMPLETED PROJECTS (DEVELOPED BY DIVISION OF MANPOWER)

NUMBER OF TRAINEES AND PER CAPITA COSTS FOR TRAINEES ENROLLED, COMPLETED AND EMPLOYED BY OCCUPATIONAL GROUPS

OCCUPATIONAL GROUPS *	NUMBER OF PROJECTS	NUMBER TRAINEES			PER CAPITA COST		
		ENROLLED	COMPLETED	EMPLOYED	ENROLLED	COMPLETED	EMPLOYED
Architecture & engineering							
003 electrical engineering	2	41	28	28	\$ 665	\$ 974	\$ 974
Medicine & health							
078 medical, dental technology	2	8	7	7	511	584	584
Computing & account-recording							
219 accounting clerks	2	4	4	4	567	567	567
Material & production recording							
222 shipping, receiving clerks	2	126	51	25	198	490	1000
223 stock clerks	1	3	3	3	597	597	597
Food & beverage preparation & service							
313 cooks, chefs	5	394	297	281	908	1205	1274
Miscellaneous personal service							
355 attendants, hospitals	6	81	75	73	286	308	317
Apparel & furnishings service							
362 dry cleaning	1	6	5	1	435	522	2610
363 pressing	1	11	6	1	145	265	1590
Building & related service							
381 porters, cleaners	1	20	12	12	99	165	165
Plant farming							
406 nurseryman	1	10	7	3	368	525	1225

\* First 3 digits of D.O.T. Code





**CONTINUED**

**1 OF 2**

OCCUPATIONAL GROUPS	NUMBER OF PROJECTS	NUMBER TRAINEES			PER CAPITA COST		
		ENROLLED	COMPLETED	EMPLOYED	ENROLLED	COMPLETED	EMPLOYED
<b>Ore refining &amp; foundry</b>							
512 melting	1	7	6	6	\$ 99	\$ 116	\$ 116
514 pouring & casting	3	37	23	23	255	409	409
518 molder, coremaker	5	129	80	74	299	482	521
519 other foundry occup.	2	70	60	60	130	151	151
<b>Processing of food, tobacco, &amp; related products</b>							
525 slaughtering	2	10	10	10	690	690	690
<b>Processing of chemicals, plastics, synthetics, rubber, paint, &amp; related products</b>							
554 coating, finishing	2	11	9	9	302	369	369
555 grinding, crushing	1	16	15	15	236	252	252
556 casting, molding	1	422	109	76	124	481	690
<b>Processing of wood &amp; wood products</b>							
562 saturating, coating	1	1	1	1	423	423	423
563 drying, seasoning	1	1	1	1	576	576	576
569 gluing	1	19	16	16	1027	1219	1219
<b>Processing of stone, clay, glass, &amp; related products</b>							
570 crushing, grinding, mixing	1	6	5	4	454	545	681
573 baking, drying, treating	1	8	3	3	191	508	508
575 forming	4	11	7	7	596	937	937
579 other processing	1	5	5	5	267	267	267
<b>Processing of leather, textiles, &amp; related products</b>							
583 staking, embossing	1	2	2	2	635	635	635
589 other processing	1	1	1	1	188	188	188
<b>Metal machining</b>							
601 toolmakers	3	24	18	18	693	925	925
603 abrading	6	38	33	31	733	844	899
604 turning	8	74	60	59	511	630	641
605 milling & planing	2	26	20	19	556	722	760
606 boring	3	40	30	30	543	724	724
609 other machining	25	193	175	170	612	675	694

<u>OCCUPATIONAL GROUPS</u>	<u>NUMBER OF PROJECTS</u>	<u>NUMBER TRAINEES</u>			<u>PER CAPITA COST</u>		
		<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>	<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>
<b>Metalworking, not elsewhere classified</b>							
612 forging	4	43	43	43	\$ 626	\$ 626	\$ 626
614 extruding, drawing	1	1	1	1	539	539	539
615 punching, shearing	3	79	46	46	281	482	482
616 fabricating machine	3	24	14	14	243	417	417
619 other metalworking	1	2	1	1	408	815	815
<b>Mechanics &amp; machinery repairmen</b>							
639 machine repair	2	7	5	5	517	724	724
<b>Paperworking</b>							
641 folding, creasing, gluing	1	6	6	6	500	500	500
649 other paperworking	1	11	9	9	290	354	354
<b>Wood machining</b>							
660 cabinetmaker	2	24	24	24	240	240	240
663 shearing, shaving	3	9	8	8	455	512	512
665 milling, planing	1	5	4	4	461	576	576
667 sawing	1	4	3	3	389	519	519
669 other machining	8	78	64	63	503	613	623
<b>Machining stone, clay, glass, &amp; related materials</b>							
677 chipping, cutting, sawing	1	8	5	5	385	616	616
<b>Machine trades, not elsewhere classified</b>							
690 plastic, leather working	14	290	133	119	220	479	535
692 fabrication	1	8	8	8	368	368	368
699 other machining	2	5	5	5	382	382	382
<b>Fabrication, assembly, &amp; repair of metal products, not elsewhere classified</b>							
701 tools	1	7	7	7	833	833	833
704 engravers, etchers	2	6	6	6	501	501	501
705 grinding, buffing	3	19	19	19	388	388	388
706 unit assemblers	3	39	28	28	324	451	451

OCCUPATIONAL GROUPS	NUMBER OF PROJECTS	NUMBER TRAINEES			PER CAPITA COST		
		ENROLLED	COMPLETED	EMPLOYED	ENROLLED	COMPLETED	EMPLOYED
Fabrication & repair of scientific & medical apparatus, photographic & optical goods, watches & clocks & related products							
711 optical instruments	1	3	3	3	\$ 597	\$ 597	\$ 597
712 surgical instruments	1	1	1	1	609	609	609
Assembly & repair of electrical equipment							
724 coil winding	2	12	9	9	285	380	380
726 component assembly	1	5	5	5	782	782	782
729 equipment assembly	3	38	37	37	318	326	326
Fabrication & repair of products made from assorted materials							
730 musical instruments	2	17	12	12	424	600	600
732 sporting goods	2	10	10	10	406	406	406
Painting, decorating, & related							
741 spray painters	1	1	1	1	438	438	438
742 staining, waxing	1	8	5	5	386	618	618
Fabrication & repair of wood products							
762 assembling	1	2	2	2	756	756	756
763 furniture construction	2	14	14	14	333	333	333
769 other fabrication	1	1	1	1	748	748	748
Fabrication & repair of sand, stone, clay & glass products							
774 pottery, porcelain ware	1	5	5	5	667	667	667
Fabrication & repair of textile, leather, & related products							
780 upholstering	3	19	7	7	176	479	479
783 fur working	1	3	2	2	533	799	799
788 footwear	4	54	27	18	230	459	689

<u>OCCUPATIONAL GROUPS</u>	<u>NUMBER OF PROJECTS</u>	<u>NUMBER TRAINEES</u>			<u>PER CAPITA COST</u>		
		<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>	<u>ENROLLED</u>	<u>COMPLETED</u>	<u>EMPLOYED</u>
Metal fabricating, not elsewhere classified							
809 miscellaneous	1	5	5	5	\$ 569	\$ 569	\$ 569
Welders, flame cutters, & related							
810 arc welders	2	46	46	46	363	363	363
812 arc & gas welders	1	7	7	7	410	410	410
Electrical assembling, installing, & repairing							
827 household appliances	2	7	7	7	319	319	319
828 other products	1	10	6	6	827	1378	1378
Excavating, grading, paving, & related							
859 equipment operator	1	15	15	15	729	729	729
Construction, not elsewhere classified							
860 carpenters	1	20	16	16	610	763	763
861 brick & stone masons	1	18	16	16	812	914	914
862 plumbers, fitters	1	5	5	5	275	275	275
864 floor laying	1	5	5	5	361	361	361
Packaging & materials handling							
920 packaging	2	249	79	52	150	474	720
921 hoisting & conveying	1	1	1	1	253	253	253
929 handling	2	8	7	7	580	662	662
Logging							
941 inspecting, scaling	1	1	1	1	576	576	576
Graphic art work							
979 silk screen maker	1	3	2	2	418	627	627

## NOTES ON METHODOLOGY

### Institutional Training Program

The files of the State Department of Education and the Division of Employment containing the records of each project were made available through the cooperation of these agencies. From these records cost information was obtained as well as information on enrollees, completers and trainees with a job.

#### Costs

1. Education costs--Expenditures for each project were obtained so far as possible from the audited accounting records for each project (Form OE-4,000). For projects for which actual expenditure data were not available the cost of the projected as evidenced by the budget estimate or budget revision was used. The type of information used was identified in the tabulations. Budget estimates and budget revisions are probably somewhat higher than will be shown by the final audited figures.

2. Allowance costs--The Division of Employment made available a computer print-out showing actual expenditures for allowances paid to trainees on each project.

3. Overhead costs--Included in overhead costs were educational overhead consisting of two parts; one, planning and project development costs allocated to ten large metropolitan-rural areas, and two, the cost of State Department of Education administration for these projects. Educational administration costs were assigned proportionately to each project in the ratio that the number of enrollees in the project bore to total enrollment for the year in all projects. Project development costs for New York City were assigned in the ratio that enrollment in the individual project bore to the total number of enrollees for the year. The same procedure was used for the nine Upstate areas considered as a group.

Total administrative costs of the Division of Employment in connection with MDTA programs were assigned in the same manner as educational costs, i.e., on the basis of the ratio of enrollment in each project to total enrollment. It is known that there were wide variations in the amount of service rendered by the Employment Service by way of screening, guidance and testing, referral activities, etc. However, such activities as screening and testing do not necessarily relate to a referral to a particular MDTA project. For this



reason, the value of total time spent by Employment Service personnel in connection with MDTA projects was divided by the total enrollees in all projects and assigned to each individual project in proportion to enrollment in that project.

Overhead costs per trainee were derived by multiplying the computed overhead per enrollee by the ratio of completers to enrollees in New York City, in nine Upstate areas with project development funds, and in the rest of the State to obtain per capita average overhead costs. The sums so obtained were added to the cost of each project in the respective localities. It should be noted that this "averaging" method of assigning overhead costs per completer and per trainee with a job tends to show higher costs for successful projects and lower costs for unsuccessful projects than would be the case if the ratios of enrollees to completers were computed for each project separately.

#### Enrollee and Completer Job Data

1. Enrollees-- Enrollee data were obtained from the project files of the State Department of Education and from the reports of the Employment Service, which, in turn, received them from the local education authorities. Some differences appeared in the records as to the number of individuals enrolled in a course. This resulted, in part, from varying interpretations of the instructions by local educational authorities. For the most part it was possible to reconcile the differences, which in any event, were not large.

2. Completers--Because of deficiencies in reporting, the records of the Education Department and of the Division of Employment differed for some projects. The best available evidence was used, such as the duplicate certificates of completion, the last attendance record for the course submitted by the instructor, the statistical summary of attendance prepared by the instructor, the course termination reports (Form MT 102).

3. Completers with a job--The procedures in use provide for a follow-up to obtain the employment status of the trainee who completes the course of instruction three, six, and twelve months after completion. The trainee may have responded to all of these questionnaires, to some of them, or none of them. The information on employment used in this study relates to the last questionnaire that was answered. For the most part these are the ones sent one year after the completion of the course. The data were reported on Form MT 103 and were summarized by the Department of Health, Education and Welfare. Nonrespondents who completed the course are counted as being employed in the same ratio as those who responded. It is likely

that this method of including the nonrespondents tends to overstate the amount of employment. Completers with a training-related job were estimated on the same basis from the source documents used for estimating completers with a job.

### On the Job Training Projects

#### Cost Data

The actual training costs reimbursed to OJT sponsors by the Federal Government were obtained from payment requests submitted by sponsors.

Education costs--Coupled projects only have costs incurred by the State Education Department. For these projects, the amounts of expenditures were obtained from audited accounting records for each project (Form OE-4000).

Allowance costs--Actual expenditures for allowances were obtained from the Division of Employment.

Overhead costs--Overhead costs for OJT projects were developed using the same base data and rationale as were used for institutional costs.

Included in these costs were:

1. Division of Manpower Overhead -- Cost of promotion, development and servicing of OJT projects.
2. Education Overhead -- Cost of developing supplemental instruction, included in coupled projects only.
3. Division of Employment Overhead -- Cost for services in making allowance payments included in appropriate projects only. Costs of screening, testing, referral activities were applied in the same manner as for institutional projects.

#### Trainee Data

Numbers of trainees enrolled, completed and employed were obtained from "OJT Progress and Compliance Report" Form OJT-4 submitted upon the completion of each project.

## SECTION VII - COSTS AND BENEFITS OF MANPOWER TRAINING

This section is the core of the Department's first comprehensive effort to evaluate manpower training in New York State. Selected representative projects, both institutional and OJT, have been studied in depth. The tables on the following pages, which are based on this in-depth analysis, should be examined carefully. They substantiate, for the first time, the belief that manpower training is followed by a gain in earnings, and suggests that government can recover the costs of manpower training programs in a relatively short period of time.

Table 29 shows that, on the average, the institutional trainees studied had increased annual earnings of \$1,180, a gain of 84.8% during the year immediately following the completion of their training over earnings in the year prior to training. When compared to the average costs of training, that increase represents an average first year post-training earnings gain of 54¢ for every dollar which government invested in the training.

Table 30 shows that on the average, OJT trainees earned \$1,378 more in the first year after training than in the year prior to training. Compared with the cost to government of OJT training, the increase represents an average first year earnings gain of \$2.10 for every dollar invested by government in OJT training.

Comparisons between the relative costs and benefits of institutional training and OJT should be made cautiously. Institutional training and OJT are two distinctly different types of programs. They differ in such factors as:

1. Personal training characteristics of individuals enrolled;
2. Costs of providing training facilities, equipment, training materials, instructors, etc.;
3. Availability of immediate post-training employment.

Furthermore, certain types of occupational training can be conducted only in an institutional setting.

The methodology for the selection of the projects for this analysis and for obtaining the necessary cost and benefit data follows the tables.

TABLE 29 - COSTS AND BENEFITS OF SELECTED SECTIONS OF MDTA INSTITUTIONAL PROJECTS  
NEW YORK STATE, 1963 - 1967

(Per Trainee Completer)

PROJECT	STARTING DATE	ENDING DATE	#TRAINEES ENROLLED	#TRAINEES COMPLETED	TRAINING COSTS <sup>a/</sup>				AVERAGE ANNUAL EARNINGS			PERCENT CHANGE	EARNINGS GAIN RELATED TO TRAINING COSTS <sup>d/</sup>	
					ALLOWANCE	EDUCATION	OVERHEAD	TOTAL	1 YR. BEFORE TRAINING	1 YR. AFTER TRAINING	DIFFERENCE			
<u>Regular</u>														
Licensed Practical Nurse, N. Y. C.	11/18/64	10/22/65	57	44	\$1,742	\$1,821	\$185	\$3,748	\$1,589	\$2,713	\$+ 1,124	+70.7	.300	
Typist (public facilities), N. Y. C.	9/20/65	1/14/66	56	40	608	288	214	1,110	1,005	1,986	+ 981	+97.6	.884	
Typist (private school), N. Y. C.	10/10/66	2/ 3/67	52	42	664	414	144	1,222	997	1,261	+ 284	+29.1	.232	
Meat Cutter, N. Y. C.	2/24/64	6/26/64	39	26	418	662	66	1,146	1,676	3,042	+ 1,366	+81.5	1.192	
Auto Mechanic (entry), Middletown	10/ 5/64	4/23/65	27	10	832	1,159	244	2,235	1,594	2,649	+ 1,055	+66.2	.472	
Machine Operator General, Schenectady	9/20/65	1/ 5/66	22	17	959	1,682	242	2,883	2,719	4,495	+ 1,776	+65.3	.616	
	1/17/66	4/29/66	22	17										
Nurse Aid, Buffalo	2/10/64	3/23/64	18	16	41	179	207	427	332	2,118	+ 1,786	+538.0	4.183	
	3/ 2/64	4/13/64	18	17										
Welder Combination, Wellsville	2/10/64	4/17/64	15	13	392	672	183	1,247	2,082	4,162	+ 2,080	+99.9	1.668	
	4/27/64	7/ 3/64	14	11										
	10/26/64	2/ 3/65	16	13										
Stenographer, Syracuse	2/24/64	10/16/64	25	16	1,078	616	197	1,891	785	2,171	+ 1,386	+176.6	.733	
	10/19/64	6/18/65	27	25										
	7/19/65	3/18/66	29	21										
Cook (entry), Utica	9/21/64	4/23/65	20	13	2,098	909	231	3,238	1,328	2,525	+ 1,197	+90.1	.370	
	6/28/65	1/28/66	19	16										
<u>Multi-Occupational</u>														
Licensed Practical Nurse, Hempstead	11/15/65	11/10/66	16	6	1,654	5,429	356	7,439	885	4,034	+ 3,179	+371.8	.427	
	4/ 4/66	3/ 3/67	12	6										
Machine Operator General (youth) Rochester	3/14/66	9/ 8/66	6	3	1,139	830	236	2,205	1,537	3,467	+ 1,930	+125.6	.875	
	3/28/66	9/22/66	9	7										
	9/12/66	3/10/67	14	7										
Machine Operator General (adult) Rochester	5/ 2/66	10/27/66	30	16	2,016	1,421	236	3,673	1,728	2,801	+ 1,073	+62.1	.292	
	9/19/66	3/22/67	28	20										
<u>Individual Referrals</u>														
Selected Referrals, Statewide	7/ 1/65	7/ 1/66	50	44	\$1,814		141	1,955	1,585	2,164	+ 579	+36.5	.296	
Totals			641	475	c/ \$954,467	c/ \$92,827	\$1,047,294c/	\$660,967c/	\$1,269,141c/	\$608,174c/				
Average					d/ \$2,009	d/ \$195	\$2,204d/	\$1,392d/	\$2,572d/	\$1,180d/	+84.8	.535		

a/ Data for the three multi-occupational courses, which were not completed at the time of this study are calculated on the basis of estimated approved costs and training slots.

b/ This is a ratio expressing the relationship between the earnings difference resulting from training, and the total average training cost per completer. For example, in the Licensed Practical Nurse Project, New York City, thirty cents in increased earning power were returned per dollar cost of the Project in the first year alone.

c/ Actual total costs or earnings of 211 selected courses.

d/ Results from division of total actual costs or earnings by 475 trainees completed.

TABLE 30 - COSTS AND BENEFITS OF SELECTED MDTA/OJT PROJECTS, NEW YORK STATE, 1963-1967

(Per Trainee Completer)

SPONSOR	OCCUPATION	DATE APPROVED	WEEKS OF TRAINING	NUMBER TRAINEES STARTED	NUMBER TRAINEES COMPLETED	TRAINING COSTS				AVERAGE ANNUAL EARNINGS			PER CENT CHANGE	EARNINGS GAIN RELATED TO TRAINING COSTS <sup>a/</sup>	
						TOTAL	SPONSOR	SUPPL. INSTR.	ALLOW.	OVERHEAD	1 YEAR BEFORE TRAINING	1 YEAR AFTER TRAINING			DIFFERENCE
Bricklayers JAC, Troy Troy, New York	Bricklayer (Appr.)	4/22/66	16	18	16	\$ 957	\$ 706	\$ -	\$ 146	\$ 105	\$ 2,806	\$ 2,909	\$ 103	3.7	1.08
Binghamton Precision Binghamton, New York	Machine Operator Gen.	6/4/65	26	5	5	1,041	937	-	-	104	2,675	5,164	2,489	93.0	2.391
Spaulding Fibre Tonawanda, New York	Machine Operator Gen.	9/8/66	12	49	41	444	335	-	-	109	2,815	5,600	2,785	98.9	6.272
Executone Rochester, New York	Electronics Installation Tech.	6/20/66	26	3	3	601	547	-	-	54	4,000	5,500	1,500	37.5	2.496
Corning Hospital Corning, New York	Nurse Aid	2/28/67	10	15	15	408	314	-	-	94	668	3,600	2,932	438.9	7.186
Osborne Paper Fulton, New York	Machine Operator Gen.	4/23/65	52	8	6	1,778	1,640	-	-	138	963	3,321	2,358	244.9	1.326
Baldon Ogdensburg, New York	Machine Operator Gen.	8/10/65	26	5	5	688	618	-	-	70	4,962	6,285	1,323	26.7	1.923
Utronics Utica, New York	Electronics Assembler	10/20/65	8	20	20	210	116	-	-	94	1,062	1,978	916	86.3	4.362
Culinary Arts Dev. #2 New York City, N. Y.	Chef - Cook	3/18/65	52	75	65	540	478	-	-	62	4,584	5,007	423	9.2	.783
N. Y. Gas Maintenance New York City, N. Y.	Gas Appliance Serviceman	7/24/64	18	11	9	1,824	638	480	557	149	2,017	1,441	-576	-28.6	-
Cyber Tronics, Inc. New York City, N. Y.	Electronics Mechanic	12/16/65	36	10	6	1,472	1,316	-	-	156	2,649	6,800	4,151	156.7	2.820
<b>Total</b>				<b>218</b>	<b>191</b>	<b>b/125,300</b>	<b>b/96,036</b>	<b>b/4,314</b>	<b>b/7,352</b>	<b>b/17,598</b>	<b>b/579,511</b>	<b>b/842,599</b>	<b>b/263,058</b>		
<b>Average</b>						<b>c/656</b>	<b>c/503</b>	<b>c/23</b>	<b>c/38</b>	<b>c/92</b>	<b>c/3,034</b>	<b>c/4,422</b>	<b>c/1,378</b>	<b>145.1</b>	<b>2.101</b>

a/ This is a ratio expressing the relationship between the earnings difference resulting from training, and the total average training cost per completer. For example, in the Bricklayers Training Project, 10.1 per cent in increased earnings were returned per dollar cost of the Project in the first year alone.

b/ actual total costs or earnings of all selected courses.

c/ Results from division of total actual costs or earnings by 191 trainees completed.



## NOTES ON METHODOLOGY

### Criteria for Selection of Projects for Study.

In planning this study it was obvious that time limits precluded a detailed study of all state-operated MDTA training programs. A representative number of projects, or sections of projects, both institutional and OJT, were selected for comprehensive, "in-depth" analysis to determine earnings gain by trainees in relation to the costs of the training. To assure that the selected projects were generally representative of MDTA training in all respects, the following criteria were used for selection:

1. Geographic - at least one project from each of the eight upstate employment service districts and four from New York City were included.
2. Occupational - a mix was achieved by spreading the projects over all of the more popularly-used occupations for training, representative of the skill needs of the state.
3. Trainee Population - a significant number of projects were selected which were designed to increase the employability of the disadvantaged segment of the work force. Also, care was taken to insure that such trainee characteristics as sex, age, educational level and ethnic composition were fairly represented in the projects studied.
4. Type of Training - a representative spread of institutional types of programs (regular, multi-occupational, individual referral on less than class-size basis) as well as OJT and OJT-coupled programs was used in the selection process. An effort was made to avoid projects which ran prior to the effective date of the MT 101-102-103 reporting procedure and which did not terminate less than 6 months prior to the study, in order to obtain valid data, but this was not possible in all cases.

The selected projects are representative of MDTA training program results to date.



## Methodology of Obtaining and Computing Earnings Before and After Training

Arrangements were made by the New York State Labor Department with the Central Administrative Office of the Social Security Administration in Woodlawn, Md. to obtain annual earnings for 184 graduates of OJT programs, and 486 graduates of institutional programs in the 25 OJT and institutional projects selected for study. Earnings data were supplied for individuals in each training group, but the individuals were not identified by name in order to respect the Social Security Administration's standards of confidentiality regarding reports on the earnings of specified individuals.

Punch cards were supplied by the New York Agency to Social Security for each individual in the projects studied. These cards contain the full social security number, and the code identifying the training project which the individual had completed.

Data were returned by the Social Security Administration on computer punchouts showing on a separate slip for each individual annual earnings, year by year for the period from 1951 - 1967. Also shown each year were the four quarters of each year, and the quarter in which covered employment (where earnings were at least \$50 a quarter) and non-covered employment occurred. One limitation of the data was that in the period 1959 - 1965, earnings above the maximum taxable limitation of \$4800 annually were not shown except when there were two or more employers in a year. In 1966, the same situation applied to the earnings of \$6600 annually.

Work sheets were established for each section of the courses studied. The basis of comparison was earnings for the period one year before the training course began, and one year after the course ended. Where it was not possible to work on a calendar basis, estimates based on available Social Security data were made, working backward and forward one year from the starting date, and one year from the ending date. Each individual's earnings were calculated on the one year before and one year after basis.

Where a training course ended in the latter part of 1966, or in 1967, and it was not possible to obtain any post-training earnings data from Social Security, a process of estimation was used. This was based on hourly earnings data obtained from the New York State Division of Employment Local Office records, or MT-101 (Characteristics of Trainees) and MT-103 (Post-Training) reports. For the most part, changes in hourly earning rates from the pre-training to the post-training period were applied to pre-training Social Security data. In cases where post-training hourly earnings data were not available (although pre-training Social Security data were), earnings figures were obtained directly from employers.

To arrive at probable annual earnings, where Social Security reached the \$4800 and \$6600 maximum, estimates were made based on the number of quarters in which the maximum was attained.

## SECTION VIII : FINDINGS OF OTHER COST-BENEFIT STUDIES

A number of ad hoc cost benefit studies have been made of MDTA training programs that vary substantially in data used, assumptions made, and in the questions considered. These studies tend to indicate that training programs pay off more than they cost. The results are summarized below:

1. The study of Connecticut experience 1/

Perhaps the most comprehensive and technically adequate study thusfar published was made by Michael E. Borus. This study of Connecticut MDTA experience compares a completor group with various control groups using multiple regression techniques to measure the benefits of the programs in terms of work experience for groups which did and did not utilize the training; these were compared with the total and average costs of the programs.

After allowing for differences in the age, sex, and other characteristics of completor and control groups, Dr. Borus estimates that the average completor earned \$500 more in the year after completing training than he would have if he had not taken the training. This was mainly because of having steadier work than the controls did.

After taxes are subtracted from these additional earnings, and UI benefits not collected are also subtracted, the benefit from the training is projected for 10 years. However, this cumulative figure is reduced by a time-discount, and also to allow for some completors leaving the occupation from time to time since these individuals then derive no more benefit from the training. Because of the indeterminacy of these reductions, the author's estimates of 10-year benefits run from \$535 to \$1,030 per completor.

Cost of training to the individual is mainly the wages he forewent. If he might have earned \$80 a week during the six weeks of the course, his cost

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1. Borus, Michael E. The Economic Effectiveness of Retraining the Unemployed. Report to the Federal Reserve Bank of Boston. June 1964.

would be \$166. This allows for tax on \$80 per week earnings; for his receiving a training allowance; for his earning \$8 a week in part-time employment. At the other extreme, for an unemployed person, the cost would be a minus \$35 for the six weeks.

The author estimates the government gain in added taxes and reduced UI payments (10 years; discounted) to be between \$5,500 and \$7,800 per completer.

In terms of gains to the economy the author estimates that if the completer goes into a vacant job, he adds to the nation's production (directly and through secondary effects). The 10-year benefit discounted, is estimated to be between \$21,000 and \$30,000. The costs to the economy consist of governmental administrative and educational costs since training allowances are merely transfer payments.

It should be noted that this study does not compare earnings before the training period with earnings after the training period.

2. The West Virginia study <sup>1/</sup>

This was a before-and-after training study of 501 trainees in West Virginia. Trainees were interviewed in 1962 soon after training ended and were followed-up a year later in 1963.

The study indicated that 71 percent of the completors were employed compared with 50 percent of those that had refused training or had not been accepted for training; and 60 percent for a probability sample of persons unemployed at the time the trainees were selected.

Using the persons who refused training as the chief control group, the study found that, of the completors, 60 percent gained in earnings, 17 percent had lower earnings, and 23 percent had no significant change. In the

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1. Somers, Gerald G. Training the Unemployed in Becker, Joseph, ed. In Aid of the Unemployed, 1965, Chapter 11.

control group 35 percent had a gain in earnings.

The West Virginia costs were estimated to have been around \$545 per capita. They are so low in part because the training allowance was only \$23 a week for the programs under Area Redevelopment and zero for state programs.

In general this study indicated post-training earnings higher than pre-training, a low average payback time, and an expected capital value increase.

### 3. The Nationwide Study <sup>1/</sup>

This was a benefit (not cost) study of MDTA trainees from 1965 through the summer of 1964. The sample came from 49 states and included:

784 completors
413 dropouts
925 controls
<u>136 eligible but failed to enroll</u>
2,258

The record of completors was compared with that of the control group (usually neighbors and friends of trainees selected to resemble the trainees as closely as possible). For those with full-time jobs there was little difference in weekly earnings between completors and the control group. Family income of completors including those with part-time jobs was higher than for the control group, perhaps because of steadier work.

Fifty-two percent of the completors and 48 percent of the dropouts had been employed more than 80 percent of the time since training compared to 20 percent of the controls. But the difference may well be overstated,

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1. Main, Earl D. A Nationwide Evaluation of M. D. T. A. Institutional Job Training Programs. National Opinion Research Center Report, No. 118, Sept.-Oct. 1966.



because, for the controls, the figures include periods during which their opposite numbers were undergoing training; and all controls were unemployed at the time training began.

The record of completors was also compared with that of dropouts. Dropouts had higher pay rates than completors at the time of the interview. According to the author, 35 percent of the dropouts left to take jobs, a fact that explains this difference.

#### 4. The Massachusetts Study 1/

This was a cost-benefit study of MDTA-type institutional training courses given in Massachusetts between 1958 and 1961 (pre MDTA). A total of 907 trainees of whom 618 were men and 289 were women were studied. The inquiry compared (1) the experience of the 438 completors who found training-related jobs with (2) that of 104 controls (a random sample of UI claimants who had six characteristics corresponding to those of the trainees). Trainees were interviewed; a mail questionnaire was sent to the controls.

Aggregate annual total income of completors was 35 percent higher after the training period than before. The control's income rose only 11 percent. Most of the completor's gain is therefore attributed to the training. Completors had less unemployment after the training than did the controls.

Assuming that the training benefits would accrue over the working lifetime of the completors (average age 30) and applying a 10 percent discount but not allowing for deaths and skill obsolescence the author estimated that the cumulated benefit for the 438 completors would be \$3,900,000.

Costs of providing the training are estimated on the basis of education costs and subsistence costs. Overhead cost and capital are not counted. On this basis the total cost is estimated to be \$633,000 for the 907

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1. Page, David A. Retraining Under the Manpower Development Act: A Cost-Benefit Analysis, Brookings Institution, 1964.



trainees. This leaves an aggregate net benefit of approximately \$3,300,000.

It should be noted that no attempt is made to estimate cost to the individual (such as wages foregone during the training period) nor to subtract additional income tax from his additional earnings. These would tend to reduce the aggregate benefit.

#### 5. A Job Corps Cost/Benefit Study 1/

Since mid-1966, the Job Corps has been conducting a continuing internal study of the costs and benefits of Job Corps training. The final results are unpublished.

The net costs of the average Job Corps experience for a youth, based upon a five-month stay, is estimated to be about \$3,510. The net cost estimate for a 12-month stay is estimated to be \$7,492. These cost estimates include earnings foregone by the Corpsmen, but exclude allowance payments to Corpsmen and their parents.

The effect of the Job Corps on increasing the earnings of the Corpsmen above what the earnings would have been in the absence of the program was the sole measure of benefits used. No allowance was made for any benefits that stemmed from general improvements, civic behavior, lower crime rates, more stable family relationships, or other such hard-to-measure consequences of a youth's experience in the Job Corps.

Two alternative measures of earnings improvement were used. One was based on the educational gains achieved in Job Corps in conjunction with the relations between education and lifetime earnings that have been estimated in the statistical studies available. Using conservative discount rates to translate expected future earnings to present values, the estimated present value of the improvement in lifetime earnings for the average Corpsmen

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1. Cain, Glen G., Benefit/Cost Estimates for Job Corps Based on Educational Gains Data and Wage Data from the Harris Study (unpublished).

(who was in the program about five months) was determined to be between \$3,700 and \$5,900.

The second measure of earnings improvement was based upon a direct comparison of the wages that were currently being earned by ex-Corpsmen with the wages of a comparable group of youth who had had no Job Corps experience. The present value of that lifetime earnings differential (in favor of Job Corps) was estimated to be about \$5,100. Both the educational data method and the wage data method are alternative ways of measuring the same thing -- the gain in expected lifetime earnings. According to the study, "..... the most realistic benefit/cost ratios computed in this study are at least .97, and are more likely to be around 1.18, .....".



**END**