HIGHER SKILLS, HIGHER WAGES AND HIGHER ACHIEVEMENT

A GUIDE TO NONTRADITIONAL CAREER OPPORTUNITIES FOR WOMEN

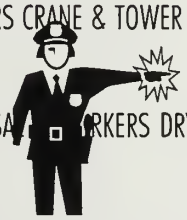
IGINE MECHANICS AIRPLANE PILOTS & NAVIGATORS ANNOUNCERS ARCHITECTS AUTOBODY REPAIRERS & MECHANICS

BAGGAGE PORTERS & BELLHOPS BARBERS BROADCAST EQUIPMENT OPERATORS & STONEMASONS BUS & TRUCK ENGINE MECHANICS

BUTCHERS & MEAT CUTTERS CABINET MAKERS BENCH CARPENTERS CAMERA WATCH & MUSICAL INSTRUMENT REPAIRERS CARPENTERS CARPET INSTALLERS

TE CIVIL ENGINEERS CLERGY CONCRETE & TERRAZZO FINISHERS CONSTRUCTION INSPECTORS CONSTRUCTION LABORE CONSTRUCTION

TRADES HELPERS CORRECTIONAL INSTITUTION OFFICERS CRANE & TOWER OPERATORS CRUSHING & GRINDING MACHINE OPERATORS DATA PROCESSING



EQUIPMENT REPAIRERS DENTISTS DRAFTERS DRIVER SA RKERS DRYWALL INSTALLERS ELECTRICAL & ELECTRONIC ENGINEERS AND TECHNICIANS

ELECTRICAL POWER INSTALLERS & REPAIRERS ELECTRICIANS ELEVATOR INSTALLERS & REPAIRERS ENGINEERS EXCAVATING & LOADING MACHINE OPERA-

TORS EXTRUDING & FORMING MACHINE OPERATORS FIREFIGHTING OCCUPATIONS FISHERS FREIGHT STOCK & MATERIAL HANDLERS FUNERAL DIRECTORS

FURNACE, KILN & OVEN OPERATORS F URE & WOOD FINISHERS GARAGE & SERVICE STATION OCCU NS GARBAGE & REFUSE COLLECTORS

GEOLOGISTS & GEODESISTS GLAZIERS GRADER, DOZER & SCRAPER OPERATORS GROUNDSKEEPERS & GARDENERS GUARDS & POLICE HAND MOLDERS &

SHAPERS HEATING AIR CONDITIONING & REFRIGERATION MECHANICS HELPERS CONSTRUCTION TRADES HEAVY EQUIPMENT REPAIRERS HORTICULTURAL

SPECIALTY FARMERS HOUSEHOLD APPLIANCE & POWER TOOL REPAIRERS HUNTE INDUSTRIAL MACHINERY REPAIRERS INDUSTRIAL TRUCK &

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MOTIVE OPERATORS MACHINISTS MAIL CARRIERS POSTAL SERVICE MANAGERS FARM MANAGERS & ADMINISTRATORS SELF-EMPLOYED NG

MECHANICAL ENGINEERS MECHANICAL ENGINEERING TECHNICIANS MESSENGERS METER READERS MILLWRIGHTS MISC.PRECISION WORKERS MISC. WOOD

HIGHER SKILLS, HIGHER WAGES AND HIGHER ACHIEVEMENT

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This report is one of many publications developed by D.E.T.'s Economic Research and Analysis and Field Research Departments to communicate important economic information to Massachusetts job seekers, job counselors, employers and others concerned with labor market issues.

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Finally, Sandra Schafer of Sandra Schafer Design, gave this work form and reader clarity.

Dorothy R. Sullivan
Project Evaluation Leader

Introduction

Welcome to *Higher Skills, Higher Wages, and Higher Achievement: A Guide to Nontraditional Career Opportunities for Women.* This guide has been developed to increase awareness of nontraditional employment opportunities for women. The occupations defined as nontraditional are numerous and diverse. Nontraditional jobs are those in which women comprise twenty-five percent or less of the workers employed in a particular occupation. This guide is not all inclusive. Rather, it focuses only on nontraditional occupations that employ more than 2,000 workers in Massachusetts, pay an entry level wage above $7.50 an hour, have a positive projected growth rate, and offer opportunities for career advancement.

Occupational briefs for the twenty-nine selected jobs are detailed in this publication. Descriptions for each occupation include information on: job duties and outlook, the industries which contain these occupations, wages, education/training requirements, and career paths.

These selected occupations offer:

- opportunities for long-term employment and advancement
- salary ranges higher than those of many traditional female jobs

This guide also includes a section on transferable skills and comparable activities enabling women to see the connection between their existing skills and activities and those utilized in the performance of many nontraditional occupations.

Information on Massachusetts training institutions offering preparation for nontraditional occupations is included, as well as information on apprentice training. Apprenticeship provides valuable instruction for a large number of the craft occupations featured in this guide.

A listing of programs and associations that offer career coaching and mentoring assistance to women seeking training and employment in nontraditional occupations is also included in this guide.

Higher Skills, Higher Wages, and Higher Achievement is a valuable resource for the career exploration and counseling of women, providing essential information for those considering a career in a nontraditional field.

Young women should be encouraged to explore all career options and should not confine themselves to traditionally held positions. Through utilizing this guide, women may discover an interest in a career not previously considered.

Nontraditional Occupations for Women in Massachusetts

Over the last quarter of the century, women in Massachusetts sixteen years and older have increased their labor force participation rate to almost 63 percent in 1995 and have achieved access to employment in a wide range of occupations. Nontraditional occupations are those in which women comprise 25 percent or less of the workers employed in that occupation. Nontraditional occupations are numerous and diverse, encompassing all occupational categories: managerial and professional; technical, sales, and administrative support; services; precision production, craft and repair; operatives, fabricators, and laborers; and farming, forestry, and fishing. However, most nontraditional occupations are in the engineering, scientific, technical, and craft categories.

According to the decennial census of 1990, the following occupations employed 25 percent or less females in Massachusetts:

AEROSPACE ENGINEERS
AIRCRAFT ENGINE MECHANICS
AIRPLANE PILOTS AND NAVIGATORS
ANNOUNCERS
ARCHITECTS
AUTOMOBILE BODY AND RELATED REPAIRERS
AUTOMOBILE MECHANICS, EXCEPT APPRENTICES
BAGGAGE PORTERS AND BELLHOPS
BARBERS
BROADCAST EQUIPMENT OPERATORS
BRICKLAYERS AND STONEMASONS, EXCEPT APPRENTICES
BUS, TRUCK, AND STATIONARY ENGINE MECHANICS
BUTCHERS AND MEAT CUTTERS
CABINET MAKERS AND BENCH CARPENTERS
CAMERA, WATCH, AND MUSICAL INSTRUMENT REPAIRERS
CARPENTERS, EXCEPT APPRENTICES
CARPET INSTALLERS
CHEMICAL TECHNICIANS
CIVIL ENGINEERS
CLERGY
CONCRETE AND TERRAZZO FINISHERS
CONSTRUCTION INSPECTORS
CONSTRUCTION LABORERS
CONSTRUCTION TRADES
CORRECTIONAL INSTITUTION OFFICERS
CRANE AND TOWER OPERATORS
CRUSHING AND GRINDING MACHINE OPERATORS
DATA PROCESSING EQUIPMENT REPAIRERS
DENTISTS
DRAFTERS
DRIVER-SALES WORKERS
DRYWALL INSTALLERS
ELECTRICAL AND ELECTRONICS ENGINEERS
ELECTRICAL AND ELECTRONICS TECHNICIANS
ELECTRICAL POWER INSTALLERS & REPAIRERS
ELECTRICIANS, EXCEPT APPRENTICE
ELECTRONICS REPAIRERS, COMMERCIAL AND INDUSTRIAL EQUIPMENT
ELEVATOR INSTALLERS AND REPAIRERS
ENGINEERS, NOT ELSEWHERE CLASSIFIED
EXCAVATING AND LOADING MACHINE OPERATORS
EXTRUDING AND FORMING MACHINE OPERATORS
FIREFIGHTING OCCUPATIONS
FISHERS
FREIGHT, STOCK AND MATERIAL HANDLERS
FUNERAL DIRECTORS
FURNACE, KILN, AND OVEN OPERATORS, EXCEPT FOOD
FURNITURE AND WOOD FINISHERS
GARAGE AND SERVICE STATION RELATED OCCUPATIONS
GARBAGE COLLECTORS
GEOLOGISTS AND GEODESISTS
GLAZIERS
GRADER, DOZER, AND SCRAPER OPERATORS
GROUNDSKEEPERS AND GARDENERS, EXCEPT FARM
GUARDS AND POLICE, EXCEPT PUBLIC SERVICE
HAND MOLDERS AND SHAPERS, EXCEPT JEWELERS
HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS
HELPERS, CONSTRUCTION TRADES
HEAVY EQUIPMENT REPAIRERS
HORTICULTURAL SPECIALTY FARMERS
HOUSEHOLD APPLIANCE AND POWER TOOL REPAIRERS
HUNTERS AND TRAPPERS
INDUSTRIAL MACHINERY REPAIRERS
INDUSTRIAL TRUCK AND TRACTOR EQUIPMENT OPERATORS
INDUSTRIAL ENGINEERS
INSULATION WORKERS
JANITORS AND CLEANERS
JUDGES
LOCKSMITHS AND SAFE REPAIRERS
LOCOMOTIVE OPERATING OCCUPATIONS
MACHINISTS, EXCEPT APPRENTICES

MAIL CARRIERS, POSTAL SERVICE
MANAGERS, FARM, EXCEPT HORTICULTURAL
MANAGERS AND ADMINISTRATORS, SELF-EMPLOYED
MECHANICAL ENGINEERS
MECHANICAL ENGINEERING TECHNICIANS
MESSENGERS
METER READERS
MILLWRIGHTS
MISCELLANEOUS PRECISION WORKERS
MISCELLANEOUS WOODWORKING MACHINE OPERATORS
MISCELLANEOUS ELECTRICAL AND ELECTRONIC EQUIPMENT REPAIRERS
MISCELLANEOUS MATERIAL MOVING EQUIPMENT OPERATORS
MIXING AND BLENDING MACHINE OPERATORS
MECHANICS AND REPAIRERS, NOT ELSEWHERE CLASSIFIED
OFFICE MACHINE REPAIRERS
OPTOMETRISTS
PAINTERS, CONSTRUCTION AND MAINTENANCE
PAINTING AND PAINT SPRAYING MACHINE OPERATORS
PAPERHANGERS
PARKING LOT ATTENDANTS
PEST CONTROL OCCUPATIONS
PHOTOENGRAVERS AND LITHOGRAPHERS
PHYSICISTS AND ASTRONOMERS
PLASTERERS
PLUMBERS, PIPEFITTERS, STEAMFITTERS, EXCEPT APPRENTICES
POLICE AND DETECTIVES, PUBLIC SERVICE
POWER PLANT OPERATORS
PRECISION ASSEMBLERS, METAL
PRECISION GRINDERS, FILERS, AND TOOL SHARPENERS
PRINTING PRESS OPERATORS
PRODUCTION HELPERS
RAILROAD CONDUCTORS AND YARDMASTERS
ROOFERS
SALES ENGINEERS
SALES WORKERS, HARDWARE AND BUILDING SUPPLIES
SALES WORKERS, MOTOR VEHICLES AND BOATS
SALES WORKERS, PARTS
SEPARATING , FILTERING, AND CLARIFYING MACHINE OPERATORS
SHEET METAL WORKERS, EXCEPT APPRENTICES
SHEETMETAL AND DUCT INSTALLERS
SHERIFFS, BAILIFFS, AND OTHER LAW ENFORCEMENT OFFICERS
SHIP CAPTAINS AND MATES, EXCEPT FISHING BOATS
SHOE REPAIRERS
SMALL ENGINE REPAIRERS
SPECIFIED MECHANICS AND REPAIRERS
STRUCTURAL METAL WORKERS
SUPERVISORS, PLUMBERS, PIPEFITTERS, AND STEAMFITTERS
SUPERVISORS, BRICKMASONS, STONEMASONS, AND TILESETTERS
SUPERVISORS, CARPENTERS, AND RELATED WORKERS
SUPERVISORS, CLEANING AND BUILDING SERVICE WORKERS
SUPERVISORS, CONSTRUCTION, NOT ELSEWHERE CLASSIFIED
SUPERVISORS, ELECTRICIANS AND POWER TRANSMISSION INSTALLERS
SUPERVISORS, FIREFIGHTING AND FIRE PREVENTION OCCUPATIONS
SUPERVISORS, GUARDS
SUPERVISORS, MECHANICS AND REPAIRERS
SUPERVISORS, MOTOR VEHICLE OPERATORS
SUPERVISORS, PAINTERS, PAPERHANGERS, AND PLASTERERS
SUPERVISORS, POLICE AND DETECTIVES
SUPERVISORS, PRODUCTION OCCUPATIONS
SUPERVISORS, RELATED AGRICULTURAL OCCUPATIONS
SURVEYING AND MAPPING TECHNICIANS
TAXICAB DRIVERS AND CHAUFFEURS
TELEPHONE INSTALLERS AND REPAIRERS
TELEPHONE LINE INSTALLERS AND REPAIRERS
TILE SETTERS, HARD AND SOFT
TIMBER CUTTING AND LOGGING OCCUPATIONS
TOOL AND DIE MAKERS, EXCEPT APPRENTICES
TRAFFIC, SHIPPING, & RECEIVING CLERKS
TRANSPORTATION, COMMUNICATIONS, AND OTHER PUBLIC UTILITIES
TRUCK DRIVERS, HEAVY
UPHOLSTERERS
USHERS
VEHICLE WASHERS AND EQUIPMENT CLEANERS
WATER AND SEWAGE TREATMENT PLANT OPERATORS
WELDERS AND CUTTERS
WHOLESALE AND RETAIL TRADE BUYERS

Nontraditional Occupations with Higher Wages and Brighter Outlooks

This report focuses on occupations:

- in which women comprised twenty-five percent or less of the Massachusetts workers (1990);
- with a base employment of at least 2,000 workers in Massachusetts (1994);
- paying median entry wages greater than $7.50 per hour (1993) or greater than the national median weekly earnings for full-time workers (1995);
- with a projected positive growth rate through the year 2005; and
- that offer a career advancement path.

Fifty nontraditional occupations met the criterion: employment equal to 2,000 or greater in 1994. These occupations should generate job openings resulting from the need to replace workers who retire, receive a promotion, leave for a new position, or withdraw from the workforce.

Thirty-nine of these fifty occupations also met the criterion of projected positive employment growth rate. Twenty-eight of these occupations should provide at least 500 new openings or have a growth rate above the 12 percent statewide average.

NONTRADITIONAL OCCUPATIONS FOR WOMEN **OCCUPATIONS WITH EMPLOYMENT OF AT LEAST 2,000** **STATEWIDE AND LESS THAN 25% WOMEN IN 1990**	PERCENT WOMEN 1990	NET CHANGE 1994-2005	PERCENT CHANGE 1994-2005
ARCHITECTS	19.9%	380	7.9%
AUTOMOBILE BODY AND RELATED REPAIRERS	1.9%	430	8.6%
AUTOMOBILE MECHANICS, EXCEPT APPRENTICES	1.9%	2,350	13.8%
BRICKLAYERS AND STONEMASONS, EXCEPT APPRENTICES	1.2%	350	14.8%
BUS, TRUCK, AND DIESEL ENGINE MECHANICS	4%	530	14.6%
BUTCHERS AND MEAT CUTTERS	11.6%	INA	INA
CARPENTERS, EXCEPT APPRENTICES	1.4%	2,470	15.3%
CARPET INSTALLERS	0.5%	70	8.3%
CHEMICAL TECHNICIANS	21.4%	390	14.5%
CONSTRUCTION TRADES HELPERS	6.0%	1,690	20.3%
CORRECTIONAL INSTITUTION OFFICERS	13.8%	3,500	45.3%
DATA PROCESSING EQUIPMENT REPAIRERS	15.5%	1,100	41.7%
DENTISTS	13.2%	610	13.4%
DRAFTERS	17.7%	(520)	-7.2%
DRIVER-SALES WORKERS	10.7%	450	8.9%
ELECTRICAL AND ELECTRONICS ENGINEERS	9.1%	2,590	21.7%
ELECTRICAL AND ELECTRONICS ENGINEERING TECHNICIANS	15.9%	990	8.2%
ELECTRICIANS, EXCEPT APPRENTICE	1.5%	1,080	10.3%
ELECTRONICS REPAIRERS, COMMERCIAL AND INDUSTRIAL EQUIPMENT	13.4%	40	4.6%
ENGINEERS, NOT ELSEWHERE CLASSIFIED	12.2%	2,300	21.3%

	PERCENT WOMEN 1990	NET CHANGE 1994-2005	PERCENT CHANGE 1994-2005
FIREFIGHTERS	0.9%	1,910	18.8%
FREIGHT, STOCK AND MATERIAL HANDLERS	10.2%	(820)	-4.9%
GARAGE AND SERVICE STATION ATTENDANTS	5.2%	(1,900)	-36.7%
GROUNDSKEEPERS AND GARDENERS, EXCEPT FARM	6.3%	1,900	22.1%
GUARDS AND POLICE, EXCEPT PUBLIC SERVICE	15.5%	6,950	30.2%
HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS	1.0%	1,560	25.0%
HEAVY EQUIPMENT REPAIRERS/MECHANICS	0.5%	150	12.9%
INDUSTRIAL TRUCK AND TRACTOR EQUIPMENT OPERATORS	3.4%	500	7.3%
INDUSTRIAL ENGINEERS	15.7%	100	2.3%
INSULATION WORKERS	3.1%	380	29.2%
JANITORS AND CLEANERS	21.2%	8,040	15.0%
MACHINISTS, EXCEPT APPRENTICES	4.1%	(1,310)	-12.0%
MAIL CARRIERS, POSTAL SERVICE	21.3%	60	0.6%
MECHANICAL ENGINEERS	7.1%	1,060	14.1%
MECHANICAL ENGINEERING TECHNICIANS	7.2%	(10)	-0.4%
MESSENGERS	23.4%	140	4.5%
PAINTERS, CONSTRUCTION AND MAINTENANCE	7.1%	1,200	15.6%
PAINTING AND PAINT SPRAYING MACHINE OPERATORS	13.9%	(190)	-10.9%
PLUMBERS, PIPEFITTERS, STEAMFITTERS, EXCEPT APPRENTICES	1.7%	710	9.4%
POLICE AND DETECTIVES, PUBLIC SERVICE	8.4%	3,180	25.9%
PRINTING PRESS OPERATORS	14.9%	(90)	-2.8%
ROOFERS	2.1%	300	20.7%
SHEET METAL WORKERS, EXCEPT APPRENTICES	1.9%	(410)	-11.9%
TAXICAB DRIVERS AND CHAUFFEURS	11.2%	300	9.0%
TELEPHONE INSTALLERS AND REPAIRERS	14.7%	200	17.7%
TOOL AND DIE MAKERS, EXCEPT APPRENTICES	2.8%	(530)	-18.6%
TRAFFIC, SHIPPING, & RECEIVING CLERKS	20.2%	430	2.0%
TRUCK DRIVERS, HEAVY	5.8%	1,790	6.6%
VEHICLE WASHERS AND EQUIPMENT CLEANERS	9.2%	420	13.6%
WELDERS AND CUTTERS	8.1%	140	4.6%
TOTAL ALL OCCUPATIONS	47.6%	373,710	12.0%

Source: Labor Market Information for Affirmative Action Planning, Massachusetts Division of Employment and Training, 1994
Source: Career Moves, Massachusetts DET; unpublished data

Thirty-nine of the fifty occupations employing at least 2,000 workers, also met the criterion of paying median entry wages greater than $7.50 per hour in Massachusetts. Twenty-four occupations had median experienced weekly wages greater than $631.03, the average weekly wage of Massachusetts insured workers in 1995. Seventeen of these occupations had median weekly wages of experienced workers at least fifty percent greater than the median entry level wages; indicating a career path for wage advancement.

Twenty-five of the fifty occupations had 1995 median weekly earnings for full-time wage and salary workers greater than the national average of $479 for all occupations.

NONTRADITIONAL OCCUPATIONS FOR WOMEN OCCUPATIONS WITH 2,000 EMPLOYEES OR MORE	MEDIAN ENTRY LEVEL WAGE	MEDIAN EXPERIENCED WAGE	1995 NATIONAL MEDIAN WEEKLY EARNINGS
ARCHITECTS	$12.24	$22.78	$724
AUTOMOBILE BODY AND RELATED REPAIRERS	$9.00	$13.50	$391
AUTOMOBILE MECHANICS, EXCEPT APPRENTICES	$8.50	$14.25	$466
BRICKLAYERS AND STONEMASONS, EXCEPT APPRENTICES	$7.10***	$20.75***	$483
BUS, TRUCK, AND DIESEL ENGINE MECHANICS	$12.49	$16.70	$532
BUTCHERS AND MEAT CUTTERS	$10.00	$14.53	$347
CARPENTERS, EXCEPT APPRENTICES	$9.58	$18.83	$466
CARPET INSTALLERS	$7.50**	$13.50**	$344
CHEMICAL TECHNICIANS	$9.64	$19.82	$680
CONSTRUCTION TRADES HELPERS	$8.60*	$15.35*	$295
CORRECTIONAL INSTITUTION OFFICERS	$14.41	$18.85	$499
DATA PROCESSING EQUIPMENT REPAIRERS	$13.87	$15.54	$600
DENTISTS	$29.77	$49.62	$1,043
DRAFTERS	$12.40	$16.70	$609
DRIVER-SALES WORKERS	$7.00	$12.40	$517
ELECTRICAL AND ELECTRONICS ENGINEERS	$18.13	$31.25	$954
ELECTRICAL AND ELECTRONICS ENGINEERING TECHNICIANS	$14.07	$16.51	$618
ELECTRICIANS, EXCEPT APPRENTICE	$13.61	$16.55	$596
ELECTRONICS REPAIRERS, COMMERCIAL AND INDUSTRIAL EQUIPMENT	$13.80**	$18.80**	$583
ENGINEERS, NOT ELSEWHERE CLASSIFIED	$16.00**	$22.00**	INA
FIREFIGHTERS	$15.80*	$18.28*	$626
FREIGHT, STOCK AND MATERIAL HANDLERS	$5.70	$12.15	$316
GARAGE AND SERVICE STATION ATTENDANTS	$7.57	$8.50	$274
GROUNDSKEEPERS AND GARDENERS, EXCEPT FARM	$7.13	$10.05	$287
GUARDS AND POLICE, EXCEPT PUBLIC SERVICE	$6.57	$7.95	$338
HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS	$12.71	$18.55	$499
HEAVY EQUIPMENT REPAIRERS	$9.20**	$14.60**	$577
INDUSTRIAL TRUCK AND TRACTOR EQUIPMENT OPERATORS	$9.38*	$12.50*	$395

	MEDIAN ENTRY LEVEL WAGE	MEDIAN EXPERIENCED WAGE	1995 NATIONAL MEDIAN WEEKLY EARNINGS
INDUSTRIAL ENGINEERS	$16.20	$24.09	$842
INSULATION WORKERS	$8.00**	$11.00**	$429
JANITORS AND CLEANERS	$6.25	$8.19	$293
MACHINISTS, EXCEPT APPRENTICES	$11.78	$14.50	$525
MAIL CARRIERS, POSTAL SERVICE	$12.04	$16.99	$648
MECHANICAL ENGINEERS	$14.46	$25.10	$925
MECHANICAL ENGINEERING TECHNICIANS	$14.89	$17.56	INA
MESSENGERS	$6.45	$8.83	$364
PAINTERS, CONSTRUCTION AND MAINTENANCE	$8.75	$16.22	$393
PAINTING AND PAINT SPRAYING MACHINE OPERATORS	$9.00***	$11.00***	$422
PLUMBERS, PIPEFITTERS, STEAMFITTERS, EXCEPT APPRENTICES	$12.22	$24.04	$556
POLICE AND DETECTIVES, PUBLIC SERVICE	$12.03*	$20.68*	$663
PRINTING PRESS OPERATORS	$8.65*	$13.95*	$462
ROOFERS	$8.00	$15.00	$387
SHEET METAL WORKERS, EXCEPT APPRENTICES	$8.50	$12.50	$518
TAXICAB DRIVERS AND CHAUFFEURS	$9.13	$9.55	$352
TELEPHONE INSTALLERS AND REPAIRERS	$8.40***	$27.25***	$684
TOOL AND DIE MAKERS, EXCEPT APPRENTICES	$12.02	$16.73	$688
TRAFFIC, SHIPPING, & RECEIVING CLERKS	$8.00	$10.40	$371
TRUCK DRIVERS, HEAVY	$10.00	$16.55	$481
VEHICLE WASHERS AND EQUIPMENT CLEANERS	$7.21	$9.00	$273
WELDERS AND CUTTERS	$8.18*	$13.45*	$464
ALL OCCUPATIONS	INA	INA	$479

SOURCES: Career Moves, Massachusetts Division of Employment and Training, 1996

Selected Occupational Wages, Volume I, Massachusetts, Massachusetts Division of Employment and Training, 1996

* *Massachusetts median weekly earnings full-time, 1989, Career Briefs, Center for Labor Market Studies, 1994*

** *Used Vermont hourly wage rate, Vermont Occupational Information Coordinating Committee, 1996*

*** *Used Rhode Island wage rates, Career Anchor, Rhode Island Occupational Information Coordinating Committee, 1996*

SOURCES: Table 39 Median weekly earnings of full-time wage and salary workers detailed by occupation and sex, Employment and Earnings, Bureau of Labor Statistics, January 1996, pp. 205-209

Thirty-one of the thirty-nine occupations which met the criterion of projected positive employment growth also met the wage criterion. Two occupations (carpet installers and roofers) were eliminated due to limited career advancement opportunities and two additional occupations (construction trades helpers and engineers, not elsewhere classified) were excluded because of their broad occupational titles. Gardener, Groundskeepers, and Lawn Maintenance Workers did not meet the wage criterion but was included because of its strong projected employment growth. Commercial and Industrial Electronic Equipment Repairers was added because one of the manufacturing industries in which this occupation is concentrated is rapidly expanding.

Selected Nontraditional Occupations

The following twenty-nine occupations are profiled in the section titled Occupational Briefs:

Architects
Automobile Body Repairers
Automotive Mechanics
Bricklayers and Stonemasons
Carpenters
Chemical Technicians
Computer Service Technicians
Correctional Institution Officers
Dentists
Diesel Mechanics
Electrical and Electronics Engineers
Electrical and Electronics Technicians
Electricians
Electronics Repairers, Commercial and Industrial Equipment
Firefighters
Gardeners, Groundskeepers, and Lawn Maintenance Workers
Heating, Air Conditioning, and Refrigeration Mechanics
Mobil Heavy Equipment Repairers
Industrial Truck and Tractor Equipment Operators
Industrial Engineers
Insulation Workers
Mail Carriers, Postal Service
Mechanical Engineers
Painters
Plumbers and Pipefitters
Police Patrol Officers
Traffic, Shipping & Receiving Clerks
Truck Drivers, Heavy
Welders and Cutters

The nontraditional occupations listed above are in demand, pay well and offer rewarding career paths which make them attractive job options to many workers. These occupations should be considered by women because they offer higher than average wages, often have attractive fringe benefits, provide a variety of work schedules, and present increased opportunities for advancement compared to many of the more traditional clerical, service, and retail occupations which women dominate.

Rewards and Advantages

Employment in a nontraditional occupation may permit the increased utilization of aptitudes and personal skills, leading to greater job satisfaction. A nontraditional job may mean the difference between being on welfare and being economically self-sufficient. A nontraditional occupation may provide a middle class lifestyle to a primary wage earner.

The occupational participation rates of women effected earnings. In 1995, women continued to be over represented in administrative support (79%) and service (60%) occupations. In comparison, over ninety percent of individuals employed in precision production, craft, and repair and transportation and material moving occupations were male. Not surprisingly, earnings in the occupational categories of precision production, craft and repair ($519 median weekly) and transportation and material moving ($476) were greater than in the clerical ($399) and service ($271) categories.

The occupational distribution of women as a percent of total female employment exhibited similar patterns of underrepresentation in well paying occupations. Although employment of women in the professional specialty occupational category was over sixteen percent of the total number employed (compared to 12.7 percent of males), only three-tenths of one percent (0.3%) of women worked as engineers compared to 2.6 percent of employed men. The median weekly earnings for professional specialty occupations was $718. Engineers earned median weekly earnings of $925. Although women and men in this occupational category had similar levels of education (baccalaureate), their fields of educational specialization differed.

Technicians represented 3.5 percent of employed females compared to a male share of 2.8 percent. However, only four-tenths of one percent (0.4%) of employed women were found in the relatively well paying engineering and science technology occupations, compared to 1.3 percent of employed men. The median weekly earnings for technical occupations was $558. Engineering technologists, mostly male, earned $598 per week compared to the $416 weekly earnings of health technologists, a female dominated occupation. Both of these occupational groups required associate degrees for preparation.

Almost 18 percent of women were employed in services compared to over ten percent of men, suggesting substantial female overparticipation. However, within services, only six-tenths of one percent (0.6%) of working women were employed in protective services occupations compared to 2.8 percent of men. The median weekly earnings of service occupations was only $299. The median weekly earnings of police officers, a predominantly male protective service occupation, was $663.

In higher paying occupations, within the very occupational categories in which women were strongly concentrated, women were under represented.

Self-employed men earned almost three times more than their female counterparts, ($21,700 in 1990, versus $6,100). Self-employed men who worked year-round, full-time earned twice as much as women on the same schedule, ($26,100 versus $12,200). Self-employed men who worked part-time or part-year earned more than women by an even larger margin, with a median wage of $9,300 versus $3,000.

Much of the wage gap was explained by the occupations of men and women. Self-employed women were concentrated in service occupations other than protective services, (29 percent, versus 3.5 percent of self-employed men). In contrast, the largest share of self-employed men worked in executive, administrative, and managerial occupations (25 percent, compared to a 17 percent share of women). Twenty-one percent of self-employed men worked in precision production, craft, and repair occupations versus only four percent of self-employed women.

In summary, the occupational choice of women can be a critical determinant of their economic earnings and sufficiency. Investment in preparation for selected nontraditional occupations may offer opportunities leading to well-paying employment with growth potential, and clear career advancement paths.

Occupational Briefs

Higher Skills, Higher Wages, and Higher Achievement contains occupational briefs of twenty- nine nontraditional occupations for women that are projected to be in demand in Massachusetts through 2005. The occupations are divided into ten groups of related jobs. Each brief has a job description, information on current and future job openings, education and training requirements, wages, reasons for the job growth, industries where the jobs are found, and potential career paths.

This chapter contains a short explanation about each section and how to use it in career exploration. Read through this chapter carefully. If you have questions, please call the D.E.T. at (617) 626-5744 or 626-5718.

Occupational Group

This line identifies the occupational group that contains the related jobs.

The Occupational Title

Occupations are arranged alphabetically within each occupational group. Each job was selected for inclusion in this book based on expected positive growth rates and/or the projected number of openings.

The paragraph below the title describes the nature of the work. It gives a brief description of some of the job's activities and responsibilities, and should help you evaluate whether or not you are interested in the job.

Wages and Salaries

The wages workers generally earn in the occupation are listed on this line. Earnings depend on factors such as experience, the level of responsibility and the industry and geographic location of the job. There are many different ways to be paid for a job. Some companies pay workers by the hour. Other workers receive an annual salary, paid at weekly, bi-weekly or monthly intervals. Some workers also receive commissions, bonuses, or company stock offerings, based on a percentage of how much they sell or produce.

The wages listed for each occupation in *Higher Skills, Higher Wages, and Higher Achievement* are median weekly earnings of full time wage and salary workers. Median or mid-point earnings means that half the people in the occupation earned more than this wage and half earned less. Most wages are from a survey program developed by the Division of Employment and Training and published in *Selected Occupational Wages in Massachusetts, Volume I.* Where Massachusetts data were not available, other sources of wage data such as national data were used.

Growth Rate

The percentage of projected new openings due to increases in demand for people to fill the job is represented by this number. Jobs in this book have a positive growth rate, many are near or above the 12 percent statewide average.

Current Jobs

This is an estimate of the number of jobs currently available in the occupation

New Jobs

The estimated number of jobs to be created in Massachusetts through 2005 is in this section. It is important to differentiate the projected rate of job growth from the number of new jobs. An occupation may be projected to grow rapidly, but provide few new jobs. On the other hand, an occupation may provide a sizable number of new jobs but have a slow to modest growth rate.

Factors Driving the Growth

Some of the reasons for the expected increase in jobs are discussed in this section. These reasons include changes in technology and business practices, trends in laws and government regulations, and increases in research and development expenditures.

Where Jobs are Currently Found

This section shows the different industries in which workers who hold this job are employed. It also tells what percentage of these jobs are found in each industry. This will give an indication of whether employment is concentrated in a few industries, or distributed across several industries. It also shows the various work environments associated with a particular job, to help you decide which environment you prefer.

Education and Training Requirements

Information on the amount of education or training needed for the job is in this section. For some occupations, a college or graduate degree, and/or specific experience is required. Many jobs require specialized skills, which, in some cases, may be learned on the job. A few occupations require no particular training or experience beyond high school. This section shows what employers prefer when hiring for the position, and can guide your future education and training plans.

Career Paths

What other jobs make use of the same type of skills or experience acquired in a job? This section tells you what might be a typical "stepping stone" occupation to consider after several years of employment in one job.

Dentists

Dentists diagnose, prevent, and treat problems of the teeth and tissues of the mouth. They take X-rays, fill cavities, extract teeth, perform corrective surgery, and help patients maintain good oral health.

Growth Rate: 13.4%

Current Jobs: 4,570

Projected New Jobs: 610

Projected Employment: 5,180

Factors Driving the Growth

Factors contributing to job growth include expansion of dental insurance coverage that makes it easier to pay for dental care, an older population that requires more dental care, and public awareness that regular dental care helps prevent disease.

Where Jobs are Currently Found

Dentists' Offices and Clinics (50%)
Self Employed (46%)

Wages and Salaries

Median Entry Level Annual Earnings: $ 62,400
Median Experienced Annual Earnings: $104,000
Specialists average $177,590 nationally.

Education and Training

Graduation from a college of dentistry, usually involves four years graduate work. Most students have a bachelor's degree prior to entry to a dental school. Dentists must be licensed by the Board of Registration in Dentistry. To qualify for a license, a candidate must graduate from a dental school approved by the American Dental Association and pass written and practical examinations.

Career Paths

Advancement is usually in the form of increased income based on growth of a dental practice. Some dentists get additional training and specialize in a field such as orthodontics, endodontics, prosthodontics, oral surgery, or other area. Some teach at colleges of dentistry.

Architects

Architects provide professional design services to clients planning a building or renovation project. They plan and design and supervise construction of new buildings and remodeling of old buildings according to criteria of safety, utility, and aesthetics. Architects prepare detailed plans which show scale, structure, and mechanical design.

Growth Rate: 7.9%

Current Jobs: 4,800

Projected New Jobs: 380

Projected Employment: 5,180

Factors Driving the Growth

Employment is expected to grow by 7.9 percent as new construction, particularly of nonresidential structures, spurs demand.

Where Jobs are Currently Found

Engineering and Management Services (67%)
Self-Employed (28%)

Wages and Salaries

Median Entry Level Annual Wage: $ 24,700
Median Experienced Annual Wage: $ 44,700

Education and Training

Most architects complete a five-year bachelor's degree in architecture or environmental design. Some architects get a master's degree in architecture after receiving a bachelor's degree in another field. Graduates gain experience in drafting and support before advancing to design responsibility. Architects must be licensed by the Board of Registration of Architects. Licensed architects must pass an exam administered by the National Council of Architectural Registration Board. To qualify for the exam, a candidate must have graduated from an accredited architectural school.

Career Paths

With a professional degree, architects can develop their own business although new graduates usually begin in architectural firms. Architects sometimes specialize in a particular building type such as schools, high-rises, or health facilities. Some architects work for large firms and become supervisors, managers, specifications writers or marketing experts. Architects with a knowledge of computer-aided design are in great demand.

Electrical and Electronics Engineers

Electrical engineers design, develop and improve electronic and electrical equipment, systems, and machinery. They may test and solve operating problems, prepare feasibility reports and estimate the time and cost of a project.

Growth Rate: 22%

Current Jobs: 11,960

Projected New Jobs: 2,590

Projected Employment: 14,550

Factors Driving the Growth

Employment opportunities for electrical and electronics engineers should be excellent throughout the decade. Reduced defense spending will lead companies to invest heavily in new plant and equipment and update and improve products more frequently. Biomedical and communications industries are expected to account for most of the job openings.

Where Jobs are Currently Found

Instrument and Related Products Manufacturers (18%)
Electronics Manufacturers (18%)
Research and Testing Firms (11%)
Engineering and Architectural Firms (9%)
Communications and Utilities (7%)
Computer Software & Data Processing Firms (6%)
Government (5%)
Wholesalers (5%)
Computer Equipment Manufacturers (4%)

Wages and Salaries

Median Entry Level Annual Earnings: $38,000
Median Experienced Annual Earnings: $65,500

Education and Training

Most employers require at minimum a bachelor's degree in electrical engineering. Graduates of four year engineering technology programs may have some difficulty finding jobs, as some employers regard graduates of these programs as having skill levels between those of a technician and an engineer. Computer-aided design and computer programming skills are important. Graduate training enhances promotion opportunities, as does keeping abreast of the latest technological advances. Professional engineers must be licensed by the Board of Registration of Professional Engineers and of Land Surveyors.

Career Paths

Electrical and electronics engineers advance with experience to become supervisors or lead engineers. With good management and engineering skills, some may become department managers or directors of research and development. Some move into fields such as sales.

Industrial Engineers

Industrial engineers determine the most effective ways for organizations to use resources such as people, equipment, materials, information, and energy. They determine how production facilities will be used. They plan equipment layouts, design workflow and accident prevention measures, and develop quality control and inventory control programs.

Growth Rate: 2.3%

Current Jobs: 4,430

Projected New Jobs: 100

Projected Employment: 4,530

Factors Driving the Growth

Industrial growth, more complex business operations, and the greater use of automation in factories and in offices will spur demand for industrial engineers. Most job openings will result from the need to replace industrial engineers who transfer to other occupations or leave the labor force. Jobs will also be created as firms seek to reduce costs and increase productivity through scientific management and safety engineering.

Where Jobs are Currently Found

Instruments and Related Products Manufacturers (22%)
Electrical Equipment Manufacturers (18%)
Industrial Machinery and Equipment Manufacturers (16%)
Engineering and Management Services (11%)
Computer and Office Equipment Manufacturers (10%)
Fabricated Metal Products Manufacturers (9%)

Wages and Salaries

Median Entry Level Annual Earnings:	$ 33,950
Median Experienced Annual Earnings:	$ 50,500

Education and Training

A bachelor's degree is the usual entry-level requirement. Industrial engineers need strong problem-solving ability, a good technical background, and an understanding of human behavior. Knowledge of computer science is important. Professional engineers must be licensed by the Board of Registration of Professional Engineers and of Land Surveyors.

Career Paths

Some industrial engineers move into management because the work is closely related. Others become independent consultants.

Mechanical Engineers

Mechanical engineers design machines, products, and processes that produce, transmit, and use power and heat. They build power-using engines (steam, jet and rocket engines) and power- driven machines (refrigerators, air-conditioners, and other appliances, robots, printing presses, tools and elevators). They may specialize in heating, ventilating, air conditioning and refrigeration, pollution control, solar energy, aviation and space, and underwater technology.

Growth Rate: 14%

Current Jobs: 7,510

Projected New Jobs: 1,060

Projected Employment: 8,570

Factors Driving the Growth

Demand for mechanical engineers is primarily tied to investments in new technology and economic growth. The increasing complexity of industrial machinery and processes should also spur job growth.

Where Jobs are Currently Found

Engineering & Management Consulting Firms (20%)
Industrial Equipment Manufacturers (15%)
Instrument and Related Products Manufacturers (11%)
Transportation Equipment Manufacturers (11%)
Electronics Manufacturers (10%)
Government (3%)

Wages and Salaries

Median Entry Level Annual Earnings:	$ 30,300
Median Experienced Annual Earnings:	$ 52,600

Education and Training

A bachelor's degree in mechanical engineering is required for most entry level jobs. Four year programs in engineering technology provide practical experience in this field. However, employers generally consider this training sufficient only for a technician's position. Mechanical engineers must keep up to date on new technologies and methods of analysis. Graduate training is essential for advancement. Professional engineers must be licensed by the Board of Registration of Professional Engineers and of Land Surveyors.

Career Paths

Mechanical engineers have many career paths open to them. They may work in research and development, design and testing, or become supervisors or department managers. Some become managers of operations/maintenance or enter into sales or other administrative positions.

Electrical and Electronics Technicians

Electrical and electronics engineering technicians help develop, manufacture, and service electrical and electronics equipment. They use sophisticated measuring and diagnostic devices to test, adjust, and repair equipment. At times, electrical and electronics technicians assist scientists and engineers in the design and development of equipment. In production work, technicians work independently, following the instructions and general direction of engineers or scientists.

Growth Rate: 8.2%

Current Jobs: 12,020

Projected New Jobs: 990

Projected Employment: 13,010

Factors Driving the Growth

Job opportunities for electrical and electronics engineering technicians will advance 8.2 percent in Massachusetts. Strong demand for computers, communications equipment and other electronics products will promote job growth.

Where Jobs are Currently Found

Wholesalers (22%)
Electronics Manufacturers (19%)
Instrument and Related Products Manufacturers (16%)
Engineering and Architectural Firms (11%)
Industrial Machinery and Equipment (8%)
Computer and Office Equipment Manufacturers (6%)

Wages and Salaries

Median Entry Level Annual Earnings:	$29,500
Median Experienced Annual Earnings:	$34,600

Education and Training

Companies prefer applicants who have some technical training from technical institutes, junior or community colleges, or vocational technical schools. In order to function as a member of the technology team, engineering technicians and technologists should work well with others and communicate effectively.

Career Paths

Electrical and electronics engineering technicians advance by taking on more responsibilities and continuing their education. With experience, some may supervise assembly operations or other groups of technicians and assume administrative tasks such a writing reports and manuals. If they continue their education, some may become engineers. Other workers who apply scientific, engineering and mathematical principles include science technicians, drafters, and health technicians and technologists.

Chemical Technicians, Except Health

Chemical technicians work with chemists and chemical engineers, developing and using chemicals and related products and equipment. Most do research and development, testing, or other laboratory work.

Growth Rate: 14.5%

Current Jobs: 2,690

Projected New Jobs: 390

Projected Employment: 3,080

Factors Driving the Growth

Jobs for chemical technicians are expected to grow due to the growth of scientific and medical research and development and the production of technical products. Job opportunities will be best for individuals who have training or experience on the equipment currently in use in industrial and government laboratories.

Where Jobs are Currently Found

Research and Testing (33%)
Chemical and Allied Products Manufacturers (30%)
Instruments and Related Products Manufacturers (10%)
Rubber and Miscellaneous Products Manufacturers (5%)

Wages and Salaries

Median Entry Level Annual Earnings:	$20,200
Median Experienced Annual Earnings:	$41,550

Education and Training

Most employers prefer applicants with an associate's degree in a specific technology or a strong science and mathematics background. Many junior and community college offer associates degrees. Jobs with higher technical skill levels usually require a bachelor's degree.

Career Paths

Chemical Technicians take on more responsibility as they gain experience and carry out assignments under only general supervision. Some eventually become supervisors. With a bachelor's degree, technicians may progress to chemist.

Automotive Body Repairers

Automotive body repairers service and repair cars and trucks. May straighten bent frames, remove dents, and replace worn parts.

Growth Rate: 8.6%

Current Jobs: 4,990

Projected New Jobs: 430

Projected Employment: 5,420

Factors Driving the Growth

Jobs for autobody repairers are expected to grow by 8.6 percent as the number of motor vehicles in operation grows with the nation's population. The number of autos damaged in accidents will increase as well.

Where Jobs are Currently Found

Auto Repair Shops (51%)
Auto Dealers and Service Stations (26%)
Self Employed (19%)

Wages and Salaries

Median Entry Level Hourly Wage:	$ 9.00
Median Experienced Hourly Wage:	$13.50

Education and Training

Because technology has greatly changed the materials, parts, and manufacturing of automobiles, most employers prefer to hire graduates of formal training programs. Automotive body repair training programs are offered by high schools, vocational schools, and many community colleges.

Career Paths

Beginners often start as helpers and with experience take on more difficult jobs. Repairers with leadership abilities can advance to shop supervisor or service manager. Some open their own body repair shops. With at least 60 hours of training at an approved appraiser's program, and three months of experience working under a licensed appraiser, repairers can apply for a license to the Division of Insurance to become a motor vehicle damage appraiser. Others can work for insurance companies as repair service estimators or autobody damage appraisers.

Automotive Mechanics

Automotive mechanics repair and service automobiles and occasionally light trucks, with gasoline engines. (Mechanics who service diesel-powered vehicles are discussed under diesel mechanics). Mechanics inspect, lubricate, calibrate and repair engines and other components. They may test-drive vehicles or use diagnostic equipment to locate problems. Some specialize in automatic transmissions, brakes, tune-ups, radiators or air conditioning.

Growth Rate: 13.8%

Current Jobs: 17,040

Projected New Jobs: 2,350

Projected Employment: 19,390

Factors Driving the Growth

Jobs for automotive mechanics are expected to grow by 13.8 percent due to population increases, resulting in increased demand for automobiles. More people keep their cars longer today, which also increases demand for mechanics.

Where Jobs are Currently Found

Automobile Dealers and Service Stations (43%)
Auto Repair Shops (24%)
Self Employed (20%)
Gasoline Service Stations (7%)

Wages and Salaries

Median Entry Level Hourly Wage:	$ 8.50
Median Experienced Hourly Wage:	$14.25

Education and Training

Because technology has greatly changed the materials, parts, and manufacturing of automobiles, most employers prefer to hire graduates of formal training programs. Automotive training programs are offered at high schools, vocational schools, and many community colleges. Knowledge of electronics is also increasingly desirable.

Career Paths

Beginners usually start as trainees, helpers, or lubrication specialists and with experience take on more difficult jobs. Mechanics with leadership abilities can advance to shop supervisor or service manager. Some open their own independent repair shops.

Diesel Mechanics

Diesel mechanics repair, maintain and service diesel engines found in trucks, buses, bulldozers, cranes, and other vehicles and equipment. Some specialize in major engine repair, transmissions, electrical systems, brakes or suspensions.

Growth Rate: 14.6%

Current Jobs: 3,620

Projected New Jobs: 530

Projected Employment: 4,150

Factors Driving the Growth

Jobs for diesel engine mechanics should increase about as fast as overall economic growth. Increases in the number of goods shipped by truck will spur growth in the trucking industry, which should also increase the demand for diesel mechanics. In addition, hundreds of jobs will occur to replace workers who retire

Where Jobs are Currently Found

Trucking and Warehousing (23%)
Auto Repair Shops (12%)
Bus Companies (11%)
Wholesalers (10%)
Utilities and Sanitary Service Companies (6%)
Local Government (5%)

Wages and Salaries

Median Entry Level Hourly Earnings:	$ 12.49
Median Experienced Hourly Earnings:	$ 16.70

Education and Training

Most employers prefer to hire graduates of formal post-secondary training programs in diesel mechanics. However, for entry level jobs as helpers, employers prefer high school graduates who have taken courses in automotive repair, electronics, mathematics and physics. Practical experience gained from working in gasoline service stations, the Armed Forces or a hobby is also desirable.

Career Paths

With experience, diesel mechanics may advance to shop supervisors or service managers. Some start their own repair shops. Others who have in-depth knowledge about engines and sales ability may become sales representatives. Other workers who repair engines include aircraft mechanics, automotive mechanics and boat engine mechanics.

Mobile Heavy Equipment Mechanics

Mobile heavy equipment mechanics service, maintain and repair the engines, transmissions, hydraulics, electrical systems, and other components of equipment.

Growth Rate: 12.9%

Current Jobs: 1,160

Projected New Jobs: 150

Projected Employment: 1,310

Factors Driving the Growth

As the economy expands, growth of construction activity should result in the use of more mobile heavy equipment, which would increase the necessity for periodic service and repair.

Where Jobs are Currently Found

Government (36%)
Wholesalers (25%)
General Contractors, except Building (13%)
Business Services (7%)

Wages and Salaries

Nationally, median weekly earnings of mobile heavy equipment mechanics were about $554 in 1994. The lowest 10 percent earned less than $322 a week, and the top 10 percent earned over $864 a week in 1994.

Education and Training

For trainee jobs, employers hire persons with mechanical aptitude, who are high school graduates and at least 18 years old. Opportunities should be best for people who complete formal training programs in diesel or heavy equipment mechanics. Heavy equipment mechanics training programs are offered by vocational-technical schools. High school courses in automobile mechanics, physics, chemistry and mathematics provide a good foundation for a career as a mechanic.

Career Paths

Experienced mechanics may advance to field service jobs, where they have greater opportunity to tackle problems independently and earn overtime pay. Mechanics who have leadership ability may become shop supervisors or service managers. Some mechanics open their own repair ships.

Commercial and Industrial Electronics Equipment Repairers

Commercial and industrial electronic equipment repairers install and repair industrial controls, radar and missile control systems, medical diagnostic equipment and communications equipment.

Growth Rate: 4.6%

Current Jobs: 880

Projected New Jobs: 40

Projected Employment: 920

Factors Driving the Growth

Jobs for commercial and industrial electronics equipment repairers are expected to increase more slowly than the average for all occupations through the year 2005. Opportunities for employment outside of the Federal government are expected to be good in response to the installation of more electronic equipment by business and industry to boost productivity and to improve product quality. More electronics equipment will be used in energy conservation and pollution control.

Where Jobs are Currently Found

These workers are employed primarily by the Federal government and electronic and transportation equipment manufacturers

Wages and Salaries

Nationally, median weekly earnings of commercial and industrial equipment electronic repairers were about $542 in 1994.

Education and Training

Electronics training is offered by public post secondary vocational-technical schools, and private vocational schools and technical institutes.

Career Paths

Experienced repairers with advanced training may become specialists or troubleshooters who help other repairers diagnose difficult problems, or work with electromechanical engineers in designing equipment and developing maintenance procedures. Because of their familiarity with equipment, repairers are qualified to become manufacturers' sales representatives. Workers with leadership skills may become maintenance supervisors or service managers. Some experienced workers open their own repair services or shops, or become wholesalers or retailers of equipment.

Computer Service Technicians

Computer service technicians install, maintain and repair computer equipment. They may specialize in maintaining or repairing a particular brand or type of system.

Growth Rate: 41.7%

Current Jobs: 2,640

Projected New Jobs: 1,100

Projected Employment: 13,740

Factors Driving the Growth

Jobs for computer service technicians will grow faster than average, as companies continue to automate their computer operations in search of greater productivity and improved service.

Where Jobs are Currently Found

Computer Software and Data Processing Firms (42%)
Wholesalers (38%)
Radio, TV and Consumer Electronics Stores (6%)

Wages and Salaries

Median Entry Level Weekly Earnings:	$ 13.87
Median Experienced Weekly Earnings:	$ 15.54

Education and Training

Training in electronics is required for most entry level jobs. Formal training is offered by public and private vocational technical schools, community and junior colleges, technical institutions, and colleges and universities. Programs take one or two years. Applicants for entry level jobs may have to pass tests that ensure mechanical aptitude, knowledge of electricity or electronics and general intelligence.

Career Paths

Experienced technicians with advanced training can become trouble shooters who help diagnose difficult problems or assist engineers in the development of maintenance procedures. Others who enjoy working with people can become supervisors, managers or manufacturer's sales representatives. Other workers who repair and maintain electronic equipment include automotive electricians; office machine repairers; and TV, radio and other home entertainment equipment repairers.

Electricians

Electricians install, connect, test, and maintain electrical systems for a variety of purposes, including climate control, security, and communications. They also may install and maintain the electronic controls for machines in business and industry. Although most electricians specialize in either construction or maintenance, a growing number do both.

Growth Rate: 10.3%

Current Jobs: 10,520

Projected New Jobs: 1,080

Projected Employment: 11,600

Factors Driving the Growth

The total number of job openings for electricians each year is among the highest for all trades workers, primarily because the occupation is so large and less subject to the seasonal nature of construction.

Where Jobs are Currently Found

Special Trade Contractors (53%)
Self Employed (19%)
Durable Goods Manufacturing (8%)
Government (7%)
Nondurable Goods Manufacturing (6%)

Wages and Salaries

Median Entry Level Hourly Earnings:	$13.61
Median Experienced Hourly Earnings:	$16.55

Hourly wages in August 1996 for first step electrician apprentices in Boston were $8,50. After apprenticeship, journeyman's hourly wages in Boston were $28.30.

Education and Training

In Massachusetts, licensed electricians must have documented proof of at least four years as an apprentice under a licensed Massachusetts electrician. Electronic training programs are offered by high schools, vocational-technical schools, and proprietary schools. Electricians are licensed by the Board of State Examiners of Electricians.

Career Paths

Experienced electricians can become supervisors and then superintendents. Those with sufficient capital and management skills may start their own contracting business, although this may require an electrical contractor's license.

Heating, Air Conditioning and Refrigeration Mechanics

Heating, air conditioning and refrigeration mechanics install, maintain and repair central heating and cooling systems, oil burners, stoves, and air conditioners in homes and buildings to control temperature, humidity, and air quality in buildings.

Growth Rate: 25%

Current Jobs: 6,240

Projected New Jobs: 1,560

Projected Employment: 7,800

Factors Driving the Growth

Demand for heating, air-conditioning and refrigeration mechanics corresponds to increases in the population and the economy. As the economy expands and the population grows, demand for new heating and cooling systems in homes and businesses rises. Growing concerns about the environment and energy use should also swell demand to upgrade and replace inefficient equipment, further stimulating job growth.

Where Jobs are Currently Found

Special Trade Contractors (39%)
Retail Fuel Oil Dealers (19%)
Self-Employed (12%)
Colleges and Universities (5%)

Wages and Salaries

Median Entry Level Annual Earnings:	$ 12.71
Median Experienced Annual Earnings:	$ 18.55

Education and Training

Because of the growing complexity of heating and cooling systems, most companies prefer to hire applicants with technical school or apprenticeship training. Some employers, however, will hire workers as helpers and teach them the trade. One-to-two year programs in heating, air- conditioning and refrigeration are offered at vocational and technical schools. Five year apprenticeship training programs combine on-the-job training with classroom instruction. Refrigeration mechanics technicians must be licensed by the Division of Inspection in the Department of Public Safety.

Career Paths

With experience, heating, air-conditioning and refrigeration mechanics can become supervisors or managers. Some with excellent managerial and business skills start their own contracting businesses.

Welders and Cutters

Welders use heat to permanently join pieces of metal in order to make and repair parts used in various products and construction projects. Welders do either manual or automatic welding. Manual welders control the entire process. Automatic welders operate and monitor a machine that does the welding. They weld by concentrating the heat from a gas torch or electric arc on the metal and use metal rods to supply extra metal. They plan work from blueprints and drawings. Manual welders may work on buildings, bridges, and other structures, while automatic welders tend to work in factories. Cutters use the heat from burning gases or an electric arc to cut and trim metal objects to specific dimensions and to dismantle large objects.

Growth Rate: 4.6%

Current Jobs: 3,030

Projected New Jobs: 140

Projected Employment: 3,170

Factors Driving the Growth

Opportunities in Massachusetts should be slower than average for welders and cutters through 2005. Most job openings will result from the need to replace experienced workers who are promoted or retire.

Where Jobs are Currently Found

Industrial Machinery (19%)
Fabricated Metal (17%)
Special Industry Machinery (8%)
Personnel Supply (7%)
Wholesalers (6%)
Government (6%)
Transportation Equipment (6%)

Wages and Salaries

Nationally, median earnings for welders and welding machine operators were about $460 a week in 1994. The top 10 percent earned more than $786, and the lowest 10 percent earned less than $281.

Education and Training

In general, it takes several years of school and training on the job to become a skilled arc or gas welder and longer to become a combination welder. However, for less-skilled workers, training may last only a few weeks or months. Skills may be obtained in vocational-technical schools, proprietary schools, military schools, apprenticeship programs and on the job. Welders and cutters need manual dexterity, good eyesight, and good hand-eye coordination.

Career Paths

Welders can advance to more skilled jobs with additional training and experience. They may be promoted to welding technicians, supervisors, inspectors, or instructors. Some experienced welders own their own repair shops.

Bricklayers and Stonemasons

Bricklayers and stonemasons work in closely related trades that produce attractive, durable surfaces and structures. Bricklayers build walls, floors, partitions, fireplaces, chimneys, and other structures with brick, precast masonry panels, concrete block, and other masonry materials. Some specialize in installing firebrick linings in industrial furnaces. Stonemasons build stone walls as well as set stone exteriors and floors. Stonemasons usually work on structures such as houses of worship, hotels, and office buildings.

Bricklayers

Growth Rate: 13.1%

Current Jobs: 1,990

Projected New Jobs: 260

Projected Employment: 2,250

Stonemasons

Growth Rate: 24.3%

Current Jobs: 370

Projected New Jobs: 90

Projected Employment: 460

Factors Driving the Growth

As with other construction trades, opportunities parallel economic expansion, particularly new housing and non-residential building construction. The need to restore a growing number of old masonry buildings, as well as the increasing use of brick for decorative work, will also spur demand.

Where Jobs are Currently Found

Special Trade Contractors (57%)
Self Employed (25%)

Wages and Salaries

Nationally, median weekly earnings for bricklayers and stonemasons were about $480 in 1994. The highest 10 percent earned more than $830 weekly; the lowest 10 percent, less than $261.

Education and Training

Most bricklayers and stonemasons pick up their skills informally by observing and learning from experienced workers. Many get training in vocational education schools. Others learn these skills through an apprenticeship program, which generally provides the most thorough training.

Career Paths

Experienced workers can advance to supervisory positions or become estimators. Some open contracting businesses of their own.

Carpenters

Carpenters are involved in many different kinds of construction activity. They cut, fit, and assemble wood and other materials in the construction of buildings, highways and bridges, docks, industrial plants, boats, and many other structures.

Growth Rate: 15.3%

Current Jobs: 16,110

Projected New Jobs: 2,470

Projected Employment: 18,580

Factors Driving the Growth

Long-term job growth for carpenters should parallel economic growth. Carpenters comprise the largest group of building trades workers, with 16,000 employed. In addition to job growth, thousands of jobs will arise to replace workers who transfer to other jobs or retire.

Where Jobs are Currently Found

Self-Employed (34%)
Residential Building Construction (30%)
Special Trade Contractors (14%)

Wages and Salaries

Median Entry Level Hourly Earnings: $ 9.58
Median Experienced Hourly Earnings: $ 18.83

Hourly wages in August, 1996 for first step carpenter apprentices in Boston were $10.07. After apprenticeship, journeyman's hourly wages in Boston were $23.87.

Education and Training

Carpenters often learn their trade through on-the-job training or formal training programs. Many acquire skills through vocational education or apprenticeships. Apprenticeships combine on the job training with classroom instruction and usually last from 3 to 4 years.

Career Paths

Carpenters may advance to carpentry supervisors or general construction supervisors. Some with good business and leadership skills start their own contracting businesses.

Insulation Workers

Insulation workers prevent the loss of heat or refrigeration from buildings. These workers paste, staple, wire, tape, or spray insulation onto structures and surfaces.

Growth Rate: 29.2%

Current Jobs: 1,300

Projected New Jobs: 380

Projected Employment: 1,680

Factors Driving the Growth

The demand for insulation workers will increase with new construction and renovation. Efforts to improve insulation in existing structures will also spur demand.

Where Jobs are Currently Found

Special Trade Contractors (95%)

Wages and Salaries

Nationally, median weekly earnings for insulation workers who worked full-time were $485 in 1994. The lowest 10 percent earned less than $276, and the top 10 percent earned more than $819.

Education and Training

Most insulation workers learn their trade through on-the-job training programs. For most entry level jobs, insulation contractors prefer high school graduates who are in good physical condition and licensed to drive. High school courses in blueprint reading, shop, math, sheet metal layout, and general construction provide a helpful background. Insulation workers who work with asbestos must be licensed by the Division of Asbestos Lead Licensing and Enforcement.

Career Paths

Skilled insulation workers may advance to supervisor, shop superintendent, insulation contract estimator, or set up their own insulation or asbestos abatement business.

Painters, Construction and Maintenance

Painters paint walls, equipment, buildings, bridges, and other structural surfaces using brushes, rollers, and spray guns.

Growth Rate: 15.6%

Current Jobs: 7,690

Projected New Jobs: 1,200

Projected Employment: 8,890

Factors Driving the Growth

Jobs for painters will grow as the level of new construction increases and the number of structures requiring maintenance and renovation grows.

Where Jobs are Currently Found

Self-Employed (43%)
Special Trade Contractors (29%)

Wages and Salaries

Median Entry Level Hourly Earnings: $ 8.75
Median Experienced Hourly Earnings: $ 16.22

Education and Training

Painting is learned through apprenticeship or informal, on-the-job instruction. Apprentices or helpers generally must be at least 16 years old and in good physical condition. A high school education or its equivalent is generally required for apprenticeship. Applicants should have manual dexterity and a good color sense.

Career Paths

Painters may advance to supervisory or estimating jobs with contractors. Some establish their own businesses.

Plumbers and Pipefitters

Plumbers and pipefitters install, maintain, and repair many different types of pipe systems. Plumbers install and repair the water, waste disposal, drainage and gas systems in homes and commercial and industrial buildings. Pipefitters install and repair both high- and low-pressure pipe systems that are used in manufacturing, in the generation of electricity, and in heating and cooling buildings. Some pipefitters specialize in one type of system. Sprinklefitters, for example, install automatic fire sprinkler systems in buildings.

Growth Rate: 9.4%

Current Jobs: 7,560

Projected New Jobs: 710

Projected Employment: 8,270

Factors Driving the Growth

Jobs opportunities for plumbers and pipefitters are projected to grow by 9.4 percent. Construction, building renovations, and maintenance, rehabilitation, and replacement of existing piping systems, as well as the growing installation of fire sprinkler systems, should provide many jobs for plumbers and pipefitters.

Where Jobs are Currently Found

Special Trade Contractors (54%)
Self-Employed (18%)
Colleges and Universities (4%)

Wages and Salaries

Median Entry Level Hourly Earnings: $ 12.22
Median Experienced Hourly Earnings: $ 24.04

Hourly wages in August, 1996 for first step plumber apprentices in Boston were $9.15. After apprenticeship, journeyman's hourly wages in Boston were $26.17.

Education and Training

Plumbers and pipefitters undergo some type of apprenticeship training. Apprenticeships consist of four or five years of on-the-job training, in addition to at least 144 hours annually of related classroom instruction. Plumbers must be licensed by the Board of State Examiners of Plumbers and Gas Fitters; pipefitters by the Division of Inspection-Engineering in the Department of Public Safety. Plumber and pipefitter training programs are offered by high schools, vocational schools, and proprietary schools.

Career Paths

Some plumbers and pipefitters may become supervisors or licensed contractors.

Correction Officers

Correction officers maintain security and enforce discipline in prisons and other correctional institutions. They guard and transport inmates, monitor their activities, assign and supervise inmates work assignments, inspect facilities, and keep written security logs.

Growth Rate: 45.3%

Current Jobs: 7,730

Projected New Jobs: 3,500

Projected Employment: 11,230

Factors Driving the Growth

Expansion of correctional facilities and increased concern about inmate overcrowding should stimulate demand for more correction officers.

Where Jobs are Currently Found

State and Local Government (100%)

Wages and Salaries

As of December 31, 1995, the Department of Correction's wages for correction officers ranged from a starting entry level weekly wage of $576.36 to a maximum weekly wage of $754.

Education and Training

Corrections officers must pass a civil service examination administered by the Department of Personnel Administration. To qualify for the exam, applicants must be at least 19 years old, have a high school diploma or equivalent, pass a physical and psychological exam, and must not have been convicted of a felony or served time in a house of correction. Post-secondary courses in psychology, criminology and related fields are also helpful, and essential for advancement.

Career Paths

With additional training and experience, corrections officers can advance to sergeant or other managerial or administrative positions. Some may enter the counseling profession. Officers sometimes transfer to related areas, such as probation, parole, or court officers.

Fire Fighters

Fire fighters respond to a variety of emergency situations where life, property, or the environment are at risk. A fire fighter works under supervision as a member of a team. A fire fighter's duties may include, for example; connecting, pulling and operating hose lines; operating a pump; positioning and climbing ladders; emergency rescue and lifesaving; ventilating smoke-filled areas; using and maintaining tools and equipment, and training and fire station activities.

Growth Rate: 18.8%

Current Jobs: 10,170

Projected New Jobs: 1,910

Projected Employment: 12,080

Factors Driving the Growth

The outlook for fire fighters depends on population growth, public budgets, and replacement needs. Turnover is very low. The best opportunities are likely to be found in smaller communities with expanding populations.

Where Jobs are Currently Found

Government (100%)

Wages and Salaries

Salary varies by city or town. Please contact a specific city or town directly for salary information. Starting weekly base pay in Boston was $640.91; after 25 years base pay rises to $860.30.

Education and Training

Minimum qualifications usually include a high school or equivalency diploma and excellent physical condition. Training is often provided on the job at a firefighting academy. Fire fighters can learn their skills through formal apprenticeship programs, community college programs, or the military. Taking courses to get EMT certification may prove helpful in getting a job. All fire fighters in Massachusetts must take a civil service examination.

Career Paths

As fire fighters gain experience, they may advance to a higher rank. The line of promotion usually is to engineer, lieutenant, captain, battalion chief, assistant chief, deputy chief, and finally to chief. Advancement generally depends on written examinations, job performance, and seniority.

Police Patrol Officers

Police patrol officers maintain order, enforce laws and protect life and property. They also investigate crimes, interview witnesses, collect evidence, direct traffic, make arrests, and provide testimony in court. In addition to local city/town police forces, patrol officers are also employed by state (government) police, transit (MBTA) police, by the federal government (Federal Protection Service).

Growth Rate: 26%

Current Jobs: 11,830

Projected New Jobs: 3,100

Projected Employment: 14,930

Factors Driving the Growth

Growing concern about crime should increase the demand for more police patrol officers. However, competition for jobs is keen, given the large number of applicants who are attracted to this relatively well paying profession. Persons having college training in police science, possessing military experience, or both, should have the best opportunities. In addition to increased demand, thousands of job openings should arise to replace police patrol officers who retire.

Where Jobs are Currently Found

Local Government (80%)
State Government (19%)

Wages and Salaries

Each jurisdiction in Massachusetts sets its own salary. Questions about salary should be directed to the appropriate city or town or to the MBTA. Beginning Massachusetts state troopers earned $31,149 per year in 1996.

Education and Training

Police patrol officers must pass a competitive civil service exam and be at least 19 years old and a U.S. citizen. Eligible candidates must have a good moral character, must meet certain medical and physical standards, and must have no felony convictions. Agility and knowledge of a foreign language are also sought. Police science training courses are offered by community colleges.

Career Paths

With experience and additional training, a police officer can become a detective, sergeant, lieutenant or captain. Police officers in good standing with ten years of experience may qualify for license as a private detective in Massachusetts. Other workers who maintain law and order include correctional officers and security guards.

Mail Carriers, U. S. Postal Service

Mail carriers travel established routes delivering and collecting mail. Mail carriers start work at the post office early in the morning, where they spend a few hours arranging their mail for delivery and taking care of other details. They may cover a route on foot, by vehicle, or a combination of both. Carriers also collect money for postage-due and cash on delivery fees and obtain signed receipts for registered, certified, and insured mail.

Growth Rate: 0.6%

Current Jobs: 9,370

Projected New Jobs: 60

Projected Employment: 9,430

Factors Driving the Growth

Those seeking a job as a mail carrier in the Postal Service can expect to encounter keen competition due to a large number of applicants. Replacement jobs should occur as mail carriers retire.

Where Jobs are Currently Found

U.S. Postal Service (100%)

Wages and Salaries

In 1995, base pay for beginning full-time carriers and postal clerks was $25,240 a year, rising to a maximum of $35,604 after 12 1/2 years of service. The average wage for experienced workers (city deliveries) was $34,566.

Education and Training

Mail carriers must be U.S. citizens or have been granted permanent resident-alien status in the United States. Mail carriers must be at least 18 years old (or 16, if they have a high school diploma). Qualification is based on a written examination that measures speed and accuracy at checking names and numbers and ability to memorize mail distribution procedures. Applicants must have a physical examination as well, and may be asked to show that they can lift and handle mail stacks weighing up to 70 pounds. Applicants must have a driver's license, a good driving record, and a passing grade on a road test. Postal clerks are trained on the job by experienced workers. Many post offices offer classroom instruction.

Career Paths

Carriers can look forward to obtaining preferred routes as their seniority increases, or to higher level jobs such as carrier technician. Both clerks and carriers can advance to supervisory positions.

Traffic, Shipping, and Receiving Clerks

Traffic, shipping, and receiving clerks keep records of all goods shipped and received. Their duties depend on the size of the establishment. Traffic clerks keep a record of destination, weight, and charges of all incoming and outgoing shipments. Shipping clerks assemble, address, stamp and ship merchandise or materials. Receiving clerks unpack, verify, and record incoming merchandise. In a small company, one clerk may perform all of these tasks.

Growth Rate: 2.0%

Current Jobs: 21,590

Projected New Jobs: 430

Projected Employment: 22,020

Factors Driving the Growth

Growth will continue to be affected by automation, as many firms move to hold down labor costs by using computers to store and retrieve shipping and receiving records. However, job openings will arise due to increasing economic activity and because certain functions cannot by automated. In additions, hundreds of jobs will occur to replace workers who leave the occupation.

Where Jobs are Currently Found

Wholesalers (29%)
Retailers (18%)
Durable Goods Manufacturing (17%)
U.S. Postal Service (12%)
Nondurable Goods Manufacturing (11%)

Wages and Salaries

Median Entry Level Weekly Earnings:	$ 320.00
Median Experienced Weekly Earnings:	$ 416.00

Education and Training

Employers prefer to hire high school graduates, especially those who have taken business courses. Clerical experience and knowledge of postal or parcel delivery services may be helpful. Most clerks learn their skills on the job.

Career Paths

Traffic, shipping, and receiving clerks are often promoted to head clerk, and those with a broad understanding of shipping and receiving may enter a related field such as industrial traffic management. With additional training, some clerks advance to jobs as warehouse manager or purchasing agent.

Industrial Truck and Tractor Equipment Operators

Industrial truck and tractor equipment operators drive and control industrial trucks or tractors. A typical industrial truck, often called a forklift or lift truck, has a hydraulic lifting mechanism and forks. Industrial truck operators use these to carry loads on a skid or pallet around a factory or warehouse. Industrial tractor operators pull trailers loaded with materials, goods, or equipment within factories and warehouses, or around outdoor storage areas. Operators work mainly indoors, in warehouses or manufacturing plants.

Growth Rate: 7.3%

Current Jobs: 6,820

Projected New Jobs: 500

Projected Employment: 7,320

Factors Driving the Growth

Opportunities for industrial truck and tractor equipment operators are related to the outlook for the industries in which they are employed. Growth of operators will slow as improved maneuverability and efficiency of industrial trucks and tractors results in increased worker productivity. In addition, fewer operator jobs will result due to automation and the increased use of computer-controlled conveyer systems.

Where Jobs are Currently Found

Wholesalers (18%)
Trucking and Warehousing (15%)
Paper and Related Products Manufacturers (8%)
Local Government (7%)
Food Products Manufacturers (6%)
Personnel Supply Services (5%)

Wages and Salaries

Nationally, median earnings of industrial truck and tractor operators were $425 in 1994. According to a survey conducted by the U.S. Bureau of Labor Statistics, forklift operators in the Boston area earned a median hourly wage of $14.00 in May of 1995.

Education and Training

Operation of industrial truck and tractor equipment is usually learned on the job. Operators need a good sense of balance, the ability to judge distance, and good eye-hand-foot coordination. Employers prefer to hire high school graduates. Mechanical aptitude and high school training in automobile mechanics are helpful because workers may perform some maintenance on their machines.

Career Paths

Opportunities for advancement are generally limited. Some experienced equipment operators may have the opportunity to operate more complex equipment or become supervisors.

Truck Drivers, Heavy

These workers drive trucks or tractor trailer combinations with a capacity of more than 26,000 pounds to transport or deliver goods, livestock, or materials. Drivers inspect trucks and sometimes perform routine maintenance. They keep records on mileage, delivery times, invoices, and receipts.

Growth Rate: 6.6%

Current Jobs: 27,070

Projected New Jobs: 1,790

Projected Employment: 28,860

Factors Driving the Growth

Opportunities for persons interested in driving heavy trucks are expected to grow by 6.6 percent in Massachusetts. While growth is slower than average, this occupation employs a large number of workers. Jobs also will arise as experienced drivers transfer to other fields of work, retire, or leave the labor force for other reasons.

Where Jobs are Currently Found

Trucking and Warehousing (40%)
Wholesalers (19%)
Self Employed (8%)
Utilities and Sanitary Service (5%)
Construction (5%)

Wages and Salaries

Median Entry Level Hourly Earnings:	$ 10.00
Median Experienced Hourly Earnings:	$ 16.55

Education and Training

All Massachusetts drivers must have a class A or a class B license issued by the Registry of Motor Vehicles. Drivers engaged in interstate commerce must be 21 years old, pass a physical examination, and must take a written examination on the Motor Carrier Safety Regulations of the U.S. Department of Transportation. These exams can be scheduled at any branch of the Massachusetts Registry of Motor Vehicles.

Career Paths

Advancement of truck drivers is generally limited to driving runs that provide increased earnings or preferred schedules and working conditions. A few drivers may advance to dispatcher, manager, or traffic work - for example, planning delivery schedules.

Gardeners, Groundskeepers, and Lawn Maintenance Workers

Gardeners, groundskeepers and lawn maintenance workers take care of lawns, trim shrubs, and plant foliage on commercial or residential property. They also build retaining walls, install patios, and apply fertilizers and other chemicals to plants to encourage growth or prevent disease.

Gardeners and Groundskeepers

Growth Rate: 23%

Current Jobs: 8,600

Projected New Jobs: 1,900

Projected Employment: 10,500

Lawn Maintenance Workers

Growth Rate: 37.4%

Current Jobs: 2,060

Projected New Jobs: 770

Projected Employment: 2,830

Factors Driving the Growth

A well-maintained property creates a positive image, generates sales, and increases property values. As more businesses and homeowners enhance their property, the demand for gardeners, groundskeepers and lawn maintenance workers should increase. Employment for lawn maintenance workers is expected to grow at twice the rate of all occupations.

Where Jobs are Currently Found

Landscaping Contractors (38%)
Self-Employed (21%)
Golf Courses and Recreational Centers (11%)
Real Estate Firms (10%)

Wages and Salaries

Median Entry Level Hourly Earnings:	$ 7.13
Median Experienced Hourly Earnings:	$ 10.05

Education and Training

Training is usually provided on the job. Employers prefer self-motivated, highly responsible individuals with good driving records or experience driving a truck. Courses in plant biology, irrigation, turf grass management, and landscape design are helpful for advancement.

Career Paths

Experienced workers can advance to grounds manager or superintendent for a golf course, cemetery, campus, school system, hotel, resort, or manager of a lawn maintenance firm. Many become landscape contractors. Individuals interested in landscape architecture must complete a college program and be licensed by the Massachusetts Board of Registration of Landscape Architects.

The median entry level hourly wage of $7.13 is below our set criteria of $7.50. However, entry level hourly wages range as high as $12.50 with more experienced workers earning as much as $27.40. Because this is an exceptionally fast growing occupation with many potential new jobs and a potential for high earnings, this occupation has been included.

Utilizing Transferable Skills and Identifying Comparable Activities

Women bake cakes from scratch, design flower gardens, fix overflowing toilets, alter clothing, make ceramic objects, and solve crossword puzzles. These women are solving problems. Most women style their hair, drive a car, sort laundry, slice vegetables and fruit, open cans and bottles, and mix food ingredients. These activities require manual dexterity. As women go about their day, some park a car in reverse, cut and trim hair for family members, design clothing, arrange flowers, gift wrap presents, and paint watercolors. Spatial perception is used in performing these tasks. These women may fail to realize that in their work assignments, home activities, and leisure activities they use basic skills and abilities similar to those used to perform many nontraditional occupations.

The list below reveals that problem solving skills, manual dexterity and spatial perception are used extensively in performing tasks in engineering, technical, and craft occupations.

Occupation	Problem Solving	Manual Dexterity	Spatial Perception	Technical Level	Mathematical Level	Reading Level
Architects	X	X	X	H	H	H
Electrical & Electronics Engineers	X		X	H	H	H
Industrial Engineers	X		X	H	H	H
Mechanical Engineers	X		X	H	H	H
Dentists	X	X	X	H	H	H
Electrical and Electronics Engineering Technicians	X	X	X	M	M	M
Science Technicians	X	X	X	H	M	M
Mail Carriers		X		M	L	M
Traffic, Shipping, and Receiving Clerks	X			M	M	M
Correction Officers				M	L	M
Firefighters	X	X		M	L	M
Police and Detectives	X	X		M	L	M
Automotive Mechanics	X	X	X	M	M	M
Automotive Body Repairers	X	X	X	M	M	M
Diesel Mechanics	X	X	X	M	M	M
Mobile Heavy Equipment Mechanics	X	X	X	M	L	M
Commercial and Electronics Equipment Repairers	X	X	X	M	M	M

H= two highest levels (5 and 6); M = two intermediate levels (3 and 4); L = two lowest levels (1 and 2)

Occupation	Problem Solving	Manual Dexterity	Spatial Perception	Technical Level	Mathematical Level	Reading Level
Computer Service Technicians	X	X	X	M	M	M
Heating, Air-conditioning, and Refrigeration Mechanics	X	X	X	M	M	M
Bricklayers and Stonemasons	X	X	X	M	L	L
Carpenters	X	X	X	M	M	M
Electricians	X	X	X	M	M	M
Insulation Workers	X	X	X	M	L	M
Painters	X	X	X	M	L	L
Plumbers and Pipefitters	X	X	X	M	M	M
Roofers	X	X	X	M	L	L
Welders and Cutters	X	X	X	M	M	M
Industrial Truck and Tractor Operators		X	X	L	L	L
Truck Drivers, Heavy		X	X	M	L	L
Construction Trade Helpers		X		M	M	M
Groundskeepers		X		L	L	L

H= two highest levels (5 and 6); M = two intermediate levels (3 and 4); L = two lowest levels (1 and 2)

Transferable Skills

Transferable skills are skills that can be transported from one job to another. Examples include the ability to solve problems, make decisions, learn new tasks and procedures, and locate information. Women often limit themselves both technically and occupationally. Identifying activities and tasks which provide them with satisfaction will enable women to use transferable skills as clues to identifying alternative occupations. Additionally, by identifying hobbies, home, leisure and community activities and by exploring nontraditional occupations, women may become enlightened to the opportunities which nontraditional occupations offer them. Comprehensive information about occupations is available in the *Complete Guide for Occupational Exploration* and the *Occupational Outlook Handbook*. These publications are available in public libraries. Women should read these materials to learn the activities involved in nontraditional occupations and the training required in order to identify transferable work skills which they possess.

EXAMPLES:

ENGINEERING AND ARCHITECTURAL SERVICES

Researches and combines facts and information in written reports
Speaks and consults with people
Performs detailed precise work

If you can draw, design, develop ideas and sketch, you can learn to do the job tasks listed below.

hobbies, home, leisure and community activities, skills	**architect**	**electronics engineer**	**mechanical engineer**
design and create a dress by sketching detailed drawings of apparel, writing specifications for color scheme and type of material, and by detailing a pattern	develop drawings of the structural systems, air conditioning, heating and ventilating systems, electrical systems	design electric and electronic components and equipment	design and develop power-producing machines such as internal-combustion engines, steam and gas turbines, and jet and rocket engines
design detailed drawings of a sunroom to be added to remodeled exterior of home	develop final construction documents	design new products	design tools and products such as instruments, engines, and machines
create, cut and fit dress patterns	prepare scale drawings to produce and analyze designs	use computer-aided design systems to produce and analyze designs	use computer- aided design systems
scientific-technical aptitude	apply principles of scientific thinking to a wide range of intellectual and practical problems using nonverbal symbolism (formulas, scientific equations, graphs) *Model Making,* Structures, Drafting*	apply principles of scientific thinking to define problems, establish facts, and draw valid conclusions interpreting technical instructions in mathematical or diagrammatic form *Electrical Circuits, Electronics, Mechanics, Electromagnetic Theory, Drafting*	apply principles of scientific thinking to define problems, establish facts, and draw valid conclusions interpreting technical instructions in mathematical or diagrammatic form *Mechanics, Kinematics, Metallurgy, Drafting*
mathematical development aptitude	Advanced Calculus, Modern Algebra, Statistics	Algebra, Calculus, Statistics	Algebra, Calculus, Statistics
language development aptitude	write speeches, critiques, and manuals; read journals, manuals, textbooks *Technical Writing*	write speeches, journals, and manuals; read journals, manuals, textbooks *Technical Writing*	write speeches, journals, and manuals; read journals, manuals, textbooks *Technical Writing*

** italics indicate examples of recommended courses for preparation*

ELECTRICAL AND ELECTRONICS ENGINEERING TECHNOLOGY OCCUPATIONS

Coordinates data and information in written reports and applies theory
Speaks with people
Performs detailed precise work

If you can draw, install, measure, service, and sketch, you can learn to do the job tasks listed below.

hobbies, home, leisure and community activities, skills	**electrical technician**	**electronics technician**
install and repair home stereo set	develop, manufacture and service electrical control equipment and circuitry	develop, manufacture and service electronic components, parts, equipment, and systems
read thermometer to determine body temperature	use measuring and diagnostic devices to test, adjust, and repair operational equipment	use measuring and diagnostic devices to test, adjust, repair, calibrate, align, and modify circuitry and equipment
create, cut and fit dress patterns	develop wiring diagrams, layout drawings, and engineering specifications for system or equipment modifications or expansion	use engineering instructions and technical manuals, draw sketches, develop charts, graphs, and schematics
scientific-technical development aptitude	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Electrical Circuits, Electronics*	apply principles of scientific thinking to define problems, establish facts, and draw valid conclusions interpreting technical instructions in mathematical or diagrammatic form *Electrical Circuits, Electronics*
mathematical development aptitude	Algebra, Calculus, Statistics	Algebra, Geometry, Shop Math
language development aptitude	Prepare business letters, summaries, and reports; read journals and manuals *English Composition*	Prepare business letters, summaries, and reports; read journals and manuals *English Composition*

PRECISION CRAFTS

Analyzes and compiles data and information
Takes instructions and speaks with people
Performs detailed precise work

If you can adjust, connect, cut, draw, fix, install, repair, replace, service, sketch, and thread, you can learn to do the job tasks listed below.

hobbies, home, leisure and community activities, skills	**automobile mechanic (motor vehicle crafts)**	**electrician (electrical crafts)**	**HVAC repairer (electrical crafts)**
repair family cars	repair and service automobiles	plan, install, and repair wiring may repair motors	install, service and repair furnaces and air conditioners
do needlework, crochet, knit	use screwdrivers, pliers, and wrenches to work on small parts	connect wires to circuit breakers, lighting fixtures, and power equipment	connect electrical wiring and controls
repair toaster, blender	repair or replace belts, hoses, and spark plugs	replace items such as electrical components	replace filters and vacuum cleaning vents
cut and fit dress patterns	read drawings, use charts and technical manuals	prepare sketches, follow diagrams and blueprints	follow blueprints and design specifications

PRECISION CRAFTS (continued)

fix paper jams in photostat machine	rewire ignition system, lights, and instrument panel	thread and pull insulated wires or cables through a conduit	cut and thread pipe, connect equipment to refrigeration lines or power source
scientific-technical development aptitude	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Auto Mechonics, Electronics, Drafting*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Blueprint Reoding, Drafting, Electrical Theary, Electronics, Safety and First Aid*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or *schedule form* *Air Conditioning Theory ond Design, Electronics, Blueprint Reoding, Mechonicol Drowing, Sofety ond First Aid*
mathematical development aptitude	Percentages, Algebra, Geometry	Algebra, Geometry, Shop Math	Percentages, Algebra, Geometry Shop Math
language development aptitude	write reports; read safety rules and maintenance instructions	write reports; read safety rules and maintenance instructions *English Composition*	write reports; read safety rules and maintenance instructions *English Composition*
hobbies, home, leisure, and community activities, skills	**maintenance mechanic (electrical crafts)**	**office machine server (electrical crafts)**	**electronics mechanic (electrical crafts)**
repair family cars	repair and maintain machinery and mechanical equipment	repair computers, photocopiers, cash registers and other office machines	repair electronic equipment
do needlework, crochet, knit	use screwdriver and wrench to adjust engines	use pliers and screwdrivers	use voltmeters and oscilloscopes to test electronic components and circuits
repair toaster, blender	repair or replace defective parts	repair photostat copiers, faxes, and printers	replace defective components and wiring in CAT scan, MRIs, and similar equipment
cut and fit patterns	follow blueprints, sketches, diagrams, operation manuals and engineering specifications	refer to blueprints and manufacturer's specifications	refer to blueprints and manufacturer's specifications
fix paper jams in photostat machine	adjust and calibrate functional parts of devices and automated control instruments	make special cable and wiring connections when installing equipment	replace defective wiring and adjust mechanical parts
scientific-technical development aptitude	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Engine Mechanics, Electrical Theary, Mechanicol Drawing, Blueprint Reoding*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Electronics, Office Machine Repoir, Blueprint Reoding, Drafting*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Electronics ond Circuit Theory, Electricol Theory, Schemotic Reoding*
mathematical development aptitude	Algebra, Geometry, Shop Math	Percentages, Algebra, Geometry	Algebra, Geometry, Shop Math
language development aptitude	write reports; read safety rules and maintenance instructions	write reports; read safety rules and maintenance instructions	prepare business letters, summaries, and reports; read journals and manuals

hobbies, home, leisure and community activities, skills	painter (construction craft)	plumber (construction craft)	automobile body repair (motor vehicle craft)	carpenter (construction craft)
construct frames, partitions, and stage sets for school or other amateur theater	erect scaffolding remove fixtures from walls prior to painting	cut holes in walls, ceilings, and floors, hang steel supports from ceiling joists to hold pipe in place, cut and bend lengths of pipe using saws, pipe-cutters, and pipe- bending machines	straighten bent auto bodies and damaged metal frames, remove dents with pneumatic and pick hammers	cut, fit, and assemble wood and other materials in the construction of buildings, highways and bridges, docks, industrial plants and many other structures, build frame houses
refinish and reupholster furniture	apply paint, stain, varnish and other finishes to buildings and other structures	install dishwashers and water heaters	file and grind hardened filler in small dents to original shape, replace damaged upholstery	repair desks, cabinets, and broken furniture, finish woods
repair toilets, leaky faucets, clogged drains and sink traps	sandpaper rough spots and strip, sand, and wire brush walls, fill nail holes and cracks	repair toilets, leaky faucets, clogged drains, drainage systems, install bathtubs, showers, sinks, and toilets	replace crumpled parts	repair buildings and replace glass, ceiling tiles, and doors
paint kitchen	apply paint using bristle brush, sponge, pressure roller, or paint sprayer	caulk joints	repaint metal panels using spray guns and sander	sand, paint or polyurethane finished product
remodel the interior of home	prepare surfaces so that paint may adhere properly	repair plumbing fixtures	restore body sections to original shape and location	put in new windows, doors, remove partitions
cut and fit patterns	read work orders and instructions	follow building plans and drawings	follow instructions and diagrams in technical manuals	work from blueprints, freehand sketches or building plans
scientific- technical development aptitude	apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form and to solve problems involving several concrete variables *Blueprint Reading, Pointing, Color Harmony, Drafting, Carpentry, Safety and First Aid*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Plumbing, Welding, Hydroulics, Applied Physics and Chemistry, Blueprint Reading, Drafting, Safety and First Aid*	apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form and to solve problems involving several concrete variables *Automotive Body Repair, Drafting, Blueprint Reading, Safety and First Aid*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Carpentry, Structurol Design, Blueprint Reading, Mechonical Drawing, Safety and First Aid*
mathematical development aptitude	Addition, Subtraction, Multiplication, Division	Percentages, Algebra, Geometry	Percentages, Algebra, Geometry	Percentages, Algebra, Geometry Shop Math
language development aptitude	write compound and complex sentences; read ingredients and instructions *English Composition*	write reports; read safety rules and maintenance instructions *English Composition*	write reports; read safety rules and maintenance instructions *English Composition*	write reports; read safety rules and maintenance instructions *English Composition*

PUBLIC SAFETY OCCUPATIONS

Collects, compiles and compares data and information
Speaks with people
Drives a vehicle
Handles equipment and tools

If you can control, direct, educate, enforce, inspect, instruct, lecture, monitor, observe, secure and survey, you can learn to do the job tasks listed below.

hobbies, home, leisure, and community activities, skills	**police officer**	**detective**
direct traffic in school, church, or recreation area parking lot	control traffic, patrol highways, direct traffic at a scene of a fire	control access to crime scene
instruct family members in observing traffic and safety regulations	perform duties in accordance with laws and departmental rules, enforce laws	perform duties in accordance with laws and departmental rules, enforce laws
serve as a volunteer on emergency rescue squad	give first aid to an accident victim	
serve as a safety officer in the workplace	lecture on accident prevention	lecture on crime prevention
work as a life guard, school bus monitor, crossing guard, security guard, or parking enforcement officer	enforce traffic regulations, perform crowd surveillance, perform security checks	perform surveillance
scientific-technical development aptitude	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Traffic, Firearms, Safety and First Aid*	apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Applied Physics and Chemistry, Firearms, Safety and First Aid*
mathematical development aptitude	Addition, Subtraction, Multiplication, Division	Addition, Subtraction, Multiplication, Division
language development aptitude	write reports; read safety rules and maintenance instructions Map Reading, Sociology texts, Psychology texts *English Composition*	write reports; read safety rules and maintenance instructions Map Reading *English Composition*

hobbies, home, leisure, and community activities, skills	**fire fighter**	**correction officer**
direct traffic in school or church parking lot	halt traffic to permit exit and entrance of fire vehicles	escort prisoners and control access to restricted areas
instruct family members in observing safety regulations	conduct practice fire drills and educate public about fire prevention	enforce institutional rules, regulations, policies, and procedures
serve as a volunteer on emergency rescue squad	rescue victims, administer emergency medical aid, work with ambulance services	administer first aid
serve as a safety officer in the workplace	inspect public buildings for fire-safety code violations	inspect facilities to insure safety and security
work as a life guard, school bus monitor, crossing guard, security guard, or parking enforcement officer	administer first aid	monitor inmates' activities
scientific-technical development aptitude	Apply principles of rational systems such as electric wiring systems to solve practical problems interpreting diagrammatic or schedule form *Hydraulics, Pump Operation, Equipment Maintenance, Chemical Combustion, Safety and First Aid*	Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form and to solve problems involving several concrete variables *Safety and First Aid*
mathematical development aptitude	Addition, Subtraction, Multiplication, Division	Addition, Subtraction, Multiplication, Division
language development aptitude	write reports; read safety rules and maintenance instructions Map Reading *English Composition*	write compound and complex sentences; read assembly instructions *English Composition*

DRIVER/OPERATING OCCUPATIONS

Compares data and information
Speaks with people
Takes instructions
Drives vehicles

If you can deliver, drive, lift, load, operate, steer, transport, and unload, you can learn to do the job tasks listed below.

hobbies, home, leisure, and community activities, skills	**truckdriver, heavy**	**industrial truck operator**
chauffeur children and elderly	pickup and deliver cargo	pickup and deliver materials, goods, or equipment
serve as a volunteer driver on crowded streets and in highway traffic	drive large vehicles on crowded streets and in highway traffic	drive truck and control loading apparatus in crowded warehouses
operate a motor boat, golf cart, or tractor mower; ride a bike	operate a commercial truck	drive and control industrial truck and tractors
lift children, elders, laundry, groceries and trash	may be required to load or unload cargo be able to lift heavy objects	carry loads on a skid or pallet may load or unload materials onto or off pallets
drive a van, pick-up truck, light truck or school bus	drive truck with capacity of more than 3 tons	drive gasoline, liquefied gas-, or electric powered industrial truck with lifting device
scientific-technical development aptitude	apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form and to solve problems *Driver Education, Auto Mechanics, Safety and First Aid*	apply common sense understanding to carry out detailed but uninvolved written or oral instructions to solve problems involving a few concrete variables *Mechanical Shop*
mathematical development aptitude	Addition, Subtraction, Multiplication, Division	Elementary Addition, Subtraction, Multiplication, Division
language development aptitude	write compound and complex sentences; read assembly instructions Map Reading	print simple sentences and print series of names and addresses; read series of words and numbers

GARDENING AND GROUNDSKEEPING OCCUPATIONS

Compares data and information
Takes instructions
Manipulates materials and tools

If you can grow, mow, prune, rake, shovel, sweep, trim and water, you can learn to do the job tasks listed below.

hobbies, home, leisure, and community activities, skills	**Groundskeeper**
rake leaves	rake leaves, shovel snow, remove ice from roads and walkways, sweep gravel and sand
mow the lawn	mow and edge lawns
grow flowers in a home garden	feed, water and prune flowering plants and trees
trim shrubs and hedges	trim shrubs and trees
scientific-technical development aptitude	apply common sense understanding to carry out detailed but uninvolved written or oral instructions to solve problems involving a few concrete variables *Horticulture, Botany*
mathematical development aptitude	Elementary Addition, Subtraction, Multiplication, Division
language development aptitude	write compound and complex sentences; read assembly instructions

Data Sources: Occupational Outlook Handbook, U.S. Department of Labor, Bureau of Labor Statistics
The Complete Guide for Occupational Exploration, Jist Works, Inc., Indianapolis, IN

List of Training Institutions for Selected Nontraditional Occupations

Information about educational institutions offering training in nontraditional occupations for women is available in the *Massachusetts Career Information System (CIS)* and the *State Training Inventory (STI)* which are distributed by the Massachusetts Occupational Information Coordinating Committee and the Division of Employment and Training, 19 Staniford Street, Boston, MA 02114.

The *Massachusetts Career Information System* for Windows is a PC-based system that provides comprehensive career information for career planners of all ages. The software allows users to begin anywhere in the system - for example a specific two or four year college choice - and move through the information systematically, exploring one type of information and connecting it to related information in the system. MASS CIS has information on programs of study and training, Massachusetts and national two and four year colleges, and on financial aid and scholarship options.

The *State Training Inventory* is a computerized educational database that allows users to identify education and training programs offered by schools in Massachusetts and neighboring states. Users can access information by program of study, type of institution and geographic area. Information is available for secondary and adult vocational/technical schools, community and two-year colleges, four-year colleges, universities, proprietary schools, as well as programs in apprenticeships, hospitals, English as a Second Language and adult basic education.

At a Glance

FIRST PROFESSIONAL DEGREE

HEALTH PRACTITIONERS

	Dentistry
4-YEAR COLLEGES	
Boston University	X
Harvard University	X
Tufts University	X

BACHELORS' AND ASSOCIATE DEGREES

ENGINEERING AND ARCHITECTURAL SERVICES

	Architect	Electrical Electronics Engineer	Industrial/Manufacturing Engineer	Mechanical Engineer
2-YEAR COLLEGES				
Cape Cod Community College		X		
Northern Essex Community College		X		
4-YEAR COLLEGES				
Boston Architectural Center	X			
Boston University	X	X	X	X
Endicott College	X			
Harvard University	X			
Massachusetts Institute of Technology	X		X	X
Merrimack College		X	X	X
Northeastern University		X	X	X
Smith College	X			
Tufts University		X		X
University of Mass -Amherst	X	X	X	X
University of Mass-Dartmouth		X		X
University Of Mass -Lowell		X		X
Wellesley College	X			
Wentworth Institute of Technology	X	X		X
Western New England College		X	X	X
Worcester Polytechnic Institute		X		X

POST SECONDARY AND VOCATIONAL TRAINING

TECHNOLOGIES

	Electrical Electronics Engineering Technology/Technician	Chemical Technology/Technician
HIGH SCHOOLS AND VOCATIONAL SCHOOLS		
Attleboro Public Schools	X	
Boston Public Schools	X	
Cambridge Public Schools	X	
Holyoke Public Schools	X	
Leominster Public Schools	X	
Lynn Public Schools	X	
Medford Public Schools	X	
Peabody Public Schools	X	
Pittsfield Public Schools	X	
Quincy Public Schools	X	
Salem Public Schools	X	
Somerville Public Schools	X	
Springfield Public Schools	X	
Westfield Public Schools	X	
Weymouth Public Schools	X	
Northampton-Smith	X	
Worcester Vocational Schools	X	
Berkshire Hills Regional School, Stockbridge	X	
Assabet Valley Regional Voc-Tech, Marlboro	X	
Blackstone Valley Regional Voc-Tech, Upton	X	
Blue Hills Regional Voc-Tech, Canton	X	
Bristol-Plymouth Regional Voc-Tech, Taunton	X	
Cape Cod Regional Voc-Tech, Harwich	X	
Greater Fall River Regional Voc-Tech, Fall River	X	
Greater Lawrence Regional Voc-Tech, Andover	X	
Greater Lowell Regional Voc-Tech, Tyngsboro	X	
Greater New Bedford Regional Voc-Tech, New Bedford	X	
Southern Middlesex Regional Voc-Tech, Framingham	X	
Minuteman Regional Voc-Tech, Lexington	X	
Montachusett Regional Voc-Tech, Fitchburg	X	

	Electrical Electronics Engineering Technology/Technician	Chemical Technology/Technician
Nashoba Valley Regional Voc-Tech, Westford	X	
Northeast Metro Regional Voc-Tech, Wakefield	X	
Northern Berkshire Regional Voc-Tech, North Adams	X	
North Shore Regional Voc-Tech, Beverly	X	
Old Colony Regional Voc-Tech, Rochester	X	
Pathfinder Regional Voc-Tech, Palmer	X	
Shawsheen Regional Voc-Tech, Billerica	X	
Southeastern Regional Voc-Tech, South Easton	X	
South Shore Voc-Tech, Hanover	X	
Tri County Voc-Tech, Franklin	X	
Upper Cape Cod Voc-Tech, Bourne	X	
Whittier Regional Voc-Tech, Haverhill	X	
2-YEAR COLLEGES AND PROPRIETARY SCHOOLS		
Berkshire Community College	X	
Bristol Community College	X	
Bunker Hill Community College	X	
Franklin Institute of Boston	X	
Holyoke Community College	X	X
Massachusetts Bay Community College	X	
Massasoit Community College	X	
Mount Wachusett Community College	X	
Northern Essex Community College	X	
Quinsigamond Community College	X	
Roxbury Community College	X	
Springfield Technical Community College	X	
Northeast Institute of Industrial Technology	X	
RETS Electronics School	X	
Wentworth Technical School	X	
Women's Technical Institute	X	
4-YEAR COLLEGES		
University of Mass - Lowell	X	X
Northeastern University	X	X
Wentworth Institute of Technology	X	

POST SECONDARY AND VOCATIONAL TRAINING

MOTOR VEHICLE CRAFTS

	Auto/Automotive Body Repairer	Auto/Automotive Mechanic/Technician	Bus, Truck and Diesel Mechanic	Heavy Equipment Maintenance & Repairer
HIGH SCHOOLS AND VOCATIONAL SCHOOLS				
Attleboro Public Schools	X	X		
Beverly Public Schools		X		
Boston Public Schools	X	X		
Brockton Public Schools		X		
Cambridge Public Schools	X	X		
Chicopee Public Schools	X	X		
Everett Public Schools		X		
Gloucester Public Schools	X			
Holyoke Public Schools	X	X		
Leominster Public Schools	X	X		
Lynn Public Schools	X	X		
Malden Public Schools		X		
Medford Public Schools	X	X		
Newton Public Schools	X			
Peabody Public Schools	X	X		
Pittsfield Public Schools	X	X		
Quincy Public Schools	X	X		
Revere Public Schools		X		
Salem Public Schools		X		
Somerville Public Schools	X	X		
Springfield Public Schools	X	X		
Waltham Public Schools	X	X		
Westfield Public Schools		X		
Weymouth Public Schools		X		
Northampton-Smith	X	X		
Worcester Vocational Schools	X			
Berkshire Hills Regional School, Stockbridge		X		
Dighton-Rehobeth Regional School, North Dartmouth		X		
Freetown-Lakeville Regional School, East Freetown		X		
Martha's Vineyard Regional School, Vineyard Haven		X		

	Auto/Automotive Body Repairer	Auto/Automotive Mechanic/Technician	Bus, Truck and Diesel Mechanic	Heavy Equipment Maintenance & Repairer
Plymouth-Carver Technical Studies, Plymouth		X		
Silverlake Regional Technical, Kingston	X	X		
Assabet Valley Regional Voc-Tech, Marlboro	X	X		
Blackstone Valley Regional Voc-Tech, Upton	X	X		
Blue Hills Regional Voc-Tech, Canton	X	X		
Bristol-Plymouth Regional Voc-Tech, Taunton	X	X		
Cape Cod Regional Voc-Tech, Harwich	X	X		
Franklin County Regional Voc-Tech, Turners Falls	X	X		
Greater Fall River Regional Voc-Tech, Fall River	X	X		
Greater Lawrence Regional Voc-Tech, Andover	X	X		X
Greater Lowell Regional Voc-Tech, Tyngsboro	X	X		
Greater New Bedford Regional Voc-Tech, New Bedford	X	X		
Southern Middlesex Regional Voc-Tech, Framingham	X			
Minuteman Regional Voc-Tech, Lexington	X	X		
Montachusett Regional Voc-Tech, Fitchburg	X	X		
Nashoba Valley Regional Voc-Tech, Westford	X	X		
Northeast Metro Regional Voc-Tech, Wakefield	X	X		
Northern Berkshire Regional Voc-Tech, North Adams		X		
North Shore Regional Voc-Tech, Beverly	X	X		
Old Colony Regional Voc-Tech, Rochester	X			
Pathfinder Regional Voc-Tech, Palmer	X	X		
Shawsheen Regional Voc-Tech, Billerica	X	X	X	
Southeastern Regional Voc-Tech, South Easton	X	X	X	
South Shore Voc-Tech, Hanover	X	X		
Southern Worcester County Regional Voc-Tech, Charleton	X	X		
Tri County Voc-Tech, Franklin	X	X		
Upper Cape Cod Voc-Tech, Bourne	X	X		
Whittier Regional Voc-Tech, Haverhill	X	X	X	
COMMUNITY COLLEGES AND PROPRIETARY SCHOOLS				
Massasoit Community College		X	X	
Middlesex Community College		X		
Mount Wachusett Community College		X		
TAD Technical Institute, Chelsea			X	

POST SECONDARY AND VOCATIONAL TRAINING

PRECISION CRAFTS

	Electrician	Heating, Air Conditioning and Refrigeration Mechanic	Electrical Equipment Installer & Repairer	Computer Equipment Repairer
HIGH SCHOOLS AND VOCATIONAL SCHOOLS				
Attleboro Public Schools	X			
Boston Public Schools	X	X		
Cambridge Public Schools	X			
Chicopee Public Schools	X			
Everett Public Schools	X			
Fall River Public Schools	X			
Gloucester Public Schools	X			
Holyoke Public Schools	X	X		
Leominster Public Schools	X			
Lynn Public Schools	X			
Malden Public Schools	X			
Medford Public Schools	X			
Newton Public Schools	X			
Peabody Public Schools	X			
Quincy Public Schools	X	X		
Revere Public Schools		X		
Salem Public Schools	X			
Somerville Public Schools	X	X		
Springfield Public Schools	X	X		
Waltham Public Schools	X	X		
Westfield Public Schools	X			
Northampton-Smith	X			
Worcester Vocational Schools	X	X		
Plymouth-Carver Technical Studies, Plymouth	X	X		
Tantasqua Regional School	X			
Assabet Valley Regional Voc-Tech, Marlboro	X			
Blackstone Valley Regional Voc-Tech, Upton	X	X		
Blue Hills Regional Voc-Tech, Canton	X	X		

	Electrician	Heating, Air Conditioning and Refrigeration Mechanic	Electrical Equipment Installer & Repairer	Computer Equipment Repairer
Bristol-Plymouth Regional Voc-Tech, Taunton	X			
Cape Cod Regional Voc-Tech, Harwich	X	X		
Franklin County Regional Voc-Tech, Turners Falls	X			
Greater Fall River Regional Voc-Tech, Fall River	X	X		
Greater Lawrence Regional Voc-Tech, Andover	X	X	X	X
Greater Lowell Regional Voc-Tech, Tyngsboro	X	X		
Greater New Bedford Regional Voc-Tech, New Bedford	X	X		
Southern Middlesex Regional Voc-Tech, Framingham	X			
Minuteman Regional Voc-Tech, Lexington	X	X		
Montachusett Regional Voc-Tech, Fitchburg	X			
Nashoba Valley Regional Voc-Tech, Westford	X			
Northeast Metro Regional Voc-Tech, Wakefield	X			
Northern Berkshire Regional Voc-Tech, North Adams	X			
Old Colony Regional Voc-Tech, Rochester	X			
Pathfinder Regional Voc-Tech, Palmer	X	X		
Shawsheen Regional Voc-Tech, Billerica	X	X		
Southeastern Regional Voc-Tech, South Easton	X	X		
South Shore Voc-Tech, Hanover	X	X		
Southern Worcester County Regional Voc-Tech, Charleton	X	X		
Tri County Voc-Tech, Franklin	X	X		
Upper Cape Cod Voc-Tech, Bourne	X			
Whittier Regional Voc-Tech, Haverhill	X			

2-YEAR COLLEGES AND PROPRIETARY

PRECISION CRAFTS (continued)

	Electrician	Heating, Air Conditioning and Refrigeration Mechanic	Electrical Equipment Installer & Repairer	Computer Equipment Repairer
Franklin Institute of Boston	X			
Massachusetts Bay Community College				X
Middlesex Community College				X
Northern Essex Community College				X
Quinsigamond Community College				X
RETS Electronics School, Boston			X	X
Computer Processing Institute, Cambridge				X
Computer-Ed Business Institute - Woburn				X
Computer-Ed Business Institute - Cambridge				X
Computer Learning Center, Somerville				X
Women's Technical Institute, Boston				X
Woburn Electrical School of Code	X			
Bay State School of Appliances, Canton		X	X	
Worcester Technical Institute			X	
The Salter School -Worcester		X	X	
New England Fuel Institute, Watertown		X	X	
Peterson School of Engineering - Westwood	X			
Peterson School of Engineering - Woburn	X			
Old Colony Trade School, Brockton			X	
Northeast Institute of Industrial Technology, Boston	X			
National Technical School, Seekonk	X			
TAD Technical Institute, Chelsea			X	

HIGH SCHOOLS AND PROPRIETARY

CONSTRUCTION CRAFTS

HIGH SCHOOLS AND VOCATIONAL SCHOOLS	Brickmason	Carpenter	Painter	Plumber
Attleboro Public Schools		X		
Beverly Public Schools		X		
Boston Public Schools		X		X
Brockton Public Schools		X		
Cambridge Public Schools		X		
Chicopee Public Schools		X		
Everett Public Schools			X	
Gloucester Public Schools		X		
Holyoke Public Schools		X		
Leominster Public Schools		X		
Lynn Public Schools		X		X
Malden Public Schools		X		
Newton Public Schools		X		
Peabody Public Schools		X		
Pittsfield Public Schools		X		
Quincy Public Schools				X
Somerville Public Schools		X	X	
Springfield Public Schools		X		
Waltham Public Schools		X		
Northampton-Smith, Northampton		X		X
Worcester Vocational Schools, Worcester		X	X	X
Dighton-Rehobeth Regional School, North Dartmouth		X		
Martha's Vineyard Regional School, Vineyard Haven		X		
Plymouth-Carver Technical Studies, Plymouth		X		X
Silver Lake Regional Technical, Kingston		X		
Tantasqua Regional School, Fiskdale		X		
Assabet Valley Regional Voc-Tech, Marlboro		X	X	
Blackstone Valley Regional Voc-Tech, Upton		X	X	X
Blue Hills Regional Voc-Tech, Canton		X		
Bristol-Plymouth Regional Voc-Tech, Taunton		X	X	
Cape Cod Regional Voc-Tech, Harwich		X	X	X
Franklin County Regional Voc-Tech, Turners Falls		X		X

CONSTRUCTION CRAFTS (continued)

	Brickmason	Carpenter	Painter	Plumber
Greater Fall River Regional Voc-Tech, Fall River		X	X	X
Greater Lowrence Regional Voc-Tech, Andover		X	X	X
Greater Lowell Regional Voc-Tech, Tyngsboro	X	X		X
Greater New Bedford Regional Voc-Tech, New Bedford		X	X	X
Southern Middlesex Regional Voc-Tech, Framingham		X		X
Minuteman Regional Voc-Tech, Lexington		X	X	X
Montachusett Regional Voc-Tech, Fitchburg		X		X
Noshoba Valley Regional Voc-Tech, Westford		X	X	X
Northeast Metro Regional Voc-Tech, Wakefield		X		X
North Shore Regional Voc-Tech, Beverly	X	X		
Old Colony Regional Voc-Tech, Rochester		X		
Pathfinder Regional Voc-Tech, Palmer		X		
Showsheen Regional Voc-Tech, Billerico	X	X		X
Southeastern Regional Voc-Tech, South Easton	X	X	X	X
South Shore Voc-Tech, Honover	X			
Southern Worcester County Regional Voc-Tech, Chorleton	X	X		X
Tri County Voc-Tech, Franklin	X	X		X
Upper Cape Cod Voc-Tech, Bourne	X	X	X	X
Whittier Regional Voc-Tech, Haverhill	X	X		X
PROPRIETARY SCHOOLS				
North Bennett Street School, Boston		X		
Old Colony Trode School , Brockton				X
Peterson School of Engineering - Westwood				X

LONG-TERM ON-THE-JOB TRAINING-MORE THAN 12 MONTHS

PUBLIC SAFETY OCCUPATIONS

2-YEAR AND 4-YEAR COLLEGES	Corrections	Fire Science	Police Science
Berkshire Community College		X	X
Bunker Hill Community College			X
Deon Junior College	X		
Greenfield Community College			X
Holyoke Community College			X
Mossosoit Community College	X		X
Mossachusetts Boy Community College			X
North Shore Community College			X
Quinsigomond Community College			X
Springfield Technicol Community College	X		X
Northeostern University	X		X

SHORT-TERM ON-THE-JOB TRAINING

GARDENING AND GROUNDSKEEPING OCCUPATIONS

4-YEAR COLLEGES, 2-YEAR COLLEGES, AND VOCATIONAL SCHOOLS	Horticulture Services	Landscaping Operation	Turf Management
University of Moss-Amherst			X
Becker College -Leicester	X		
Mossachusetts Bay Community College	X		
Springfield Technical Community College		X	
Bristol County Agriculturol School	X	X	
Essex Agricultural Technicol School	X	X	

Apprentice Training in Nontraditional Occupations

The Way to a Skilled Trade is an Apprenticeship Program.

You can obtain both training and work experience in a skilled profession - such as carpenter, electrician, and plumber - through an apprenticeship program. Under the direction of an experienced worker, apprentices receive on-the-job training supplemented by related classroom instruction. Apprenticeship is a system for teaching highly technical manual skills through a combination of on-the-job training and related classroom instruction. Pre-apprenticeship is an opportunity for juniors and seniors to start preparing for a career while in high-school. Students who successfully complete the two year program will receive their high school diploma and a pre- apprentice completion certificate, and move into a formal apprenticeship. Apprentice training programs run from one to four years.

Where to Get More Information

The Division of Apprenticeship Training of the state Department of Labor and Workforce Development approves and registers Massachusetts apprenticeship programs. It offers both formal apprenticeship programs and pre-apprenticeship opportunities as a way for high school juniors and seniors to start preparing for a career while in high school. For more information on entrance requirements, training opportunities, referrals to approved programs and specific information such as licensing requirements call (617) 727-3486 or 727-3487, or write to Division of Apprenticeship Training, Saltonstall Building, 100 Cambridge St., 11th Floor, Boston, MA 02202.

Applications for certain apprenticeships are accepted only at specific times of the year. In some trades, informal on-the-job training may also be available. Below is a sample of the types of nontraditional occupations that have apprenticeship programs:

Asbestos Worker
Automotive Body Repairer
Automotive Mechanic
Bricklayer
Carpenter
Chemical Technician
Diemaker
Diesel Mechanic
Drafter
Electrical and Electronics Technician
Electrician
Engineering Assistant
Mechanical Glazier
Heating and Air Conditioning Mechanic
Landscape Gardener
Meat Cutter
Painter
Pipefitter
Plumber
Refrigeration Mechanic
Roofer
Sheetmetal Worker
Stonemason
Toolmaker
Truck Driver, Heavy
Welder

Women in Apprenticeship

Increasing numbers of women in apprenticeship reflect some of our changing attitudes about whose hands may do our skilled work.

From 1900 to 1960, each decennial census showed that women held only two to three percent of the jobs in skilled trades nationally, a figure that varied only during World War II. By 1995 women tripled their share, holding nine percent of the jobs in skilled trades and accounted for 957,000 skilled trade workers. All skilled trades now report at least some women at work. They include such traditionally male dominated jobs as automobile mechanics, carpenters, and heavy equipment mechanics.

According to the 1990 Decennial Census, Massachusetts women were enrolled as apprentices in the following occupations:

Apprentices

	Female
Carpenter	10
Electrician	17
Plumber, pipefitter, and steamfitter	7
Machinist	6
Sheet metal worker	6

List of State Licensing Agencies for Selected Nontraditional Occupations

The following list of licensing boards and agencies is for occupations cited in this publication that require a license to practice professionally in Massachusetts.

ARCHITECT, EXCEPT LANDSCAPE AND MARINE
Commonwealth of Massachusetts
Board of Registration of Architects
100 Cambridge Street, Room 1406
Boston, MA 02202-0044
(617) 727-3072

INSULATION WORKERS (ASBESTOS ABATEMENT)
Commonwealth of Massachusetts
Department of Labor and Industries
Division of Asbestos/Lead Licensing and Enforcement
100 Cambridge Street, Room 1106
Boston, MA 02202-0044
(617) 727-7047

DENTISTS
Commonwealth of Massachusetts
Board of Registration in Dentistry
100 Cambridge Street, Room 1514
Boston, MA 02202-0044
(617) 727-9928

ELECTRICIANS
Commonwealth of Massachusetts
Board of State Examiners of Electricians
100 Cambridge Street, Room 1511
Boston, MA 02202-0044
(617) 727-9931
(617) 727-9932

ENGINEERS
Commonwealth of Massachusetts
Board of Registration of Professional Engineers and Professional Land Surveyors
100 Cambridge Street, 15th Floor
Boston, MA 02202-0044
(617) 727-9956
(617) 727-9957

LANDSCAPE ARCHITECTS
Commonwealth of Massachusetts
Board of Registration of Landscape Architects
100 Cambridge Street, Room 1513
Boston, MA 02202-0044
(617) 727-3093

MOTOR VEHICLE DAMAGE APPRAISER (AUTOMOTIVE BODY REPAIRERS)
Commonwealth of Massachusetts
Division of Insurance
470 Atlantic Avenue
Boston, MA 02110-2208
(617) 521-7453

PIPEFITTERS
Commonwealth of Massachusetts
Department of Public Safety
Division of Inspection - Engineering
One Ashburton Place, 13th Floor
Boston, MA 02108-1618
(617) 727-3200

PLUMBERS
Commonwealth of Massachusetts
Board of State Examiners of Plumbers and Gas Fitters
100 Cambridge Street, Room 1511
Boston, MA 02202-0044
(617) 727-9952

REFRIGERATION TECHNICIANS
Commonwealth of Massachusetts
Department of Public Safety
Division of Inspection
One Ashburton Place, Room 1301
Boston, MA 02108-1618
(617) 727-3200

TRUCK DRIVERS
Commonwealth of Massachusetts
Registry of Motor Vehicles
100 Nashua Street
Boston, MA 02114-1180
(617) 727-6318

For more information on occupations licensed in Massachusetts, refer to the *Directory of Licensed Occupations in Massachusetts*, published by the Massachusetts Occupational Information Coordinating Committee and the Division of Employment and Training. This publication is a valuable handbook of licensing, certification, and registration requirements currently in effect in the State.

Career Development Resources for Women Seeking Selected Nontraditional Occupations

Women seeking nontraditional employment need not only labor market information, training and placement services, but also a network of supportive services. Women's organizations, professional associations, and trade associations can support women with their extensive resources. This list is designed to be a helpful resource in referring women to networks providing occupational information, career guidance or support networks.

Program Name: **Women in the Building Trades (WIBT)**
Address: 557 Amory Street, Jamaica Plain, MA 02130
Contact Person: Priscilla Ann Golding, Executive Director
Contact Telephone Number: (617) 524-3010
introduction to construction workshops, pre-apprentice ship training programs, counseling for women in nontraditional work

Program Name: **Division of Apprentice Training (DAT)**
Address: 100 Cambridge Street, Boston, MA 02202
Contact Person: Gayann Wilkinson
Contact Telephone Number: (617) 727-3488
apprenticeship training information and referrals

Program Name: **Department of Education (DOE)**
Address: 350 Main Street, Malden, MA 02148
Contact Person: Elena Swaim, Sex Equity Coordinator
Contact Telephone Number: (617) 388-3300
equal access to vocational and technical training opportunities

Program Name: **Women's Bureau, United States Department of Labor**
Address: Room E-270, JFK Building, Boston, MA 02203
Contact Person: Regional Administrator
Contact Telephone Number: (617) 565-1988
federal regulations; employment related technical assistance and policy information; information services

Program Name: **Massachusetts Occupational Information Coordinating Committee (MOICC) Division of Employment and Training (DET)**
Address: 19 Staniford Street, Boston, MA 02114
Contact Person: Dorothy Sullivan
Marilyn Boyle
Contact Telephone Number: (617)626-5744
(617)626-5718
labor market and occupational information

Program Name: **Metro South/West Employment and Training Administration**
Address: 275 Prospect Street, Norwood, MA 02062
Contact Person: Joanne Susi
Maria Duca
Contact Telephone Number: (617) 769-4120
experience in operating a nontraditional training program for women

Program Name: **North Central Regional Employment Board, Inc.**
Address: 80 Erdman Way, Suite 201, Leominster, MA 01453
Contact Person: Michalene Kosinski
Contact Telephone Number: (508) 345-6108
experience in operating a nontraditional training program for women

Program Name: **Center for Women, Work & Family Corporation for Business,Work, and Learning**
Address: 101 Summer Street, Boston, MA 02110
Contact Person: Eleni Papadakis
Contact Telephone Number: (617) 292-5110
experience in mentoring programs; work/life workshops and technical assistance

Program Name: **Nontraditional Employment for Women**
Address: 243 W 20th Street, New York, NY 10011
Telephone Number: (212) 627-6253

Program Name: **Wider Opportunities for Women (WOW)**
Address: 815 15th Street, NW, Suite 916, Washington, DC 20005
Telephone Number: (202) 638-3143

Association Name: **Women's Dental Society of Massachusetts**
Address: 616 Boston Post Road, Sudbury, MA 01776
Contact Person: Janice Spada-Horn, DMD
Contact Telephone Number: (508) 776-7721

Association Name: **Boston Society of Architects**
Address: 52 Broad Street, Boston, MA 02109
Contact Person: Penny Mitchell
Contact Telephone Number: (617) 951-1433 X221
local chapter of the American Institute of Architects

Association Name: **National Association of Women in Construction**
Address: 841 Worcester Road, Suite 101, Natick, MA 01760
Contact Telephone Number: (508) 651-8717
a professional association for women working in the construction industry
promotes outreach and improvement of women's jobs in the construction industry

Association Name: **Society of Women Engineers, The Boston Section**
Address: One Walnut Street, Boston, MA 02108
Contact Person: Beth Silverman
Contact Telephone Number: (617) 594-4SWE
newsletters, seminars, conferences and programs, career guidance

Association Name: **Society of Women Engineers**
Address: 120 Wall Street, 11th floor, New York, NY 10017
Telephone Number: (212) 509-9577
newsletters, seminars, conferences and programs, career guidance

Association Name: **Women in Electronics**
Address: P.O. Box 700, Tewksbury MA 01876
Contact Person: Melba M. Nazzaro
Contact Telephone Number: (508) 851-2237

Association Name: **Women in Technology International**
Address: 4641 Burnet Avenue, Sherman Oaks, CA 91403
Contact Person: Julie Lubbering
Contact Telephone Number: (818) 990-3299
encourage women in science and technology

Association Name: **Women's Initiative for Technology Leadership**
Address: P.O. Box 1410, Concord MA 01742
Contact Person: Susan Roussele
Contact Telephone Number: (508) 287-0440

Association Name: **Association for Women in Science - New England Chapter**
Address: Department of Chemistry, Wellesley College, Wellesley MA 02181
Contact Person: Marie Ebersole
Contact Telephone Number: (617) 283-3021

Association Name: **Women's Science Network**
Address: P.O. Box 645, Belmont, MA 02178
Contact Person: Dr. Liane Reif Lehrer
Contact Telephone Number: (617) 863-1117

Association Name: **Women's Transportation Seminar - Boston Chapter**
Address: One Walnut Street, Boston, MA 02108-2616
Contact Person: Cristina Raffaelli, Executive Director
Contact Telephone Number: (617) 227-5551; National (202) 223-9669
newsletters, meetings, assistance to engineers, planners, and attorneys interested in transportation industry

Association Name: **Boston Trades Women's Network**
Address: 62 Berkeley Street, Boston MA 02160
Telephone Number: (617) 423-1535

ADDITIONAL SOURCES OF INFORMATION:

Massachusetts Associations & Networks, Experience Unlimited, Inc., 99 First Street, Cambridge, MA 02141, (617) 354-4102; FAX: (617) 876-5134

Professional Associations Directory, The Women's Educational And Industrial Union Career Services, 356 Boylston, Street, Boston, MA 02116 (617) 536-1888.

Alphabetical Listing of Profiled Occupations

CONSTRUCTION & MAINTENANCE PAINTING & PAINT SPRAYING MACHINE OPERATORS PAPERHANGERS PARKING LOT ATTENDANTS PEST CONTROL OCCU-

PAT & LITHOGRAPHERS PHYSICISTS & ASTRONOMERS PLASTERERS PLUMBERS PIPEFITTERS & STEAMFITTERS POLICE DETECTIVES POWER

PLANT OPERATORS PRECISION ASSEMBLERS METAL PRECISION GRINDERS FILERS & TOOL SHARPENERS PRINTING PRESS OPERATORS PRODUCTION

HELPERS RAILROAD CONDUCTORS & YARDMASTERS ROOFERS & SLATERS SALES ENGINEERS SALES WORKERS HARDWARE & BUILDING SUPPLIES SALES WORKERS

MOTOR VEHICLES & BOATS SALES WORKERS AUTOMOTIVE PARTS SEPARATING FILTERING & CLARIFYING MACHINE OPERATORS SHEET METAL WORKERS

SHEETMETAL & DUCT INSTALLERS SHERIFFS BAILIFFS & OTHER LAW ENFORCEMENT OFFICERS SHIP CAPTAINS SHOE REPAIRERS SMALL ENGINE REPAIR-

ERS SPECIFIED MECHANICS & REPAIRERS STRUCTURAL METAL WORKERS SUPERVISORS PLUMBERS PIPEFITTERS & STEAMFITTERS SUPERVISORS

BRICKMASONS STONEMASONS & TILE SETTERS SUPERVISORS CARPENTERS & RELATED WORKERS SUPERVISORS CLEANING & BUILDING SERVICE WORKERS

SUPERVISORS CONSTRUCTION SUPERVISORS ELECTRICIANS & POWER TRANSMISSION INSTALLERS SUPERVISORS FIREFIGHTING & FIRE PREVENTION

OCCUPATIONS SUPERVISORS GUARDS SUPERVISORS MECHANICS & REPAIRERS SUPERVISORS MOTOR VEHICLE OPERATORS SUPERVISORS PAINTERS

PAPERHANGERS & PLASTERERS SUPERVISORS POLICE & DETECTIVES SUPERVISORS PRODUCTION OCCUPATION SUPERVISORS RELATED AGRICULTURAL

OCCUPATION SURVEYING & MAPPING TECHNICIANS TAXICAB DRIVERS & CHAUFFEURS TELEPHONE INSTALLERS REPAIRERS TELEPHONE LINE INSTALLERS

& REPAIRERS TILE SETTERS HARD & SOFT TIMBER CUTTING & LOGGING OCCUPATIONS TOOL & DIE MAKERS TRAFFIC SHIPPING & RECEIVING CLERKS

TRANSPORTATION COMMUNICATIONS & OTHER PUBLIC UTILITIES TRUCK DRIVERS UPHOLSTERERS USHERS VEHICLE WASHERS & EQUIPMENT CLEANERS

WATER & SEWAGE TREATMENT PLANT OPERATORS WELDERS CUTTERS WHOLESALE & RETAIL TRADE BUYERS AEROSPACE ENGINEERS AIRPLANE PILOTS