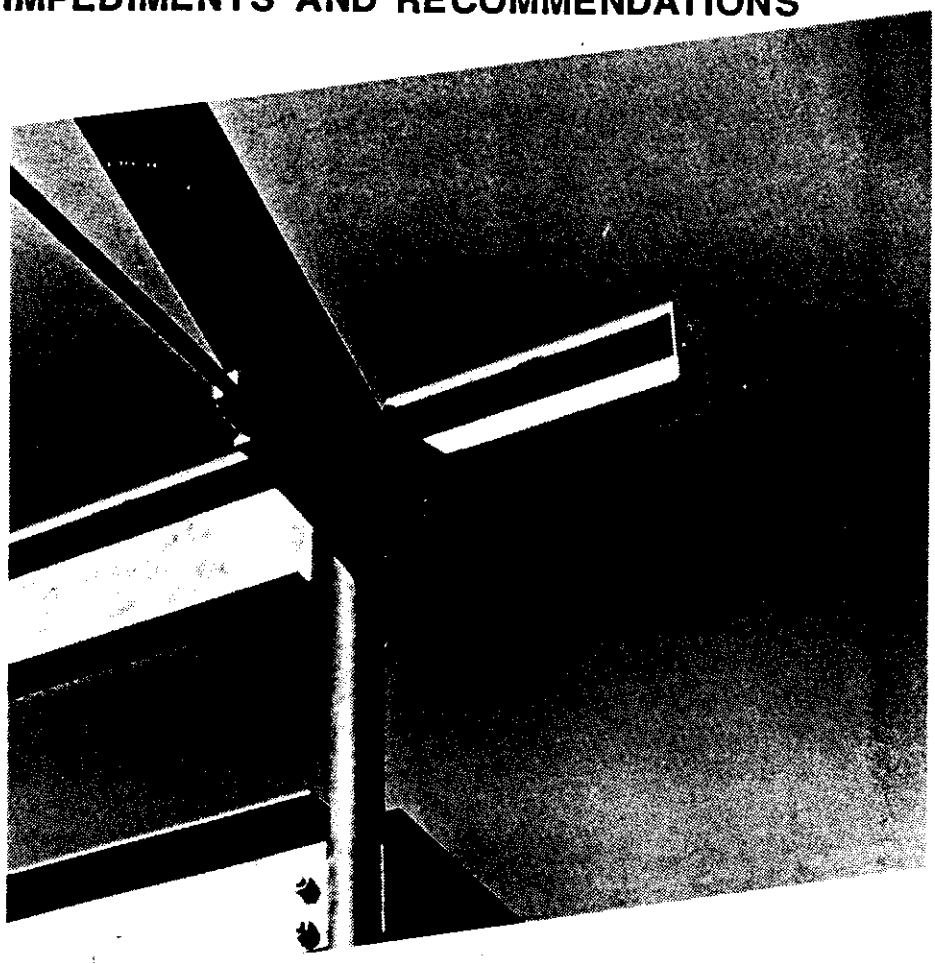
TECHNICAL PUBLICATION NO. 48

EFFECTS OF THE SHORTAGE OF SKILLED CARPENTERS IN THE HOMEBUILDING INDUSTRY IN FLORIDA : IMPEDIMENTS AND RECOMMENDATIONS



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1987

SUMMARY OF TECHNICAL REPORT NUMBER 48

EFFECTS OF THE SHORTAGE OF SKILLED CARPENTERS IN THE HOMEBUILDING INDUSTRY IN FLORIDA: IMPEDIMENTS AND RECOMMENDATIONS

BY
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The School of Building Construction at the University of Florida, in conjunction with the Building Construction Industry Advisory Committee, has undertaken a study concerning a manpower crisis in the construction industry in the state of Florida. This is such a broad topic that several studies are being conducted of segments of the construction industry, and then a comprehensive report will be made as a part of a research grant from the Building Construction Industry Advisory Committee. This report covers only homebuilders. Graduate students, under the close supervision of faculty, developed a number of surveys intent upon isolating the causes and effects of a shortage of skilled carpenters and to identify the steps that may be taken in order to prevent, or at least minimize, such a shortage. This research report was designed to address the obstacles faced by the industry and to make specific recommendations as to what courses of action may be taken by those persons and organizations involved. This work reports the status of the shortage of skilled carpenters in homebuilding and the enlightening recommendations could be quite useful in coping with the problem.

Ninety-five members of the Florida Home Builders Association (FHBA) responded to the survey. Of those, 78, or 84% of the respondents expressed a need for more skilled carpenters in the state of Florida. In fact, 60% felt that there are not enough skilled carpenters in the state to handle the present work load. In light of the projected growth of Florida in the next decade, this shortage could serve to hamstring the industry in its efforts to keep up with demand through the 1990's.

To aggravate the problem, home builders feel that only half of those carpenters in their employ would be considered skilled in the trade. A general decline in craftsmanship was considered the most important contributing factor to the shortage of skilled workers. Eighty percent of the respondents felt that carpenters should undergo some sort of formal training. One-third said that they currently sponsor carpenters in training with vocational centers, community colleges, or union or open shop apprenticeship programs.

The homebuilders felt that, although the various training programs provided adequately skilled carpenters, those programs were making only a small contribution to the total supply of skilled workers. It was also found that the level of communication between the home builders and training programs was quite remote. Stronger communication between the

parties was considered highly desirable, and home builders felt that formal meetings between the groups would be the best method for establishing such a link.

It is clear that the home building industry in the state of Florida faces a potential crisis. Falling numbers of new workers in the job market will contribute to the problem. Comparatively low wage rates for carpenters in Florida and an impression of low prestige in the field also have a sizeable impact. The boom in population, and therefore demand for housing, clearly will make the situation more acute. Those parties involved should take steps to remedy the manpower shortage in the industry before it becomes too critical to manage in a satisfactory manner. Meetings between the home builders and training institutions should be a good start.

Copies of this report can be obtained by contacting:

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CHAPTER 1

INTRODUCTION

In cooperation with the Building Construction Industry Advisory Committee (BCIAC), the School of Building Construction at the University of Florida is conducting a research project that would examine recruitment, training and employment of construction craftsmen in Florida. It will also determine the impediments to an adequate supply of skilled construction craftsmen and develop recommendations. The carpentry craft was chosen to be used as the study vehicle. The present study as a part of the larger above-mentioned research project will concentrate on the supply of skilled carpenters in the homebuilding industry. (See Fig.1). The focus of the present study is to determine if the homebuilders in Florida have enough skilled carpenters to hire and to analyze reasons for the shortfall, if any. The study will also examine the impediments to an adequate supply of carpenters in the homebuilding industry in Florida and come up with some recommendations.

OVERVIEW

According to the U.S. Department of Commerce, the constant-dollar value of new construction put in place in the United States will increase by about 1% in 1987 which will set an all time record.[1] Inflation adjusted value of new construction

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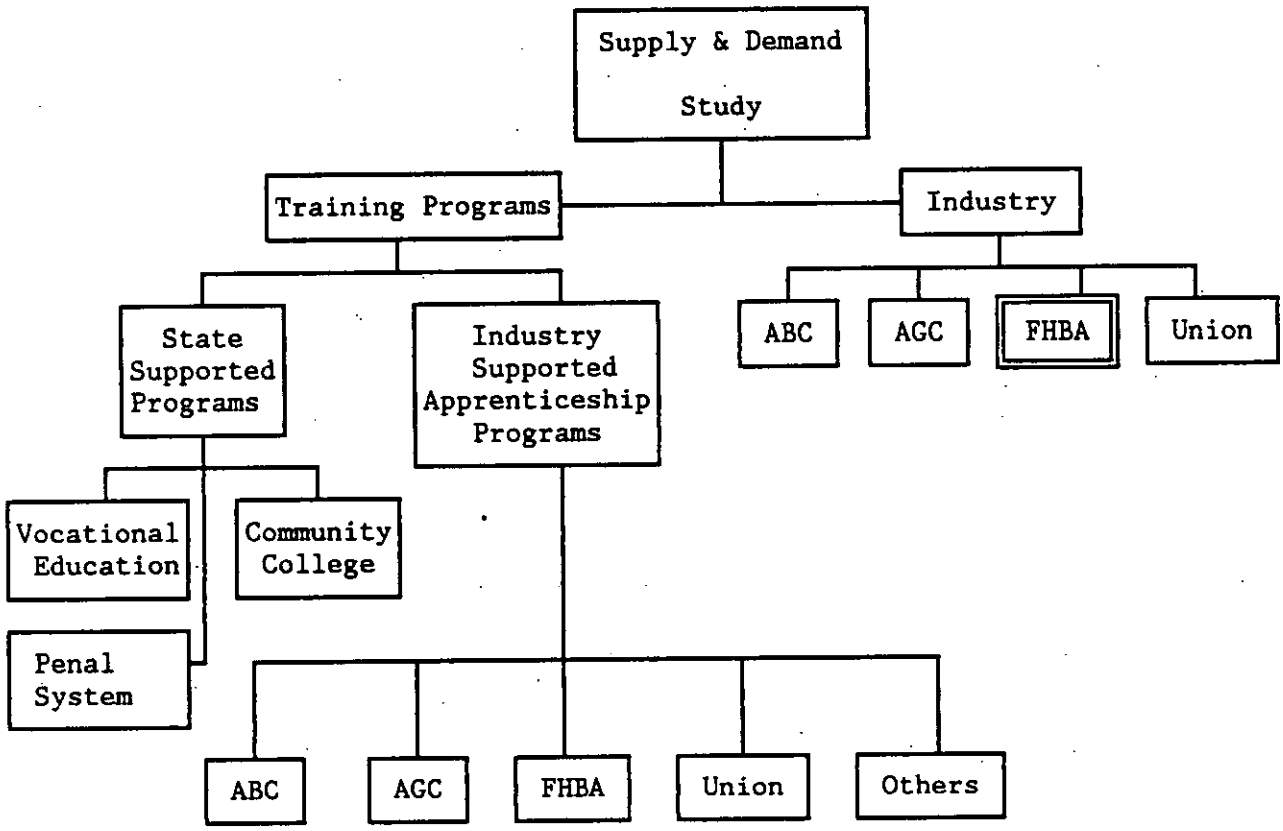
[1] U.S. Department of Commerce, 1987 U.S. Industrial Outlook, p. 1.

SCOPE OF TOTAL RESEARCH PROJECT



LEGEND:

═══ - scope of research for this particular project

ABC - Associated Builders and Contractors

AGC - Associated General Contractors

FHBA - Florida Home Builders Association

Union - United Brotherhood of Carpenters and Joiners of America

Others - Any individual or group program which is non-union and does not belong to any one particular building organization.

Fig. 1

increased by 5% in 1986 which set an all time record.[2] The number of private housing starts in 1986 increased by 6% to 1.85 million units.[3] Residential construction increased in 1986 by 10% and is projected to increase by 4% in 1987 to a value of $167 million.[4] This construction growth is bound to create a greater demand for construction labor. The Commerce Department in its outlook for construction in 1987 predicts that, notwithstanding substantial productivity gains, labor shortage and labor quality can be major problems.[5] This is substantiated by the Construction Labor Research Council. According to their study based upon projections of the Bureau of Labor Statistics and the Bureau of Census, it will be more difficult to attract labor in construction in the future than it has been in the past.[6] "The years 1990-1995 have a potential for seeing a significant shortage of skilled manpower in the construction industry. Even without industry growth, there will be the need to replace an increasing number of workers in an aging labor force during a period of reduced growth in the number of new entrants into thelabor market. Likely growth in the construction industry over

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[2] U.S. Department of Commerce, 1987 U.S. Industrial Outlook, p. 1.

[3] Ibid., p. 1.

[4] Ibid., p. 1.

[5] Ibid., p. 3.

[6] "Meeting the Future Need for Construction Labor 1990-1995", Construction Labor Research Council, October 1985, p. 2.

the same years will make the problem more severe."[7] Based upon demographic data the labor force is expected to expand at a rate of 1.0% per year which is a dramatic deceleration from the 1.6% rate of the 1980's and a 2.6% rate in the 1970's.[8] The low birth rates of the 1970's will have an impact on the labor market of the 1990's.[9] Based upon current occupational rates, such as the number of workers retiring, dying or leaving the industry and the 1981 employment figures obtained for the Bureau of Labor statistics, there is a need to replace 180,000 construction workers each year which is 6% of the labor force if construction employment remains unchanged.[10] Out of these workers, 114,000 are skilled craftsmen.[11] With a 2% growth rate in employment, the annual total need for construction workers will be 263,000 out of which 174,000 should be skilled craftsmen.[12] According to the Department of Labor Bureau of Labor Statistics, a total of 2.4 million new construction workers will be needed by 1990.[13] Present construction craft apprentice and training programs are

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[7] "Meeting the Future Need for Construction Labor 1990-1995", Construction Labor Research Council, October 1985, p. 2.

[8] Ibid, p. 2.

[9] Ibid, p. 2.

[10] Ibid, p. 8.

[11] Ibid, p. 11.

[12] Ibid, p. 8.

[13] "Training Problems in Open Shop Construction", The Business Roundtable, A construction Industry Cost Effectiveness Project Report, Report D-4, September, 1982, p. 5.

graduating an average of 50,000 trained workers per year and unless training of construction workers is significantly increased, a severe shortage is going to occur.[14] (See Fig. 2). Since carpentry is the largest craft in construction, more persons will be needed to be carpenters than any of the other crafts. Roughly 40% of the need for skilled workers will be for carpenters.[15] According to the Construction Labor Research Council based on the Bureau of Labor Statistics (BLS) figures, the projected total for additional carpenters required per year until 1995, will be 37,900.[16] The figure projected by the Job Outlook Cluster, an occupational outlook quarterly, for additional carpenters required between 1984-1995 is 101,000 , an increase of 11% from the 1984 figures.[17]

In this overall national scenario, Florida with its unprecedented growth and population influx may exacerbate the labor shortage problem even further. Florida is enjoying the prosperity of an unparalleled period of economic expansion. The state has added 1.5 million people, 850,000 jobs and increased

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14 "Training Problems in Open Shop Construction", The Business Roundtable, A Construction Industry Cost Effectiveness Project Report, Report D-4, September, 1982, p. 5.

15 "Meeting the Future Need for Construction Labor 1990-1995", Construction Labor Research Council, p. 10.

16 Meeting the Future Need for Construction Labor 1990-1995" The Construction Labor Research Council, p. 2.

17 "Job Outlook Cluster", Occupational Outlook Quarterly Spring 1986, p.26

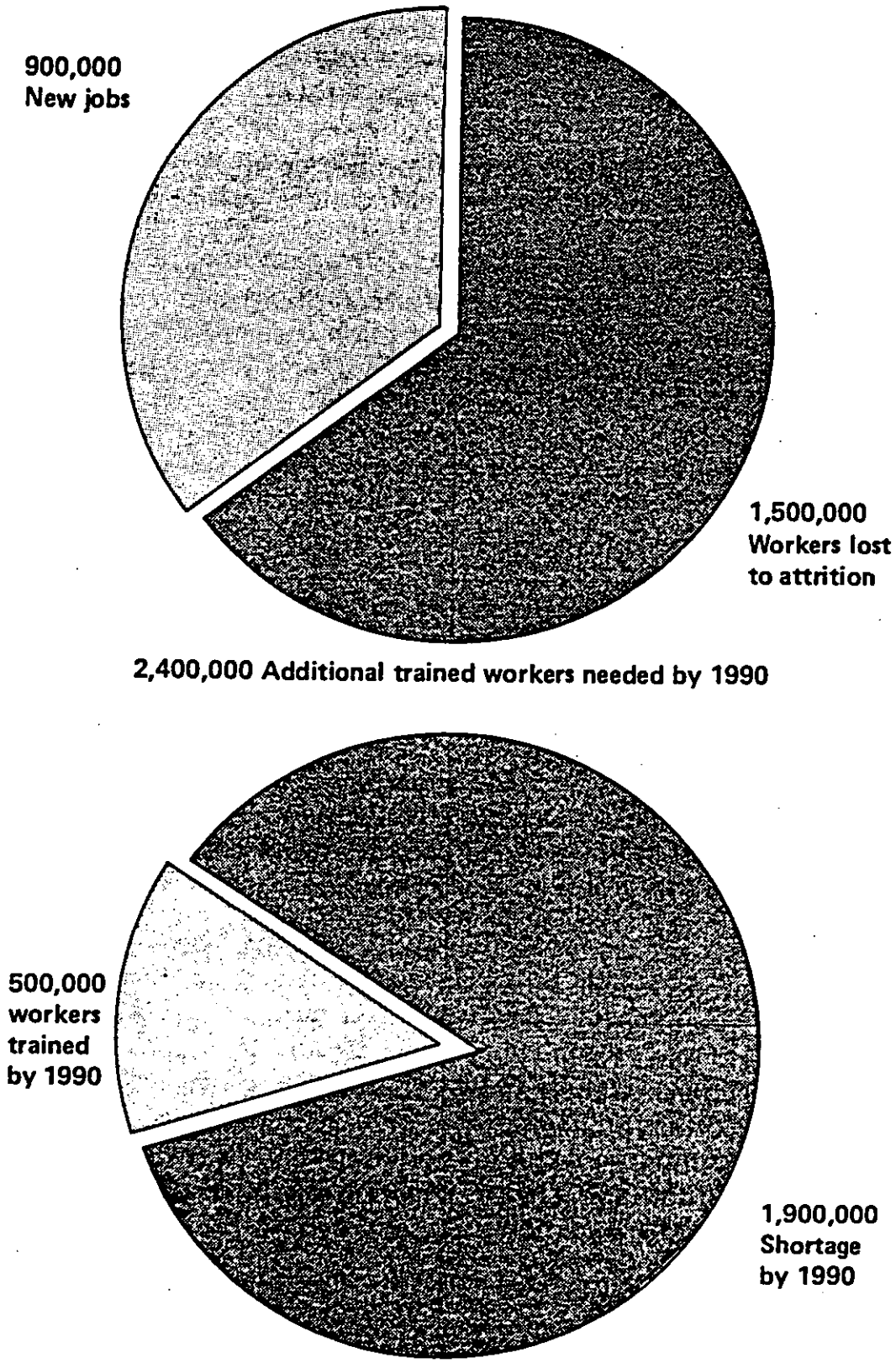

Fig. 2 Projected Shortage of Trained Construction Workers by 1990.

income by 50% over the last five years.[18] Most of the economic expansion has taken place since mid-1983, the time of economic recovery. Nineteen out of twenty corporate executives responding to a Florida Trend magazine survey believe that economic performance this year will match or exceed that of 1986. This regional growth has induced a migration from the depressed southwest parts of the United States to the eastern part.[19] According to the 1986 Florida Statistical Abstract the population of Florida will swell from 11,500,000 in 1985 to 15,000,000 by the year 2000. The state Office of Planning and Budgeting raised its population projections for Florida to 12.6 million people by 1990.[20] Florida will grow four times faster than the nation as a whole and become the third most populous state after California and Texas. The increase in population will lead to an increase in construction activity and thus, a demand for more construction labor.

Florida has a large share of building permit activity which is 12% of the total national building permit activity.[21] According to the Florida Trend / Yearbook 1987, Florida continues

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18"State Overview" Florida Trend, Yearbook 1987. p. 46.

19"Labor Shortage Grips Several Cities." Engineering News Review, 25 September 1986, p.10.

20 "Job Outlook Cluster", Occupational Outlook Quarterly, Spring 1986, p. 26.

21 Bureau of Economic and Business Research, College of Business Administration, University of Florida, 1986 Florida Statistics Abstract, p. 630.

to be one of the United States most prolific employment breeding grounds and generates 10% of the nation's new jobs each year. Employment growth has been so strong that even with the massive influx of new residents seeking work, the state's unemployment level has sunk to 4.6% as of last year.[22] Florida's job growth rate of 4.7% was the fastest of the eleven largest states, withCalifornia and North Carolina being the second and the third fastest respectively.[23] Construction job levels have vacillated over the last few months but have shown a steadier growth pattern since September,1986.[24] Annual employment growth was 1% meaning that the jobs increased by 3,400 to reach 343,000 in Florida in January,1987.[25] Combining the population influx, economic growth and increased job openings with a nation wide shortage of construction workers, it is reasonable to induce that there will be a shortage of construction workers, especially skilled construction workers, in the state of Florida. Indications of a shortage of construction workers and a pending shortage have been obtained from various sources in Florida. The Engineering News Record (ENR), a construction weekly magazine, reports, " Large areas of the scutheast are short of manpower, with conditions particularly tight in Atlanta, Nashville and the Orlando - Tampa

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22 "State Overview", Florida Trend, Yearbook 1987, p. 46.

23 Department of Labor and Employment Security, Bureau of Labor Market Information, Florida Employment Trends, 24 April 1987. p 3.

24Ibid., p. 3.

25Ibid., p. 3.

Bay corridor ".[26] Mr. Robert George, Executive Director of the Georgia Chapter of ABC says, "......the southeast also is scrambling for skilled workers, with no relief in sight".[27] In the words of Mr. Philip H. Bloom, Vice-President of business development for Blosam Corporation, "Another area of great concern is the labor market's continual development of skilled labor and keeping qualified management personnel is perhaps the single most important problem in the construction industry today".[28]

The labor squeeze will further tighten with the construction at Walt Disney World in central Florida. The construction at Disney World is expected to be worth 200 - 500 million dollars. In addition, other large projects are planned by other developers. Construction of a performing arts center and a museum of technology worth $300 million will start in Ft. Lauderdale in 1987. Work will continue over the next 25 years on 15,000 residential units in St. Lucie West. St. Petersburg begins construction of a $66 million multi-purpose domed stadium. Work began in April on a 402 room, $50 million hotel near Daytona Beach and a 200 room $14 million hotel and conference center in Ocala. Construction of a $30 million downtown people mover and construction of Jacksonville Center which would include 23 story

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[26] "Labor Shortage Grip Several Cities", Engineering News Review, September 25,1986, p. 10.

[27] Ibid., p. 10.

[28] "Building Trends....for the Rest of the Eighties", Florida Construction Industry Magazine, December 1986, p. 18.

and 30 story office buildings and a hotel will start in 1986. A Houston based development company has purchased 21,000 acres for $200 million to begin a 25 year multi-use development project in the western panhandle of Florida. All this construction along with the construction in the neighbor state of Georgia of a $1.2 billion Trident submarine base at Kings Bay, about five miles north of the Florida/Georgia border, is going to make a big impact on the availability of skilled manpower in Florida.[29]

Adding to the already grim manpower situation is the fact that wages for construction workers in Florida are below the national level. According to an ENR news survey which is based upon information provided by Personal Administration Services, of Ann Arbor, Michigan, open shop carpenters in the southeastern states (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee) have the third lowest average wage of $10.01 after the Middle Atlantic and Central states where the average wages are $9.91 and $9.63 respectively.(See Table 1-1).[30] Mr. Joseph E. Martin, President of the Florida Building Trades Council in Tallahassee is of the view that in Florida open shop has succeeded in creating a text book environment of almost pure competition; projects go to `cheaper and cheaper' labor. This situation, according to him,

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29 "Labor Shortage Grips Several Cities", Engineering News Review, September 25, 1986, p. 10.

30 "Some Trades Cooling to Givebacks", Engineering News Review, Third Quarterly Cost Report, September 18, 1986, p. 56.

AREA	JOURNEYMEN CARPENTER WAGES
	AVERAGE HOURLY WAGE
New England (1)	10.58
New York/ New Jersey	11.07
Middle Atlantic (2)	9.91
Southeast (3)	10.01
Great Lakes (4)	10.56
South Central (5)	10.36
Central (6)	9.63
Central Mountain	11.02
Mountain (8)	12.07
Western (9)	11.66
National Range	9.63-12.07

Table 1-1 Open-Shop Wage Rates for Journeymen , 1986.

Source : Engineering News Record, September 18, 1986 based on figures provided by Personnel Administration Services Inc. Ann Arbor, Michigan.

NOTE :
(1) Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont.
(2) Delaware, Madison, Pennsylvania, Virginia, West Virginia, Washington D.C..
(3) Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee.
(4) Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.
(5) Arkansas, Louisiana, New Mexico, Oklahoma, Texas.
(6) Iowa, Kansas, Missouri, Nebraska.
(7) Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming.
(8) Arizona, California, Hawaii, Nevada.
(9) Alaska, Idaho, Oregon, Washington.

has created a sharp decline in the competency level of building workers.[31]

Taking the overall national scenario of a construction labor shortage coupled with Florida's typical situation of tremendous economical growth, population influx, large construction activity and depressed wage rates, it is important to examine the possibility of a shortage of skilled construction workers in Florida in the coming years. As the carpenters represent the largest group of building tradesmen in Florida and almost all construction projects employ carpenters, this trade was chosen to study the shortage of skilled construction workers.

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[31] "Some Trades Cooling to Givebacks", Engineering News Review, Third Quarterly Cost Report, September 18, 1986, p. 61.

Purpose of the Study

The goal of the study is :

1. To determine if the homebuilders face any problems in hiring skilled carpenters in Florida.
2. Determine why a shortage of skilled carpenters exists and determine what are the impediments to an adequate supply of carpenters in the state of Florida.
3. Examine the interaction between the homebuilders and various training programs and determine how well the training programs are meeting the needs of the homebuilders in supplying skilled carpenters.
4. Determine the level of communication that exists between the homebuilders and the training programs.
5. Determine the skills carpenters need to meet the requirements of the homebuilders.
6. Elicit the view and opinions of the homebuilders as to what would alleviate the shortage of skilled carpenters.
7. Develop recommendations on what can be done to remedy the shortage of skilled carpenters.

The National Association of Homebuilders (NAHB)

The National Association of Homebuilders (NAHB) is organized in a federation of approximately 800 state and local builder associations around the country with over 135,000 members.[32] These associations are composed of a broad spectrum of professionals supporting building construction. They include contractors, sub-contractors, architects, engineers, realtors and material suppliers, among others. These associations range in size varying from a ten member chapter in a small community to a large metropolitan association of 25,000 members.[33] They represent the member's interest and concerns on the local level. Each state and local association has its own leadership and is affiliated with NAHB.

Five national senior officers are elected from among the builder membership and are deeply involved in the activities of the association and the industry. The board of directors is the policy making body of NAHB and is comprised of elected builder members from affiliated local and state associations. A wide range of interests and services are represented by the committees and councils of NAHB and the role played by the committees is a

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[32] "Membership: Together for the Building Industry", A Guide to Services, National Association of Home Builders, p. 1.

[33] Ibid., p. 1.

vital one. Resolutions initiated by the committees and adopted by NAHB board of directors establish and govern the policy of the association. NAHB performs a series of functions such as conducting education and training programs, providing news and information, lobbying with the government, providing construction and business services and offering expertise to diversify the operation of the member's organization.

The Homebuilders Institute (HBI) is the education arm of NAHB. HBI is a non-profit organization that operates all educational, training and job placement services of NAHB. HBI's services range from an introductory training program in basic craft skills, to sophisticated seminars in advance management skills and strategies. The HBI produces educational programs and publications on housing products, financing, marketing and business environments related to housing.

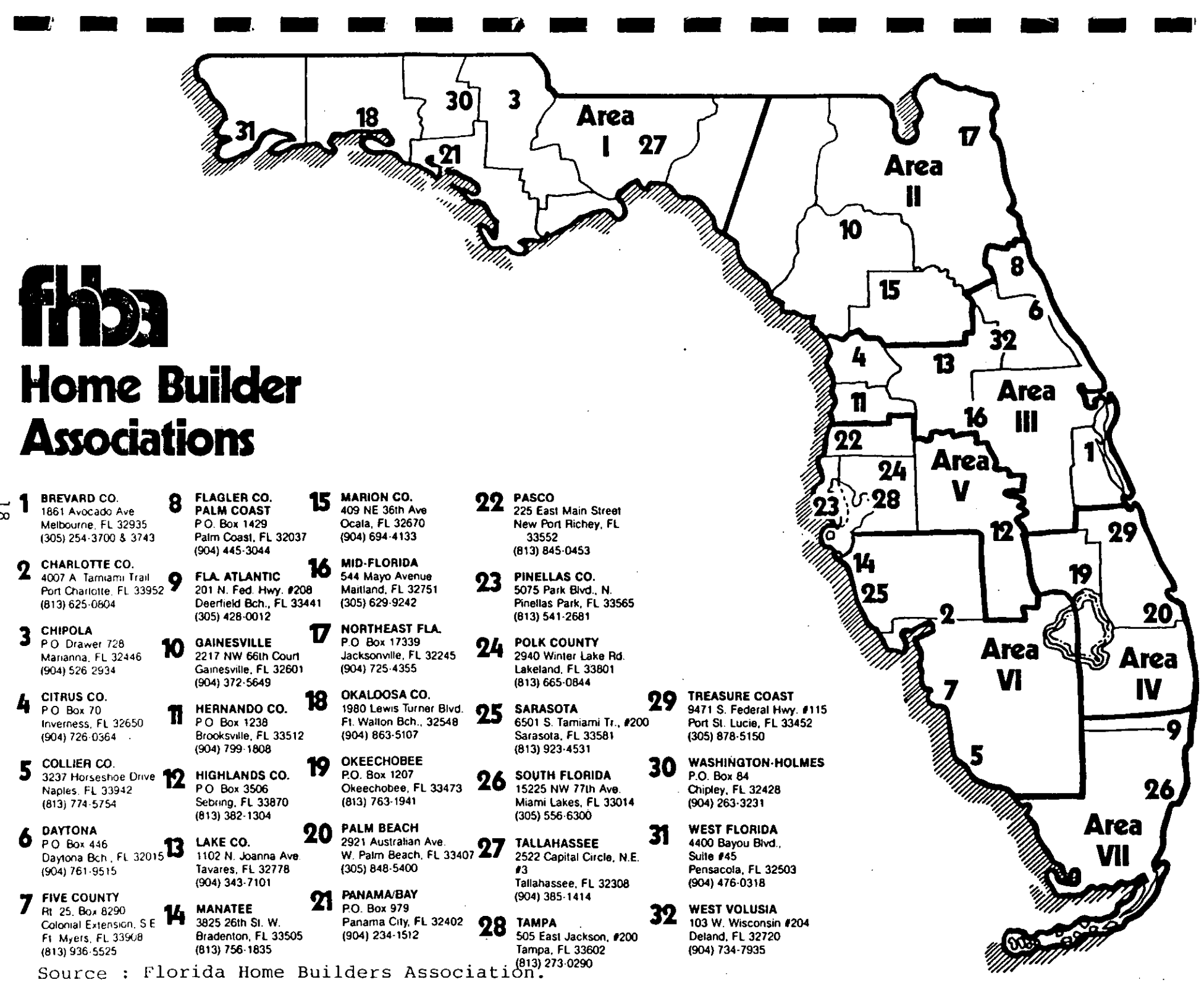
NAHB has an economic research and analysis division which analyzes housing related data. This information is passed to the members through a number of methods and forums. NAHB has an official bi-weekly news flyer called Nation's Building News, a monthly magazine called Builder and 'Economic News Notes' which is published monthly.

NAHB has a fund raising political action committee called Build-Pac. Through Build-Pac members can make contributions to U.S. congressmen and senators. NAHB maintains an aggressive lobbying staff which watches the interests of the housing industry.

NAHB provides construction and business services to its members. It provides assistance in business operations, office automation information including appropriate software systems and various technical services. NAHB has set up industry councils to help members expand and diversify their businesses. These are The National Remodelers Council, The National Council of Multi-Family Housing Industry, The National Sales and Marketing Council, Home Manufacturers Council and The National Council of the Housing Industry.

The Florida Home Builder Association (FHBA) has 32 chapters all over the state. (See Fig.3). FHBA is the largest and one of the best run state organizations of its kind in America. Probably the most important service that FHBA provides is a strong legislative action program focused on the Florida legislature and state agencies. By supporting candidates who understand the importance of housing, calling on members to talk to their legislators and focusing on legal cases with state wide impact, FHBA helps mold the future of residential construction in Florida. The FHBA Political Action Committee (PAC) was created for providing funds to candidates running for state elections who are aware of the housing needs in Florida. FHBA issues legislative bulletins during Florida legislature sessions and compiles 'white paper' reports on new laws and regulations.

Apart from the facilities provided by NAHB and the local associations of the homebuilders associations to the members, FHBA provides educational programs on the subject of state wide



Source : Florida Home Builders Association.

Fig. 2

significance and sponsors seminars. FHBA holds three major conferences each year. The first is a spring legislature conference, normally in Tallahassee, which focuses on governmental affairs. The second is the Summer Builders Conference held at a resort location suitable for recreation and family fun. The Southeast Builders Conference (SEBC) is held in conjunction with the second conference and it includes major educational programs and industry exhibits. The third conference is the annual fall conference which features the election and installation of FHBA officers. These conferences are open to all members of FHBA. The three official board of director meetings of the state association are held in conjunction with the conferences.

Members of FHBA can take advantage of various collective insurance policies and FHBA sponsored state-chartered credit union.

CHAPTER 2

TRENDS OF CONSTRUCTION IN FLORIDA

Florida is undergoing an unprecedented economic expansion. Over the last five years the population of the state increased by 1.5 million, adding 850,000 jobs which saw an increase in Florida's income to $166.4 billion.[34] Florida's job growth rate of 4.7 percent was the fastest of the eleven largest states. Annual employment growth in construction was 1.0 percent, or an increase of 3,400 jobs, to reach 343,300 jobs in Florida for January 1987.[35] Florida's building permit activity is 12 percent of the total national building permit activity.[36] Interest rates are still relatively low and housing starts rebounded in January from an anemic level in December 1986. Immigrations and low interest rates are supporting the demand for housing.[37] Some economists are predicting a slowing down of construction because of the federal tax law that dismantles incentive for investment in real estate. In fact, the value of building permits had already dropped by 7 percent in 1986.[38] The growth is slowing down, but in terms of numbers the growth is still strong. Housing starts rose from 137,884 in 1981 to 185,219 in 1986; a growth of

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34 "State Overview", Florida Trend, Yearbook 1987, p. 46.

35 Department of Labor and Employment Security, Bureau of Labor Market Information, Florida Employment Trends, January 1987, p. 3.

36 "Job Outlook Cluster", Occupational Outlook Quarterly, Spring 1986, p. 26.

37 Department of Labor and Employment Trends, Bureau of Labor Market Information, Florida Employment Trends, January 1987, p. 3.

38 "State Overview", Florida Trend, Yearbook 1987, p. 47.

34.5% over five years with an average growth of about 7% per year.[39] Florida's low taxes and warm climate give Florida a competitive edge. Florida ranks 47th in the nation for the rate at which it taxes its residents.[40] This very factor, however, is seen as being responsible for infrastructure problems which can be impediments to greater growth in construction.

In the opinion of Mr. Steven W. High, President of H.J. High Construction Company, the overall outlook is bright for the next fifteen years for construction in Florida.[41] However, the construction trends in Florida vary widely from area to area making it imperative to discuss the trends on a regional basis. Florida can be divided into five distinct regions consistent with the divisions made by Florida Statistical Abstract. The regions may be classified as southeast, southwest, central, northeast and northwest as shown in Fig.4. These regions may be further subdivided into zones based upon definitive construction trends within each region.

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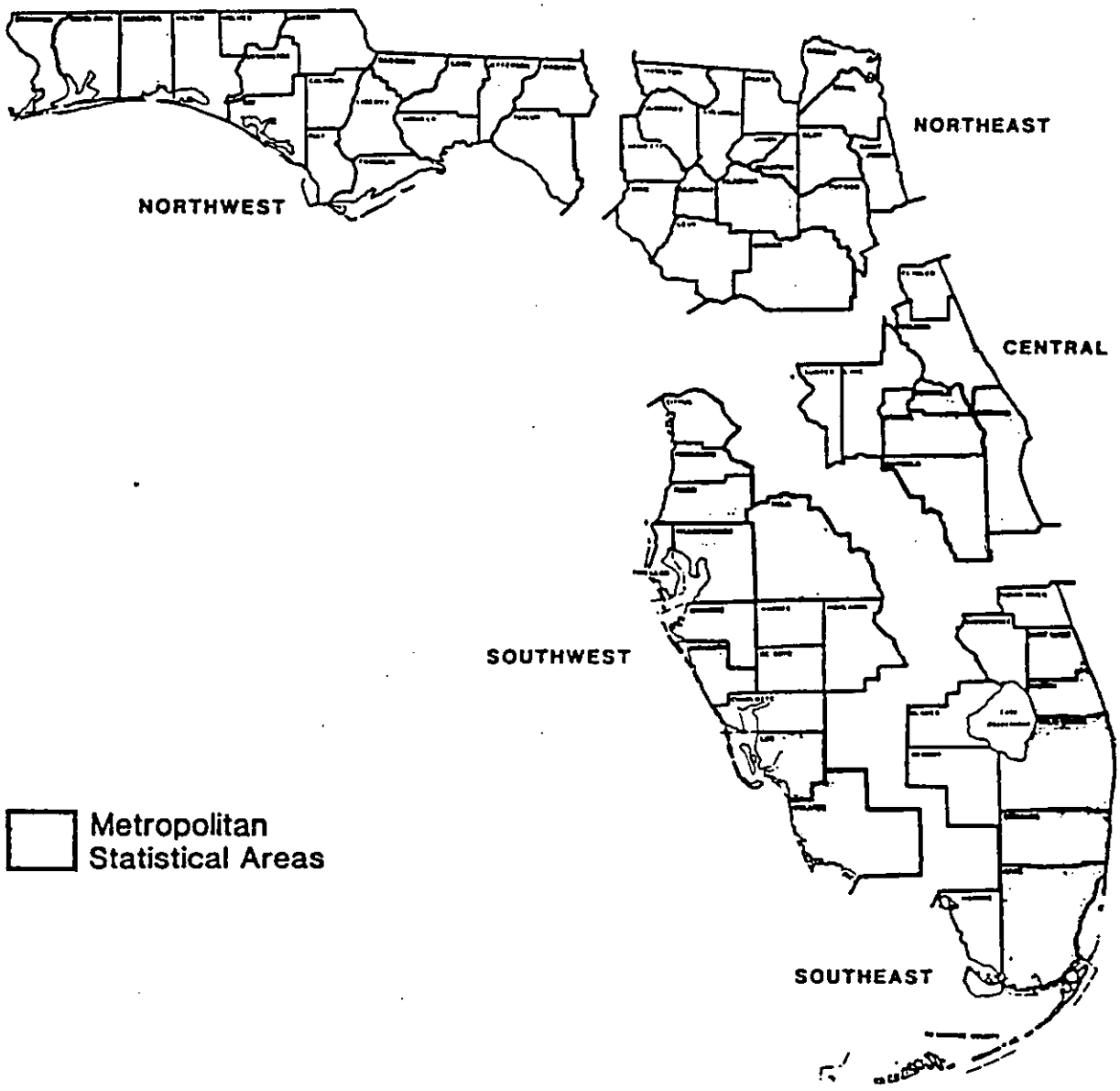
39 "State Overview", Florida Trend, Yearbook 1987, p. 53.

40 Ibid., p. 50.

41 "Building Trends....for the Rest of Eighties", Florida Construction Industry magazine, December 1986, p. 20.



Source : Florida Statistical Abstract, 1986.

Fig. 4.

CONSTRUCTION TRENDS IN THE SOUTHEAST REGION

There is a reason for optimism in the southeast region of Florida. According to the Bureau of Economic and Business Research at the University of Florida, housing starts increased from 48,777 in 1981 to 59,115 in 1986, an increase of 22 percent. The opening of two major expressways in the region, Interstate I-75 and the Sawgrass Expressway, is spurring massive commercial, industrial and residential construction in Dade and Broward counties.[42] Fort Lauderdale and Miami, the economic centers, will continue to show visible signs of progress and economic strength.[43] Fort Lauderdale will begin construction in 1987 on a $40 million performing arts center and a science and technology museum as part of a $300 million redevelopment of the downtown's New River area. In Dade county several major developments under construction are Joe Robbie's Dolphin Stadium, a $50 million Miami arena, Overtown / Parkwest - a 12 block downtown area that will have 1,900 apartments and townhouses in five years with 30,000 square feet of rental area, and a $53 million expansion of the Miami Beach Convention Center. The construction is slowing down owing to the depressed condominium and commercial market

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[42] Matt Walsh, "Dade and Broward Open New Frontiers", Florida Trend, Yearbook 1987, p. 57.

[43] Ibid., p. 58.

but by national standards it is still a rapid growth area.[44] Broward, which is situated between Dade, Florida's most populous county, and Palm Beach, the state's fastest growing county, owes its steady growth to this enviable location. Broward is reported to have had an increase of 20 percent in housing starts from 1985 to 1986. Palm Beach, with a population of 750,000 people and 27,000 annual immigrations, has a thriving economy. Non-agricultural employment increased by 17,400 jobs last year.[45] Boca Raton added 65 stores in the Town Center Mall and added 5,600 retail jobs county wide. In West Palm Beach a 1.3 million square foot mall is being developed and the Sun Bank forecasts construction of more than 20,000 residential units in the county in 1987.[46] Martin, St. Lucie and Indian River counties, with a total of 250,000 people, have much potential for growth and are said to be on the verge of a boom. A $60 million mall will open in Martin County in December 1987. In addition, over the next twenty-five years the Thomas J. White Corporation plans to build 15,000 residential units in Martin County.[47] The economy of Glades and Hendry counties is based on cattle, citrus and sugarcane. The growth of these counties is not much more than a trickle now, but the outlook for the future is optimistic.

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44 Matt Walsh, "Dade and Broward Open New Frontiers", Florida Trends, Yearbook 1987, p.57.

45 John Taylor, "Development Finds Its Way Up The Coast", Florida Trend , Yearbook 1987, p. 68.

46 Ibid., p. 66.

47 Ibid., p. 66.

According to the University of Florida's Bureau of Economic and Business Research, Glades County will see a 106% increase in home building by 1991 and Hendry County will see an increase by 341 percent.[48] With the exception of Monroe County, which is beset with infrastructure problems, the southeast region of Florida is expected to do well.

CONSTRUCTION TRENDS IN THE SOUTHWEST REGION

The southwest region can well be divided into three sections on the basis of distinct and unique construction trends. Zone I may include Collier, Lee, Sarasota and Charlotte counties. Zone II, or the Tampa Bay Area, includes Hillsborough, Manatee, Pasco, Pinellas, Hernando and Citrus Counties. Zone III, or the south central zone, includes Polk, Hardee, De soto and Highland counties.

Zone I has been the area that has resisted growth, but a booming population with a 25 percent increase between 1981 and 1986, coupled with strong public and private lobbying has opened this area for growth. Naples, in Collier County was considered the fastest growing metropolitan area in the country in 1986. In

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48 John Taylor, "Development Finds Its Way Up The Coast, Florida Trend, Yearbook 1987, p. 76.

County, Fort Myers's downtown redevelopment authority is spending $11 millions to build a civic center. A ten story office building, close to the 25 story Sheraton Hotel which opened in January, is being built as well. Charlotte County, with a 35% population increase in the past five years, has a booming residential and retail development. This region is showing signs of growing up.[49]

Zone II, the Tampa Bay Area, is fast developing into a big league market.[50] St. Petersburg will see construction in 1987 of a $66 million multipurpose domed stadium near the downtown area, construction of an eight story office building and the development of the Gateway Area which is a fast growing industrial and office center. Tampa is growing particularly because of its ability to attract new companies along with a reported pool of labor. Tampa has been facing a glut of office space, but the vacancy rates have dropped enough in the past year to hasten Paragon Group to plan a downtown office tower. Tampa is faced with infrastructure problems and Pasco and Manatee counties are enjoying the benefits of the spillover from Hillsborough County. Pasco County will see construction of several buildings in the near future and is poised for considerable residential growth. Housing starts for Citrus and Hernando counties increased by 72 percent between 1981 and 1986 while for the rest of the

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49 Bonnie Welch, "A New Attitude Embraces Growth", Florida Trend, Yearbook 1987, p. 73.

50 Ibid., p. 81.

zone in the region the increase was 29.7 percent.[51] The population in Hernando County increased by 51 percent between 1981 and 1986, faster than any other county in the state.[52] Both Hernando and Citrus counties are constructing housing for retirees. Hernando County is making a $300 million mixed use housing project with commercial space and a life care center. Citrus County is planning a 1500 unit, 440 acre community.

In Zone III, Polk County is leading the way by taking advantage of its enviable location between two of Florida's biggest commercial hubs, Orlando and Tampa. It is assuming a position as a distribution center for trade. Also, land in Polk County is cheaper than in Hillsborough or Orange counties. This is helping to attract development in Polk County. Polk County is constructing a $60 million regional shopping mall, a $78 million farm plant, Publix regional headquarters and $12.4 million will be spent to restore office buildings in downtown Lakeland. Polk County's rise in commercial development is helping to spawn the growth in residential projects as well.[53] Darbridge, a $500 million residential and retail project is being developed in southern Lakeland. Highland County is trying for a revival

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[51] Bonnie Welch, "A New Attitude Embraces Growth", Florida Trend, Yearbook 1987, p. 86,110.

[52] Elizabeth Wilson,"Much More Than A Pass-Through Place", Florida Trend, Yearbook, p. 106.

[53] Elizabeth Willson,"Lakeland Makes The Most Of Location", Florida Trend, Yearbook 1987, P. 90.

similar to Polk County's. In Hardee and De Soto counties the growth is modest, but it is occurring.[54]

CONSTRUCTION TRENDS IN THE CENTRAL REGION.

Central Florida has been growing at a break neck speed, without pacing its growth. Housing starts were higher in most of the counties in 1986 compared to 1981. In Orlando construction hit record levels with hotel rooms and office space doubling and housing starts increasing by 173% in the period between 1981 and 1986.[55] The growth rate is predicted to slacken in 1987. The occupancy rate for some suburban markets is 50%. For Orlando downtown hotels the vacancy rate is 48%.[56] Vacancy rates in the office market of Orange and Seminole counties is 34%.[57] According to Florida Trend,"In 1986, the Orlando tricounty area - Orange, Seminole and Osceola counties- outdistanced the region's other counties in economic developments more than usual. It had the biggest booms, particularly in tourism and population, and the

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54 Elizabeth Wilson, "Lakeland Makes More Than A Pass-Through Place", Florida Trend, Yearbook 1987, p. 93.

55 Gregory Crouch, "Orlando Slows Down To Catch Its Breath", Florida Trend, Yearbook 1987, p. 97.

56 Ibid., p. 97.

57 Ibid., p. 98.

biggest bust , a vastly over-built real estate market."[58] According to real estate analysts it might take at least three to four years before the over-built space is absorbed. However, the driving force of the economy, which is tourism, is strong. Orlando will see construction of a $300 million movie studio being built by Walt Disney and $38 million will be spent on developing two shopping areas in 1987. The American Automobile Association is relocating to Orlando with 850 workers. Also, the Orlando area leads the state in high-tech growth as 36% of the Florida's high-tech industry is located in the tricounty area.[59] Basically tourism will continue to do well, but commercial construction is expected to slow down until the demand meets the supply. Lake County has not been very successful in attracting new businesses. Brevard County's unemployment rate fell to 4.9% from 7.5% in the last year. The Challenger disaster lead to the laying off of 2000 workers and it caused a decline in the semi-conductor industry. A corridor between Orange County and Cocoa is being pushed and if it comes through it will give a boost to the high-tech industry and to Brevard County. Volusia County is concentrating on business and business travellers. Construction is going on in Volusia county on a $50 million, 402 room hotel across from Ocean Center, Daytona Beach's convention facility.

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[58] Gregory Crouch, "Orlando Slows Down To Catch Its Breath", Florida Trend, Yearbook 1987, p. 97.

[59] Ibid., p. 100.

CONSTRUCTION TRENDS IN THE NORTHEAST REGION

Based on the development pattern in the northeast region, it could well be divided into two zones. Zone I, or the eastern part of the Northeast region, may include Baker, Clay, Duval, Nassau, Putnam and St. Johns counties. Zone II, or the Big Bend, includes Alachua, Marion, Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Suwannee and Union counties.

In Zone I some very ambitious projects have been announced.In St. Johns County, St. Johns Harbour is planned in six phases to be developed over 30 years. It shall include offices, retail space, an industrial park and 13,000 residential units for a total construction value of $1.6 billion. Jacksonville is planning a Renaissance Place to be completed in 10-15 years. It would have 3 million square feet of office space and a 650 room hotel. Jacksonville gained over 20,000 jobs in 1986, second only to Orlando. The market is considered 'hot' by many state economists.[60] Hotel construction in Duval County is growing in spurts with the occupancy rates remaining a steady 67-70%.[61] Vacancy rates in the offices are also down by 1% from those of 1985.[62] An upcoming sector in the Duval county is health-care with a $40 million facility built in Mayo last year

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[60] Michael Selz, "Jacksonville Shows Signs Of Oversupply", Florida Trend, Yearbook 1987, p. 113.

[61] Ibid., p. 113.

[62] Ibid., p. 113.

and number of new ones are planned to be constructed. Another robust segment of the economy is the distribution industry. There is a glut in office space in south Duval County. Projects like the 170,000 square foot office building at Southpointe have driven the vacancy rate to more than 27% in 1986.[63] Despite warning signs of oversupply in some areas of Zone I, the area is expected to reach a stage of prolonged accelerated growth.

In Zone II of the northeast region, the housing starts fell by 20%. The per capita income of this area is quite low. Prisons form 43% of Bradford County's income. Bradford County is expected to grow as it has committed to give tax breaks to several businesses. Taylor and Alachua counties are experiencing some growth. Hamilton County is constructing a $9 million medium security prison. A fifteen percent export tax on Canadian lumber will give this area some boost.

Construction trends in Ocala are unique from both the eastern part of the northeast region and the Big Bend. Thus, Ocala needs to be discussed separately. Ocala is growing rapidly but is not expected to be a booming business area for a while. Ocala was the third fastest growing metropolitan in the nation between 1981 and 1986. Housing starts increased in Marion County by 113% over this period.[64] Three major construction projects planned in Ocala which are expected to bring thousands of jobs

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[63] Ibid., p. 113.

[64] Elizabeth Willson, "Much More Than A Pass-through Place", Florida Trends Yearbook 1987 , p. 110.

are a $107.6 million Cala Hill Development, a $160 million planned community called Paddock Park and another $210 million development with 5000 housing units and 90,000 square feet of commercial space.

CONSTRUCTION TRENDS IN THE NORTHWEST REGION

In the northwest region the emphasis is to diversify the economy which presently is dependent upon farming and tourism. The northwest region can be divided into the eastern and western panhandle. The eastern panhandle can be said to be separated from the western panhandle by the western boundaries of Jackson, Calhoun and Gulf counties.

Housing starts increased in the eastern panhandle by 6.1%. Leon County's plans for a stronger industrial base converge at Innovation Park which is home to two of the world's fastest super-computers. Three buildings are under construction on the 208 acre campus. Tallahassee is also diversifying its economy. It sees a future in the movie business. A $2 million dollar Pagasus studio is being developed in Tallahassee. It typically brings workers in the city by day and returns them to bedroom communities like Quincy and Crawfordville by night. Recently, aprinting house moved 140 jobs and a $3.2 million press from Tallahassee to Quincy. Tallahassee's influence is helping the

growth of surrounding areas by spinoffs. Tourism is not seen as becoming a major part of the eastern panhandle's economy.

The western panhandle has been more successful in a push for industry in the region. The three primary industries - tourism, real estate development and agriculture - were just limping along in 1986. Stolt Neilson, a shipping concern, is considering Panama City for the location of an administration division for managing super-tankers. The move to push industry is paying off with some big industries moving in to Santa Rosa, Okaloosa, Escambia and Bay counties. Rural counties like Holmes County are gearing up to bring in industry. Pensacola had one of the regions few strong showings in tourism, though much of it was due to military reunions and celebrations. One of the most pressing problems of the area is an over-built real estate market. Everything but industrial space was over-built in 1984 and 1985.[65] Office vacancies in Pensacola were 29% last year.[66] Condominium sales in Okaloosa and Walton counties dropped 26% last year.[67] Once the bulging inventories of condominiums are sold, development could be rekindled quickly. South Walton and Okaloosa counties arelikely areas for new major development according to the West Florida Regional Planning Council.[68]

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[65] Charlotte Wittwer, "A Push For Industry Begins To Pay Off", Florida Trend, Yearbook 1987 , p. 138.

[66] Ibid., p. 138.

[67] Ibid., p. 138.

[68] Ibid., p. 139.

CHAPTER 3

METHODOLGY

Information and the data required was obtained through the Survey Research Method. The survey was conducted through a questionnaire. Research was focused on the effects of a shortage of skilled carpenters on the 4,623 members of Florida Homebuilders Association (FHBA). Therefore, a survey population of 4,623 was considered. Since the intent of the study was to analyze the general trend of the responses to the questions in the survey rather than to quantify them a survey sample of 10% (463) of the total survey population of 4,623 was considered to be adequate. Of the 463 questionnaires sent to the homebuilders in the sample survey a response rate of 20.0% was considered to be adequate to give the results a high degree of confidence.

QUESTIONNAIRE DEVELOPMENT

A literature search was conducted to analyze the building activity, construction labor supply trends, general economy and existing problems in the carpentry trade. People with insight into the construction industry in Florida, specifically in the homebuilding industry were consulted to seek information about skill related problems in the construction industry and to ascertain the kind of questions that are needed to be answered. Based on the input received a rough draft questionnaire was prepared.

The questionnaire was composed of 31 questions and covered both sides of one page. The questions were designed in three

basic categories; the first, in which the response was to be numeric, percentage or a check; the second, in which the response was to be one of 'Yes','No' or 'Cannot Say'; and the third, which was to have a response on a Likhert scale of one to four. The questionnaire was divided into four parts. The first part was composed of general information concerning the background data of the respondent firm. The information included the annual volume of business, type of construction (residential, commercial or other) type of operation (open shop, union or double-breasted) and the number of single and multi-family units built per year. The second part was designed to determine if there was indeed a shortage of skilled carpenters and if this was affecting the volume of work done by them. Also information such as the number of journeymen carpenters, trainees employed by them, their estimate as to how many of them are skilled carpenters, their definition of a skilled carpenter, wages earned by the carpenters, length of their employment, their hiring methods and whether the work sub-contracted by them was of good quality was asked. The third part was devoted to what contributions are made by various training programs in preparing skilled carpenters for the home building industry. The performance of various training programs evaluated included Vocational Training Centers, Union Apprenticeship Programs, Open-shop Apprenticeship Programs, Community College Training and On-the-Job Training. This part also examined if the respondents sponsored any carpenters on their payroll for any of these training programs and if

graduation from these programs led to any benefit to the carpenters in terms of increased wages or promotion. The fourth section was devoted to soliciting the opinion of the respondents as to what are the reasons, in their view, for the shortage of skilled carpenters and what could be done to alleviate this shortage in the future.

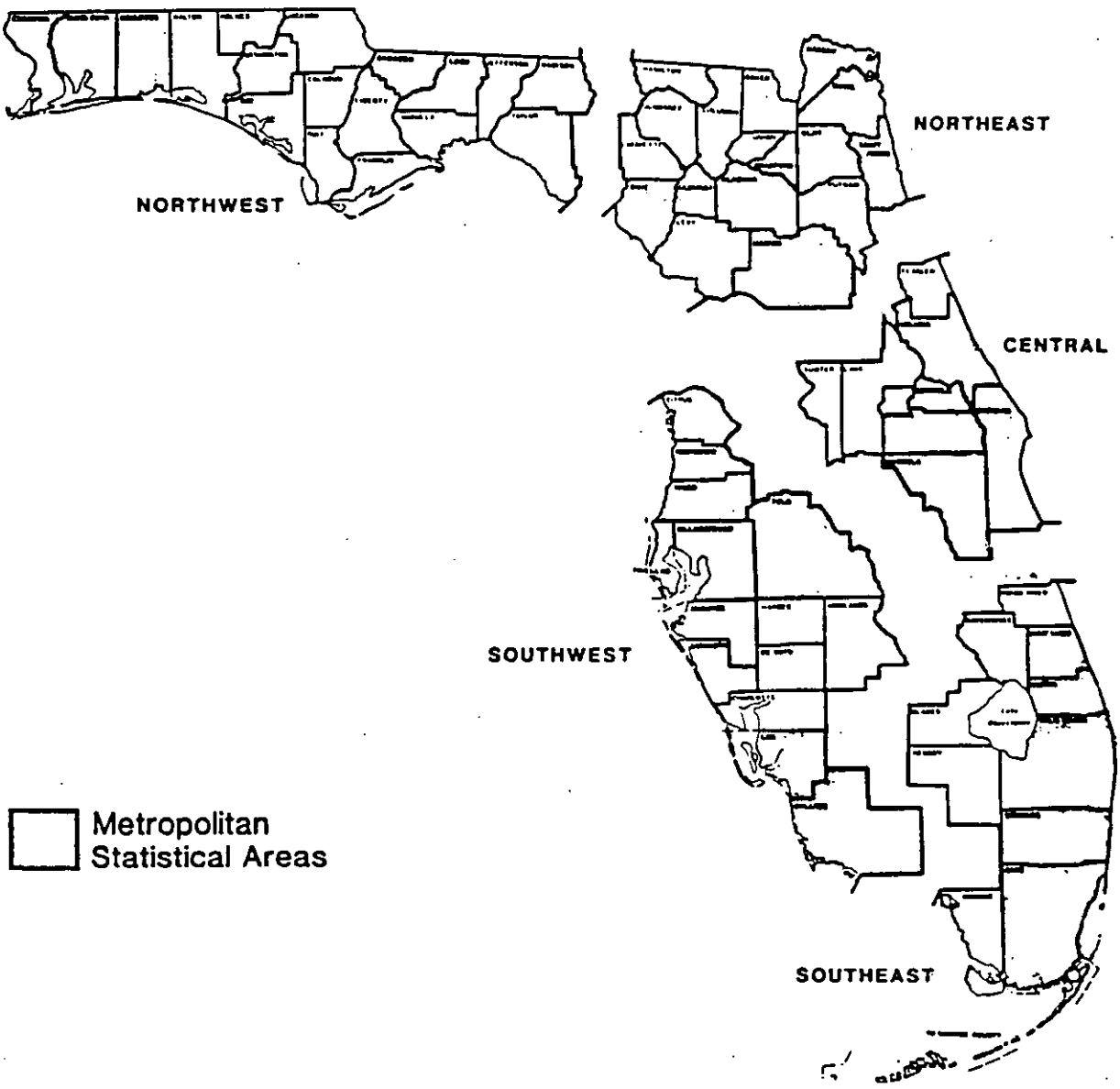
Opinions were also obtained on the issues which the literature research and the subsequent discussions had revealed to be the problem and on potential solutions. Some of the issues raised were licensing of carpenters to insure better skill levels and the level of communications existing between the residential construction industry and the formal training programs.

VALIDATION OF THE INSTRUMENT

The draft of the questionnaire was tested by a pilot study which involved getting a response to the draft questionnaire from a residential contractor and a member of the Florida Home Builder Association. The input and the suggestions elicited from them were taken into consideration. The draft questionnaire was edited and the suggestions incorporated into the final questionnaire.

MECHANICS OF THE SURVEY (methodology continued)

Initially questionnaires were sent to a randomly selected 10% sample consisting of 463 members of the Florida Home Builder Association (FHBA) out of a total population of 4,623. A list of all presently existing FHBA members was obtained from the offices of the FHBA. A random selection of a number ranging from one to ten was chosen and a questionnaire was sent to every tenth member after number four on the list. Therefore, the 14th, 24th, 34th ....and so on members on the list received a questionnaire. Florida was divided into five basic regions based on the divisions made by the Florida Statistical Abstract. These division were northeast, central, northwest, southwest and the southeast as shown in Fig.5. The northwest region included major cities such as Pensacola, Panama City and Tallahassee. The northeast region included Jacksonville, Gainesville and Ocala. Questionnaires were divided according to the above mentioned regions. The central region included the major cities of Daytona Beach, Orlando and Melbourne. The southwest region included major cities such as Tampa, St. Petersburg, Lakeland, Bradenton, Sarasota and Ft. Myers. The southeast region included West Palm Beach, Ft. Lauderdale and Miami. Eighty eight (88) questionnaires were mailed to members in both the northeast region and southeast regions, fifty four (54) were mailed to the northwest region, one hundred and twenty eight (128) were mailed to the southwest



Source : Florida Statistical Abstract, 1986.

Fig. 5.

region and one hundred and five (105) were mailed to the central region. These questionnaire were sent along with a cover letter by Professor Brisbane H. Brown, Director of the School of Building Construction, University of Florida and the chairman of the research committee and another letter by Ms. Susan Leigh, Director of Governmental Affairs of the FHBA. A self-addressed envelope with prepaid postage was also enclosed along with the questionnaire. (See appendix A-4 for enclosures).

By May 7, 1987 only 67 responses were obtained, the response rate being 14.5% which was below the expectations and the original set target of 30%. The breakdown of the responses by region was eleven (11) responses from the central region, fifteen (15) responses from the northeast region, three (3) responses from the northwest region, twelve (12) responses from the southeast region and twenty six (26) responses from the southwest region. Four chapters of FHBA in which responses had been deficient namely the central, northeast, northwest and the southeast regions were contacted over the phone. An additional fifty (50) questionnaires each were sent to the homebuilders in the central and the southeast regions and an additional forty (40) questionnaires each were sent to the homebuilders in the northeast and the northwest regions. As of June 30, 1987, 95 responses were received which raised the response rate to 20.5%.

The final tally of responses by regions was 19 responses from the central region (response rate of 19%), 25 responses from northeast region (response rate of 26.3%), 7 responses from the

northwest region (response rate of 7.4%), 16 responses from the southeast region (response rate of 16.8%) and 28 responses from the southwest region (response rate of 29.5%). See Table 3-1.

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100

Table 3-1 Response by region.

This response rate was considered adequate for statistical purposes to make conclusions with a fair degree of confidence.

STATISTICAL ANALYSIS

A statistical analysis was carried out using the 'Statistical Analysis System' (SAS) computer program. Depending on the type of format used in the question, and upon whether the response was a character variable or a numerical variable, various functions such as the means, averages, standard deviations, frequency and correlations were used to analyze the information and the data received. In addition, SAS graph, a statistical graphics program, was also used to process the data in a graphical form.

CHAPTER 4

CARPENTRY TRADE

Most construction projects employ carpenters and they constitute the largest group of building trade workers. According to a nationwide survey, in the homebuilding industry carpenters spend the largest percentage of on-site man-hours (34.9%) and carpentry sub-contractors spend the second largest percent of man-hours (16.9%) next only to the general contractor (31.3%).[69] The employment level of carpenters working in the homebuilding industry in Erie County, New York was higher than in any other trade over a twelve month period.[70]

The duties of the carpenters vary according to the type of employer. A carpenter employed by a sub-contractor may specialize in only one area such as setting forms for concrete construction. A carpenter employed by a general building contractor may perform many varied tasks such as framing walls and partitions, putting in doors and windows, installing panelling and so forth. Some of the carpentry work formerly done on the site is now done in the mills. All window sash, window casing, doors, door frames and most kinds of roof trusses are manufactured at the factories ready to be set in at the construction site. The carpenters working in the factories are called 'manufacturers'.

Cabinet makers and carpenters who do other finished carpentry work are listed separately. Some carpenters are

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69 Monthly Labor Review, Vol. XCIV ,no. 9 (September 1971), p. 13.

70 Howard G. Foster, Manpower in Homebuilding: A Preliminary Analysis, Manpower and Human Resources Studies No. 3, University of Pennsylvania, The Wharton School, Industrial Research Unit , p. 62.

employed outside the construction industry. For example, carpenters are employed to replace glass, ceiling tiles and doors, and to replace desks, cabinets and other furniture. Others work in industries that manufacture products such as prefabricated houses, boats and furniture.

In home building carpenters build the house framework, frame the roof and interior partitions, and install doors, windows, flooring, cabinets, wood panelling, molding and trim.[71] Other than these tasks carpenters working in the homebuilding industry may be required to construct forms for placing concrete, place or construct scaffolding, build trusses, install decking and sheathing, and install exterior wall covering. They may also be required to apply weather stripping and caulking, install drywall material, construct interior stairs, install insulation and sound control material and install furring and soffit ceiling. The carpenters may work in teams or be assisted by helpers. Additional capabilities that a carpenter or at least one carpenter in the team needs to have include reading blueprints , preplanning forthcoming activities and making layouts. The carpenters should be able to make layouts based on the blueprints, the instructions from the supervisor or both which entails measuring, marking, and arranging materials according to the plan. Local building codes often dictate the places where certain materials can and cannot be used and carpenters should

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[71] John Tschetter and John Lukasiewicz, "Employment Trends in the Building Trades", Occupational Outlook Quarterly, Spring 1983, p. 381.

know these requirements. Carpenters should be comfortable with elementary arithmetic as their work, especially construction of interior stairs and built-in-place roof framing with rafters, entails its usage. At least one carpenter in the crew or the team should be able to issue instructions to the other carpenters in the team. Carpenters are also required to check the accuracy of their work with levels, rules and framing squares.

As in other construction trades, carpentry work is hard and strenuous. It involves prolonged standing, kneeling, and climbing. Carpentry work in the homebuilding industry often involves working outdoors. In all assignments carpenters must work quickly, accurately and economically. Careless mistakes waste time and material and spending too much time delays the project. Therefore, in addition to the above mentioned capabilities, carpenters should also have the stamina and the capability of working swiftly and economically.

Most carpenters work for contractors who construct, remodel or repair buildings and other structures. Others work for government agencies, utility companies, and manufacturing firms.[72] Approximately one out of every three carpenters nationwide is self-employed.[73] Some carpenters change employers every time a construction job is finished whereas others alternate between working for a contractor and working as

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[72] John Tschetter and John Lukasiewicz, "Employment Trends in the Building Trades", Occupational Outlook Quarterly, Spring 1983, p. 381.

[73] Ibid., p. 381.

CHAPTER 5

STATISTICAL ANALYSIS

1. BACKGROUND INFORMATION OF THE RESPONDENTS

The analysis of the carpentry trade in the homebuilding industry in Florida, presented in this report, was based primarily on 95 responses received from the 463 questionnaires sent to the homebuilders. Sample of the questionnaire sent to the homebuilders is in appendix A (See appendix A-1, A-2). For the purpose of statistical analysis, the questionnaire can be divided into six sections. The first section was composed of background information of the respondent firm. The second section was devoted to eliciting specific information about the carpenters employed by the homebuilders in Florida. The questions in the third section were designed to determine the status of the shortage of skilled carpenters in the homebuilding industry in Florida. The fourth section covered questions concerning the skill level of subcontracted carpentry work. The questions in the fifth section examined the role played by various training programs in preparing skilled carpenters for the homebuilding industry in Florida. The sixth section was devoted to soliciting the opinions of the respondents regarding some of the issues such as licensing and illegal aliens in the homebuilding industry. The statistical analysis of the responses received is presented on the basis of these six sections.

Responses were received from all over the state. The number of respondents from different regions of Florida are shown in Table 5-1a.

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100

Table 5-1a Response by Region.

Nature and Size of Firms :

Although much data is not available on union membership in residential construction, it is commonly acknowledged that homebuilding historically has been less unionized than most other sectors. According to a manpower and human resource study most residential construction is performed on a non-union basis.[87] The present study concurs with this view. Out of the total response of 93, an overwhelming majority of 92 respondents were non-union and only one respondent, forming 1.1 % of the total response, was a union contractor.(Refer Table 5-1b).

TYPE OF OPERATION

TYPE OF OPERATION	NUMBER OF RESPONDENTS	PERCENT
Open shop	92	98.9
Union	1	1.1
Both (double breasted)	0	0.0
Total response	93	100.0
No response to this question	2	*

Table 5-1b Type of Operation.

87 Howard G. Foster, Manpower in Homebuilding : A Preliminary Analysis, Manpower and Human Resources Studies, University of Pennsylvania, The Wharton School, Industrial Research Unit, p. 42.

The only union contractor was primarily doing commercial interiors and commercial and residential remodeling. Eighty percent of the work done by him was residential and twenty percent was commercial. There were no cases of any of the respondents running a double-breasted operations.

A large proportion of the work done by the members of the Florida Home Builder Association (FHBA) is residential. On the average sixty-eight percent of the total work done by the homebuilders in Florida was residential with 26.7% being commercial and 5.3% being any other type of work. (Refer Table 5-1c).

TYPE OF CONSTRUCTION UNDERTAKEN

TYPE OF CONSTRUCTION	AVERAGE PERCENTAGE
Residential	68.0
Commercial	26.7
Other	5.3

Table 5-1c Type of Construction.
(in percentage)

The residential homebuilding sector is characterized by a large number of firms, most of which are small in terms of volume of work handled and in terms of employment. A total of 90 respondents, with a cumulative volume of business worth $463.5 million per year, answered the question in the survey about the annual volume of business handled by them. The average volume of work handled per year by the homebuilders was $5.32 million (median value being $2.0 million) with the lowest value being $40,000 and the highest value being $90 million per year.(Refer Table 5-1d). A few large firms, handling a large volume of work, can increase the average value and present a distorted picture. Average value when viewed together with the median value give a more accurate view of the volume of business handled by a typical homebuilder.

AVERAGE ANNUAL VOLUME OF BUSINESS FOR HOMEBUILDERS SURVEYED

BACKGROUND INFORMATION	AVERAGE	MINIMUM	MEDIAN	MAXIMUM
Annual volume of business (in millions)	$5.32	$0.04	$2.0	$90.0
Number of single-family Homes built per year	32	0	10	300
Number of multi-family Homes built per year	79	0	1	1500

TABLE 5-1d Average Annual Volume of Business for Homebuilders in Florida

A NAHB survey had indicated that a larger majority of the homebuilders had their primary operation in single-family homes rather than in multi-family homes.[88] This generalization applies to this study as well. The present study reveals that 39 respondents were constructing single-family homes only while nine were constructing multi-family homes only and 41 were constructing both single and multi-family homes. On the average 32 single-family homes are built by each member per year (the median value being ten) while an average of 79 multi-family homes are built by each member per year (median value being one). As shall be seen in the next section, the average number of journeymen carpenters per firm is four and the average number of carpenters-in-training is two. Thus, an average operation conducted by a homebuilder is not very large.

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[88] Howard G. Foster, Manpower in Homebuilding : A Preliminary Analysis,. Manpower and Human Resources Studies No.3, University of Pennsylvania, The Wharton School, Industrial Research Unit, p. 27.

2. SPECIFIC INFORMATION ABOUT

THE CARPENTERS

The study revealed that, on the average, there were four journeymen carpenters working for each homebuilder out of which two were skilled carpenters. Every homebuilder has an average of two apprentices or carpenters-in-training working for them (Refer Table 2-1). Thus, almost fifty percent of the journeymen carpenters employed are skilled carpenters and almost 33% of all carpenters employed are apprentices or carpenters-in-training.

NUMBER OF CARPENTERS EMPLOYED PER SKILL LEVEL

RESPONSE	AVERAGE	MINIMUM	MAXIMUM
Number of journeymen carpenters on the payroll	4	0	40
Number of journeymen carpenters that are skilled	2	0	20
Number of apprentices/carpenter -in -training on the payroll	2	0	22

TABLE 5-2a Number of Carpenters in Employment. (by skill level)

The hourly wage scale of carpenters in all areas of the construction industry in Florida seems to be less than the hourly wage of carpenters in all areas of the construction industry in other states. According to a nationwide survey made in September, 1986, the average hourly wages paid to carpenters in the construction industry as a whole ranged from a low of $14.75 in Norfolk, Virginia to a high of $28.60 in Anchorage, Alaska whereas carpenters in Jacksonville are paid $ 15.90.[89]

In comparison, the present study reveals that journeymen carpenters in the homebuilding industry in Florida were paid an average hourly wage of $ 9.97 with the minimum hourly wage being $6.50 and a maximum hourly wage of $15.00. On the other hand, apprentices or carpenters-in-training received an average hourly wage of $6.51 with the minimum hourly wage being $4.00 and the maximum being $11.50. (Refer Table 5-2b). The wide variation in the hourly wage of both journeymen carpenters and apprentices could possibly be due to a variation in skill level of the carpenters and the varying supply and demand in different regions. The only union homebuilder operation was paying an hourly wage of $13.55 to the journeymen carpenters and $11.52 to the apprentices. These rates are significantly higher than the average hourly wage paid by the non-union homebuilders.

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89 "Some Trades Cooling to Givebacks", Engineering News Review, September 18, 1986, p. 54.

WHAT IS THE AVERAGE HOURLY WAGE PAID BY YOUR FIRM TO THE FOLLOWING ?
1.Journeymen Carpenter
2.Apprentice (Carpenter-in-Training)

CARPENTER	AVERAGE	MINIMUM	MEDIAN	MAXIMUM
Journeymen carpenter	$9.97	$6.50	$10.00	$15.00
Apprentice (Carpenter-in-training)	$6.51	$4.00	$6.50	$11.50

TABLE 5-2b Hourly Wages (in dollars).

The depressed wage rate in the homebuilding industry is seen as one of reasons responsible for not attracting skilled workers to the carpentry trade. A number of the respondents felt that incentives, in terms of higher wages need to be given to alleviate a shortage of carpenters in the homebuilding industry. Some of the remarks were:

-"Pay them more. Give them a reason to have more pride on the job - a pat on the back."

-"If present carpenters had some incentive to improve their work standard and their knowledge then they would be worth $10-$15 per hour and the wood butchers would be out of work."

-"Anybody that buys a hammer can claim to be carpenter. More money and less rush time would help."

-"Better pay scale would help, but the best carpenters I have would rather do this type of work than any other."

On the average journeymen carpenters working for homebuilders stay in employment for 26 months (median value being 15 months) whereas apprentices or the carpenters-in-training stay in the employment for an average of 15 months with the median value being 7.5 months. (Refer Table 5-2c).

HOW LONG, ON THE AVERAGE, DO THE CARPENTERS STAY IN YOUR EMPLOYMENT ?

CARPENTER	AVERAGE	MINIMUM	MEDIAN	MAXIMUM
Journeymen carpenter	26	1	15	72
Apprentice Carpenter-in-training)	15	1	7.5	60

Note : Figures have been rounded.

TABLE 5-2c Average Length of Employment. (in months)

Often the duration of the employment of a carpenter depends upon the duration of the job, the amount of work a firm has, and the performance of the carpenter. This view has been illustrated by the following comments of some of the respondents:

- "(It) Depends on the length of the job."
-"Varies"
-"As long as he is good."

Even though the duration of employment of carpenters in some cases lasts from five to six years, the average duration of employment may not be long enough to form a close relationship between the carpenter and the employer. This lack of a close relationship causes some problems which are reflected by the comments of one of the respondents:

> -"Lack of interest in the building trades by laborers is due to lack of job security. (They) Need to have some means to provide job security."

In addition, an employer is less inclined to sponsor a carpenter for formal training or train him well himself if the duration of the employment of the apprentice is not very long.

The hiring process in the homebuilding industry is predominantly an informal one. According to a study conducted in Erie County, New York, in residential construction a builder is apt to solicit applicants from his present employees, contact workers he has employed in the past, or ask his sub-contractor or even his competitors if they know if anyone is available.[90] The present study concurs with this view. Homebuilders hire most of the carpenters from contacts in the construction industry and other construction jobs. The homebuilders show a preference for

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90 Howard G. Foster, Manpower in Homebuilding: A Preliminary Analysis, Manpower and Human Resources studies No.3, University of Pennsylvania, The Wharton School, Industrial Research Unit, p. 103.

hiring carpenters who are already in the industry rather than hiring novices and training them on the job. This could probably be explained by the short duration of employment of carpenters in the homebuilding industry as indicated in Table 5-2c. Probably, with the exception of advertisements in newspapers, other formal methods of hiring carpenters in the homebuilding industry are not utilized very frequently. Vocational training centers and open-shop apprenticeship programs are also not used often for hiring purposes. Community college training programs, employment agents, union apprenticeship programs and labor unions are the least used, in that order, for hiring carpenters in the homebuilding industry. (Refer Table 2-4). Infrequent utilization of union programs by the homebuilders is understandable when it is taken into consideration that a vast majority of homebuilders are themselves non-union. Poor utilization of other non-union training and apprenticeship programs suggests either a lack of communication between them and the homebuilders or a lack of confidence in these training programs the homebuilders.

WHERE DO YOU SEARCH FOR CARPENTERS ?
Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

HIRING PRACTICE	AVERAGE
Contacts in the construction industry	3.06
Other construction jobs	2.34
Advertisement in the papers	2.01
Company on-the-job training	1.61
Vocational training centers	1.51
Open-shop apprenticeship programs	1.49
Community college training programs	1.25
Agents	1.19
Union apprenticeship programs	1.16
Labor unions	1.13

TABLE 5-2d Hiring Practice.

Upward mobility of carpenters in the homebuilding industry can be ascertained by responses to the question in the survey, "What criteria determines promotion or an increase in wages of a carpenter in your company ?". Most homebuilders rate performance of the carpenter as the foremost factor in promotion or an increase in wages. Experience is a strong second. This also justifies the fact that the homebuilders prefer to hire carpenters already in the construction industry as observed earlier. Market wage rate is also a factor that governs the wage paid out to carpenters. Seniority does not seem to make very much difference in upward mobility in the homebuilding industry where duration of employment is not very long. Graduation from a training program makes the least difference in promotions or in procuring higher wages for carpenters. Thus, there is no incentive for graduating from training programs other than learning the primary skills. One of the respondents had the following comment to encourage better utilization of training programs:

-"There should be guaranteed higher wages for the graduates."

Emphasis is on getting the job done efficiently and factors such as seniority and graduation from training programs may help a carpenter achieve this, but homebuilders make judgements on the skill level of carpenters solely on performance and experience.

WHAT CRITERIA DETERMINES PROMOTION OR INCREASE IN WAGES OF A CARPENTER IN YOUR COMPANY ?

Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

PROMOTION CRITERIA	AVERAGE
Performance	3.64
Experience	3.07
Market wage rate	2.42
Seniority	2.00
Graduation from training program	1.75

TABLE 5-2e Promotion Criteria.

3. STATUS OF SHORTAGE OF SKILLED CARPENTERS

Direct and indirect questions were asked in the questionnaire survey to ascertain the prevalent skill level of the carpenters in the opinion of the homebuilders. The homebuilders were asked if there were enough skilled carpenters available for them to hire. A majority of the homebuilders (59.6%) felt that there were not enough skilled carpenters for them to hire. Only 31.9% of the homebuilders had no problems with the availability of skilled carpenters.(Refer Table 5-3a).

ARE THERE ENOUGH SKILLED CARPENTERS FOR YOU TO HIRE ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	30	31.9
No	56	59.6
Cannot say	8	8.5
No Response to this question	1	*

TABLE 5-3a Availability of Skilled Carpenters.

The homebuilders were also asked the following question : "Do you feel there is a need for more skilled carpenters in residential construction ?". A large majority of 83.9% of the homebuilders felt that more skilled carpenters were required in residential construction while only 6.5% felt that more skilled carpenters were not required.(Refer Table 5-3b).

DO YOU FEEL THERE IS A NEED FOR MORE SKILLED CARPENTERS IN RESIDENTIAL CONSTRUCTION ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	78	83.9
No	6	6.5
Cannot say	9	9.7
No response to this question	2	*

TABLE 5-3b Need for Skilled Carpenters.

This indicates clearly, that there is indeed a shortage of skilled carpenters in the homebuilding industry. Variations in the responses of the two above-mentioned questions could probably be explained by the fact that a number of homebuilders sub-contract carpentry work and some of them must be retaining skilled carpenters on their payroll. However, the skill level of sub-contracted carpentry work will be addressed separately in the next section.

The following question in the survey attempted to elicit from the homebuilders their definition of a skilled carpenter: "In your opinion, which of the following tasks must a 'skilled carpenter' be able to perform proficiently?". The responses to the importance level of various tasks is summarized in Table 5-3c Tasks such as reading blueprints, framing floor and sills, framing partitions, installing decking and sheathing were considered very important in that order. Tasks like installing cabinets and fixtures, building trusses, constructing interior stairs, installing insulation and sound control materials were considered the least important. The low priority of these tasks is probably because the installation of cabinets and insulation is relatively easy and prefabricated trusses are often used in the homebuilding industry.

IN YOUR OPINION, WHICH OF THE FOLLOWING TASKS MUST A "SKILLED CARPENTER" BE ABLE TO PERFORM PROFICIENTLY ?

Use the following scale:

4. Absolutely Necessary
3. Necessary
2. Desirable
1. Unnecessary

SKILLS	AVERAGE
Read blueprints	3.17
Frame floor and sills	3.13
Frame partitions	3.11
Install decking and sheathing	3.07
Frame roofs	2.98
Install exterior wall covering and trim	2.95
Install door, window frame, units	2.91
Install structural timber	2.90
Issue instructions to crew	2.83
Install drywall materials	2.77
Install panelling, furring, soffit ceiling	2.76
Construction forms (footings, walls, edge, curbs)	2.69
Apply weather stripping/caulking	2.68
Preplan forthcoming activities	2.63
Construction forms (piers, columns, beams, slabs,stairs, bridges, deck)	2.62
Conduct site preparations and layout	2.54
Install cabinets, fixtures	2.48
Build trusses	2.41
Construct interior stairs	2.15
Install insulation, sound control material	2.13

TABLE 5-3c Desired Skill Level of Carpenters.

Thirty six percent of the homebuilders were of the opinion that they would be able to increase the volume of their business if there was an adequate supply of skilled carpenters in the industry. Almost thirthy three percent of the homebuilders did not feel that they would increase the volume of their business. and 31.5% of the homebuilders were not in a position to say either way.(Refer Table 5-3d).

WOULD YOU BID MORE JOBS OR INCREASE THE VOLUME OF YOUR BUSINESS IF THERE WAS AN ADEQUATE SUPPLY OF SKILLED CARPENTERS IN THE INDUSTRY ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	32	36.0
No	29	32.6
Cannot say	28	31.5
No response to this question	6	*

TABLE 5-3d Effect of Availability of Skilled Carpenters on Business Volume.

Based on these figures a categorical statement cannot be made as to whether an adequate supply of skilled carpenters would ensure an increase in the volume of business of the homebuilders, but the odds are very favorable that this could happen.

In the past one year, a substantial percentage (40.2%) of homebuilders had to pay overtime to skilled carpenters because of a shortage of them in the market. On the other hand, 54.9% of the homebuilders did not pay any overtime to skilled carpenters. (Refer Table 5-3e).

HAVE YOU EVER, IN THE PAST YEAR, PAID OVERTIME TO SKILLED CARPENTERS BECAUSE OF ANY SHORTAGE IN THE MARKET ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	33	40.2
No	45	54.9
Cannot say	4	4.9
No response to this question	13	*

TABLE 5-3e Overtime Payments.

In fact, an average of only 6.7% of the hours worked by carpenters was estimated to be overtime. (Refer Table 5-3f).

WHAT PERCENTAGE OF HOURS WORKED BY CARPENTERS IS OVERTIME ?
Please Estimate.

QUESTION	AVERAGE	MINIMUM	MAXIMUM
Percentage of Overtime Hours worked by the carpenters	6.7%	0%	30.0%

TABLE 5-3f Estimated Overtime Hours.
(in percentage)

This low rate of overtime hours worked by skilled carpenters is in spite of a shortage in the market. Homebuilders have shown a reluctance to pay overtime and would rather hire more skilled carpenters than pay overtime. When asked, "Would you hire more skilled carpenters to avoid paying overtime ?", 45.3% responded in the affirmative and 27.9% responded negatively. (Refer Table 5-3g). As noted before, in a hypothetical situation, a good number (26.7%) did not respond either way.

WOULD YOU HIRE MORE SKILLED CARPENTERS TO AVOID PAYING OVERTIME ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	39	45.3
No	24	27.9
Cannot say	23	26.7
No response to this question	9	*

TABLE 5-3g More Skilled Carpenters versus Overtime.

The homebuilders felt that there had been a general decline in the levels of craftsmanship in recent years. They view this as the main reason for the shortage of skilled carpenters in the homebuilding industry. The construction boom, lack of training programs and more emphasis on cutting cost than on quality construction were the other reasons causing a shortage of skilled carpenters. To a lesser extent, low wage rates and a greater emphasis on factory built components causing a decrease in the demand for on-site skills, were also seen as reasons for the shortage of skilled carpenters. Carpenters who view carpentry as a secondary profession and the low profile of labor unions were seen as the least important reasons for the shortage of skilled carpenters in the homebuilding industry.

IN YOUR VIEW, IS THE SHORTAGE OF SKILLED CARPENTERS DUE TO :

Use the following scale :

4. Very important reason
3. Important reason
2. Could be a reason
1. Not a reason at all

Reasons	AVERAGE
General decline in craftsmanship	3.02
Construction boom	2.82
Lack of training programs	2.67
More emphasis on cutting cost than quality	2.63
Low wage rates	2.37
Because there is greater emphasis on factory built components there is a decreased demand in the skill level of on site carpenters	2.28
Training does not affect promotions or wage rates	1.89
Part time carpenters	1.73
Low profile of labor unions	1.61

TABLE 5-3h Reasons for Shortage of Skilled Carpenters.

A number of the respondents feel that a sense of pride in being a skilled carpenter is missing in the new recruits today. This attitude is illustrated by the following comments of the respondents:

-"No pride in being carpenters is leading to a general decline in quality."

-"I see very few young people who want to be carpenters."

-"There is a need to instill pride in craftsmanship and performance."

-"Carpentry is not perceived by the public as a craft or skilled profession (people feel anyone can be a carpenter)."

Some of the other reasons for the shortage of skilled carpenters, in the opinion of the homebuilders, are reflected in the following comments:

-"Rise and fall of construction activities."

-"No work ethic"

-"Lack of on-the job and formal training"

-"We contractors cannot afford to take time to teach people because they want money not skill."

-"Low wages."

4. INFORMATION ON THE SKILL LEVEL OF SUBCONTRACTED CARPENTRY WORK

A majority of homebuilders sub-contract a large percentage of carpentry work. According to a study conducted in Erie County, New York, about 64% of builders sub-contracted all of their work.[91] A NAHB study conducted much earlier had indicated a steady rise in the proportion of sub-contracted work.[92] The present study reveals that 68% of the carpentry work done by the homebuilders in Florida is sub-contracted. Some homebuilders do all of the carpentry work themselves while the others sub-contract all of the carpentry work. (Refer Table 5-4a)

WHAT PERCENTAGE OF CARPENTRY WORK DO YOU SUB-CONTRACT ?

QUESTION	AVERAGE	MINIMUM	MAXIMUM
Percentage of carpentry work sub-contracted	68.0%	0%	100%

TABLE 5-4a Sub-contracted Carpentry Work.
(in percentage)

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91 Howard G. Foster, Manpower in Homebuilding: A Preliminary Analysis, Manpower and Human Resources Studies No.3, University of Pennsylvania, The Wharton School, Industrial Research Unit, p. 32.

92 Ibid., p. 32.

Since a large proportion of the carpentry work was sub-contracted in the homebuilding industry, it became imperative to find out about the quality of work and the skill level of carpenters in the firm to whom work is sub-contracted. In response to a survey question,"If you sub-contract a majority of your carpentry work, are there enough firms available to do your work?", a majority of 61.1% of the homebuilders felt that there were enough firms to whom they could sub-contract carpentry work. Yet, a substantial number of 34.7% of the homebuilders complained of the non-availability of firms to sub-contract their carpentry work, indicating that a shortage of carpenters exists. (Refer Table 5-4b).

IF YOU SUB-CONTRACT A MAJORITY OF YOUR CARPENTRY WORK, ARE THERE ENOUGH FIRMS AVAILABLE TO DO YOUR WORK ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	44	61.1
No	25	34.7
Cannot say	3	4.2
No response to this question	23	*

TABLE 5-4b Availability of Firms to Sub-contract Carpentry Work.

A majority of 52.1% of the homebuilders were not satisfied with the quality of the carpentry work done by the sub-contracting firms, whereas 46.5% felt that the quality was adequate.(Refer Table 5-4c).

ARE YOU SATISFIED WITH THE QUALITY OF THE WORK DONE BY THE FIRMS TO WHOM YOU SUB-CONTRACTED WORK ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	33	46.5
No	37	52.1
Cannot say	1	1.4
No response to this question	24	*

TABLE 5-4c Quality of Sub-contracted Work.

The skill level of the carpenters in the sub-contractor's firm has not been much greater than that of those in the homebuilders's employment. Homebuilders were asked the following question : "In your opinion, is the skill of the carpenters who work on the sub-contracted work adequate ?". Responses summarized in Table 5-4d reflect that 59.4% of the homebuilders felt that the skill of the carpenters working on the sub-contracted work was not adequate while 37.7% felt that the skill level was satisfactory.

IN YOUR OPINION, IS THE SKILL OF THE CARPENTERS WHO WORK ON THE SUB-CONTRACTED WORK ADEQUATE ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	26	37.7
No	41	59.4
Cannot say	2	2.9
No response to this question	26	*

TABLE 5-4d Adequacy of Sub-contracted Carpentry Work.

In fact, the homebuilders were of the opinion that, on an average, only 36.0% of the sub-contractor's carpenters are skilled carpenters. (Refer Table 5-4e).

IN YOUR OPINION, WHAT PERCENTAGE OF THE SUBCONTRACTOR'S CARPENTERS ARE SKILLED CARPENTERS ?

QUESTION	AVERAGE	MINIMUM	MAXIMUM
Percentage of sub-contractor's carpenters that are skilled	36.0%	0.0%	100%

TABLE 5-4e Percentage of Skilled Sub-contractor's Carpenters.

This clearly indicates that there is a shortage of skilled carpenters even in the sub-contractors' firms. Interestingly, the average percentage of skilled carpenters out of the total carpenters employed in the sub-contractors' firms (36%) is higher than the average percentage of skilled carpenters out of the total carpenters employed by the homebuilders himself (25%), i.e. two out of every eight. (Refer Table 5-2a).

5. ROLE PLAYED BY TRAINING PROGRAMS

In the homebuilding industry, most carpenters pick up skills while they are working on the jobs. According to a study conducted in Erie County, New York, "For the most part, skills are acquired informally and haphazardly through experience on the job".[93] The present study tends to agree with this statement. The homebuilders were asked which training methods were making substantial contributions in supplying skilled carpenters to the residential construction industry. On-the-job training was the single most important training method for producing skilled carpenters. Vocational training centers, open-shop apprenticeship programs and community training programs, in that order, were other training programs that were utilized to some extent to produce skilled carpenters. Union apprenticeship did not contribute significantly in supplying skilled carpenters to the homebuilders.(Refer Table 5-5a).

Another question in the survey was, "In your opinion, which of the following training programs produces the best carpenters for your needs ?". The homebuilders felt that on-the-job training produced the best skilled carpenters for their needs while union apprenticeship programs were considered the least effective in producing skilled carpenters for their needs.(Refer Table 5-5b).

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93 Howard G. Foster, Manpower in Homebuilding: A preliminary Analysis, Manpower and Human Resources Studies No.3, University of Pennsylvania, The Wharton School, Industrial Research Unit, p. 78.

ARE THE FOLLOWING TRAINING PROGRAMS MAKING ANY SUBSTANTIAL CONTRIBUTIONS IN SUPPLYING SKILLED CARPENTERS TO THE RESIDENTIAL CONSTRUCTION INDUSTRY ?

Use the following scale:

4. To a large extent
3. To some extent
2. To a small extent
1. Negligible

TRAINING PROGRAM	AVERAGE
On-the-job training	3.51
Vocational training centers	2.04
Open shop apprenticeship program	1.85
Community college training	1.81
Union apprenticeship programs	1.58

TABLE 5-5a Contribution of the Training Programs.

IN YOUR OPINION, WHICH OF THE FOLLOWING TRAINING PROGRAMS PRODUCES THE BEST CARPENTERS FOR YOUR NEEDS ?

Rank on a 1-4 scale:

4. The best
3.
2.
1. The worst

TRAINING PROGRAM	AVERAGE
On-the-job training	3.54
Vocational training centers	2.47
Open shop apprenticeship program	2.46
Community college training	2.22
Union apprenticeship programs	1.85

TABLE 5-5b Performance of Training Programs.

It is interesting to note that those training programs that made the most contributions in supplying skilled carpenters to the homebuilders also produced the best carpenters for their needs.One of the respondents commenting on the unfortunate situation of the shortage of skilled carpenters, while responding to the above question wrote:

-"Can't say - we see so few good carpenters. Good carpenters generally move from the north."

'On-the-job training' is an ambiguous term that can be construed to apply to a variation of training processes within employment. Under ideal conditions, on-the-job training should be a systematic process that includes exposure to various elements of the trade, performance of tasks under watchful supervision by competent craftsman and periodic evaluation. However, the situation may be very different since homebuilders typically have only a few skilled carpenters on their payroll. They are under pressure to complete work and have little time for overseeing others. Therefore, trainees may be left on their own to observe and learn. Although this system may be able to produce some skilled carpenters it does not follow the process that constitutes training. Often, the trainee may be required to do repetitive tasks so that his productivity is commensurate with his wage. In addition, a skilled carpenter needs to interrupt his work to instruct and oversee a trainee. Training a carpenter on the job, under ideal conditions, would only be beneficial to a homebuilders in the long term. The study reveals that the

apprentices or the trainees stay with the homebuilders on the average for 15 months with a median value of 7.5 months (See Table 5-2c). A number of homebuilders feel this is not long enough for a good training process. It is probably for this reason, to avoid the training process for new recruits, that the homebuilders prefer to hire carpenters from within the construction industry. (See Table 5-2d). This attitude is reflected by the following remarks of some of the homebuilders :

-"Training is counterproductive; because of the shortage of good carpenters, a skilled carpenter is likely to leave his employer to start his own crew."

-"Doubt that the shortage problem is solvable. As they get trained, they get hired by Disney or some large firm."

In fact, the skill level produced by on-the-job training, which is the process of training most used by the homebuilders, may be the best. However, the following remarks of the homebuilders show a willingness to provide better on-the-job training to the carpenters :

-"(The) shortage problem could be solved by sponsoring on-the-job- training. Guarantee employees a job through training protect him. Supplement with one day a week in a classroom."

-"An industry sponsored (or business sponsored) cooperative type program of on-the-job training and classroom hours over a period of time (i.e. similar to other cooperative programs)."

-"On-the-job training during a course of classes (3 days in field, 2 days in class) and job placement from school by supplying lists of available people to builders."

Vocational training centers are making the second largest contributions in supplying trained carpenters to the homebuilding industry. On a Likhert scale ranging from one to four, the homebuilders gave vocational training centers an average score of 2.04 compared with 3.51 for the on-the-job training, indicating that it was not utilized as frequently. (See Table 5-1). In fact, all of the formal training programs have not been utilized very much by the homebuilders and the probable reasons shall be discussed further in the chapter. According to a study conducted by The Business Roundtable, high school students being trained for construction are almost exclusively oriented towards homebuilding or trades used in building, small commercial structures.[94] This could probably be a reason why the vocational training center doing better than the other formal training programs. Some of the respondents felt that things could improve by the following suggestions:

-"Educate the young people. Get them to know that its a good honest living where they can make a decent living."

-"Change high school emphasis; instead of allowing students to drop out of school place them in vocational programs. Right now there is a problem between high schools and vocational training centers."

-"More emphasis on vocational training. We must convince students to stay in school. We need them."

-"Vocational training should be more extensive; would make contractors more aware of quality of the trainees."

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94 "Construction Training through Vocational Education", The Business Roundtable, A Construction Industry Cost Effectiveness Project Report, Report D-3, August, 1982, p. 1.

-"Vo-tech combined with open-shop apprenticeship, change in apprentice-journeyman ratio."

Training in open-shop construction is carried out mainly by large contractors or an association of open-shop contractors. In non-union homebuilding, the major source of formal training in carpentry is carried out by carpentry apprenticeship programs sponsored by the NAHB through its local affiliates. The Florida Home Builder Association (FHBA) has two such carpentry apprenticeship programs in Florida.

Since a vast majority of the homebuilders are open-shop or non-union (See Table 5-1b), it is understandable that the homebuilders feel that the union apprenticeship programs are not making substantial contributions in supplying skilled carpenters to residential construction.

Even though the homebuilders rated on-the-job training as the best method for producing skilled carpenters for their needs, a vast majority of them think that the carpenters need to undergo some classroom training. 80.4% of the homebuilders felt that carpenters need to undergo classroom training whereas 9.8% were of the opinion that classroom training was not necessary. The remaining 9.8% of the homebuilders were not sure whether classroom training was desirable or not. (Refer Table 5-5c).

DO YOU THINK THAT CARPENTERS WORKING IN RESIDENTIAL CONSTRUCTION NEED TO UNDERGO SOME CLASSROOM TRAINING PROGRAM ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	74	80.4
No	9	9.8
Cannot say	9	9.8
No response to this question	3	*

TABLE 5-5c Need for Classroom Training.

An overwhelming majority of the homebuilders do not sponsor carpenters for formal training programs including classroom training. The homebuilders were asked the following question in the survey : "Do you train or sponsor carpenters for the following formal training program ?". Forty percent of the respondents gave carpenters on-the-job training. This study reveals that 80.7% of the homebuilders do not sponsor carpenters for open-shop apprenticeship programs, 89.5% do not sponsor carpenters for community college training, 89.3% do not sponsor carpenters for vocational training centers and 95.4% of the homebuilders do not sponsor carpenters for the union apprenticeship programs. (Refer Table 5-5d). This implies that the choice for a carpenter in the homebuilding industry is either to go through on-the-job training or to undergo one of the training programs on his own. Incentive for doing this, apart from acquiring skills, is not very high because graduation from a training program neither assures the carpenter a higher wage (See Table 5-2e) nor do the homebuilders show a willingness to hire graduates from the training programs.(See Table 5-2d). The reasons for the homebuilders not sponsoring carpenters for training programs may include a loose relationship between employers and craftsmen in construction, the short length of time carpenters are employed with the homebuilders, and a lack of communication between training programs and the homebuilders.

DO YOU TRAIN OR SPONSOR CARPENTERS FOR THE FOLLOWING FORMAL TRAINING PROGRAMS ?

TRAINING PROGRAM	YES		NO		CANNOT SAY	
	#	%	#	%	#	%
On-the-job training	40	45.5	46	52.3	2	2.3
Open shop apprenticeship program	15	17.0	71	80.7	2	2.3
Community college training	7	8.1	77	89.5	2	2.3
Vocational training centers	5	6.0	75	89.3	4	4.8
Union apprenticeship program	2	2.3	83	95.4	2	2.3

NOTE : # is used to denote 'the number of respondents' and
% is used to denote the 'percentage'

TABLE 5-5d Sponsoring Carpenters to Training Programs.

The level of communication between the homebuilders and the formal training programs is very remote. According to studies conducted by The Business Roundtable the following opinions have been observed :

- "There is little understanding on the part of most owners as to how craft training takes place in the construction industry or how it is funded."[95]

- "A major problem impeding in construction-trades training via vocational education is the lack of continuing communication between the construction industry and the educators."[96]

The present study also reveals a problem of a similar nature. The homebuilders were asked about the level of communication that existed between them and the training programs. The homebuilders have a remote relationship with all formal training programs, i.e. open-shop apprenticeship programs, vocational training centers, community college training and union apprenticeship programs, in that order.(Refer Table 5-5e).

The homebuilders feel that there is a need for establishing some sort of communication between the homebuilders and the training programs as well as increasing the involvement of the homebuilders in the training programs.

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95 "Training Problems in Open-shop Construction", The Business Roundtable, A Construction Industry Cost Effectiveness Project Report, Report D-4, September,1982, p. 1.

96 "Construction Training through Vocational Education", The Business Roundtable, A Construction Industry Cost Effectiveness Project Report, Report D-3, August,1982, p. 1.

WHAT LEVEL OF COMMUNICATION DO YOU HAVE WITH THE FOLLOWING TRAINING PROGRAMS ?

Use the following scale:

4. Very close
3. Close
2. Remote
1. Very remote

TRAINING PROGRAM	AVERAGE
On-the-job training	2.80
Open-shop apprenticeship program	1.59
Vocational training centers	1.54
Community college training	1.54
Union apprenticeship programs	1.15

TABLE 5-5e Communication Level between Industry and Training Programs.

The following observations were made by the study conducted by The Business Roundtable :

-"Improved coordination and cooperation between open shop contractor associations, vocational education administrators, user groups, and owner is essential if significant improvement in construction craft training in open-shop sector is to be achieved."[97]

97 "Training Problems in Open shop Construction", The Business Roundtable, A Construction Industry Cost Effectiveness Project Report, Report D-4, September, 1982, p. 2.

-"A communication link involving all segments of the construction industry and vocational educators should be established. Participants need to better identify and explore areas where construction industry training might be improved. All parties should be represented by policy making personnel."[98]

The homebuilders were asked which method would be the best to establish a linkage between the homebuilding industry and the training programs. Formal meetings between the homebuilding industry and the training programs was favored as the best method for creating such a linkage. Homebuilders attending educational functions sponsored by the training programs was considered the second best method for forging a close relationship between them. Sitting on an advisory committee and written contracts between the two groups were the other two options. (Refer Table 5-5f). Some of the other suggestions for a linkage between the two groups were :

-"Informal contacts with the people in the industry."

-"Explain to the contractor the benefit (of communication between the two groups)".

-"A list of qualifying people (should be supplied to the homebuilders)".

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98 "Construction Training through Vocational Education", The Business Roundtable, A Construction Industry Effectiveness Project Report, Report D-3, August, 1982, p. 2.

RANK THE FOLLOWING AS THE BEST METHOD OF ESTABLISHING AN INDUSTRY / TRAINING PROGRAM LINKAGE.
(1,2,3,4; 4 being the most important)

STRATEGY	AVERAGE
Formal meeting of the two groups	3.15
Attending educational functions	2.52
Sitting on an advisory committee	2.36
Written contact	2.35

TABLE 5-5f Strategy for Industry / Training Program Linkage.

The homebuilders were asked this open-ended question, "What one factor, in their opinion, could provide more effective involvement with the training programs for a more effective working relationship ?". Some of their views are reproduced below:

-"Staying in contact with the people who are in the industry and getting placement of students as they complete their study."

-"Having the employer involved in the training program of the employee. Making the employee feel the program is important."

-"Less bureaucracy and entanglement through the involvement of the training programs."

-"On-the-job training programs coordinated with a school training program."

-"Introducing local training programs in the smaller communities that are sponsored by school system and supported by the contractors."

-"Promise of job placement."

-"Having a quarterly printed list of names and phone numbers of people who have practical and educational background."

-"Set up a pool of trainees."

-"Awareness in the industry that the programs exist and that they provide excellent skilled personnel."

-"Associate with local homebuilders association to assist in placement."

The views of some of the homebuilders on the issue could be summarized as follows. There must be better communication between the homebuilders and the training programs. Presently the homebuilders awareness of the training programs is remote. There should be more involvement on the part of the homebuilders in the training process. The homebuilders, through the offices of the homebuilders association, should get together with the educators of the training programs and work out a system that ensures better coordination and cooperation between the two groups. The training programs should be kept posted of openings with the homebuilders, for their graduates, through the offices of the homebuilders association. Similarly, the training programs should maintain a pool of potential employees for placement for the benefit of the homebuilders. Since the homebuilders bank heavily

on on-the-job training, an arrangement can be made with the training programs to supplement training with classroom education of the craft in smaller communities.

6. OPINIONS AND ISSUES

Some questions in the survey were asked to address certain issues that might have a bearing on the skill level of the carpenters. The homebuilders were asked whether carpenters should be licensed to insure better skills and standards. A majority of 49.5% felt that this might not be a good idea whereas 36.3% were all for licensing carpenters. A good 14.3% were not sure on what was the best course to follow on the issue.(Refer Table 5-6a).

IN YOUR OPINION, SHOULD THE CARPENTERS BE REQUIRED TO HAVE A LICENSE TO INSURE BETTER SKILLS AND STANDARDS ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	33	36.3
No	45	49.5
Cannot say	13	14.3
No response to this question	4	*

TABLE 5-6a Licensing of Carpenters.

This issue needs to discussed by the homebuilding industry as those homebuilders that are undecided could change the majority opinion on the issue. If other building craftsmen such as electricians must have a license to practice, an important

trade like carpentry could well follow the suit. The following remarks by some of the respondents reflect this attitude :

-"It should be required that at least one carpenter on each job site be licensed by the governing county agency."

-"Training should be tied in with licensing requirements."

-"Require apprenticeship, journeymen to have license requirements similar to other trades."

-"Require carpenters to be licensed in order to increase knowledge and instill a sense of pride in this trade."

-"Carpenters should be licensed and carry a card- they should pass a shop test with a fee paid by them to support a program with a department of professional regulation."

-"A shortage of skilled carpenters can be solved by training, licensing and higher wages for greater skills."

In the future, if the skill level of carpenters does not improve, licensing may be required to eliminate casual and migrant workers and to insure a higher skill level. This is a decision which the homebuilding industry needs to take on its own.

The implementation of the immigration policy, that places the onus of detecting illegal aliens on the employers and carries a penalty on hiring illegal aliens, may exacerbate the shortage problem. No figures are available on the number of illegal aliens carpenters working in the homebuilding industry, but 43.3% of the homebuilders are of the opinion that illegal aliens are being hired by construction firms. Twenty percent do not feel that

illegal aliens are being hired while 36.7% were not in a position to answer.(Refer Table 5-6b).

FROM YOUR EXPERIENCE, DO YOU BELIEVE THAT ILLEGAL ALIENS ARE BEING HIRED BY OTHER CONSTRUCTION FIRMS ?

RESPONSE	NUMBER OF RESPONDENTS	PERCENT
Yes	39	43.3
No	18	20.0
Cannot say	33	36.7
No response to this question	4	*

TABLE 5-6b Illegal Alien Carpenters.

In the estimate of the homebuilders, on the average 10.9% of the carpenters working in Florida are illegal aliens. (Refer Table 5-6c).

IN YOUR OPINION, WHAT PERCENTAGE OF THE CARPENTERS IN FLORIDA ARE ILLEGAL ALIENS ?

QUESTION	AVERAGE	MINIMUM	MAXIMUM
Percentage of illegal alien carpenters	10.9%	0%	30.0%

TABLE 5-6c Estimated Percentage of Illegal Aliens.

In the future this aspect has to taken into consideration while making manpower projections in the homebuilding industry.

CHAPTER 6

ANALYSIS OF RESPONSES BY REGIONS

The study reveals that the average annual volume of business of the homebuilders in the southeast region of Florida is substantially larger than that of the homebuilders in the other regions. The homebuilders in all of the regions other than the southeast have an annual average volume of business less than the state's average of $5.32 million (median value being $2 million) whereas the homebuilders in the southeast region have an average annual volume of $17.3 million (median being $3 millions). (Refer Table 6-1). The average number of single-family homes built by homebuilders per year was highest in the southeast region of Florida with 68 homes (median value being 10 homes) followed by the central region with 50 homes (median value being 13 homes). The northwest region also has a healthy average of 37 single-family homes built per year per homebuilder (median value is 30 homes). This compares with the statewide average of 32 single-family homes built per year by homebuilders throughout Florida (median value is 10 homes). The southeast region of Florida also leads all other regions with the highest average number of 523 multi-family homes built per year by each homebuilder (median value being 100 homes). Homebuilders in the central region build on the average 146 multi-family homes per year (median value of one home). The fact that volume of work undertaken by the homebuilders in the southeast is larger than that of the other regions is indicative of greater construction activity in the homebuilding industry in the southeast and, to a lesser degree, in the central region.

SUMMARY OF RESPONSES BY REGIONS - 1

ISSUE	STATE WIDE	SE REGION	SW REGION	CENTER REGION	NE REGION	NW REGION
Annual average volume of business (in millions)	$5.3	$17.3	$3.6	$4.1	$2.3	$2.5
Avg.number of single-family homes built per year.	32	68	23	50	10	37
Avg.number of multi-family homes built per year	79	523	13	146	13	5
Avg. percent of residential construction undertaken	71.0%	49.9%	70.7%	76.0%	68.6%	92.9%
Avg. percent of commercial construction undertaken	27.9%	49.2%	26.7%	17.1%	32.6%	7.1%
Average no. of journeymen carpenters employed	4	5	5	2	3	2
Average no. of skilled journeymen carpenters	2	3	3	1	2	2
Average no. of apprentices employed	2	2	2	2	2	5
Average journeymen carpenters' hourly wage	$9.97	12.05	$9.97	$9.80	$9.39	$8.49
Average apprentice hourly wages	$6.51	$8.39	$6.66	$6.35	$5.86	$5.30
Avg. length of journeymen carpenters' employment/month	26	29	20	35	27	21
Average length (months) of apprentice's employment	15	30	10	17	16	10
Homebuilders without enough skilled carpenters to hire	56%	68.8%	55.6%	47.4%	68%	57.1%
Homebuilders feeling need for more skilled carpenters	78%	87.5%	85.2%	73.7%	87.5%	85.7%
Respondents who may increase volume of work if adequate supply of skilled carpenters	36%	33.3%	39.3%	29.4%	44%	14.3%
Homebuilders who have paid overtime because of shortage of skilled carpenters	40.2%	53.8%	21.7%	13.3%	70.8%	28.6%
Homebuilders who would hire more skilled carpenters to avoid paying overtime	39.0%	46.7%	40%	46.7%	54.2%	28.6
Percent of hours worked by carpenters that's overtime	6.7%	8.6%	3.2%	6.4%	8.8%	7.0%
Avg. percentage of carpentry work that is subcontracted	68.0%	60.7%	68.6%	81.2%	61.4%	71.7%
Homebuilders who have enough firms to sub-contract carpentry work	61.1%	25%	70.8%	66.7%	58.8%	100
Homebuilders who think that skill of sub-contractors' carpenters is not adequate	59.4%	36.4%	59.1%	71.4%	64.7%	60
Percent of sub-contractors' carpenters that are skilled	36.0%	38.6%	39.5%	22.8%	38.9%	43.6%
Homebuilders who think carpenters need to undergo some classroom training		75.0%	85.2%	77.8%	87.5%	57.1

TABLE 6-1 Summary of Responses by Regions

SUMMARY OF RESPONSES BY REGION (CONTINUED)

ISSUE	STATE WIDE	SE REGION	SW REGION	CENTER REGION	NE REGION	NW REGION
Avg. percent of Homebuilders in favor of licensing carpenters for better skills	36.3%	33.3%	39.3%	50.0%	36.0%	0%
Avg. percent of homebuilders who sponsor carpenters for:						
a. On-the-job training	45.5%	33.3	44.4%	35.7%	56%	57.1%
b. Open shop apprenticeship	17.0%	13.3%	11.1%	0%	41.7%	0%
c. Community colleges	8.1%	6.7%	0%	0%	27.3%	0%
d. Vocational training	6.0%	0%	8.0%	0%	13.6%	0.0%
e. Union apprenticeship	2.3%	6.7%	0%	0%	4.3%	0%
Ranking of training programs producing best carpenters for homebuilders' on a 1-4 scale; 4 being the best & 1 being least effective.						
a. On-the-job training	3.54	3.50	3.28	3.50	3.65	4.00
b. Vocational training	2.47	2.45	3.00	2.67	2.00	2.00
c. Open shop	2.46	2.18	2.41	2.64	2.75	1.83
d. Community colleges	2.22	2.08	2.53	2.17	2.19	1.86
e. Union apprenticeship	1.85	2.20	1.67	1.82	2.00	1.40
Homebuilders' communication level with training programs on a 1-4 scale;4 being very close & 1 being very remote.						
a. On-the-job training	2.80	2.67	2.62	2.53	3.00	3.67
b. Open shop apprenticeship	1.59	1.40	1.46	1.15	2.13	1.50
c. Vocational training	1.54	1.47	1.71	1.23	1.39	2.33
d. Community college	1.54	1.53	1.46	1.38	1.65	1.83
e. Union apprenticeship	1.15	1.33	1.12	1.00	1.13	1.17
Ranking of best method for industry / training program linkage on a scale of 1,2,3 ,4; 4 being most important						
a. Formal meeting	3.15	3.18	2.88	3.56	3.25	3.00
b. Attending educational function	2.52	2.82	2.39	2.78	2.31	2.40
c. Sitting on advisory committee	2.36	2.09	2.47	2.62	2.31	2.33
d. Written contact	2.35	2.54	2.35	1.87	2.23	3.00
Homebuilder's ranking of reasons for shortage of skilled carpenters on 1-4 scale, 1 being not a reason & 4 very important reason						
a. General decline in craftsmanship	3.02	3.20	2.96	3.00	3.04	2.80
b. Construction boom	2.82	3.00	3.00	2.85	2.67	2.17
c. Lack of training program	2.67	3.21	2.42	2.77	2.54	2.67
d. More emphasis on cutting cost than quality	2.63	2.07	2.72	2.54	2.95	2.50
e. Low Wage rates	2.37	1.93	2.48	2.31	2.61	2.17

TABLE 6-2 Summary of Response by region (continued)

This concurs, in part, with the analysis of the construction trends in Chapter 2.

With the exception of the southeast region, the majority of work done by the homebuilders in all the other regions is residential. In the southeast region, the homebuilders on the average do almost an equal amount of residential (49.9%) and commercial work (49.2%).

The hourly average wage rate of journeymen carpenters was the highest ($12.05, median $12.50) in the southeast region and the lowest ($8.45, median $8.00) in the northwest region of Florida.The northeast region had the second lowest average hourly wage of $9.39 with a median value of $9.00. The hourly average wage rate for the rest of the regions was close to the state average wage rate of $9.97 (median value being $10.00). The hourly wage for journeymen carpenters working in the homebuilding industry throughout the state of Florida varied from a low of $6.50 to a high of $15.00. The hourly average wage rate for the apprentices followed the same pattern with the highest being in the southeast region with $8.39 (median $8.00) and the lowest being in the northwest region with $5.30 (median $5.00). The northeast region had the second lowest hourly wages of $5.86 for the apprentices. The other two regions, southwest and central, had an average hourly wage for apprentices close to the statewide average of $6.51 (median value being $6.50). The average hourly wage for apprentices working in the homebuilding industry

throughout Florida varied from a low of $4.00 to a high of $11.50.

The average length of employment for the journeymen carpenters was highest in the central region (35 months) and was lowest for the southwest region. The average length of employment for the apprentices was highest in the southeast region with 30 months. The lowest was in the southwest and the northwest regions. The average duration of journeymen carpenters working for the homebuilding industry in Florida varies from a low of one month to a high of 72 months (average 26 months) whereas for the apprentices it varies from a low of one month to a high of 60 months (average 15 months).

The highest percentage of homebuilders who felt that there were not enough skilled carpenters for them to hire were in the southwest region (68.8%). Sixty eight percent of the homebuilders in the northeast region felt that there were not enough skilled carpenters as compared to a statewide percentage of 56%. In the southeast and the northeast regions 87.5% of the homebuilders felt that there was a need for more skilled carpenters in the industry. About 85% of the homebuilders in the southwest and northeast regions felt a need for more skilled carpenters. In the central region the percentage of homebuilders who felt a need for more skilled carpenters (73.7%) was lower than that of other states as well as the statewide percentage of 78%. These figures indicate that there may be a more acute shortage of skilled carpenters in the southeast and the northeast regions compared

with the other regions. This analysis is further reinforced by the fact that 70.8% of the homebuilders in the northeast region and 53.8% of the homebuilders in the southeast region paid overtime to carpenters in the past one year because of a shortage of skilled carpenters.

In fact, 44% of the homebuilders in the northeast region would increase the volume of their business if there were enough skilled carpenters for them to hire compared to only 14.3% of homebuilders in the northwest region. The percentage of homebuilders in the rest of the regions who would increase the volume of their work if there was an adequate supply of skilled carpenters was close to the statewide percentage of 36%.

A majority of the carpentry work in the homebuilding industry in Florida is sub-contracted. The highest percentage of the work sub-contracted is in the central region (81.2%). The percentage of carpentry work subcontracted in the other regions is close to the statewide percentage of 68%. A majority of homebuilders in all of the regions, with the exception of the southeast region, have enough firms to sub-contract their work. Only 25% of the homebuilders in the southeast region felt that there were enough firms to sub-contract carpentry work compared to a statewide percentage of 61.1%. The percentage of sub-contractors' carpenters that are skilled in all of the regions, with the exception of the central region, was close to the statewide percentage of 36%.

The shortage of skilled carpenters in the homebuilding

industry is attributed to a general decline in craftsmanship over the years in the central, northeast and northwest regions. The southeast region viewed a lack of training programs as the most important reason for the shortage while the southwest region held the construction boom as the most important reason.

The homebuilders in all of the regions follow almost the same pattern in sponsoring carpenters for various training programs. By and large, most of the homebuilders sponsor carpenters for on-the-job training followed by open-shop apprenticeship, community college training, vocational training and union apprenticeship programs, in that order. A large percentage of homebuilders in all of the regions sponsor carpenters for on-the-job training. The highest average percentage of homebuilders sponsoring carpenters for on-the-job training is in the northwest region (57.1%) followed by the northeast region (56%). The lowest average percentage of homebuilders giving on-the-job training is in the southeast region with 33.3% compared to the statewide percentage of 45.5%. The highest percentage of homebuilders sponsoring carpenters to open-shop training programs was in the northeast region (41.7%). In the other regions the percentage was considerably less varying from 0% in the northwest and central region to 13.3% in the southeast region.

On-the-job training was ranked by homebuilders in all of the regions as being the most effective method of training carpenters. All of the regions, with the exception of the

northeast region, ranked vocational training centers as the second most effective in producing skilled carpenters for their needs. The northeast region viewed open-shop apprenticeship programs as the second most effective in producing skilled carpenters. Open-shop apprenticeship programs and community colleges were thought to be third or fourth in most of the regions. Union apprenticeship programs were viewed as the least effective in producing skilled carpenters for the purposes of the homebuilders in all the regions.

The level of communication between the homebuilders and the various training and apprenticeship programs can be characterized as reasonably good with on-the-job training though it is remote bordering on apathy with all the other programs. The homebuilders from all of the regions think formal meetings between the homebuilding industry and the training/apprenticeship programs is the best method to forge better communication and cooperation.

The highest percentage of homebuilders who felt that licensing of carpenters should be required to uphold better skills and standards in the carpentry trade were from the central region (50%), while the lowest percentage of homebuilders for licensing was in the northwest region (0%).

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The study reveals a serious shortage of skilled carpenters in Florida. The homebuilders have clearly and unequivocally indicated their concern regarding the shortage of skilled carpenters in the homebuilding industry in Florida. A majority of almost sixty percent of the homebuilders in Florida felt that there were not enough skilled carpenters for them to hire. An overwhelming majority of homebuilders (83.9%) in Florida felt that there was a need for more skilled carpenters in residential construction in Florida. The study indicates that there is a shortage of skilled carpenters even in sub-contracted work. Most of the homebuilders in Florida were not satisfied with the quality of sub-contracted carpentry work. About sixty percent of the homebuilders felt that the skill level of the carpenters was not adequate. In fact, the homebuilders estimated that only thirty-six percent of the carpenters working on sub-contracted work were skilled. The situation is so severe that about 40% of the homebuilders surveyed had paid overtime wages to skilled carpenters because of a shortage in the past year. Thirty-six percent of the homebuilders felt that they would increase the volume of their business if there were enough skilled carpenters in the industry. The present situation, if left unchecked, could pose a more severe problem in times to come.

The study reveals that the size of firms in the homebuilding industry in Florida, on the average, is small in terms of volume

of work handled and the in terms of the number of employees. The average annual volume of business handled by the homebuilders is $5.3 million, the median value being $2.0 million. On the average, each homebuilder builds 32 single-family homes per year (median being 10 single-family homes) while each homebuilder builds 79 multi-family homes per year (median being one multi-family home). The variation between the average value and the median value of the home built indicates that some large firms handle a large volume of construction, thus raising the average value. On the average, a homebuilder in Florida employs four journeymen carpenters and two carpenters-in-training or apprentices.

The duration of employment of carpenters in the homebuilding industry is not very long. On the average, journeymen carpenters working for homebuilders stay in employment for 26 months (median value is 15 months) and the apprentices are employed for 15 months (median being 7.5 months) The fact that the size of the operation run by the homebuilders in Florida is not very large, could probably be responsible for the short length of employment of carpenters with the homebuilders. Thus, carpenters employed by the homebuilders in Florida do not have much job security.

The wages paid to the carpenters in the homebuilding industry in Florida are low. On the average, journeymen carpenters are paid about $10 per hour and the apprentice carpenters are paid an average hourly wage of $6.50. The depressed wage rate in the homebuilding industry is seen as one

of the reasons for not attracting and retaining skilled carpenters in the homebuilding industry. The young people do not look upon carpentry as a profitable career and lack of pride in being a carpenter is viewed as an important reason for the shortage of skilled carpenters.

In the homebuilding industry, most carpenters pick up skill while they are working on the jobs. On-the-job training is the single most used training method for producing carpenters in the homebuilding industry in Florida. Vocational training centers, open-shop apprenticeship programs and community college training, in that order, were the other training programs that made contributions to some extent to produce skilled carpenters. Since the homebuilders surveyed were mostly non-union (98.9%), the union apprenticeship programs were least utilized to train carpenters. The homebuilders felt that on-the-job training contributed the most in supplying trained carpenters and it also produced the best carpenters for their needs. However, it is important to note the difference between the on-the-job training imparted by homebuilders and the on-the-job training imparted by apprenticeship programs. The on-the-job training imparted by apprenticeship programs ensures that there is a rotation of tasks that a trainee carpenter performs and that there are periodic evaluations of the tasks performed by the carpenter-in-training. The on-the-job training offered by the homebuilders does not generally offer rotation of tasks or formal evaluation of the tasks performed.

An overwhelming majority of the homebuilders do not sponsor carpenters for formal training programs including classroom training. The study reveals that 80.7% of homebuilders do not sponsor carpenters for open-shop apprenticeship programs, 89.5% of the homebuilders do not sponsor carpenters to community college training, 89.3% do not sponsor carpenters to vocational training centers and 95.4% do not sponsor carpenters for union training programs. Homebuilders show a reluctance to sponsor carpenters for formal training programs because of the relatively short duration of employment of the carpenters with the homebuilders. On the other hand, the carpenters do not have any incentive to undergo training, apart from acquiring the basic skills. Both vocational training and community college training take one to two years to complete and apprenticeship programs take about four years to complete. The study indicates that graduation from a training program neither assures the carpenter higher wages nor do the homebuilders show a preference for hiring graduates from training programs.

Even though the homebuilders in Florida feel that on-the-job training produces the best carpenters for their needs, a vast majority of 80.4% of the homebuilders surveyed realize that carpenters need to undergo some formal classroom training program. The homebuilders in Florida rank 'reading blueprints' as the most important task that a skilled carpenter needs to know. The fact that reading blueprints can be best taught in a classroom situation is indicative of the need for some formal

classroom training. At this point, it is imperative to add that all the training programs, with the exception of on-the-job training, offer some sort of classroom training. Both vocational training programs and community college training offer only classroom training and the duration of the programs is one to two years (900-1800 hours). The apprenticeship programs offer classroom training (about 600 hours) in conjunction with on-the-job training (about 8000 hours) and the duration of the programs is about four years.

The study reveals that there is a remote level of communication between the homebuilders and the training programs. A number of homebuilders show a desire to have access to graduates from the training programs, indicating poor communication. The homebuilders favored formal meetings between training programs and homebuilders as the best method to improve communication between them.

A majority of the homebuilders were against licensing to insure better skill and standards in carpentry. However, 36.3% of the homebuilders were in favor of licensing carpenters.

From the study, it appears that there is a trend towards specialization within the carpentry trade. However, this needs to be investigated by future research.

In summary, the homebuilders feel that there is a definite shortage of skilled carpenters in the homebuilding industry in Florida. The majority of homebuilders do not sponsor carpenters for formal training programs and most carpenters receive on-the

job training. Most homebuilders feel that there is need for formal classroom training. However, there seems to be a lack of communication between the homebuilders and the training programs.

RECOMMENDATIONS :

The shortage of skilled carpenters needs to be dealt with on two different levels; on the short term to remedy the immediate problem of the shortage of skilled carpenters and on the long term to encourage young people to take up the carpentry trade as a profession. A solution to the shortage of skilled carpenters has to be worked around the existing scenario in the homebuilding industry. Remarks of the homebuilders indicate a concern regarding the shortage of skilled carpenters and reveal a willingness to contribute to alleviating the shortage. The following suggestions are recommended:

1. Training programs, especially apprenticeship training programs, are capable of providing skilled personnel for the needs of the homebuilders. The training programs in co-operation with the homebuilding associations need to promote more vigorously the training programs and increase the involvement of the homebuilders. There has to more active participation by the homebuilders in the training programs. Efforts should be made to increase the awareness of the homebuilders about the training programs. The homebuilders should be informed through these

efforts about the operation of the training programs and how they are funded. The homebuilders should realize that it is in their own interest to be actively involved with the training programs and support these programs more effectively.

2. The study reveals that the homebuilders have a remote level of communication with all the training programs. Therefore, better levels of communications and coordination between the homebuilders and the various training programs are needed. Most of the homebuilders favor formal meetings between themselves and the training programs. These meetings could be represented by the homebuilders associations and the administrators of the various training programs. There should be a direct and full flow of information, in both directions, between the homebuilders and the various training programs. There are a multitude of possibilities which can be worked out once the two groups get together and cooperate with each other.

3. Increased flow of communication would be helpful particularly in the area of recruitment and placement of the graduate carpenters from the training programs. The training programs could make a pool of trainees and graduates for ready employment and the homebuilders could inform the training programs of any openings in their firms for fresh graduates. One thing that is obvious is that the training programs have to be more innovative and flexible in their approach and they must work around the problems of the homebuilders and the carpenters.

4. The training programs should reach out to the substantial number of carpenters working in the field who need training, but have not undergone a regular training curriculum. For these carpenters, the training programs need to provide an innovative and flexible instruction format that supplements their knowledge without having them going through a traditional training program curriculum. In order to accomplish this the training programs need cooperation and initiative from the homebuilders, preferably through homebuilding associations.

5. Since a majority of the homebuilders impart on-the-job training to the carpenters in the homebuilding industry in Florida, it is imperative that the thrust of the effort to solve the shortage problem should be on improving on-the-job training. The on-the-job training imparted by the homebuilders needs to be organized more along the lines of the systematic on-the-job training imparted by the apprenticeship programs. The on-the-job training imparted by apprenticeship programs, in contrast to the one offered by a typical homebuilder, ensures that there is a rotation of tasks that a trainee carpenter performs and that there are periodic evaluations of the tasks performed by the carpenter-in-training. The homebuilders association should task an appropriate committee to ensure rotation of the carpenter-in-training to different tasks and perform periodic supervision and evaluation of carpenters during the on-the-job training.

6. More than 80% of the homebuilders felt that the carpenters needed to have formal classroom training. The quality

of on-the-job training can be improved by supplementing the on-the-job work with flexible classroom instruction sponsored by the various training programs. The formal classroom training could be organized by the training programs in conjunction with the homebuilders association. This classroom instruction could be imparted over the weekends or in the evenings to enable the carpenters to work on the job during week days.

7. There must be some monetary incentives to attract young people to the carpentry trade. Wages in the homebuilding industry for carpenters must be more lucrative to bring skill into the carpentry trade. Without an adequate increase in wages for the carpenters it is very difficult to bring more people into the trade and to insure a better skill level. Another incentive should be to recognize the carpenters graduating from the training programs. They should be paid a guaranteed wage during the various stages and on completion of their training. Therefore, the homebuilders associations should determine a wage scale to be paid to the carpenters during the various stages and on the completion of training. This wage scale should be published in a wage guide for the benefit of the homebuilders. In addition, there must be more job security and adequate support for carpenters in order for them to be willing to undergo the necessary training programs.

8. For the long term solution of the shortage problem the young people should be educated about careers in construction and ways should be found to interest them. The training programs

perhaps need to be more aggressive in their recruitment policy. The training programs and the homebuilders associations should develop better public relations with high school students. Presentations should be made to project the carpentry trade as a good profession where a decent living can be made.

CHAPTER 8

TOPICS FOR FUTURE RESEARCH

The following topics were raised during the course of this study and could be developed into a research project in the future:

1. The present study deals with the problem of the shortage of skilled carpenters in the homebuilding industry in Florida as seen from the managements' (homebuilders') point of view. To fully understand the whole situation it is imperative to solicit the views and expectations of the carpenters. Similar questions and issues dealt with in the present study should be posed to the carpenters. A study eliciting the opinions of the carpenters themselves has rarely been attempted. However, it would give great insight into the problem of the shortage of the skilled carpenters. If a grant is made for research on the topic it would be feasible to reach the carpenters and achieve this objective.
2. Investigation into the trend towards specialization in the carpentry trade.
3. The minimum length of employment required for good training to be cost effective for the homebuilder.
4. Effects of the new immigration policy on the manpower situation in the construction industry in Florida.
5. Effects of licensing of carpenters in the construction industry in Florida.

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APPENDIX A

QUESTIONNAIRE PACKAGE

QUESTIONNAIRE

Name of firm _____

Contact person _____ Position _____ Phone _____

Annual Volume of Business in Dollars _____

Type of Construction Undertaken: Residential _____ % Commercial _____ % Others: _____ %

Type of Operation: Open Shop _____ Union _____ Both _____

Number of projects carried per year _____

Answer the following as yes, no, or cannot say.

	Yes	No	Cannot Say
1. Are there enough skilled carpenters for you to hire?	_____	_____	_____
2. Do you feel there is a need for more skilled carpenters in commercial construction?	_____	_____	_____
3. Do you think that carpenters working in commercial construction need to undergo some classroom training program?	_____	_____	_____

4. How many workers do you have on your payroll drawing journeyman carpenter wages? _____
5. Of these workers earning journeyman carpenter wages, how many are skilled capenters? _____
6. How many apprentices or carpenters-in-training do you have on your payroll? _____

7. In your opinion, which of the following tasks must a "skilled carpenter" be able to perform proficiently?
Use the following scale: 4. Absolutely necessary 3. Necessary 2. Desirable 1. Unnecessary

a. Read blueprints	4	3	2	1
b. Conduct site preparation and layouts	4	3	2	1
c. Preplan forthcoming activities	4	3	2	1
d. Construction forms (footing, walls, edge, curb)	4	3	2	1
e. Construction forms (piers, columns, beams, slabs, stairs, bridge, deck)	4	3	2	1
f. Frame floor and sills	4	3	2	1
g. Frame partitions	4	3	2	1
h. Frame roofs	4	3	2	1
i. Build trusses	4	3	2	1
j. Install structural timber	4	3	2	1
k. Install decking and sheathing	4	3	2	1
l. Install exterior wall covering and trim	4	3	2	1
m. Apply weather stripping and caulking	4	3	2	1
n. Install door, window frame and units	4	3	2	1
o. Install drywall material	4	3	2	1
p. Construct interior stairs	4	3	2	1
q. Install cabinets, fixtures and shelving	4	3	2	1
r. Install paneling, furring, soffit ceiling	4	3	2	1
s. Install insulation and sound control material	4	3	2	1
t. Issue instructions to crew members	4	3	2	1
u. Other _____	4	3	2	1

8. What is the average hourly wage paid by your firm to the following?

Journeyman carpenter $_____ Apprentice (carpenter-in-training) $_____

9. How long, on the average, do the carpenters stay in your employment? (answer in months)

Journeyman carpenter _____ Apprentice (carpenter-in-training) _____

	yes	no	cannot say
10. Would you bid more jobs or increase the volume of your business if there was an adequate supply of skilled carpenters in the industry?	_____	_____	_____
11. Have you ever, in the past year, paid overtime to skilled carpenters because of any shortage in the market?	_____	_____	_____
12. Would you hire more skilled carpenters to avoid paying overtime?	_____	_____	_____

13. What percentage of hours worked by carpenters is overtime? Please estimate. _____ %

Answer questions number 14 to 18 if you sub-contract any of the carpentry work, otherwise skip to question 19.

14. What percentage of carpentry work do you subcontract? _____ %

	yes	no	cannot say
15. If you sub-contract a majority of your carpentry work, are there enough firms available to do your work?	_____	_____	_____
16. Are you satisfied with the quality of the work done by the firms to whom you sub-contract carpentry work?	_____	_____	_____
17. In your opinion, is the skill of the carpenters who work on the sub-contracted work adequate?	_____	_____	_____

18. In your opinion, what percentage of the sub-contractor's carpenters are skilled carpenters? _____ %

19. Where do you search for carpenters?
Use the following scale: 4. Always 3. Most of the time 2. Sometimes 1. Never

a. Labor agents	4	3	2	1
b. Labor unions	4	3	2	1
c. Vocational training centers	4	3	2	1
d. Union apprenticeship programs	4	3	2	1
e. Open-shop apprenticeship programs	4	3	2	1
f. Advertisements in the papers	4	3	2	1
g. Contacts in the construction industry	4	3	2	1
h. Other construction jobs	4	3	2	1
i. Company on-the-job training	4	3	2	1
j. Community college training programs	4	3	2	1

20. Are the following training programs making any substantial contributions in supplying skilled carpenters to the residential construction industry?
Use the following scale: 4. To a large extent 3. To some extent 2. To a small extent 1. Negligible

a. Vocational training centers	4	3	2	1
b. Union apprenticeship programs	4	3	2	1
c. Open shop apprenticeship programs	4	3	2	1
d. Community College training	4	3	2	1
e. On-the-job training	4	3	2	1

21. Do you train or sponsor carpenters for the following formal training programs?

	yes	no	cannot say
a. Vocational training centers	____	____	____
b. Union apprenticeship programs	____	____	____
c. Open shop apprenticeship programs	____	____	____
d. Community college training	____	____	____
e. On-the-job training	____	____	____

22. In your opinion, which of the following training programs produces the best carpenters for your needs? (rank 1 - 4; 4 being the best and 1 being the worst)

a. Vocational training centers	4	3	2	1
b. Union apprenticeship programs	4	3	2	1
c. Open shop apprenticeship programs	4	3	2	1
d. Community college training	4	3	2	1
e. On-the-job training	4	3	2	1

23. What criteria determines promotion or an increase in wages of a carpenter in your company?
Use the following scale: 4. Always 3. Most of the time 2. Sometimes 1. Never

a. Graduation from training program	4	3	2	1
b. Performance	4	3	2	1
c. Experience	4	3	2	1
d. Seniority	4	3	2	1
e. Market wage rate	4	3	2	1

24. In your opinion, should the carpenter be required to have a license to insure better skills and standards?
25. From your experience, do you believe that illegal aliens are being hired by other construction firms?
26. In your opinion, what percentage of the carpenters in Florida are illegal aliens? _____ %

	yes	no	cannot say
24.	____	____	____
25.	____	____	____

27. In your view, is the shortage of skilled carpenters due to:
Use the following scale:
4. very important reason 3. important reason 2. could be the reason 1. not a reason at all

a. Lack of training programs	4	3	2	1
b. Low wage rates	4	3	2	1
c. Part time carpenters	4	3	2	1
d. More emphasis on cutting cost than quality control	4	3	2	1
e. Construction boom	4	3	2	1
f. Training does not affect promotions or wage increase	4	3	2	1
g. Low profile of labor unions	4	3	2	1
h. General decline in craftsmanship	4	3	2	1
i. Because there is greater emphasis on factory built components (trusses etc.) there is a decreased demand in the skills level of on site carpenters.	4	3	2	1
j. Others _____	4	3	2	1

28. What would you suggest to help solve the shortage of skilled carpenters?

_____

_____

_____

29. Rank (1, 2, 3, 4 ; 4 being the most important) the following as the best method of establishing an Industry/Training program linkage.

a. Formal meeting of the two groups	4	3	2	1
b. Sitting on an advisory committee	4	3	2	1
c. Attending educational functions	4	3	2	1
d. Written contact	4	3	2	1
e. Others (please specify) _____	4	3	2	1

30. In your opinion, what one factor could provide more effective involvement with training programs for a closer working relationship?

_____

_____

_____

31. What level of communications do you have with the following training programs?
Use the following scale: 4. very close 3. close 2. remote 1. very remote

a. Vocational training centers	4	3	2	1
b. Union apprenticeship programs	4	3	2	1
c. Open shop apprenticeship programs	4	3	2	1
d. Community college training	4	3	2	1
e. On-the-job training	4	3	2	1

SCHOOL OF BUILDING CONSTRUCTION
UNIVERSITY OF FLORIDA
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PHONE 904 392-5965
904 392-0202
SUNCOM 622-0202

March 28, 1987

To Home Builder Contractor

Dear _____,

In cooperation with the Building Construction Industry Advisory Committee, the School of Building Construction at the University of Florida is conducting a study to determine whether skilled carpenters are being trained in sufficient numbers to fulfill your needs. We also want to find out what hiring methods are most effective in obtaining skilled carpenters.

Your cooperation will be of great benefit to us as well as the construction industry. Please take a few minutes of your valuable time to fill out the attached questionnaire and return it in the enclosed self addressed stamped envelope. If you have any questions concerning this study or the questionnaire please contact Ali Markus or Rohit Chib at 904-392-6755. Thank you for your consideration.

Sincerely,

Brisbane Brown Jr.
Professor and Director

Florida Home Builders Association • P.O. Box 1259 • Tallahassee, Florida 32302-1259 • Phone (904) 224-4316

M E M O R A N D U M

TO: FHBA Builder Members

FROM: Susan J. Leigh, Director of Governmental Affairs

DATE: March 31, 1987

SUBJECT: School of Building Construction, University of Florida Survey

---

Attached is a request by the School of Building Construction to provide data they need to determine the overall state needs for skilled laborers, specifically carpenters.

I urge each of you to take the time to provide the information requested, as the results could benefit our entire industry.

SJL/st

Attachment

APPENDIX B

TABLES OF RESPONSES BY REGIONS

B-1 TABLES OF RESPONSES FOR

CENTRAL REGION

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100.0

Table B-1.1 Response by Region.

TYPE OF OPERATION

TYPE OF OPERATION	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Open shop	19	100.0	92	98.9
Union	0	0.0	1	1.1
Both (double breasted)	0	0.0	0	0.0
Total	19	100.0	93	100.0
No response to this question	0	*	2	*

Table B-1.2 Type of Operation.

TYPE OF CONSTRUCTION UNDERTAKEN

TYPE OF CONSTRUCTION	CENTRAL REGION	STATEWIDE
	AVERAGE PERCENT	AVERAGE PERCENT
Residential	76.1	68.0
Commercial	17.1	26.7
Other	6.8	5.3

Table B-1.3 Type of Construction.
(in percentage)

AVERAGE VOLUME OF BUSINESS FOR HOMEBUILDERS SURVEYED

BACKGROUND INFORMATION	CENTRAL REGION		STATEWIDE	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Annual volume of business (in millions)	$4.09	$1.0	$5.3	$2.0
Number of single-family homes built per year	50	13	32	10
Number of multi-family homes built per year	146	1	79	1

TABLE B-1.4 Average Volume of Business for Homebuilders Surveyed.

NUMBER OF CARPENTERS EMPLOYED PER SKILL LEVEL

RESPONSE	CENTRAL REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Number of journeymen carpenters on the payroll	2	0	10	4
Number of journeymen carpenters that are skilled	1	0	5	2
Number of apprentices on the payroll	2	0	6	2

TABLE B-1.5 Number of Carpenters in Employment. (by skill level)

WHAT IS THE AVERAGE WAGE PAID BY YOUR FIRM TO THE FOLLOWING ?

1.Journeymen Carpenter
2.Apprentice (Carpenter-in-Training)

CARPENTER	CENTRAL REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	$9.80	$6.50	$14.00	$9.97
Apprentice (Carpenter-in-training)	$6.35	$4.50	$9.00	$6.51

TABLE B-1.6 Hourly Wages.

HOW LONG, ON THE AVERAGE, DO THE CARPENTERS STAY IN YOUR EMPLOYMENT ?

CARPENTER	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	35	9	60	26
Apprentice (Carpenter-in-training)	17	6	60	60

TABLE B-1.7 Average Length of Employment. (in months)

WHERE DO YOU SEARCH FOR CARPENTERS ?
Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

HIRING PRACTICE	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
Contacts in the construction industry	3.06	3.06
Other construction jobs	2.44	2.34
Advertisement in the papers	1.94	2.01
Company on-the-job training	1.75	1.61
Open-shop apprenticeship program	1.56	1.49
Vocational training centers	1.47	1.51
Community college training program	1.47	1.25
Labor unions	1.33	1.13
Agents	1.20	1.19
Union apprenticeship programs	1.20	1.16

TABLE B-1.8 Hiring Practice.

WHAT CRITERIA DETERMINES PROMOTION OR INCREASE IN WAGES OF A CARPENTER IN YOUR COMPANY ?

Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

PROMOTION CRITERIA	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
Performance	3.67	3.64
Experience	3.33	3.07
Market wage rate	2.20	2.42
Seniority	2.18	2.00
Graduation from training program	1.70	1.75

TABLE B-1.9 Promotion Criteria.

ARE THERE ENOUGH SKILLED CARPENTERS FOR YOU TO HIRE ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	8	42.1	30	31.9
No	9	47.4	56	59.6
Cannot say	2	10.5	8	8.5
No response	0	*	1	*

TABLE B-1.10 Availability of Skilled Carpenters.

DO YOU FEEL THERE IS A NEED FOR MORE SKILLED CARPENTERS IN RESIDENTIAL CONSTRUCTION ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	14	73.7	78	83.9
No	1	5.3	6	6.5
Cannot say	4	21.1	9	9.7
No response	0	*	2	*

TABLE B-1.11 Need for Skilled Carpenters.

IN YOUR OPINION, WHICH OF THE FOLLOWING TASKS MUST A "SKILLED CARPENTER" BE ABLE TO PERFORM PROFICIENTLY ?

Use the following scale:

4. Absolutely Necessary
3. Necessary
2. Desirable
1. Unnecessary

SKILLS	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
Read blueprints	3.22	3.17
Issue instructions to crew	3.00	2.83
Frame floor and sills	2.94	3.13
Frame partitions	2.89	3.11
Install decking and sheathing	2.89	3.07
Apply weather stripping/caulking	2.82	2.68
Install exterior wall covering and trim	2.78	2.95
Frame Roofs	2.72	2.98
Install door, window frame, units	2.71	2.91
Install panelling, furring, soffit ceiling	2.59	2.76
Install structural timber	2.56	2.90
Construct interior stairs	2.56	2.15
Preplan forthcoming activities	2.50	2.63
Conduct site preparations and layouts	2.44	2.54
Construction forms (footings, walls, edges, curbs)	2.39	2.69
Install drywall material	2.33	2.77
Construction forms (piers, columns, beams, slabs, stairs, bridges, deck)	2.33	2.62
Install cabinets, fixtures	2.33	2.48
Install insulation, sound control material	2.29	2.13
Build trusses	2.11	2.41

TABLE B-1.12 Desired Skill Level of Carpenters.

WOULD YOU BID MORE JOBS OR INCREASE THE VOLUME OF YOUR BUSINESS IF THERE WAS AN ADEQUATE SUPPLY OF SKILLED CARPENTERS IN THE INDUSTRY ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	5	29.4	32	36.0
No	6	35.3	29	32.6
Cannot say	6	35.3	28	31.5
No response	2	*	6	*

TABLE B-1.13 Effect of Availability of Skilled Carpenters on Business Volume.

HAVE YOU EVER, IN THE PAST YEAR, PAID OVERTIME TO SKILLED CARPENTERS BECAUSE OF ANY SHORTAGE IN THE MARKET ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	2	13.3	33	40.2
No	11	73.3	45	54.9
Cannot say	2	13.3	4	4.9
No response	4	*	13	*

TABLE B-1.14 Overtime Payments.

WOULD YOU HIRE MORE SKILLED CARPENTERS TO AVOID PAYING OVERTIME ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	7	46.7	39	45.3
No	5	33.3	24	27.9
Cannot say	3	20.0	23	26.7
No response	4	*	9	*

TABLE B-1.15 More Skilled Carpenters versus Overtime.

WHAT PERCENTAGE OF HOURS WORKED BY CARPENTERS IS OVERTIME ?
Please Estimate.

QUESTION	CENTRAL REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of Overtime Hours worked by the carpenters	6.4%	0%	30.0%	6.7%

TABLE B-1.16 Estimated Overtime Hours.
(in percentage)

IN YOUR VIEW, IS THE SHORTAGE OF SKILLED CARPENTERS DUE TO :

Use the following scale :

4. Very important reason
3. Important reason
2. Could be a reason
1. Not a reason at all

REASONS	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
General decline in craftsmanship	3.00	3.02
Construction boom	2.85	2.82
Lack of training program	2.77	2.67
More emphasis on cutting cost than quality	2.54	2.63
Low wage rates	2.31	2.37
Because there is greater emphasis on factory built components there is a decreased demand in the skill level of on site carpenters	2.00	2.28
Part time carpenters	1.75	1.73
Low profile of labor unions	1.73	1.61
Training does not affect promotions or wage rates	1.64	1.89

TABLE B-1.17 Reasons for Shortage of Skilled Carpenters.

WHAT PERCENTAGE OF CARPENTRY WORK DO YOU SUB-CONTRACT ?

QUESTION	CENTRAL REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of carpentry work sub-contracted	81.2%	0%	100%	68.0%

TABLE B-1.18 Sub-contracted Carpentry Work. (in percentage)

IF YOU SUB-CONTRACT A MAJORITY OF YOUR CARPENTRY WORK, ARE THERE ENOUGH FIRMS AVAILABLE TO DO YOUR WORK ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	10	66.7	44	61.1
No	5	33.3	25	34.7
Cannot say	0	0.0	3	4.2
No response	4	*	23	*

TABLE B-1.19 Availability of Firms to Sub-contracted Carpentry Work.

ARE YOU SATISFIED WITH THE QUALITY OF THE WORK DONE BY THE FIRMS TO WHOM YOU SUB-CONTRACT WORK ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	5	33.3	33	46.5
No	10	66.7	37	52.1
Cannot say	0	0.0	1	1.4
No response	4	*	24	*

TABLE B-1.20 Quality of Sub-contracted Work.

IN YOUR OPINION, IS THE SKILL OF THE CARPENTERS WHO WORK ON THE SUB-CONTRACTED WORK ADEQUATE ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	3	21.4	26	37.7
No	10	71.4	41	59.4
Cannot say	1	7.1	2	2.9
No response	5	*	26	*

TABLE B-1.21 Adequacy of Sub-contracted Carpentry Work.

IN YOUR OPINION, WHAT PERCENTAGE OF THE SUB-CONTRACTOR'S CARPENTERS ARE SKILLED CARPENTERS ?

QUESTION	CENTRAL REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of sub-contractor's carpenters that are skilled	22.8%	5.0%	60.0%	36.0%

TABLE B-1.22 Percentage of Skilled Sub-contractor's Carpenters.

DO YOU THINK THAT CARPENTERS WORKING IN RESIDENTIAL CONSTRUCTION NEED TO UNDERGO SOME CLASSROOM TRAINING PROGRAM ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	14	77.8	74	80.4
No	3	16.7	9	9.8
Cannot say	1	5.6	9	9.8
No response	1	*	3	*

TABLE B-1.23 Need for Classroom Training Program.

DO YOU TRAIN OR SPONSOR CARPENTERS FOR THE FOLLOWING FORMAL TRAINING PROGRAMS ?

TRAINING PROGRAM	YES		NO		CANNOT SAY	
	#	%	#	%	#	%
On-the-job training	5	35.7	8	57.1	1	7.1
Open shop apprenticeship program	0	0.0	14	93.3	1	6.7
Community college training	0	0.0	14	93.3	1	6.7
Vocational training centers	0	0.0	14	93.3	1	6.7
Union apprenticeship program	0	0.0	14	93.3	1	6.7

NOTE 1: # is used to denote 'the number of respondents' and % is used to denote the 'percentage'

NOTE 2: For comparison with the statewide figures refer to Table 5-5d on page 95.

TABLE B-1.24 Sponsoring Carpenters to Training Programs.

ARE THE FOLLOWING TRAINING PROGRAMS MAKING ANY SUBSTANTIAL CONTRIBUTIONS IN SUPPLYING SKILLED CARPENTERS TO THE RESIDENTIAL CONSTRUCTION INDUSTRY ?

Use the following scale:

4. To a large extent
3. To some extent
2. To a small extent
1. Negligible

TRAINING PROGRAM	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.50	3.51
Vocational training centers	1.64	2.04
Union apprenticeship programs	1.54	1.58
Open shop apprenticeship program	1.50	1.85
Community college training	1.45	1.81

TABLE B-1.25 Contribution of the Training Programs.

IN YOUR OPINION, WHICH OF THE FOLLOWING TRAINING PROGRAMS PRODUCES THE BEST CARPENTERS FOR YOUR NEEDS ?

Rank using the following scale:

4. Most effective
3.
2.
1. Least effective

TRAINING PROGRAM	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.50	3.54
Vocational training centers	2.67	2.47
Open shop apprenticeship program	2.64	2.46
Community college training	2.17	2.22
Union apprenticeship programs	1.82	1.85

TABLE B-1.26 Performance of Training Programs.

WHAT LEVEL OF COMMUNICATION DO YOU HAVE WITH THE FOLLOWING TRAINING PROGRAMS ?

Use the following scale:

4. Very close
3. Close
2. Remote
1. Very remote

TRAINING PROGRAM	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	2.53	2.80
Community college training	1.38	1.54
Vocational training centers	1.23	1.54
Open shop apprenticeship program	1.15	1.59
Union apprenticeship programs	1.00	1.15

TABLE B-1.27 Communication level between Industry and Training Programs.

RANK THE FOLLOWING AS THE BEST METHOD OF ESTABLISHING AN INDUSTRY / TRAINING PROGRAM LINKAGE.

Use the following scale:

4. Most important
3.
2.
1. Least important

TRAINING PROGRAM	CENTRAL REGION	STATEWIDE
	AVERAGE	AVERAGE
Formal meeting of the two groups	3.56	3.15
Attending educational functions	2.78	2.52
Sitting on an advisory committee	2.62	2.36
Written contact	1.87	2.35

TABLE B-1.28 Strategy for Industry / Training Program Linkage.

IN YOUR OPINION, SHOULD THE CARPENTERS BE REQUIRED TO HAVE A LICENSE TO INSURE BETTER SKILLS AND STANDARDS ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	8	50.0	33	36.3
No	7	43.8	45	49.5
Cannot say	1	6.3	13	14.3
No response	3	*	4	*

TABLE B-1.29 Licensing of Carpenters.

FROM YOUR EXPERIENCE, DO YOU BELIEVE THAT ILLEGAL ALIENS ARE BEING HIRED BY OTHER CONSTRUCTION FIRMS ?

RESPONSE	CENTRAL REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	9	56.3	39	43.3
No	2	12.5	18	20.0
Cannot say	5	31.3	33	36.7
No response	3	*	4	*

TABLE B-1.30 Illegal Alien Carpenters.

IN YOUR OPINION, WHAT PERCENTAGE OF THE CARPENTERS IN FLORIDA ARE ILLEGAL ALIENS ?

QUESTION	CENTRAL REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of illegal alien carpenters	6.7%	0%	15.0%	10.9%

TABLE B-1.31 Estimated Percentage of Illegal Aliens.

B-2 TABLES OF RESPONSES FOR

NORTHEAST REGION

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100.0

Table B-2.1 Response by Region.

TYPE OF OPERATION

TYPE OF OPERATION	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Open shop	25	100.0	92	98.9
Union	0	0.0	1	1.1
Both (double breasted)	0	0.0	0	0.0
Total	25	100.0	93	100.0
No response	0	*	2	*

Table B-2.2 Type of Operation.

TYPE OF CONSTRUCTION UNDERTAKEN

TYPE OF CONSTRUCTION	NORTHEAST REGION	STATEWIDE
	AVERAGE PERCENT	AVERAGE PERCENT
Residential	60.0	68.0
Commercial	31.2	26.7
Other	8.8	5.3

Table B-2.3 Type of Construction.
(in percentage)

AVERAGE VOLUME OF BUSINESS FOR HOMEBUILDERS SURVEYED

BACKGROUND INFORMATION	NORTHEAST REGION		STATEWIDE	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Annual volume of business (in millions)	$2.34	$1.0	$5.3	$2.0
Number of single-family homes built per year.	10	5	32	10
Number of multi-family homes built per year	13	0	79	1

TABLE B-2.4 Average Volume of Business for Homebuilders Surveyed.

NUMBER OF CARPENTERS EMPLOYED PER SKILL LEVEL

RESPONSE	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Number of journeymen carpenters on the payroll	3	0	20	4
Number of journeymen carpenters that are skilled	2	0	6	2
Number of apprentices on the payroll	2	0	15	2

TABLE B-2.5 Number of Carpenters in Employment. (by skill level)

WHAT IS THE AVERAGE WAGE PAID BY YOUR FIRM TO THE FOLLOWING ?

1.Journeymen Carpenter
2.Apprentice (Carpenter-in-Training)

CARPENTER	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	$9.39	$8.00	$12.00	$9.97
Apprentice (Carpenter-in-training)	$5.86	$4.50	$8.00	$6.51

TABLE B-2.6 Hourly Wages.

HOW LONG, ON THE AVERAGE, DO THE CARPENTERS STAY IN YOUR EMPLOYMENT ?

CARPENTER	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	27	1	60	26
Apprentice (Carpenter-in-training)	16	1	48	60

TABLE B-2.7 Average Length of Employment. (in months)

WHERE DO YOU SEARCH FOR CARPENTERS ?
Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

HIRING PRACTICE	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
Contacts in the construction industry	3.22	3.06
Other construction jobs	2.32	2.34
Open-shop apprenticeship programs	1.86	1.49
Advertisement in the papers	1.85	2.01
Company on-the-job training	1.77	1.61
Vocational training centers	1.64	1.51
Community college training program	1.29	1.25
Agents	1.27	1.19
Union apprenticeship programs	1.14	1.16
Labor unions	1.00	1.13

TABLE B-2.8 Hiring Practice.

WHAT CRITERIA DETERMINES PROMOTION OR INCREASE IN WAGES OF A CARPENTER IN YOUR COMPANY ?

Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

PROMOTION CRITERIA	NORTHEAST REGION AVERAGE	STATEWIDE AVERAGE
Performance	3.82	3.64
Experience	3.35	3.07
Market wage rate	2.74	2.42
Seniority	2.25	2.00
Graduation from training program	2.16	1.75

TABLE B-2.9 Promotion Criteria.

ARE THERE ENOUGH SKILLED CARPENTERS FOR YOU TO HIRE ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	6	24.0	30	31.9
No	17	68.0	56	59.6
Cannot say	2	8.0	8	8.5
No response	*	*	1	*

TABLE B-2.10 Availability of Skilled Carpenters.

DO YOU FEEL THERE IS A NEED FOR MORE SKILLED CARPENTERS IN RESIDENTIAL CONSTRUCTION ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	21	87.5	78	83.9
No	1	4.2	6	6.5
Cannot say	2	8.3	9	9.7
No response	1	*	2	*

TABLE B-2.11 Need for Skilled Carpenters.

IN YOUR OPINION, WHICH OF THE FOLLOWING TASKS MUST A "SKILLED CARPENTER" BE ABLE TO PERFORM PROFICIENTLY ?

Use the following scale:

4. Absolutely Necessary
3. Necessary
2. Desirable
1. Unnecessary

SKILLS	NORTHEAST REGION AVERAGE	STATEWIDE AVERAGE
Frame partitions	3.24	3.11
Install decking and sheathing	3.24	3.07
Read blueprints	3.16	3.17
Frame floor and sills	3.08	3.13
Frame roofs	3.08	2.98
Install exterior wall covering and trim	3.04	2.95
Install door, window frame, units	3.04	2.91
Construct interior stairs	2.92	2.15
Issue instructions to crew	2.88	2.83
Install structural timber	2.84	2.90
Install panelling, furring, soffit ceiling	2.72	2.76
Preplan forthcoming activities	2.68	2.63
Apply weather stripping/caulking	2.68	2.68
Construction forms (footings, walls, edges, curbs)	2.64	2.69
Construction forms (piers, columns, beams, slabs, stairs, bridges, deck)	2.52	2.62
Conduct site preparations and layouts	2.48	2.54
Install cabinets, fixtures	2.40	2.48
Build trusses	2.38	2.41
Install drywall material	2.04	2.77
Install insulation, sound control material	1.88	2.13

TABLE B-2.12 Desired Skill Level of Carpenters.

WOULD YOU BID MORE JOBS OR INCREASE THE VOLUME OF YOUR BUSINESS IF THERE WAS AN ADEQUATE SUPPLY OF SKILLED CARPENTERS IN THE INDUSTRY ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	11	44.0	32	36.0
No	5	20.0	29	32.6
Cannot say	9	36	28	31.5
No response	0	*	6	*

TABLE B-2.13 Effect of Availability of Skilled Carpenters on Business Volume.

HAVE YOU EVER, IN THE PAST YEAR, PAID OVERTIME TO SKILLED CARPENTERS BECAUSE OF ANY SHORTAGE IN THE MARKET ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	17	70.8	33	40.2
No	7	29.2	45	54.9
Cannot say	0	0.0	4	4.9
No response	1	*	13	*

TABLE B-2.14 Overtime Payments.

WOULD YOU HIRE MORE SKILLED CARPENTERS TO AVOID PAYING OVERTIME ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	13	54.2	39	45.3
No	5	20.8	24	27.9
Cannot say	6	25.0	23	26.7
No response	1	*	9	*

TABLE B-2.15 More Skilled Carpenters versus Overtime.

WHAT PERCENTAGE OF HOURS WORKED BY CARPENTERS IS OVERTIME ?
Please Estimate.

QUESTION	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage Overtime Hours worked by the carpenters	8.8%	0%	30%	6.7%

TABLE B-2.16 Estimated Overtime Hours.
(in percentage)

IN YOUR VIEW, IS THE SHORTAGE OF SKILLED CARPENTERS DUE TO :

Use the following scale :

4. Very important reason
3. Important reason
2. Could be a reason
1. Not a reason at all

REASONS	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
General decline in craftsmanship	3.04	3.02
More emphasis on cutting cost than quality	2.95	2.63
Construction boom	2.67	2.82
Low wage rates	2.61	2.37
Lack of training program	2.54	2.67
Because there is greater emphasis on factory built components there is a decreased demand in the skill level of on site carpenters	2.52	2.28
Training does not affect promotions or wage rates	1.86	1.89
Low profile of labor unions	1.53	1.61
Part time carpenters	1.48	1.73

TABLE B-2.17 Reasons for Shortage of Skilled Carpenters.

WHAT PERCENTAGE OF CARPENTRY WORK DO YOU SUB-CONTRACT ?

QUESTION	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of carpentry work sub-contracted	61.4%	0%	100%	68%

TABLE B-2.18 Sub-contracted Carpentry Work. (in percentage)

IF YOU SUB-CONTRACT A MAJORITY OF YOUR CARPENTRY WORK, ARE THERE ENOUGH FIRMS AVAILABLE TO DO YOUR WORK ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	10	58.8	44	61.1
No	6	35.3	25	34.7
Cannot say	1	5.9	3	4.2
No response	8	*	23	*

TABLE B-2.19 Availability of Firms to Sub-contracted Carpentry Work.

ARE YOU SATISFIED WITH THE QUALITY OF THE WORK DONE BY THE FIRMS TO WHOM YOU SUB-CONTRACTED WORK ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	10	58.8	33	46.5
No	7	41.2	37	52.1
Cannot say	0	0.0	1	1.4
No response	8	*	24	*

TABLE B-2.20 Quality of Sub-contracted Work.

IN YOUR OPINION, IS THE SKILL OF THE CARPENTERS WHO WORK ON THE SUB-CONTRACTED WORK ADEQUATE ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	6	35.3	26	37.7
No	11	64.7	41	59.4
Cannot say	0	0.0	2	2.9
No response	8	*	26	*

TABLE B-2.21 Adequacy of Sub-contracted Carpentry Work.

IN YOUR OPINION, WHAT PERCENTAGE OF THE SUB-CONTRACTOR'S CARPENTERS ARE SKILLED CARPENTERS ?

QUESTION	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of sub-contractor's carpenters that are skilled	38.9%	1%	100%	36%

TABLE B-2.22 Percentage of Skilled Sub-contractor's Carpenters.

DO YOU THINK THAT CARPENTERS WORKING IN RESIDENTIAL CONSTRUCTION NEED TO UNDERGO SOME CLASSROOM TRAINING PROGRAM ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	21	87.5	74	80.4
No	1	4.2	9	9.8
Cannot say	2	8.3	9	9.8
No response	1	*	3	*

TABLE B-2.23 Need for Classroom Training Program.

DO YOU TRAIN OR SPONSOR CARPENTERS FOR THE FOLLOWING FORMAL TRAINING PROGRAMS ?

TRAINING PROGRAM	YES		NO		CANNOT SAY	
	#	%	#	%	#	%
On-the-job training	14	56.0	11	44.0	0	0.0
Open shop apprenticeship program	10	41.7	14	58.3	0	0.0
Community college training	6	27.3	16	72.7	0	0.0
Vocational training centers	3	13.6	18	81.8	1	4.5
Union apprenticeship program	1	4.3	22	95.7	0	0.0

NOTE 1: # is used to denote 'the number of respondents' and % is used to denote the 'percentage'

NOTE 2: For comparison with the statewide figures refer to Table 5-5d on page 95.

TABLE B-2.24 Sponsoring Carpenters to Training Programs.

ARE THE FOLLOWING TRAINING PROGRAMS MAKING ANY SUBSTANTIAL CONTRIBUTIONS IN SUPPLYING SKILLED CARPENTERS TO THE RESIDENTIAL CONSTRUCTION INDUSTRY ?

Use the following scale:

4. To a large extent
3. To some extent
2. To a small extent
1. Negligible

TRAINING PROGRAM	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.63	3.51
Open shop apprenticeship program	2.44	1.85
Vocational training centers	2.00	2.04
Community college training	1.94	1.81
Union apprenticeship programs	1.47	1.58

TABLE B-2.25 Contribution of the Training Programs.

IN YOUR OPINION, WHICH OF THE FOLLOWING TRAINING PROGRAMS PRODUCES THE BEST CARPENTERS FOR YOUR NEEDS ?

Rank using the following scale:

4.Most effective
3.
2.
1.Least effective

TRAINING PROGRAM	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.65	3.54
Open shop apprenticeship program	2.75	2.46
Community college training	2.19	2.22
Vocational training centers	2.00	2.47
Union apprenticeship programs	2.00	1.85

TABLE B-2.26 Performance of Training Programs.

WHAT LEVEL OF COMMUNICATION DO YOU HAVE WITH THE FOLLOWING TRAINING PROGRAMS ?

Use the following scale:

4. Very close
3. Close
2. Remote
1. Very remote

TRAINING PROGRAM	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.00	2.80
Open shop apprenticeship program	2.13	1.59
Community college training	1.65	1.54
Vocational training centers	1.39	1.54
Union apprenticeship programs	1.13	1.15

TABLE B-2.27 Communication level between Industry and Training Programs.

RANK THE FOLLOWING AS THE BEST METHOD OF ESTABLISHING AN INDUSTRY / TRAINING PROGRAM LINKAGE.

Use the following scale:

4. Most important
3.
2.
1. Least important

TRAINING PROGRAM	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
Formal meeting of the two groups	3.25	3.15
Sitting on an advisory committee	2.31	2.36
Attending educational functions	2.31	2.52
Written contact	2.23	2.35

TABLE B-2.28 Strategy for Industry / Training Program Linkage.

IN YOUR OPINION, SHOULD THE CARPENTERS BE REQUIRED TO HAVE A LICENSE TO INSURE BETTER SKILLS AND STANDARDS ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	9	36.0	33	36.3
No	13	52.0	45	49.5
Cannot say	3	12.0	13	14.3
No response	0	*	4	*

TABLE B-2.29 Licensing of Carpenters.

FROM YOUR EXPERIENCE, DO YOU BELIEVE THAT ILLEGAL ALIENS ARE BEING HIRED BY OTHER CONSTRUCTION FIRMS ?

RESPONSE	NORTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	10	40.0	39	43.3
No	2	8.0	18	20.0
Cannot say	13	52.0	33	36.7
No response	0	*	4	*

TABLE B-2.30 Illegal Alien Carpenters.

IN YOUR OPINION, WHAT PERCENTAGE OF THE CARPENTERS IN FLORIDA ARE ILLEGAL ALIENS ?

QUESTION	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of illegal alien carpenters	13.3%	5%	20%	10.9%

TABLE B-2.31 Estimated Percentage of Illegal Aliens.

B-3 TABLES OF RESPONSES FOR

NORTHWEST REGION

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100.0

Table B-3.1 Response by Region.

TYPE OF OPERATION

TYPE OF OPERATION	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Open Shop	7	100.0	92	98.9
Union	0	0.0	1	1.1
Both (Double Breasted)	0	0.0	0	0.0
Total	7	0.0	93	100.0
No Response	0	*	2	*

Table B-3.2 Type of Operation.

TYPE OF CONSTRUCTION UNDERTAKEN

TYPE OF CONSTRUCTION	NORTHWEST REGION	STATEWIDE
	AVERAGE PERCENT	AVERAGE PERCENT
Residential	92.9	68.0
Commercial	7.1	26.7
Other	0	5.3

Table B-3.3 Type of Construction.
(in percentage)

AVERAGE ANNUAL VOLUME OF BUSINESS FOR HOMEBUILDERS SURVEYED

BACKGROUND INFORMATION	NORTHWEST REGION		STATEWIDE	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Annual volume of business (in millions)	$2.53	$1.5	$5.3	$2.0
Number of single-family homes built per year.	37	30	32	10
Number of multi-family homes built per year	5	5	79	1

TABLE B-3.4 Average Volume of Business for Homebuilders Surveyed.

NUMBER OF CARPENTERS EMPLOYED PER SKILL LEVEL

RESPONSE	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Number of journeymen carpenter on the payroll	2	0	12	4
Number of journeymen carpenters that are skilled	2	0	6	2
Number of apprentices on the payroll	5	0	22	2

TABLE B-3.5 Number of Carpenters in Employment. (by skill level)

WHAT IS THE AVERAGE WAGE PAID BY YOUR FIRM TO THE FOLLOWING ?

1.Journeymen Carpenter
2.Apprentice (Carpenter-in-Training)

CARPENTER	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	$8.45	$6.75	$10.00	$9.97
Apprentice (Carpenter-in-training)	$5.30	$4.00	$6.50	$6.51

TABLE B-3.6 Hourly Wages.

HOW LONG, ON THE AVERAGE, DO THE CARPENTERS STAY IN YOUR EMPLOYMENT ?

CARPENTER	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	23	6	60	26
Apprentice (Carpenter-in-training)	10	3	24	60

TABLE B-2.7 Average Length of Employment. (in months)

WHERE DO YOU SEARCH FOR CARPENTERS ?
Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

HIRING PRACTICE	NORTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
Contacts in the construction industry	3.33	3.06
Other construction jobs	2.17	2.34
Company on-the-job training	1.83	1.61
Advertisement in the papers	1.33	2.01
Vocational training centers	1.33	1.51
Open-shop apprenticeship programs	1.33	1.49
Community college training program	1.17	1.25
Agents	1.00	1.19
Union apprenticeship programs	1.00	1.16
Labor unions	1.00	1.13

TABLE B-3.8 Hiring Practice.

WHAT CRITERIA DETERMINES PROMOTION OR INCREASE IN WAGES OF A CARPENTER IN YOUR COMPANY ?

Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

PROMOTION CRITERIA	NORTHWEST REGION AVERAGE	STATEWIDE AVERAGE
Performance	3.00	3.64
Experience	2.00	3.07
Seniority	1.80	2.00
Market wage rate	1.60	2.42
Graduation from Training Program	1.00	1.75

TABLE B-3.9 Promotion Criteria.

ARE THERE ENOUGH SKILLED CARPENTERS FOR YOU TO HIRE ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	3	42.9	30	31.9
No	4	57.1	56	59.6
Cannot say	0	0.0	8	8.5
No response	0	*	1	*

TABLE B-3.10 Availability of Skilled Carpenters.

DO YOU FEEL THERE IS A NEED FOR MORE SKILLED CARPENTERS IN RESIDENTIAL CONSTRUCTION ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	6	85.7	78	83.9
No	0	0.0	6	6.5
Cannot say	1	14.3	9	9.7
No response	0	*	2	*

TABLE B-3.11 Need for Skilled Carpenters.

IN YOUR OPINION, WHICH OF THE FOLLOWING TASKS MUST A "SKILLED CARPENTER" BE ABLE TO PERFORM PROFICIENTLY ?

Use the following scale:

4. Absolutely Necessary
3. Necessary
2. Desirable
1. Unnecessary

SKILLS	NORTHWEST REGION AVERAGE	STATEWIDE AVERAGE
Read blueprints	3.43	3.17
Frame floor and sills	3.43	3.13
Install structural timber	3.43	2.90
Frame partitions	3.29	3.11
Install decking and sheathing	3.29	3.07
Frame roofs	3.29	2.98
Install exterior wall covering and trim	3.29	2.95
Install door, window frame, units	3.29	2.91
Issue instructions to crew	3.29	2.83
Build trusses	3.14	2.41
Install panelling, furring, soffit ceiling	3.00	2.76
Construction forms (piers, columns, beams, slabs, stairs, bridges, deck)	3.00	2.62
Install cabinets, fixtures	2.71	2.48
Construction forms (footings, walls, edges, curbs)	2.57	2.69
Preplan forthcoming activities	2.57	2.63
Conduct Site preparations and layouts	2.57	2.54
Apply weather stripping/caulking	2.29	2.68
Install insulation, sound control material	2.14	2.13
Construct interior stairs	2.00	2.15
Install drywall material	1.71	2.77

TABLE B-3.12 Desired Skill Level of Carpenters.

WOULD YOU BID MORE JOBS OR INCREASE THE VOLUME OF YOUR BUSINESS IF THERE WAS AN ADEQUATE SUPPLY OF SKILLED CARPENTERS IN THE INDUSTRY ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	1	14.3	32	36.0
No	4	57.1	29	32.6
Cannot Say	2	28.6	28	31.5
No Response	0	*	6	*

TABLE B-3.13 Effect of Availability of Skilled Carpenters on Business Volume.

HAVE YOU EVER, IN THE PAST YEAR, PAID OVERTIME TO SKILLED CARPENTERS BECAUSE OF ANY SHORTAGE IN THE MARKET ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	2	28.6	33	40.2
No	5	71.4	45	54.9
Cannot Say	0	0.0	4	4.9
No response	0	*	13	*

TABLE B-3.14 Overtime Payments.

WOULD YOU HIRE MORE SKILLED CARPENTERS TO AVOID PAYING OVERTIME ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	2	28.6	39	45.3
No	2	28.6	24	27.9
Cannot say	3	42.9	23	26.7
No response	0	*	9	*

TABLE B-3.15 More Skilled Carpenters versus Overtime.

WHAT PERCENTAGE OF HOURS WORKED BY CARPENTERS IS OVERTIME ?
Please Estimate.

QUESTION	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of Overtime Hours worked by the carpenters	7.0%	0%	20.0%	6.7%

TABLE B-3.16 Estimated Overtime Hours.
(in percentage)

IN YOUR VIEW, IS THE SHORTAGE OF SKILLED CARPENTERS DUE TO :

Use the following scale :

4. Very important reason
3. Important reason
2. Could be a reason
1. Not a reason at all

REASONS	NORTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
General decline in craftsmanship	2.80	3.02
Lack of training program	2.67	2.67
More emphasis on cutting cost than quality	2.50	2.63
Because there is greater emphasis on factory built components there is a decreased demand in the skill level of on site carpenters	2.50	2.28
Training does not affect promotions or wage rates	2.20	1.89
Construction boom	2.17	2.82
Low wage rates	2.17	2.37
Part time carpenters	2.17	1.73
Low profile of labor unions	1.50	1.61

TABLE B-3.17 Reasons for Shortage of Skilled Carpenters.

WHAT PERCENTAGE OF CARPENTRY WORK DO YOU SUB-CONTRACT ?

QUESTION	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of carpentry work sub-contracted	71.7%	0%	100%	68.0%

TABLE B-3.18 Sub-contracted Carpentry Work.
(in percentage)

IF YOU SUB-CONTRACT A MAJORITY OF YOUR CARPENTRY WORK, ARE THERE ENOUGH FIRMS AVAILABLE TO DO YOUR WORK ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	4	100.0	44	61.1
No	0	0.0	25	34.7
Cannot say	0	0.0	3	4.2
No response	3	*	23	*

TABLE B-3.19 Availability of Firms to Sub-contract Carpentry Work.

ARE YOU SATISFIED WITH THE QUALITY OF THE WORK DONE BY THE FIRMS TO WHOM YOU SUB-CONTRACT WORK ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	3	60.0	33	46.5
No	2	40.0	37	52.1
Cannot say	0	0.0	1	1.4
No response	2	*	24	*

TABLE B-3.20 Quality of Sub-contracted Work.

IN YOUR OPINION, IS THE SKILL OF THE CARPENTERS WHO WORK ON THE SUB-CONTRACTED WORK ADEQUATE ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	2	40.0	26	37.7
No	3	60.0	41	59.4
Cannot say	0	0.0	2	2.9
No response	2	*	26	*

TABLE B-3.21 Adequacy of Sub-contracted Carpentry Work.

IN YOUR OPINION, WHAT PERCENTAGE OF THE SUB-CONTRACTOR'S CARPENTERS ARE SKILLED CARPENTERS ?

QUESTION	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of sub-contractor's carpenters that are skilled	43.6%	3.0%	75.0%	36.0%

TABLE B-3.22 Percentage of Skilled Sub-contractor's Carpenters.

DO YOU THINK THAT CARPENTERS WORKING IN RESIDENTIAL CONSTRUCTION NEED TO UNDERGO SOME CLASSROOM TRAINING PROGRAM ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	4	57.1	74	80.4
No	1	14.3	9	9.8
Cannot say	2	28.6	9	9.8
No response	0	*	3	*

TABLE B-3.23 Need for Classroom Training Program.

DO YOU TRAIN OR SPONSOR CARPENTERS FOR THE FOLLOWING FORMAL TRAINING PROGRAMS ?

TRAINING PROGRAM	YES		NO		CANNOT SAY	
	#	%	#	%	#	%
On-the-job training	4	57.1	3	42.9	0	0.0
Open shop apprenticeship program	0	0.0	7	100.0	0	0.0
Community college training	0	0.0	7	100.0	0	0.0
Vocational training centers	0	0.0	7	100.0	0	0.0
Union apprenticeship program	0	0.0	7	100.0	0	0.0

NOTE 1: # is used to denote 'the number of respondents' and % is used to denote the 'percentage'

NOTE 2: For comparison with the statewide figures refer to Table 5-5d on page 95.

TABLE B-3.24 Sponsoring Carpenters to Training Programs.

ARE THE FOLLOWING TRAINING PROGRAMS MAKING ANY SUBSTANTIAL CONTRIBUTIONS IN SUPPLYING SKILLED CARPENTERS TO THE RESIDENTIAL CONSTRUCTION INDUSTRY ?

Use the following scale:

4. To a large extent
3. To some extent
2. To a small extent
1. Negligible

TRAINING PROGRAM	NORTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	4.00	3.51
Community college training	1.80	1.81
Vocational training centers	1.71	2.04
Open shop apprenticeship program	1.60	1.85
Union apprenticeship programs	1.20	1.58

TABLE B-3.25 Contribution of the Training Programs.

IN YOUR OPINION, WHICH OF THE FOLLOWING TRAINING PROGRAMS PRODUCES THE BEST CARPENTERS FOR YOUR NEEDS ?

Rank on the following scale:

4. Most Effective
3.
2.
1. Least Effective

TRAINING PROGRAM	NORTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	4.00	3.54
Vocational training centers	2.00	2.47
Community college training	1.86	2.22
Open shop apprenticeship program	1.83	2.46
Union apprenticeship programs	1.40	1.85

TABLE B-3.26 Performance of Training Programs.

WHAT LEVEL OF COMMUNICATION DO YOU HAVE WITH THE FOLLOWING TRAINING PROGRAMS ?

Use the following scale:

4. Very close
3. Close
2. Remote
1. Very remote

TRAINING PROGRAM	NORTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.67	2.80
Vocational training centers	2.33	1.54
Community college training	1.83	1.54
Open shop apprenticeship program	1.50	1.59
Union apprenticeship programs	1.17	1.15

TABLE B-3.27 Communication Level between Industry and Training Programs.

RANK THE FOLLOWING AS THE BEST METHOD OF ESTABLISHING AN INDUSTRY / TRAINING PROGRAM LINKAGE.

Use the following scale:

4. Most important
3.
2.
1. Least important

TRAINING PROGRAM	NORTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
Formal meeting of the two groups	3.00	3.15
Written contact	3.00	2.35
Attending educational functions	2.40	2.52
Sitting on an advisory committee	2.33	2.36

TABLE B-3.28 Strategy for Industry / Training Program Linkage.

IN YOUR OPINION, SHOULD THE CARPENTERS BE REQUIRED TO HAVE A LICENSE TO INSURE BETTER SKILLS AND STANDARDS ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	0	0.0	33	36.3
No	4	57.1	45	49.5
Cannot say	3	42.9	13	14.3
No response	0	0.0	4	*

TABLE B-3.29 Licensing of Carpenters.

FROM YOUR EXPERIENCE, DO YOU BELIEVE THAT ILLEGAL ALIENS ARE BEING HIRED BY OTHER CONSTRUCTION FIRMS ?

RESPONSE	NORTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	0	0.0	39	43.3
No	3	42.9	18	20.0
Cannot say	4	57.1	33	36.7
No response	0	0.0	4	*

TABLE B-3.30 Illegal Alien Carpenters.

IN YOUR OPINION, WHAT PERCENTAGE OF THE CARPENTERS IN FLORIDA ARE ILLEGAL ALIENS ?

QUESTION	NORTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of illegal alien carpenters	*	*	*	10.9%

NOTE : There was no response to this question in the northwest region.

TABLE B-3.31 Estimated Percentage of Illegal Aliens.

B-4 TABLES OF RESPONSES FOR

SOUTHEAST REGION

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100.0

Table B-4.1 Response by Region.

TYPE OF OPERATION

TYPE OF OPERATION	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Open shop	14	93.3	92	98.9
Union	1	6.7	1	1.1
Both (double breasted)	0	0.0	0	0.0
Total	15	100.0	93	100.0
No response	1	*	2	*

Table B-4.2 Type of Operation.

TYPE OF CONSTRUCTION UNDERTAKEN

TYPE OF CONSTRUCTION	SOUTHEAST REGION	STATEWIDE
	AVERAGE PERCENT	AVERAGE PERCENT
Residential	59.4	68.0
Commercial	40.0	26.7
Other	0.6	5.3

Table B-4.3 Type of Construction.
(in percentage)

AVERAGE VOLUME OF BUSINESS FOR HOMEBUILDERS SURVEYED

BACKGROUND INFORMATION	SOUTHEAST REGION		STATEWIDE	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Annual volume of business (in millions)	$17.3	$3.0	$5.3	$2.0
Number of single-family homes built per year.	68	10	32	10
Number of multi-family homes built per year	523	100	79	1

TABLE B-4.4 Average Volume of Business for Homebuilders Surveyed.

NUMBER OF CARPENTERS EMPLOYED PER SKILL LEVEL

RESPONSE	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Number of journeymen carpenter on the payroll	5	0	40	4
Number of journeymen carpenters that are skilled	3	0	9	2
Number of apprentices on the payroll	2	0	20	2

TABLE B-4.5 Number of Carpenters in Employment. (by skill level)

WHAT IS THE AVERAGE WAGE PAID BY YOUR FIRM TO THE FOLLOWING ?

1.Journeymen Carpenter
2.Apprentice (Carpenter-in-Training)

CARPENTER	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	$12.05	$6.50	$ 5.00	$9.97
Apprentice (Carpenter-in-training)	$8.39	$6.0	$11.5	$6.51

TABLE B-4.6 Hourly Wages.

HOW LONG, ON THE AVERAGE, DO THE CARPENTERS STAY IN YOUR EMPLOYMENT ?

CARPENTER	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	29	2	72	26
Apprentice (Carpenter-in-training)	30	3	50	60

TABLE B-4.7 Average Length of Employment. (in months)

WHERE DO YOU SEARCH FOR CARPENTERS ?
Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

HIRING PRACTICE	SOUTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
Contacts in the Construction industry	2.93	3.06
Other construction jobs	2.46	2.34
Advertisement in the papers	2.29	2.01
Company on-the-job training	1.54	1.61
Vocational training centers	1.38	1.51
Open-shop apprenticeship programs	1.23	1.49
Union apprenticeship programs	1.23	1.16
Labor unions	1.23	1.13
Community college training program	1.15	1.25
Agents	1.08	1.19

TABLE B-4.8 Hiring Practice.

WHAT CRITERIA DETERMINES PROMOTION OR INCREASE IN WAGES OF A CARPENTER IN YOUR COMPANY ?

Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

PROMOTION CRITERIA	SOUTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
Performance	3.85	3.64
Experience	3.31	3.07
Market wage rate	2.08	2.42
Seniority	1.92	2.00
Graduation from training program	1.83	1.75

TABLE B-4.9 Promotion Criteria.

ARE THERE ENOUGH SKILLED CARPENTERS FOR YOU TO HIRE ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	2	12.5	30	31.9
No	11	68.8	56	59.6
Cannot say	3	18.8	8	8.5
No response	0	*	1	*

TABLE B-4.10 Availability of Skilled Carpenters.

DO YOU FEEL THERE IS A NEED FOR MORE SKILLED CARPENTERS IN RESIDENTIAL CONSTRUCTION ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	14	87.5	78	83.9
No	1	6.3	6	6.5
Cannot say	1	6.3	9	9.7
No response	0	*	2	*

TABLE B-4.11 Need for Skilled Carpenters.

IN YOUR OPINION, WHICH OF THE FOLLOWING TASKS MUST A "SKILLED CARPENTER" BE ABLE TO PERFORM PROFICIENTLY ?

Use the following scale:

4. Absolutely Necessary
3. Necessary
2. Desirable
1. Unnecessary

SKILLS	SOUTHEAST REGION AVERAGE	STATEWIDE AVERAGE
Read blueprints	3.25	3.17
Frame floor and sills	3.31	3.13
Frame roofs	3.13	2.98
Frame partitions	3.12	3.11
Install decking and sheathing	3.12	3.07
Construction forms (footings, walls, edges, curbs)	3.06	2.69
Construction forms (piers, columns, beams, slabs, stairs, bridges, deck)	3.06	2.62
Install exterior wall covering and trim	3.00	2.95
Install structural timber	3.00	2.90
Conduct site preparations and layouts	2.94	2.54
Install door, window frame, units	2.87	2.91
Install panelling, furring, soffit ceiling	2.81	2.76
Construct interior stairs	2.81	2.15
Preplan forthcoming activities	2.75	2.63
Issue instructions to crew	2.73	2.83
Build trusses	2.60	2.41
Apply weather stripping/caulking	2.56	2.68
Install insulation, sound control material	2.31	2.13
Install cabinets, fixtures	2.25	2.48
Install drywall material	2.06	2.77

TABLE B-4.12 Desired Skill Level of Carpenters.

WOULD YOU BID MORE JOBS OR INCREASE THE VOLUME OF YOUR BUSINESS IF THERE WAS AN ADEQUATE SUPPLY OF SKILLED CARPENTERS IN THE INDUSTRY ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	4	33.3	32	36.0
No	4	33.3	29	32.6
Cannot say	4	33.3	28	31.5
No response	4	*	6	*

TABLE B-4.13 Effect of Availability of Skilled Carpenters on Business Volume.

HAVE YOU EVER, IN THE PAST YEAR, PAID OVERTIME TO SKILLED CARPENTERS BECAUSE OF ANY SHORTAGE IN THE MARKET ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	7	53.8	33	40.2
No	6	46.2	45	54.9
Cannot say	0	0.0	4	4.9
No response	3	*	13	*

TABLE B-4.14 Overtime Payments.

WOULD YOU HIRE MORE SKILLED CARPENTERS TO AVOID PAYING OVERTIME ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	7	46.7	39	45.3
No	3	20.0	24	27.9
Cannot say	5	33.3	23	26.7
No response	1	*	9	*

TABLE B-4.15 More Skilled Carpenters versus Overtime.

WHAT PERCENTAGE OF HOURS WORKED BY CARPENTERS IS OVERTIME ?
Please Estimate.

QUESTION	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of Overtime Hours work by the carpenters	8.6%	0%	18.0%	6.7%

TABLE B-4.16 Estimated Overtime Hours.
(in percentage)

IN YOUR VIEW, IS THE SHORTAGE OF SKILLED CARPENTERS DUE TO :

Use the following scale :

4. Very important reason
3. Important reason
2. Could be a reason
1. Not a reason at all

REASONS	SOUTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
Lack of training program	3.21	2.67
General decline in craftsmanship	3.20	3.02
Construction boom	3.00	2.82
Because there is greater emphasis on factory built components there is a decreased demand in the skill level of on site carpenters	2.08	2.28
More emphasis on cutting cost than quality	2.07	2.63
Low profile of labor unions	2.07	1.61
Training does not affect promotions or wage rates	2.00	1.89
Low wage rates	1.93	2.37
Part time carpenters	1.73	1.73

TABLE B-4.17 Reasons for Shortage of Skilled Carpenters.

WHAT PERCENTAGE OF CARPENTRY WORK DO YOU SUB-CONTRACT ?

QUESTION	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of carpentry work sub-contracted	60.7%	0%	100%	68.0%

TABLE B-4.18 Sub-contracted Carpentry Work. (in percentage)

IF YOU SUB-CONTRACT A MAJORITY OF YOUR CARPENTRY WORK, ARE THERE ENOUGH FIRMS AVAILABLE TO DO YOUR WORK ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	3	25.0	44	61.1
No	8	66.7	25	34.7
Cannot say	1	8.3	3	4.2
No response	4	*	23	*

TABLE B-4.19 Availability of Firms to Sub-contract Carpentry Work.

ARE YOU SATISFIED WITH THE QUALITY OF THE WORK DONE BY THE FIRMS TO WHOM YOU SUB-CONTRACT WORK ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	6	50.0	33	46.5
No	5	41.7	37	52.1
Cannot say	1	8.3	1	1.4
No response	4	*	24	*

TABLE B-4.20 Quality of Sub-contracted Work.

IN YOUR OPINION, IS THE SKILL OF THE CARPENTERS WHO WORK ON THE SUB-CONTRACTED WORK ADEQUATE ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	6	54.5	26	37.7
No	4	36.4	41	59.4
Cannot say	1	9.1	2	2.9
No response	5	*	26	*

TABLE B-4.21 Adequacy of Sub-contracted Carpentry Work.

IN YOUR OPINION, WHAT PERCENTAGE OF THE SUB-CONTRACTOR'S CARPENTERS ARE SKILLED CARPENTERS ?

QUESTION	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of sub-contractor's carpenters that are skilled	38.6%	3.0%	75.0%	36.0%

TABLE B-4.22 Percentage of Skilled Sub-contractor's Carpenters.

DO YOU THINK THAT CARPENTERS WORKING IN RESIDENTIAL CONSTRUCTION NEED TO UNDERGO SOME CLASSROOM TRAINING PROGRAM ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	12	75.0	74	80.4
No	2	12.5	9	9.8
Cannot say	2	12.5	9	9.8
No response	0	*	3	*

TABLE B-4.23 Need for Classroom Training Program.

ARE THE FOLLOWING TRAINING PROGRAMS MAKING ANY SUBSTANTIAL CONTRIBUTIONS IN SUPPLYING SKILLED CARPENTERS TO THE RESIDENTIAL CONSTRUCTION INDUSTRY ?

Use the following scale:

4. To a large extent
3. To some extent
2. To a small extent
1. Negligible

TRAINING PROGRAM	SOUTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.33	3.51
Union apprenticeship programs	2.27	1.58
Vocational training centers	2.25	2.04
Community college training	2.08	1.81
Open shop apprenticeship program	1.82	1.85

TABLE B-4.25 Contribution of the Training Programs.

IN YOUR OPINION, WHICH OF THE FOLLOWING TRAINING PROGRAMS PRODUCES THE BEST CARPENTERS FOR YOUR NEEDS ?
Rank using the following scale:

4. Most effective
3.
2.
1. Least effective

TRAINING PROGRAM	SOUTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.50	3.54
Vocational training centers	2.45	2.47
Union apprenticeship programs	2.20	1.85
Open shop apprenticeship program	2.18	2.46
Community college training	2.08	2.22

TABLE B-4.26 Performance of Training Programs.

WHAT LEVEL OF COMMUNICATION DO YOU HAVE WITH THE FOLLOWING TRAINING PROGRAMS ?

Use the following scale:

4. Very close
3. Close
2. Remote
1. Very remote

TRAINING PROGRAM	SOUTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	2.67	2.80
Community college training	1.53	1.54
Vocational training centers	1.47	1.54
Open shop apprenticeship program	1.40	1.59
Union apprenticeship programs	1.33	1.15

TABLE B-4.27 Communication Level between Industry and Training Programs.

RANK THE FOLLOWING AS THE BEST METHOD OF ESTABLISHING AN INDUSTRY / TRAINING PROGRAM LINKAGE.
Use the following scale:

4. Most important
3.
2.
1. Least important

TRAINING PROGRAM	NORTHEAST REGION	STATEWIDE
	AVERAGE	AVERAGE
Formal meeting of the two groups	3.18	3.15
Attending educational functions	2.82	2.52
Written contact	2.54	2.35
Sitting on an advisory committee	2.09	2.36

TABLE B-4.28 Strategy for Industry / Training Program Linkage.

IN YOUR OPINION, SHOULD THE CARPENTERS BE REQUIRED TO HAVE A LICENSE TO INSURE BETTER SKILLS AND STANDARDS ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	5	33.3	33	36.3
No	6	40.0	45	49.5
Cannot say	4	26.7	13	14.3
No response	1	*	4	*

TABLE B-4.29 Licensing of Carpenters.

FROM YOUR EXPERIENCE, DO YOU BELIEVE THAT ILLEGAL ALIENS ARE BEING HIRED BY OTHER CONSTRUCTION FIRMS ?

RESPONSE	SOUTHEAST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	7	50.0	39	43.3
No	2	14.3	18	20.0
Cannot say	5	35.7	33	36.7
No response	2	*	4	*

TABLE B-4.30 Illegal Alien Carpenters.

IN YOUR OPINION, WHAT PERCENTAGE OF THE CARPENTERS IN FLORIDA ARE ILLEGAL ALIENS ?

QUESTION	SOUTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of illegal alien carpenters	18.8%	3.0%	30.0%	10.9%

TABLE B-4.31 Estimated Percentage of Illegal Aliens.

B-5 TABLES OF RESPONSES FOR

SOUTHWEST REGION

RESPONSES BY REGION

REGION	NUMBER OF RESPONDENTS	PERCENT
Central	19	20.0
Northeast	25	26.3
Northwest	7	7.4
Southeast	16	16.8
Southwest	28	29.5
Total	95	100.0

Table B-5.1 Response by Region.

TYPE OF OPERATION

TYPE OF OPERATION	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Open shop	27	100.0	92	98.9
Union	0	0.0	1	1.1
Both (double breasted)	0	0.0	0	0.0
Total	27	100.0	93	100.0
No response	1	*	2	*

Table B-5.2 Type of Operation.

TYPE OF CONSTRUCTION UNDERTAKEN

TYPE OF CONSTRUCTION	SOUTHWEST REGION	STATEWIDE
	AVERAGE PERCENT	AVERAGE PERCENT
Residential	68.1	68.0
Commercial	26.7	26.7
Other	5.2	5.3

Table B-5.3 Type of Construction.
(in percentage)

ANNUAL AVERAGE VOLUME OF BUSINESS FOR HOMEBUILDERS SURVEYED

BACKGROUND INFORMATION	SOUTHWEST REGION		STATEWIDE	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Annual volume of business (in millions)	$3.6	$3.0	$5.3	$2.0
Number of single-family homes built per year.	23	10	32	10
Number of multi-family homes built per year	13	3	79	1

TABLE B-5.4 Average Volume of Business for Homebuilders Surveyed.

NUMBER OF CARPENTERS EMPLOYED PER SKILL LEVEL

RESPONSE	NORTHEAST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Number of journeymen carpenter on the payroll	5	0	30	4
Number of journeymen carpenters that are skilled	3	0	20	2
Number of apprentices on the payroll	2	0	10	2

TABLE B-5.5 Number of Carpenters in Employment. (by skill level)

WHAT IS THE AVERAGE WAGE PAID BY YOUR FIRM TO THE FOLLOWING ?

1.Journeymen Carpenter
2.Apprentice (Carpenter-in-Training)

CARPENTER	SOUTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	$9.97	$8.00	$15.00	$9.97
Apprentice (Carpenter-in-training)	$6.66	$5.50	$8.00	$6.51

TABLE B-5.6 Hourly Wages.

HOW LONG, ON THE AVERAGE, DO THE CARPENTERS STAY IN YOUR EMPLOYMENT ?

CARPENTER	SOUTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Journeymen carpenter	20	3	72	26
Apprentice (Carpenter-in-training)	10	2	30	60

TABLE B-5.7 Average Length of Employment. (in months)

WHERE DO YOU SEARCH FOR CARPENTERS ?
Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

HIRING PRACTICE	SOUTHWEST REGION AVERAGE	STATEWIDE AVERAGE
Contacts in the construction industry	2.93	3.06
Other construction jobs	2.29	2.34
Advertisement in the papers	2.19	2.01
Vocational training centers	1.52	1.51
Company on-the-job training	1.38	1.61
Open-shop apprenticeship programs	1.28	1.49
Agents	1.22	1.19
Community college training program	1.15	1.25
Union apprenticeship programs	1.15	1.16
Labor unions	1.11	1.13

TABLE B-5.8 Hiring Practice.

WHAT CRITERIA DETERMINES PROMOTION OR INCREASE IN WAGES OF A CARPENTER IN YOUR COMPANY ?

Use the following scale:

4. Always
3. Most of the time
2. Sometimes
1. Never

PROMOTION CRITERIA	SOUTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
Performance	3.52	3.64
Experience	2.77	3.07
Market wage rate	2.62	2.42
Seniority	1.75	2.00
Graduation from training program	1.47	1.75

TABLE B-5.9 Promotion Criteria.

ARE THERE ENOUGH SKILLED CARPENTERS FOR YOU TO HIRE ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	11	40.7	30	31.9
No	15	55.6	56	59.6
Cannot say	1	3.7	8	8.5
No response	1	*	1	*

TABLE B-5.10 Availability of Skilled Carpenters.

DO YOU FEEL THERE IS A NEED FOR MORE SKILLED CARPENTERS IN RESIDENTIAL CONSTRUCTION ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	23	85.2	78	83.9
No	3	11.1	6	6.5
Cannot say	1	3.7	9	9.7
No response	1	*	2	*

TABLE B-5.11 Need for Skilled Carpenters.

IN YOUR OPINION, WHICH OF THE FOLLOWING TASKS MUST A "SKILLED CARPENTER" BE ABLE TO PERFORM PROFICIENTLY ?

Use the following scale:

4. Absolutely Necessary
3. Necessary
2. Desirable
1. Unnecessary

SKILLS	SOUTHWEST REGION AVERAGE	STATEWIDE AVERAGE
Frame floor and sills	3.11	3.13
Frame partitions	3.07	3.11
Read blueprints	3.04	3.17
Install decking and sheathing	2.96	3.07
Frame roofs	2.89	2.98
Install door, window frame, units	2.86	2.91
Install exterior wall covering and trim	2.85	2.95
Install panelling, furring, soffit ceiling	2.82	2.76
Apply weather stripping/caulking	2.75	2.68
Construction forms (footings, walls, edges, curbs)	2.74	2.69
Install cabinets, fixtures	2.74	2.48
Construct interior stairs	2.70	2.15
Issue instructions to crew	2.61	2.83
Preplan forthcoming activities	2.61	2.63
Construction forms (piers, columns, beams, slabs, stairs, bridges, deck)	2.57	2.62
Conduct site preparations and layouts	2.54	2.54
Build trusses	2.36	2.41
Install drywall material	2.30	2.77
Install insulation, Sound control material	2.148	2.13
Install structural timber	2.00	2.90

TABLE B-5.12 Desired Skill Level of Carpenters.

WOULD YOU BID MORE JOBS OR INCREASE THE VOLUME OF YOUR BUSINESS IF THERE WAS AN ADEQUATE SUPPLY OF SKILLED CARPENTERS IN THE INDUSTRY ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	11	39.3	32	36.0
No	10	35.7	29	32.6
Cannot say	7	25.0	28	31.5
No response	0	*	6	*

TABLE B-5.13 Effect of Availability of Skilled Carpenters on Business Volume.

HAVE YOU EVER, IN THE PAST YEAR, PAID OVERTIME TO SKILLED CARPENTERS BECAUSE OF ANY SHORTAGE IN THE MARKET ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	5	21.7	33	40.2
No	16	69.6	45	54.9
Cannot say	2	8.7	4	4.9
No response	5	*	13	*

TABLE B-5.14 Overtime Payments.

WOULD YOU HIRE MORE SKILLED CARPENTERS TO AVOID PAYING OVERTIME ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	10	40.0	39	45.3
No	9	36.0	24	27.9
Cannot say	6	24.0	23	26.7
No response	3	*	9	*

TABLE B-5.15 More Skilled Carpenters versus Overtime.

WHAT PERCENTAGE OF HOURS WORKED BY CARPENTERS IS OVERTIME ?
Please Estimate.

QUESTION	SOUTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of Overtime Hours worked by the carpenters	3.2%	0%	10.0%	6.7%

TABLE B-5.16 Estimated Overtime Hours.
(in percentage)

IN YOUR VIEW, IS THE SHORTAGE OF SKILLED CARPENTERS DUE TO :

Use the following scale :

4. Very important reason
3. Important reason
2. Could be a reason
1. Not a reason at all

REASONS	SOUTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
Construction boom	3.00	2.82
General decline in craftsmanship	2.96	3.02
More emphasis on cutting cost than quality	2.72	2.63
Low wage rates	2.48	2.37
Lack of training program	2.42	2.67
Because there is greater emphasis on factory built components there is a decreased demand in the skill level of on site carpenters	2.25	2.28
Training does not affect promotions or wage rates	1.91	1.89
Part time carpenters	1.83	1.73
Low profile of labor unions	1.35	1.61

TABLE B-5.17 Reasons for Shortage of Skilled Carpenters.

WHAT PERCENTAGE OF CARPENTRY WORK DO YOU SUB-CONTRACT ?

QUESTION	SOUTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of carpentry work sub-contracted	68.6%	0%	100%	68.0%

TABLE B-5.18 Sub-contracted Carpentry Work. (in percentage)

IF YOU SUB-CONTRACT A MAJORITY OF YOUR CARPENTRY WORK, ARE THERE ENOUGH FIRMS AVAILABLE TO DO YOUR WORK ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	17	70.8	44	61.1
No	6	25.0	25	34.7
Cannot say	1	4.2	3	4.2
No response	4	*	23	*

TABLE B-5.19 Availability of Firms to Sub-contract Carpentry Work.

ARE YOU SATISFIED WITH THE QUALITY OF THE WORK DONE BY THE FIRMS TO WHOM YOU SUB-CONTRACT WORK ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	9	40.9	33	46.5
No	13	59.1	37	52.1
Cannot say	0	0.0	1	1.4
No response	6	*	24	*

TABLE B-5.20 Quality of Sub-contracted Work.

IN YOUR OPINION, IS THE SKILL OF THE CARPENTERS WHO WORK ON THE SUB-CONTRACTED WORK ADEQUATE ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	9	40.9	26	37.7
No	13	59.1	41	59.4
Cannot say	0	0.0	2	2.9
No response	6	*	26	*

TABLE B-5.21 Adequacy of Sub-contracted Carpentry Work.

IN YOUR OPINION, WHAT PERCENTAGE OF THE SUB-CONTRACTOR'S CARPENTERS ARE SKILLED CARPENTERS ?

QUESTION	SOUTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of sub-contractor's carpenters that are skilled	39.5%	5.0%	100%	36.0%

TABLE B-5.22 Percentage of Skilled Sub-contractor's Carpenters.

DO YOU THINK THAT CARPENTERS WORKING IN RESIDENTIAL CONSTRUCTION NEED TO UNDERGO SOME CLASSROOM TRAINING PROGRAM ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	23	85.2	74	80.4
No	2	7.4	9	9.8
Cannot say	2	7.4	9	9.8
No response	1	*	3	*

TABLE B-5.23 Need for Classroom Training Program.

DO YOU TRAIN OR SPONSOR CARPENTERS FOR THE FOLLOWING FORMAL TRAINING PROGRAMS ?

TRAINING PROGRAM	YES		NO		CANNOT SAY	
	#	%	#	%	#	%
On-the-job training	12	44.4	14	51.9	1	3.7
Open shop apprenticeship program	3	11.1	23	85.2	1	3.7
Vocational training centers	2	8.0	22	88.0	1	4.0
Community college training	0	0.0	26	96.3	1	3.7
Union apprenticeship program	0	0.0	26	96.3	1	3.7

NOTE 1: # is used to denote 'the number of respondents' and % is used to denote the 'percentage'

NOTE 2: For comparison with the statewide figures refer to Table 5-5d on page 95.

TABLE B-5.24 Sponsoring Carpenters to Training Programs.

ARE THE FOLLOWING TRAINING PROGRAMS MAKING ANY SUBSTANTIAL CONTRIBUTIONS IN SUPPLYING SKILLED CARPENTERS TO THE RESIDENTIAL CONSTRUCTION INDUSTRY ?

Use the following scale:

4. To a large extent
3. To some extent
2. To a small extent
1. Negligible

TRAINING PROGRAM	SOUTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.40	3.51
Vocational training centers	2.24	2.04
Community college training	1.75	1.81
Open shop apprenticeship program	1.65	1.85
Union apprenticeship programs	1.44	1.58

TABLE B-5.25 Contribution of the Training Programs.

IN YOUR OPINION, WHICH OF THE FOLLOWING TRAINING PROGRAMS PRODUCES THE BEST CARPENTERS FOR YOUR NEEDS ?

Rank using the following scale:

4. Most effective
3.
2.
1. Least effective

TRAINING PROGRAM	SOUTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	3.28	3.54
Vocational training centers	3.00	2.47
Community college training	2.53	2.22
Open shop apprenticeship program	2.41	2.46
Union apprenticeship programs	1.67	1.85

TABLE B-5.26 Performance of Training Programs.

WHAT LEVEL OF COMMUNICATION DO YOU HAVE WITH THE FOLLOWING TRAINING PROGRAMS ?

Use the following scale:

4. Very close
3. Close
2. Remote
1. Very remote

TRAINING PROGRAM	SOUTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
On-the-job training	2.62	2.80
Vocational training centers	1.71	1.54
Open shop apprenticeship program	1.46	1.59
Community college training	1.46	1.54
Union apprenticeship programs	1.12	1.15

TABLE B-5.27 Communication Level between Industry and Training Programs.

RANK THE FOLLOWING AS THE BEST METHOD OF ESTABLISHING AN INDUSTRY / TRAINING PROGRAM LINKAGE.

Use the following scale:

4. Most important
3.
2.
1. Least important

TRAINING PROGRAM	SOUTHWEST REGION	STATEWIDE
	AVERAGE	AVERAGE
Formal meeting of the two groups	2.88	3.15
Sitting on an advisory committee	2.47	2.36
Attending educational functions	2.39	2.52
Written contact	2.35	2.35

TABLE B-5.28 Strategy for Industry / Training Program Linkage.

IN YOUR OPINION, SHOULD THE CARPENTERS BE REQUIRED TO HAVE A LICENSE TO INSURE BETTER SKILLS AND STANDARDS ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	11	39.3	33	36.3
No	15	53.6	45	49.5
Cannot say	2	7.1	13	14.3
No response	0	*	4	*

TABLE B-5.29 Licensing of Carpenters.

FROM YOUR EXPERIENCE, DO YOU BELIEVE THAT ILLEGAL ALIENS ARE BEING HIRED BY OTHER CONSTRUCTION FIRMS ?

RESPONSE	SOUTHWEST REGION		STATEWIDE	
	NUMBER OF RESPONDENTS	PERCENT	NUMBER OF RESPONDENTS	PERCENT
Yes	13	46.4	39	43.3
No	9	32.1	18	20.0
Cannot say	6	21.4	33	36.7
No response	0	*	4	*

TABLE B-5.30 Illegal Alien Carpenters.

IN YOUR OPINION, WHAT PERCENTAGE OF THE CARPENTERS IN FLORIDA ARE ILLEGAL ALIENS ?

QUESTION	SOUTHWEST REGION			STATEWIDE
	AVERAGE	MINIMUM	MAXIMUM	AVERAGE
Percentage of illegal alien carpenters	8.9%	0%	25.0%	10.9%

TABLE B-5.31 Estimated Percentage of Illegal Aliens.