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GEORGIA INSTITUTE OF TECHNOLOGY
Engineering Experiment Station

PROJECT INITIATION

Date: March 20, 1973

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Project Director: Harvey Diamond

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Final Report

Reports will be delivered by Mr. Diamond - in person
Monthlies may be oral -
Final will be written.

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RA-62

THE MARKET FOR METAL FINISHING SERVICES IN FIVE SOUTHEASTERN STATES

By

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Industrial Development Division
ENGINEERING EXPERIMENT STATION
Georgia Institute of Technology

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THE MARKET FOR METAL FINISHING SERVICES
IN FIVE SOUTHEASTERN STATES

Purpose and Procedure

As increasing numbers of northern metalworking manufacturers "go southern," and as the volume of metal items produced in the Southeast expands, the changes in regional demand for specific metal finishing services become of great interest and importance to metal fabricators and suppliers. The purpose of this study, therefore, is to identify and quantify, by state and manufacturing operation, the market potential among metalworking companies for job shop finishing services in a selected southeastern area and to determine which types of finishing services are most called for and required by metal fabricators in the Southeast.

The study area, selected by the project sponsor, Industrial Platers, Inc., Columbus, Ohio, is composed of the five southeastern states of Alabama, Florida, Georgia, South Carolina, and Tennessee.

A survey questionnaire pertaining to purchased metal finishing services was mailed to those manufacturing companies in the study area with production operations believed to require heat treating and/or metal surface finishing. (See Appendix 1.) Requested information included annual dollar volume purchased, percentage of total for each type of finishing service used, and comments regarding satisfaction and need for additional finishing facilities in the area.

The mailing list for the survey was prepared from state manufacturing directories and trade publications and included companies representing most segments of the metal fabricating industries. These firms, all located in the five-state study area, were selected from 21 specific three-digit SIC industries which, as indicated in the 1967 Census of Manufactures, employ 86% of the national platin and heat treating production workers. (See Appendix 2 for selected SIC listing.) The recipient firms were chosen without regard for size or worth, with plant employment ranging between 20 and 6,000 persons. Questionnaires were mailed to 1,310 potential purchasers of metal finishing services.

Findings

There were 447 responses, more than 34% of the entire mailout. Individual state returns varied in number from 56 from South Carolina to 121 from Florida and in percentage response from 31% for Florida to 39% for South Carolina.

Metal finishing services purchased annually by replying companies ranged in value from nil to a million dollars. In order to cull small volumes used primarily for dies and equipment maintenance, only companies which reported purchasin $1,000 or more of one kind of finishing service annually were considered for collation and analysis. This group consisted of 254 manufacturing plants. (See Map 1 for state location.)

The total dollar volume of metal finishing services purchased yearly by the 254 companies was $14,829,000. The companies acknowledging purchase of finishing services constitute a respectable 19.4% of the total survey listing and are located throughout the five-state study area. Table 1 gives percentages of questionnaire responses and annual purchased volumes by state.

Table 1

SURVEY RESPONDENTS PURCHASING METAL FINISHING SERVICES, BY STATE

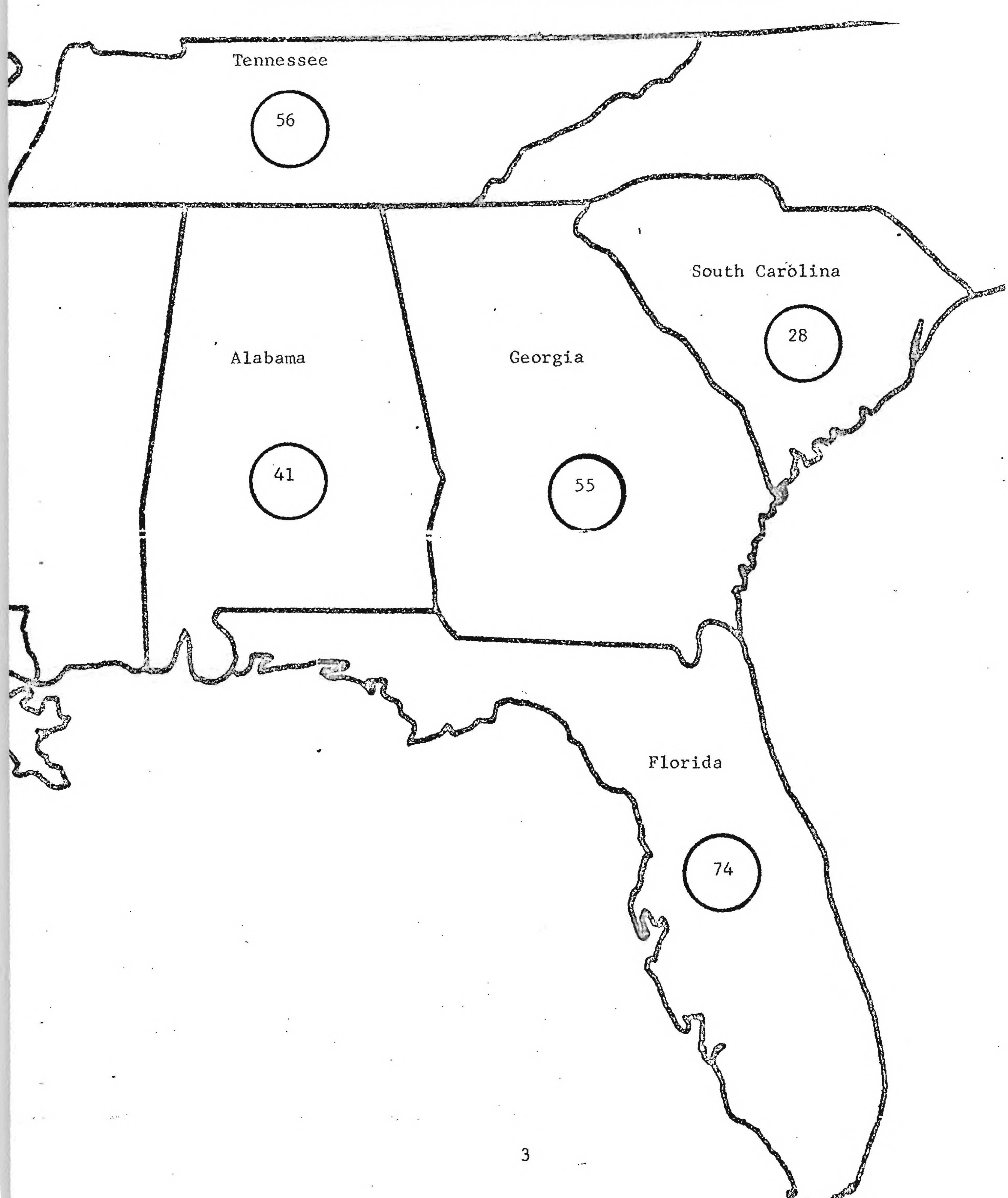
State	Number of Survey Recipients	Metal Finishing Buyers		Volume Purchased
		No.	Percent	
Alabama	184	41	22.2	$ 2,672,000
Florida	386	74	19.2	3,116,000
Georgia	292	55	18.8	3,669,000
South Carolina	144	28	19.4	977,000
Tennessee	304	56	18.4	4,395,000
Total	1,310	254	19.4	$14,829,000

Of the companies returning affirmative questionnaires, 70 firms purchase $50,000 worth or more of heat treating and/or surface finishing services annually. The locations of these plants, depicted by a buying volume symbol, are shown on Map 2.

Survey returns indicate that the demand for job shop surface finishing exceeds the need for out-of-plant heat treating both in number of customers and in dollar volume. Of the 254 participating firms, 95 purchase only surface finishing 48 purchase only heat treating, and 111 companies purchase both. As for volume, $11.1 million of $14.8 million or 75% is expended for surface finishing, while

Map 1

NUMBER OF PLANTS PURCHASING METAL
FINISHING SERVICES IN THE SOUTHEASTERN STUDY AREA



$3.7 million is spent for heat treating.

The leading type of finishing service purchased by questionnaire respondents in dollar volume, is painting with $2,955,000 worth. In terms of number of customers, hardening is first, with 127 firms out of 254 requiring the use of outside facilities. Table 2 shows the number of companies and the total dollar volume for each kind of metal finishing service reported.

Table 2

SURVEY RESPONDENTS USING JOB SHOP METAL FINISHING SERVICES

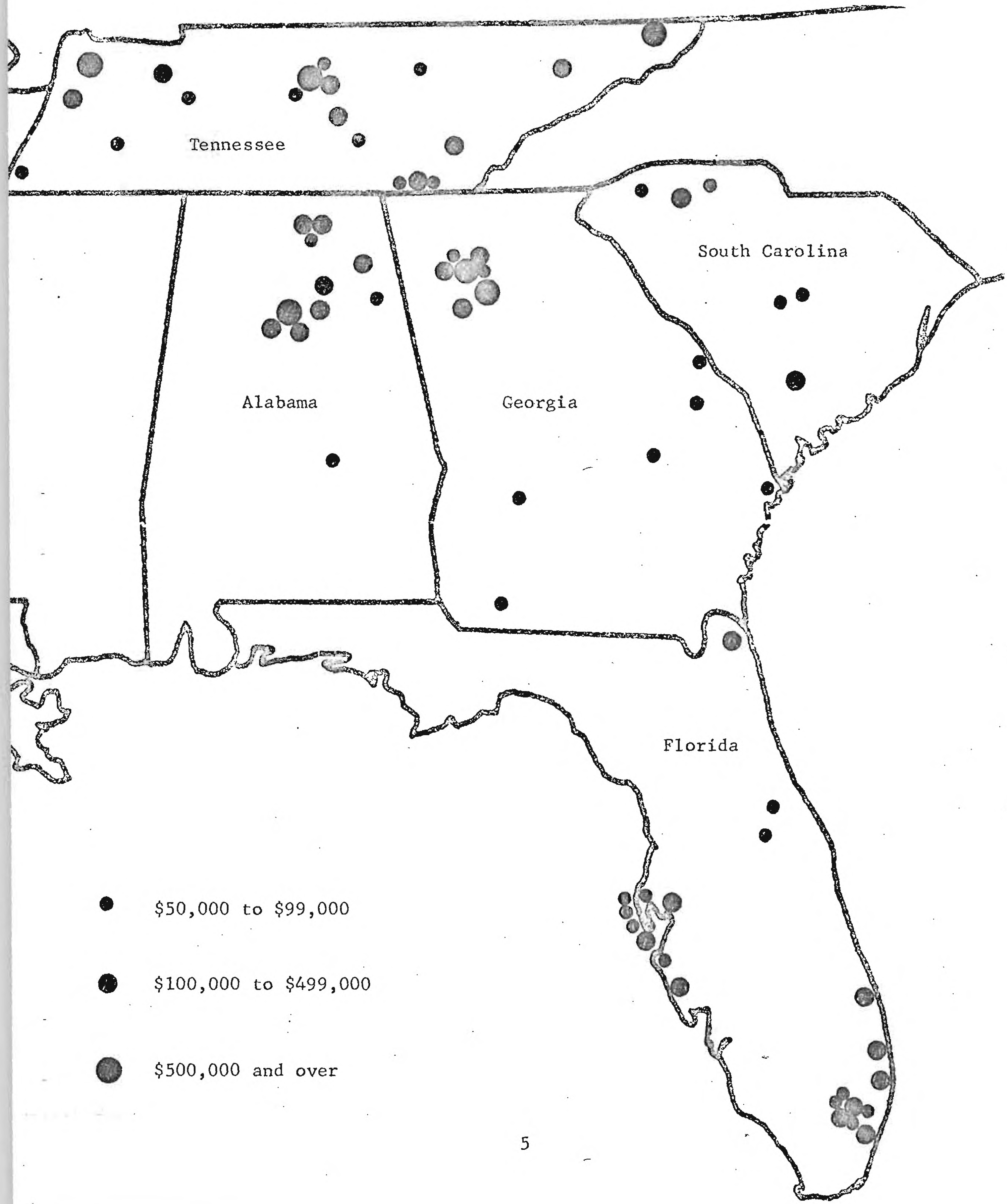
Finishing Service	Number of Companies	Volume Purchased
Heat Treating		
Annealing	47	$ 1,380,000
Nitriding	24	164,000
Hardening	127	1,073,000
Tempering	35	255,000
Stress-relieving	49	322,000
Carburizing	50	445,000
Cold treating	3	47,000
Others (brazing)	1	54,000
Surface Finishing		
Mechanical finishing	46	712,000
Electroplating	106	2,894,000
Anodizing	76	1,159,000
Conversion coating	12	49,000
Porcelain enameling	9	625,000
Galvanizing	63	2,346,000
Flame spraying	13	101,000
Painting	71	2,955,000
Others	20	248,000
Total		$14,829,000

Twenty firms listed surface finishing requirements under "others" and identified them as services such as blast cleaning, black oxide, hard coat aluminum, dry film coating, epoxy, dry lube, powder coating, silver plate, hard chrome, and matte chrome. A few of these finishes (e.g., chrome plating and silver plate), however, in all probability also are included with electroplating in a number of returns. The most frequently named "others" on the survey questionnaire were black oxide coating and dry film coating.

The 254 companies with responses collated in this report represent, in part, segments of 21 separate three-digit SIC metal fabricating industries. Table 3

Map 2

LOCATION OF PLANTS PURCHASING LARGE
VOLUMES OF METAL FINISHING SERVICES IN THE SOUTHEAST



gives a breakdown by industrial classification of the number of metal finishing users, the dollar volume purchased by each SIC group, and the percentage of the total for each classification.

Table 3

SURVEY RESPONDENTS PURCHASING METAL FINISHING SERVICES, BY INDUSTRY

SIC*	Number of Survey Respondents	Purchased Volume	Percentage of Volume
342	9	$ 293,000	2.0
344	49	4,575,000	30.9
345	9	1,086,000	7.3
346	4	269,000	1.8
348	7	645,000	4.3
349	6	53,000	0.4
352	6	1,067,000	7.2
353	13	170,000	1.1
354	30	1,471,000	9.9
355	23	572,000	3.9
356	9	179,000	1.2
357	4	122,000	0.8
359	17	381,000	2.6
361	8	534,000	3.6
363	6	440,000	3.0
364	7	714,000	4.8
366	10	784,000	5.3
367	14	506,000	3.4
371	10	536,000	3.6
372	10	377,000	2.5
382	3	55,000	0.4
Total	254	$14,829,000	100.0

*See Appendix 2 for industry description.

Of the total 447 questionnaire responses from metal fabricators in the southeastern study area, 111 report no finishing needs, 82 have adequate inplant finishing facilities, 161 use both inplant and outside finishing services, and 93 depend entirely upon job shop work for all metal finishing requirements.

Interestingly enough, while a majority of the 254 companies using job shop facilities registered satisfaction, or at least apathy, toward their present finishing sources (only 96 stated dissatisfaction), a substantially larger number (177 or 70%) believe additional metal finishing services are needed in the area. For the most part, the principal complaints cited were related to lack of galvanizing and plating facilities and poor delivery service.

Analysis of the information contained in the survey replies shows no correlation between usage and size of firm or the number of companies responding within a specific SIC group.

Since metalworking plants classified in 21 separate three-digit SIC groups are reported to employ 86% of the heat treating and plating production workers in the U. S. and because these various SIC numbers were used to prepare the questionnaire mailing list, the returns were used as a basis for estimating a total market volume. In making a projection of total job shop finishing needs, it was assumed that the respondent companies were representative of all metal finishing users in the area. The combined employment of all the manufacturing companies on the survey mailing list was considered the upper limit of the projection equation, with other known factors being the total employment for all plants returning questionnaires and the total dollar volume of metal finishing services purchased by the same responding companies.

Using the above data and adding 14% for the needs of metalworking companies not included in the mail-out, the annual market for job shop metal finishing services by metalworking companies in the five-state southeastern study area was estimated to be approximately $41.1 million, a figure equal to about 4.2% of the total U. S. demand.

Appendix 1

QUESTIONNAIRE

METAL FINISHING

1. Does your production operation require heat treating and/or surface finishing?
   Yes ________ No ________

2. Do you have inplant service facilities or do you purchase from outside sources?
   Inplant ________ Outside ________ Both ________

3. Approximate dollar value per year purchased? Heat treating $__________
   Surface finishing $__________

4. Your purchased requirements consist of the following services:

Heat Treating			Surface Finishing		
Annealing	________	% of Total	Mechanical finishing	________	% of Total
Nitriding	________	"	Electroplating	________	"
Hardening	________	"	Anodizing	________	"
Tempering	________	"	Conversion coating	________	"
Stress-relieving	________	"	Porcelain enameling	________	"
Carburizing	________	"	Galvanizing	________	"
Cold treating	________	"	Flame spraying	________	"
			Painting	________	"
Others			Others		"
( )	________	"	( )	________	"
	________			________	
	100%			100%	

5. Are you satisfied with the quality, price, and service given by your present metal finishing sources? Yes ________ No ________

6. Do you believe additional metal finishing services are needed in the Southeast? Yes ________ No ________ If so, what services?
   Comments: ____
   ____

Thank you

Appendix 2

STANDARD INDUSTRIAL CLASSIFICATION

342	Cutlery, Hand Tools, and General Hardware
344	Fabricated Structural Metal Products
345	Screw Machine Products and Bolts, Nuts, Screws, Rivets, and Washers
346	Metal Stampings
348	Miscellaneous Fabricated Wire Products
349	Miscellaneous Fabricated Metal Products
352	Farm Machinery and Equipment
353	Construction, Mining, and Materials Handling Machinery and Equipment
354	Metalworking Machinery and Equipment
355	Special Industry Machinery, Except Metalworking Machinery
356	General Industrial Machinery and Equipment
357	Office, Computing, and Accounting Machines
359	Miscellaneous Machinery, Except Electrical
361	Electric Transmission and Distribution Equipment
363	Household Appliances
364	Electric Lighting and Wiring Equipment
366	Communication Equipment
367	Electronic Components and Accessories
371	Motor Vehicles and Motor Vehicle Equipment
372	Aircraft and Parts
382	Instruments for Measuring, Controlling and Indicating Physical Characteristi