ECONOMIC AND HOUSING CONDITIONS

CITY OF DOVER

DISCUSSION MATERIALS

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Planning Department

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THE CURRENT ECONOMIC ENVIRONMENT

THE CURRENT ECONOMIC ENVIRONMENT

This section of the analysis presents an overview of the regional and city economies. Detailed data upon which the following observations are drawn are contained in Addendum A.

A Unique Regional Economy

To a large degree, the development issues Dover has and will face are structured by its regional economy--the New Hampshire portion of the Portsmouth-Dover-Rochester metropolitan area.

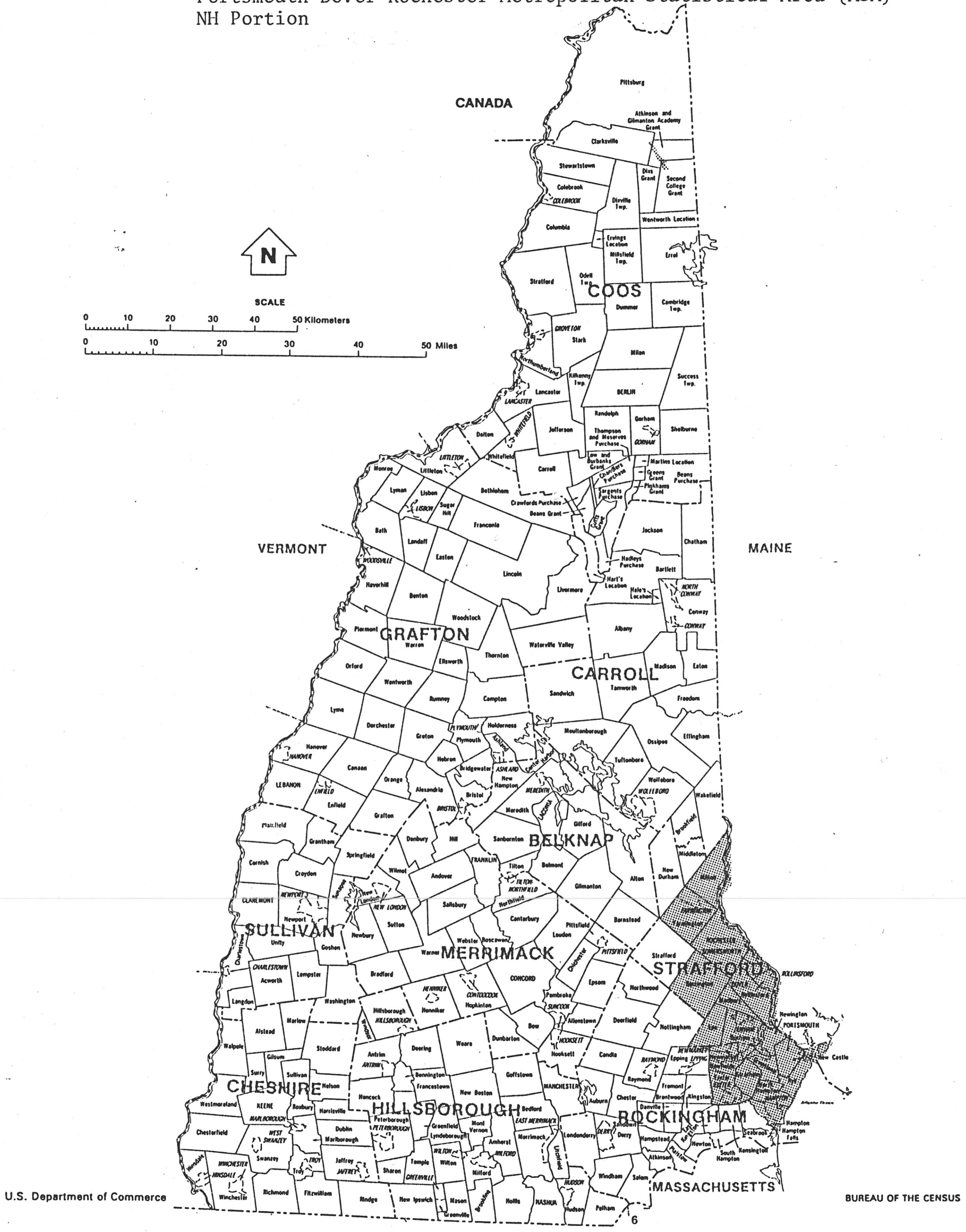
This regional economy has several distinguishing characteristics. First, unlike its counterpart metropolitan areas in northern New England (Manchester, Nashua, Portland and Burlington) there is no single community that dominates Dover's regional economy. Instead, the Dover region draws its strength as a system of smaller communities with strong economic ties and somewhat specialized functions. Portsmouth provides harborside dining, shopping and entertainment; Durham provides unparalleled educational facilities; Newington houses the region's major shopping centers, and Dover houses the county seat and a growing share of the region's manufacturing employment and population. It is because of the economic ties among the region's communities that these specialized functions can survive.

In recent years the interdependence of communities within the seacoast area has increased. As Newington has increased its inventory of retail space, its shopkeepers are more dependent on the regional economy to sustain an economic level of sales. As Portsmouth's large corporate headquarter activities grow, it necessarily draws more workers from outside its boundaries. Likewise, more than half of Dover's jobs are held by residents of other seacoast communities.

The second major characteristic of the seacoast regional economy is that measured across all major growth indicators, the regional economy has

Map 1. Market Area

Portsmouth-Dover-Rochester Metropolitan Statistical Area (MSA)
NH Portion



been expanding at a rapid rate:

> Its current population stands at just under 170,000, in contrast to 128,000 in 1970 and 149,000 in 1980.
>
> The regional economy is fueled by over 74,000 jobs, reflecting a 10,500 increase since 1980.
>
> In 1982, area retail sales stood at $1.6 billion, reflecting a growth of $1 billion over 1972 levels.
>
> Since 1980, 10,500 new housing units have been authorized by building permit, a 20 percent increase.

The dynamic aspect of the regional economy is also reflected in the employment shifts it is experiencing. Between 1980 and 1985 when New Hampshire added nearly 6,000 new manufacturing jobs, the seacoast regional economy lost 3,000 manufacturing jobs. In 1980, 32 percent of the region's employment was in manufacturing industries. By 1985, the ratio had dropped to 23 percent--a dramatic shift in but five years. During this period, the region lost a number of manufacturing jobs in old line industries, particularly the shoe industry, and those losses more than offset employment gains experienced among existing manufacturing firms and new firms attracted to the region.

With a declinining manufacturing base, the real strength of the region has been in its non-manufacturing industries. Between 1980 and 1985, the region added over 12,000 non-manufacturing jobs and almost 1,400 government jobs.

Dover's Regional Economic Role

Dover plays a number of important economic roles within this dynamic regional setting. The following paragraphs discuss the major characteristics of Dover's economy and relates those characteristics to the broader regional economic context.

Employment

The major characteristics of Dover's employment base are:

> In 1985 the city had slightly in excess of 13,600 jobs.
>
> Growth since 1980 has averaged about 400 jobs per year.
>
> Manufacturing employment totaled just under 3,900 jobs in 1985. This represents 28 percent of total employment in the city. Manufacturing employment in the city has been holding steady in the face of a sharp regional decline since 1980.
>
> As is true for the regional economy, non-manufacturing employment has been growing significantly faster than manufacturing employment. With manufacturing employment holding steady, all of the employment growth experienced by the city has been in the non-manufacturing categories.
>
> Services and trade account for 60 percent of the city's employment growth.

Placing these characteristics into the regional context leads to the following conclusions:

> Total employment in Dover has been growing at a slightly faster rate than the New Hampshire portion of the metropolitan area, but a bit slower than the state.
>
> Manufacturing employment represents a slightly higher share of total employment in Dover (28%) than in the region (24%).

On an overall basis, then, the salient distinguishing characteristics of Dover's employment base, as compared to the metropolitan area's base, is that Dover has not experienced the sharp loss in manufacturing jobs that has occurred at the metropolitan level. Consequently, manufacturing employment is a larger component of the city's economy than the metropolitan area's economy, and Dover's regional role as a manufacturing center has become more pronounced.

Population

Dover's current population is estimated to be 25,600. The long term population trends indicate that between 1910 and 1950, the city's population fluctuated in a relatively narrow range of 13,000-15,000. Since 1950, the city's population has consistently increased.

An examination of population trends since 1960 reveals that:

> In the 1960s and 1970s, the city's population was growing at about half the rate of the metro area's.
>
> Since 1980, the city's population has grown at the same rate as the metro area.
>
> The comparative percentage increase in population experienced by the city was 9 percent in the 1960s, 7 percent in the 1970s and 14 percent during the first seven years of the 1980s.

It is clear from this data that since 1980 Dover has assumed a more prominent role in housing the region's population. Its share of the region's population growth was 10 percent during the 1960s and 7 percent during the 1970s. During the first seven years of the 1980s, the city absorbed 15 percent of the region's population growth.

This more prominent role is attributable to:

> The city's prime location in the center of the metropolitan area, straddling the Spaulding Turnpike;
>
> The availability of utilities and developable land within the city's boundaries;
>
> The willingness of the city (despite its recently imposed moratorium) to accommodate additional residential development, while a number of other communities in the region have imposed new obstacles to residential development;
>
> The strong regional economy.
>
> A shift in the type of residential units built in the city. Since 1980, the city has assumed a larger share of the region's single family and condominium construction (with larger average household size).

Wages

In 1985, Dover's average manufacturing wage was just over $410 per week and its average non-manufacturing wage was just over $290 per week.

Between 1980 and 1985, manufacturing wages grew by 48 percent and non-manufacturing wages increased by 37 percent.

Dover's manufacturing wages tend to be about the same as those prevailing at the regional and state levels. Its non-manufacturing wages, however, are 17 percent lower than the state average and 8 percent lower than the metropolitan average.

Income

Dover's average household income currently stands at approximately $32,000. This is essentially the same as the estimated regional average household income. An examination of the distribution of household income reveals that there are no major distortions within the income distribution of Dover, vis-a-vis that of the region. That is, both the central point (median household income) and the proportion of households in both the high income and low income ranges is approximately the same for Dover as for the metropolitan area. Dover does, however, have a modestly higher proportion of households in the very low income categories and a modestly lower proportion of households in the very high income categories, but the differences are not pronounced.

Retail Sales

In 1982, Dover's retail sales totaled $145 million. This represented 14 percent of the metropolitan area's (including the Maine portion) retail sales.

The comparison of sales trends for Dover and for Strafford/Rockingham Counties (historic data for the metropolitan area is not available) indicates that:

> Retail sales in Dover have been growing at a significantly slower rate than in the broader economic setting. Consequently, Dover's share of the area's retail sales has declined from 13 percent in 1972 to 9 percent in 1982.
>
> This declining share of regional retail sales is

especially pronounced within the shoppers goods merchandise categories (apparel, furniture/fixture, etc.--items typically purchased in a department or specialty store). In 1972, Dover captured 20 percent of the region's shoppers goods sales. By 1982, this share had declined to 8 percent.

Dover's share of the region's convenience goods sales (food stores, drug stores, eating/drinking) has remained essentially constant at about 10 percent of the region's sales.

Dover's share of "other retail" including building materials, auto sales and gasoline service stations, has also remained essentially constant at about 10 percent of the region's share.

During the past decade, Dover's role in the regional retail market has changed markedly. Bolstered by strong population and housing growth, the city has been able to maintain a relatively constant share of the region's convenience goods and "other" retailing. Hard-hit by new concentrations of shoppers goods space in shopping centers in Newington and in outlet centers in Kittery, the city has experienced a sharp erosion of its role as a shoppers goods merchandising center. With significantly better concentrations of shoppers goods available a relatively short drive away, shoppers that traditionally supported merchants in downtown Dover and its shopping centers have been drawn to those larger concentrations. Dover is clearly exporting shoppers goods sales, despite its once strong role. In 1982, Dover captured only 8 percent of the region's shoppers goods sales despite having 15 percent of the region's population. Furthermore, Dover's shoppers goods merchants typically would draw additional support from residents of surrounding communities. This support has also drifted toward the larger concentrations in Newington and Kittery.

ADDENDUM A

FIGURE 1

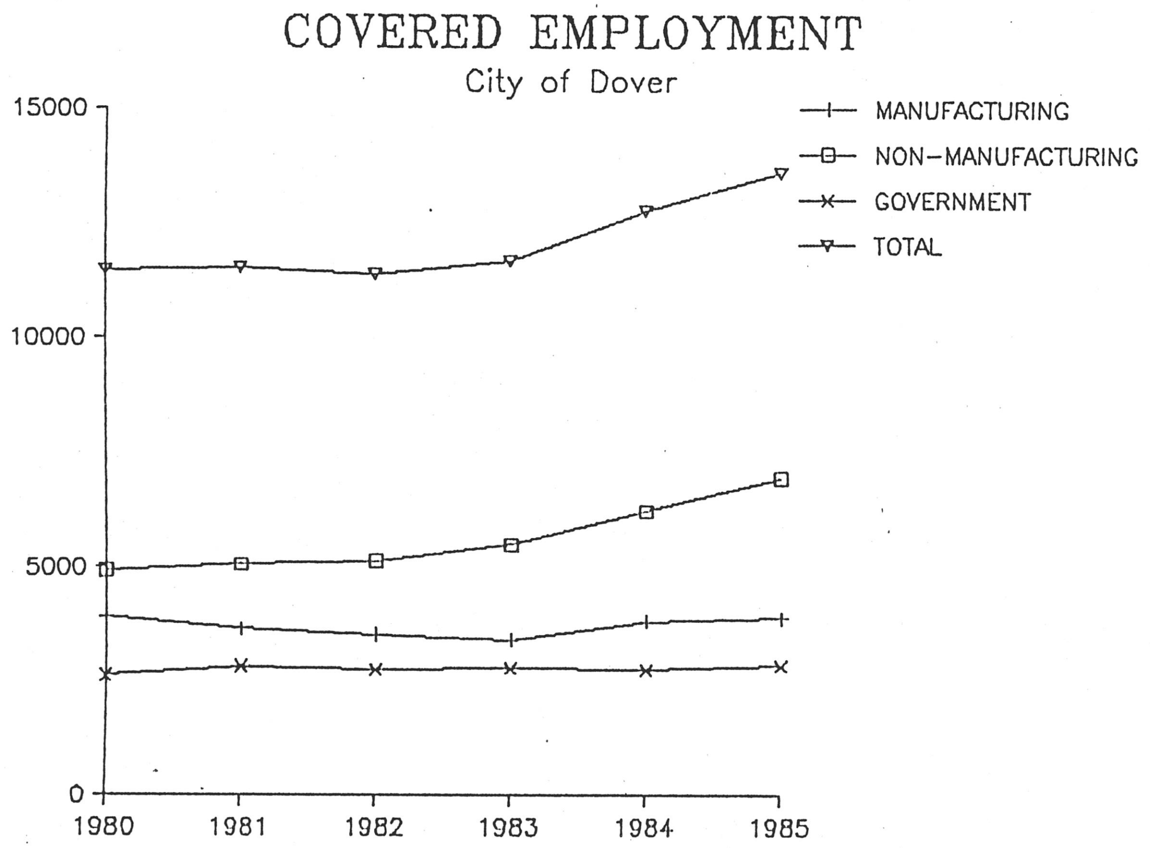
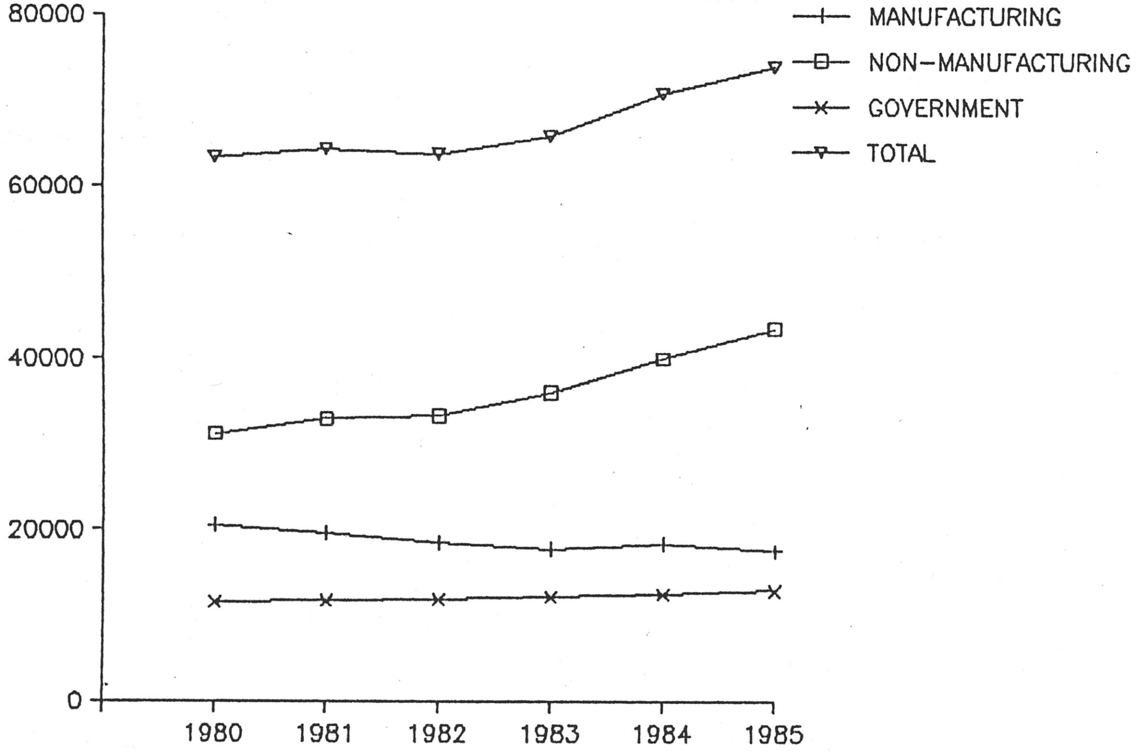


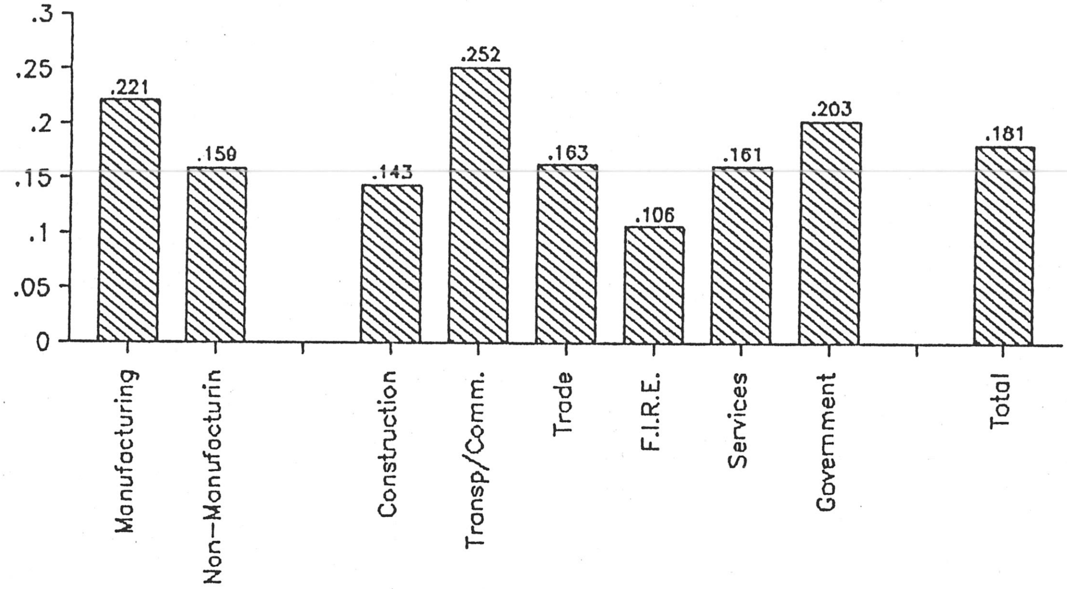
Table COMPARATIVE 1980-85 EMPLOYMENT GROWTH RATES, DOVER, NH PORTION OF METRO AREA AND STATE OF NEW HAMPSHIRE

	DOVER	METRO	STATE
Manufacturing	-1.0%	-14.7%	5.0%
Non Manufac.	40.1%	39.0%	34.5%
Government	7.9%	12.0%	5.0%
Total	18.9%	16.7%	21.2%

FIGURE 2


COVERED EMPLOYMENT

Metro Area: NH Portion

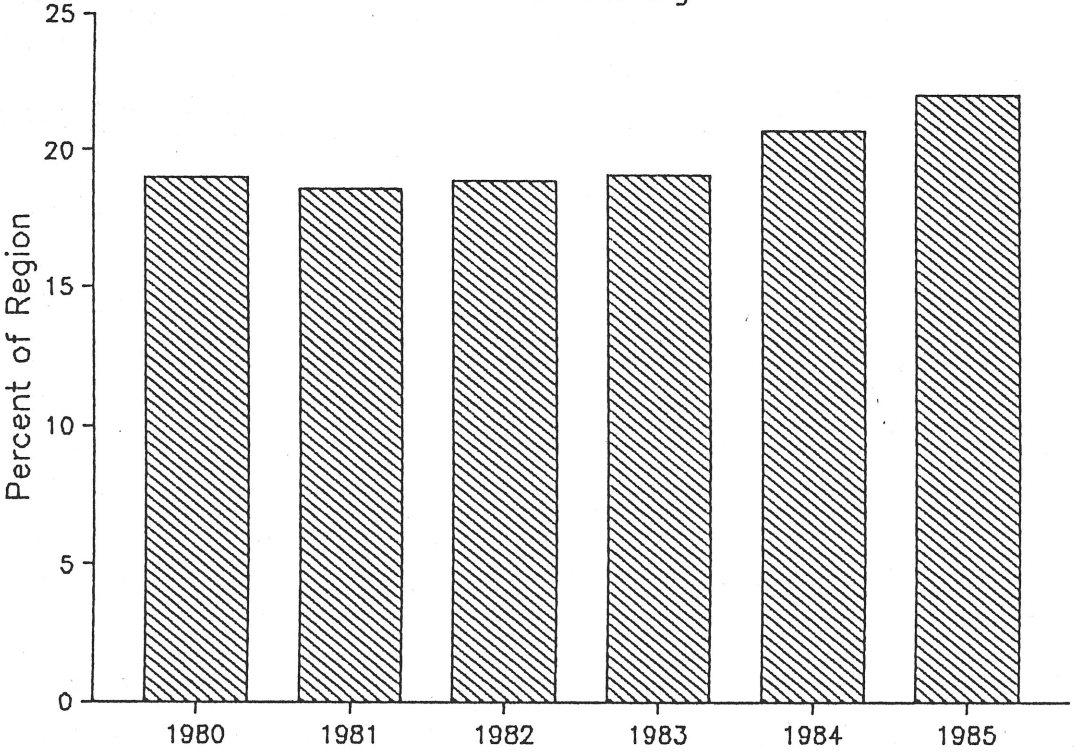

DOVER SHARE OF METRO AREA JOBS

(NH Portion of MSA)

FIGURE 3

DOVER SHARE OF METRO AREA (NH) JOBS

Manufacturing



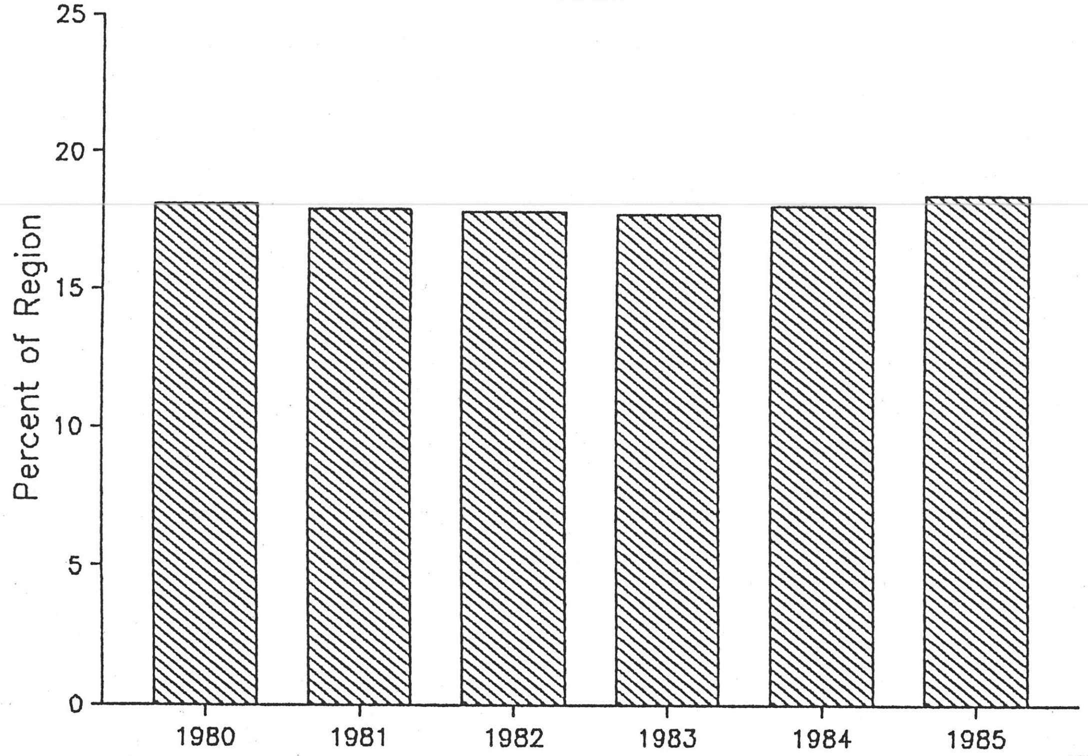
DOVER SHARE OF METRO AREA (NH) JOBS

Non-Manufacturing

FIGURE 4

DOVER SHARE OF METRO AREA (NH) JOBS

Government



DOVER SHARE OF METRO AREA (NH) JOBS

Total

FIGURE 5

COVERED EMPLOYMENT: CITY OF DOVER

COVERED EMPLOYMENT	1980	1981	1982	1983	1984	1985	Change 1980-85	ChangeOf In Percent	Percent Growth 1980-85	% of 1985 Employment	Dover Share of METRO	Dover Share Of STATE
MANUFACTURING	3,904	3,638	3,497	3,394	3,806	3,870	-34	-.87%	-1.57%	28.42%	22.05%	3.16%
Durable Goods												
Non-Durable Goods												
NON-MANUFACTURING	4,928	5,058	5,129	5,494	6,218	6,925	1,997	40.52%	92.09%	50.85%	15.92%	2.49%
Construction (Incl.Mining	246	190	204	241	332	496	250	101.63%	11.53%	3.64%	14.34%	1.59%
Transp.,Comm., Util.	175	172	263	286	400	522	347	198.29%	16.00%	3.83%	25.19%	3.32%
Trade	2,807	2,927	2,726	2,873	3,215	3,325	518	18.45%	23.89%	24.42%	16.27%	2.98%
Finance, Ins., Real Est.	420	398	419	444	431	480	60	14.29%	2.77%	3.52%	10.62%	1.92%
Services & Other	1,280	1,371	1,517	1,650	1,840	2,102	822	64.22%	37.90%	15.44%	16.14%	2.22%
GOVERNMENT	2,618	2,820	2,739	2,771	2,748	2,823	206	7.85%	9.48%	20.73%	21.93%	4.96%
Federal	335	357	363	365	359	376	41	12.17%	1.88%	2.76%	18.40%	4.96%
State	623	726	690	713	719	730	107	17.13%	4.92%	5.36%	16.19%	4.96%
Local	1,659	1,736	1,685	1,693	1,670	1,717	58	3.50%	2.67%	12.61%	27.17%	4.96%
Total	11,450	11,516	11,365	11,659	12,772	13,618	2,169	18.94%	100.00%	100.00%		

FIGURE 6

COVERED EMPLOYMENT	COVERED EMPLOYMENT 1980	1981	PORTSMOUTH-DOVER 1982	1983	MSA 1984	(NH PORTION) 1985	Change 1980-85	Change In Percent	Percent Of Growth 1980-85	% of 1985 Employment
MANUFACTURING	20,567	19,621	18,529	17,765	18,354	17,549	-3,018	-14.67%	-28.56%	23.74%
Durable Goods						10,155				13.74%
Non-Durable Goods						7,394				10.00%
NON-MANUFACTURING	31,297	33,019	33,386	36,035	40,005	43,509	12,212	39.02%	115.56%	58.85%
Construction (Incl.Mining						3,459				4.68%
Transp.,Comm., Util.						2,072				2.80%
Trade						20,438				27.64%
Finance, Ins., Real Est.						4,520				6.11%
Services & Other						13,020				17.61%
GOVERNMENT	11,500	11,720	11,900	12,124	12,553	12,874	1,374	11.95%	13.00%	17.41%
Federal	1,650	1,670	1,700	1,748	1,967	2,045	395	23.94%	3.74%	2.77%
State	3,900	3,950	4,050	4,192	4,376	4,509	609	15.62%	5.76%	6.10%
Local	5,950	6,100	6,150	6,184	6,210	6,320	370	6.22%	3.50%	8.55%
TOTAL	63,364	64,360	63,815	65,924	70,912	73,932	10,568	16.68%	100.00%	100.00%

Metro Area: NH Portion

	1983	1984	1985
govt/total	.1839087	.1770222	.1741330

FIGURE 7

COVERED EMPLOYMENT: STATE OF NEW HAMPSHIRE

COVERED EMPLOYMENT	1980	1981	1982	1983	1984	1985	Change 1980-85	Change In Percent	Percent Of Growth 1980-85	% of 1985 Employment
MANUFACTURING	116,595	116,491	111,661	113,398	123,315	122,462	5,867	5.03%	7.34%	26.78%
Durable Goods	74,155	74,831	72,398	73,118	82,675	84,152	9,997	13.48%	12.51%	18.40%
Non-Durable Goods	42,440	41,660	39,263	40,280	40,640	38,310	-4,130	-9.73%	-5.17%	8.38%
NON-MANUFACTURING	206,632	216,927	222,178	235,315	255,069	277,876	71,244	34.48%	89.18%	60.77%
Construction (Incl.Mining	19,827	20,759	23,189	25,257	25,701	31,231	11,404	57.52%	14.28%	6.83%
Transp.,Comm., Util.	13,569	13,911	14,226	14,559	15,126	15,732	2,163	15.94%	2.71%	3.44%
Trade	85,431	88,943	88,460	94,908	104,616	111,709	26,278	30.76%	32.90%	24.43%
Finance, Ins., Real Est.	19,280	20,110	20,466	21,105	22,883	24,947	5,667	29.39%	7.09%	5.46%
Services & Other	68,525	73,204	75,837	80,296	86,743	94,617	26,092	38.08%	32.66%	20.69%
GOVERNMENT	54,134	54,710	54,395	54,889	55,832	56,907	2,773	5.12%	3.47%	12.45%
Federal	6,936	6,933	7,212	7,233	7,293	7,583	647	9.33%	.81%	1.66%
State	12,890	14,095	13,714	14,118	14,606	14,716	1,826	14.17%	2.29%	3.22%
Local	34,308	33,682	33,469	33,538	33,933	34,608	300	.87%	.38%	7.57%
Total	377,361	388,128	388,234	403,602	434,216	457,245	79,884	21.17%	100.00%	100.00%

fed/state	.5380915	.4918766	.5258860	.5123247	.4993153	.5152895
state/local	.3757141	.4184728	.4097523	.4209553	.4304364	.4252196

FIGURE 8

DOVER'S SHARE OF METROPOLITAN COVERED EMPLOYMENT, 1985

	DOVER	METRO	Dover Sha
Manufacturing	3,870	17,549	22.05%
Non-Manufacturing	6,925	43,509	15.92%
Construction	496	3,459	14.34%
Transp/Comm.	522	2,072	25.19%
Trade	3,325	20,438	16.27%
F.I.R.E.	480	4,520	10.62%
Services	2,102	13,020	16.14%
Government	2,618	12,874	20.34%
Total	13,413	73,932	18.14%

DOVER SHARE OF METRO AREA JOBS
(NH Portion of MSA)

FIGURE 9

DOVER'S SHARE OF METROPOLITAN EMPLOYMENT, 1980-1985

DOVER SHARE OF NH METRO JOBS	1980	1981	1982	1983	1984	1985
MANUFACTURING	19	19	19	19	21	22
NON-MANUFACTURING	16	15	15	15	16	16
GOVERNMENT	23	24	23	23	22	22
TOTAL	18	18	18	18	18	18

0	DOVER SHARE OF METRO AREA (NH) JOBS
25	Total
	Percent of Region

FIGURE 10

POPULATION TRENDS, DOVER AND PORTSMOUTH-DOVER-ROCHESTER METRO AREA (NH PORTION)

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					CHANGE			PERCENT CHANGE		
	1960	1970	1980	1987	1960-70	1970-80	1980-87	1960-70	1970-80	1980-87
Dover	19,130	20,850	22,400	25,600	1,720	1,550	3,200	9.0%	7.4%	14.3%
Metro Area	110,900	127,700	148,900	169,900	16,800	21,200	21,000	15.1%	16.6%	14.1%
Dover's Share of Metro	17.2%	16.3%	15.0%	15.1%	10.2%	7.3%	15.2%			

Source: US Bureau of the Census and State of NH (1985 estimates)

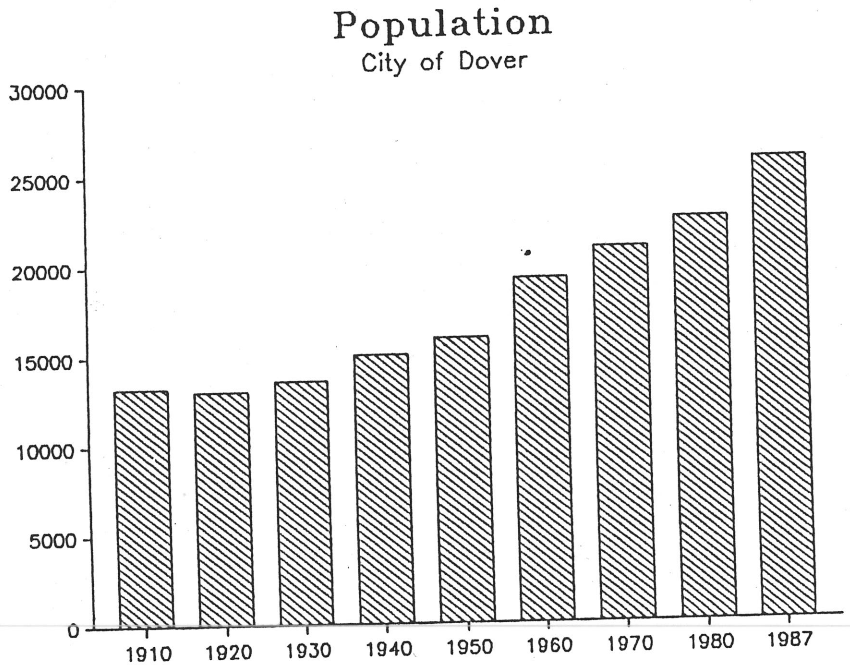

FIGURE 11

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COMPARATIVE WAGE DATA, DOVER, PORTS-DOVER-ROCHESTER METRO AREA (NH PORTION) AND NEW HAMPSHIRE

	Average Weekly Wages						Change 1980-85	Change 1980-85
	1980	1981	1982	1983	1984	1985	Dollars	Percent
STATE								
Manufacturing	$277.86	$305.12	$334.32	$358.37	$380.65	$411.85	$133.99	48.2%
Non-Manufacturing	$211.49	$229.06	$251.50	$266.45	$272.58	$290.84	$79.35	37.5%
PDR-MSA								
Manufacturing	$266.76	$298.46	$323.57	$354.91	$379.61	$416.03	$149.27	56.0%
Non-Manufacturing	$185.63	$202.24	$218.81	$232.05	$241.70	$260.47	$74.84	40.3%
DOVER								
Manufacturing	$263.31	$304.22	$323.25	$368.66	$391.09	$402.88	$139.57	53.0%
Non-Manufacturing	$179.48	$192.66	$211.37	$218.80	$229.95	$240.16	$60.68	33.8%
DOVER AS A PERCENT OF STATE								
Manufacturing	95	100	97	103	103	98		
Non-manufacturing	85	84	84	82	84	83		
DOVER AS A PERCENT OF METRO AREA								
Manufacturing	99	102	100	104	103	97		
Non-manufacturing	97	95	97	94	95	92		

FIGURE 12

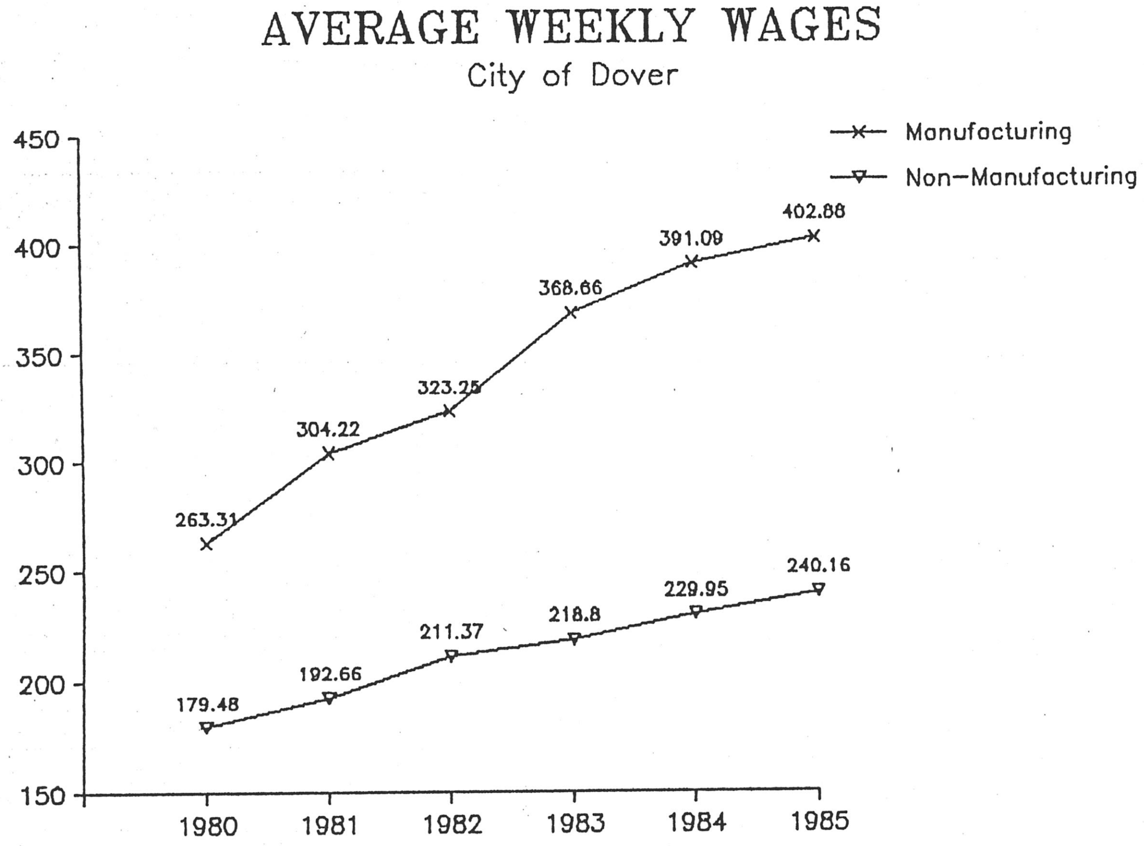
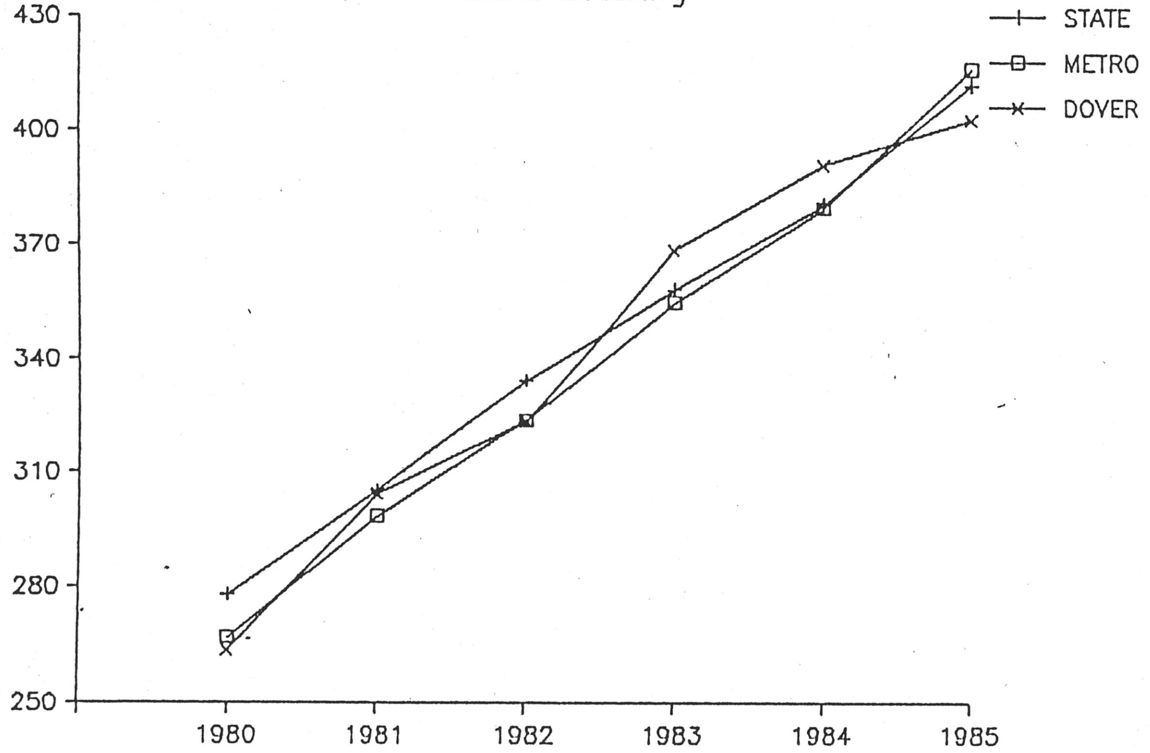

AVERAGE WEEKLY WAGES
City of Dover
Manufacturing
Non-Manufacturing
450
400
350
300
250
200
150
1980
1981
1982
1983
1984
1985
263.31
304.22
323.25
368.66
391.09
402.88
179.48
192.66
211.37
218.8
229.95
240.16

FIGURE 13

AVERAGE WEEKLY WAGES

Manufacturing



AVERAGE WEEKLY WAGES

Non-Manufacturing

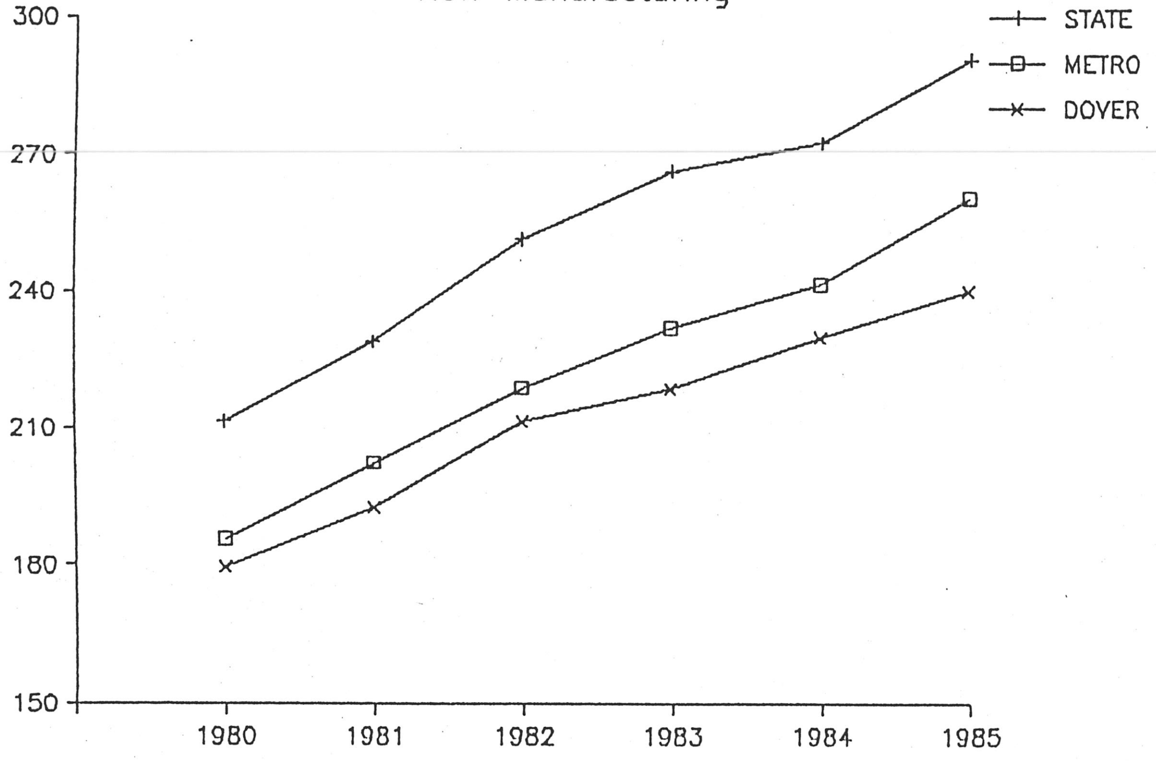
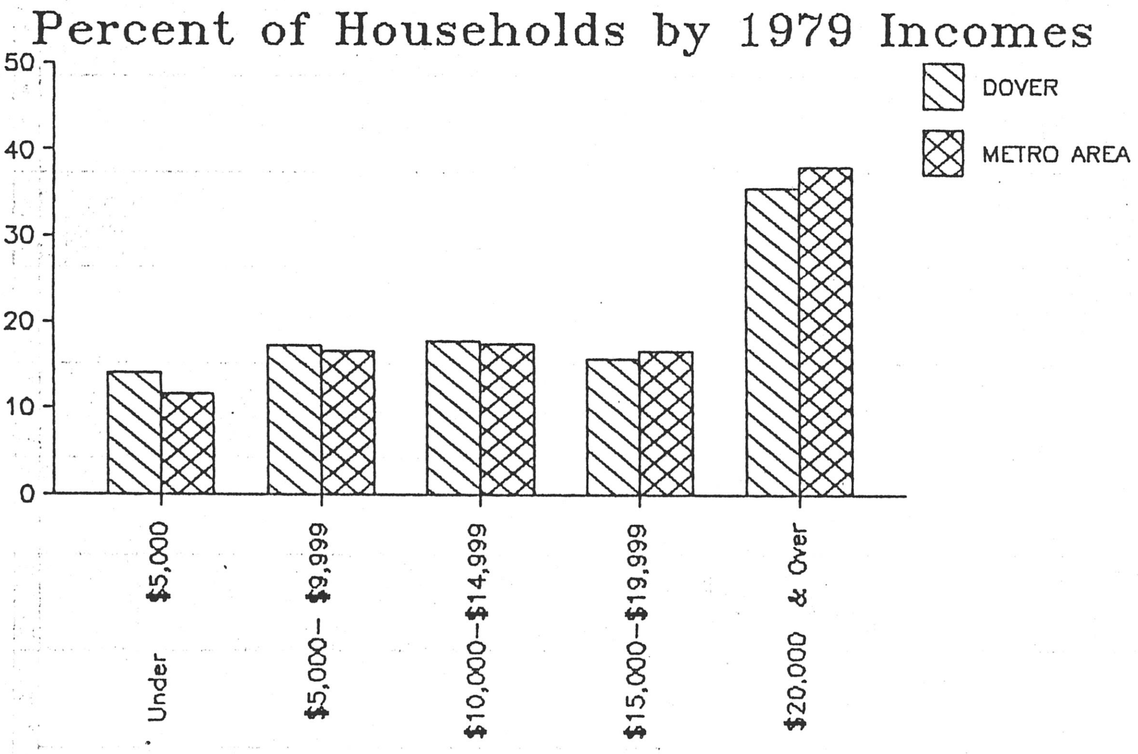


FIGURE 14



Percent of Households by 1979 Incomes
50
40
30
20
10
0
DOVER
METRO AREA
Under $5,000
$5,000– $9,999
$10,000–$14,999
$15,000–$19,999
$20,000 & Over

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FIGURE 15

TRENDS AND PROJECTIONS IN PER CAPITA AND TOTAL PERSONAL INCOME, DOVER REGION, 1979-1987 (CURRENT DOLLARS)

		PER CAPITA INCOME						POPULATION						GROSS PERSONAL INCOME				
		1979	1980	1982	1983	1985	1987	1980	1982	1983	1985	1987	1990	1980	1982	1983	1985	1987
	DOVER	6626	7445	8815	9500	11275	12741	22377	22833	23061	23517	25600	28000	$166,603,079	$201,275,043	$219,079,500	$265,152,588	$326,161,248
	BALANCE OF MARKET																	
	PRIMARY (STRAFFORD COUNTY TOWNS)																	
S	BARRINGTON	6699	7527	8992	9725	11542	13042	4404	4926	5188	5710	5838	6030	$33,150,266	$44,300,337	$50,449,410	$65,904,651	$76,141,686
S	DURHAM	5383	6049	7050	7551	8962	10127	10652	11143	11389	11880	11976	12120	$64,429,575	$78,561,750	$85,996,829	$106,466,078	$121,278,843
S	FARMINGTON	5321	5979	6745	7128	8460	9560	4630	4647	4655	4672	4995	5480	$27,682,415	$31,342,547	$33,182,266	$39,523,998	$47,751,758
S	LEE	7579	8516	10157	10977	13028	14722	2111	2280	2364	2533	2732	3030	$17,977,524	$23,155,258	$25,951,823	$32,999,640	$40,216,230
S	MADBURY	7340	8248	9615	10299	12223	13812	987	1010	1022	1045	1159	1330	$8,140,347	$9,713,264	$10,523,518	$12,773,258	$16,008,376
S	MILTON	5648	6346	7601	8229	9766	11036	2438	2477	2497	2536	2670	2870	$15,472,416	$18,830,317	$20,546,167	$24,767,756	$29,461,988
S	ROCHESTER	6301	7080	8144	8676	10297	11636	21560	21877	22035	22352	24051	26600	$152,646,892	$178,165,367	$191,177,395	$230,158,107	$279,849,852
S	ROLLINSFORD	6511	7316	8649	9316	11057	12494	2319	2387	2420	2488	2617	2810	$16,965,950	$20,642,549	$22,548,446	$27,508,709	$32,694,056
S	SOMERSWORTH	6556	7367	8556	9150	10860	12271	10350	10424	10460	10534	11084	11910	$76,244,589	$89,179,551	$95,712,660	$114,394,397	$136,019,781
	TOTAL PRIMARY (INCL.DOVER	---	7080	8275	8875	10538	11924	81828	84004	85091	87267	92722	100180	$579,313,054	$695,165,982	$755,168,015	$919,649,182	$1,105,583,818
	SECONDARY (ROCKINGHAM COUNTY TOWNS)																	
R	EXETER	7393	8268	9787	10547	12518	14145	11024	11430	11634	12040	12860	14090	$91,149,710	$111,874,268	$122,699,579	$150,711,287	$181,902,515
R	GREENLAND	7588	8486	9904	10613	12596	14233	2129	2170	2191	2232	2399	2650	$18,067,512	$21,493,939	$23,250,960	$28,114,004	$34,148,640
R	HAMPTON	8299	9282	11291	12296	14593	16490	10493	10898	11101	11506	12288	13460	$97,391,446	$123,053,623	$136,495,437	$167,910,776	$202,628,117
R	NEW CASTLE	10905	12196	14442	15565	18473	20875	936	913	902	879	947	1050	$11,415,551	$13,188,465	$14,036,517	$16,237,843	$19,776,585
R	NEWFIELDS	7381	8255	9490	10108	11997	13556	817	829	836	848	921	1030	$6,744,234	$7,871,248	$8,446,245	$10,173,056	$12,482,436
R	NEWINGTON	7392	8267	9880	10687	12684	14333	716	729	736	749	797	870	$5,919,300	$7,204,783	$7,863,495	$9,500,096	$11,428,805
R	NEWMARKET	6700	7493	8670	9259	10989	12417	4290	4809	5069	5588	5701	5870	$32,146,039	$41,697,767	$46,932,019	$61,406,003	$70,789,473
R	NORTH HAMPTON	9433	10550	12888	14057	16683	18852	3425	3523	3572	3670	3850	4120	$36,133,147	$45,404,217	$50,211,604	$61,227,856	$72,580,869
R	PORTSMOUTH	6416	7176	8641	9374	11125	12572	26254	26422	26507	26675	28729	31810	$188,388,858	$228,321,463	$248,472,868	$296,769,813	$361,172,144
R	RYE	9175	10261	13187	14650	17387	19647	4508	4648	4719	4859	5211	5740	$46,257,841	$61,298,881	$69,127,490	$84,484,078	$102,390,773
R	STRATHAM	8272	9251	11143	12089	14348	16213	2507	2749	2871	3113	3492	4060	$23,193,177	$30,636,900	$34,702,683	$44,664,229	$56,612,004
	TOTAL SECONDARY	---	8298	10012	10868	12905	14585	67099	69123	70135	72159	77195	84750	$556,806,817	$692,045,555	$762,238,898	$931,199,041	$1,125,912,360
	TOTAL MARKET AREA	---	7629	9059	9775	11609	13133	148927	153127	155226	159426	169917	184930	$1,136,119,870	$1,387,211,537	$1,517,406,913	$1,850,848,223	$2,231,496,178

FIGURE 16

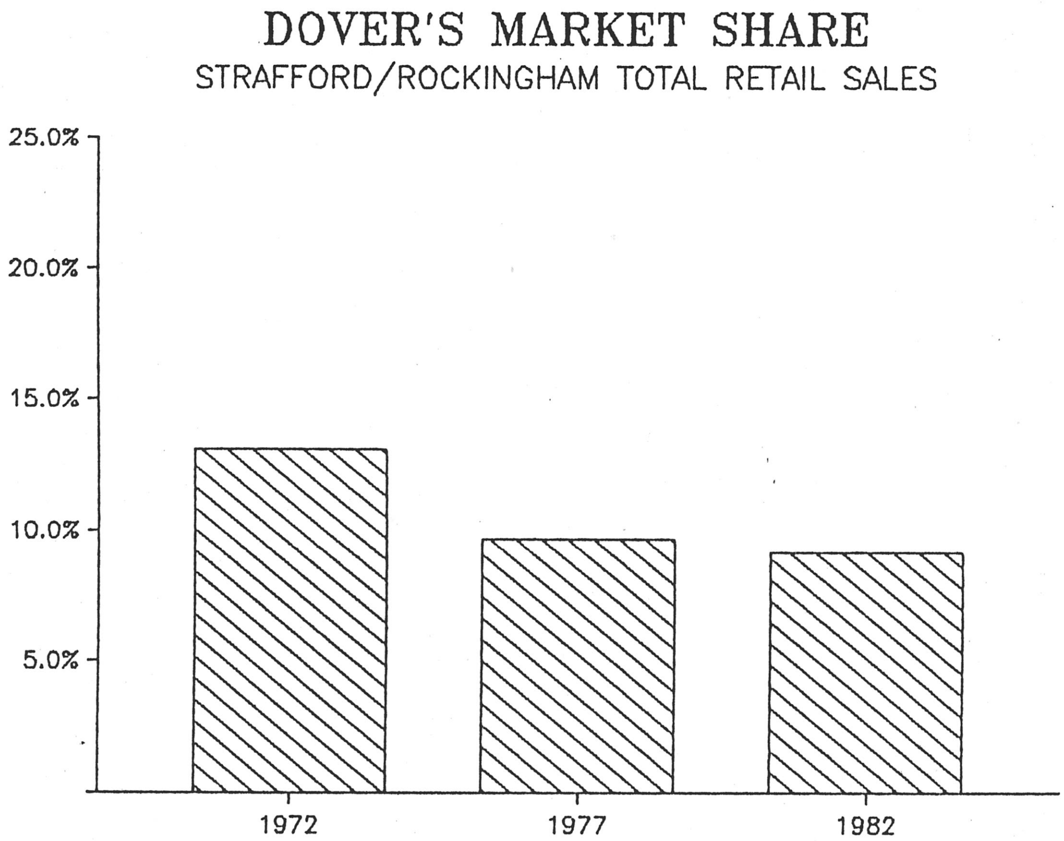

DOVER'S MARKET SHARE
STRAFFORD/ROCKINGHAM TOTAL RETAIL SALES
25.0%
20.0%
15.0%
10.0%
5.0%
1972
1977
1982

FIGURE 17

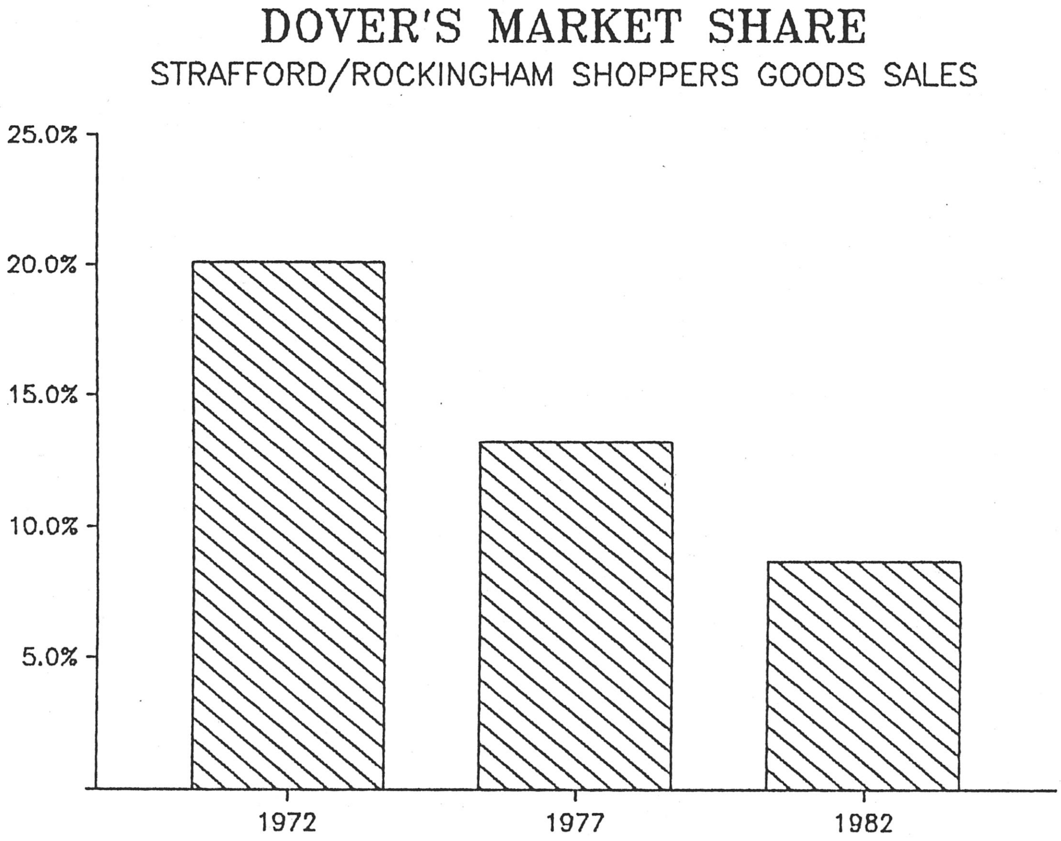
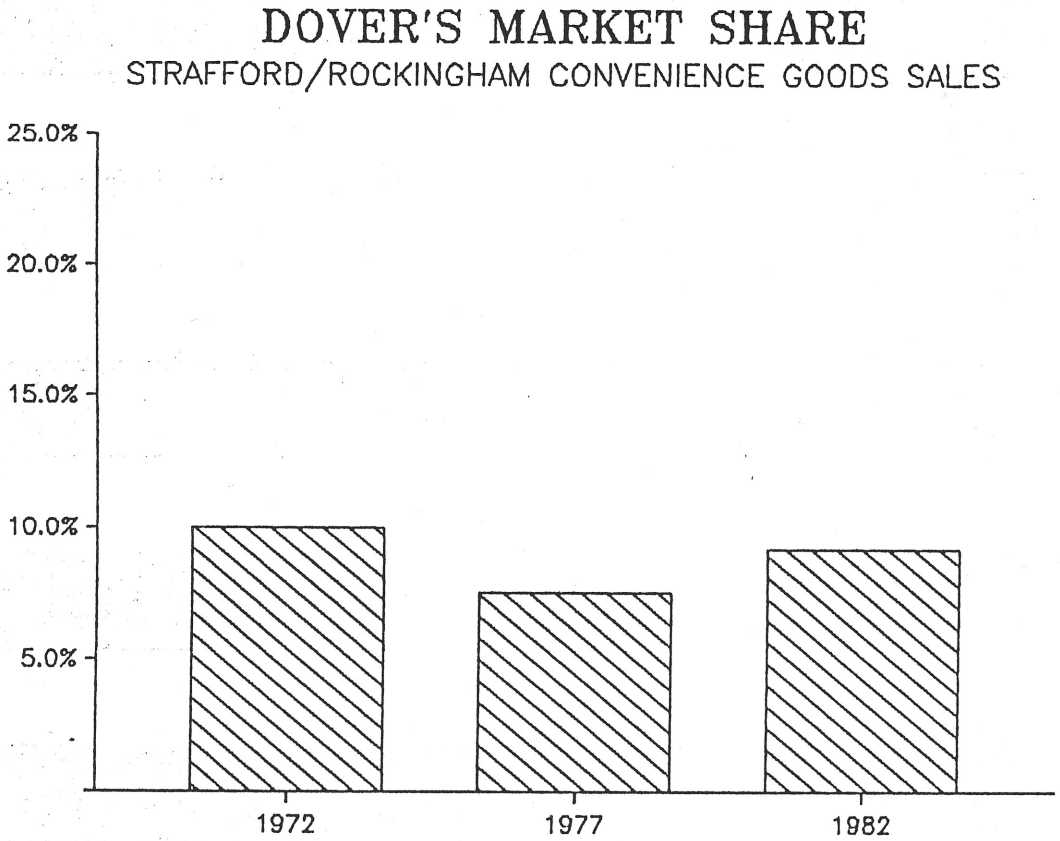

DOVER'S MARKET SHARE
STRAFFORD/ROCKINGHAM SHOPPERS GOODS SALES
25.0%
20.0%
15.0%
10.0%
5.0%
1972
1977
1982

FIGURE 18


DOVER'S MARKET SHARE
STRAFFORD/ROCKINGHAM CONVENIENCE GOODS SALES
25.0%
20.0%
15.0%
10.0%
5.0%
1972
1977
1982

RETAIL SALES TRENDS,DOVER,1977-82

8/ 7/1987

FIGURE 19

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CURRENT DOLLARS IN THOUSANDS

	DOVER CITY			CHANGE		PERCENT CHANGE	
	1972	1977	1982	1972-1977	1977-1982	1972-1977	1977-1982
SHOPPERS GOODS							
General Merchandise	15,576	13,635	8,500	(1,941)	(5,135)	(12.5%)	(37.7%)
Apparel	3,835	3,900	6,254	65	2,354	1.7%	60.4%
Furniture/Fixtures	5,209	6,845	8,406	1,636	1,561	31.4%	22.8%
Misc. Shoppers Goods	1,648	3,734	3,857	2,086	123	126.6%	3.3%
Shoppers Goods	26,268	28,114	27,017	1,846	(1,097)	7.0%	(3.9%)
CONVENIENCE GOODS							
Food Stores	12,713	16,501	31,650	3,788	15,149	29.8%	91.8%
Drug Stores	1,376	2,181	4,308	805	2,127	58.5%	97.5%
Eating and Drinking	5,403	8,836	15,096	3,433	6,260	63.5%	70.8%
Convenience Goods	19,492	27,518	51,054	8,026	23,536	41.2%	85.5%
OTHER RETAIL							
Building Materials	2,283	5,851	6,500	3,568	649	156.3%	11.1%
Misc. Stores and Mail Order	11,070	17,271	19,122	6,201	1,851	56.0%	10.7%
Automotive Dealers	12,913	14,441	27,188	1,528	12,747	11.8%	88.3%
Gasoline Service Stations	4,731	6,057	14,861	1,326	8,804	28.0%	145.4%
Other Retail	30,997	43,620	67,671	12,623	24,051	40.7%	55.1%
Total	76,757	99,252	145,742	22,495	46,490	29.3%	46.8%

FIGURE 20

RETAIL SALES TRENDS--STRAFFORD/ROCKINGHAM COUNTIES

				CHANGE		PERCENT CHANGE	
	1972	1977	1982	1972-1977	1977-1982	1972-1977	1977-1982
SHOPPERS GOODS							
General Merchandise	71,487	100,865	124,144	29,378	23,279	41.1%	23.1%
Apparel	21,893	42,080	77,884	20,187	35,804	92.2%	85.1%
Furniture/Fixtures	22,880	37,406	61,768	14,526	24,362	63.5%	65.1%
Misc. Shoppers Goods	14,378	31,911	49,257	17,533	17,346	121.9%	54.4%
Shoppers Goods	130,638	212,262	313,053	81,624	100,791	62.5%	47.5%
CONVENIENCE GOODS							
Food Stores	149,154	260,985	381,173	111,831	120,188	75.0%	46.1%
Drug Stores	9,943	24,380	43,484	14,437	19,104	145.2%	78.4%
Eating and Drinking	36,185	81,080	133,169	44,895	52,089	124.1%	64.2%
Convenience Goods	195,282	366,445	557,826	171,163	191,381	87.6%	52.2%
OTHER RETAIL							
Building Materials	39,760	67,878	99,042	28,118	31,164	70.7%	45.9%
Misc. Stores and Mail Order	75,526	127,998	210,183	52,472	82,185	69.5%	64.2%
Automotive Dealers	104,729	194,755	295,677	90,026	100,922	86.0%	51.8%
Gasoline Service Stations	41,052	63,240	121,950	22,188	58,710	54.0%	92.8%
Other Retail	261,067	453,871	726,852	192,804	272,981	73.9%	60.1%
Total	586,987	1,032,578	1,597,731	445,591	565,153	75.9%	54.7%

FIGURE 21

DOVER SHARE OF ROCKINGHAM/STRAFFORD COUNTY SALES

				Share of Growth	
	1972	1977	1982	1972-77	1977-82
SHOPPERS GOODS					
General Merchandise	21.8%	13.5%	6.8%		
Apparel	17.5%	9.3%	8.0%	.3%	6.6%
Furniture/Fixtures	22.8%	18.3%	13.6%	11.3%	6.4%
Misc. Shoppers Goods	11.5%	11.7%	7.8%	11.9%	.7%
Shoppers Goods	20.1%	13.2%	8.6%	2.3%	
CONVENIENCE GOODS					
Food Stores	8.5%	6.3%	8.3%	3.4%	12.6%
Drug Stores	13.8%	8.9%	9.9%	5.6%	11.1%
Eating and Drinking	14.9%	10.9%	11.3%	7.6%	12.0%
Convenience Goods	10.0%	7.5%	9.2%	4.7%	12.3%
OTHER RETAIL					
Building Materials	5.7%	8.6%	6.6%	12.7%	2.1%
Misc. Stores and Mail Order	14.7%	13.5%	9.1%	11.8%	2.3%
Automotive Dealers	12.3%	7.4%	9.2%	1.7%	12.6%
Gasoline Service Stations	11.5%	9.6%	12.2%	6.0%	15.0%
Other Retail	11.9%	9.6%	9.3%	6.5%	8.8%
Total	13.1%	9.6%	9.1%	5.0%	8.2%

Shoppers Goods	20.1%	13.2%	8.6%

DOVER'S MARKET SHARE
STRAFFORD/ROCKINGHAM SHOPPERS GOODS SALES

HOUSING MARKET TRENDS AND CURRENT HOUSING CONDITIONS

This section of the analysis presents an overview of Dover's role within the regional housing market, a review of housing development and population growth patterns within the city of Dover, and statistical and visual assessments of housing need within the city based on affordability and structural conditions.

Housing Supply Growth

Dover has continued to capture a relatively consistent share of housing unit growth over the past 16 years. Between 1970 and 1980, the city absorbed 13 percent of the market area's overall household growth. It absorbed 22 percent of the increase in renters, but only seven percent of the increase in owner households. Because of the smaller size of renter households, Dover absorbed only 7 percent of the area's population growth during the period.

In the 1970s, the market area added an annual average of 1,400 households. In the recessionary years of 1980 to 1982, a period of low housing production generally, market area growth had slowed to an average of 600 units per year measured by building permits issued. In the strong growth years of housing market recovery, 1983 to 1986, the market area added 2,200 units per year on average. In both the slow and high-growth periods, Dover's share of overall activity was 14 percent and 13 1/2 percent respectively.

With the introduction of a substantial number of single family attached condominium, and increased activity in move-up buyer markets (repurchasers), Dover's share of single family activity and owner occupancy appears to be increasing. From 1980-86, the city absorbed 16 percent of single family growth, 13 percent of multi-family growth, and six percent of mobile home growth within the market area. The Metropolitan area as a whole contains a relatively small share of state's mobile home inventory with respect to its share of the state's population.

Characteristics of Recent Movers

The city's recent survey of occupants of new units constructed in the city of Dover built between 1980 and 1986 provides a number of indicators of the housing market orientation of new development in the city. Significant characteristics of the households residing in new units are:

(1) Median income of households in new units was $31,000 ($36,200 for homeowners and $26,000 for renters; excluding those listed as retired);

(2) The average household size was 2.39, with an average number of school-aged children per household of .34;

(3) Thirty-seven percent of the homeowners in new units already lived in Dover prior to buying their new home; 30 percent lived in other parts of Rockingham or Strafford County and 33 percent lived outside of the two-county area;

(4) Only 19 percent of the renters in new units previously resided in Dover; 30 percent had lived in other parts of Rockingham and Strafford County, and 51 percent lived outside of the two-county area. Renters were therefore more likely to make long-distance moves to Dover; and

(5) Eighty-eight percent of the households in new units were either retired or worked in Rockingham and Strafford Counties; 29 percent of the residents of new units were working in Dover; only one percent were commuting to Massachusetts.

The results of the survey suggest that Dover has continued to provide a source of middle-income housing within an increasingly costly housing market.

Income and Housing Cost

Income

The distribution of household income in Dover relative to the market area is influenced by the age and housing tenure mix of the population. Significant differences exist between Dover and the market area:

Approximately 33 percent of the Dover population in 1980 was age 45 and over and 12.2 percent were 65 and over, while within the market area, only 29 percent were age 45 and over, and only 10.7 percent were age 65 plus.

Forty-seven percent of Dover's households were renters in 1980 compared to only 39 percent for the total market area.

Median household income in Dover in the 1980 Census was about five percent lower than the metropolitan area; however, this appears to be due to Dover's large share of the renter population.

Homeowner median income in Dover was slightly higher than the market area median, while renter median income in Dover is substantially lower.

Dover had a relatively high share of the market area's very low-income (earning under $5,000 in 1980) households.

In 1980, 11.4 percent of Dover's population was estimated to be residing below the poverty level, significantly higher than the metropolitan area's 9.5 percent population in poverty.

Housing Cost

The median value (1980) of owner-occupied units in Dover was about seven percent lower than the metro area, while 1980 median rents were slightly higher by about three percent. During the last three years, an Applied Economic Research, Inc. sample of major rental housing projects in the city of Dover shows that contract rents increased by about 28 percent for studio apartments, 22 percent for one-bedroom apartments, and 20 percent for two-bedroom apartments. The New Hampshire Housing Finance Authority's Annual Rent Survey suggests that rents in Strafford County, dominated by the tri-city area of Dover-Somersworth-Rochester, continue to have rents more affordable than those in the Rockingham County portion of the market, although the most recent sample year a flattening out of rents could be seen in Rockingham County, while Strafford County rents continued a moderate but steady increase. With the frequency of long-distance moves by renters, the cost differentials across the rental market show less than prices in the ownership market.

New condominiums sold in Dover during calendar year 1986 through the first quarter of 1987 had a median sales price of approximately $82,600, only about five percent less than the estimated metropolitan area median price of $87,100. However, the differential in single family home sales (non-luxury units) appears to be much wider. Based on a 1986 sample of single family sales (new and existing) by the New Hampshire Housing Finance Authority, Applied Economic Research, Inc. estimates the median sales price in Dover (1986) for a single family detached home to have been $88,000 compared to a metropolitan area median of approximately $112,000, or a differential of over 20 percent.

Both income and housing cost data for 1980 and for the current market suggest Dover is continuing to participate principally in the middle-income housing market, but is not yet participating significantly in the upper-priced single family markets. Dover's role has continued to be that of supplying a source of moderate-cost ownerhship and rental housing, within the Seacoast market.

Regional Housing Need: Low-Income Renters

The existence of housing need is increasingly emphasizing housing affordability criteria. Applied Economic Research, Inc. has prepared detailed tables on the distribution of Dover households by income, elderly/non-elderly, and owner versus renter status. (See Table 1.)

The most severe housing need among households as measured in the 1980 Census would be found among those renters earning under $10,000 annual income and either residing in a sub-standard or overcrowded unit and/or spending 30 percent or more of their income on rent. In 1980, Dover had 1,400 such households (35 percent of its total renter households). Of these 1,400, approximately 300 were elderly households and 1,100 non-elderly.

As of the 1980 Census, the median renter household income was approxi-

TABLE 1.

DOVER1

DOVER HOUSEHOLDS BY AGE, TENURE & INCOME

HOUSEHOLDS WITH SELECTED CONDITIONS:(1) U S CENSUS 1980

	Homeowners			Renters			All Households		
Income Range	Age 62+	Other	Total	Age 62+	Other	Total	Age 62+	Other	Total
Under $5,000	46	4	50	204	454	658	250	458	708
$5,000- $9,999	45	0	45	88	672	760	133	672	805
$10,000-$14,999	18	59	77	17	210	227	35	269	304
$15,000-$19,999	0	60	60	0	26	26	0	86	86
$20,000 & Over	42	87	129	5	23	28	47	110	157
Total	151	210	361	314	1385	1699	465	1595	2060

TOTAL HOUSEHOLDS: U S CENSUS 1980

	Homeowners			Renters			All Households		
Income Range	Age 62+	Other	Total	Age 62+	Other	Total	Age 62+	Other	Total
Under $5,000	178	117	295	408	474	882	586	591	1177
$5,000- $9,999	272	149	421	186	829	1015	458	978	1436
$10,000-$14,999	315	321	636	79	769	848	394	1090	1484
$15,000-$19,999	175	539	714	48	545	593	223	1084	1307
$20,000 & Over	302	2084	2386	41	541	582	343	2625	2968
Total	1242	3210	4452	762	3158	3920	2004	6368	8372

Source: 1980 Census, Summary Tape File 4

---

(1) Footnote: For renters, "selected conditions" mean that the household: pays 30% or more of income to rent; or resides in an overcrowded unit; or resides in sub-standard unit (lacking complete plumbing facilities). For homeowners, "selected conditions" mean that the household: resides in a sub-standard unit (lacking complete plumbing); or resides in an overcrowded unit; or resides in a unit built prior to 1940 <u>and</u> which has low market value (under $30,000 in 1980).

TABLE 2.

TOTAL METROPOLITAN AREA (CURRENT DEFINITION OF MSA)
HOUSEHOLDS WITH SELECTED CONDITIONS: U S CENSUS 1980

	Homeowners			Renters			All Households		
Income Range	Age 62+	Other	Total	Age 62+	Other	Total	Age 62+	Other	Total
Under $5,000	234	78	312	988	2038	3026	1222	2116	3338
$5,000- $9,999	285	103	388	530	2789	3319	815	2892	3707
$10,000-$14,999	144	265	409	107	1133	1240	251	1398	1649
$15,000-$19,999	82	229	311	21	365	386	103	594	697
$20,000 & Over	169	760	929	13	250	263	182	1010	1192
Total	914	1435	2349	1659	6575	8234	2573	8010	10583

DOVER SHARE OF METRO AREA HOUSEHOLDS WITH SELECTED CONDITIONS

	Homeowners			Renters			All Households		
Income Range	Age 62+	Other	Total	Age 62+	Other	Total	Age 62+	Other	Total
Under $5,000	19.66%	5.13%	16.03%	20.65%	22.28%	21.74%	20.46%	21.64%	21.21%
$5,000- $9,999	15.79%	.00%	11.60%	16.60%	24.09%	22.90%	16.32%	23.24%	21.72%
$10,000-$14,999	12.50%	22.26%	18.83%	15.89%	18.53%	18.31%	13.94%	19.24%	18.44%
$15,000-$19,999	.00%	26.20%	19.29%	.00%	7.12%	6.74%	.00%	14.48%	12.34%
$20,000 & Over	24.85%	11.45%	13.89%	38.46%	9.20%	10.65%	25.82%	10.89%	13.17%
Total	16.52%	14.63%	15.37%	18.93%	21.06%	20.63%	18.07%	19.91%	19.47%

Source: 1980 Census, Summary Tape File 4 and AER, Inc. selected conditions as defined in Table 1.

mately $10,000 in Dover; median renter income was about half that of owner median income. Renters earning under $10,000 had a significantly higher incidence of housing affordability and quality problems.

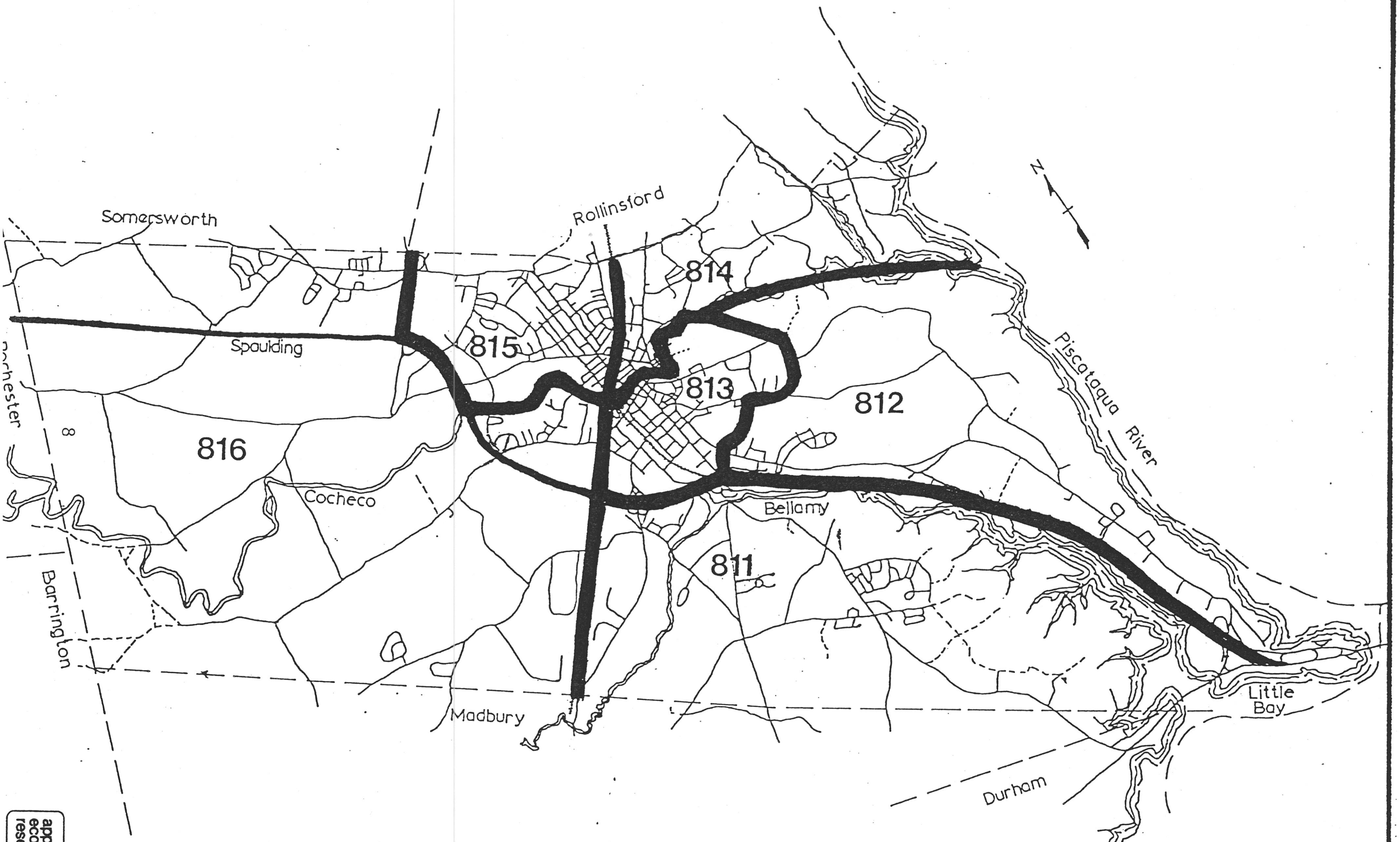
Dover has a relatively high share of the market's renters in low to moderate-income households with sub-standard housing and over-payment problems. (See Table 2.)

Because of the existence of subsidy programs, Dover has a somewhat lower share of the region's very low-income renters with housing problems, since households residing in assisted units in 1980 paid less than 30 percent of income for rent. Within the market area in 1980, there were approximately 2,300 assisted housing units with subsidies committed to specific structures. Dover had 686 of these units, or 30 percent of the region's total. As of 1987, Dover's subsidized housing inventory had increased to 740, representing about 27 percent of the area's estimated 2,700 total units. Subsidized housing units in Dover account for 31 percent of the assisted family structures of the region and 25 percent of the elderly units. These figures do not include the additional Section 8 Existing and voucher subsidies made available to lower-income households. Dover's overall share of the region's assisted housing units sees its share of market area population (15 percent) and its share of low-income housing needs as measured in Table 2.

Housing Trends Within the City

Using the 1980 Census Tract definitions (see Map 2) for the city of Dover, Applied Economic Research, Inc. has examined and summarized 1970, 1980, and 1987 (estimated) data for housing and population growth within the city. A review of the data contained in Figures 12 through 18 suggest that:

> The southwestern portion of the city (Tract 811) continues to absorb the bulk of new housing growth and population as well as the bulk of proposed new housing units (this area is the most closely oriented to best access to the Spaulding Turnpike));
>
> Population growth remains strongly related to housing



MAP 2

CITY OF DOVER, N.H.

CENSUS TRACTS - 1980

applied economic research aer

July '76

type. Areas with significant single family/condominium growth or owner-occupied orientation will tend to absorb significantly greater shares of net population increase.

The orientation of new movers toward factors of "location" and housing availability and cost suggest that the principal reasons for Dover's surging housing growth has been its relative accessibility and its relative housing costs, rather than the attraction of particular services offered by the city.

Housing Need Within the City

The 1980 Census provides detailed information on housing condition and the relationship of housing cost to income. Table 3 illustrates the distribution of various factors measuring sub-standard conditions and the distribution of low-income renter households paying excessive amounts for housing. Eighty percent of the overall housing need illustrated in Table 3 may be found within the built-up areas of the central city. Generally, programs oriented toward dealing with housing needs are those which either provide benefits principally to low to moderate-income households, or which improve infrastructure in lower-income neighborhoods. A combination of 1980 statistical measures available from the Census and a windshield survey by AER, Inc. in July suggest that the current Community Development Block Grant target area for Dover represents only a portion of the area in which housing need is concentrated within the city. (See Map 3.)

Our impression of current conditions is that highly visible properties on the major thoroughfares have shown significant improvement in recent years. In addition, there has been in-fill development of new housing units in otherwise below-average quality neighborhoods by virtue of the increase in achievable rents within the markt, and also by the improvements made in the city's CDBG Program.

The areas containing the city's lowest-quality housing, as measured by statistical indicators of need, suggest about the same pattern as they did in 1970. While properties in the more visible, well-traveled streets have shown significant improvement, the valuation of streets off the major thoroughfares finds continued evidence of housing and infrastructure problems.

Conclusions

(1) Dover has absorbed a fairly consistent proportion of the market area's housing growth since 1970, though in the most recent years of 1985 to 1986 its share declined;

(2) Dover has been a significant source of low to moderate-income housing with the regional economy;

(3) The mix of housing types developed in Dover since 1980 evidences a shift away from a predominantly rental housing role for the city and into an increased single family/condominium role;

(4) Within the city, housing development and population growth from 1970 to 1980 and 1980 to 1987 has been highly concentrated in the southwestern protion of the city oriented toward the Spaulding Turnpike commuter access;

(5) Housing cost differentials and good accessibility to the region's job market have made Dover highly attractive to the middle-income housing market;

(6) The current CDBG target area in the city represents only a portion of the areas in which housing need is concentrated within Dover. While the more well-traveled streets present the image of high degree of market activity in housing rehabilitation, significant needs may be found on the less well-traveled streets of the city;

(7) While there has been significant household growth in the city's center and its built-up areas, a lower number of persons per household and concentration of rental housing means that population increases have not been as great;

(8) Population growth remains strongly related to housing type as areas with significant single family/condominium growth or owner-occupied orientation will receive significantly greater shares of net population increase than those areas oriented more toward rental or multi-family growth; and

(9) The orientation of new movers toward factors of "location" and housing availability and cost and high growth within this particular section of the city suggest the principal reasons for Dover's housing growth have been relative accessability and housing cost.

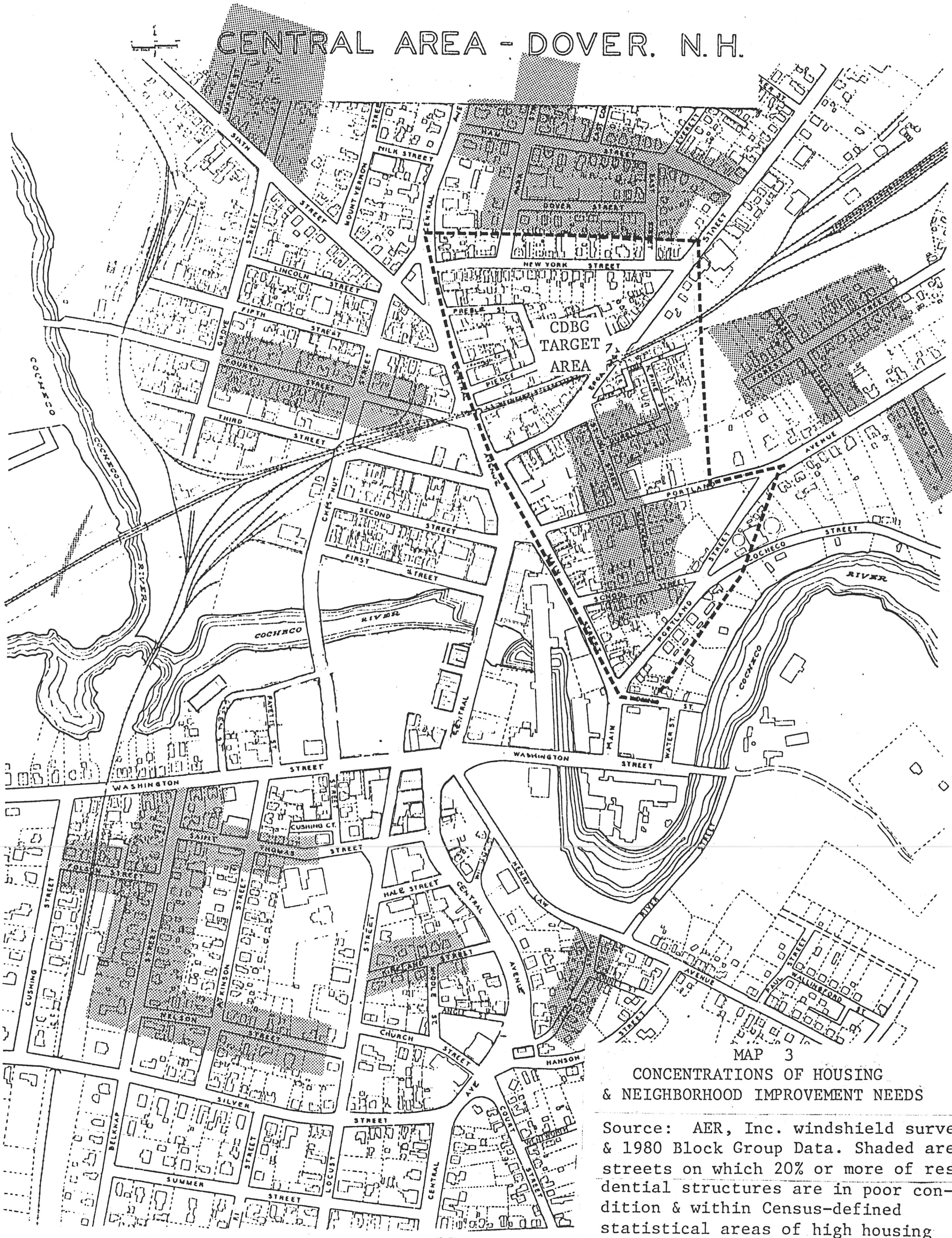
TABLE 3.

file: cityneed

CITY OF DOVER: NEIGHBORHOOD HOUSING NEED CRITERIA

		Housing Condition Criteria						Low Income, Overpayment			
Tract	Block Group	Substd Plumbing	Substd. Heating	No Complete Kitchen	Pre-1940 Renter Occupied	Total	Percent % of City	Renters <$10,000 Spend 35% +	Percent Of City	Share Of City Need Composite Percent	Rank
811	1	9	40	9	7	65	2.43	145	12.12	5.43	6
811	2	0	75	0	18	93	3.48	72	6.02	4.27	8
812	1	6	18	6	29	59	2.21	39	3.26	2.53	11
812	2	7	70	7	42	126	4.72	0	.00	3.26	10
813	1	57	19	41	427	544	20.37	140	11.71	17.69	2
813	2	25	40	25	309	399	14.94	161	13.46	14.49	4
814	1	32	25	32	269	358	13.41	117	9.78	12.29	5
815	1	31	11	20	297	359	13.45	206	17.22	14.61	3
815	2	37	4	37	374	452	16.93	236	19.73	17.80	1
816	1	7	49	7	13	76	2.85	53	4.43	3.34	9
816	2	7	44	7	81	139	5.21	27	2.26	4.29	7
City Total		218	395	191	1866	2670	100.00	1196	100.00	100.00	

Source: U.S. Census Block Grant Data, Summary Tape File 1A, 3A



MAP 3
CONCENTRATIONS OF HOUSING
& NEIGHBORHOOD IMPROVEMENT NEEDS

Source: AER, Inc. windshield survey & 1980 Block Group Data. Shaded are streets on which 20% or more of residential structures are in poor condition & within Census-defined statistical areas of high housing need (based on Table 3).

TABLE 4.

CITY OF DOVER

DISTRIBUTION OF ELDERLY (AGE 65+) PERSONS & HOUSEHOLDS

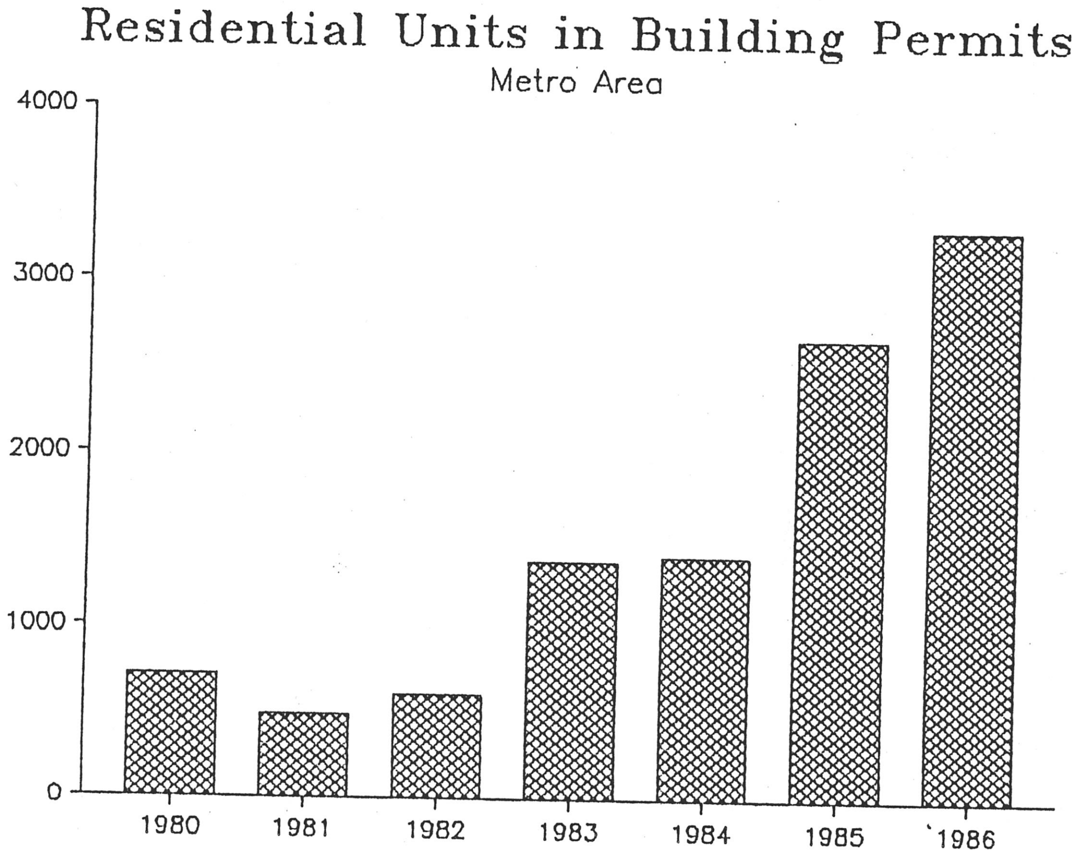
Comparative Characteristics of Block Groups

								Elderly Households (Head Age 65+)			
Tract	Population	% Of City	Households	% Of City	Age 65+ Population	% of Pop Elderly	% Of City Eld.	Owner	Renter	Total	Elderly % Of Househlds
811	1095	4.89	436	5.20	77	7.03	2.87	39	7	46	10.55
811	2510	11.22	863	10.30	186	7.41	6.93	86	27	113	13.09
812	1486	6.64	498	5.94	148	9.96	5.52	89	8	97	19.48
812	1376	6.15	484	5.78	228	16.57	8.50	97	10	107	22.11
813	1925	8.60	836	9.98	319	16.57	11.89	53	192	245	29.31
813	2553	11.41	1068	12.75	333	13.04	12.41	117	117	234	21.91
814	1623	7.25	668	7.97	175	10.78	6.52	57	67	124	18.56
815	2118	9.47	846	10.10	268	12.65	9.99	99	60	159	18.79
815	3267	14.60	1255	14.98	479	14.66	17.85	157	82	239	19.04
816	1889	8.44	689	8.22	146	7.73	5.44	69	27	96	13.93
816	2535	11.33	735	8.77	324	12.78	12.08	77	14	91	12.38
Total	22377	100.00	8378	100.00	2683	11.99	100.00	940	611	1551	18.51

Source: 1980 Census, Summary Tape File 1A, 3A,
Block Group Data

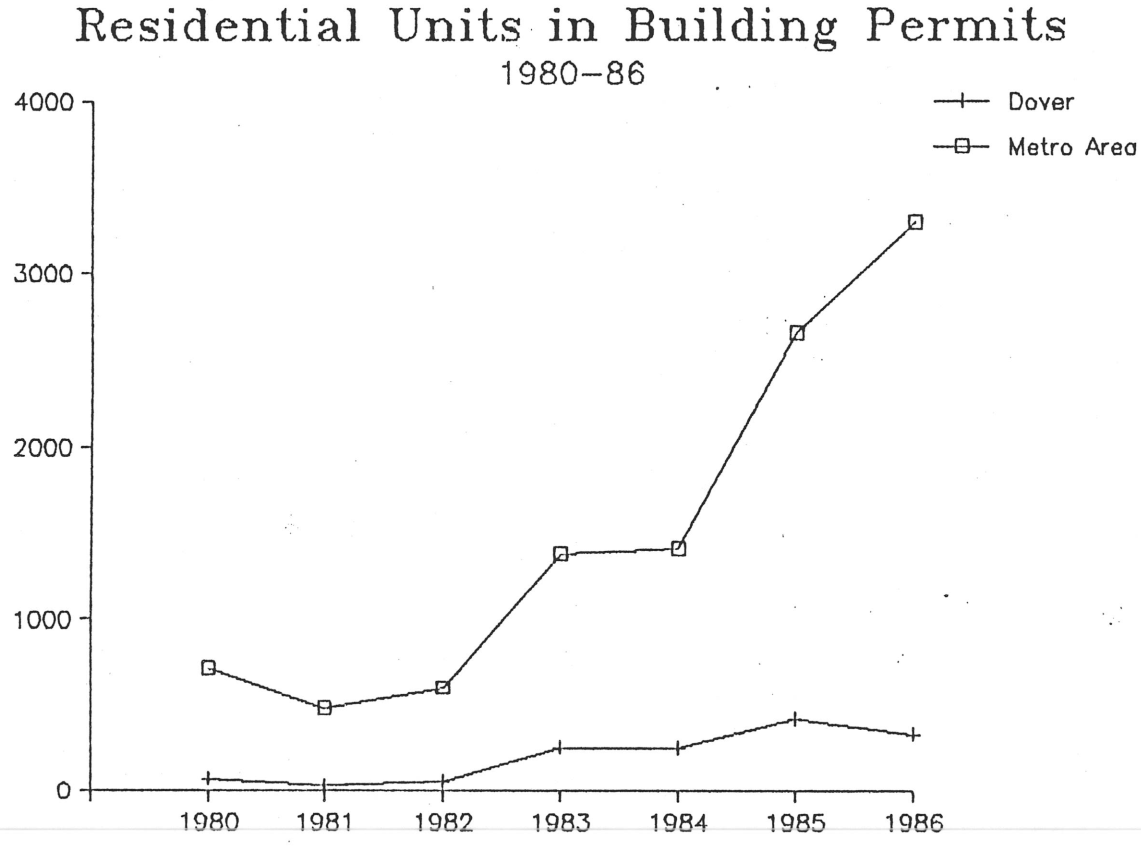
ADDENDUM B

FIGURE 1.



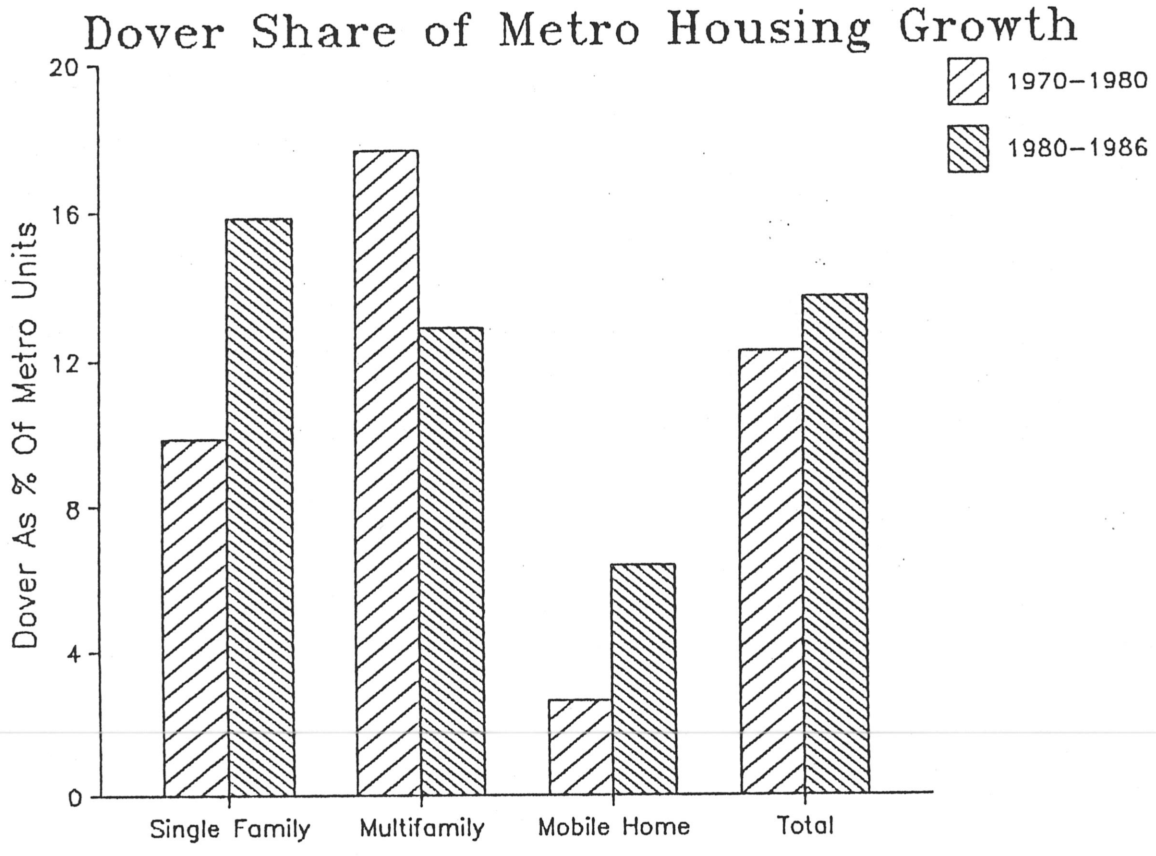
Source: N.H. Office of State Planning;
U.S. Census C-40 Reports
and AER, Inc.

FIGURE 2.



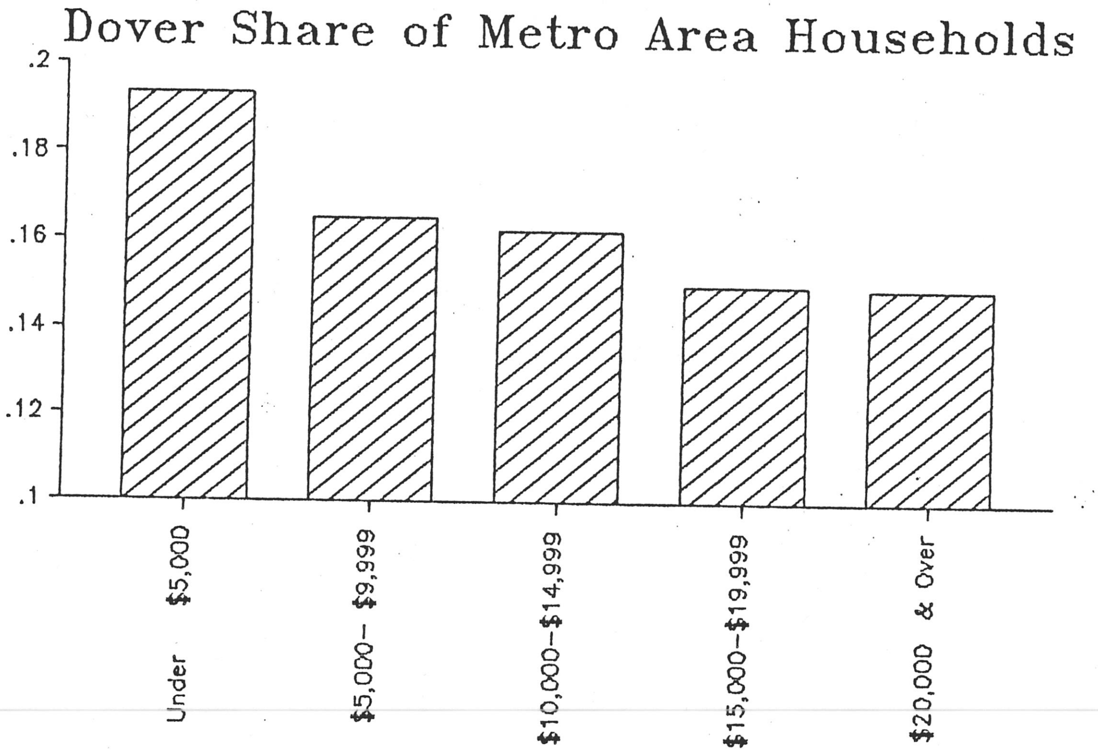
Source: N.H. Office of State Planning;
U.S. Census C-40 Reports
and AER, Inc.

FIGURE 3.



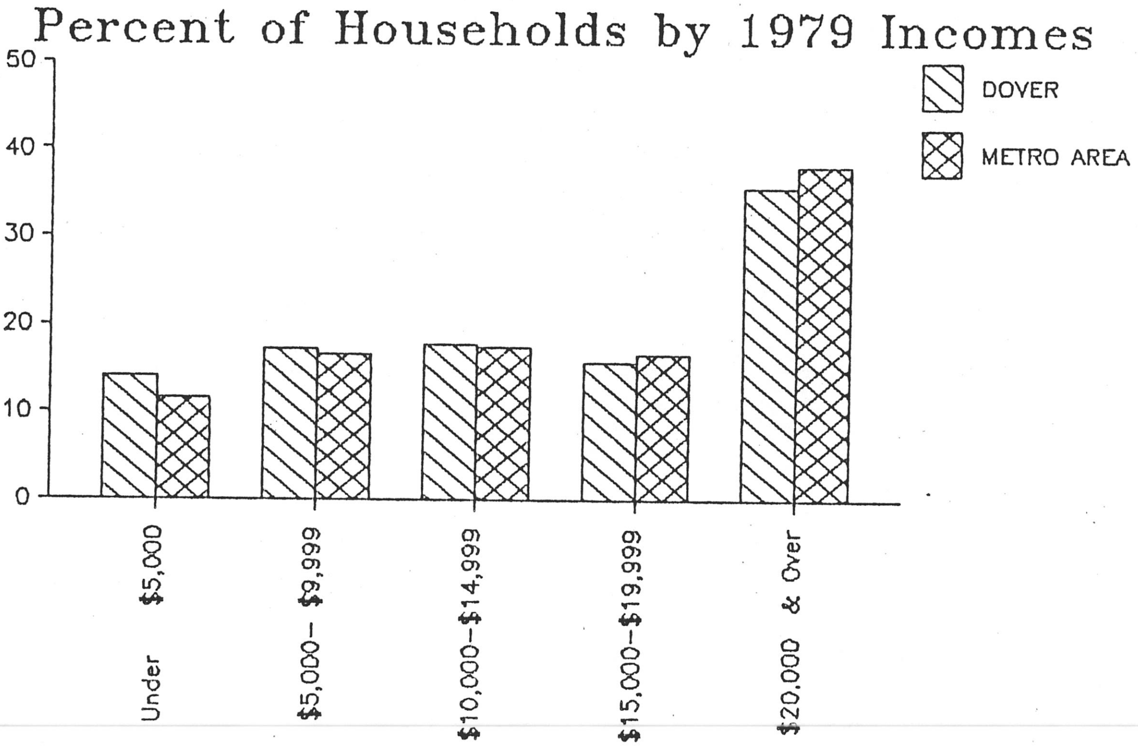
Source: U.S. Census, 1970 and 1980;
1980-86, N.H. Office of State
Planning, U.S. Census C-40
Reports

FIGURE 4.



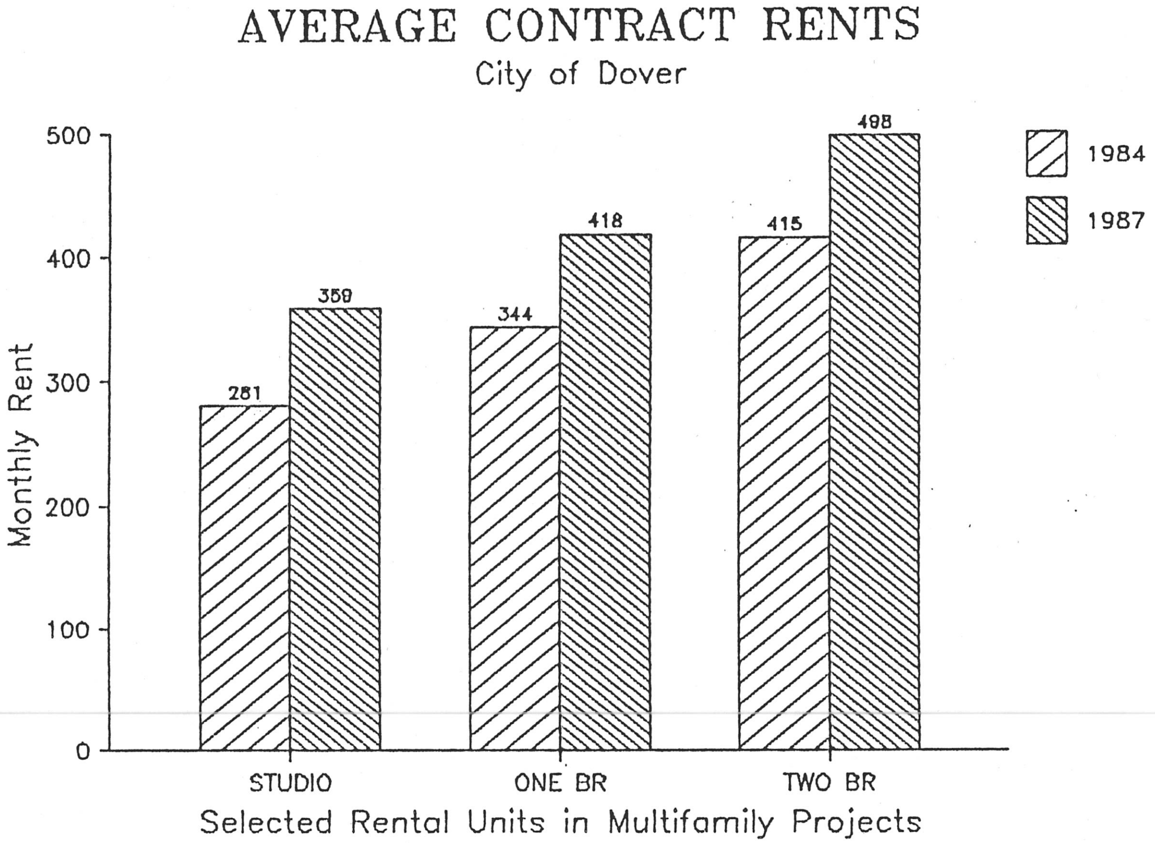
Source: 1980 Census, Summary Tape File 4,
and AER, Inc.

FIGURE 5.



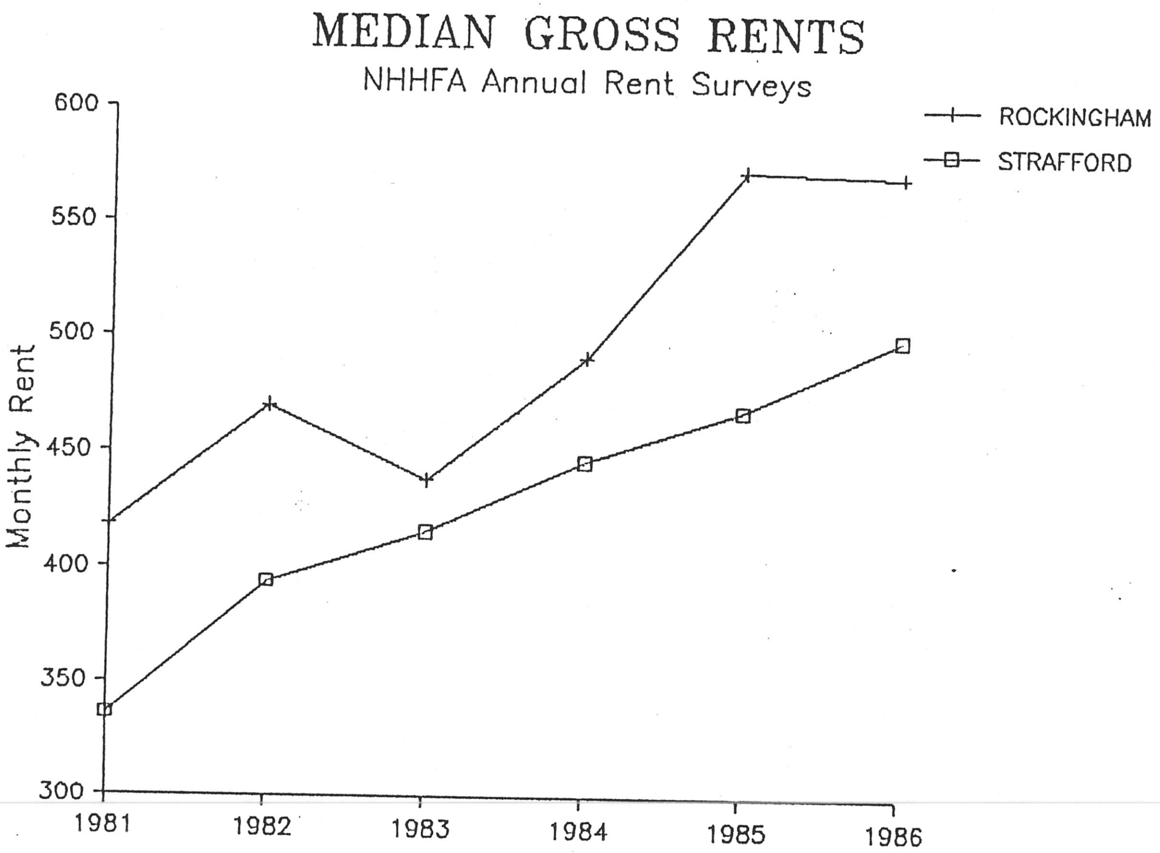
Source: 1980 Census, Summary Tape File 4,
and AER, Inc.

FIGURE 6.



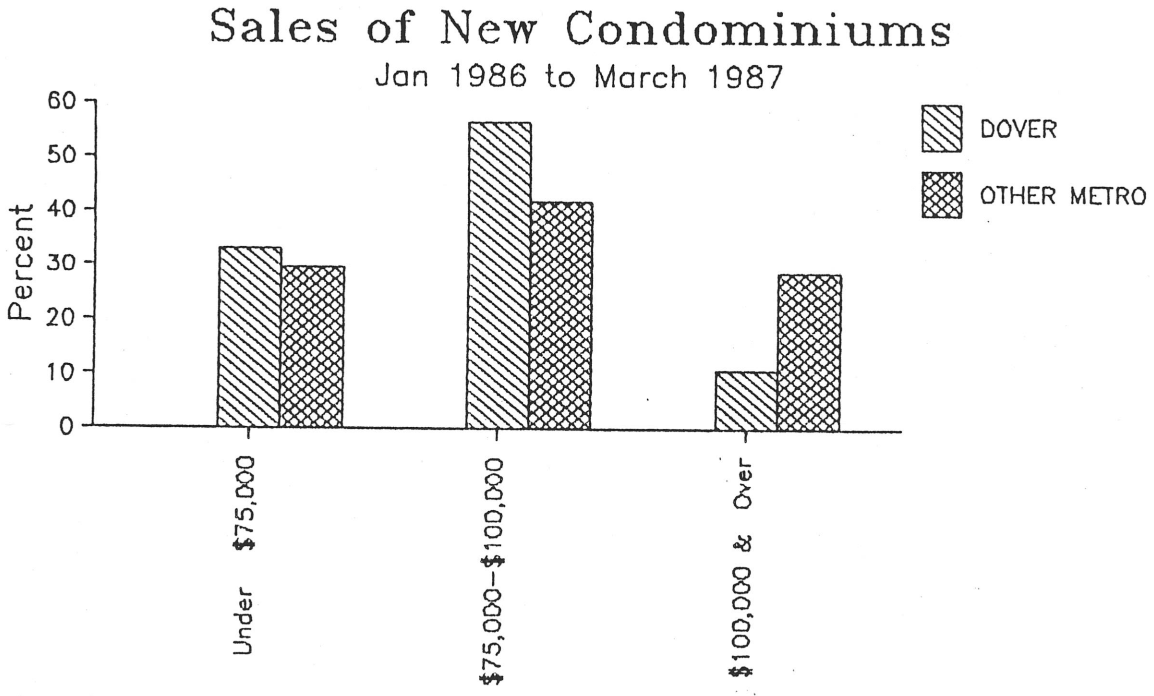
Source: AER, Inc. survey of nine major rental housing complexes in Dover, July 1984 and 1987.

FIGURE 7.

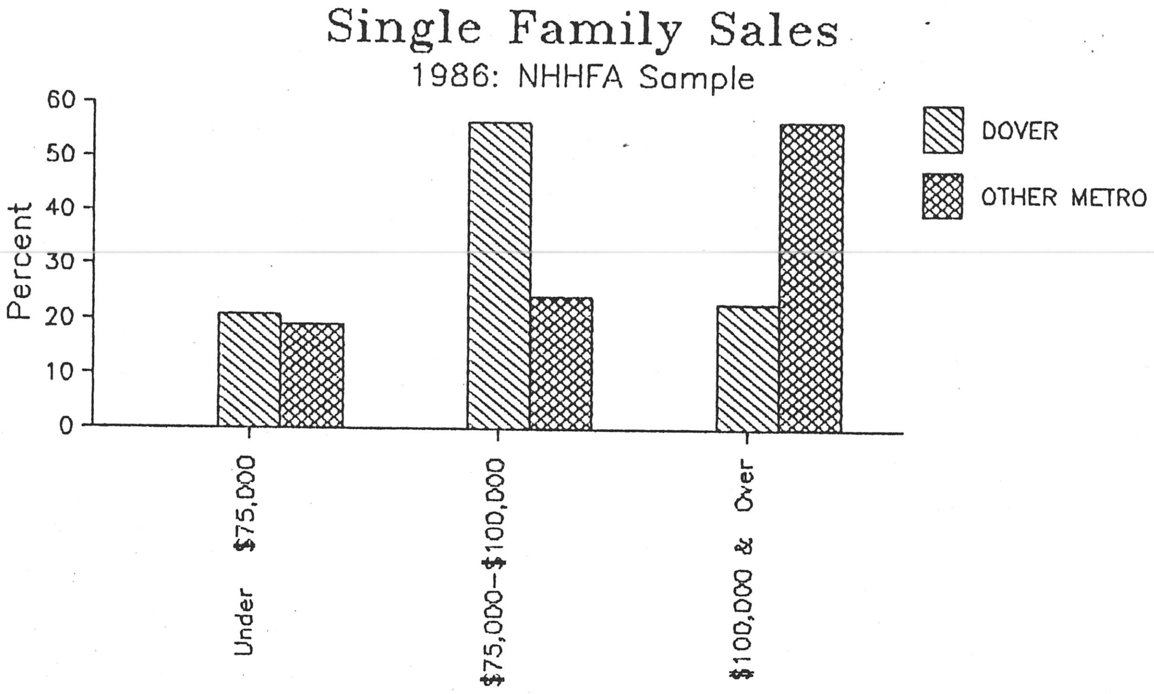


Source: N.H. Housing Finance Authority, Annual Rent Surveys

FIGURE 8.



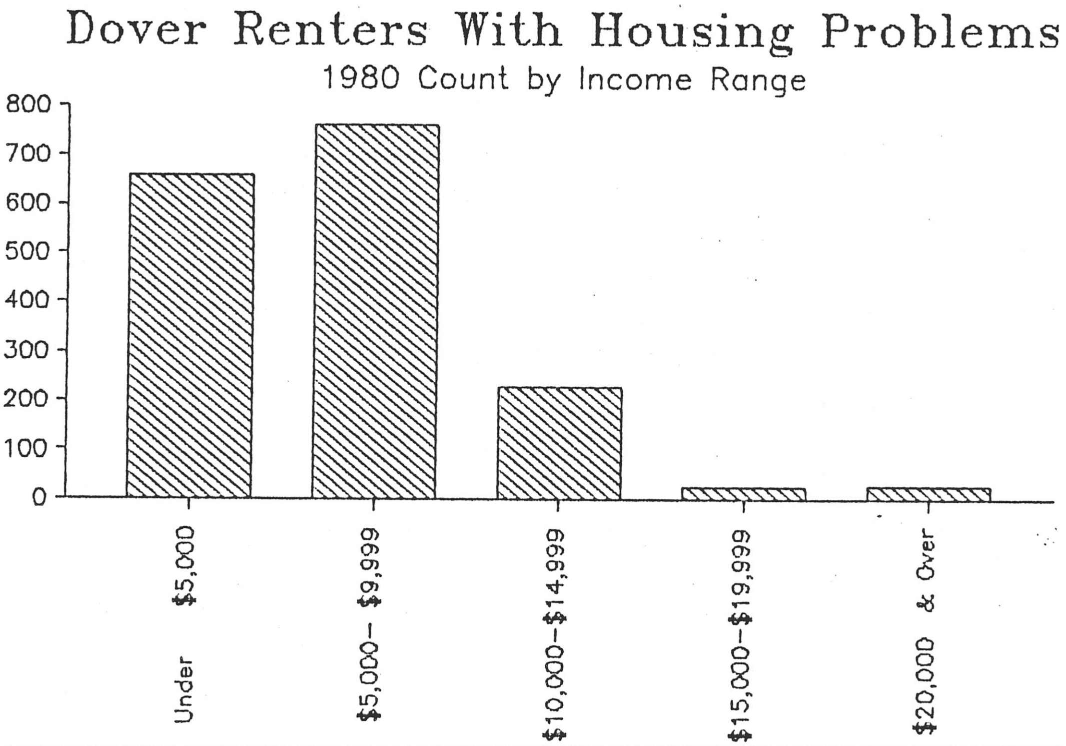
Source: AER, Inc. compilation of new residential condominium closings



Percent of Sales by Price Range

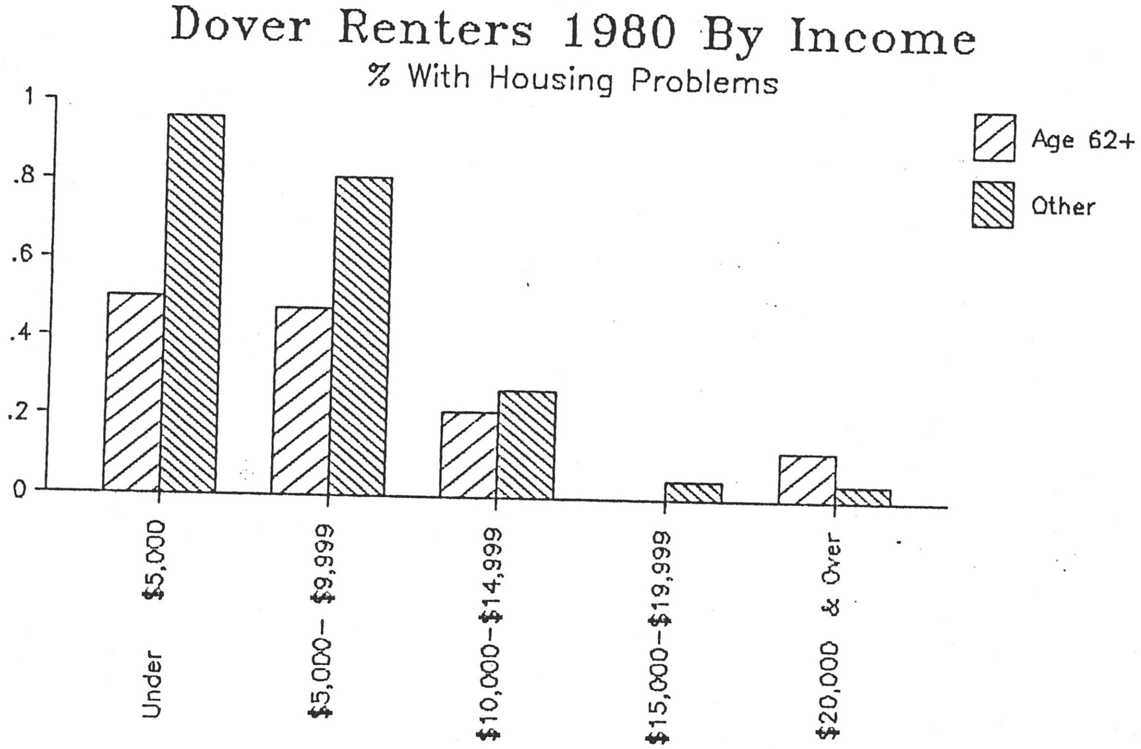
Source: AER, Inc. analysis of New Hampshire Housing Finance Authority, sample of

FIGURE 9.



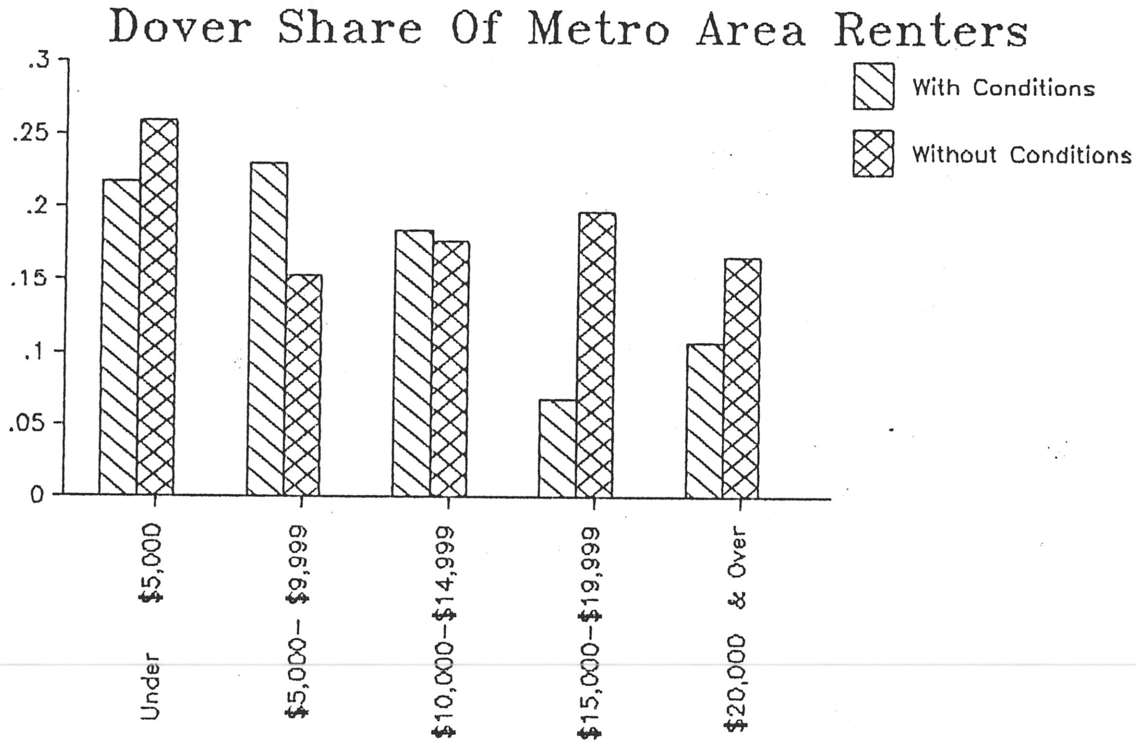
Source: 1980 Census, Summary Tape File 4; housing problems defined by "selected conditions" (See Table 1.)

FIGURE 10.



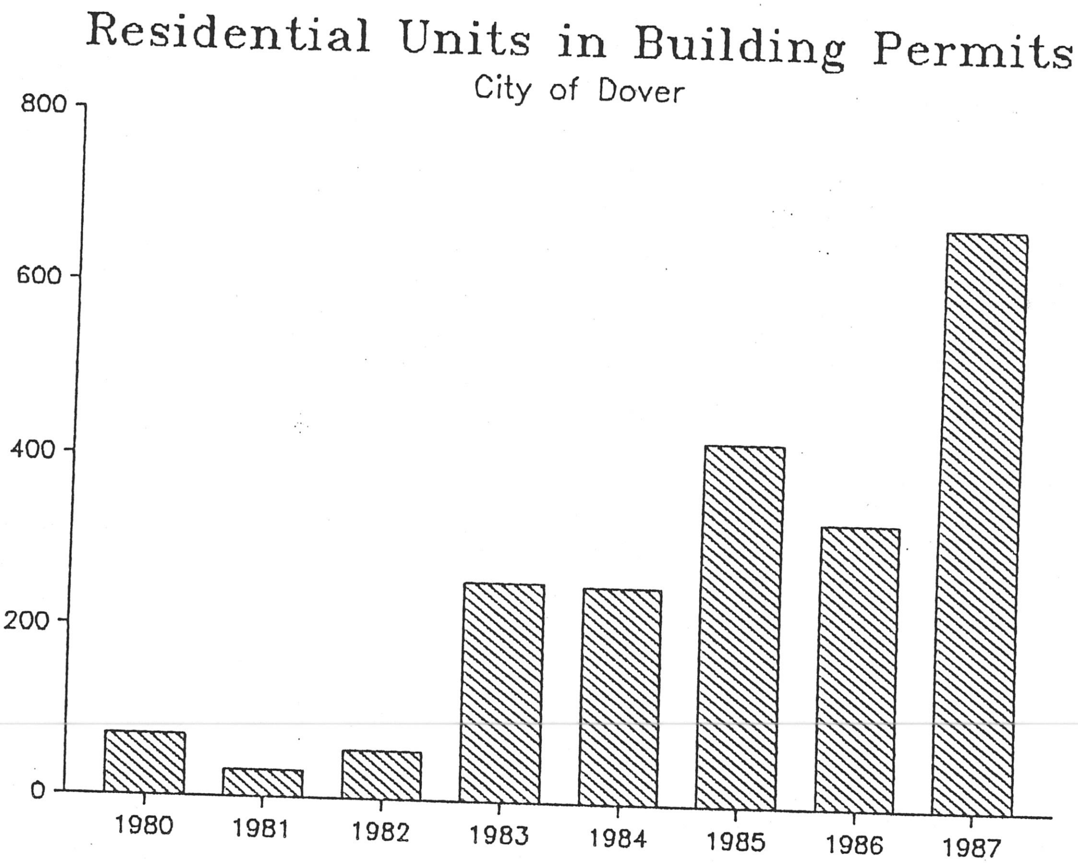
Source: 1980 Census, Summary Tape File 4 (See Table 1.)

FIGURE 11.



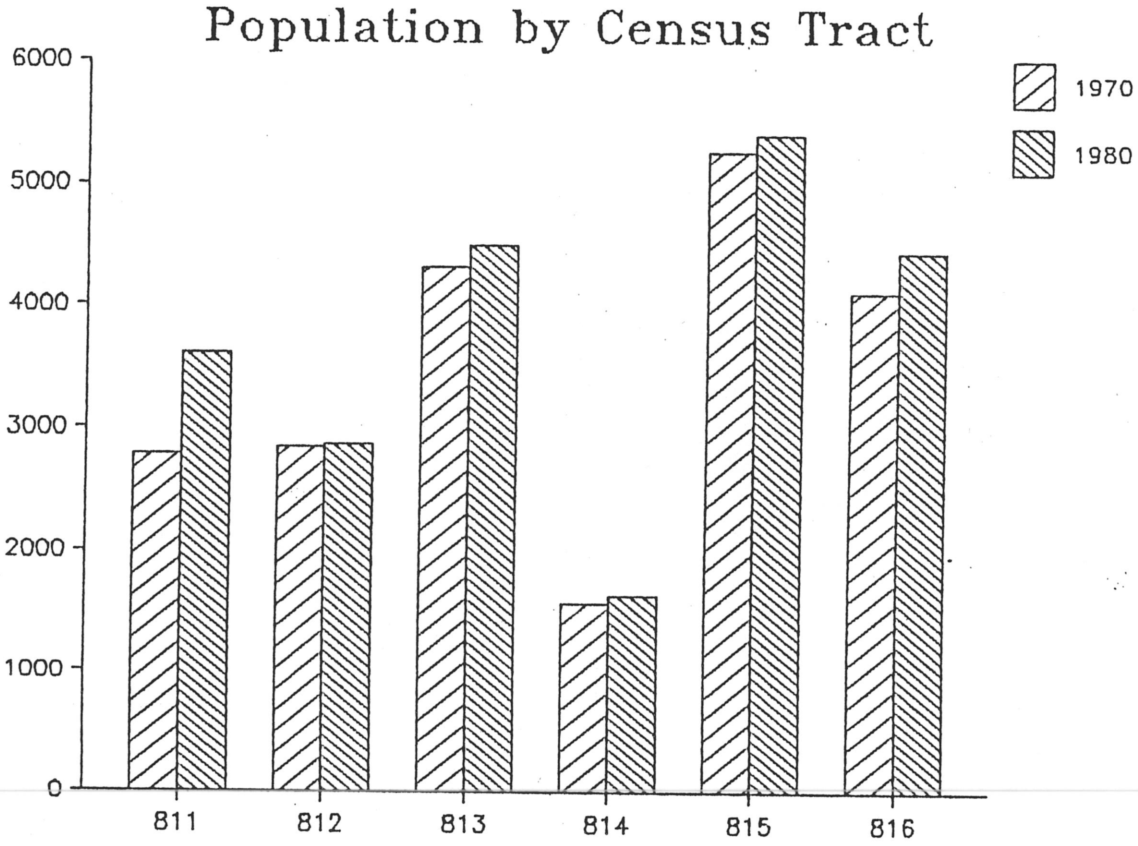
Source: U.S. Census, Summary Tape File 4

FIGURE 12.



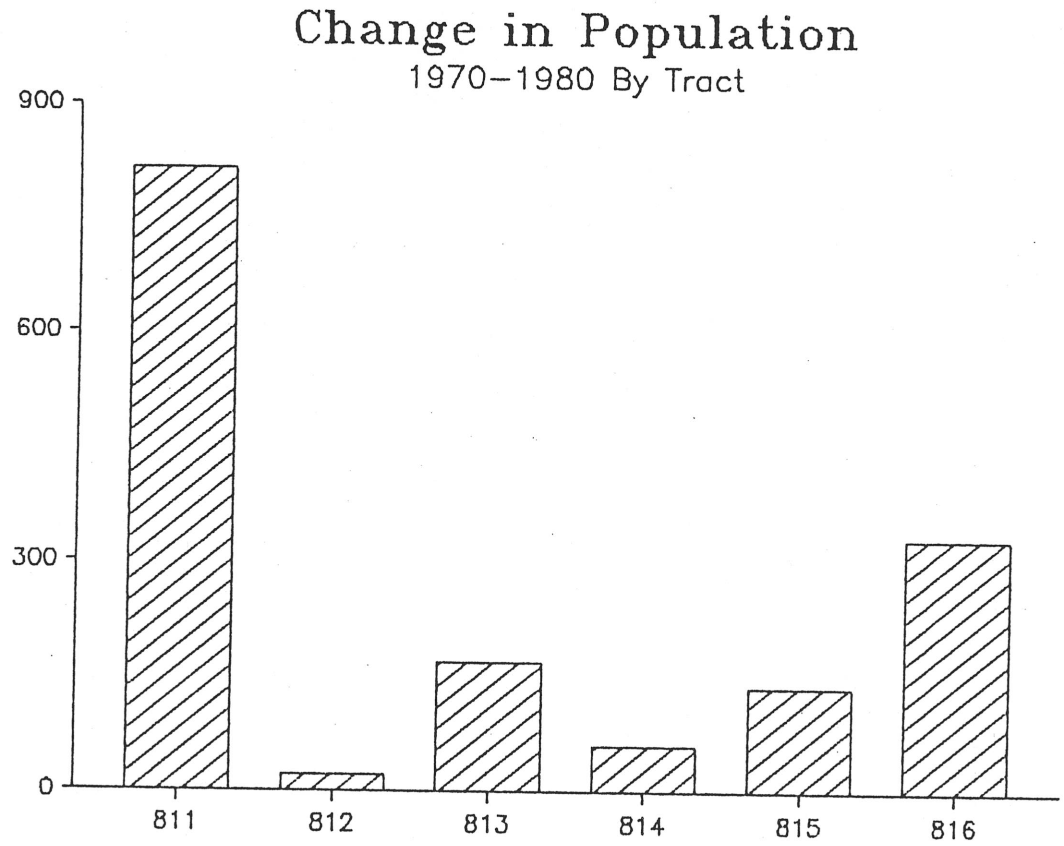
Source: AER, Inc. compilation of
Building Permit records,
City of Dover

FIGURE 13.



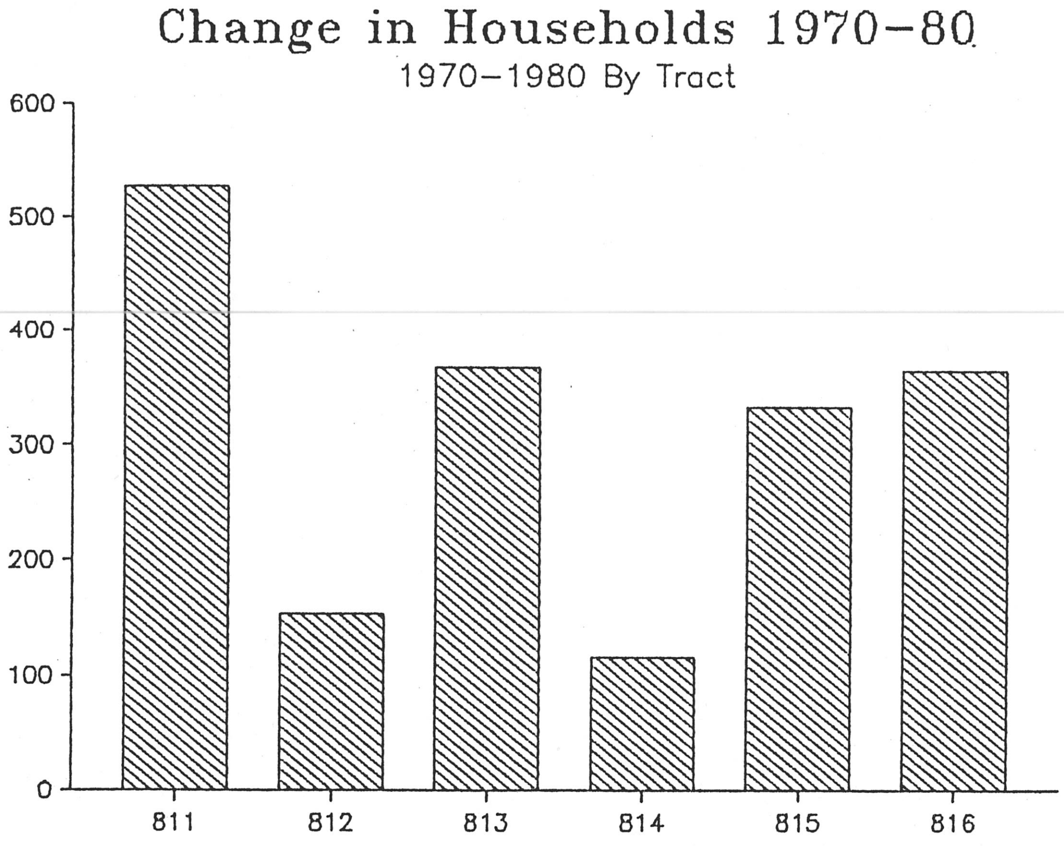
Source: 1980 Census; conversion of 1970 Census to 1980 Tracts by AER, Inc.

FIGURE 14.



Change in Population

1970–1980 By Tract



Change in Households 1970–80

1970–1980 By Tract

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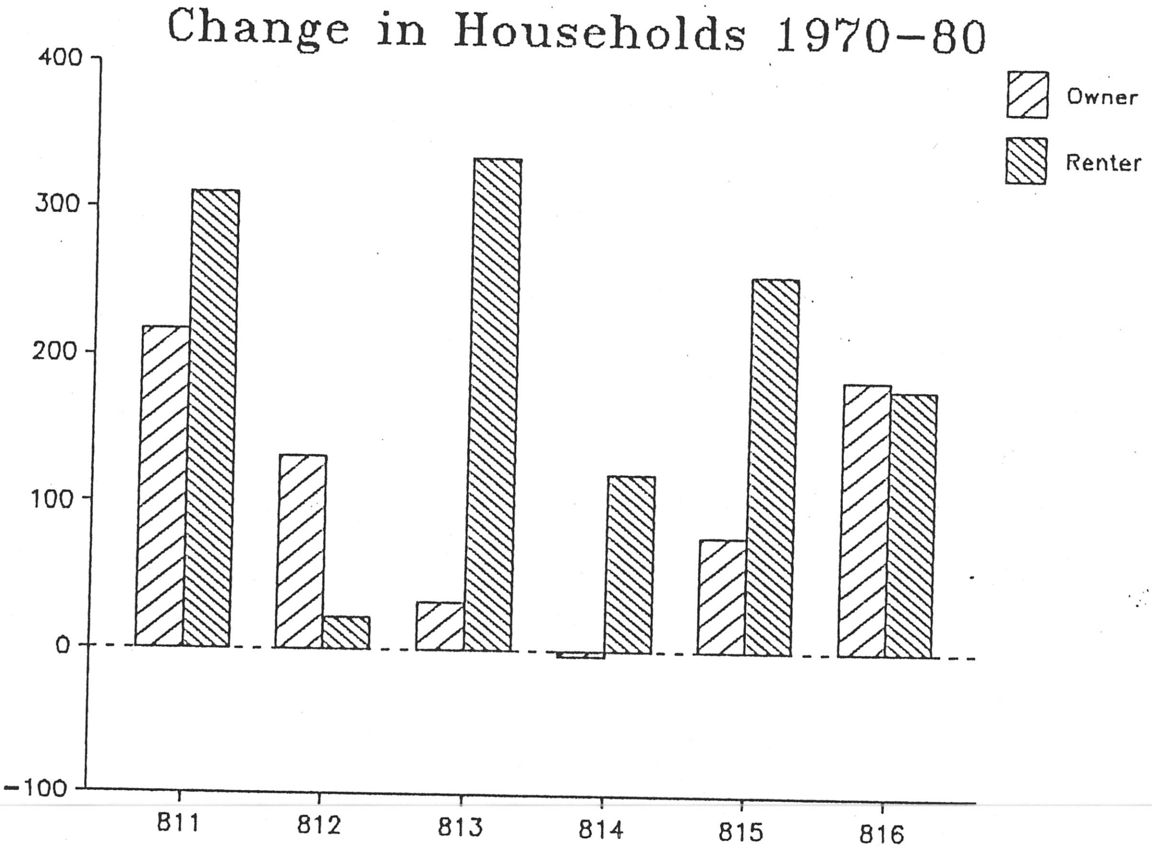
Source: U.S. Census - 1970, 1980

FIGURE 15.



Source: 1980 Census; conversion of 1970 Census to 1980 Tracts by AER, Inc.

FIGURE 16.

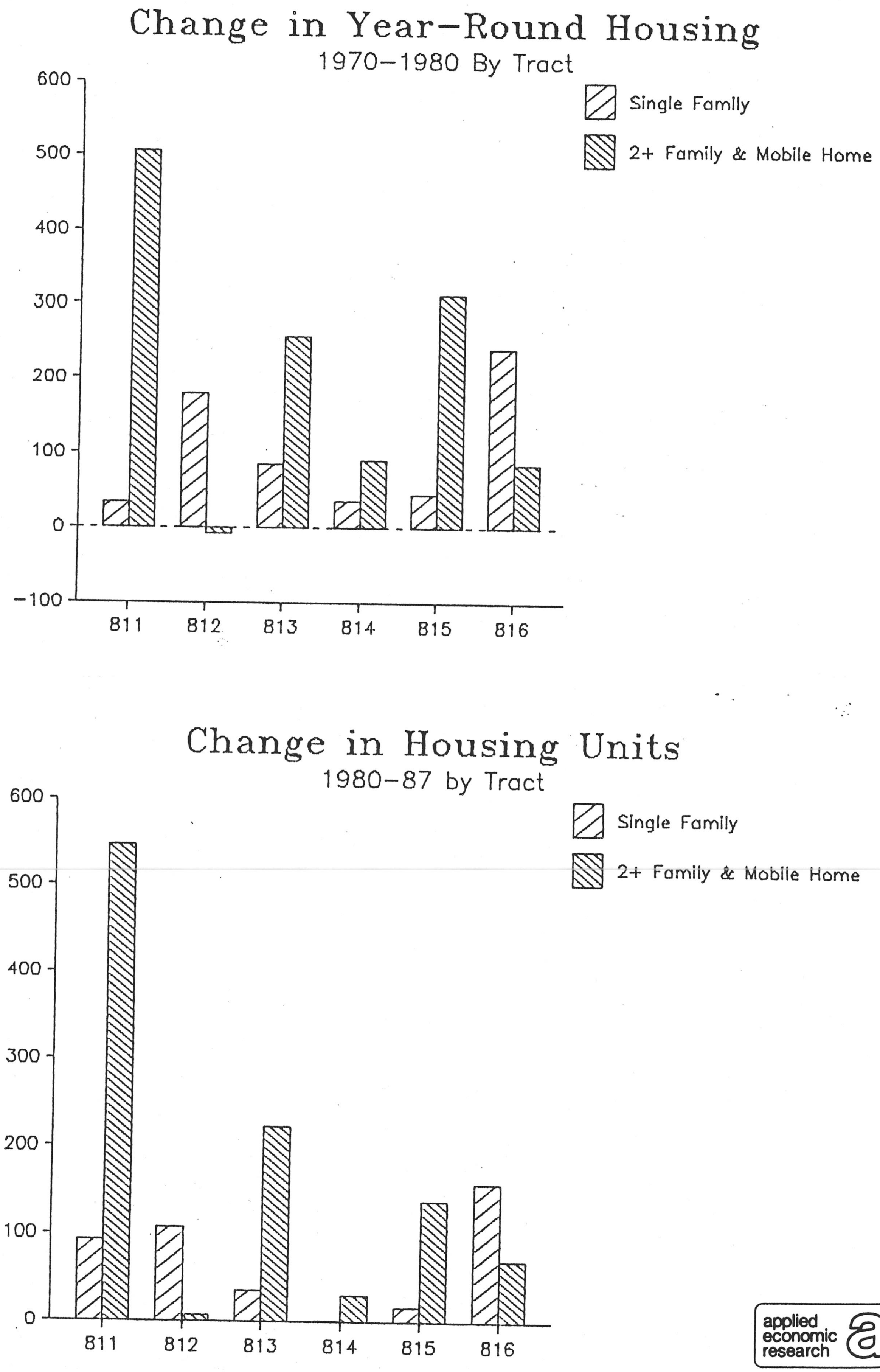


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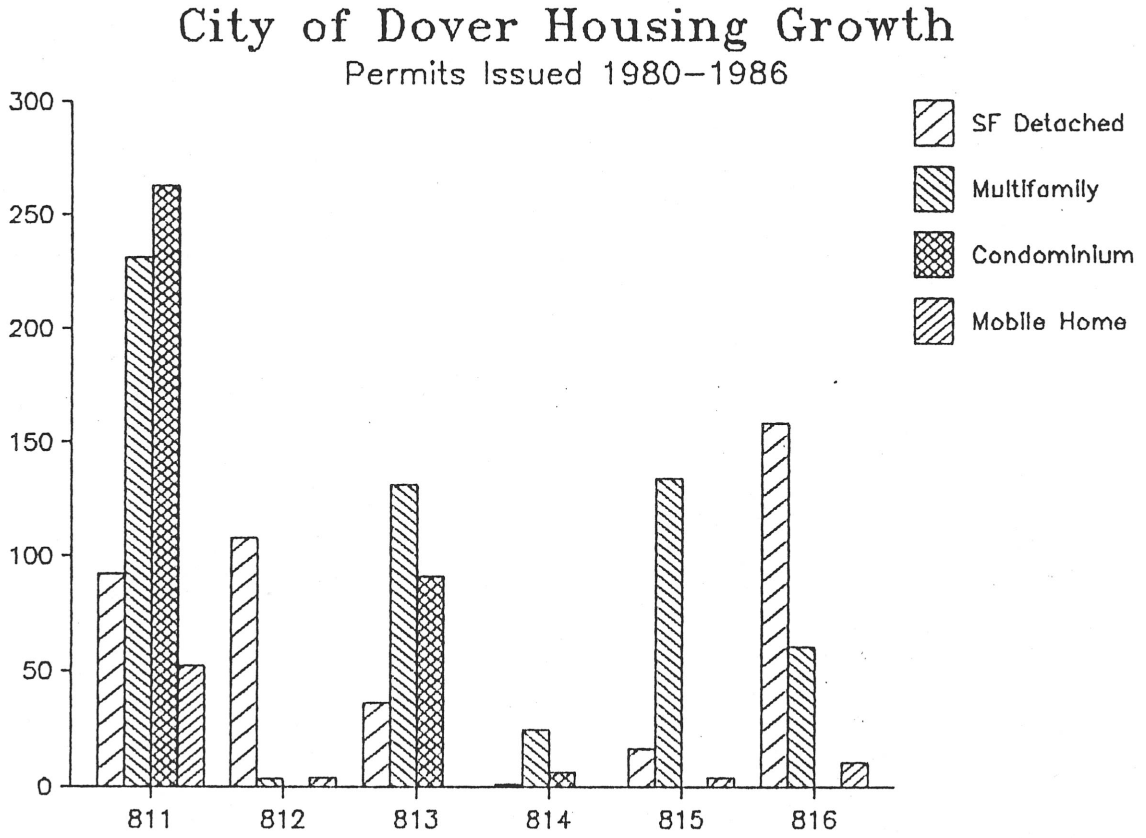
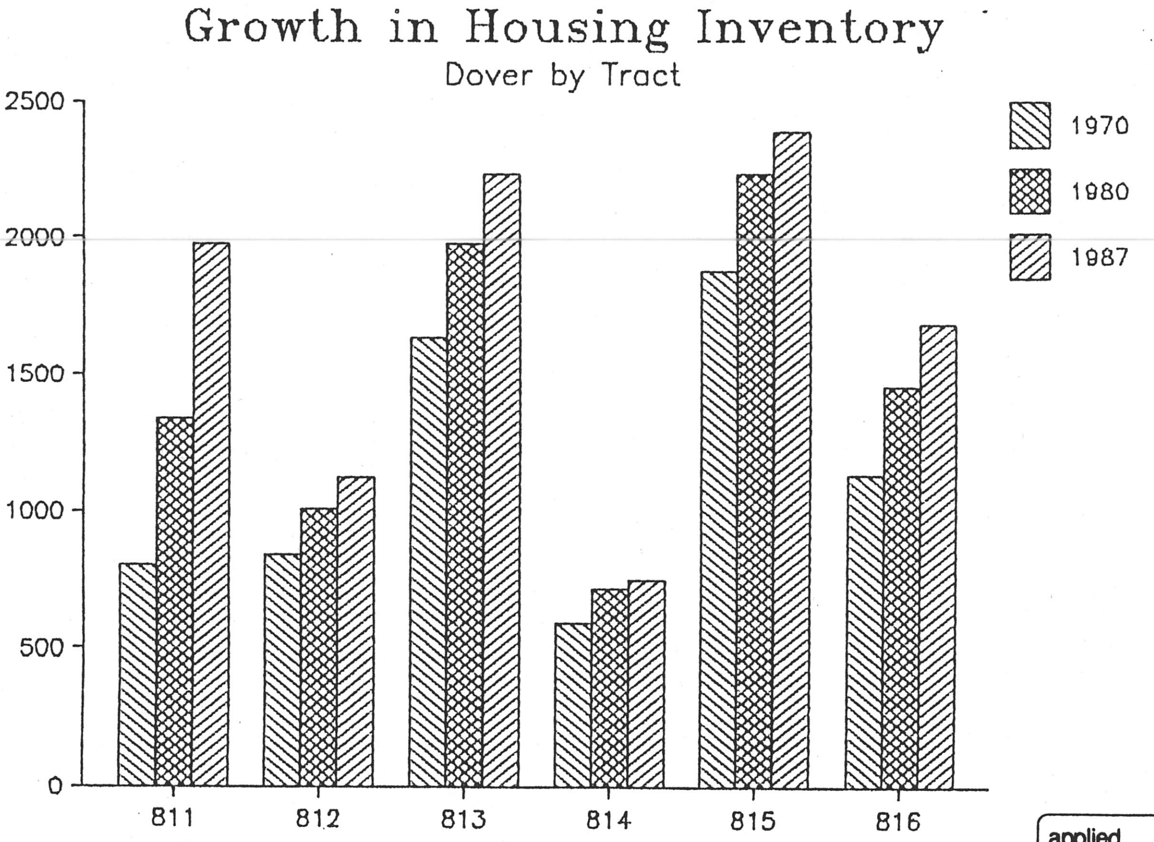
FIGURE 17.





Source: U.S. Census; AER, Inc.

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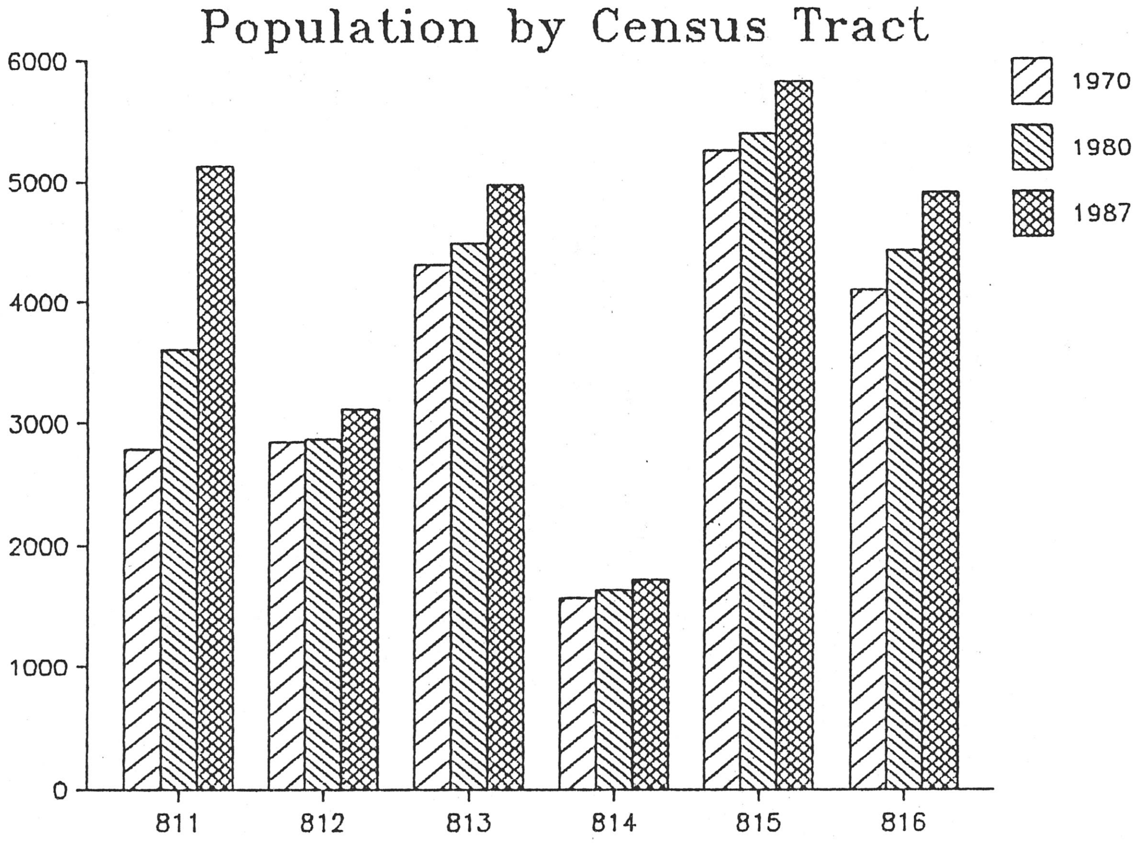
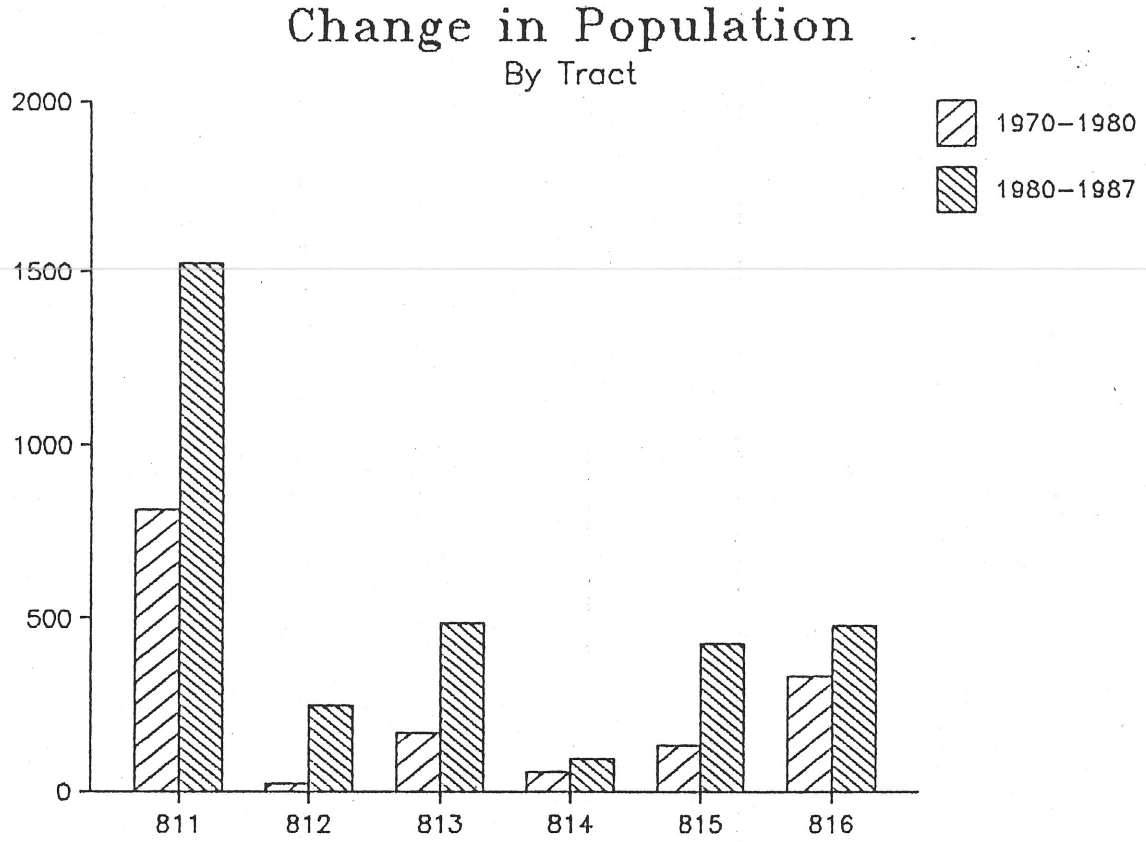
FIGURE 18.


Population by Census Tract


Change in Population
By Tract

Source: U.S. Census 1970, 1980 and AER, Inc. estimates