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BEYOND SHOPPING MALLS: PLANNING FOR JOBS
AND FOR PEOPLE IN BERKELEY, CALIFORNIA

Ann R. Markusen and Marc A. Weiss

I. Introduction

For the past four years, the authors and a large team of fellow researchers have worked with the Berkeley City Manager, Mayor, and City Council to design a strategy for local economic development. Berkeley, like many cities, had until the mid-1970s pursued controversial and ill-conceived urban renewal policies in hopes of attracting some sort of "development" in selected target areas. The areas were targeted on the basis of current and potential real estate values rather than on any conception of the city's employment needs or on the linkages of any new development to the broader patterns of Berkeley's economic dynamics.

Our team attempted to reverse this policy drift by arguing for a more tightly-focused approach to local economic planning. This approach consists of the following elements:

- 1) JOBS as the key -- providing more and better jobs to the existing local and regional population, particularly those people most in need of income and skill upgrading.
- 2) DETAILED INDUSTRY ANALYSIS -- microstudies of employment problems and growth potential in selected economic subsectors to develop realistic and fine-

grained policies.

3) TARGETING -- plans for implementing policies in a detailed, disciplined programmatic style to direct the right types of jobs in carefully chosen industries to the target population.

4) BETTER USE OF EXISTING RESOURCES -- a focus on fully utilizing and enhancing the community's special strengths, redirecting available funds to meet targeted objectives, rather than launching costly new endeavors.

5) ACCOUNTABILITY -- plans should focus on broadening the base of indigenous business growth by incorporating methods to increase community control.

6) INNOVATION -- an emphasis on the high-density local research and education-based economy as an incubator for the development of new products and services.

The first stage in our inquiry was to conduct an intensive and detailed analysis of Berkeley's current population and labor force characteristics, as well as the city's employment base by sector, subsector, and occupational structure. We also analyzed changes over the past decade, to gain understanding of possible future trends. From this analysis we drew two basic conclusions. First, the large black population, concentrated primarily in West Berkeley, benefits far less than the rest of the city's residents from the existing employment base and its contemporary

expansionary tendencies. Therefore, special forms of intervention must be devised to meet the employment and income needs of West Berkeley. Second, Berkeley's diverse private economy has registered important job gains in certain indigenous small business sectors in manufacturing and in various business and personal services. Policies can be devised both to enhance this rate of increase and to target more benefits within these sectors in the future to West Berkeley's relatively disadvantaged population.

After identifying the key industry groupings that offered the prospect of further innovation and job growth within Berkeley, we then proceeded to study in much greater detail the structure of these industries in order to determine more concretely the specific activities Berkeley could hope to engender and what types of jobs could be offered to local residents. As our understanding of market competition and organizational, financial, personnel, and technological considerations within these goods and services sectors expanded, we were able to construct specific and detailed forms of public and private intervention to eliminate local bottlenecks and increase potential for indigenous growth. We also spent considerable time evaluating existing city government programs and policies to determine methods of redirecting existing resources more effectively to accomplish discrete and highly targeted economic development tasks. In each economic sector, geographic area, and public-private program, we elaborated three to six simple

administrative changes capable of contributing to significant positive achievement in economic performance. The principle assumption was that attention to detail, if properly analyzed and administered, could yield very impressive aggregate employment gains.

II. The Labor Market Analysis

If jobs are the primary target variable for an economic development program, the appropriate type of prior planning analysis is a study of the supply and demand for labor in the relevant labor market. The supply of labor is best studied by drawing upon the Census of Population, which gives detailed labor force characteristics of people by place of residence. The demand for labor is best studied through the Census of Industry and similar sources which survey the characteristics of jobs by place of work. In our case, we were lucky to be able to use detailed sectoral data from the Berkeley Business License Tax.

Berkeley does not itself constitute an independent labor market, because many of its residents work in other parts of the Bay Area economy, particularly Oakland and San Francisco, while many Berkeley workers live in surrounding communities. Nevertheless, it was preferable in our case to confine our labor market analysis to Berkeley residents and Berkeley workers for two reasons. First, the local government has a responsibility to its residents, particularly if

one segment of them faces severe employment problems. Furthermore, since Berkeley is shaped like a slice of the Bay Area pie, its labor force is not all that distinct from those of surrounding communities. Thus while the Berkeley's industrial plant closings may affect the Oakland minority residents as powerfully as Berkeley's, a planning program based on an assessment of Berkeley's residents' job needs would not misspecify the unemployment problem nor discriminate against Berkeley workers who live in nearby Oakland. Second, Berkeley's economic development tools extend only as far as her borders, so that existing local employers form the appropriate focus for a study of local demand for labor.

A. Berkeley's Population and Labor Force Characteristics

The disturbing fact for those concerned about the ethnic and age diversity of Berkeley's population is that Berkeley has been losing a disproportionate share of its black population. (See Table 1) While Berkeley lost 13% of its white population in the 1970s, it lost 25% of its black population during the same period. As a result, the white population share has remained stable at 68 to 67%, while the black share has fallen from 24 to 20%. Asian Americans were the only group which clearly increased their share -- on the order of 25%. In the working age population, however, Berkeley's 1980 resident labor force is less ethnically diverse than in 1970; minorities account for only 29% now

compared to 35% in 1980.

The loss of working age residents is disproportionately concentrated in the older age groups. Whereas the absolute numbers of residents aged 18 to 44 stayed about the same, there was a net loss of about 4000 between the ages of 44 and 64 over the decade. Demographic change could not account for the bulk of this shift, which could be interpreted as greater pressure on older working age residents to move out of Berkeley.

Because no good data exists to permit us to follow closely the job and unemployment experience of older and minority workers, we can use the West Berkeley area as a proxy for both. While minorities comprise 70% of West Berkeley's current population, they account for only 33% of Berkeley's entire population. Or to put it more starkly, West Berkeley is 70% minority and the rest of Berkeley is 84% white (See Table 2). Similarly, while 27% of West Berkeley's working age population are over 45 years of age, only 19% of Berkeley's entire working age population is in that age range. Much of this difference is undoubtedly accounted for by the concentration of University students in neighborhoods close to the campus.

What emerges clearly from the comparison of West Berkeley with all of Berkeley is the relatively greater need for job generating types of economic development activities in the former. Two differences stand out. First, the

Table.1
Population and Civilian Labor Force by Race of Berkeley Residents, 1970 & 1980

Race/ Ethnicity	Population 1980		Population 1970		Popltn. Change 1970-80	Civilian Labor Force			
		%		%		1980	%	1970	%
Asian/Native American	10,735	10%	n.a.		n.a.	5,480	10%	4,292	8%
Hispanic	2,014	2%	n.a.		n.a.	2,506	5%	2,580	5%
Black	20,671	20%	27,437	24%	-25%	8,951	16%	12,344	22%
White	69,159	67%	79,041	68%	-13%	39,197	71%	35,929	65%
Other	749	1%	n.a.		n.a.	n.a.		n.a.	
TOTAL	103,320	100%	116,691	100%	-11%	54,897	100%	55,145	100%

Source: 1980 Census Summary Tape File 3A

Table 2
Characteristics of West Berkeley and Berkeley Residents, 1980,
by Race, Age, Gender, Job Status

	Berkeley		West Berkeley	
A. Population				
1. Race				
All Persons	103,328	100%	29,932	30%
White	69,159	67%	9,834	30%
Black	20,671	20%	16,363	55%
2. Gender				
Male	52,378	51%	14,166	47%
Female	51,000	49%	15,776	53%
B. Working Age Population				
18 - 44 yrs.	61,730	82%	14,350	73%
45 - 64 yrs.	14,669	19%	5,381	27%
C. Education				
% High School Graduates		89%		70%
D. Employment				
Civilian Labor Force, 16 yrs. and older				
Total	54,897		14,443	
Unemployed	3,732	7%	1,577	11%
E. Place of Work				
In City of Residence	22,192	45%	4,556	37%
Outside City of Residence	23,893	48%	6,446	52%
Not Reported	3,682	7%	1,303	11%

Source: 1980 Census Summary Tape File 3A

unemployment rate is much higher in West Berkeley (11%) than for the city as a whole (7%). A worker in West Berkeley is more than twice as likely to be unemployed than a resident in other areas of the city. Second, West Berkeley residents are more likely to commute to jobs outside of Berkeley than are other city residents. This is partly a function of the way in which labor markets are structured, as we shall see below. But it also suggests that workers in West Berkeley have greater difficulty finding suitable jobs within our local economy.

Where do members of the resident labor force find jobs? The answers, for both portions of Berkeley, are somewhat unique. First of all, fully one third of all Berkeley's working residents are employed by the public sector (see Table 3). Almost 20% work for state government, chiefly the University of California. Indeed, the University's sizeable payroll makes the educational sector the single largest employer of Berkeley residents (see also Table 4). Furthermore, a remarkable number of University employees do live in Berkeley; 76% of UC's 5226 staff people are Berkeley residents.¹

Another 9% work for local governments, including school districts. While some of these may work for local agencies

¹ This figure does not apply to an additional 9000 academic and casual employees for whom no residency information is available. These numbers were provided to us by the UC Berkeley Personnel Department and are for April, 1983.

Table 3

Private, Public and Self-Employed Occupations
of Berkeley and West Berkeley Residents, 1980

Class of Worker	Berkeley		West Berkeley	
Total Employment 16 yrs. and older	51,165	100%	12,865	100%
Private Wage and Salary Workers	28,017	54.8%	7,949	61.8%
Government				
Federal	2,800	5.5%	1,129	8.8%
State	9,858	19.3%	1,222	9.5%
Local	4,677	9.1%	1,417	11.0%
Self-employed workers	5,574	10.9%	1,120	8.7%
Unpaid Family Workers	229	.45%	28	.2%

Source: 1980 Census

Table 4

Berkeley and West Berkeley Residents'
Employment Distribution by Industry, 1980

Industry	Berkeley		West Berkeley	
Total Employment, 16 yrs. and older	51,165	100.0%	12,835	100.0%
Agriculture, Forestry Fisheries, Mining	749	1.5%	238	1.9%
Construction	1,816	3.5%	600	4.7%
Non-durable goods, Manufacturing	2,440	4.8%	701	5.5%
Durable goods, Manufacturing	1,875	3.7%	730	5.7%
Transportation	1,576	3.1%	740	5.8%
Communications, other Public Utilities	694	1.4%	300	2.3%
Wholesale Trade	903	1.8%	237	1.8%
Retail Trade	6,564	12.8%	1,867	14.5%
Finance, Insurance, Real Estate	2,966	5.8%	728	5.7%
Business and Repair Svcs	3,018	5.9%	789	6.1%
Personal, Entertainment, Recreational Services	2,778	5.4%	882	6.9%
Health Services	4,005	7.8%	1,119	8.7%
Educational Services	13,062	25.5%	1,973	15.4%
Other Professional and Related Services	6,016	11.8%	1,104	8.6%
Public Administration	2,703	5.3%	827	6.4%

Source: 1980 Census Summary Tape File 3A

outside of Berkeley, the local public sector is a big contributor to local job creation. The City of Berkeley employs 1863 people (1159 career, 704 hourly) while the School District employs between 700 and 800.²

However, public sector jobs are not equally shared geographically among Berkeley residents. West Berkeley accounts for significantly fewer public sector employees than the rest of Berkeley (Table 3). It appears that the University and other state agencies are the major source of this difference; they provide jobs for 1 in 10 West Berkeley residents but for more than 1 in 5 residents in the rest of the city.³ Educational services (Table 4) account for 25% of jobs for all Berkeley residents, but only 15% in West Berkeley. The local and federal governments have a much better record than does the University for employing West Berkeley residents. However, our comparison of 1970 to 1980 showed that cutbacks fell very heavily upon West Berkeley residents. There were 1000 fewer public administration jobs among West Berkeley residents in 1980 than ten years previously. Yet the net result is still that West Berkeley residents are more dependent upon the private sector for jobs than is the average Berkeleyite.

² Numbers provided by the City of Berkeley Personnel Department and by the State Senate Committee on Public Employment, for April, 1983.

³ Part-time employed students do not seem to account for the difference, since they are in large part excluded from this figure.

A second reality is that Berkeley workers are increasingly dependent upon non-traditional sectors for jobs. Overall, Berkeley residents suffered a net loss of 580 manufacturing jobs in the 1970s. Extractive industries, communications, utilities, and wholesale trade also generated fewer Berkeley paychecks in 1980. These losses were only partly offset by increases in the transportation (350) and construction (430) sectors. Furthermore, the West Berkeley workforce is relatively more dependent upon these sectors than the rest of Berkeley is. In 1980, 28% of West Berkeley working people relied upon these sectors for their jobs compared to 20% Berkeleywide (Table 4). In addition, this group seems to have absorbed the bulk of the job loss -- 80% of the net manufacturing job losses among Berkeley residents were concentrated in West Berkeley households in the 1970s.

A third, and related, feature of Berkeley's workforce is its extraordinary share of managerial, professional, technical, sales and clerical occupations (Table 5). At least 75% of Berkeley's working residents are employed in these types of jobs.⁴ But here again, and perhaps even more

⁴ The proportions would be even higher if we could include business service employees in this number, but the available 1980 Census data does not distinguish them from other service workers. On the other hand, we have included sales workers in this category and that would encompass the very disparate occupations of car salesperson and fast food worker. On balance, these two will probably cancel each other out.

Table 5

Berkeley and West Berkeley Occupational Distribution, 1980

Occupation of Labor Force	Berkeley		West Berkeley	
Exec., Adm., Managerial	6,109	11.9%	1,232	9.6%
Professional Specialty	15,442	30.2%	2052	15.9%
Tech. and Related Support	3,885	7.6%	667	5.2%
Sales	4,085	8.0%	972	7.6%
Adm. Support, incl. Clerical	8,780	17.2%	699	20.9%
Private Household	493	1.0%	240	1.9%
Protective Service	398	1.0%	151	1.2%
Other Service	5,344	10.4%	1,896	14.7%
Farming, Forestry, Fishing	538	1.1%	176	1.4%
Precision Production, Craft and Repair Services	2,964	5.8%	1,205	9.4%
Machine Operators, Assemblers, and Inspectors	1,261	2.5%	631	4.9%
Trans. and Material Moving	769	1.5%	420	3.3%
Handlers, Helpers and Laborers	1,097	2.1%	524	4.1%
TOTAL	51,165	100.0%	12,865	25.0%

Source: 1980 Census Summary Tape File 3A

strikingly than by industrial breakdown, occupations are very unevenly distributed across Berkeley neighborhoods. For instance, while the professional/managerial/technical categories account for one out of two jobs, or 50%, only 30% of West Berkeley residents occupy such slots. On the other hand, 40% of West Berkeley residents hold down blue collar jobs in the service, craft, operative, transportation and laborer categories, compared to 25% across the city as a whole. The contrasts would appear even more starkly if we compared West Berkeley with the rest of the city.

In summary, then, job needs are concentrated primarily in West Berkeley neighborhoods which have higher than average unemployment rates, a higher incidence of commutes to job sites outside Berkeley, and greater reliance upon those public and private sector industries and occupations which have suffered the lion's share of displacement and job loss in the 1970s. Job creation in sectors like education and office work are less likely to reach the troubled target population of West Berkeley than new jobs in construction, manufacturing and the circulation of commodities. If Berkeley is to retain its diversity and stem the displacement of its blue collar and minority communities, economic development planning will have to regard job creation in carefully targeted sectors as a top priority.

B. Berkeley's Changing Employment Base

Berkeley is relatively unique compared to other employment centers in the Bay Area. In addition to a respectably-sized manufacturing sector, Berkeley has unusually large retail and service sectors, some of which cater to non-Berkeley residents. Altogether, these features make Berkeley a net employment center, with substantial numbers of workers commuting in from surrounding communities. Because of the public/private mix and the private-sector prominence of manufacturing, services, and retailing (81% of private-sector employment), the jobs offered by Berkeley employers are diverse but are skewed towards extraordinarily high levels of professional and technical workers.

This portion of our research focuses exclusively on the private sector. Using 1978 and 1982 data from the Berkeley business license tax, which covers all private employers except some firms in banking and insurance,⁵ we found that net manufacturing jobs have actually been increasing in recent years, but failed to grow as fast as the Berkeley economy as a whole (see Table 6). Since 1980, an additional 695 new manufacturing jobs have been added. Other sectors that lagged were agriculture (a tiny proportion of the

⁵ The absence of data on these employers, who do not pay the business license tax, prevented us from incorporating these sectors into the study. The figures in Table 6 for Finance, Insurance and Real Estate are thus far lower than this sectors actual importance in the local economy. In addition, we could not update this particular finding to 1982 because of interpretation problems with certain data categories.

Table 6

Total Private-Sector Employment by 1-Digit Sector
Berkeley, 1980 and Annual Percent Change 1978-1980

Sector	% of Total 1980	Annual % Change
Agriculture	0.9	-15.7
Construction	7.3	+8.4
Manufacturing	20.4	+0.7
Transportation	2.6	-4.1
Wholesale Trade	5.1	+0.3
Retail Trade	27.3	+3.2
Finance, Insurance, and Real Estate*	2.3	+6.4
Services	33.9	+9.3
TOTAL**	100%	+3.8

* Excludes building owners/operators, banks, savings and loans, and insurance companies.

** Excludes unknown category, 0011, as well as the above.

Source: Business License Tax data, City of Berkeley, December 1978-1980. Figures for 2-digit tables presented below may not correspond precisely because the latter were drawn from July 1980 data.

economy), transportation, and wholesaling. Job creation in the service, retail, finance/insurance/real estate, and residential construction sectors led the growth of jobs in the local economy.

Big changes are taking place within the manufacturing sector (see Table 7).

Table 7

Major 2-Digit Manufacturing Sectors:

Numbers and Share of Employment, Percentage Change, 1978-1980, Berkeley

Code	Sector	# Jobs 1978	# Jobs 1982	% all Manu	% Change 1978-82
27	Printing and Publishing	645	880	13	+36%
28	Chemicals and Allied	1892	1320	20	-30
33	Primary Metals	607	731	11	+20
34	Fabricated Metals	482	596	9	+24
35	Non-Electrical Machinery	455	418	6	-8
38	Scientific Instruments	303	480	15	+222

Source: Business License Tax Reports, 1978, 1982.

While overall manufacturing jobs employ 20% of all private-

sector workers in Berkeley, the older, more traditional sub-sectors are losing jobs, while the phenomenal growth rates of a few new sectors account for almost all the net job growth. Chemical firms, Berkeley's largest industrial sector, closed out 571 jobs in the last four years, for a loss of 30% of total employment in that sector. Other traditional manufacturing sectors, such as non-electrical machinery, have registered similar losses. But not all heavy industries are on their way out. Metal-working sectors, for instance, have contributed 238 new jobs to the Berkeley economy in the past four years.

Nevertheless, most new manufacturing jobs are in the light industries that employ disproportionate numbers of professional and technical workers. The most outstanding is scientific instruments, a sector which more than tripled its employees in the past four years, providing 673 new jobs. The printing and publishing industry in Berkeley grew by 36% in the same period, adding 235 new jobs. In contrast to the size of plants closing in the heavier sectors, these newer light industries tend to consist of relatively small firms with fewer numbers of employees.

The upshot is that manufacturing is an internally volatile sector, with some jobs vulnerable to plant closure while others are added by relatively "high tech" industries. But it remains an important component of the Berkeley economy, and one which does provide relatively more of the badly

needed blue collar jobs.

Services are the fastest-growing Berkeley sector. Berkeley has a significantly higher concentration of jobs in this area than does Alameda County as a whole. In the late 1970s service employment grew by about 9% each year in Berkeley, adding more than 1,600 new jobs in that period. Not all of these services are sold to Berkeley residents; some are "exported" outside of the community and should be considered part of the local economic base. Within the service sector, however, segments operate very differently and jobs associated with each type are widely diverse. Most of the growth in recent years has been in the business and health service categories, whereas personal services have actually declined in employment. Health services form the largest chunk of employment; in the past four years, 685 new jobs have been created in Berkeley in this sector. Business services, the second largest, grew by a phenomenal 75% in the same four years, creating 1190 new jobs. Together business and health services account for almost 60% of all service employment and for the bulk of new job growth in this portion of the economy.

Two other sectors -- eating and drinking establishments, which fall in the retail category, and residential construction -- also registered large job gains in Berkeley (see Table 8). The former provided 718 new jobs, growing by 31%, whereas the latter added 371 jobs, up 46%. The retail

sector provides a growing proportion of the sales tax base for the city. Jobs in retailing tend to be lower paid and frequently provide few benefits, although some variation occurs employer by employer. Failure rates also tend to be high for firms starting up in this sector. Growth in both residential construction and retailing are caused in part by the process of gentrification, as higher-income groups move into Berkeley. But increases in restaurant meals are also attributable to more women working, to Berkeley's increasing attractiveness as a regional shopping and recreation area, and to a growing daytime working population in Berkeley. Residential construction has also been stimulated by greater interest in energy conservation and retrofitting to meet Berkeley's new energy standards.

The major private growth subsectors in Berkeley are listed in Table 8. Together these sectors account for the bulk of new job growth in Berkeley in recent years, adding a net 4000 jobs. Of these, approximately one third were created in the manufacturing and construction sectors. The other two thirds appeared in the service and retail sectors.

Further work on the size of firm and nature of jobs created in these sectors enhanced our profile of the Berkeley economy. We found that most new job growth has been occurring in sectors dominated by small firms. Cooperatives and collectives are well represented among the job creators. Currently, approximately 1,000 people work in coops and

Table 8

Major Expanding Sectors, Berkeley, 1978-1982

SIC	Sector	Jobs, 1982	Net New Jobs	% Chang
15	Residential Construction	1181	371	+46%
27	Printing and Publishing	880	235	+36%
33	Primary Metals	731	124	+20%
34	Fabricated Metals	596	114	+24%
38	Scientific Instruments	976	673	+222%
58	Eating and Drinking Places	3048	718	+31%
73	Business Services	2770	1190	+75%
80	Health Services	3247	685	+27%

Source: City Business License Data, 1978-1980.

collectives in Berkeley, or about one in every fifty employees. While we could not get direct evidence on employee characteristics, we found that the manufacturing and construction sectors had the largest percentages of jobs in the skilled blue-collar worker categories (operatives and craftworkers), whereas the service and retail sectors offered more professional, sales, service, and clerical

jobs. This dovetails with the occupational locations of Berkeley working residents discussed in the previous section. There is, however, dramatic variation within occupational categories in pay levels and skills, so that it cannot be concluded that all service occupations, for instance, are necessarily low-paying and low-skilled. Many health-related jobs, for example, fall into this category, and offer skilled work and stable, decent incomes to workers in that field.

Looking for evidence on local hiring performance of sectors, we found that the manufacturing and construction sectors have relatively low rates of local hiring, even though large pools of operatives, craftworkers, and laborers exist in Berkeley (see Table 9).⁶ From the 1970 Census, we know that in the manufacturing and construction categories, Berkeley-based firms employ less than 20% of their workers from the Berkeley population, compared with rates in excess of 50% for professional and professional service employers. It is difficult to know if this has changed in the past decade, but there is no intuitive reason to believe that it has.⁷ More Berkeley workers in blue-collar occupations commute to jobs outside Berkeley than in any other category. High cross-commuting rates could

⁶ Equivalent data is not yet out from the 1980 Census.

⁷ The 1980 Census results have not yet been published on commuting. for a more detailed discussion of this issue, see Markusen, Jones, Preston and Mayer, 1981.

Table 9

Percent Local Hiring by Berkeley Employers, 1970

Sector	% of Those Working in Berkeley Who Also Reside in Berkeley
Construction	19.2%
Manufacturing	19.4%
Transportation/ Utilities/Communication	29.5%
Wholesale/Retail	35.9%
Finance/Insurance Real Estate	38.7%
Business and Repair Service	33.4%
Personal Services	56.4%
Professional Services*	53.6%
Public Administration**	38.3%
Other	37.3%
TOTAL	42.1%

Source: U.S. Bureau of the Census, Census of Population: 1970, Subject Reports, Final Report PC (2)-6D, Journey-to-Work, Table 2.

* Includes most of SICs 80, 81, 82, 83, 86, 89: Health, Education, Legal, Social Services, Membership Organizations, Architectural, and Accounting, including public sector employment in universities, and secondary and elementary schools.

** Includes federal, state and local public sector workers not classified under education, health or social services, not military.

reflect several factors such as regional union labor pools. But we must caution that, unless the implementation strategy for the economic development plan includes requirements that firms benefiting from economic development aid hire a certain proportion of Berkeley residents, expansion of such jobs may not reach those members of the Berkeley population targeted.

III. The Economic Development Strategy

Using this profile of jobs needs and likely job offers, we charted a tailor-made strategy for Berkeley. The first set of recommendations addressed the promotion of new products and services. We proposed an agglomeration strategy linking the research potential of the University of California, Lawrence Berkeley Labs, and other educational and research institutions with the special characteristics of Berkeley's labor force and culture, especially its numerous innovative entrepreneurs and small firms. For instance, focusing on two of the fastest-growing sectors identified in our analysis -- scientific instruments, and residential construction (mostly rehabilitation) -- and acknowledging the considerable local community activity around energy conservation and renewable resource development, we proposed a series of policies to promote an alternative energy industry for Berkeley. This industry encompassed many activities that were clearly feasible for a small city such as

Berkeley, yet in which Berkeley might make a reputation for herself as an innovative center, drawing other entrepreneurs and increasing the degree of communication and productivity within the sector by the simple fact of its agglomeration. Furthermore, this industry offers a range of jobs in the crafts and operative categories that could be targeted to West Berkeley's minority labor forces. In fact, training minority youth for energy audits and weatherization work is an existing successful program that could be integrated into the broader strategy. Elements of the integrated alternative sector-strategy include:⁸

Research and Development

Architectural/Engineering Design and Consulting Firms

Manufacturing (Solar Panels, Measuring Devices, Regulating Systems, Prefabricated Greenhouses, Wind Systems, etc.)

Weatherization (Sales and Installation)

Energy Auditor Services

Renewable Energy Systems (Sales and Installation)

Educational Center (General Education, Scientific Education, Vocational Training)

In addition to alternative energy, we also investigated the possibilities for job creation in computer software and services, in manufacturing of computer peripherals, in gene-splicing and related biological science-based

⁸ See Skewes-Cox, 1981, for a fuller account of this strategy.

production, in outdoor camping and recreation equipment and clothing, in publishing and electronic communications, and in natural and specialty foods. To increase accountability and local entrepreneurship, we examined the accelerating growth of consumer cooperatives and worker-owned collectives and recommended ways of supporting this trend.

In breaking down Berkeley's economy into subsectors, we spent a great deal of time analyzing the services sectors, thus critiquing the standard notion that only manufacturing employment is "export-based" and that service jobs are "secondary" or only locally-generated. The largest single employment sector in Berkeley is the production of education and research services, much of which serves a worldwide export market. Health services, one of the fastest growing sectors of recent years, serves a broad regional market. Our studies revealed for policymakers the substantial job-creation potential of decentralized expansion of health services, child care services, and other forms of service employment normally overlooked by economic development planners.

For each type of manufacturing and services sector we analyzed, we developed a detailed set of low-cost programs and policy redirections that could have an appreciable targeted impact on future business and employment growth. The various reports demonstrated how everything from very modest city assistance programs to changes in land-use regulations

would foster increased community job creation, particularly in West Berkeley. An example of this approach are the seven recommendations we developed for promoting increased employment in child care services:⁹

- (1) Small Loans -- The City, through the EDA Revolving Loan Fund or some other source, can make available small loans not in excess of \$5,000 for people to rehabilitate their homes to make them safe and suitable for family day care.
- (2) Zoning -- A more favorable attitude toward permitting family day care in neighborhoods would be helpful and in keeping with both economic development and important neighborhood preservation goals.
- (3) Technical Assistance -- In addition to continuing to fund Berkeley Children's Services and Bananas, the City could establish a tool-lending library and a contract carpenter and plumber, available at reasonable fees to child care providers, to help with minor repairs and conversion of space. Also, the Fire Department, which currently inspects day car homes for safety, could provide consultation with providers to help them meet safety standards.
- (4) Space Provision -- The City could take a more active role in negotiating leases with the Berkeley Unified School District to provide space at modest rates to child care providers and parent coops. Closed schools could be converted to child care centers and related uses. In addition, the City could require new construction of significant size to include child care space leasable to potential providers, just as it now requires the provision of adequate parking space for cars.
- (5) The Business Incentive Program and the Private Industry Council -- Since child care is an important arena for job creation in Berkeley, the staff of the Business Incentive Program should provide technical assistance to day care businesses. One way to facilitate this would be to appoint a representative of the Berkeley-

⁹ See Markusen and Bennet, 1981, for a detailed analysis of economic development potential in this service sector.

Albany Licensed Day Care Operators Association to the Board of Directors of the Private Industry Council (PIC).

- (6) Employer Based Child Care -- The City should encourage all Berkeley employers to assist in the provision of child care. Major employers, including the University of California, should be expanding rather than contracting their day care facilities. The City could help employers with space, zoning, and other technical problems, and also help set up a model child care center for its own employees.
- (7) Information and Referral -- Referring parents to existing providers and community agencies, as well as providing a means by which more parent cooperatives can form, will enhance employment opportunities within Berkeley for child care workers.

Supplementing the above approach, we paid particular attention to recommending administrative reforms to take better advantage of existing intergovernmental transfers, given the city's tight budget. The primary goal was to determine how local entities could turn poorly-functioning giveaways into genuine incentives, with, where appropriate, enforceable performance requirements.¹⁰ The city's land-use, "space-use" and infrastructure needs and policies were reviewed, as the inability of firms to find adequate space in this tightly built-up community has constituted a major obstacle to implementing any job creation strategies.¹¹ Past heavy-handed urban renewal efforts only exacerbated this problem.

¹⁰ See Sussman and Klemperer, 1981.

¹¹ Steinle, 1981, examines a land use issue of prime importance, and Builders, Inc. offers a novel approach to the reuse of industrial space.

Small-scale, carefully targeted, and environmentally sensitive solutions constituted the core of our approach. By working out a detailed plan, we were able to argue for a "pro-development" strategy involving targeted job growth that avoided the usual community conflict over "development" as construction of new buildings, per se. For example, we developed a land use planning and zoning measurement criteria of "jobs per square foot" to replace the ordinary focus solely on property valuation in local public regulation and decision making. Only when one knows precisely what types of jobs should be created can local economic development planning transcend the "edifice complex". Our approach, while tailored to Berkeley's rather atypical local economy, nevertheless demonstrates a new methodological and professional direction for local planners.¹²

IV. Conclusion

Our main argument has been that any economic development strategy for Berkeley must be based on specific and detailed analysis of local job needs and industry trends. From this analysis, we have been able to formulate concrete plans and recommendations for matching people to jobs by promoting the growth of a diverse mix of sectors and occupations specifically tailored to Berkeley's requirements.

¹² For more detail, see Weiss and Markusen, 1981, and Weiss, 1983.

The other key assumption -- that growth should be indigenously fostered rather than imported by soliciting corporate branch plants, that services could be just as important job-generators as manufacturing, that job growth should rest on entrepreneurial and product innovation and on the agglomeration economies of a research-oriented community, that public-private programs and economic benefits should be targeted wherever possible, and that accountability should be ensured through careful planning and negotiation and by encouraging mechanisms for local ownership and control (including cooperative forms) -- all shaped the design of the development strategy, but again only after detailed economic and administrative analysis. Perhaps part of the transition to an "Information Economy" will be a substantial increase in efforts like Berkeley's to implement "knowledge-based" economic development planning.

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