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PROPOSAL

Examination of the Consequences  
of Alternative Investments  
of the Permanent Fund

Submitted to the

Alaska Permanent Fund Commission  
Juneau, Alaska

by the

Public Interest Economics Foundation  
1714 Massachusetts Avenue, N.W.  
Washington, D.C. 20036

August 15, 1977

## The Problem

It is PIE-F's understanding that the Governor and the Alaska Permanent Fund Commission (APFC) are faced with a complex set of problems in determining how best to invest the revenues to be received by the Permanent Fund (the Fund). The idea of maintaining, as a permanent part of the State's endowment, a financial fund to offset the disappearance of one set of the State's basic real wealth, much of its oil and gas, is obviously appealing. Effectively carrying out that mandate is, however, replete with practical and even some theoretical difficulties. For example, defining a "permanent" value for the fund in the face of continued inflation is itself not a simple matter.

There appear to be two basic problems only one of which is, as we understand, the responsibility of APFC. Determining how to invest the corpus is APFC's major mission but, this should perhaps not be carried out entirely without regard to the second problem, determining (by the Legislature) how to employ the earnings gained from the investment of the corpus of the Fund. This proposal is concerned exclusively with the former question.

There are a number of what might be considered contextual problems which can be partially solved or possibly exacerbated by the nature of the Fund's employment, but which in any event should be considered in making rational decisions as to the kind of investment of the Fund that would best serve the interests of the general public of Alaska. Among these contextual problem areas are:

- o uneven development of Alaska, the urban-rural differences;
- o the impact of any investment program on immigration and hence on land values, on the one hand, and earnings and amenities of present residents on the other;
- o problems of distribution of income and wealth;
- o problems of relations between white and native populations;
- o the difficult problems of stability--seasonality of employment, the "boom town" phenomenon";
- o the relative roles of the public and private sectors.

Obviously, deciding where the public interest lies in seeking solutions to these problems involves subjective judgments as to social and political values, as well as economic considerations. However, whatever one's beliefs about these problems, they will be affected by the uses to which the Fund is put and the way the Fund is managed.

There are similarly a number of sometimes incompatible criteria by which various possible uses of the Fund might be evaluated:

- o How can the benefits of the investment be kept in Alaska?
- o How can the uses of the Permanent Fund complement other State revenues or other income and wealth in the State?
- o Is it desirable to transform the dollar flows into the fund into some form of tangible investment in Alaska, intangible investment in Alaska? If the income potential is larger, should some of the funds be invested outside Alaska? The problem of local versus external investment may be particularly complex because of the fact that different segments of the population may benefit from one investment policy far more than from the other.

Preliminary thinking by the Public Interest Economics Foundation staff has led to the tentative conclusion that the major candidate areas for investment of the fund can, for discussion purposes, be usefully be grouped into such categories as:

- o infrastructure: highways, aviation facilities, sewer and water systems, public utilities (especially electricity);
- o seed funding to Alaskan cities for urbanization/development/redevelopment;
- o housing subsidies, either for areas where housing costs are particularly high or where needs are particularly great;
- o human capital "investment, education, health, training;
- o direct income redistribution transfer payments;
- o external investment.

The Commission or its staff may well have identified other areas of comparable or greater interest to it.

The problem of choosing the balance, among these (or other) main areas for investment, which would best meet the needs of the people of Alaska is

extraordinarily complex and difficult. This proposal is written in the belief that the Public Interest Economics Foundation can provide expert, impartial analysis that should help decision-makers to solve that problem, in light of the potential goals and contextual problems identified above.

The PIE-F Approach

The Public Interest Economics Foundation is, as is more fully described below, a not-for-profit public interest corporation committed to approaching economic and social problems with a high level of technical rigor and with the overall purpose of advancing the interest of the public at large.

The research and related capabilities of PIE-F suggest that, over time, we could usefully examine a substantial range of policy aspects of the investment decisions facing SIA, including its West Coast affiliate (PIE-West). In particular PIE-F has extensive experience in several of the areas of potential investment just specified: transportation, education, public utilities, mineral resources, health, financial institutions. The principals of PIE-F would be willing to come to Alaska to discuss a range of research possibilities. However, in order to present a reasonably concrete initial proposal, we propose here to examine investment in infrastructure--particularly transportation infrastructure and, possibly, electric public utilities. PIE-F would be willing to investigate some other areas of greater interest to SIA in which we are particularly well qualified. The details of the proposed work would of course be different, but the major thrust of the approach would be similar for many areas of potential investment.

Any category of investment encompasses an implied objective. In most instances, the objective may be expressed on a quantitative dimension, such as new housing units per annum; employment or income gains per period in a specific basic industry such as fishing or lumber; dollar value or square footage of redeveloped urban space.

In addition to the specific objectives measured by the quantified dimension, a variety of other public policy concerns/objectives inhere in each investment category. The committee may, for example, wish to know the effect which each unit of expenditure in each category might have upon

net immigration rates, land use and urbanization rates, resource consumption or public service demand.

Of the investment categories listed above, only one is specifically directed towards shifting the equity positions of income groups. All forms of public investment, however, have equity implications.

In addition to the productivity (benefits) accruing from a specific investment program, attendant public costs will arise. These costs will range in nature from secondary growth support systems (highway patrol, road maintenance, sewage treatment plant management) to costs of depleting stocks of finite resources to housing loan program administration costs. For each investment category PIE-F will identify and, where possible, quantify primary and secondary costs which can reasonably be anticipated.

A decision to pursue specific investment options will yield aggregate economic effects. Employment, income, and price levels in Alaska will be affected to some degree, though not in all instances to an empirically significant level. In addition to these aggregate variables, price and income changes will occur in specific industries and geographic areas. If, for instance, an ambitious housing subsidy program were chosen, it can be expected that there will be upward pressures on the price level associated with income and employment gains in selected areas.

In its role as an outside research resource, the PIE-F staff would not (at least initially) undertake to make recommendations, but would rather examine the full range of major consequences of investment in infrastructure (or other agreed area of investment). Preliminary analysis by the staff suggests that the following types of consequences would be suitable for analysis:

- o Efficiency of the overall economy, based on use of complementary resources, suitability of the investment to the needs of Alaska, costs, timing and, hence, the rate of return and present value of the flow of benefits to be expected.

- o Distributional impacts including rich/poor, native/non-native, old-timer/newcomer and incentives to migrate, and regional including urban/rural.

- o Stability criteria including seasonality of employment, boom-bust cycle, and vulnerability to fluctuations in export prices.

- o Public versus private sector involvement.

Additional consequences might be of great interest to the committee. Before beginning detailed data gathering and analysis, the list of consequences to be examined would be agreed upon between SIA and PIE-F, as would the specifics of the investments to be examined.

The problems are, of course, too broad to be examined exhaustively within the time and money resources proposed. It is PIE-F's intent to develop a systematic way of analyzing the consequences of infrastructure investments, to draw out the general character of consequences in qualitative terms and to the extent possible indicate orders of magnitude. The report is intended to provide a good qualitative base for understanding the implications of broad policy decisions concerning the advisability of major investment in the kinds of facilities to be examined.

#### Tasks and Schedule

These major tasks are envisaged:

- o Background
- o Field examination and information gathering
- o Analysis

Task One: Drawing on the resources in Washington, D. C. and on those in the San Francisco Bay area and Seattle, the study staff will develop a basic understanding of:

- o the legislative background, the history, and mandate of SIA;
- o such directly or indirectly related developments as the land allocations associated with statehood, the Native claims settlement;
- o the pipeline legislation and its economic implications. In this task the staff members will supplement their previous exposure to Alaskan affairs and will be led by Ms. Mary Clay Berry, author of The Alaska Pipeline: The Politics of Oil and Native Land Claims.

The initial background work will be performed in the lower forty-eight for reasons of economy. Once the materials readily available outside Alaska have been digested, the background explorations will move to Alaska. Key members of the team will come to Juneau and Anchorage to visit with members of SIA and officials in the Office of the Governor, the State Legislature, and their staffs. A visit will also be made to the University of Alaska, at least the Anchorage campus. The purpose of this part of the visit will be to complete development of background information.

Task Two: Largely in Alaska, probably as a continuation of the

same visit, information will be gathered on:

- o the particular kinds of infrastructure (or possibly other investment) under serious consideration for investment of Fund monies;
- o economic developments and forecasts;
- o availability of complementary resources;
- o kinds of consequences of particular importance to SIA;
- o relevant quantitative data, and
- o attitudes of various sectors of the population regarding use of the Fund.

During the early stages of the visit, agreement would be reached on all the major features of the research to be performed, such as the specific investment categories to be examined and the consequences to be explored. In addition avenues for obtaining additional information would be identified.

The second portion of the visit would be devoted to gathering the detailed information needed for the investigation.

Task Three: On the basis of the background information initially obtained, the objectives and details agreed in Alaska, the information gathered in Alaska and outside the State, the study team would perform the analysis. The analysis would specify to the fullest extent possible within the constraints of time and resources, the foreseeable consequences of the investment patterns analyzed. A report would be prepared. It would describe the project, the background, the information gathered, the analysis and the conclusions. It would also identify the limitations of the study and indicate areas where further research should be performed. A camera-ready copy would be delivered to the Committee. After delivery of the report, if the budget allowed and the committee desired it, key members of the PIE-F study team would come to Alaska to make oral presentation of the work and its results.

Schedule: Although a research project must be managed in a flexible way, and it is, therefore, impossible to be precise about all aspects of the schedule of completion a major undertaking such as that contemplated here, the following schedule appears to be realistic.

Work will get underway immediately upon receipt of written authorization to proceed.

Within four weeks the background work outside Alaska will be complete.

The fifth week would be spent in Alaska, largely completing

the background work and reaching final agreement on the content of the remainder of the work.

The sixth and, possibly the seventh week, some of the regular staff and the Alaska liaison person would devote to gathering information.

By the end of the twelfth week the analysis is to be completed.

During the remaining three weeks the analysis would be reviewed and the report put into final form, edited and typed. The camera-ready copy should be mailed fifteen weeks after authorization to proceed.

In the sixteenth week PIE-F representatives would be available to visit Alaska for oral presentations and discussions.

Management and Staffing:

The project will be under the direct supervision of Dr. Allen R. Ferguson, President of PIE-F. The study will be undertaken jointly by the Washington office and its West Coast office, PIE-West. PIE-West is managed by Robert Wocott who will be responsible for supervising the work to be performed there. We plan to designate Professor Richard Norgaard of the University of California as project manager. Ms. Mary Clay Berry has agreed to be a special consultant to the PIE-F team, advising on the background of the problem area. A resident of Alaska will be engaged on a part-time basis to provide liaison for PIE-F with Alaskan officials and to obtain information in addition to that gathered during the visit to Alaska.

It is intended that the remainder of the study team will be selected from among the individuals whose resumes are provided below.

Budget: PIE-F proposes to undertake the study on a cost plus fixed fee basis comprised of all direct costs, including fringe benefits, overhead on all direct costs computed at a rate of 70 percent, and a management fee of 12 percent. It is proposed that the total obligation of the State not exceed \$36,500.

The basis for the budget is shown in Table I. It should be noted that the budget does not include the costs of travel to or within Alaska or costs of food and lodging in the state. That estimate is omitted because until initial conversations are held with representatives of the state, it is impossible to determine the extent of such travel. Those costs would, of course, be added to the State's obligation under any forthcoming contract.

QUALIFICATIONSGeneral:

The Public Interest Economics Foundation (PIE-F) is not-for-profit public interest corporation--501(c)(3)--incorporated in the District of Columbia. It was established by a group of economists and public interest advocates with the primary purpose of involving economists more systematically in public policy decisions to advance the public interest.

PIE-F and its affiliate, the Public Interest Economics Center (PIE-C) --a 501(c)(4) corporation--carry out five interrelated programs: research, education, governmental relations and a clearinghouse program which provides liaison between professional economists and public interest groups and government officials, and publication of a newsletter Public Interest Economics.

PIE-West is the West Coast office of PIE-F. It concentrates on research, educational, and clearinghouse functions. It has contacts throughout the western United States extending into Canada. Its major research activities have concentrated on economics of resource use and environment.

The staffs of PIE-F, PIE-C and PIE-West are treated as a single pool and are interchangeably assigned to various projects and all three draw on the same pool of external expertise. This project will be undertaken as part of PIE-F's research program.

The conduct of PIE's research activities is unique in several respects. It is PIE's policy to carry out research programs in economics and related fields that can be expected to contribute to advancing the public interest.

As a public interest nonprofit research organization, PIE-F has as basic components two rather special sorts of groups:

- o two boards of advisors--a Board of Economic Advisors and a Board of Public Interest Advisors, and
- o a large complement of volunteer economists, as well as paid consultants, currently numbering over 800.

The membership of the two advisory boards (see attached PIE-F brochure) reflects a broad range of political orientation and includes individuals of national stature as well as less prominent persons of special competence. These advisors have been genuinely involved in the activities of PIE-F, including PIE-West, and it has become a standard practice to use members of the Board of Economic Advisors as reviewers and advisors on particular research projects. Through these advisory boards and the hundreds of affiliated economists PIE-F/C is able to identify, evaluate and recruit on an ad hoc basis economists with virtually every kind of specialization from throughout the country.

PIE-F/C's research activities are organized to take full advantage of its own nuclear staff and regular consultants as well as its special access to outside professionals. It is typical practice to develop research teams consisting of regular staff, members of the board of economic advisors and temporary employees or consultants drawn in part from the list of PIE-F associates. The management plan for the present project is an example of this kind of organization.

In all PIE-F/C projects, a serious effort is made to assure high professional quality. Most of the projects have been under the direct supervision of an economist with a national reputation; frequently, pre-

liminary results have been reviewed and criticized by a team of members of the Board of Economic Advisors. In a number of instances new theory or methodology has been developed to cope with practical applied problems in an analytically rigorous and sound manner. In addition, senior members of the PIE-F/C research team have governmental, research and volunteer-sector experience.

#### Research Experience

In their five years of existence PIE-C/F have completed major studies in areas directly relevant to the requirements of the Alaska Permanent Fund Commission. Research has focused on governmental policy and its impact. Fields in which such studies have been performed range from the environment to health care. Major studies have covered: analysis of the effect of regulation and taxation on water quality invest, regulation and subsidization of railroads, the merchant marine, motor carriers, impacts of off-shore development, health care facilities, solid waste facilities, inland waterways, regulation of banking and the electric power industry. Other studies have been concerned with the distribution of the burden of costs of environmental protection, industrial noise regulation, materials policy and regulation of milk marketing.

Some projects that appear to be of particular relevance are briefly summarized below. The scope of PIE-F/C research activities is provided in the publications list attached.

#### 1. Infrastructure and utilities

For the United States Railroad Association and for the State of Maryland, PIE-C undertook two major studies dealing with the consequences

of disinvesting in rail facilities. The study examined the obverse of the question: what are the social and economic impacts of increasing investment in infrastructure? The methodology would apply broadly to that question as well as to the question for which it was developed.

These studies resulted in the publication of two reports: The Impacts on Communities of Abandonment of Railroad Service (USRA-C-50010, Dr. Robert Gallamore) and Railroad Abandonment in Maryland for the Department of Economic and Community Development, State of Maryland.

For the National Association of Rail Passengers (NARP), PIE-F is creating a detailed research agenda on the question of Federal ownership of all (or part of) the railroad fixed plant (track, terminals, etc.) in the United States. The deteriorated condition of railroad track and other facilities and the poor financial condition of most American railroads have already created crisis situations (notably the Penn Central), but there is clear likelihood of further wide-spread collapse. Fundamentally the technology of freight transport and the demand for freight transport have changed markedly in the period since the railroads were organized and built.

For the Community Involvement Network PIE-F prepared a citizens' manual for electric utility rate reform. The large increases in electricity rates which have occurred more or less continuously in recent years have sparked wide-spread citizen action. Much of the reason for the upward rate spiral lies in the "declining rate" pricing system and the classification of customers into more or less isolated categories, both widely used in the United States. This system discriminates against

residential customers compared to industrial users and provides discounts to large-volume users within each class. Fundamental rate reform, implementing flat-rate ("fair share") peak-load electricity pricing and possibly "life-line" rates, is the only way to correct these problems and, at the same time, to assume most efficient use of additional plant capacity. The PIE-F manual explains a rationalized, equitable pricing system and advised citizen groups on how to proceed in bringing utility rates to issue and in participating in the hearing process. The manual clears the air on the economics of electricity rates in a readily understandable manner, spelling out rate reform goals for citizen groups.

PIE-C sponsored the preparation of a study as part of the Ford Foundation Energy Policy Project. The study by Charles Cicchetti, Edward Berlin, and William Gillen, entitled Perspective on Power: A Study of the Regulation and Pricing of Electric Power (Ballinger Books, 1975), dealt with the effect of existing and alternative forms of regulation in the electric power industry on efficiency, adequacy of investment and technological structure of that industry and, in turn, on the efficiency of the economy as a whole.

## 2. Environmental issues

A substantial amount of PIE-C/F's effort has been devoted to environmental economics. Three studies have dealt with water quality. One was undertaken for the Environmental Protection Agency and dealt with the distribution of the burden of the costs of water pollution control among various segments of the population. Two studies for

Experimental Technology Incentives Program included analyses of the effect on water pollution abatement technology of several regulatory changes: use of monetary penalties as supplements to rigid quality standards, the use of capital subsidies, the effects of postponement of compliance dates on abatement technology in the Delaware River Estuary (and in the automobile industry).

PIE-West has assessed the on-shore economic impacts of outer continental shelf oil and gas development for the California Governor's Office of Planning and Research. In addition, PIE-C/F has been active in analyzing and in educational and advocacy efforts related to the use of pollution taxes as a more efficient method of regulation in the entire environmental area.

We have just completed a study for EPA on solid waste management concluding that a charge on use of virgin materials in manufacturing would substantially and efficiently reduce solid waste.

### 3. Consumer issues

PIE-F/C has completed two projects of particular relevance to the consumer: a study of the impact of deregulation-marginal cost pricing of natural gas for the Center for Strategic and International Studies at Georgetown University and research on the potential economic impact of an effective national consumer education program of the Office of Consumer Education ( The Effect on Residential Customers of Natural Gas Price Deregulation and Economically Rational Uniform Pricing and The Potential Economic Benefits of Consumer Education. )

#### 4. Regulatory reform

PIE-F/C has also been deeply involved in the analysis of and in testimony and educational activities associated with the regulation and reorganization of railroads in the Northeast and Midwest with emphasis on the potential impact of change on efficiency and technology in the railroad system and, indirectly, on the rest of the transportation industries.

For the Antitrust Division of the Department of Justice, PIE-C undertook to study the effects of the regulation of ocean freight rate conferences by the Federal Maritime Commission on economic efficiency, competition and innovation in the ocean trades. The project resulted in testimony on four related topics: Professor Leonard A. Rapping, University of Massachusetts, on North Atlantic Pool (NAPA) and Freight Rates; Allen R. Ferguson, NAPA and Overtonnaging; Aaron J. Gellman, NAPA and Technological Change and Innovation; and Professor M.A. Adelman, Massachusetts Institute of Technology, NAPA and Competition in the Ocean Freight Industry.

Dr. Ferguson has testified for the House Merchant Marine and Fisheries Committee on the economic and technological impacts of the operating differential subsidy program.

#### 5. State and financial studies

Although some studies have already been mentioned previously in other categories, it is relevant to this proposal to point out that PIE-F/C has undertaken the following studies for state governments in order to demonstrate our flexibility not only in dealing with national

agencies but also with state agencies: Hospital Capacity in Somerville, An Application of Certificate of Need Legislation, A Review and Evaluation of the Application by Tileston & Hollingsworth for a Variance from the Massachusetts Regulations for the Control of Air Pollution, (and Variance from Air Quality Regulations: the Criteria for the Grant/Deny Decision, (all three for the Department of Public Health of the Commonwealth of Massachusetts;) A Policy Analysis for Recycling Municipal Solid Waste in Minnesota, for the Minnesota Pollution Control Agency, and Railroad Abandonments in Maryland, for the Governor's Steering Committee, State of Maryland.

Three studies in banking and finance indicate another aspect of PIE-F/C's ability to deal with the concepts involved in the planned employment of Alaska's permanent fund: a book, The Banking System: A Preface to Public Interest Analysis, by Stanley W. Black III, Glenn Canner and Robert G. King, published in March 1975 and two studies prepared with a grant from the Stern Fund: Financial Interlocking Directorates; Feasibility Study and Interlocking Directorates among Financial and Non-Financial Corporations: Survey and Background.

RESUMES

Allen R. Ferguson

Robert M. Wolcott

Richard B. Norgaard

Steven J. Buchanan

Mary Clay Berry

Polly Roberts

Joseph "Pat" Weinstein

Edgar Rust

ALLEN R. FERGUSON

PRESIDENT

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Education

Ph.D., Economics, Harvard University, 1949  
M.A., Economics, Brown University, 1943  
B.A., Economics, Brown University, 1941

PREVIOUS POSITIONS

Independent Economist, 1971-1972

Planning Research Corporation, 1965-1971. Director of Policy Research

Department of State, 1963-1965. Coordinator for International Aviation

The RAND Corporation, 1953-1958, 1960-1963. Senior Economist and  
Deputy Head, Logistics Department

Northwestern University, 1958-1960. Director of Research,  
The Transportation Center

U.S. Government, 1951-1953. Industrial and Transportation Economist

University of Virginia, 1949-1951. Assistant Professor of Economics

EXPERIENCE DIRECTLY RELATED TO ALASKA:

In 1971-1972 consultant to the Office of Economic Opportunity. Reviewed the  
OEO-sponsored health delivery system in Alaska. Spent several weeks in  
Alaska, particularly in Nome and Bethel and villages in their hinterlands,  
also in Anchorage, Fairbanks and Juneau.

EXPERIENCE DIRECTLY RELATED TO INFRA-STRUCTURE ANALYSIS:

Extensive research in transportation analysis, highway, air, water and rail;  
in public utilities; in human resources, health, organization of human re-  
sources delivery systems, consumer education; environment.

OTHER EXPERIENCE

The Public Interest Economics Center and The Public Interest Economics  
Foundation are coordinate not-for-profit organizations in Washington  
whose overall function is to involve economists systematically in public  
policy. As co-founder and president of the organizations have overall  
responsibility for their funding and operation.

PIE-F research has concentrated in transportation, environment, health technology and banking. Although the research varies, if there has been a main thrust, that thrust has been in the direction of reducing governmental price and entry regulation in transportation, more effectively applying economic criteria for action in technology and health planning, and shifting the reliance in environmental regulation from rigid standards to some form of pricing mechanism.

Immediately prior to founding PIE-C and PIE-F, Ferguson worked as an independent economist undertaking planning studies for highway development in Sumatra and evaluation of health programs in Alaska for the International Bank for Reconstruction and Development and the Office of Economic Opportunity respectively; preparing studies opposing some forms of Federal subsidization, primarily for the SST and Lockheed; advising the Department of Education of the government of Manitoba.

At the Planning Research Corporation Ferguson was responsible for promoting and supervising civilian government research especially in economics and the social sciences. Previously, the corporation had engaged primarily in military research activities. Developed and supervised contract research covering such diverse areas as the evaluation of the Head Start Program, the first study of how the nascent Department of Transportation should implement PPB, a PPB planning study for the Manpower Administration, a study of urban manpower needs for the State of New York, other programs of research for such agencies as the Economic Development Administration, the Office of Telecommunications Policy. Among the private clients for which PRC economic research was performed under Ferguson's supervision were Boeing, Air Canada, the Regular Route Common Carrier Association.

In the Department of State, Ferguson occupied the newly created post of Coordinator of International Aviation. The office was designed to coordinate the activities of the Civil Aeronautics Board, the Federal Aviation Administration, the Agency for International Development and the Department of State in international aviation. The subject matter included establishing and facilitating U.S. policy on aviation in developing countries and on trade in aviation equipment; representing the United States government in multinational conferences. The single most demanding portion of the position was responsibility for the commercial air agreement negotiations between the United States and foreign governments. Served as head of the United States delegation in negotiations with several western European countries, and Canada, Japan, Nigeria, for example. In addition, played a substantial role in the rationalization of North Atlantic rates, resulting in their complete restructuring in 1964.

As the first full-time Director of Research at the Transportation Center at Northwestern University, performed and supervised studies of several aspects of transportation, such as forecasting the prices of used aircraft (at the time when the airlines were converting from piston to jet power), and some aspects of highway subsidization. The most important product was The Economic

Value of the United States Merchant Marine, published in 1961, which became the standard work in the field. Its conclusion, that the subsidization of the merchant marine was economically unsound, formed the basis for much of maritime policy of the federal administrations since that time.

At the RAND Corporation during the early 1960's performed research on arms control, deterrence, and the Berlin crisis. During the 1950's I was deputy and, for a year, acting Head of the, then new, Logistics Department, organizing research on Air Force supply, maintenance, transportation and procurement policy. The program succeeded in facilitating the introduction of some policies designed to reduce inefficiency in the Air Force logistics system. The policies were based on the application of newly developed inventory theory, application of computer technology and reorganization of the role and characteristics of air transport in the logistics system.

In the early 1950's Ferguson was an economist with the Office of Price Stabilization and with the Central Intelligence Agency.

At the University of Virginia taught the advanced economic analysis course for undergraduates and the course in transportation economics.

2/11

ADDENDA TO FERGUSON BIBLIOGRAPHY:

With Steve Buchanan and Bradley Gewehr, Citizen Involvement in Reforming Electric Utility Rates, prepared for Citizen Involvement Network, May 1976.

Statement Prepared for Subcommittee on Merchant Marine of the House of Representatives Committee on Merchant Marine and Fisheries at an Oversight hearing concerning the Operating Differential Subsidy (ODS)., February 26, 1976.

Statement Prepared for the Senate Subcommittee on Antitrust and Monopoly Legislation, Committee on the Judiciary, a step toward reducing the inequities and inefficiencies in the current system of price and entry regulation in transportation, December 10, 1975.

Beyond Keynes: Fairness and Growth, address delivered at the National Democratic Issues Convention in Louisville, Kentucky, November 22, 1975.

Statement Prepared for the House of Representatives Subcommittee on Transportation and Commerce, Committee on Interstate and Foreign Commerce in support of controlled transfer as the key ingredient in the reorganization of the rail system in the Midwest and Northeast, delivered on September 10, 1975.

SELECTED BIBLIOGRAPHY

With Leonard Lee Lane and Donald A. Stewart: The Economics of the Railroad Problem, prepared for the Sierra Club, August 26, 1975.

Statement Prepared for the House of Representatives Subcommittee on Interstate and Foreign Commerce, delivered on September 10, 1975.

Testimony Prepared for the House of Representatives Subcommittee on Transportation and Commerce, Committee on Interstate and Foreign Commerce, delivered on July 24, 1975.

Statement Prepared for the Senate Subcommittee on Antitrust and Monopoly Legislation, Committee on the Judiciary, delivered on December 10, 1975.

Beyond Keynes: Fairness and Growth, address delivered November 22, 1975 in Louisville, Kentucky at the National Democratic Issues Convention.

With Leonard Lee Lane, Transportation Policy Options: The Political Economy of Regulatory Reform, prepared for the Department of Transportation, 1975.

With Norman H. Jones and Albert Lowey Ball: Evaluation of Proposed Standards for Determining Rail Service Continuation Subsidies--A Public Interest Approach, prepared for the Office of the Public Counsel, Rail Services Planning Office, 1974.

Proposed Occupational Noise Exposure Regulation, Statement for EPA before Occupational Safety and Health Administration, 1975.

With Barry Slavsky: Evaluation of the Bolt, Beranek and Newman, Inc. Study of the Impact of Noise Control at the Work Place, prepared for the Office of Noise Abatement, Environmental Protection Agency, 1974.

With Donald Mitchell Smith and Victor Habib: The Gross Revenue Impact on Railroads in the Conrail Region of Placing User Charges on Barges, prepared for United States Railway Association, 1975.

With others: A Policy Analysis for Recycling Municipal Solid Waste in Minnesota, prepared for Minnesota Pollution Control Agency, 1975.

With others: Community Impacts of Abandonment of Railroad Services, United States Railway Association, 1974.

With Albert Lowey Ball and Victor Habib: Hospital Capacity in Somerville, prepared for Blue Cross of Massachusetts and the Massachusetts Department of Public Health, 1973.

With Marc Roberts and Arthur Snow: Variance from Air Quality Regulations: The Criteria for the Grant/Deny Decision, prepared for the Massachusetts Department of Public Health, 1973.

With Norman H. Jones et al: Project Evaluation--Project Scoring for the Economic Development Administration, Planning Research Corporation, 1966.

With others: Railroad Abandonments in Maryland, prepared for the Governor's Steering Committee on Railroad Abandonments, 1973.

A Design for the Evaluation of the Comprehensive Health Care Program in Alaska prepared for the Office of Health Affairs, OEO, August 1972.

With others: A Review and Evaluation of the Application by Tileston and Hollingsworth of Boston, Massachusetts, for a Variance from the Massachusetts Regulations for the Control of Air Pollution, prepared for the Department of Public Health of the Commonwealth of Massachusetts.

"The Role of Neighborhood Health Centers in Economic Development", Neighborhood Health Center Seminar Program, Berkeley, California, January 1972.

"Economics for the Age of Aquarius", New Priorities, Fall 1971.

"Why the SST is Not Good Business", The Wall Street Journal, March 23, 1971.

"Status of the American Economy", National Committee for an Effective Congress, Research Project, 1970.

"Liberty and Justice in 1970", ibid.

With A. Dobson et al: A Manpower Strategy for Urban Development in the State of New York, prepared for Social Development Planning Commission of the State of New York, Planning Research Corporation, 1970.

"Program Budgeting and Consistency in Transportation Policy", Papers, Ninth Annual Meeting, Transportation Research Forum, September 1968.

With others: A Planning-Programming-Budgeting System for Transportation, prepared for Office of the Undersecretary of Transportation, U.S. Department of Commerce, Planning Research Corporation, 1967.

"Tactics in a Local Crisis", Journal of Conflict Resolution, June 1963.

"Deterrence and Disarmament", paper, the RAND Corporation, November 1962.

"Mechanics of Some Limited Disarmament Measures", American Economic Review, May 1961.

With others: The Economic Value of the United States Merchant Marine, The Transportation Center, Northwestern University, 1961.

"A Marginal Cost Function for Highway Construction and Operation", American Economic Review, May 1958.

"Air Force Logistics", Aeronautical Engineering Review, January 1957.

With G.B. Dantzig: "The Allocation of Aircraft to Routes--An Example of Linear Programming Under Uncertain Demand", Management Science, October 1956.

With G.B. Dantzig: "The Problem of Routing Aircraft: A Mathematical Solution", Aeronautical Engineering Review, April 1955.

"Empirical Determination of a Multi-Dimensional Marginal Cost Function", Econometrica, July 1950.

Technical Synthesis of Airline Costs, unpublished Ph.D. thesis, Harvard University, 1949.

With E. Ames: "Technological Change and the Equilibrium Level of the National Income", Quarterly Journal of Economics, May 1948.

ROBERT M. WOLCOTT  
DIRECTOR  
PUBLIC INTEREST ECONOMICS WEST

Education: University of Cincinnati, Cincinnati, Ohio  
Ph.D candidate (degree expected 9/77)  
Dissertation topic - "The Welfare Impacts of a  
BTU Based Energy Pricing Policy"

Xavier University, Cincinnati, Ohio  
M.A. Economics 1968-1969  
Thesis - "An Economic Analysis of the Urban Renewal  
Program in Cincinnati, Ohio"

Xavier University, Cincinnati, Ohio  
B.S. Economics 1964-1968

Experience: Director, Public Interest Economics West. Responsible  
for the overall administration of the Western regional  
office of the Public Interest Economics Foundation.  
Areas of responsibility include direction of a five  
person technical staff, financial management, research  
contract negotiations and fundraising as well as review  
and revision of Public Interest Economics West programs.  
Principal areas of expertise in economic research  
include energy pricing, regional fiscal impact analysis,  
environmental and energy regulation and welfare impact  
assessment.  
3/1/76-present

Regional Economist, Region IX, U.S. Environmental Protection  
Agency. Principal economic policy advisor to senior staff  
of the Region IX Agency Office. Responsible for evaluating  
the social and economic impacts of regionally implemented  
environmental control strategies, inclusive of the monitoring  
of contracted analyses and individual performance. Specific  
focus directed towards the public finance of surcharge trans-  
portation in California and other transportation analysis  
related to selected air quality problems.

Other selected areas of investigation have encompassed  
public utility rate schedules in California and Arizona,  
macroeconomic impacts of the EPA sewage treatment construc-  
tion grant program, design of an air quality management pro-  
cess nationally, criteria design for inflationary impact  
statements and cost effectiveness review of alternative air  
quality strategies.

Overall concern in this position has been directed towards specifying the distributional impacts of environmental and energy strategies and sensitizing regional policy makers to these effects. Conducted numerous lectures within government and area universities on economic and environmental analysis and policy.

2/13/74 - 2/27/76

Economist; Assistance Branch, Systems Management Division, Office of Solid Waste Management Programs, U.S. Environmental Protection Agency. Delivery of technical assistance to local governments in the area of solid waste management, focusing on operations research and economic analysis of local programs. Position involved the review of technical economic policy studies and contract monitoring. While in position commissioned to co-author study for the National Commission on Productivity in the area of Solid Waste Management Productivity.

12/4/73 - 12/1/72

Project Coordinator; Over the Rhine Urban Renewal Project, Department of Urban Development, City of Cincinnati, Cincinnati, Ohio.

Responsible for overall implementation of designated urban renewal plans, focusing on the coordination of all Federal, State and local involvement. Conducted detailed analysis of the problem of housing abandonment and evaluation of current rehabilitation programs.

9/1/70 - 12/1/72

Teaching Fellow; Department of Economics, University of Cincinnati, Cincinnati, Ohio.

Part-time instructor of "Principles of Economics" series.

9/1/70 - 12/1/72

Publications: The Santa Ynez Petroleum Transportation Controversy, with R. Morgaard and S. Baron; a paper submitted to the California Governor's Office of Planning and Research; July 1976.

The Regional Economic Impacts of Outer Continental Shelf Oil and Gas Development, with S. Baron, M. Kavanaugh and S. Little; a paper submitted to the California's Office of Planning and Research; November 1976.

Productivity in Solid Waste Management, with G. Garland, J. Quinn, and R. Weisl; a report prepared for the National Commission on Productivity; June 1973.

The Economics of Residential Housing Abandonment; a paper prepared for the City of Cincinnati, Department of Urban Development; June 1972.

RICHARD B. NORGAARD

EDUCATION

Ph.D., Economics, The University of Chicago, 1971  
M.S., Agricultural Economics, Oregon State University, 1967  
A.B., Economics, University of California, Berkeley, 1965

PRESENT POSITION

Associate Professor of Agricultural and Resource Economics

HONORS

Ford Foundation Fellowship, 1968-1970  
Federal Water Pollution Control Administration Graduate Trainee, 1965-1967

EXPERIENCE DIRECTLY RELATED TO ALASKA:

Reviewed two papers by Hildredth and Ferris and Wayne Thomas on Alaskan agriculture for Federal-State Land Use Planning Commission, 1977.

Consultant, Department of Natural Resources, Alaska, Petroleum Leasing Policy, 1976-1977.

Currently supervising five student interns in Alaska with government and public interest groups studying environment and resource problems and counselling, 1976-1977 .

Supervised dissertations and government study papers on land use planning and mineral development in Alaska, 1972-1973.

Consultant, CEQ, Deep Water Port Study project, Alaska Port Supply through 2000 A.D., 1972-1973.

Consultant, Institute of Social Economic and Government Research for successful research proposal, \$1 million, NSF, "Man in the Arctic."

River Guide on the Copper River. Consultant to ISEGR on Environmental Impact Report on Pipeline Project, Summer 1971.

Research Associate, ISEGR University of Alaska, Ford Foundation Project on Land Use Planning and Development, Summer 1970.

Selected Professional Experience and Service:

Member, Energy and Resources Council, University of California, Berkeley,  
since 1976.

Member, Advisory Board, and Consultant to Public Interest Economics--West,  
since 1976.

Consultant, Office of Energy R&D Policy, National Science Foundation, 1974-75.

Consultant, Office of Pesticide Programs, Environmental Protection Agency,  
1974-75.

Consultant, Energy Policy Project, The Ford Foundation, 1973-74.

Contributing Editor, Environment, Scientists Institute for Public Information since 1973.

Member, Cotton Study Team, Study on Problems of Pest Control: A Technology Assessment, Environmental Studies Board, National Academy of Sciences--National Academy of Engineering, 1973-74.

Consultant, South Pacific Division Comprehensive Port Studies, U. S. Army Corps of Engineers, 1972-73.

Consultant and Research Associate, Institute of Social, Economic, and Government Research, University of Alaska, 1970-71.

Member, Pest Management and Research Advisory Committee, President's Council on Environmental Quality, 1971-72.

Instructor, Economics, Oregon College of Education, 1967-68.

River Guide and Photographer, American River Touring Association, National Geographic Society, and Conservation Organizations, periodically since 1959.

Professional Associations:

American Association for the Advancement of Science

American Economics Association

Federation of American Scientists

Review Work:

American Journal of Agricultural Economics

Environment

Journal of Environmental Economics and Management

Land Economics

Selected Publications:

*Academic Articles*

"The Economics of Improving Pesticide Use," Annual Review of Entomology, Vol. 21 (1976).

"Scarcity and Growth: How Does It Look Today," American Journal of Agricultural Economics (December, 1975).

With Darwin C. Hall, "Environmental Amenity Rights, Transactions Costs, and Technological Change," Journal of Environmental Economics and Management (December, 1974).

"Resource Scarcity and New Technology in U. S. Petroleum Development," Natural Resources Journal (April, 1975); see, also, Comment and Reply in Land Economics (February, 1976).

With Allan C. Lichtenberg, "Energy Policy and the Tax Treatment of Oil and Gas Income," Natural Resources Journal (October, 1974).

With Darwin C. Hall, "On the Timing and Application of Pesticides," American Journal of Agricultural Economics (May, 1973); see, also, Comment and Reply in August, 1974, issue.

"Petroleum Development in Alaska: Prospects and Conflicts," Natural Resources Journal (January, 1972).

"Streamflow and Sediment Deposition in the Lower Columbia," Water Resources Research (October, 1971).

"Streamflow Fluctuation, Bar Roughness, and Bed Load Movement: A Hypothesis," Water Resources Research (June, 1968).

#### *Professional Reports*

With Rob Wolcott and Sandra Baron, "The Santa Ynez Petroleum Transport Controversy," prepared for the Office of Planning and Research, State of California, September, 1976.

"An Evaluation of Integrated Pest Management Programs for California and Arizona Cotton," in Evaluation of Integrated Pest Management Programs for Cotton in the United States, prepared under the supervision of Rosmarie von Runkler for the Environmental Protection Agency and Council on Environmental Quality, 1975.

With Darwin C. Hall and Pamela True, "The Performance of Independent Pest Management Consultants in San Joaquin Cotton and Citrus," California Agriculture (October, 1975).

With Hayne E. Leland, "An Economic Analysis of Alternative Outer Continental Shelf Petroleum Leasing Policies," prepared for the Office of Energy R&D Policy, National Science Foundation, September, 1974.

"Alaska Petroleum Development and Supply to the Lower West Coast: 1980-2000," West Coast Deepwater Facilities Study, Supplement II to the Petroleum Consumption and Supply Study, North and South Pacific Divisions, U. S. Army Corps of Engineers, June, 1973.

"An Analysis of Irrigation Benefits and Costs Attributable to New Melones Dam," testimony presented in Environmental Defense Fund, Inc., et al. versus Ellis Armstrong et al. [C-72-1057] on September 27, 1972, in U. S. District Court, Northern California, San Francisco. Also presented to the Water Resources Control Board, State of California, Sacramento, December 5 and 11, 1972.

With Scott R. Pearson and Hayne E. Leland, "Petroleum Taxation and Pipeline Regulation in Alaska," presented at the 23rd Alaska Science Conference, Alaska Division of the American Association for the Advancement of Science, Fairbanks, Alaska, August 17, 1972.

With Arlon R. Tussing, George W. Rogers, Victor Fisher, and Gregg Erickson, Alaska Pipeline Report, Institute of Social, Economic, and Government Research, University of Alaska, August, 1971; also published as an Appendix to the Trans-Alaska Pipeline Environmental Impact Report.

STEVEN J. BUCHANAN

SENIOR ECONOMIST

#### EDUCATION

Colorado School of Mines, B.Sc., Geophysics, 1969

The Johns Hopkins University, currently completing Ph.D. thesis  
Economics

#### PREVIOUS POSITIONS

Associate Staff Physicist, The Johns Hopkins University  
Applied Physics Laboratory, 1969-1972

#### EXPERIENCE

Transportation Research - At PIE-C Mr. Buchanan co-authored a major study of the community impact of railroad abandonments (disinvestment) in the Northeast. A computation procedure using a model of the firm provided quantitative estimates for several measures of economic impact. The resulting estimates were used by the United States Railway Association to evaluate rail abandonment recommendations. Mr. Buchanan also authored a PIE-C study of public ownership and operation of the fixed railroad facilities in the U.S. PIE-C has pursued several research and legislative activities addressing the problem of surface freight transportation regulation. Mr. Buchanan has been substantially involved in most of these efforts.

Regulatory Research - Mr. Buchanan has been involved extensively in the PIE-C work on innovation and federal regulation being conducted for the Experimental Technology Incentives program of the Bureau of Standards. This work has included writing a background study of the regulatory process as it relates to innovation incentives, preparing preliminary regulatory experiment designs, and performing a study of antitrust considerations for cooperative industry research and development projects. At PIE-C Mr. Buchanan has written economic impact assessments of the Consumer Product Safety Commission's Bookmatch standard and the proposed OSHA industrial noise regulations.

Public Utilities - Mr. Buchanan has also written a study of FCC cable TV regulation, which proposes revisions to the existing regulations. In the electric utility field Mr. Buchanan has written a handbook for public participation in rate hearings which is being disseminated by the Citizen Involvement Network. The handbook presents the case for marginal cost pricing of electricity in laymen's terms and gives practical guidance for citizens' groups in achieving electricity rate rationalization.

Environmental and Educational Research - Mr. Buchanan is the senior researcher and author of a study of the effects of product charges on the municipal solid waste problem. At PIE-C he also was co-author of a study of the economic impacts of consumer education.

Public Lands - During his graduate work Mr. Buchanan co-authored a study of theory and policy issues relating to common property resources. The National Audubon Society funded the study, which focussed primarily on the problems of wildlife and administration of public lands.

Quantitative Modeling - At the Johns Hopkins Applied Physics Laboratory Mr. Buchanan developed a digital simulation of a centrally controlled transportation network. The simulation was used subsequently to identify optimal routing strategies in a prototype transit system for the Department of Transportation. Mr. Buchanan also acquired substantial experience in real time applications and computer modeling of radar detection and deception techniques.

Name: M.ry Clay Berry

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Born: January 24, 1938 in Washington, D.C.

Education:

I attended public and private schools in Maryland and Kentucky and was graduated in 1955 from The Masters School in Dobbs Ferry, N.Y.

1959 B.A. Smith College

1961-63 Coursework for M.A. in political science at the New School for Social Research in N.Y.C.

Experience Directly Related to Alaska:

Author The Alaska Pipeline: The Politics of Oil and Native Land Claims.

Reporter, Washington correspondent for the Anchorage Daily Times and the Fairbanks News-Miner.

Experience:

1959-60 Editorial assistant, House Beautiful, N.Y., N.Y.

1961-63 Researcher, CBS News, N.Y., N.Y.

1964-65 Reporter, Paris Daily Enterprise, Paris, Ky.

1965-66 Reporter, Providence Journal-Bulletin, Providence, R.I.

1967-71 Reporter, Griffin-Larrabee News Bureau, Washington, D.C. (I was the Washington correspondent for first the Trenton (N.J.) Times and later the Anchorage (Alaska) Daily Times and the Fairbanks (Alaska) News-Miner.)

1971-present Freelance writer, Washington, D.C. During this period, I wrote The Alaska Pipeline: The Politics of Oil and Native Land Claims (published in 1975 by Indiana University Press); worked as a consultant and writer for the Ford Foundation's Energy Policy Project and the Natural Resources Defense Council, a public service law firm

specializing in energy; wrote a Washington column for Money magazine (primarily dealing with tax, banking, and energy matters and their effect upon the middle class consumer); and, from February 1976 to February 1977, was a Fellow of the Alicia Patterson Foundation, writing about the lobbying process. I am presently completing a book based upon work done on the Patterson Fellowship.

Other:

1970 recipient of the American Political Science Association's Public Affairs Reporting Award for coverage of the settlement of the Alaska Native land claims.

1976-78 Member, Board of Directors, Burgunda Farm Country Day School, Alexandria, Va.

References:

Donald R. Larrabee, Griffin-Larrabee News Bureau, 1237 National Press Building, Washington, D.C. 20004 554-3579

Richard Nolte, Director, Fellowship Program, Alicia Patterson Foundation, 535 Fifth Avenue, N.Y., N.Y. 212-697-0868

Edward L. Strohbehn, Attorney, Natural Resources Defense Council, 917 15th Street N.W., Washington, D.C. 20005  
737-5000

EDGAR RUST, Ph. D.

Mr. Rust is both a practicing planner and a recognized authority on the dynamics of urban and regional growth and decline. His ground-breaking study, No Growth: Impacts on Metropolitan Areas, is currently receiving favorable reviews in the major journals. His career has combined original research, policy studies and practical implementation in work in the fields of city planning, housing, transportation and regional development.

EXPERIENCE:

- 1977 to present      Research Associate, Urban and Rural Systems Associates. Economic and demographic studies of the impacts of Alaskan Outer Continental Shelf marine minerals development.
- 1974-1977            Associate and Principal Analyst, Berkeley Planning Associates. Case studies of planning for assisted housing, and analysis of a national sample of housing assistance plans. Study of labor mobility programs. Development of regional sub-state economic monitoring system\*. Assessment of needs and mitigating measures for populations of declining rural areas\*. Analysis of relocation requirements of the severely handicapped. Analysis of Alaskan rural settlement patterns.\*
- 1973-1974            Research Associate, Scientific Analysis Corporation. "A Study of the Consequences of Metropolitan Stability or Decline."\*
- 1972-1973            Postgraduate Research Planner, Institute for Urban and Regional Development. Model design and calibration, policy testing for "National Interregional Demographic Accounts," a simulation of the future distribution of population and income levels among U.S. metropolitan areas.
- 1966-1971            Urban Planning Director, Building Systems Development, Inc., San Francisco, California. Self-Help Housing Methods study for the U.S. Office of Urban Research and Technology.\* Improvement of public housing management and maintenance procedures of the San Francisco Housing Authority. Study of housing maintenance costs in government housing.\* HUD In-Cities Housing Research and Development Program. Study design of the San Diego County Transportation Research and Implementation Program. Study of lower income regional housing needs and resources for the Metropolitan Detroit Citizens' Development Authority.\* Consulted to the cities of Waterbury, Connecticut and Juneau, Alaska, in urban planning. Consulted to private firms on diversification opportunities in the building industry.

\*Project Director or Manager

1965-1966 Urban Planner, Skidmore, Owings and Merrill, San Francisco. Data gathering, area planning and development control aspects of the Market Street East General Neighborhood Renewal Plan for Philadelphia, Pennsylvania.

1963-1965 Planning Assistant II, Planning Department, Anchorage, Alaska. Prepared and conducted public review of zoning ordinance. Administered part of zoning and subdivision caseload. Prepared first capital improvements program and annual review procedures. Prepared population projections, street and highway plan, subdivision ordinance, and special issue studies. Drafted proposed post-earthquake building restrictions.

EDUCATION:

1961 Williams College, B.A.

1963 Massachusetts Institute of Technology, M.C.P.

1974 University of California, Berkeley, Department of City and Regional Planning, Ph.D.

OTHER:

Awards:

1961 Graves Essay Prize, Williams College

1975 Student Award for Outstanding Achievement, American Institute of Planners

Consulting:

1975, April Associated Building Industry

1975, March Department of Regional Economic Expansion, Canada

1972 San Francisco Development Fund

1965 Kaplan and Gans, Planners, San Francisco

Teaching:

1967-1971 and            Lecturer, Department of City and Regional Planning, University  
Fall 1976                of California, Berkeley.

Professional Affiliations:

Member                    American Institute of Planners

Publications and Reports (Principal author unless otherwise noted):

No Growth: Impacts on Metropolitan Areas, Lexington, Mass: Lexington  
Books, D.C. Heath & Co., 1975. 229 pp.

"The Dynamics of Rural Community Growth," in Proceedings of the Third  
Asian Pacific Social Development Seminar, Cultural and Social Center for the  
Asian and Pacific Region, Seoul, Korea, 1976.

"Old West Sub-State Monitoring System: Background and Priorities." Report  
No. 1 for the Old West Regional Commission. February 1976.

"Old West Sub-State Monitoring System: Data Source Catalog." Report No. 2  
for the Old West Regional Commission. February 1976.

"Old West Sub-State Monitoring System: Recommended Sub-State Monitoring and  
Outreach Procedures." Report No. 3 for the Old West Regional Commission. March 1976.

"The Evolving Pattern of Village Alaska." Report written for the Federal-State  
Land Use Planning Commission for Alaska. March 1976. (By William Alonso and Edgar  
Rust.)

"Adaptation or Reversal: Policies for the Quality of Life in Declining Portions  
of Montana, North Dakota, and Wyoming." Prepared for the Old West Regional Commission.  
March 1975. (By Edgar Rust and William Alonso.)

Metropolitan Areas Without Growth. Ph.D. Dissertation, Department of City and  
Regional Planning, University of California, Berkeley, 1974. Also prepared for the  
Center for Population Research, U.S. Department of Health, Education and Welfare,  
and published by Scientific Analysis Corporation, San Francisco, 1974.

"Administration Polarization and Metropolitan Employment Changes." Prepared for  
Economic Development Administration, U.S. Department of Commerce, May 29, 1973.

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Publications and Reports (cont'd):

Large-Scale Self-Help Housing Methods, San Francisco Building Systems Development, Inc. Prepared for the Office of Urban Research and Technology, U.S. Department of Housing and Urban Development.

Vol. 1: Analysis of Context, January 30, 1970

Vol. 2: Analysis of Alternative Building Methods, May 1970

Vol. 3: Recommendations, May 1970

Vol. 4: Summary, June 1970

"Utilities: A Report on the Potential for Boeing Involvement in Earth Surface Life Support Systems," Building Systems Development, Inc., December 1970 (with William Meyer, et al.).

"The Economics of Mutual and Self-Help Housing Methods," and "The Range of Self-Help Construction Procedures and Their Technical Characteristics," in Self-Help Housing in the U.S.A., Cambridge: The Organization for Social and Technical Innovation, Inc., June 1969 (with Michael Berline).

"Position Paper on Management of the Housing Development Process," In-Cities Experimental Housing Research and Development Project, April 1969.

"Lower Income Housing Requirements of Metropolitan Detroit," Building Systems Development, Inc. Prepared for the Metropolitan Detroit Citizens' Development Authority, June 1968.

"Brief Analysis of 82 Cities," Building Systems Development, Inc. Prepared for the U.S. Department of Housing and Urban Development, July 1968.

"Housing and Neighborhood Development Strategies," in Report to the Waterbury Non-Profit Development Corporation, Cambridge: The Organization for Social and Technical Innovation, July 1967 (with Raply Iredale).

"Study Plan for TRIP," San Diego: The San Diego County Comprehensive Planning Organization, March 1967 (with Greg Salas and Robert Whorf).

"Intra-Metropolitan Migration: Six Boston Area Municipalities" (M.C.P. Thesis), Massachusetts Institute of Technology, June 1963.

Conference Papers Delivered:

"Impacts of Urban-Industrial Growth on an Evolving Village System: The Experience of Rural Alaska." Conference on Rural Development, Department of Social Welfare, Provincial Government of Taiwan, 1976.

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Conference Papers Delivered (cont'd):

"The In-Cities Housing Research and Development Program." U.L.I. Housing Conference, Chicago, 1968.

"Metropolitan Non-Growth: Lessons from the U.S. Experience." Youngstown State University Conference on Metropolitan Decline, 1977.

"The Next Appalachia: Must Every Energy Boom Go Bust?" Western Economics Association, 1977.

POLLY ROBERTS

ECONOMIST

Education:

B.A., Radcliffe, 1966, in Physics, Phi Kappa Phi  
Graduate School, Harvard, 1966-1969; Ancient Near Eastern Languages  
Graduate School, Berkeley, 1970-1971; Ancient Near Eastern Languages  
Graduate School, Berkeley, 1972- : Agricultural and Resource Economics,  
Ph.D. Candidate, June '77.

Employment:

Harvard Cyclotron Lab, summer, 1965.  
Ralph Nader's Center for the Study of Responsive Law, 1970.  
Clear Creek magazine, Publicity Director, 1971.

Publications:

Study of pesticide regulation, in Sowing the Wind, (Nader Report on USDA),  
by Harrison Wellford, Grossman, 1971.  
Study of farm subsidies, in The Politics of Land Use (Nader Report on  
land use in California), by Robert Fellmeth, Grossman, 1973.  
Power and Land in California, A Summary. (Summary of above report, 1971)  
Statement, in Farmworkers in Rural America, 1971-72, Hearings before the  
Senate Subcommittee on Migratory Labor, Part 1, p. 125, Sept. 21, 1971.  
"The Research Subsidy", *ibid*, Part 5B, p. 3841. Biases in research at the  
land grant colleges.  
"Behind the Lead Curtain", review of lead pollution hazards, in Clear  
Creek, May, 1971.  
"Farmland Tax Breaks: How Not to Stop Urban Sprawl", in California  
Homeowner, April, 1973.  
"Parks for Fun and Profit: The Story of Point Reyes", in Not Man Apart,  
August, 1972.  
"California Without the Milk Stabilization Act", in Dairy Scope, June,  
1974.  
"The Pricing of Local Services and Effects on Urban Spatial Structure",  
to be published in proceedings of June, 1974, conference, same title,  
chairman and editor, Paul B. Downing.  
"Low Density Policies: the Price Communities Pay", with Keith Roberts,  
The Real Estate Appraiser, March-April, 1975.  
"Property Taxes and Land Value Taxes", The Real Estate Appraiser,  
September-October, 1975.  
"Making Dollars and Sense out of Fiscal Impact Analysis", Planning,  
August, 1976, reprinted in Environmental Comment, (a publication of  
the Urban Land Institute), October 1976.

Activities:

Sierra Club, Bay Chapter Urban Environment Subcommittee  
Henry George School of Social Science, President, 1974-75 term.  
League of Women Voters, 1975-76 property tax study.  
Coordinator, Conference on Bay Area Urban Growth: Yes or No? Up or Out?  
Oct. 31/Nov. 1, 1975.

JOSEPH "PAT" WEINSTEIN

Mr. Weinstein is a city planner and educator with a broad range of experience in economic and labor studies, housing market analyses, educational planning, and criminal justice. He has worked with both private and public sector clients in the preparation of analytical reports, in the evaluation of policy issues, and in the provision of technical assistance.

Mr. Weinstein has developed substantial expertise and understanding regarding the State of Alaska as a result of his involvements in an Alaskan public policy survey, the Department of Labor Alaska Manpower Study, and major socioeconomic assessments of the Arctic Gas pipeline and the feasibility and projected impacts of Alaskan North Slope off-shore drilling. In addition, he has given expert testimony on Alaskan-related matters before the Federal Power Commission and the Berger Commission in Canada.

EXPERIENCE:

1976 - present

Project Director, Socioeconomic Studies Program of the Alaskan Outer Continental Shelf Petroleum Development. Responsible for direction and coordination of all field and research staff on this contract with the Bureau of Land Management, which focuses on Alaskan communities and their capacity to undergo significant social, economic, and environmental change as a result of resources development.

Project Director, Petroleum Public Opinion Survey in Alaska. Responsibilities include directing a study of Alaskan attitudes towards taxation and economic development.

1974 - present

Research Director, Alaskan Arctic Gas Socioeconomic Impact Study. Assessed the social and economic impacts of both the Alyeska and Arctic Gas pipelines upon the State of Alaska. This comprehensive study was undertaken in compliance with the NEPA requirements of the Federal Power Commission and Department of Interior Regulations. Particular emphasis was placed on an in-depth analysis and projection of future needs in the following areas: health, housing, social services, education, public safety, revenue, population, labor and employment, economic development, and governance.

Subsequently testified on socioeconomic impacts of petroleum development in Alaska before the Federal Power Commission and the Berger Commission in Canada.

Project Coordinator, Region X DOL Alaska Manpower Study. Responsible for coordinating major research effort in Alaska involved with analysis of manpower and labor force changes over period from 1974-1980.

Project Director, Bay Area Revenue Sharing Study. Collected revenue sharing data on local communities and evaluated in terms of impact upon future expenditure policies of selected Bay Area foundations.

Project Director, Evaluation of Citizen Participation in the Goal Setting Process of California Schools. Directed a case study analysis of 24 selected school districts throughout the state, focusing on the kind and level of citizens' involvement. Recommendations from the study were presented to the Joint Committee on Educational Goals chaired by Assemblyman John Vasconcellos.

Senior Staff, Oakland Public Schools Master Plan Citizen Committee. Assisted in the reformulation of the Citizen's Master Plan structure to reflect the experiences of the Committee's first three years. Drafted recommendations and outlined submission for foundation funding.

1972 - 1973

MARSHALL KAPLAN, GANS AND KAHN, City Planners, Consultants  
Senior Staff, San Antonio River Corridor Study. Worked with local officials to develop education and criminal justice 20-year plans for central area of this Texas city. Organized regional education planning body. Designed and assessed housing market questionnaire.

Project Director, Homewood Terrace Housing Market Study. Analyzed the potential for housing of a 9-acre site in San Francisco. Recommended appropriate housing package and schedule given the unique characteristics of the site.

Consultant, Westside Planning Group, Fresno. Developed information questionnaire and packet to assist community based group in organizing around education issues.

Senior Staff, Valencia Housing Market Study. Evaluated performance of four-year-old Southern California New Town; made specific recommendations relating to physical lay-out, design, housing mix, absorption schedule, and management policy.

Consultant, Harbor Bay Isle Housing Market Study. Assisted in the reformulation of absorption schedule after local legislation changed the zoning of a particular site in Alameda, California.

Recruitment Director, Urban Technical Services. Charged with contacting, screening, and selection of professionals to be a part of a HUD program which places these skilled people in small towns throughout the United States.

Project Director, Rancho San Diego. Analyzed California education legislation and the resultant education funding sources to assist the Title VII New Town outside San Diego in the provision of educational services to its future residents. Comparison was also made to other Title VII communities in other states.

Senior Staff, Relocation Technical Assistance Guide. Developed information system and data base for local relocation officials meeting new federal relocation requirements.

1970 - 1971

Planner, Oakland Model Cities, Oakland, California. On a consultant contract to City Demonstration Agency, assisted in the preparation of yearly plan, managed education projects, sought federal funds for model school, and analyzed economic potential of various Model Cities-funded businesses providing services to the Port of Oakland.

EDUCATION:

Wesleyan University	BA	Social Studies	1967
Harvard University	MAT	Education	1970
University of California, Berkeley	MCP	City Regional Planning	1972