



RESOURCES FOR THE FUTURE LIBRARY COLLECTION

URBAN AND REGIONAL ECONOMICS

Metropolis and Region

**Otis Dudley Duncan, William Richard
Scott, Stanley Lieberman, Beverly Davis
Duncan, and Hal H. Winsborough**

Metropolis and Region

**Otis Dudley Duncan, William Richard Scott, Stanley
Lieberson, Beverly Davis Duncan, and Hal H.
Winsborough**



Washington, DC • London

First published in 1960 by The Johns Hopkins University Press for Resources for the Future

This edition first published in 2011 by RFF Press, an imprint of Earthscan

First edition © The Johns Hopkins University Press 1960

This edition © Earthscan 1960, 2011

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, except as expressly permitted by law, without the prior, written permission of the publisher.

Earthscan LLC, 1616 P Street, NW, Washington, DC 20036, USA

Earthscan Ltd, Dunstan House, 14a St Cross Street, London EC1N 8XA, UK

Earthscan publishes in association with the International Institute for Environment and Development

For more information on RFF Press and Earthscan publications, see www.rffpress.org and www.earthscan.co.uk or write to earthinfo@earthscan.co.uk

ISBN: 978-1-61726-075-9 (Volume 2)

ISBN: 978-1-61726-008-7 (Urban and Regional Economics set)

ISBN: 978-1-61726-000-1 (Resources for the Future Library Collection)

A catalogue record for this book is available from the British Library

Publisher's note

The publisher has made every effort to ensure the quality of this reprint, but points out that some imperfections in the original copies may be apparent.

At Earthscan we strive to minimize our environmental impacts and carbon footprint through reducing waste, recycling and offsetting our CO₂ emissions, including those created through publication of this book. For more details of our environmental policy, see www.earthscan.co.uk.

RESOURCES FOR THE FUTURE LIBRARY COLLECTION
URBAN AND REGIONAL ECONOMICS

Volume 2

Metropolis and Region

**Full list of titles in the set
URBAN AND REGIONAL ECONOMICS**

- Volume 1:** Suburban Land Conversion in the United States
- Volume 2:** Metropolis and Region
- Volume 3:** Financing the New Federalism
- Volume 4:** Issues in Urban Economics
- Volume 5:** Cities and Space
- Volume 6:** Public Economics and the Quality of Life

First published in 1960 by The Johns Hopkins University Press for Resources for the Future

This edition first published in 2011 by RFF Press, an imprint of Earthscan

First edition © The Johns Hopkins University Press 1960

This edition © Earthscan 1960, 2011

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, except as expressly permitted by law, without the prior, written permission of the publisher.

Earthscan LLC, 1616 P Street, NW, Washington, DC 20036, USA

Earthscan Ltd, Dunstan House, 14a St Cross Street, London EC1N 8XA, UK

Earthscan publishes in association with the International Institute for Environment and Development

For more information on RFF Press and Earthscan publications, see www.rffpress.org and www.earthscan.co.uk or write to earthinfo@earthscan.co.uk

ISBN: 978-1-61726-075-9 (Volume 2)

ISBN: 978-1-61726-008-7 (Urban and Regional Economics set)

ISBN: 978-1-61726-000-1 (Resources for the Future Library Collection)

A catalogue record for this book is available from the British Library

Publisher's note

The publisher has made every effort to ensure the quality of this reprint, but points out that some imperfections in the original copies may be apparent.

At Earthscan we strive to minimize our environmental impacts and carbon footprint through reducing waste, recycling and offsetting our CO₂ emissions, including those created through publication of this book. For more details of our environmental policy, see www.earthscan.co.uk.

Metropolis and Region

METROPOLIS
AND
REGION

OTIS DUDLEY DUNCAN
W. RICHARD SCOTT
STANLEY LIEBERSON
BEVERLY DUNCAN
HAL H. WINSBOROUGH

Published for *Resources for the Future, Inc.*
By *The Johns Hopkins Press, Baltimore*

© 1960 by The Johns Hopkins Press, Baltimore 18, Md.

Second printing, 1961

Distributed in Great Britain by Oxford University Press, London

Printed in the United States of America

Library of Congress Catalog Card Number 60-10656

RESOURCES FOR THE FUTURE, INC., WASHINGTON, D. C.

BOARD OF DIRECTORS, Horace M. Albright, Chairman, E. J. Condon, Joseph L. Fisher, Reuben G. Gustavson, Otto H. Liebers, Leslie A. Miller, William S. Paley, Laurance S. Rockefeller, Stanley H. Ruttenger, John W. Vanderwilt, P. F. Watzek

PRESIDENT AND EXECUTIVE DIRECTOR, Joseph L. Fisher

ASSOCIATE DIRECTOR, Irving K. Fox

SECRETARY-TREASURER, John E. Herbert

Resources for the Future is a nonprofit corporation for research and education in the development, conservation, and use of natural resources. It was established in 1952 with the co-operation of The Ford Foundation and its activities since then have been financed by grants from that Foundation. Part of the work of Resources for the Future is carried out by its resident staff, part supported by grants to universities and other nonprofit organizations. Unless otherwise stated, interpretations and conclusions in RFF publications are those of the authors; the organization takes responsibility for the selection of significant subjects for study, the competence of the researchers, and their freedom of inquiry.

This book is one of RFF's regional studies, which are directed by Harvey S. Perloff. The principal author, Otis Dudley Duncan, is associate director of the Population Research and Training Center, University of Chicago; his associates also are connected with the Center. The study was made under a Resources for the Future grant to the University of Chicago.

STAFF EDITORS, Henry Jarrett and Vera W. Dodds

PREFACE

What the metropolis of forty years hence will be like no man can truly foretell. But there is a surfeit of somber prophecies and apocalyptic visions of its future. Prime targets for aerial bombardment, the great cities may be splattered into the hereafter within two-score years—or less. Escaping this fate, they may yet be splattered over the countryside by the rush of their inhabitants to the suburbs. From some descriptions of this movement one might suppose it is as irresistible as the migration of lemmings. Already we have adumbrations of “megapolitan” belts, amorphous and sprawling regions of quasi-urban settlement stretching along coast lines or major transportation routes. Current concepts of the community stand to be challenged. What will remain of “local” government and institutions if locality ceases to have any historically recognizable form? The situations described in this book pertain to the mid-century United States of some 150 million people. What serviceable image of “metropolis and region” can we fashion for a country of 300 million? The prospect for such a population size by the end of the twentieth century is implicit in current growth rates, as is the channeling of much of the growth into areas now called “metropolitan” or in process of transfer to that class.

Facing a future that seems certain to produce novelty and to bring forth drastic transformations, we may be tempted to question the value of meticulous analysis of present structures and arrangements—or, rather, those of the recent past, for the complex information required to describe metropolitan communities only becomes available some years after the dates to which it refers. Indeed, if our curiosity is only

about the future, the justification for studying the recent past must be that it contains some seeds of developments to come. To this continuity argument we may perhaps add the thought that to understand the future will require tools for understanding—and these tools can be tested now only against what now exists.

If the prophet becomes impatient when we limit inquiry to the present, the historian may complain that understanding is partial, at best, if analysis of the here and now is not guided by knowledge of antecedents, both recent and remote. We must agree that the investigator lacking a full grasp of trends and directions of change readily falls into the error of mistaking a transient conjecture of circumstances for a basic structural pattern. But before there can be historical explanations of present realities, there must be adequate descriptions of that which is to be explained.

The studies reported in this volume, therefore, provide some “cross-sectional” views of the metropolis in the United States at about the middle of the twentieth century. Numerous earlier monographs on metropolitanism have dealt with the circumstances attending the rise of the metropolitan community and have analyzed the patterns and causes of metropolitan growth. *Metropolis and Region*, by contrast, tries to depict a system of metropolitan communities as it was functioning at a particular point in time. If the former approach can be likened to a cinematic representation of the evolution of the metropolis and the growth of metropolises, our contribution is a “still photograph” of the present metropolises of the nation. Actually, however, the picture is blurred because the subject moved during the period of exposure: our data do not all refer to the same point in time but rather to various dates more or less proximate to the middle of the century. Moreover, each of the several “exposures” was made with a different “filter”—to preserve the analogy.

For further indications of content and approach, the reader is referred to the summary chapter, which is placed at the beginning of the volume. We only wish to add some notes about how the book came to be.

For the past several years the Population Research and Training Center at the University of Chicago has been pursuing a broadly delineated and flexible program of comparative research on American communities. This program is conceived as a contribution to the field of human ecology—the discipline whose task, in Hawley’s phrase, includes “the study of the form and the development of the community in human population.” The progress of the research program, however, has demonstrated (if proof were needed) the advisability of taking

advantage of contributions from a variety of disciplines. An earlier monograph, *Social Characteristics of Urban and Rural Communities, 1950* (Duncan and Reiss, 1956), emphasized demographic analysis. Our more recent studies have entailed closer contact with the work of economists, geographers, and others who are sometimes called "regional scientists," and we have come to share their preoccupations more fully than before.

Some of the work reported in this volume (specifically, in chapter 3) was begun as early as 1955-56 with the aid of a grant from the Social Science Research Committee of the University of Chicago. In 1956-57 a project dealing with regional variation in levels of living and spatial patterns of economic activity was undertaken with the financial support of Resources for the Future, Inc., the Regional Studies Unit of which was carrying out parallel research. Results obtained in the course of our project are partially reported in Part II. The study completed by the RFF group (Harvey S. Perloff, Edgar S. Dunn, Jr., Eric E. Lampard, and Richard F. Muth, *Regions, Resources, and Economic Growth*) is complementary in many ways to the present monograph and may be regarded as virtually a companion volume. (While our study is cross-sectional, the RFF book treats of growth and secular trends. Where we look at the economy primarily from the viewpoint of its metropolitan nodes, the companion volume focuses on the region, broadly conceived, and provides much regional description that is omitted here.) In 1957-58, again at the instance of and with the financial support of Resources for the Future, Inc., we carried out the project which produced the materials included in Parts III and IV. In 1958 our program of comparative urban and metropolitan research was placed on a more secure long-run basis with the receipt of a grant from The Ford Foundation providing financial resources for the ensuing five years. One major category of studies envisioned in this extension of our work is addressed to the problem of "strengthening the urban economy and gearing it to the economic development of the nation." The initiation of work under The Ford Foundation grant afforded the opportunity to carry out the research reported in Part I and thus to develop a conceptual framework and to execute some statistical analyses which, together with the investigations already completed, would constitute an integrated and reasonably comprehensive treatment of metropolitan structure in the United States.

Our first indebtedness, therefore, is to the organizations which, while leaving us wholly free to work in the way we judged to be most rewarding, provided the indispensable resources for our work; in particular, we are most grateful to Resources for the Future, Inc., for

sponsoring the publication of this volume. A less tangible but no less important contribution was made by our mentor at RFF—Harvey Perloff. The ideas which ultimately crystallized in this study were in large measure initially his. Without seeking in any way to shift responsibility for the research to other shoulders, we must gratefully acknowledge the suggestions and criticisms received from Donald J. Bogue, Donald L. Foley, Leo A. Goodman, Philip M. Hauser, Amos H. Hawley, Richard F. Muth, Albert J. Reiss, Jr., Leo F. Schnore, and Lowdon Wingo, Jr. We also want to acknowledge the indispensable help of our cartographer and draftsman, Karel J. Kansky, our statistical assistants, Nathaniel Hare, Philip M. Marcus, and Erwin Stein, and our competent and faithful typist, Mary Thomas.

In this final paragraph, the director of the research leading to the completion of *Metropolis and Region* exercises the prerogative of speaking for himself alone in order to speak more enthusiastically about the work of his collaborators than would be modest in a collective statement. For at least one participant observer, this research has shown that under favorable circumstances teamwork can be personally gratifying and also—and more important—scientifically productive. The “favorable circumstances” seemingly have to do more with intellectual congeniality and temperamental compatibility than with whether the collaborators are co-equals in academic status. In any event, the parts and the whole of this volume are probably better than, and certainly different from what they would have been, had any one of us borne the entire responsibility. It is symbolic of our success in putting heads together that we can no longer say precisely whose suggestions are embodied in many paragraphs. The general distribution of effort, however, can be indicated. The procedures outlined in Part III were in good part developed by Scott, who then painstakingly applied them in the preparation of four-fifths of the individual city reports in Part IV. The remainder of these reports were prepared by Lieberman, to whose initiative and persistence much of chapters 5 and 6 is also attributable. Part II is largely a contribution by Beverly Duncan, being based on her unpublished dissertation (1957). Chapter 3 draws heavily on the unpublished thesis by Winsborough (1959). Throughout the volume will be found evidence of idiosyncracies which these four companions in a research adventure were good enough to tolerate.

O.D.D.
W.R.S.
S.L.
B.D.
H.H.W.

Metropolis and Region

CONTENTS

Preface	xv
Chapter 1. Metropolis and Region: A Mid-Century Bench Mark	1
<i>Part I. The Metropolis and Its Functions</i>	
Chapter 2. Urban Location and Function	23
Classical principles of urban location	23
Economic base and functional specialization	31
City and region: Preliminary considerations	36
Chapter 3. The Urban Hierarchy	46
Alternative approaches	48
Industry distribution and city size	56
Urbanization of industry groups	72
Chapter 4. Metropolitanism and Metropolitan Areas	82
Criteria of metropolitanism	82
Metropolitan community areas	90
Chapter 5. Major Economic Functions	105
Bank loans	105
Commerce and manufacturing	123
Chapter 6. Interregional Flow of Funds	133
Data and models	134
Results	137
Examples	144

Part II. Metropolitan Dominance: Hinterland Activities

Chapter 7. Manufacturing Outside Metropolitan Areas	159
Manufacturing: Major patterns	161
Manufacturing: Detailed analysis	166
Chapter 8. Extractive Activities in Nonmetropolitan Areas	177
Coal mining	177
Agriculture: Major patterns	180
Agriculture: Detailed analysis	184

Part III. Industry Structure and Regional Relationships

Chapter 9. Industry Structure: Overview	199
Industry categories	200
Variation in industry structure	209
Chapter 10. Industry Profiles and Regional Relationships	227
Outline of procedures	227
Illustrative analysis for Milwaukee	233
Inputs and supply areas for Milwaukee's profile industries	238
Outputs and service areas of Milwaukee's profile industries	242
Summary for Milwaukee	246
Chapter 11. Regional Relationships and Metropolitan	
Functions	248
Varieties of regional relationships	248
An approach to classification	259

Part IV. Fifty Major Cities and Their Regional Relationships

Chapter 12. Metropolitan Centers	279
Diversified manufacturing with metropolitan functions	279
Boston	280
Pittsburgh	292
St. Louis	302
Cleveland	313
Buffalo	319
Cincinnati	327
Regional metropolises	334
San Francisco – Oakland	335
Minneapolis – St. Paul	344
Kansas City	352
Seattle	357

Contents

vii

Portland (Oregon)	363
Atlanta	368
Dallas	372
Denver	375
Chapter 13. Regional Capitals	381
Houston	382
New Orleans	386
Louisville	392
Birmingham	397
Indianapolis	402
Columbus	407
Memphis	414
Omaha	417
Fort Worth	420
Richmond	423
Oklahoma City	427
Nashville	433
Jacksonville	437
Chapter 14. Manufacturing Centers	443
Diversified manufacturing with few metropolitan functions	443
Baltimore	444
Milwaukee	451
Albany-Schnectady-Troy	451
Toledo	455
Hartford	461
Syracuse	465
Specialized manufacturing	468
Providence	469
Youngstown	475
Rochester	479
Dayton	485
Allentown-Bethlehem-Easton	490
Akron	494
Springfield-Holyoke	499
Wheeling-Steubenville	508
Charleston (W. Va.)	513
Chapter 15. Special Cases	517
Washington	518
San Diego	520
San Antonio	525
Miami	528