



## Technical Analysis and Human Values

In this central section the reader is asked to look in on the professionals who are planning the future of the Delaware River Valley. Like their counterparts around the country, they are applying techniques that are rigidly circumscribed by rules not entirely of their own devising; and they are making judgments about what to consider and what not to consider that are strongly influenced by the extent to which the experts can measure (or think they can measure) the subjects under investigation.

Each of these four essays is partly a primer, written for people who want to check the “experts” in their backyards, and partly an exploration of alternatives, usually from a fairly fundamental level. The first essay, by David Bradford and Harold Feiveson, introduces the reader to benefit-cost analysis as it is currently done by the U.S. Army Corps of Engineers. But a considerable portion of the essay examines benefit-cost analysis more generally, explaining the assumptions that underlie the calculations and that, in principle, define a procedure for carrying out an “ideal” benefit-cost analysis.

The next three essays explore three of the Corps’ four “benefits”: water supply, flood control, and electric power. Their points of departure are the past studies that have been directed at understanding and measuring the respective benefits. But the essays attempt to move beyond the traditional approaches to show the effectiveness of looking at much-studied problems in fresh and innovative ways. The fourth benefit, recreation, appeared to us to require such a complete reformulation that it deserved a section of its own; it is treated, in conjunction with the issue of transportation access, in the final essay of this volume.

Water supply, flood control, and electric power share a grounding in physical laws; a return to such fundamentals as “water has to go somewhere” has proved to be extremely useful as we have strived to isolate the

fundamental issues at stake in each area. As human problems, the three subjects also are dominated by somewhat rare events: droughts, floods, and power shortfalls. Frank Sinden develops a number of relatively untried concepts for dealing with the unequal flow of water, and these return in less explicit form in Allan Krass's essay on floods and Thomas Schrader's and Robert Socolow's essay on electric power. Policies that directly address "peak and valley" problems are bound to receive renewed emphasis in the near future as our society starts to do strict accounting of how its water and energy are being used. We may well discover that the marginal watts and cubic feet per second are almost absurdly costly.