

Foreword to the Second Edition

Since 2006, both the theory and practice of project alternative development, evaluation and selection has moved forward substantially. This is no doubt stemming from a combination of concerns about getting better value for money as public sector finance has come under increasing pressure, and the recognition that traditional methods don't address issues raised by sustainable development concerns adequately. This edition is intended to update and expand the material covered accordingly. Of particular importance is the additional case study presenting a state-of-the-art evaluation method from a joint project between Swedish and Danish participants.

Changes have also been made to address the many useful comments I have received from lecturers, students, and practitioners. Discussion on some topics was apparently seen to be quite detailed while on others quite terse. This reflected my views on what I thought would be most important or where other sources seemed to be lacking. In reality, it also reflected my prejudices and my comfort level with researching and writing about certain topics. Thus, based on this feedback, I have added some computational and graphical examples to clarify some concepts. In particular, I have added far more detail about demand forecasting models and about demand-responsive public transport.

I have also tried to make the book even more useful as a reference book. There are more references and additional readings on almost every topic. Practitioners and students interested in learning more about a particular subtopic in a concentrated effort should appreciate these.

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This book was motivated by an ongoing debate. There have been many articles in academic journals and the trade press that point to the apparent lack of imagination and failure to respond to evolving market niches by public sector transit agencies. As an example, critics can often point to the 'plain vanilla' product of 40-foot (12-meter) long buses aimed at the journey to the Central Business District for work. This remains the primary product even though populations have dispersed and trip patterns have changed. The conclusion offered by some is that public transportation should be deregulated to permit a response to unmet market. Indeed, this approach was followed in the United Kingdom in 1986. It has become an ongoing experiment.

This line of argument is countered by other analysts who strike a more defensive posture towards the industry. They point out the constraints and conflicting objectives many agencies face. Yet, if those arguing would systematically compare each other's vantage point and unspoken assumptions, they would find kernels of common truth in even seemingly contradictory arguments. The current book aims to do this systematizing.

Another motivation for this book was some recent research findings. The first part of this book tries to give a fairly sophisticated understanding of several key topics relevant to public transport project development in brief expositions. As a part of the exposition, it condenses key findings of three Ph.D. dissertations done at the University of Pennsylvania in the 1990s that explore some complex issues, while maintaining a mathematical level limited to algebra with subscripted variables. Remaining true to this restriction, it also gives a condensed presentation on mathematical modeling of transportation systems, a particularly challenging topic to make accessible using limited mathematics.

The second part of this book covers basic performance and investment analysis tools currently in use. It applies them specifically to the public transportation industry. It further discusses their strengths and limitations, particularly in light of heightened environmental awareness. The practice of investment and performance analysis is still evolving in step with the field of ecological economics and with the concern for incorporation of sustainable development principles in

public policies. Thus, this author makes no claim to have definitive answers for overcoming these limitations, only some suggestions.

Differences of opinion will continue to exist, but I hope this book can be of some help to the analyst who is trying to more fully characterize transportation alternatives, to be more inclusive of costs and benefits, and to make more insightful and rigorous comparisons between project alternatives.