Welcome to Book Review

TRANSPORTATION ENGINEERING AND PLANNING

Book Review by: Hemanth Kamplimath
Assistant Professor
Department of Civil Engineering
Nirma University
TRANSPORTATION ENGINEERING AND PLANNING
Book Facts:

- **Authors:**
  - Constantinos S. Papacostas,
  - Panos D. Prevedouros

- **Publisher:**
  - Pearson Education/Prentice Hall

- **Cost:**
  - Eastern Economy Edition (paper back) is available for 499 INR.
    Hard cover costs $180.

- **Total no. of pages:** 685.
About the Authors
1. Dr. Constantinos S. Papacostas

- Currently enjoying his retirement
- He was working as Professor and Chair of Civil and Environmental Engineering, University of Hawaii
- Director, Institute of Transportation Engineers, Hawaii.
- Member of various technical bodies (ASCE, ITE, TRB)
- President of ASCE & ITE (Hawaii Section)
- Outstanding Faculty award by ASCE in 1990 & 1998.
About the Authors

2. Dr. Panos D. Prevedouros

- Professor and Chair of Civil and Environmental Engineering, University of Hawaii
- Outstanding Civil Engineering Faculty Award, ASCE in 1996.
- Member and Reviewer of ASCE, ITE and TRB.
- Consultant Engineer and
- Evaluator of various Engineering programs in Greece.
About the Book

- Used as a standard text book for UG programs and PG programs in Civil/Transportation Engineering especially in the Western countries.

- In Indian Universities this book has been used as a reference book in the course of Transportation/Highway engineering PG programs and some UG Programs.

- Book has a rating of 3.8/5 @ Good Reads.com

- Reviews are very good on Amazon.com, Amazon.in and Flipkart.com.
About the Book

- Inter-disciplinary approach to transportation engineering.
- Fundamentals of pure sciences, mathematics, engineering mechanics & socio-economics has been emphasized upon.
- Even a common man will be able to read this book and grasp a lot of concepts illustrated through detailed figures and flowcharts.
- Features latest developments in transportation engineering (3rd edition), hence offers state of art knowledge on the subject.
About the Book – Sections/Parts

- This book weaves a wide spectrum of coverage ranging from basis engineering principles, its applications, implications and forecasting into four sections:

1. Design and Operation
2. Transportation Systems
3. Transportation Impacts
4. Supporting Elements
Section 1: Design and Operation

- Road Way Design
- Traffic Stream Flow Models
- Capacity and Level of Service (LOS)
Section 1: Design and Operation
Roadway design

- Braking distances
- Reaction time and its factors (PIEV theory)
- Sight distances
- Geometric design of Highway
- Intersections
Section 1: Design and Operation
Traffic stream flow models & LOS

- Vehicular stream characteristics
- Stream measurements
- Flow curves
- Capacity and level of service
Section 2: Transportation Systems

- Transportation Modes
- Urban and Intelligent Transportation Systems (ITS)
- Transportation Planning
- Travel Demand Forecasting
Section 2: Transportation Systems
Transportation Modes & ITS

- Modes of Transportation, pros and cons
- Urban transport modes, Demand response mode, Dual modes
- Traffic congestion and its effects
- Intelligent transportation systems – thanks to Google and software developers.
Section 2: Transportation Systems
Transportation Planning & Demand forecasting

- Land use models & zoning
- Trip generation
- Trip distribution
- Mode choice
- Highway assignment
- Traffic forecasting
Section 3: Transportation Impacts

- Traffic impact and Parking Studies
- Air quality noise and energy impacts
- Evaluation and Choice
Section 4: Supporting Elements

- Elements of Engineering Economy
- Probability and Statistics
- Queuing and Simulation
- Transportation Software
Need for this book in Indian Universities

- Bridging the gap - developing and developed world
- Innovative/Research ideas
- Collaborations
Conclusion

- Each unit ends with a detailed introduction and ends with a well written summary.
- Good number of references and exercises are incorporated in this book after each unit.
- Figures, Tables, Illustrations are a plenty, even making a lay man imagine and understand the basic concepts of the topic.
THANK YOU