

HIGHWAY ENGINEERING

LECTURE # 2

HANDOUTS

INTENDED LEARNING OUTCOME

1. Discuss the different aspects of highway project study
2. Calculate of net present value, benefit cost ratio and internal rate of return.

DIFFERENT ASPECT OF HIGHWAY PROJECT STUDY

1. ENGINEERING ASPECT

- This aspect deals with the construction and the operation of the project. This also includes the estimation of the capital and the operation cost.

2. MANAGERIAL ASPECT

- Deals with the management and staffing problems involving in the construction and operation of the project.

3. FINANCIAL ASPECT

- Deals with the cost and income of the enterprise for the project.

4. ECONOMIC ASPECT

- Deals with the economic cost and benefit of the project to the whole country.

FACTORS AFFECTING TOTAL TRANSPORTATION COST

1. CONSTRUCTION COST

- These are the cost that deals with the engineering aspect such as design, surveying, investigation, supervision etc.

2. MAINTENANCE COST

- Costs that will come from the continues repairs that will be done after the construction.

3. ROAD USER COST

FACTORS AFFECTING THE ROAD USER COST

1. Roadway Factor

- Pavement Width
- Surface Type and Riding quality
- Vertical Profile
- Horizontal Geometry

2. Vehicle Factor

- Type
- Make
- Engine

Methods For Evaluating Highway Improvements

**United States. Congress. Senate.
Committee on Appropriations**



Methods For Evaluating Highway Improvements:

Methods for Evaluating Highway Improvements National Research Council (U.S.). Transportation Research Board, 1988
Methods for Evaluating Highway Improvements , 1974 **Best-value Procurement Methods for Highway Construction Projects** Sidney Scott, National Cooperative Highway Research Program, 2006 **Highway Safety Management Process - Evaluation Manual** , 1980 Economic Impact of Highway Improvement United States. Bureau of Public Roads, 1967 **Evaluation of Methodologies for Visual Impact Assessments** Craig Churchward, 2013 TRB s National Cooperative Highway Research Program NCHRP Report 741 Evaluation of Methodologies for Visual Impact Assessments evaluates visual impact assessment VIA procedures methods and practices that satisfy or exceed National Environmental Policy Act NEPA and other requirements The report documents VIA methodologies and approaches used in the United States and other countries describes the decision making framework used to select specific VIA techniques for a given project includes VIA best practice case studies from state departments of transportation and highlights promising new developments in the field pub desc *Department of Transportation and Related Agencies Appropriations for 1975* United States. Congress. House. Committee on Appropriations. Subcommittee on Department of Transportation and Related Agencies Appropriations, 1974 Federally Coordinated Program of Highway Research and Development , 1973
Highway Legislation, Hearings ..., 93-1 United States. Congress. House. Public Works, 1973 Highway Safety Literature , 1976 **Assessing the Effects of Highway-widening Improvements on Urban and Suburban Areas** Thomas Nelson Harvey, 1996 This synthesis will be of interest to highway environmental specialists particularly those concerned with assessing social and economic impacts design engineers planners utility managers and others responsible for the planning design and implementation of highway widening improvements Information is presented on the reasons for highway widening projects the nature of the projects and the methods and practices for application of analytical techniques used to measure the potential or actual impacts of the projects on people and the physical environment Mitigation measures are also discussed This report of the Transportation Research Board describes the most recent widening projects as reported by states or other transportation agencies as well as the most frequently encountered issues in highway widening Selected examples of widening projects are included as is some recognition of the need for additional information and research in the areas of social and economic impact measurement Procedures and Guidelines for Rehabilitation of Existing Freeway-arterial Highway Interchanges: Research report , 1982 Evaluation Methodologies for Transport Investment Michael Roe, 2022-02-16 Originally published in 1987 this title reviews and evaluates the methodologies suitable for highway evaluation along with the UK transport supplementary grant and TPP Transport Policies and Programme system Examples of current UK practice are briefly described with more details being given of the technique of priority ranking used in the case study area of the West Midlands Multi criteria approaches are reviewed in chapter two Chapter three looks at the choice of

highway data input in the light of those available and the practical structure of factorial analysis applied to the case study area The book covers following issues computer structure and requirements highway problem data referencing methods site definition and weighting methods The results from this study are described and then analysed by classical factorial analysis The implications of the technique for the TPP preparation process for the derivation of priorities and the highway evaluation process as a whole are given Specific techniques such as factorial analysis bridge problem and bus aid ranking highway capacity calculations and sensitivity testing as well as the computer programs used March and COBA are described in greater detail in the appendices

Research and Technology Program, 1996-2000 United States. Federal Highway Administration,1996

A Policy on Road User Benefit Analysis for Highway Improvements American Association of State Highway Officials,1951

Department of Transportation and Related Agencies Appropriations for 1997 United States. Congress. House. Committee on Appropriations. Subcommittee on Department of Transportation and Related Agencies Appropriations,1996

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Department of Transportation and Related Agencies Appropriations for Fiscal Year 1996: Department of Transportation, General Accounting Office, National Railroad Passenger Corporation (Amtrak), National Transportation Safety Board United States. Congress. Senate. Committee on Appropriations. Subcommittee on Transportation and Related Agencies,1995

Department of Transportation and Related Agencies Appropriations for Fiscal Year ... United States. Congress. Senate. Committee on Appropriations,1975

Department of Transportation and Related Agencies Appropriations for Fiscal Year 1996 United States. Congress. Senate. Committee on Appropriations. Subcommittee on Transportation and Related Agencies,1995

Unveiling the Power of Verbal Art: An Psychological Sojourn through **Methods For Evaluating Highway Improvements**

In a global inundated with displays and the cacophony of immediate connection, the profound power and psychological resonance of verbal beauty frequently fade into obscurity, eclipsed by the continuous assault of sound and distractions. Yet, set within the lyrical pages of **Methods For Evaluating Highway Improvements**, a charming perform of literary beauty that impulses with natural feelings, lies an remarkable journey waiting to be embarked upon. Penned by way of a virtuoso wordsmith, this exciting opus books visitors on a mental odyssey, softly revealing the latent potential and profound impact embedded within the intricate web of language. Within the heart-wrenching expanse of the evocative evaluation, we shall embark upon an introspective exploration of the book is main themes, dissect their charming publishing design, and immerse ourselves in the indelible impact it leaves upon the depths of readers souls.

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