

# RURAL TRANSPORT TRAINING MATERIALS

TRAINER'S NOTES

## MODULE 2 PLANNING, DESIGN, APPRAISAL AND IMPLEMENTATION

### Part 1

Rural road economic appraisal  
methodology

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### Part 2

Case study from Andhra Pradesh, India

SESSION 2.3



The World Bank



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<p><b>Session Objectives</b></p>	<p>This session enables participants to:</p> <ul style="list-style-type: none"> <li>④ Explore the role of economic appraisal methods to establish priorities for rural transport infrastructure (RTI) interventions</li> <li>④ Describe how to carry out screening and ranking using a variety of methods             <ul style="list-style-type: none"> <li>✓ targeting poor communities and eliminating low priority links</li> <li>✓ multi-criteria analysis (MCA)</li> <li>✓ cost-effectiveness analysis (CEA)</li> <li>✓ cost-benefit analysis (CBA)</li> </ul> </li> <li>④ Explain how to extending the CBA framework for RTI</li> </ul> <p><b>Case study</b></p> <ul style="list-style-type: none"> <li>④ Describe key indicators that may be used to assess the potential impact of road improvements</li> <li>④ Explain how the CBA and CEA methods were used in the case study</li> <li>④ Explore the components of the Spread CBA Programme</li> <li>④ Reflect on lessons learnt from the case study and consider how these may apply to their own project work</li> </ul>
<p><b>Rural Transport Knowledge Base materials used with this session</b></p>	<p><b>Rural Road Economic Appraisal Methodology</b> Based on: Design and Appraisal of Rural Transport Infrastructure, by Jerry Lebo and Dieter Schelling, The World Bank</p> <p><b>Economic Analysis of a Rural Basic Access Road Project</b> Based on: Case Study from Andhra Pradesh, India By Liu Z, The World Bank (2000)</p>
<p><b>Training Materials</b></p>	<p><u>Presentations</u></p> <p>2.3a Rural Road Economic Appraisal Methodology</p> <p>2.3b Economic Analysis of a Rural Basic Access Road Project. Case Study from Andhra Pradesh, India</p> <p><u>Activity Sheets</u></p> <p>22 Advantages and problems with poverty-based screening</p> <p>23 Assessing the cost of interrupted access</p> <p>24 Impact of road improvements</p>

<i>Key Topics</i>	<i>Training Methods</i>
<p><b>Part 1</b></p> <p><b>1. Introduction</b></p> <p><b>2. Rationale for economic appraisal</b></p> <p><b>3. Participatory planning approach</b></p> <p><b>4. Screening</b></p> <p><b>5. Ranking methods</b></p> <p><b>6. Extending the CBA framework for RTI</b></p>	<p><b>Presentation</b></p> <p><b>Q &amp; A Presentation</b></p> <p><b>Presentation Presentation with discussion</b></p> <p><b>Group Activity</b></p> <p><b>Q &amp; A Presentation with discussion</b></p> <p><b>Group Activity Presentation with discussion</b></p>
<p><b>Part 2</b></p> <p><b>7. Case Study</b></p> <p>7.1 Introduction The Rationale for using CEA and CBA in Andhra Pradesh</p> <p>7.2 Project background</p> <p>7.3 Village and household transport Survey</p> <p>7.4 The Spreadsheet CBA Programme</p> <p>7.5 Key Lessons Learnt</p>	<p><b>Q &amp; A, Presentation</b></p> <p><b>Presentation Case Study Activity Presentation &amp; Discussion Presentation</b></p>

## Trainers' Summary


This session is divided into two parts:

-  **Part 1** is based on the Technical Paper: Rural Road Economic Appraisal Methodology
-  **Part 2** is based on the Case Study: Economic Analysis of a Rural Basic Access Road Project, Andhra Pradesh



## Session 2.3 Trainers' Notes

**Part 1**

### 1. Introduction


<i>Training Methods</i>	<i>Content</i>	<i>Materials</i>
<p><b>Presentation</b></p> 	<p>Introduce the first part of session by explaining the learning objectives and session structure.</p> <p>The first part of this session is based on the technical paper: Rural Road Economic Appraisal Methodology.</p> <p>This session explores various ways of carrying out economic appraisal as part of the process of prioritising RTI interventions. The role of conventional approaches such as Cost Benefit Analysis are explored as well as ways in which this and other methods may be adapted for low-volume roads of below 50 vehicles per day (VPD).</p> <p><b>Overview of the first part of the session</b></p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>🌀 Rationale for economic appraisal</li> <li>🌀 Participatory planning approach</li> <li>🌀 Screening</li> <li>🌀 Ranking</li> <li>🌀 Extending the CBA Framework for RTI</li> </ul>	<p>Presentation 2.3a Slides 1 - 5</p>

## 2. Rationale for economic appraisal





Training Methods	Content	Materials
<p><b>Q &amp; A</b></p> 	<ul style="list-style-type: none"> <li>③ Facilitate a discussion on the rationale for carrying out economic appraisal of <i>Basic Access</i> / RTI. Begin the discussion by asking:                     <p><i>What issues should be analysed when carrying out a project appraisal for a basic access intervention?</i></p> </li> <li>③ Note the points made by participants in flip chart. The key learning points are discussed below.</li> </ul>	<p>Flip chart pens</p>
<p><b>Presentation</b></p> 	<p>Explain the rationale for carrying out economic appraisals of RTI.</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>③ The provision of motorable basic access roads (below 50 VPD) is constrained by available resources especially maintenance and capital budgets</li> <li>③ Affordability depends on the local population's capacity to maintain their own basic access infrastructure over the long term</li> <li>③ A basic access intervention is the <b>least-cost</b> (total life-cycle cost) intervention for ensuring <b>reliable, all-season passability</b> for the local means of transport</li> </ul> <p><i>Continued...</i></p>	<p>Presentation 2.3a Slides 6 - 9</p>

<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
	<p><b>...Continued</b></p> <ul style="list-style-type: none"> <li>  A series of issues need to be analysed and assessed, including social, institutional, financial, economic, technical, environmental.         </li> <li>  Determining affordability depends on the complex relationship between local capacity, skills, income, population density, geographic conditions, political will.         </li> <li>  Basic Access sees local communities as the main stakeholders whose participation is essential.         </li> </ul>	


### 3. Participatory Planning Approach


<i>Training Methods</i>	<i>Content</i>	<i>Materials</i>
<p><b>Presentation</b></p> 	<p><b>Overview of Appraisal Methods</b></p> <p>Introduce the range of appraisal methods that will be explored in the following sections.</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>☉ Participatory Planning Approach</li> <li>☉ Screening</li> <li>☉ Ranking                             <ul style="list-style-type: none"> <li>✓ multi-criteria analysis (MCA)</li> <li>✓ cost-effectiveness analysis (CEA)</li> <li>✓ cost-benefit analysis (CBA)</li> </ul> </li> <li>☉ Extending the CBA Framework for RTI</li> </ul>	<p>Presentation 2.3a Slide 10</p>










Training Methods	Content	Materials
<p data-bbox="135 504 331 609"><b>Presentation with discussion</b></p> 	<p data-bbox="414 430 1185 472"><b>Participatory Planning Approach: overview</b></p> <p data-bbox="414 508 1225 654">This section explores the role of participation in planning of basic access, the use of the ‘as is’ plan and the argument for including economic issues in the selection process.</p> <p data-bbox="414 689 1228 763">Facilitate a discussion on the following Key Points, using the presentation. Ask questions like:</p> <p data-bbox="414 766 1121 840">Why is a participatory approach needed for RTOI development?</p> <p data-bbox="414 842 1150 916">What is an ‘as is’ plan? How may it be used for RTI development?</p> <p data-bbox="357 985 537 1023"><b>Key Points:</b></p> <ul style="list-style-type: none"> <li data-bbox="405 1059 1241 1205">  The need for a participatory approach for developing RTI within the context of a decentralised framework. Approach need to be iterative and both ‘bottom up’ and ‘top down’         </li> <li data-bbox="405 1240 1241 1534">  The “as is” plan is a key tool           <ul style="list-style-type: none"> <li data-bbox="459 1279 946 1317">✓ describes the current situation</li> <li data-bbox="459 1319 1169 1424">✓ involves obtaining information that reflects the condition of the road network in relation to the needs of the local community</li> <li data-bbox="459 1426 1112 1464">✓ developed by stakeholders and engineers</li> <li data-bbox="459 1467 1241 1505">✓ involving a low-cost inventory and condition survey</li> <li data-bbox="459 1507 1038 1545">✓ and social and economic information</li> </ul> </li> <li data-bbox="405 1570 1211 1830">  However, participation cannot replace the <b>economic</b> selection process because of the tendency for a ‘wish list’ phenomenon, and the fact that available resources are limited           <ul style="list-style-type: none"> <li data-bbox="448 1720 1192 1830">✓ the ‘wish list’ refers to a situation where the community is not constrained by the limitations imposed by the planning authority e.g. financial</li> </ul> </li> </ul>	<p data-bbox="1270 504 1453 609">Presentation 2.3a Slide 11</p>




## 4. Screening


<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p>This section explores two approaches that may be used for screening potential RTI investments and draws on experiences of a case study from China.</p> <p>Explain the key concepts of screening.</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>③ Screening decreases the number of investment alternatives given budgetary constraints</li> <li>③ Screening may be carried out by: <ul style="list-style-type: none"> <li>✓ targeting poor and disadvantaged communities</li> <li>✓ eliminating low priority links of the network</li> </ul> </li> <li>③ In China the Road Improvement for Poverty Alleviation (RIPA) was used</li> </ul>	<p>Presentation 2.3a Slides 12 - 16</p>

Training Methods	Content	Materials
<p><b>Group Discussion</b></p> 	<p>The following activity examines the experiences of <i>screening</i> methods used in China, and the key lessons that may be learnt and applied to other regions. Participants may draw on the experiences from the countries in which they are working.</p> <ul style="list-style-type: none"> <li>④ Divide participants into groups of 3 or 4, and give them Activity Sheets 22 (see <i>Trainers' Note below</i>).</li> <li>④ Ask participants to discuss:           <p style="margin-left: 40px;"><i>Based on the experiences from China: what are the advantages and potential problems with poverty-based pre-screening?</i></p> </li> <li>④ Ask the groups to prepare their findings on flip chart and to elect a person to present the finding.</li> <li>④ Each group presents their findings to the plenary.</li> <li>④ Facilitate a discussion on the findings and draw out the key learning points (see <i>Trainers' Note</i>).</li> </ul> <p><b><u>Trainers' Note:</u></b></p> <ol style="list-style-type: none"> <li>1. <i>This exercise may be carried out for a particular country with which participants are familiar. If participants are from different countries then they should work in the same country-groups. This may provide an interesting comparison between countries.</i></li> <li>2. <i>The key learning points from this activity should draw on the information covered in the previous section. In particular participants should explore social, economic and institutional issues, and focus on the potential impact on the poor.</i></li> </ol>	<p>Presentation 2.3a Slide 17</p> <p>Activity Sheet 22</p> <p>Flip chart, pens</p>


## 5. Ranking


<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Question &amp; Answer</b></p> 	<p>This section explores the various methods available for ranking investments in RTI.</p> <ul style="list-style-type: none"> <li>  Begin the section by exploring the range of different options using Q &amp; A. Facilitate a discussion by asking:                     <p style="margin-left: 20px;"><i>What methods do you know of that may be used to rank various intervention options for RTI?</i></p> </li> <li>  Note the points made by participants on the flip chart. Key learning points will be discussed below.                     </li> </ul>	<p>Flip chart pens</p>
<p><b>Presentation</b></p> 	<p>Summarise the main ranking methods mentioned above and those covered in the presentation slide.</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>  Multi-criteria Analysis (MCA)                     </li> <li>  Cost-effectiveness Analysis (CEA)                     </li> <li>  Cost- benefit Analysis (CBA)                     </li> </ul>	<p>Presentation 2.3a Slide 18</p>

Training Methods	Content	Materials
<p><b>Presentation with Discussion</b></p> 	<p>Using a combination of Q &amp; A and presentation, examine each of the ranking methods in detail. To stimulate debate ask questions like:            What is Multi-criteria Analysis (MCA)?            What is Cost-effectiveness Analysis (CEA)?            How may CEA be used to rank potential road interventions?            How may Cost- benefit Analysis (CBA) be used to rank potential road interventions?</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>  <b>Multi-criteria Analysis (MCA)</b> <ul style="list-style-type: none"> <li>✓ criteria and weighting</li> <li>✓ potential of MCA as a participatory planning tool</li> </ul> </li> <li>  <b>Cost-effectiveness Analysis (CEA)</b> <ul style="list-style-type: none"> <li>✓ a Subset of MCA</li> <li>✓ only used more recently in the transport sector</li> <li>✓ conditions for use of CEA</li> <li>✓ there are no thresholds for CEA – the criteria for determining opportunity cost is left to policy makers</li> <li>✓ use sample studies to indicate economic viability</li> <li>✓ use CBA to complement CEA</li> </ul> </li> </ul> <p><b>Continued...</b></p>	<p>Presentation 2.3a            Slides 19 - 36</p>


<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
	<p><b>...Continued</b></p> <ul style="list-style-type: none"> <li>  <b>Cost- benefit Analysis (CBA)</b> <ul style="list-style-type: none"> <li>✓ accounts for all real costs associated with the roads project</li> <li>✓ outcome of CBA permits ranking of alternative interventions based on Net Present Value (NPV)</li> <li>✓ the benefit from cost savings for transport users can be considered using: <i>Producer Surplus Methods</i>, or <i>Consumer Surplus Methods</i></li> <li>✓ if traffic levels are between 50 - 200 VPD a customised <i>Consumer Surplus</i> approach can be used, called the Roads Economic Decision Model (RED)</li> <li>✓ but! the <i>consumer surplus approach</i> is NOT recommended for roads with traffic volumes below 50 VPD, because the main benefits are not from savings in vehicle operating costs.</li> </ul> </li> </ul>	


## 6. Extending the CBA Framework for RTI


<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p>This section explores ways in which the Cost Benefit Analysis (CBA) method can be modified to make it more applicable to the unique conditions of RTI and low-volume roads.</p> <p>Introduce the concepts for extending the CBA for low-volume roads and outline the enhancements that can be made to CBA.</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>☉ Principles of CBA remain the same.</li> <li>☉ Use enhanced methods of CBA to carry out an analysis for pilot or sample projects, and use this to supplement CEA.</li> <li>☉ Enhancements of CBA include:             <ol style="list-style-type: none"> <li>1) better assessment of the cost of interrupted access</li> <li>2) estimating operating cost savings of NMT</li> <li>3) savings due to mode changes (from NMT to motorized transport)</li> <li>4) improved valuation of time savings</li> <li>5) valuation of social benefits from improved access to schools and health centres.</li> </ol> </li> </ul> <p><b>1) Better assessment of the cost of interrupted access</b></p> <ul style="list-style-type: none"> <li>✓ explore a range of factors: passability during the rainy season, seasonal changes in transport quality, collect data in a participatory way, examine costs of alternative and substitute routes.</li> </ul> <p><b>Continued...</b></p>	<p>Presentation 2.3a Slides 37 - 40</p>

Training Methods	Content	Materials
<p><b>Group Activity</b></p> 	<p><b>...Continued:</b></p> <p><b>2) Estimating operating cost savings of NMT</b></p> <p>The purpose of this activity is to draw on the experiences of rickshaw operators in Bangladesh to explore ways of estimating true operating cost savings of NMT.</p> <ul style="list-style-type: none"> <li>④ Divide participants into small groups of 4 or 5, and hand out Activity Sheet 23.</li> <li>④ Ask participants to explore the issues related to assessing the costs of interrupted access by discussing the following questions: <ul style="list-style-type: none"> <li>A. <i>Explain the rationale for road investment in black-topping (asphalt) even though the VPD is less than 50.</i></li> <li>B. <i>What are the true operating costs for rickshaw operators?</i></li> <li>C. <i>How are with- and without- project costs best estimated? Why?</i></li> </ul> </li> <li>④ Ask participants to write their findings on flip chart, elect a presenter and prepare to feedback to the plenary.</li> <li>④ Ask each group to present their findings to the plenary, and facilitate a discussion on the Key Points raised.</li> </ul>	<p>Presentation 2.3a Slide 41</p> <p>Activity Sheet 23</p> <p>Flip chart, pens</p>









<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p>Summarise the Key Points raised during the above activity using the presentation, highlighting important recommendations:</p> <p><b>Key Points:</b></p> <ul style="list-style-type: none"> <li>③ For project analysis use charges made by the rickshaw-van operators on different types of road conditions</li> <li>③ Human-pulled vehicles need a smooth surface more than motorise vehicles</li> </ul>	<p>Presentation 2.3a Slide 42</p>



Training Methods	Content	Materials
<p><b>Presentation with Discussion</b></p> 	<p>Finnish the section by facilitating a discussion on the other three ways in which CBA methods can be enhanced. Ask questions like:            How may savings in journey time be measured?            How may potential social benefits be measured?</p> <p><b>Key Points</b></p> <p><b>3) Savings due to mode changes (from NMT to motorized transport)</b></p> <ul style="list-style-type: none"> <li>✓ based on studies in Ghana and elsewhere cost reductions can be ten fold where transport can replace head loading</li> <li>✓ cost savings are based on minimum wage rates and truck operating costs</li> </ul> <p><b>4) Improved valuation of time savings</b></p> <ul style="list-style-type: none"> <li>✓ it is critical to understand the impact of improvements in infrastructure on journey times and therefore on productive time saved</li> <li>✓ valuing time in transport operations is controversial! And there is currently no universally accepted methods for determining a “value of time”</li> <li>✓ general guidelines: use measurements of journey time that are applicable to rural households that are predominately self employed, and takes into account their modes of transport.</li> <li>✓ conventional ways of valuing journey time savings are not appropriate</li> </ul> <p><b>5) Valuation of social benefits from improved access to schools and health centres.</b></p> <ul style="list-style-type: none"> <li>✓ include benefits such as health, social, improved access to markets, increased labour mobility, promotion of education for girls because of easier access to schools, spread of information and knowledge.</li> </ul>	<p>Presentation 2.3a            Slides 43 - 55</p>


<i>Training Methods</i>	<i>Content</i>	<i>Materials</i>
<p><b>Presentation</b></p> 	<p><b>Concluding Remarks</b></p> <p>Conclude the first part of this session by highlighting the key lessons learnt.</p>	<p>Presentation 2.3a Slides 56 - 57</p>



**Part 2**



## 7. Case Study: Andhra Pradesh, India

<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p><b>7.1 Introduction</b></p> <p>Introduce the second part of this session explaining the objectives and provide a brief overview of the topics to be covered.</p> <p>This part of the session focuses on the experiences of a project in India that made use of CBA and CEA methods. The project used these methods to assist in the selection of potential road works for financing: both black-topping and basic accessibility. The application of CEA was supported by a household study on the likely impact of road improvement on the welfare of village communities affected by the project.</p> <p>This case study provides participants with the opportunity to reflect on lesson learnt particularly on the use of cost-effectiveness analysis, identifying indicators of potential impact and type of data that needs to be collected.</p> <p><b>Overview of Part 2 of the session</b></p> <p><b>Key Points</b></p> <ul style="list-style-type: none"> <li> The rationale for using CEA and CBA in Andhra Pradesh</li> <li> Project background and overview of economic analysis</li> <li> Village and household transport survey results</li> <li> The spreadsheet CBA programme</li> <li> Key lessons learnt</li> </ul>	<p>Presentation 2.3b Slides 1 - 3</p>


Training Methods	Content	Materials
<p><b>Question &amp; Answer</b></p> 	<p><b>7.2 The Rationale for using CEA and CBA in Andhra Pradesh</b></p> <p>Using Q &amp; A explore the arguments for selecting CEA and CBA in any road improvement project.</p> <ul style="list-style-type: none"> <li>④ Begin the discussion by asking:           <p><i>What are the reasons for using cost-effectiveness analysis (CEA) when trying to decide which road works a project should support financially?</i></p> </li> <li>④ Note the points made by participants on flip chart. The key learning points are discussed below.</li> </ul> <p><b>Trainers' Note</b>  <i>At the beginning of this session ensure that all participants know what CBA and CEA are. Carry out a brief recap.</i></p>	<p>Flip chart, pens</p>
<p><b>Presentation</b></p> 	<p>Summarise the points made above using the presentation slides.</p> <p><b>Key Points</b></p> <ul style="list-style-type: none"> <li>④ Rural road projects aimed at improving basic road accessibility from villages to markets &amp; social services are also expected to provide social benefits.</li> <li>④ Most rural access roads have low-traffic volumes, but cost-benefit analysis that quantifies road-user benefits as VOC and travel time cost (TTC) savings is unsuitable for evaluating rural basic access road projects for financing.</li> <li>④ Alternative methods are needed.</li> </ul>	<p>Presentation 2.3b            Slides 4 - 5</p>

<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p><b>7.3 Project background</b></p> <p>Explain the background of the project.</p> <p><b>Key Points</b></p> <ul style="list-style-type: none"> <li>③ Locations and population 68 million</li> <li>③ Existing road networks of 15,000 km</li> <li>③ Dilemma: demand for network investment greatly exceeds the project budget. The key to maximising investment is to focus on the improvement of a <b>core network</b></li> <li>③ Two major categories of road to be assessed: basic accessibility works, and black-topping</li> <li>③ Project used CBA and CEA methodologies, which provided a list of potential road works ranked by cost effectiveness and EER</li> </ul>	<p>Presentation 2.3b Slides 6 -13</p>

Training Methods	Content	Materials
<p><b>Case Study activity in groups</b></p> 	<p><b>7.4 Village and household transport survey</b></p> <p>The purpose of this activity is to examine problems faced by villages which are isolated from major roads, and explore indicators - particularly economic and social - for measuring the potential impact of road improvement projects.</p> <p>During this activity participants are asked to draw on their experiences of designing indicators.</p> <ul style="list-style-type: none"> <li>⦿ Divide participants into small groups and give each group a copy of Activity Sheet 24.</li> <li>⦿ Ask the groups to discuss:           <ul style="list-style-type: none"> <li>A. <i>What are the problems faced by villages not connected by an all-weather access road to a major road or market centre?</i></li> <li>B. <i>What social and economic indicators can be used to assess the expected impact from the improvement of roads?</i></li> </ul> </li> <li>⦿ Ask the groups to prepare their findings on flip chart and to elect a person to present the finding.</li> <li>⦿ Each group presents their findings to the plenary.</li> <li>⦿ Facilitate a discussion on the findings and draw out the key learning points. The key learning points are expanded on below.</li> </ul>	<p>Presentation 2.3b Slides 14 - 15</p> <p>Flip chart, pens</p> <p>Activity sheet 24</p>
<p><b>Presentation</b></p> 	<p>Summarise the experiences from the Andhra Pradesh project using the presentation slides.</p>	<p>Presentation 2.3b Slides 16 - 18</p>

<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p><b>7.5 The spreadsheet CBA programme</b></p> <p>Handout copies of the full case study and ask participants to refer to Table E.1.3 on the last page. Use this with the presentation slides to explain how the spreadsheet CBA programme works.</p> <p><b>Key Points</b></p> <ul style="list-style-type: none"> <li>  <b>The program consists of five panels</b> <ul style="list-style-type: none"> <li>✓ Panel 1: record the road data and economic input parameters</li> <li>✓ Panel 2: contains engineering unit cost data obtained from the field</li> <li>✓ Panel 3: estimated unit vehicle operating costs (VOC) and travel speeds by both road type and vehicle type.</li> <li>✓ Panel 4: calculates savings in VOC and value of travel time (VOT) for the users of each mode of transport</li> <li>✓ Panel 5: calculates the economic cost and benefit streams over the project life, the net present value (NPV), and the ERR</li> </ul> </li> </ul>	<p>Presentation 2.3b Slides 19 - 20</p>



<b>Training Methods</b>	<b>Content</b>	<b>Materials</b>
<p><b>Presentation</b></p> 	<p><b>7.5 Key lessons learnt</b></p> <p>Conclude this part of the session by summarising the key lessons that have been learnt from the Andhra Pradesh case study.</p>	<p>Presentation 2.3b Slides 21 - 22</p>
	<p><b>Summary of Session 2.3</b></p> <p>Conclude this session by reviewing the issues explored and the key lessons learnt, highlighting areas that may need further investigation or discussion.</p>	