



ITS: Some Experiences From the World Bank

Christopher R. Bennett
Senior Transport Specialist
East Asia Transport Unit
The World Bank







World Bank Interest in ITS

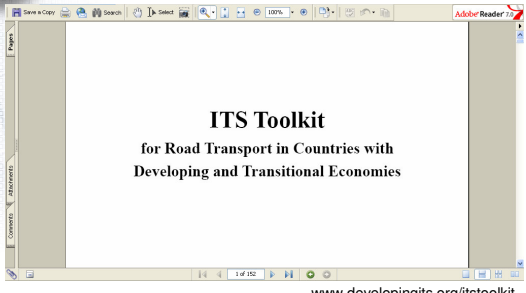
- Bank has supported ITS activities on a range of projects
 - Highways
 - Urban
 - Railways
- Has been involved in developing knowledge products
 - ITS Toolkit
 - ITS Technical Notes

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ITS Toolkit



ITS Toolkit
for Road Transport in Countries with
Developing and Transitional Economies

www.developingits.org/itstoolkit





Deployment Limitations

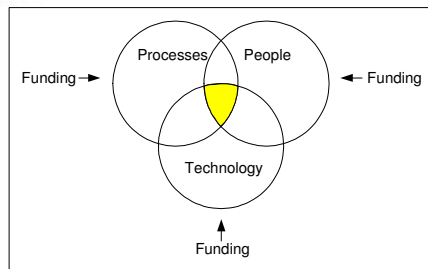
- Introducing ITS is a complex undertaking
- ITS requires consideration of:
 - Institutional factors
 - Staff with adequate skill sets
 - Appropriate legal framework
 - Procurement systems able to handle ITS
 - Technological factors
 - Standards to provide consistency
 - Communications infrastructure
 - Data models

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Four Key Elements



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Range of Experiences

Technology Advanced Clients

- Seldom need to convince clients of the benefits of ITS
- Bank sometimes needs to reduce the 'ambitions' of clients
 - Overspecified ITS equipment
 - Unclear use of ITS in the business
 - Organization unable to properly staff and sustain

Low Technology Clients

- Clients often lack basic IT infrastructure
- ITS not on the radar

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Example: Weigh-in-motion

- Country per capita GDP (2004): \$US 350
- Supplied 8 x WIM systems with GSM capability for transmitting data (GSM cost \$10k)
- Requested \$40k to upgrade to blue tooth for field visits
 - Only technical difference is data retrieved without cable

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Example: Traffic Safety

- Country per capita GDP (2004): \$US 2,200
- Proposed major ITS component
- Due to institutional and other limitations proposed much smaller program

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Example: Traffic Monitoring

- Country per capita GDP (2004): \$US 1,000
- Expressway monitoring system
- Recommended upgrading from hardware design to display screens showing computer generated images

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The Evaluation Challenge

- Clients often want to adopt ITS technologies without considering
 - Costs/Benefits (quantitative or qualitative)
 - Sustainability
 - Institutional integration
- Bank projects seldom (if ever?) have formal evaluations of the benefits
 - But this **may not** be a problem ...

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Established Technologies

- Examples:
 - ATC
 - ETC
 - Tunnel Safety
 - Traffic monitoring
 - Weigh-in-motion
 - *Etc*
- Situation:
 - **Mainstreamed** applications of ITS
 - Do not need to convince decision makers about adopting
 - Benefits are often clear from a qualitative point of view

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Emerging Technologies

- Examples:
 - Advanced traveler information systems
 - GSM/PDA traffic notification
 - *Etc*
- Situation:
 - Useful technologies
 - Need a **good foundation**
 - Should be built on top of existing ITS framework
 - Benefits are **incremental** to those from foundation

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The Cost Side

- ITS costs to agency **most important**
- Need to have guidance on:
 - Implementation costs
 - Physical operating costs
 - Institutional adoption costs
- Decision makers need to make intelligent choices

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Summary

- Quantifying benefits of ITS adoption may not be important to decision makers
- Key is to be able to be able to:
 - Establish the 'whole-life' costs of the implementation
 - Decide between various ITS alternatives (eg fully adaptive, semi-adaptive, fixed time ATC)
- Accurate cost data of primary importance
- Need to have framework and data to make the right decision and get the most value from the ITS

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The End
