INTELLIGENT TRANSPORT SYSTEM

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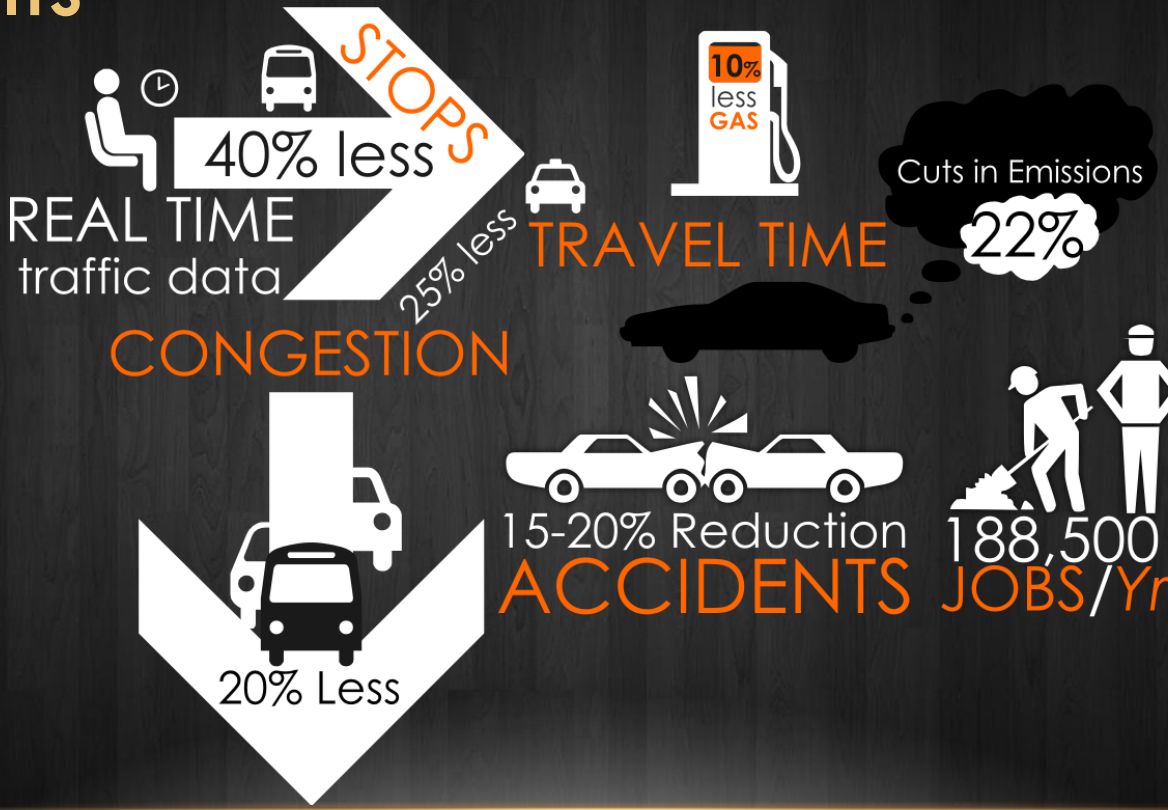
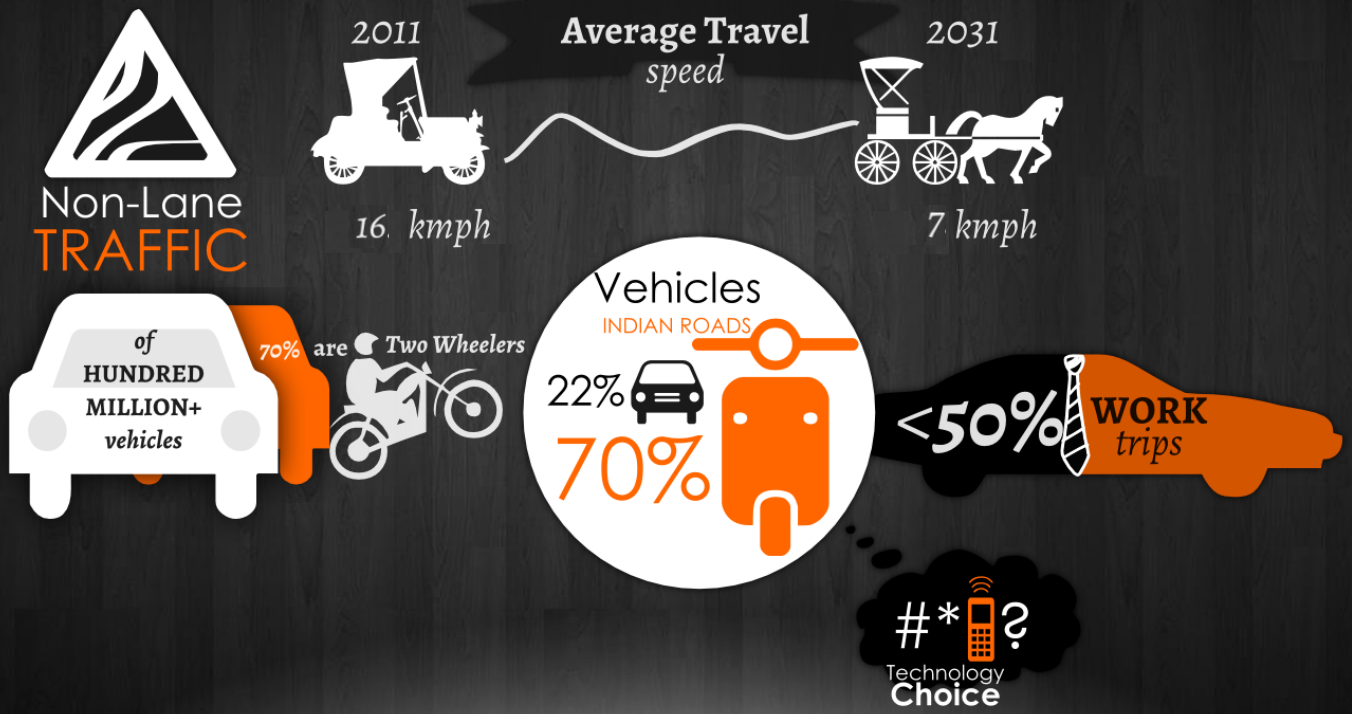
CSTEP
CENTER FOR STUDY OF SCIENCE, TECHNOLOGY & POLICY

BENEFITS


STOPS
40% less
REAL TIME
traffic data
25% less
CONGESTION
20% Less
10% less GAS
TRAVEL TIME
Cuts in Emissions
22%
15-20% Reduction
ACCIDENTS
188,500
JOBS/Yr

URBAN TRANSPORT-INDIA



INDIA- POLICY PERSPECTIVE

National Urban Transport Policy (NUTP, 2006)

-Passenger Information System & Traffic Management

MoUD - Service level benchmarks

- Emphasis is on inventory of **building pieces or artifacts** but **not managing the entire transport system ensuring better performance**

INTELLIGENT TRANSPORT SYSTEMS

Intelligent

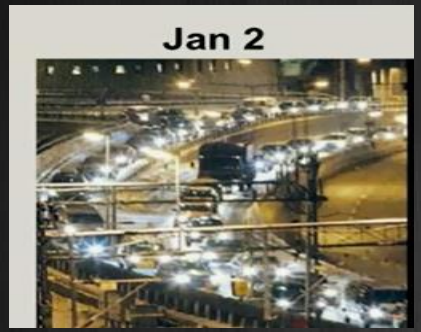
Discovery of each person's context

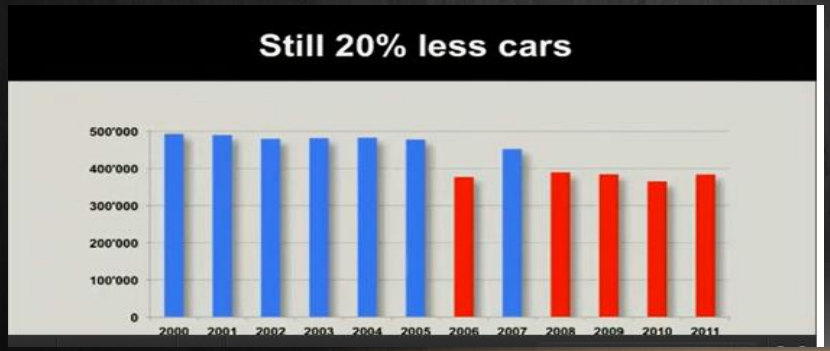
Correct filtering and presentation of the delivered information

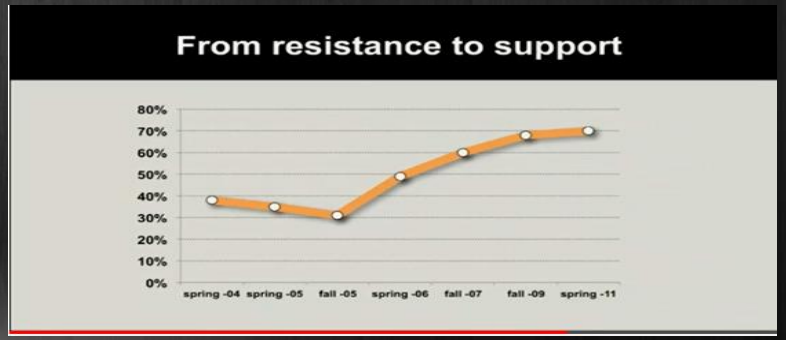
Transport Systems

Complex adaptive systems

Complex Adaptive Systems





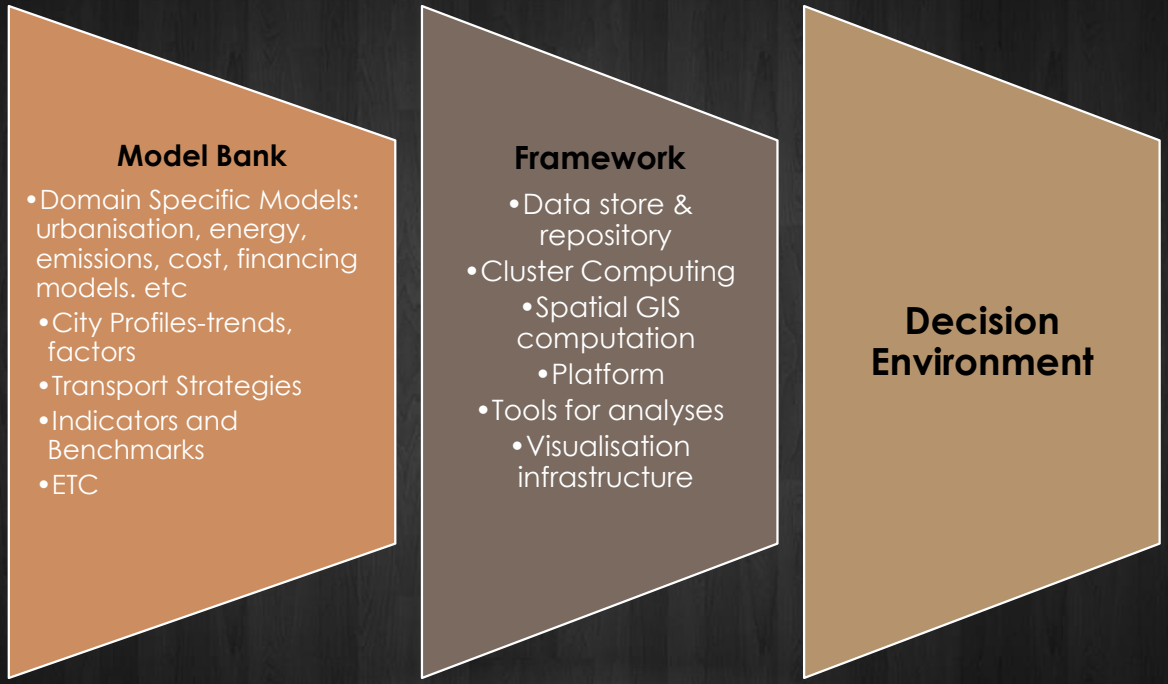


(Ted Talks - Jonas Eliasson: How to solve traffic jams)

ITS as a **Decision Support Platform** for Transport Planning

- ITS can play a major role in decision making

- This platform can provide a complete package
  - Visualization of complex problems
  - Simulation and modeling
  - Decision support systems


Model Bank
•Domain Specific Models: urbanisation, energy, emissions, cost, financing models. etc
•City Profiles-trends, factors
•Transport Strategies
•Indicators and Benchmarks
•ETC
Framework
•Data store & repository
•Cluster Computing
•Spatial GIS computation
•Platform
•Tools for analyses
•Visualisation infrastructure
Decision Environment

Decision Support System – *Demonstration by CSTEP to Planning Commission*

OBJECTIVES OF THE DECISION SUPPORT SYSTEM

Data Repository

Explore possible approaches that use people to collect data at different levels

- **Longitudinal studies over time**
- **Collect information more widely**

Information standards that will allow us to use and trust crowd-sourced data.

Problem framing

Dialogical process that allows iterative framing of the policy problem with data, information and analysis from multiple perspectives

Bringing information and consequences of actions

Managing Information and knowledge

Available for analysis and communication for citizens , analysts and decision makers -- on demand in a standardized fashion

Information and data visualization

Deliver quality information and analysis ensuring its form and presentation affect its impact and use

ITS **VISION**

Robust platform for efficient urban transport planning

Focus on System performance

- Real time information of all modes of transport
- Improve mobility (user), efficient resource usage (time, fuel), impacts on environment and productivity
- Promote green commute
- Safety

Integration of information and communication technologies of all ITS tools at the city level

Integration with concerned departments and institutions

ITS **IMPLEMENTATION**

- Vision
- ITS Strategic Plan
- Research Plan
- Infrastructure assessment for ITS technologies/application
- Capacity building
  - Monitoring, management etc. of the ITS infrastructure
  - Urban transport systems related technology development (specialization subject under Transport engineering/computer science streams)
- Development of a dynamic urban transport decision making platform
  - Trusted platform for participatory sensing
  - Robust platform (interoperability , compatibility, etc) for data input, and data analysis, modeling, simulations, data visualization, data dissemination
  - Context sensitive design and presentation of the delivered information
- Funding /Financial Plan

SUMMARY

- ITS alone cannot solve transport problems
- However, it has a major role in
  - **managing the different strategies** for an efficient urban transport system and
  - enabling a **robust decision support platform**
- ITS funding is crucial for this to happen.
- Every million plus city need to have a ITS program -strategic plan + budget

living LAB

The Living Lab is a computational environment & a highly modular system capable of providing real-time support to decision makers by intelligently integrating and filtering data streams, simultaneously recording scenarios for future training. LivingLAB facilitates collaboration and co-operation of several agencies at multiple levels to respond effectively to a disaster. The system enables supporting and training of multiple agencies (and their multiple roles).

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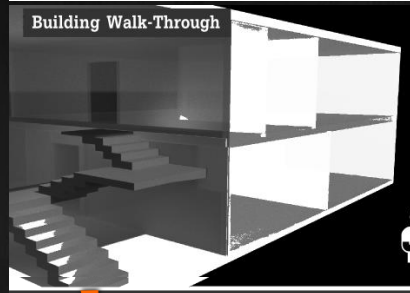
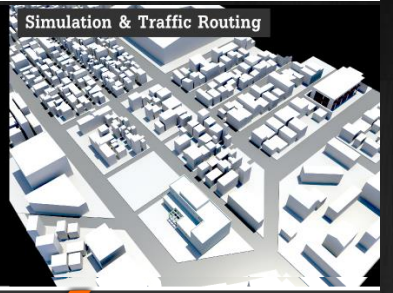
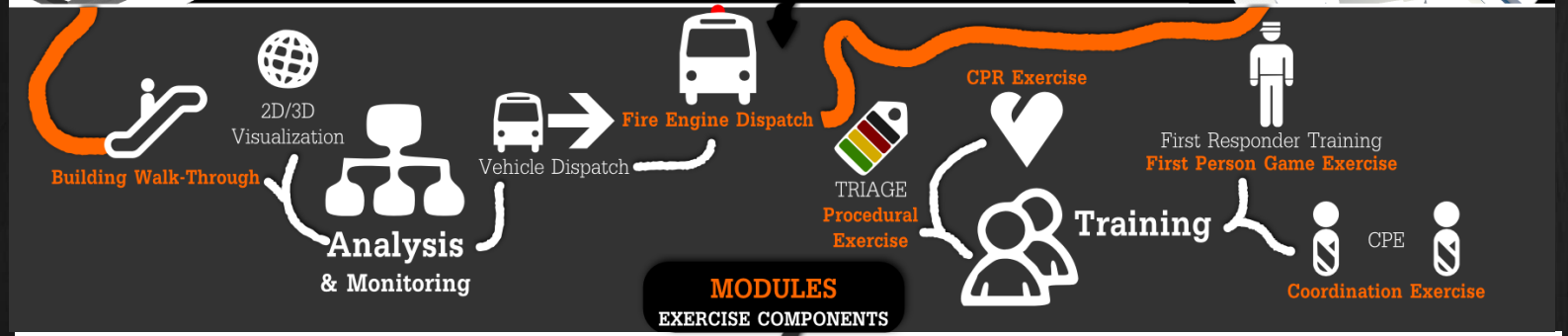


REALworld

I/O





MODULES
EXERCISE COMPONENTS

TECHNOLOGIES
MULTI-AGENT FRAMEWORK

THANK YOU