

MIT

ITS: The Transit Challenge

Massachusetts Institute of Technology

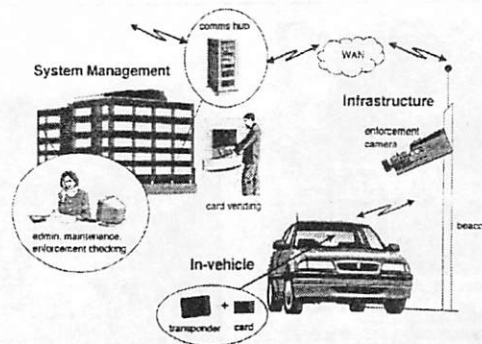


Mikel Murga, MIT Research Associate
8th UPR-MIT Conference on Tren Urbano
January 8-12, 2002

Tren Urbano, Jan 8-12, 2002



Topics



- ITS: The Concept
- The ITS Transit Challenge
- 4 Questions for the Debate

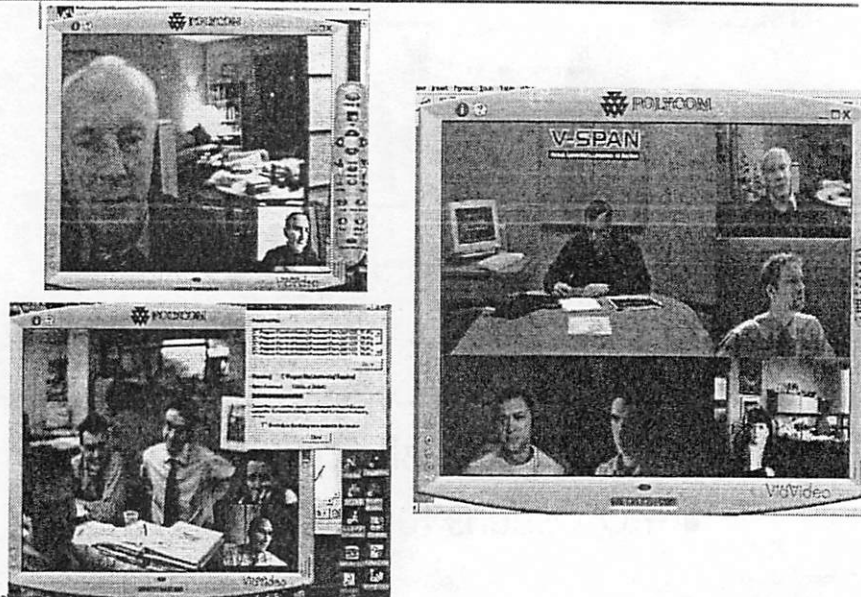
Cell Phones: The Law of Unintended Consequences



ITS Challenge

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TeleComs: How to be in two places at the same time

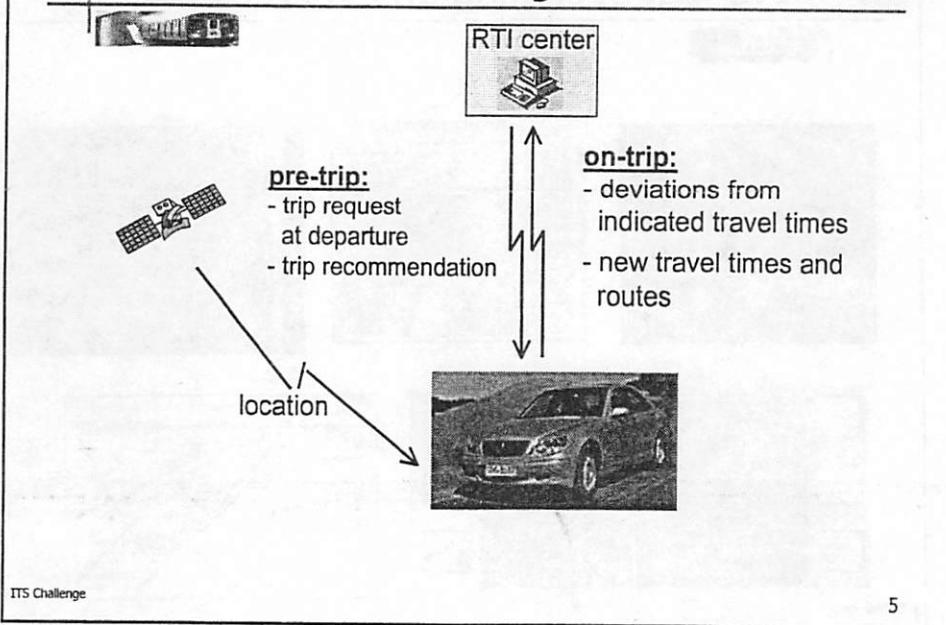


ITS Challenge

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ITS:

The undisputed advantage of the chosen few?



ITS to the rescue...

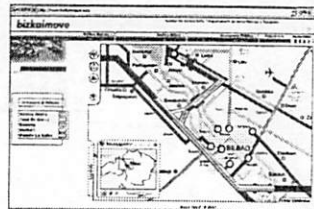
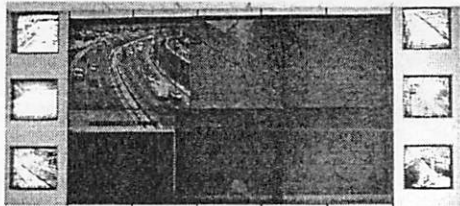
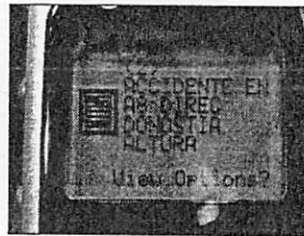
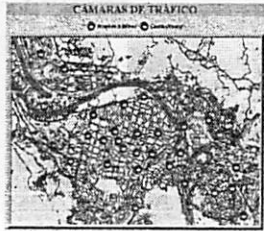
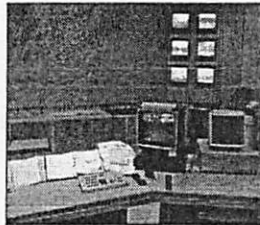
ITS: Control, management and information tools aimed to improve the efficiency, safety and quality of service of the transportation system

ITS Challenge

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ITS fast becoming an everyday tool...

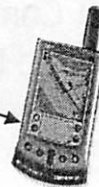
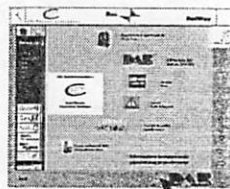


ITS Challenge

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ITS: Technology driven rather than...



Pizzas on sale...

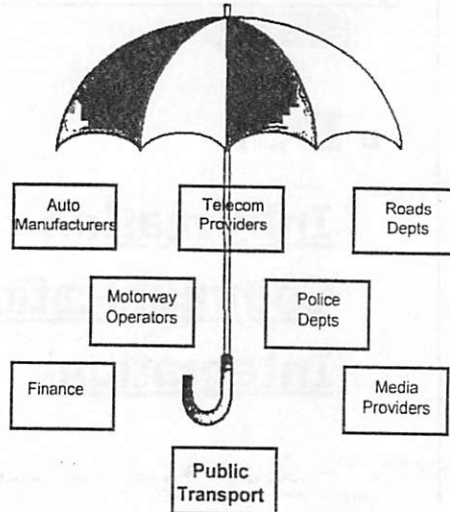
ITS Challenge

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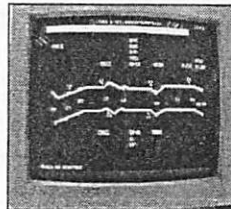


ITS: A catch-all term

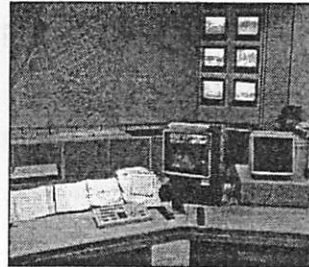
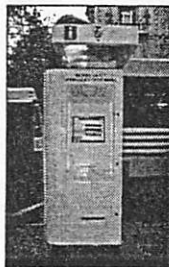
- **ITS: a unique cooperation opportunity for joint policy and action**
- Usual deployment = consistent sub-optimizing



ITS and Transit



Easy to deploy within each turf, but
hard to integrate across operators and modes



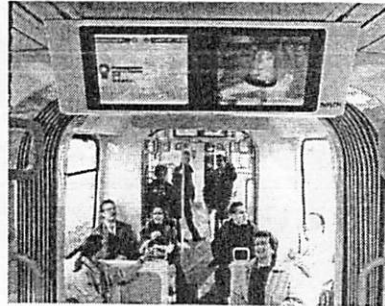


ITS: The Concept



■ ITS:

Information +
Communication +
Integration

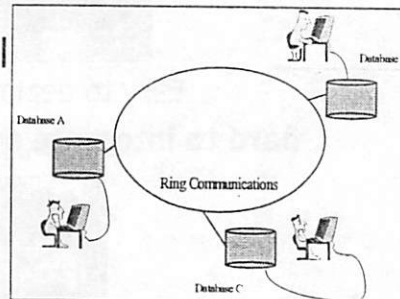


ITS Deployment



■ ITS Deployment requires:

- Important organizational changes
- A new path from control to sharing information
- A transition from hierarchical systems to networks





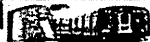
ITS Integration: A bumpy road



- *Let's share information:*
 - The public needs a single source of multi-modal information
 - The operators can benefit by sharing real time info
- *Let's decide with others in mind:*
 - Impacts or synergies on third parties?
 - Modularity of equipment and architecture?

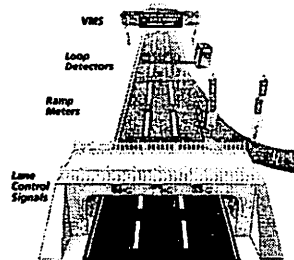


ITS Deployment



ITS other than short-term mitigation tools, may serve :

- ✓ To act as catalysts for change
- ✓ To establish new two-way relationships
- ✓ To create new spaces for collaboration
- ✓ To provide a global vision of the transport system



... But, ITS involves a long and winding road

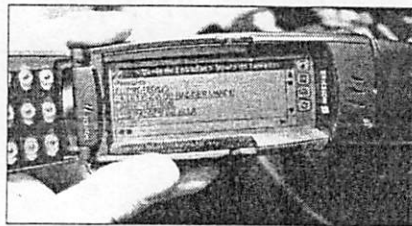


The ITS Transit Challenge



Client side:

- Waiting *anxiety*
- Expected arrival time
- On-board information
- Transfer possibilities
- Level-of-Service (LOS)



ITS Challenge

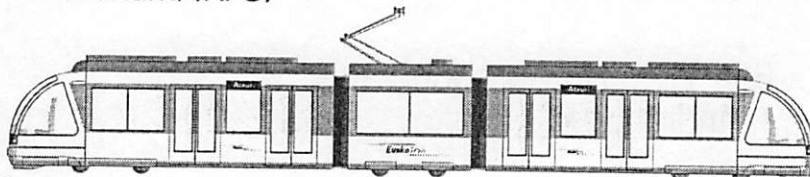


The ITS Transit Challenge



Supply side:

- Priority
- Priority enforcement
- Payment systems
- Automatic Vehicle Location (AVL)
- Automatic Passenger Counting (APC)



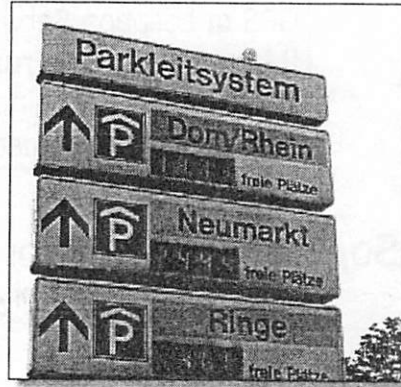
ITS Challenge



The ITS Transit Challenge



- System-wide (*sticks and carrots*):
 - Contribution of each mode in real time
 - Traffic Information
 - Incident notification
 - Parking availability
 - Points of Interest



ITS Challenge

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ITS: A New Process



- Many agencies and private operators have real time info
- Many service providers wish to elaborate it
- Many content providers want to integrate it
- There are many channels for dissemination
- ITS is a wide and evolving concept



ITS Challenge



ITS: the road towards expertise...



Bluetooth ☒ E-Safety ☒ POI ☒ Congestion Pricing
 Contactless Smart Cards ☒ Business Models ☒ GUI
 GPS ☒ Location Services ☒ Supply Chains ☒ GPRS
 Ramp Metering ☒ Trunking ☒ Privatization ☒ WAP
 UMTS ☒ Value Pricing ☒ GSM ☒ M-Commerce B2B
 DSL ☒ Mobile Payments ☒ AVL ☒ Speed Control

So, are you ready for the following questions?

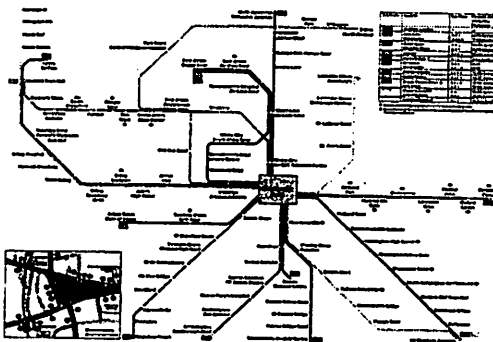


Question # 1



I assume that when you go to places like London, Paris, NYC, or Boston, you ride the subway.

Whatever you're looking for, look for a bus



So, why don't you venture into a bus??

London Travel Information
 020 7332 1334
 www.transportforlondon.gov.uk

Making London simple



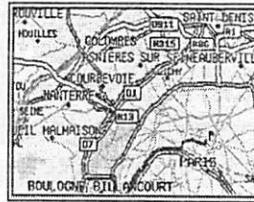
"Buses, the unsung heroes of transit" (Matt Scholler)



Question # 2



Grandma can probably get cash from an ATM, so...



Which ITS technologies and services should you provide to encourage her to ride a bus?

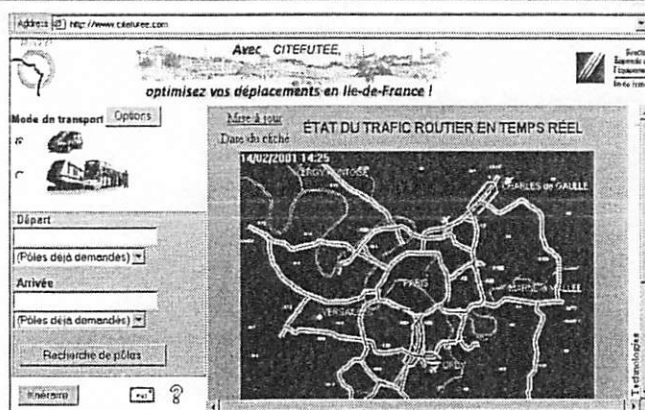


ITS Challenge

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Question # 3



What information channels should you provide so that Grandpa can find out how to go from **A** to **B** by transit?

ITS Challenge

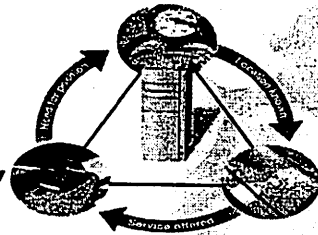
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And finally, Question # 4



If Public Transport Agencies have the right technology (AVL, GPS...) and the proper management capabilities, why do not they redefine their "mission statement" (*sorry!*) to become "**Mobility Managers**" and provide alternative transportation services?



(eg. ZipCar)?