

# Getting to the INFOstructure

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To the

National Transportation Information  
Infrastructure Workshop

University of Maryland, Center for Advanced Transportation Technology



# Agenda

- Background – Including some definitions
- Status – The importance of doing something
- Issues – Institutional and technical
- Organizational Approach – The approach drives the process
- Conclusions – Let's focus on organization

# Background

- ITS cannot succeed without INFOstructure
- Needed for 70% of systems in ITS America 10 year plan to succeed
- Information is essential to:
  - Ensure effective transportation system management
  - Permit travelers to make informed decisions

# But we suffer from sloppy thinking – 2 definitions

- Local level – Information for:
  - Management of local incidents
  - Provision of information to local travelers
- National level - Information for:
  - Managing major regional incidents (including terrorism, weather)
  - Information for long-distance travelers
  - Offerings by national companies (vehicle manufacturers, media outlets etc.)

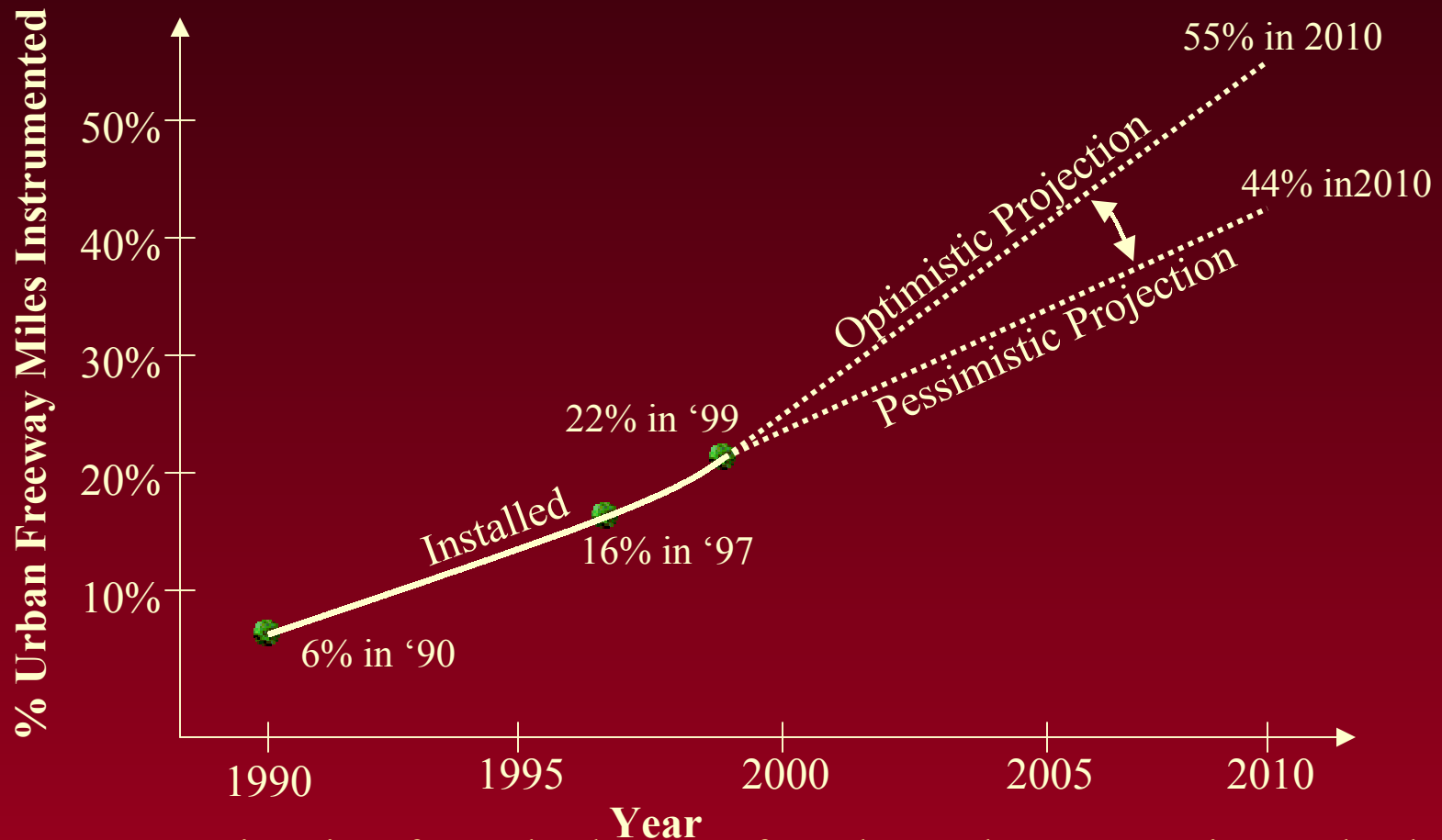
# Why are the 2 definitions so important?

<b>Characteristic</b>	<b>Local Level</b>	<b>National Level</b>
Timeliness	ASAP	5 – 10 minutes
Incidents	All	Major
Usage of video	Important	Unnecessary
Physical architecture	Local centers	Large regional centers
Standards	Desirable	Essential

# Status

- Approximately  $\frac{1}{4}$  of urban miles of interstate instrumented
- 6% of urban miles of arterials instrumented
- Little “front line” support:
  - Freeway management relies on CCTV
  - Arterial management relies on pre-stored signal timing patterns
  - Maintenance is expensive

# As a result of luke-warm support, progress is glacial



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# Issues

- Funding – Who pays for O&M?
- Exclusivity – How can private sector play?
- Privacy – A growing concern
- Liability – Is this a red herring?
- Leadership – Is the public sector going to be overtaken by the private sector?

# Organizational Approach

- Implementation is defined by the approach
- Alternatives include:
  - National solution: Federal Government defines national system, private sector implementation
  - State-centric system: States implement systems using designated Federal funding
  - Laissez faire: Systems implemented based on self-assessment of needs

# The Approach Defines the Roles

<b>Approach</b>	<b>Feasible Architectures</b>	<b>Funding</b>	<b>Applicability</b>
National Solution	Multi-state interconnected centers	One-time – P <sup>2</sup> Recurring – P <sup>2</sup>	National level
State-centric	State centers	One-time – State Recurring – State	Local level
Laissez faire	State and/or local centers	One-time- N/A Recurring - Agency	Local level

P<sup>2</sup> = Public/Private partnership

# Comparison of Approaches

Approach	Advantages	Disadvantages
National	<ul style="list-style-type: none"><li>• Private sector involvement</li><li>• Ensure uniformity</li><li>• Prioritized deployment</li><li>• Regional centers</li></ul>	<ul style="list-style-type: none"><li>• Unconventional approach to infrastructure deployment</li><li>• Installation on state rights-of-way</li></ul>
State-centric	<ul style="list-style-type: none"><li>• System will reflect local needs</li><li>• More useful to state DOTs</li></ul>	<ul style="list-style-type: none"><li>• Federal control of highway expenditures</li><li>• States pay for maintenance</li></ul>
Laissez faire	<ul style="list-style-type: none"><li>• Simplest approach</li></ul>	<ul style="list-style-type: none"><li>• Hasn't worked so far, why would it work now?</li></ul>

# Conclusions

- Let's confront the fundamental issue – why are we doing this?
- It is likely that the majority of issues can be readily overcome
- The big “enchilada” is the organizational issue. This should be addressed first.