Putting Technology Into Practice – The Surface Transportation Perspective

Presented to the

June 2012 TRB Policy Session

by

Philip J. Tarnoff

The Technology Adoption Story

- How are we doing?
  - Some anecdotes from the past
  - Dissemination and support
- The existing climate for new technology
  - Within the agencies
  - Among the workforce
  - Through the research community
- Managing climate change
  - Some recipes for change
  - Conclusions

Technology Adoption Anecdotes

Project	Funding Source	Status
Advanced traffic signal control	FHWA (UTCS, OPAC, ACS-Lite)	Most agencies continue to use 50 year old technology
Mobility Performance Measurement	NCHRP 20-7	Little awareness of the 12 measures defined and vetted
ITS Procurement	NCHRP 3-77	Interactive website no longer supported
Transportation Operations Framework	NCHRP 20-77	Database of available training unsupported

There Are Also Some Successes

- Improved incident management
- Transit vehicle tracking and information systems
- LED signal heads
- Bluetooth traffic monitoring

Many successes are the result of industry initiatives rather than federally funded research

The Overall Picture is Bleak
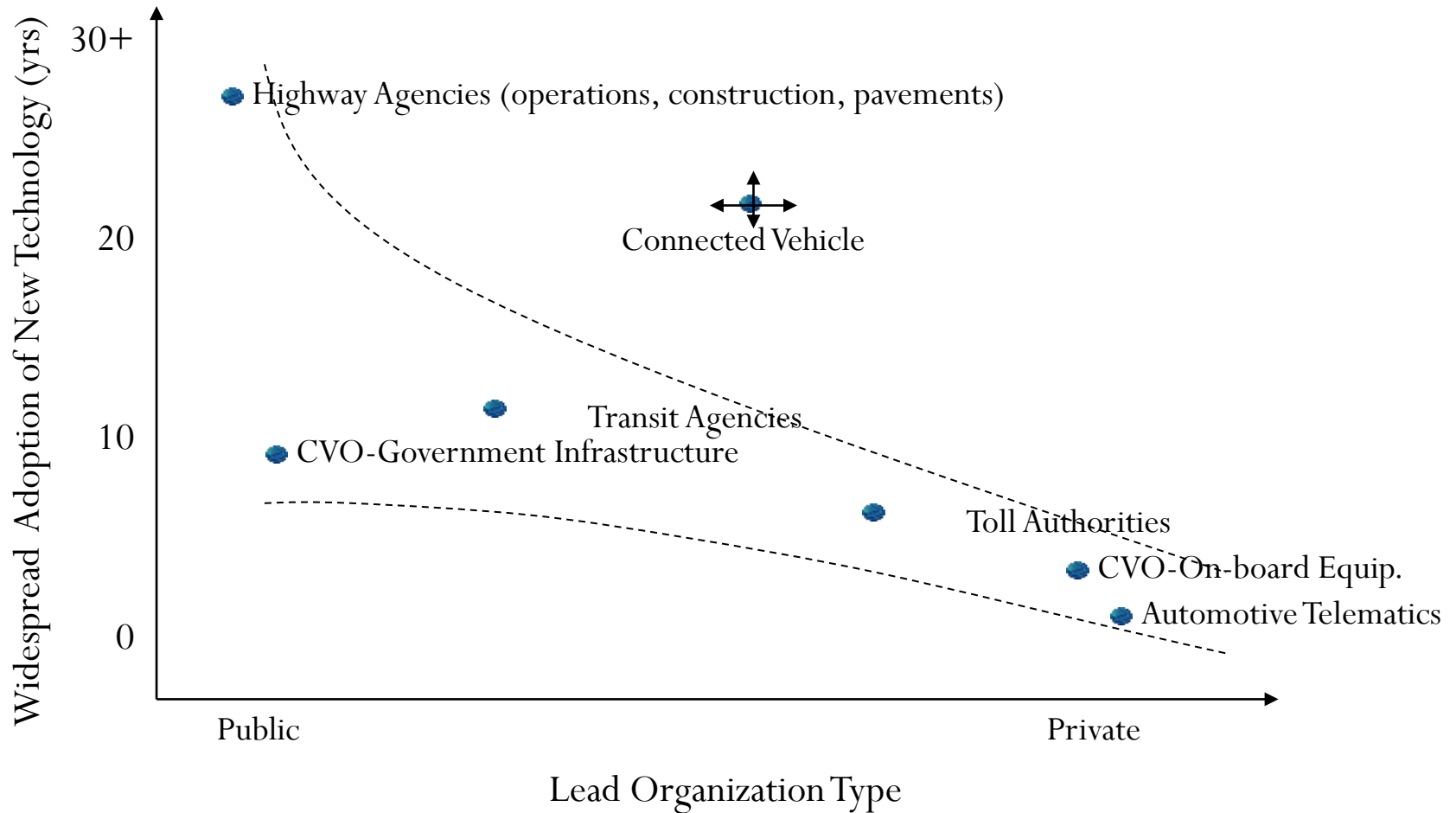
The Climate for New Technology – within Transportation Agencies

- Risk aversion due to fear of bad publicity

- Short attention span – maximum acceptable project life typically 2 to 4 years

- Absence of performance measurement precludes evaluation of success

The Climate for New Technology – Within the Workforce

- Few rewards for innovation

- Limited opportunities to learn about new technology (conferences, training, etc.)

- Champions are internally motivated (What happens to the program when the champion moves on?)

The Climate for New Technology – Within the Research Community

- Outreach has low priority and limited funding
- Research community is internally focused
- Reports rarely reach intended audience
- Limited support for research products (websites, databases, tools)
- Research tends to be conducted in the absence of overarching plans (result of a bottoms-up program)

Six Suggestions

1) Fund outreach at equivalent levels to research
   - Support for databases and websites
   - Support for training and peer-to-peer activities
2) Encourage private industry collaboration
3) Require implementation plans for all research
4) Develop the workforce (educate & support)
5) Change the DOT culture
6) Don't fund research unless the audience is defined

Conclusion

We're currently

"driving 21st-century cars on 20th-century roads with 19th century thinking"[1]

TRB should assume responsibility for advancing the state-of-the-practice.

[1] Tarnoff, Philip J., *The Road Ahead*, The Strategic Book Group, Durham , CT, August 2011 ISBN 978-1-61204-532-0