What’s the Value of Reliability?

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Why Are We Here?

Many professionals believe the reliability of the transportation system is badly undervalued in project identification and prioritization.
We Need To

• Ensure this thought is correct

• Adjust the tools we use to inform the decision making process to better account for the value of reliability
We Have Help

• The shift towards new ways of pricing limited road infrastructure, can

  – Highlight the monetary value people put on reliable transportation

  – Bring pressure for agencies to provide more trip reliability
The Easy Part

• Do users of the transportation system value travel time reliability?

• Yes. (Duh!)
The Hard Part

How much???

And when?
Value of Reliability

• Changes with circumstances:
  – Individual (worth)
  – Trip purpose
  – Ability to gain monetary advantage from better reliability (scheduling)
For Any Improvement

• Some win big
• Others do not

  – For the same physical change in transportation system performance
Need To Learn

• The values/shape of the distribution

• How to apply that distribution
With Road Pricing

• That distribution matters

• If choice (pay / not pay) is involved
  – The right side is what matters

• If little choice is involved
  – The left side matters
Construction Bonds Require Certainty

- Predictions of outcome mean money
Imagine

• You own and operate a private road
  – Maximize revenue (profit)
  – Need to attract customers
  – Supply value for service

• Value =
  – Speed
  – Certainty
Imagine

- **Speed** –
  - Dynamic pricing
  - Guarantee of trip conditions?

- **Certainty** –
  - Traveler information
  - Guarantee of trip conditions?
Define Reliability

• It Depends...

• Like “pornography” – hard to do effectively – but I know it when I see it
Define Reliability
What is “Reliability?”

• “Time” is a big input in the thought process of choosing to make a trip

• Need to “get there” in some “acceptable time”

• Penalties occur for taking too long to arrive
What is the expectation?

- Speed and certainty
- Improving either / both makes travel better
The Users Perspective

• How can I increase certainty?

• Cheap way – Traveler Information
  – Transit – wait time = 2 x in-vehicle time
  – Variable message signs
  – Web sites
What Do We Say?

• NOT Standard Deviation
  – Customers don’t understand it

• Arrival certainty is trip dependent – so
  – Percentile travel times
  – Famous commutes
  – Customers take that information and use it in their own manner
I’ve Described the Situation

You get to go resolve it