How Research Results Affect Policy

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What is Research?

BROADLY DEFINED: Anything that occurs during the Innovation Cycle, and not necessarily engineering

- Basic investigation
- Conceptualization
- Characterization
- Proof of Concept Testing
- Demonstration and Deployment
- Ordered Information Collection
- Data Analysis
- Operational Improvements
- Syntheses of Existing Information
- Answering a Question
What is Policy? - Technical Person’s View
What is Policy?

**BROADLY DEFINED:** Any decision that affects how a system is selected, implemented, funded and used; and how it affects the people being served by the system

- Legislation
- Treaties and Agreements
- Executive Orders
- Regulations
- Technical Standards
- Design Standards
- Procurement Guidance
- Budgets
- Schedules and Deadlines
- Politics
How To Get These Worlds to Connect?

This is where I live – and most things happen in the middle!
Recognize That Each Side Needs the Other

<table>
<thead>
<tr>
<th>Technical View</th>
<th>Policy View</th>
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<tbody>
<tr>
<td>• Provides problem solving analyses and technologies</td>
<td>• Provides problem solving processes</td>
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<tr>
<td>• Provides information for decision-making</td>
<td>• Provides summarized information for decision-making</td>
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<tr>
<td>• Are the keepers of technical knowledge</td>
<td>• Are keepers of “art of the possible” knowledge</td>
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<tr>
<td>• Enables/causes actual deployment, standard-setting, etc.</td>
<td>• Enables budget, other decisions for deployment/implementation</td>
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<tr>
<td>• Evaluates research, demonstrations and deployment results</td>
<td>• Evaluates for future policy changes</td>
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Recognize That Thinking Styles are Radically Different

<table>
<thead>
<tr>
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<tr>
<td>• Logic Model</td>
<td>• Multirational Model</td>
</tr>
<tr>
<td>• Initiates from data or direct observation</td>
<td>• Initiates from idea, conversation, political direction</td>
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<tr>
<td>• Develops research plan</td>
<td>• Develops information collection/decision plan</td>
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<tr>
<td>• Collects verifiable data in detail using verifiable assumptions and processes</td>
<td>• Collects snippets of data to develop policy position</td>
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<tr>
<td>• Analyzes results that leads to “right answer”</td>
<td>• Makes “recommendations”</td>
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<tr>
<td>• Takes time to do the work to get “right answer”</td>
<td>• Usually on a short time scale</td>
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Recognize That Both Are Problem Solvers

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<td><strong>Freight Delays</strong></td>
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<tr>
<td>- Identify causes by collecting and analyzing data</td>
<td>- Identify issues by meeting with stakeholders</td>
</tr>
<tr>
<td>- Characterize impacts on travel models, efficiency, economy</td>
<td>- Characterize impacts on people, budgets and politics</td>
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<tr>
<td>- Seek localized solutions in infrastructure or operations</td>
<td>- Seek regional/national standardized solutions</td>
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<tr>
<td>- Develop technology if indicated by research results</td>
<td>- Develop technology if indicated by external forces</td>
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<tr>
<td>- Deploy indicated solutions with little fanfare</td>
<td>- Deploy as broadly as possible, with media coverage</td>
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To make research that impacts policy, need to translate and communicate non-technically
To Have Impact - Be Prepared and Be Patient

Know your results, be able to communicate swiftly and with little preparation

- Policy Timing is not Technology Timing
- Timing Driven by External Forces
- Readiness Required – Know Your Field and Others’ Work in It
- Network with Those with Access to Policymakers
- Watch for Opportunities
- Learn Oral Presentation Skills
- Don’t Trust that the Power of the Research Will Get it Noticed
Case Study on Impact - Distracted Driving

- Secretary Decides to Make Combating Distracted Driving a National Multimodal Policy
- Timing Driven by Events, Media
- Regulatory Goals Enabled by as much as 15 Years of Cognitive Research
- Researchers Took Opportunity
- Used Oral Presentation Skills
- Got White House Approval and Executive Order

*Total Elapsed Time for Policy Development = 2 Weeks*