Transatlantic Partnerships in Transportation Research & Development

Myths, Barriers, and Enabling Conditions

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Disclaimer

The Perspectives Expressed in this Presentation are purely personal and do not reflect the official positions of either the New York Department of Transportation or the U.S. Federal Highway Administration

Our Strategic Vision

The development of institutional structures that will facilitate the development and sharing of technologies and innovations that are conducive to the development and implementation of more efficient and effective transportation systems world wide

Two Key Assumptions

- While trans-Atlantic collaborations are occurring --- the current rate of formation is insufficient (suboptimal)
- Increasing transportation R&T collaborations will require new enabling frameworks that are not completely dependent on central governments
- Bottom line: If we are to provide scientific solutions to major transportation problems our institutional technologies for collaboration must evolve

Presentation Objectives

- To explore some of the Myths, benefits, barriers, and most important, enablers for increased international R&T collaborations
- To identify alternative organizational and policy structures for enhancing international collaborative activity
- To address some recent activities that intended to facilitate transatlantic R&T collaborations

Myths about Drivers for Collaboration

- The growth in the internet is the primary factor that is contributing to the growth in collaborations in various scientific disciplines.
- National interest directs international collaborative behavior.
- Collaborative research is a function of geographical proximity and historical relationships.
- Collaborative activity results from the financial demands of mega-science.

Source: Wagner and Leydesdroff, 2004

Why Partner Across Borders?

- To create research synergies by ---
  - Sharing critical data
  - Avoiding blind alleys that have been investigated
  - Lowering investment costs in equipment and conduct of research
  - Accessing unique technical resources
- Expose new ideas to a broad audience
- Achieve good will/foreign policy goals

Documented Benefits from R&T International Partnerships

- Allows the transportation communities on both sides of the Atlantic to become aware of advances and innovations
- Builds enduring relationships among transportation professionals
- Creates a cost-effective conduit for information exchange and the deployment of technologies and innovations
- Enables understanding the issues faced in other countries, how solutions have been developed, and lessons learned.

Barriers to Collaboration

High Information Costs

Transactional Hurdles

Visas

Conflicting Intellectual Property Regimes

Cultural Differences

Capacity to “Go it alone”

Restrictive Funding Systems

Institutional Inertia

What is internationalization of RD&T?

3 types of activities

- Global collaborations, or the coming together of partners to jointly create knowledge and produce innovations.
- Transfer of innovations across borders including commercial exports, patents and granting of licenses for foreign production of nationally produced innovations.
- Investing in foreign R&D and creating units in other countries to support this effort.

Internationalization of RD&T

First: Transfer of innovations across borders:

Current U.S. Mechanisms of Transfer include:

1. Scanning & Piloting projects;
2. Bilateral Sharing Know-How through Hosting of Scientists; and
3. Knowledge Exchange through a Centralized Coordinating Entity.
4. Twining of different government jurisdictions

Internationalization of RD&T

Second: Investing in foreign R&D and creating units in other countries to support this effort.

A hypothetical example would be the creation a research center by a foreign private or public organization at an U.S. university

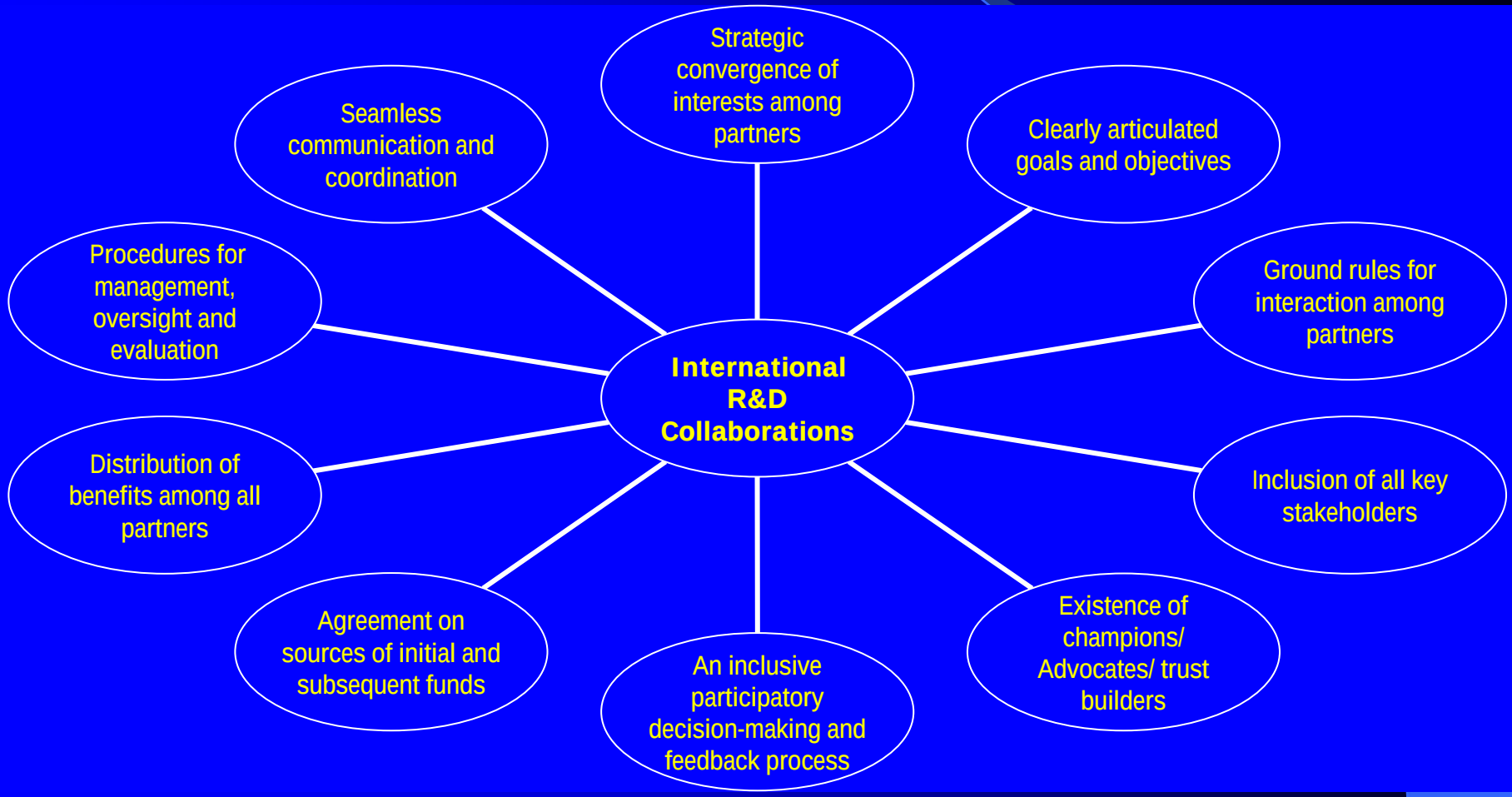
Internationalization of RD&T

Third: Global collaborations, or the coming together of partners to jointly create knowledge and produce innovations

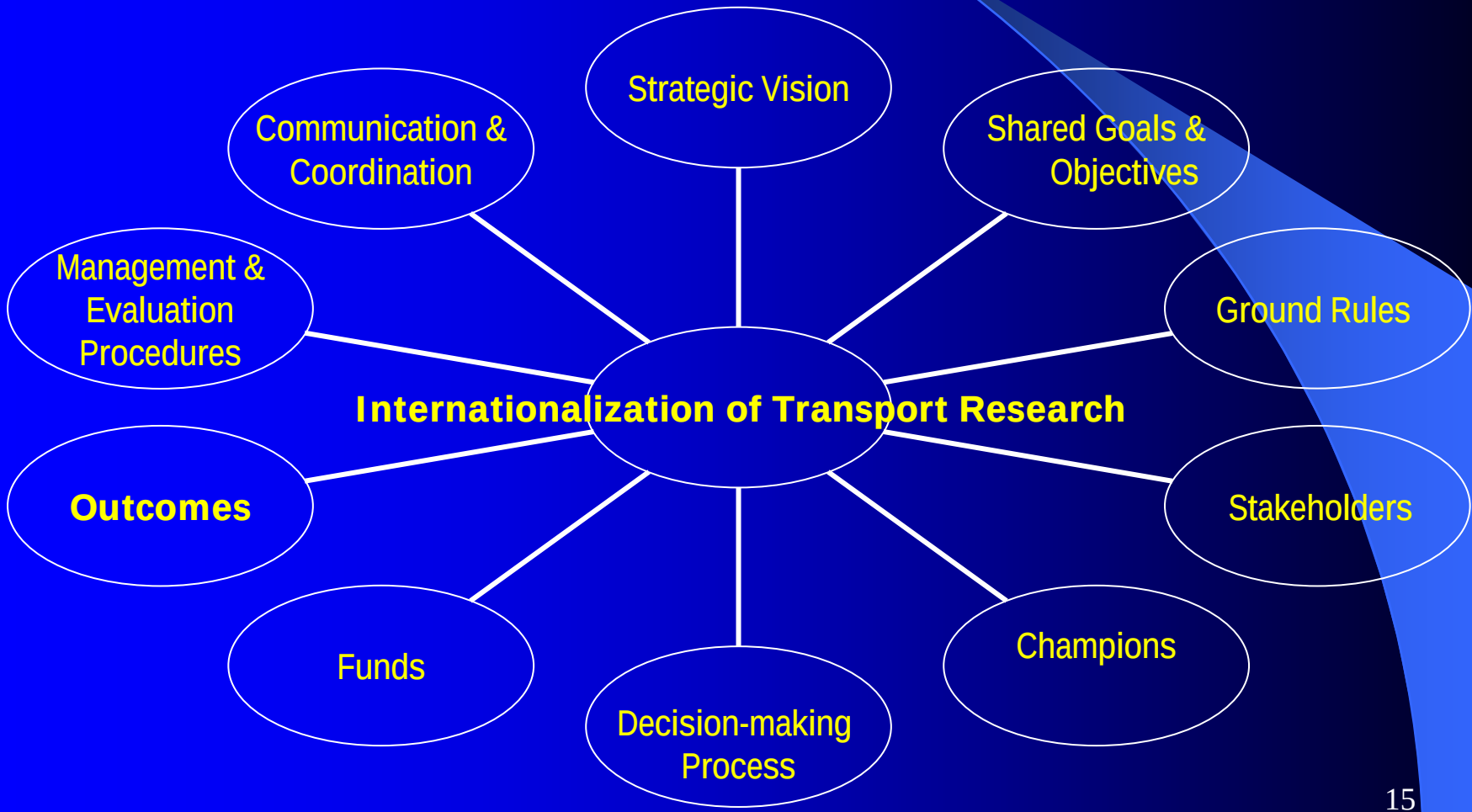
Examples:

- Generation of knowledge through R&T tracks created by a jointly developed R&T roadmap;
- Joint inquiry and generation of knowledge at a specific geographic location such as what Europe has done in the area of high energy physics

Ingredients for Successful Partnerships Across Borders



Necessary Factors for International RD&T



Traditional Models of Internationalizing RD&T at TRB

There are various models of collaborations to foster global R&T partnerships:

- **Interpersonal, dynamic, scientist-to-scientist research-initiated R&D collaborative activities.**
- **Organized, centralized, and government-driven R&D collaboration**

Innovative Frameworks of International Collaboration

- **Distributed collaboration, shared management structure that is not dependent on government-to-government agreements**

Innovative Frameworks of International Collaboration

- **Market-oriented collaboration where basic research may be publicly funded, but development is left to the market place**

Questions or Comments?