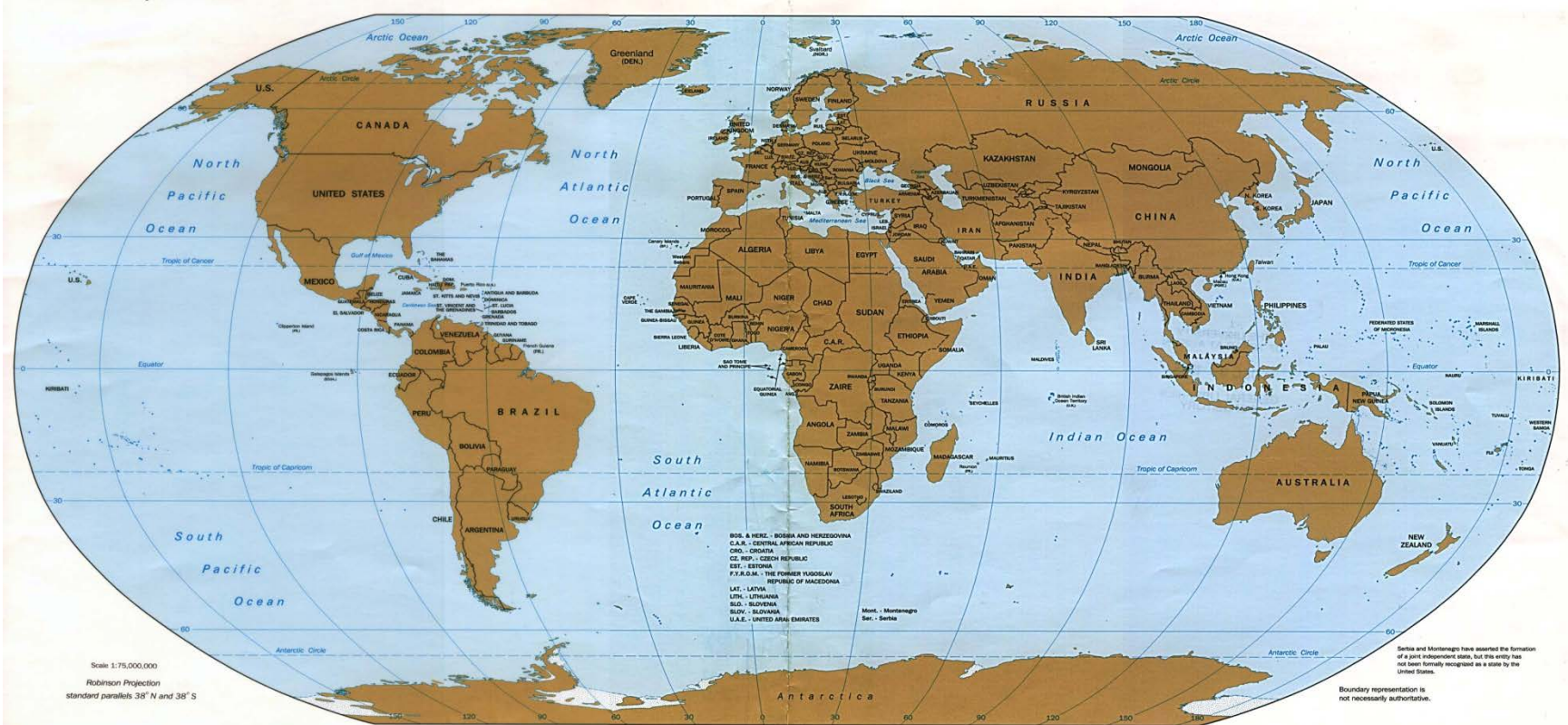


International Research Activities : Issues, Priorities and Lessons Learned- Summary Presentation



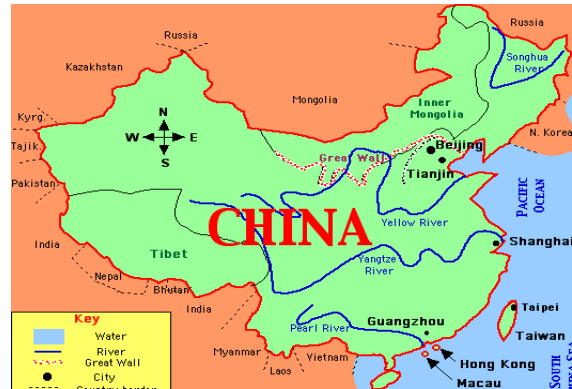
Kumares C. Sinha

TRB Executive Committee Meeting, Washington DC

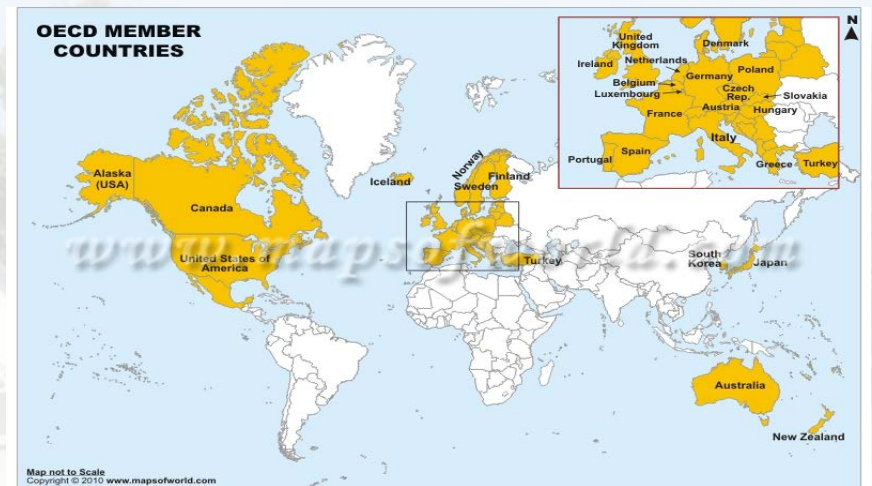
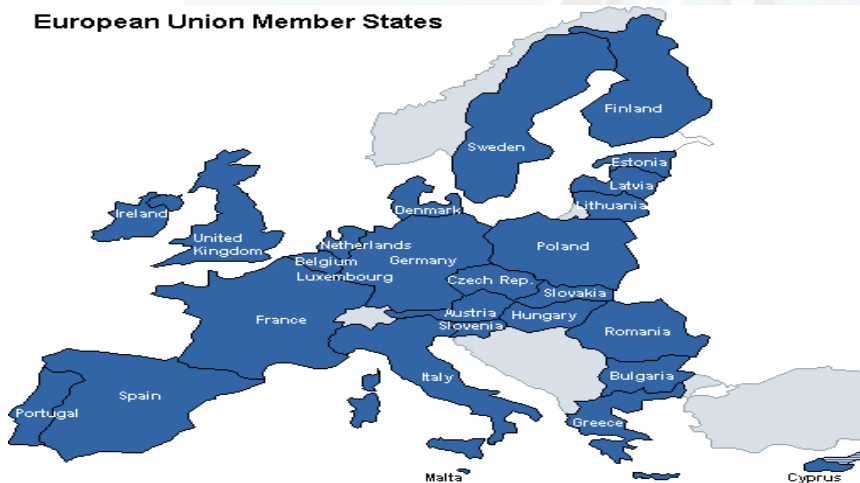
January 17, 2012

Characteristics of Research Agencies Represented

➤ 3 National (Mexico, China and South Korea)



➤ 2 Multinational (EU, OECD)



Primary Purpose for Transportation Research

- To Support National Objectives of Economic Development, and Social and Environmental Sustainability (National Agencies)
- To Serve as a Knowledge Base for Member States (EU/OECD)



Major Research Issues

- Economic Development/Sustainability/Competitiveness
 - Market Integration/Economic Growth/New Markets
 - Intermodal Competition and Logistics
 - Pricing
 - Regulatory Reform
 - Technology



Major Research Issues

➤ Social Sustainability

- Mobility
- Safety and Security
- Public Health
- Rural Accessibility
- Poverty Alleviation
- Quality of Life



Major Research Issues

- Environmental Sustainability
 - Air Quality
 - Carbon Reduction
 - Climate Change
 - Disaster Preparedness
 - Alternative Fuels
 - Green Growth



Phases of Research Emphasis

Economic

Social

Environmental

Level of Industrialization →

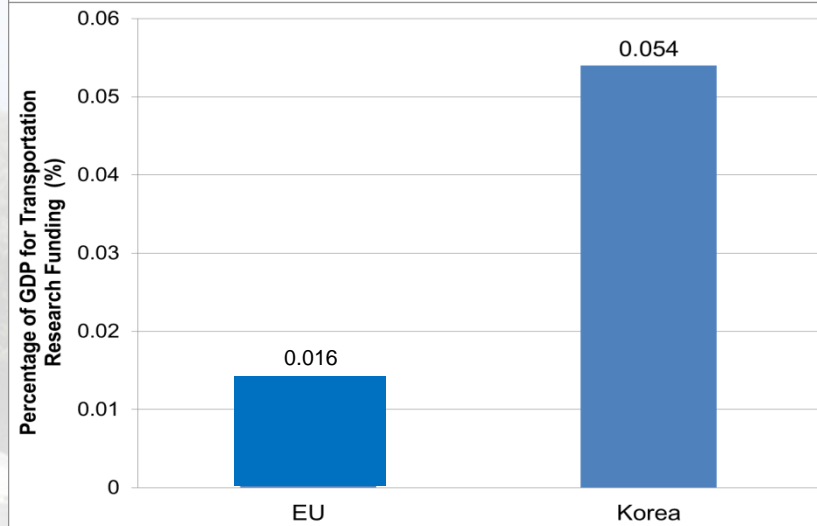
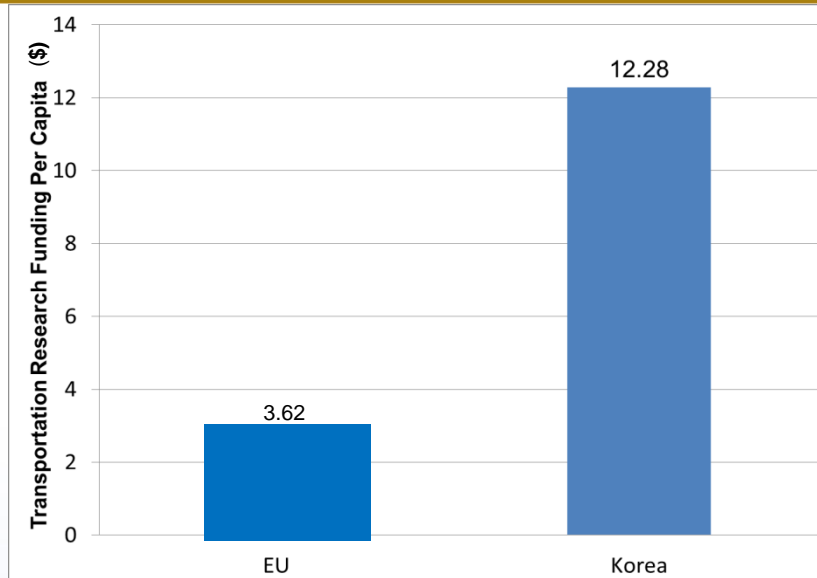
Examples of Major Policy Decisions

- Public Transportation Reform
- Infrastructure Renewal
- Expansion of Urban Rapid Transit and HSR Network
- Promotion of ITS
- Innovation in Financing Mechanism / PPP
- Use of New Materials, Processes, Equipment, and Procedures



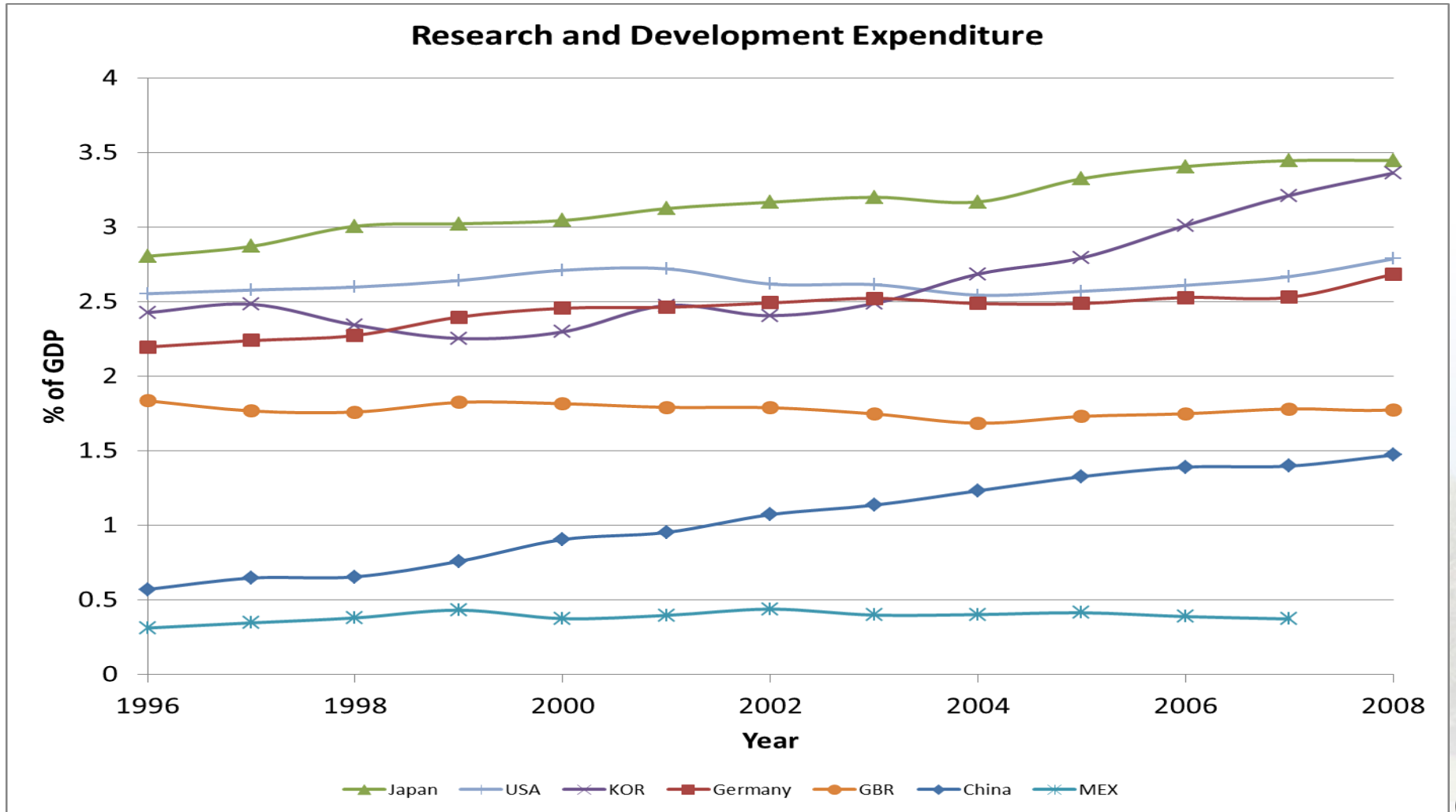
Research Funding

- **EU** : ~2 Billion Euro/ Year; Industrial Matching and Co-funding by Participating States
- **Korea**: US \$600 Million in 2013
- **China**: Funding from Enterprises; Govt. Support mainly for New Technology, Products, Processes and Business Models
- **OECD**: Member Countries' Fee Based



Total Research Funding

Trends in Total R&D Expenditure as a % of GDP can be Revealing.



Identification of Research Agenda

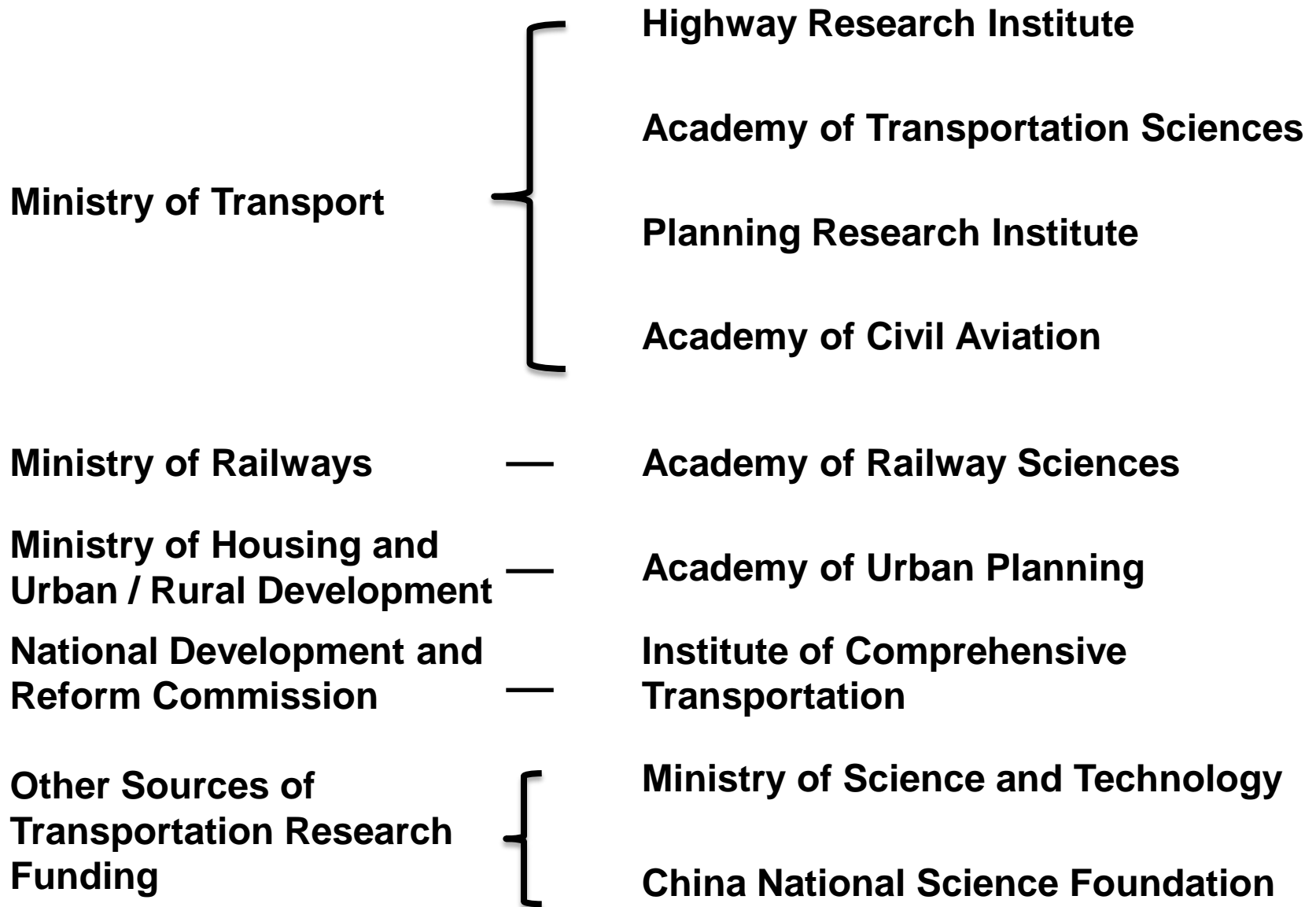
- Generated from Ministerial Policy Statements
(**Mexico**)
- Collaborative Process among Governmental Agencies, Research Institutes, and the Private Sector
(**Korea**)
- “Market Points The Way” – Enterprises, Institutes, and Universities (**China**)
- Collaborative Process among Member States, Private Sector, and Other Stakeholders (**EU**)
- Members’ Requirements and Urgent Requests
(**OECD**)

Conduct of Research

- Institutes
 - In-House / Out-source
- Universities / National Laboratories
- Multiple Players



Transportation Research Related Units in China



Take Aways

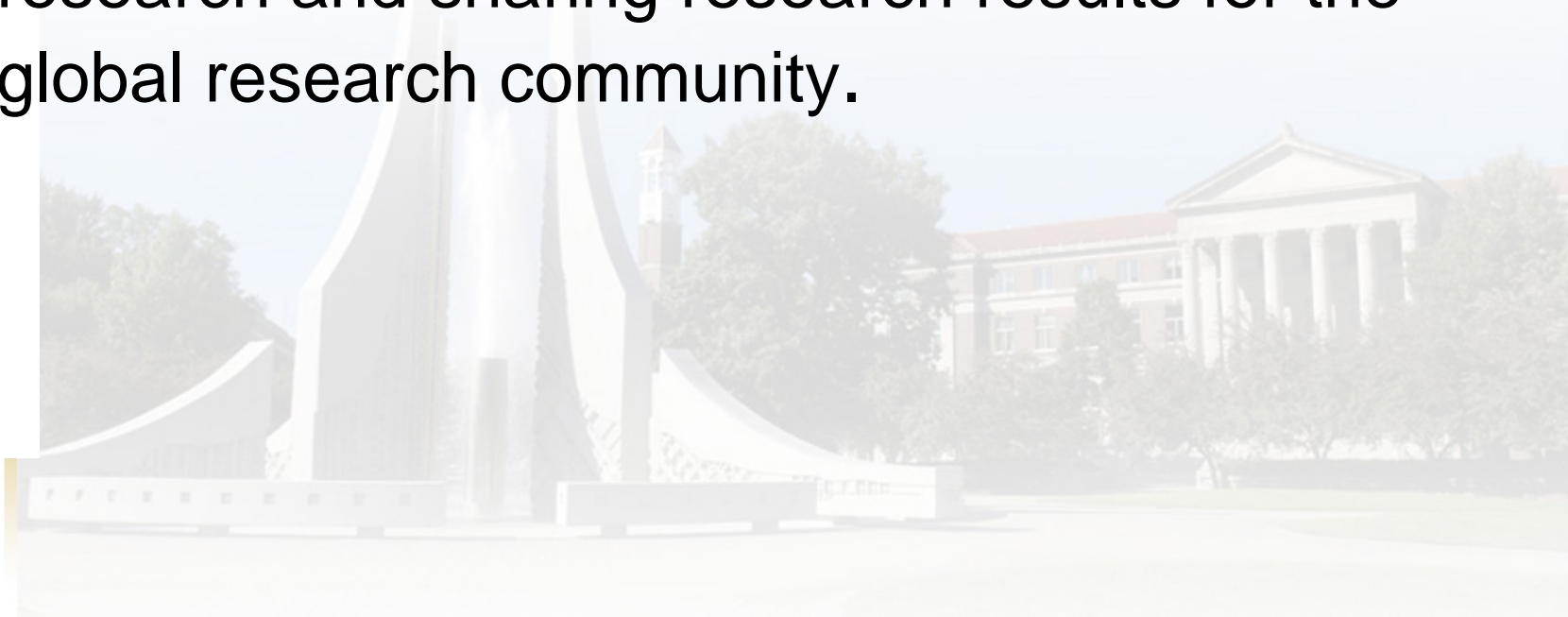
- Research areas are mostly common in all countries with varying emphasis on each area depending on the level of industrialization.
- Transportation research is viewed as a part of efforts to aid the national economy.
- Research frameworks are developed strategically to support national goals and objectives.
- Research processes engage stakeholders to own, contribute, and participate through co-operative partnerships.

Take Aways

- Private sector (enterprises) plays an active role in transportation research.
- Transportation research funding levels in some countries are higher than in the USA.
- Conduct of research through institutes is common in other countries.
- No definite process for research implementation and research performance evaluation except progress monitoring.

Take Aways

- All agencies have some form of international outreach program.
- ITF and other forums provide significant opportunities for partnering in international research and sharing research results for the global research community.



What Can TRB and Partners Do?

- Establish a process for nationally coordinated strategic multimodal transportation research high up in the decision stream (cross-departmental, involving transportation, energy, HUD, EPA, and others).
- Examine in detail the functioning of research institutes in other countries for possible consideration as a model for fostering cooperation and innovation.
- Remove barriers to allow the private sector to be an active partner in achieving innovation.

What Can TRB and Partners Do?

- Organize a periodic peer exchange process to develop a common platform for sharing databases, partnering in common research interests, disseminating research results, research benchmarking, and standardization.
- Take leadership, in partnership with ITF and other organizations, in formulating global strategic transportation research programs in such areas as carbon reduction, climate change adaptation, transportation safety and security, and disaster preparedness.

