United States Infrastructure vs. Spain

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Major: Civil Engineering & International Affairs

Minor: Spanish

Photo courtesy of MIT Technology Review

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Málaga, Spain

Part of the ‘Costa del Sol’ in Andalucia, Spain

http://www.spanishpromotions.com/images/malaga5_3.jpg
Infrastructure Defined

- A broad spectrum of engineering disciplines: i.e. water and wastewater treatment, roads and bridges, and public parks and recreation facilities

- The focus of this research was narrowed to bridges and roads only
The America Society of Civil Engineers

- A professional society representing civil engineers across the nation

- ASCE publishes a ‘report card’ on the quality of infrastructure within the U.S.

2009 Grades

- Aviation: D
- Bridges: C
- Dams: D
- Drinking Water: D-
- Energy: D+
- Hazardous Waste: D
- Inland Waterways: D
- Levees: D-
- Public Parks and Recreation: C-
- Rail: C-
- Roads: D
- Schools: D
- Solid Waste: C+
- Transit: D
- Wastewater: D

America’s Infrastructure GPA: D
Estimated 5 Year Investment
Need: $2.2 Trillion

www.asce.org
Why are Sources of Funding Important for Infrastructure?

- Funding is needed:
  - To ensure the newest health standards are met
  - To inspect and repair bridges
  - For efficiency
  - For the health and safety of the general public
The United States: Funding

- Depends greatly on the money allocated by the federal government for infrastructure projects
- Government covers a portion of the capital cost and cost of future improvements
In 2009, The American Recovery and Reinvestment Act (ARRA) provided funding of $150 billion to infrastructure sectors.

ASCE estimates that to bring the poor infrastructure conditions (Grade D) back to good (Grade B), $2.2 trillion dollars will need to be invested.
The United States: Infrastructure Today

- Demand for infrastructure repair being greater than money from federal and state grants for repairs.
- Many structures do not receive all of the maintenance needed.
- Restriction signs.
The United States: Bridges

- Design life of 50 years, the average bridge in US is now 43 years old
- In 2000 there were 16 major bridge collapses across the world, 7 were in the US
- In 2008 approximately 1/4 of rural bridges were deficient, while 1/3 of urban bridges were deficient
The United States: Roads

- 4.2 billion hours/year stuck in traffic
- $78.2 billion/year in wasted time and fuel costs (approx. $710 per motorist)
- Excessive wear and tear on vehicles
- Increased numbers of crashes and delays
Public-Private Partnerships

- Public Private Partnerships (PPP’s) are an alternative form of funding, in comparison to federal funding for projects such as infrastructure.

- Purpose: To more efficiently and economically deliver a needed project or service that would otherwise have been provided by the government through the traditional public sector.

Spain: Funding

- Spanish Civil war ended in 1939
- The country and its citizens were left poor
- To improve the economy, but not ‘dip into the pockets’ of the citizens for funding, the government sought out private companies for the initial cost
- Repaid companies with tolls collected from highway travelers
Spain: Funding

- The Association of Turnpikes, Tunnels, Bridges and other Toll Road (ASETA)
- A professional association for companies that have been awarded at least one concession to build, maintain and operate
Spain: Why Continue Privatization?

- Roads are not free: they are paid for by either users (tolls), or taxpayers (taxes)
- Payment by the user is the fairest and best solution for the financing of Road Infrastructures
- Foreigners driving through Spain are not subject to paying taxes, but can contribute to the financing of the Infrastructure they use
- Private financing (tolls) of Infrastructures frees public funds should be used for other priorities
Spain: Roads

- Autopistas are the privately owned expressways with tolls
- Are in excellent condition

Spain: Bridges

- Also privately owned and financed with tolls

Conclusions

- The US has been significantly slower to open its doors to private partnership investments.

- Increasingly tight budgetary constraints and significant infrastructure needs.

- A growing recognition that private partnership involvement in the construction and management of public infrastructure is desirable.
Conclusions

 Need to find a balance of funding sources in the US

 Spain has spent the last 60 years funding infrastructure projects with private partnerships, and as a result has received consistent funding for maintenance