

American Recovery and Reinvestment Act



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Modernize federal infrastructure

- \$46 billion for transportation and mass transit projects
- \$31 billion to modernize federal buildings
- \$6 billion in water projects

Increase alternative energy production

- \$17 billion in renewable energy tax cuts
- \$5 billion to weatherize homes

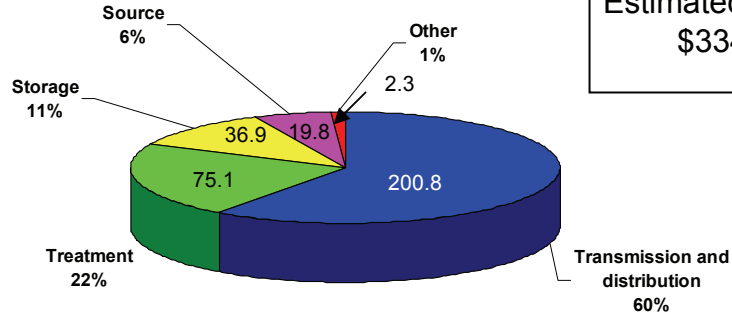
Increase alternative energy production

- \$6 billion in clean water and drinking water state revolving fund
- \$1.38 billion for the USDA rural water and waste disposable program

Sources: Associated Press, Bloomberg, Wall Street Journal, About.com, Water Environment Federation.

Total 20-year need for water infrastructure

U.S.\$ billions, 2007



Estimated total need:
\$334 billion

Total 20-year need for water infrastructure



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Selected states, U.S.\$ billions, 2007

State	Total 20-year need
California	39
New York	27
Texas	26
Illinois	15
Florida	13
Ohio	13
Michigan	12
Pennsylvania	11
North Carolina	10
Washington	10

Source: U.S. Environmental Protection Agency.

Estimated 5-year investment needs in the U.S.



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U.S.\$ billions, 2009

Category	5-year need	Estimated actual spending	American Recovery and Reinvestment Act	Five-year investment shortfall
Aviation	87	45	1	-41
Dams	13	5	0	-7
Drinking water and wastewater	255	140	6	-109
Energy	75	35	11	-30
Hazardous waste and solid waste	77	33	1	-43
Inland waterways	50	25	4	-21
Levees	50	1	0	-49
Public parks and recreation	85	36	1	-48
Rail	63	42	9	-12
Roads and bridges	930	352	28	-550
Discretionary grants for surface transportation			2	
Transit	265	67	8	-190
Total	1,950	779	72	-1,098

Source: American Society of Civil Engineers.

Annual grade of U.S. infrastructure

2009



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Type of infrastructure	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 -
Rails	C -
Roads	D -
Schools	D
Solid waste	C +
Transit	D
Wastewater	D -
America's infrastructure GPA	D

Source: American Society of Civil Engineers.

Most congested cities in the U.S.

2009



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Rank	Congested cities	Hours of delay per traveler
1	Los Angeles/Long Beach-Santa Ana, CA	72
2	San Francisco-Oakland, CA	60
3	Washington, DC-VA-MD	60
4	Atlanta, GA	60
5	Dallas-Fort Worth-Arlington, TX	58
6	Houston, TX	56
7	Detroit, MI	54
8	Miami, FL	50
9	Phoenix, AZ	48
10	Chicago, IL-IN	46

Source: American Society of Civil Engineers.

Busiest airports in the U.S.

Number of passengers boarding a plane, 2007



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Rank	U.S. Airports	Number of passengers, millions	Percent growth (2006-2007)
1	Hartsfield - Jackson Atlanta International, Atlanta, GA	43.2	4.6
2	Chicago O'Hare International, Chicago, IL	36.5	-0.8
3	Los Angeles International, Los Angeles, CA	30.1	2.6
4	Dallas/Fort Worth International, Dallas, TX	28.5	-0.5
5	Denver International, Denver, CO	24.1	5.7
6	John F Kennedy International, New York, NY	23.4	11.1
7	McCarran International, Las Vegas, NV	22.5	2.3
8	Phoenix Sky Harbor International, Phoenix, AZ	20.8	1.0
9	George Bush Intercontinental/Houston, Houston, TX	20.8	1.4
10	Newark Liberty International, Newark, NJ	18.2	2.0

Source: U.S. Federal Aviation Administration.

Busiest airports in the U.S. (cont.)

Number of passengers boarding a plane, 2007



Rank	U.S. Airports	Number of passengers, millions	Percent growth (2006-2007)
11	Orlando International, Orlando, FL	17.6	4.8
12	Detroit Metropolitan Wayne County, Detroit, MI	17.5	0.1
13	San Francisco International, San Francisco, CA	17.3	6.4
14	Minneapolis-St. Paul International/Wold-Chamberlain, Minneapolis, MN	17.0	-1.3
15	Charlotte/Douglas International, Charlotte, NC	16.6	12.4
16	Miami International, Miami, FL	16.2	3.4
17	Philadelphia International, Philadelphia, PA	15.7	1.7
18	Seattle-Tacoma International, Seattle, WA	15.4	4.9
19	General Edward Lawrence Logan International, Boston, MA	13.8	1.8
20	Fort Lauderdale/Hollywood International, Fort Lauderdale, FL	11.1	8.6

Source: U.S. Federal Aviation Administration.

Busiest airports in the U.S. by landed weight

2007

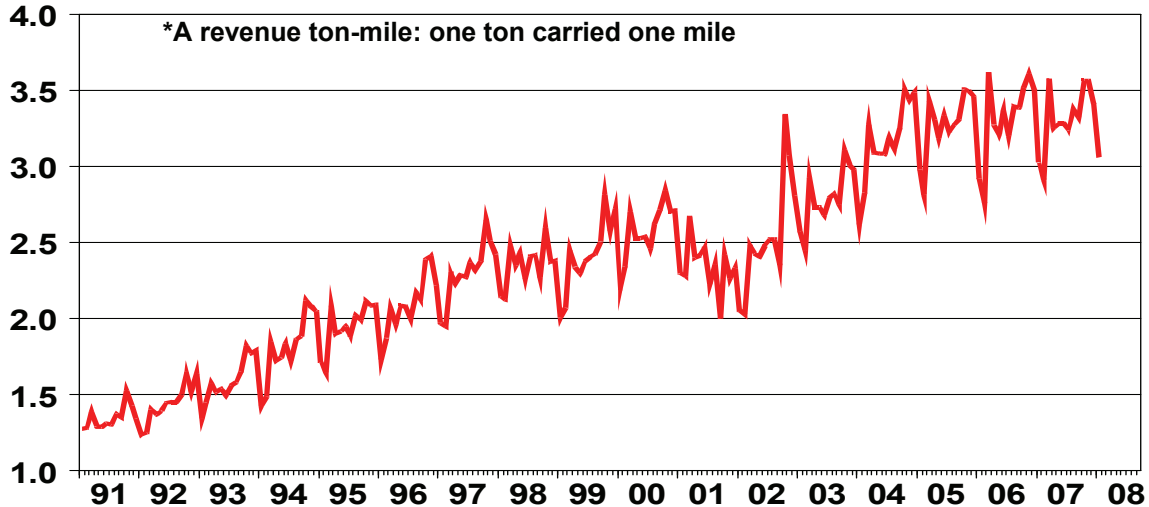
Rank	U.S. Airports	Landed weight, 2007 (billions)	Percent growth (2006-2007)
1	Ted Stevens Anchorage International, Anchorage, AK	21	-0.2
2	Memphis International, Memphis, TX	19	3.7
3	Louisville International-Standiford Field, Louisville, KY	10	4.0
4	Miami International, Miami, FL	7	3.5
5	Los Angeles International, Los Angeles, CA	6	-5.4
6	Indianapolis International, Indianapolis, IN	5	1.0
7	John F. Kennedy International, New York, NY	5	-2.2
8	Chicago O'Hare International, Chicago, IL	4	-0.3
9	Newark Liberty International, Newark, NJ	3	0.4
10	Metropolitan Oakland International, Oakland, CA	3	0.8

Source: U.S. Federal Aviation Administration.



U.S. airport freight activity

Billion revenue ton-miles*



Source: U.S. Department of Transportation.

Largest ports in the U.S.

By goods value, 2005



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Rank	U.S. Ports	Cargo value, U.S.\$ billions
1	Los Angeles, CA	135
2	New York, NY	131
3	Long Beach, CA	125
4	Houston, TX	86
5	Charleston, SC	52
6	Hampton Roads, VA	45
7	Baltimore, MD	36
8	Seattle, WA	35
9	Tacoma, WA	34
10	Savannah, GA	33

Source: American Association of Port Authorities.

Largest ports in the U.S.

By cargo volume, 2007



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Rank	U.S. Ports	Cargo volume, million tons
1	South Louisiana	229
2	Houston, TX	216
3	New York-New Jersey	157
4	Long Beach, CA	86
5	Beaumont, TX	81
6	Corpus Christi, TX	81
7	Huntington, WV-KY-OH	76
8	New Orleans, LA	76
9	Los Angeles, CA	66
10	Mobile, AL	64

Source: American Association of Port Authorities.



“China spends 9 percent of its gross domestic product (GDP) on infrastructure and India budgets 3.5 percent ... while aiming to increase its allocation to 8 percent. By comparison, the United States budgets \$112.9 billion or just 0.93 percent of its GDP, and sidesteps the reality of a ballooning \$1.6 trillion deficit for necessary upgrades over the next five years.”

—Infrastructure 2007: A Global Perspective

Sources: Urban Land Institute, Ernst & Young.

U.S. mobility

2005



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Performance measure	Statistics
Congested travel	56% of total travel during peak hours
Congested system	45% of total lane miles
Total travel delay	4.2 billion hours
Travel delay per peak time traveler	38 hours
Cost generated by the travel delay	\$78.1 billion*
Cost per peak time traveler	\$707*

*Nominal

Source: Texas Transportation Institute.

U.S. bridge conditions

	Number	Percent
All bridges	597,876	100.0
Deficient	152,480	25.5
Structurally deficient	72,033	12.0
Functionally obsolete	80,447	13.5

Source: U.S. Department of Transportation.



President Obama's high-speed passenger rail plan

The blueprint

- 10 potential high-speed intercity corridors for federal funding in California, the Pacific Northwest, the Midwest, the Southeast, the Gulf Coast, Pennsylvania, Florida, New York and New England
- Each corridor would be from 100 and 600 miles long
- Top speed of some trains would exceed 150 mph

Funding for the project

- Partial funding from \$787 billion stimulus plan, which includes a total of \$8 billion for improvements in rail services
- A five-year, \$5 billion investment in high-speed rail as part of administration's proposed 2010 budget

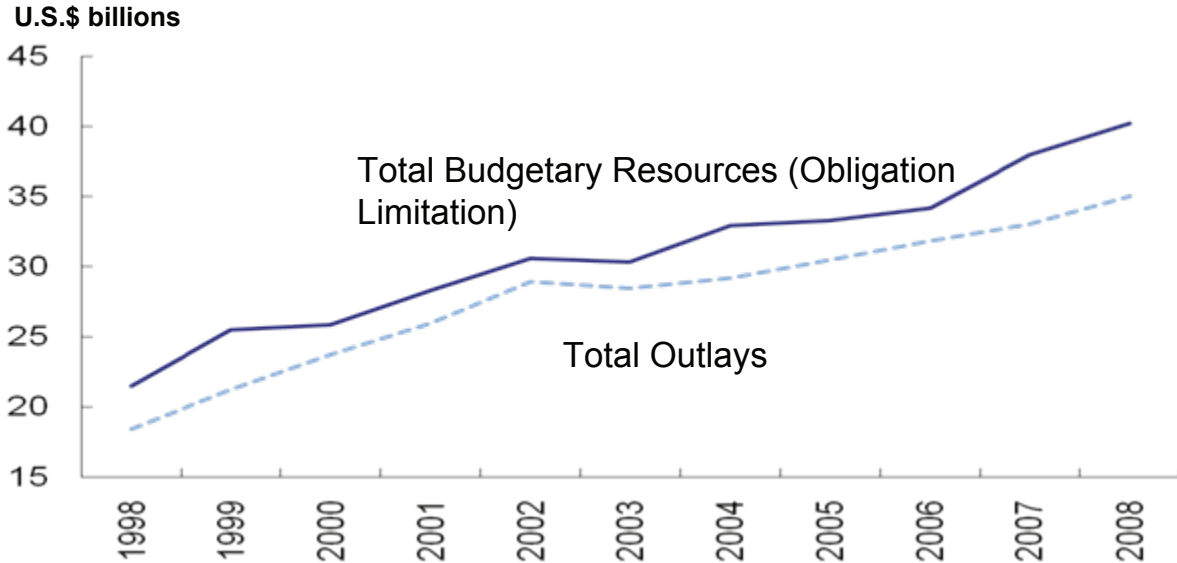
Effect of ARR plan's infrastructure spending

Thousands of jobs created in Q4 2010

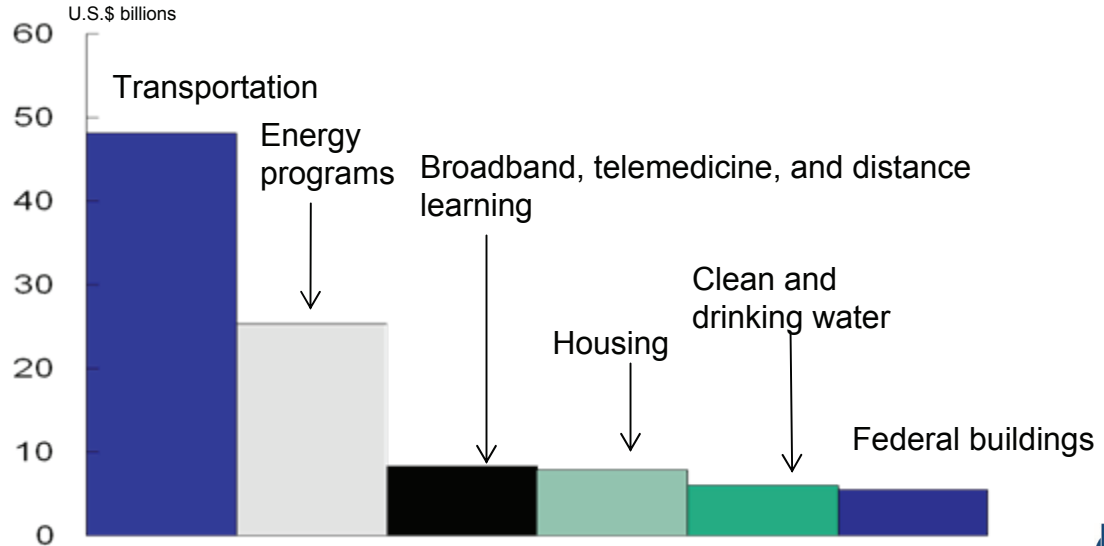
	Direct effect	Indirect effect	Total effect
United States	236	142	378

Source: The White House.

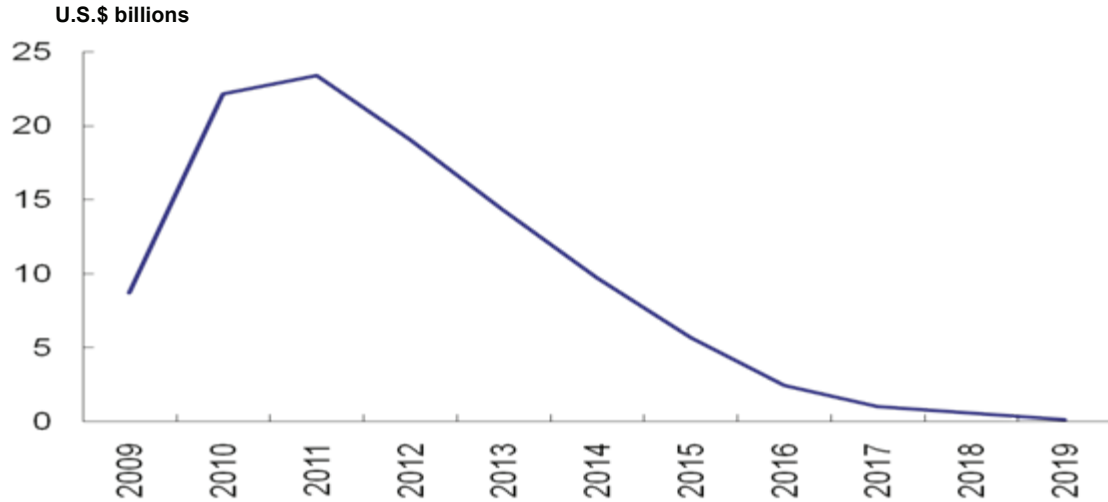
Budgetary resources and outlays for highways



Infrastructure outlays from the American Recovery and Reinvestment Act



Infrastructure outlays as a result of the American Recovery and Reinvestment Act



What's underneath our roads?



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Water main break in Montgomery County, MD: December 2008



Washington Beltway



Perkins, Road Map of Washington D.C., Behavior/Washington, Washington D.C.