

# **An Overview of Tennessee's Public Infrastructure Needs in the Context of the American Recovery and Reinvestment Act**

Lynnisse Roehrich-Patrick, Associate Executive Director  
Tennessee Advisory Commission on Intergovernmental Relations

27 January 2009

The economic stimulus plan proposed by President Obama and currently making its way through Congress has prompted considerable discussion of the nation's public infrastructure needs and whether investing in those needs can effectively stimulate an economy that is in its worst shape since the Great Depression. The short answer is that it can, partly because the current economic downturn is the worst seen since the Great Depression and is likely to last longer than it will take for funds spent on infrastructure to make their way into the broader economy.

For more than 10 years now, staff of the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) has maintained an annual inventory of public infrastructure needs reported by state and local officials in a broad range of categories. The good news is that this inventory has placed Tennessee in a unique position to comprehensively evaluate and report on its needs. The not so good news is that the needs reported by Tennessee's state and local government officials in the current inventory far exceed the amounts likely to come from the federal stimulus package, so tough decisions will have to be made.

## ***What does Tennessee's Public Infrastructure Needs Inventory indicate we need?***

Needs reported by Tennessee's state and local officials can be in any stage of development, from conceptual to nearly complete, but as of last July 1, about **\$10.1 billion** worth of projects were in the planning and design stage (see Table 1, attached). Some of those projects may have moved into the construction stage by now, and a few may be completed, but it is safe to assume that for each project that has moved on toward completion, some other need has since been identified. This estimate does not include needs at existing public schools because they may have multiple projects in different stages of development, but given that current estimates place total facilities needs at existing schools at more than \$1.8 billion, it is safe to say that school facilities needs in planning and design exceed any amounts likely to be allocated for them.

Officials report infrastructure needs for a number of reasons, but perhaps the most important ones are public health or safety and economic development. Of the total of \$10 billion in projects that are already in planning and design, \$6 billion is reported for projects that are needed for public health or safety reasons (see Table 2). Economic development was given as a reason for a total of \$1.4 billion dollars of needs (see Table 3). Tables 4 through 5 list totals by county for all projects in planning and design and those for which public health and safety or economic development is given as the reason for the need. Some projects may be needed for both reasons. Given that these projects are already in planning and design, it is unlikely that they are part of a "wish list."

Around 60% of the total for projects in planning and design is for transportation improvements. These projects may include anything from bridges to sidewalks, but \$4.2 billion of the total of

\$6.1 billion is needed for public health or safety reasons; \$1.1 billion is needed for economic development. Again, there may be some overlap in these two figures. Water and wastewater needs reported in planning and design exceed \$850 million, more than \$761 million of which is need for public health or safety reasons. Another \$1.1 billion is need for projects on the state's post-secondary education campuses, and \$175 million of that is said to be needed for health or safety reasons. And a good bit of the \$335 million reported for new elementary and secondary schools, \$54.5 million, is also said to be needed for public health or safety reasons.

### ***How much is Tennessee likely to receive for these infrastructure needs?***

Based on a January 21, Congressional Research Service report, the version of the American Recovery and Reinvestment Act adopted by the House Appropriations Committee would allocate the following amounts for school infrastructure needs in Tennessee:

- Education Technology Grants, \$18.5 million
- Education Modernization, Renovation, and Repair, \$348 million

A Friday, January 23, FFIS (Federal Funds Information for States) report indicates that the bill will allocate another

- \$613 million for highways,
- \$88 million for clean water, and
- nearly \$21 million for drinking water.

According to the National Conference of State Legislatures' web site, the House version contains funding for "ready-to-go" infrastructure projects including transportation, energy, environment and schools; a temporary boost in the federal Medicaid match; a temporary extension of unemployment insurance benefits; tax relief for businesses and individuals; health information technology; a new smart grid for energy; an expansion of broadband and investing in science and technology. The Senate version includes funds for transportation projects, water systems, school construction, broadband, environmental facilities, education and training, research and development of renewable energy technologies, nutritional assistance, unemployment compensation, and Medicaid funding for states.

### ***Why does spending on infrastructure make sense in this economy?***

Mark Zandi, chief economist for Moody's Economist.com, in a report issued last week on the economic impact of the proposed legislation, calls increased infrastructure spending "a particularly effective way to stimulate the economy," noting that a dollar spent on public infrastructure boosts GDP \$1.59. Mr. Zandi acknowledges that funds spent on infrastructure can take a long time to flow into the broader economy, but he goes on to say that the economy's current problems are likely to continue for some time, so while infrastructure spending may not help the economy quickly, compared with tax cuts and other aid to state and local governments, it will provide the more significant economic boost. And according to a brief report posted by Brookings on its website yesterday,

infrastructure spending is attractive as stimulus because it has the capacity to absorb large expenditures. Accelerating infrastructure spending into the next

year or two is one of the few productive ways to spend the vast sums needed to adequately stimulate the economy. While expenditures on other items that will presumably be part of any final stimulus package, such as food stamps, Medicaid and unemployment insurance, are also well targeted, they alone cannot accommodate the necessary level of spending.

To put the need in perspective, Mr. Zandi reports that, based on simulations of the Moody's Economy.com macroeconomic model system, with no fiscal stimulus other than programs already in place, "real GDP would decline for 8 straight quarters, falling by a stunning 4.2% in 2009 and another 2.2% in 2010." The House plan would reduce the fall in 2009 to 2.3% and return GDP to early 2007 levels by the end of 2010. Projections by the Congressional Budget Office (CBO) are more optimistic about the "no stimulus" economy. They indicate growth in real GDP of 1.5% in 2010, but even at that rate, they predict an unemployment rate in excess of 9% by early 2010. These figures are taken from testimony by the CBO's acting director on January 8, 2009, before the Senate Budget Committee.

**Preliminary**  
**Table 1. Public Infrastructure Improvements in Planning and Design**  
**July 1, 2008**

<b>Category and Project Type</b>	<b>Number of Projects</b>		<b>Estimated Cost</b>	
<b>Transportation and Utilities</b>	<b>949</b>	<b>43.4%</b>	<b>\$ 6,089,924,281</b>	<b>60.3%</b>
Transportation	932	42.6%	6,050,689,481	59.9%
Other Utilities	14	0.6%	35,326,000	0.3%
Telecommunications	3	0.1%	3,908,800	0.0%
<b>Health, Safety and Welfare</b>	<b>585</b>	<b>26.7%</b>	<b>\$ 1,635,334,528</b>	<b>13.7%</b>
Water & Wastewater	391	17.9%	852,117,583	8.4%
Law Enforcement	75	3.4%	417,470,619	4.1%
Stormwater	31	1.4%	116,134,660	1.2%
Public Health Facilities	24	1.1%	118,132,300	1.2%
Fire Protection	41	1.9%	67,787,649	0.7%
Housing	10	0.5%	43,324,717	0.4%
Solid Waste	13	0.6%	20,367,000	0.2%
<b>Education*</b>	<b>224</b>	<b>10.2%</b>	<b>\$ 1,411,759,223</b>	<b>14.0%</b>
Non K-12 Education	185	8.5%	1,053,446,500	10.4%
K-12 New School Construction	21	1.0%	335,166,812	3.3%
School System-wide Need	18	0.8%	23,145,911	0.2%
<b>Recreation and Culture</b>	<b>292</b>	<b>13.4%</b>	<b>\$ 555,096,300</b>	<b>5.5%</b>
Recreation	221	10.1%	402,519,599	4.0%
Community Development	35	1.6%	79,119,219	0.8%
Libraries, Museums, & Historic Sites	36	1.6%	73,457,482	0.7%
<b>General Government</b>	<b>83</b>	<b>3.8%</b>	<b>\$ 212,911,519</b>	<b>2.1%</b>
Public Buildings	76	3.5%	194,071,183	1.9%
Other Facilities	5	0.2%	16,659,325	0.2%
Property Acquisition	2	0.1%	2,181,011	0.0%
<b>Economic Development</b>	<b>54</b>	<b>2.5%</b>	<b>\$ 192,361,254</b>	<b>1.9%</b>
Business District Development	17	0.8%	108,580,254	1.1%
Industrial Sites & Parks	37	1.7%	83,781,000	0.8%
<b>Total</b>	<b>2,187</b>	<b>100%</b>	<b>\$ 10,097,387,105</b>	<b>100%</b>

\*Needs at existing schools are not included because a single school could have needs in different stages of development.

**Preliminary**  
**Table 2. Public Infrastructure Improvements in Planning and Design**  
**July 1, 2008**  
**Needed for Public Health or Safety**

<b>Category and Project Type</b>	<b>Number of Projects</b>		<b>Estimated Cost</b>	
<b>Transportation and Utilities</b>	<b>675</b>	<b>51.8%</b>	<b>\$ 4,178,608,307</b>	<b>69.2%</b>
Transportation	667	51.2%	4,157,849,507	68.8%
Other Utilities	5	0.4%	16,850,000	0.3%
Telecommunications	3	0.2%	3,908,800	0.1%
<b>Health, Safety and Welfare</b>	<b>527</b>	<b>40.5%</b>	<b>\$ 1,498,600,301</b>	<b>24.8%</b>
Water & Wastewater	345	26.5%	761,996,108	12.6%
Law Enforcement	75	5.8%	417,470,619	6.9%
Stormwater	27	2.1%	113,846,625	1.9%
Public Health Facilities	24	1.8%	118,132,300	2.0%
Fire Protection	41	3.1%	67,787,649	1.1%
Housing	5	0.4%	4,930,000	0.1%
Solid Waste	10	0.8%	14,437,000	0.2%
<b>Education*</b>	<b>23</b>	<b>1.8%</b>	<b>\$ 230,437,890</b>	<b>3.8%</b>
Non K-12 Education	18	1.4%	175,271,500	2.9%
K-12 New School Construction	3	0.2%	54,566,390	0.9%
School System-wide Need	2	0.2%	600,000	0.0%
<b>Recreation and Culture</b>	<b>42</b>	<b>3.2%</b>	<b>\$ 49,700,977</b>	<b>0.8%</b>
Recreation	36	2.8%	45,475,977	0.8%
Community Development	6	0.5%	4,225,000	0.1%
Libraries, Museums, & Historic Sites	0	0.0%	0	0.0%
<b>General Government</b>	<b>31</b>	<b>2.4%</b>	<b>\$ 75,268,000</b>	<b>1.2%</b>
Public Buildings	29	2.2%	69,108,000	1.1%
Other Facilities	2	0.2%	6,160,000	0.1%
Property Acquisition	0	0.0%	0	0.0%
<b>Economic Development</b>	<b>4</b>	<b>0.3%</b>	<b>\$ 7,592,134</b>	<b>0.1%</b>
Business District Development	2	0.2%	5,892,134	0.1%
Industrial Sites & Parks	2	0.2%	1,700,000	0.0%
<b>Total</b>	<b>1,302</b>	<b>100%</b>	<b>\$ 6,040,207,609</b>	<b>100%</b>

\*Needs at existing schools are not included because a single school could have needs in different stages of development.

**Preliminary**  
**Table 3. Public Infrastructure Improvements in Planning and Design**  
**July 1, 2008**  
**Needed for Economic Development**

<b>Category and Project Type</b>	<b>Number of Projects</b>		<b>Estimated Cost</b>	
<b>Transportation and Utilities</b>	<b>88</b>	<b>44.0%</b>	<b>\$ 1,058,409,019</b>	<b>74.3%</b>
Transportation	85	42.5%	1,051,659,019	73.8%
Other Utilities	3	1.5%	6,750,000	0.5%
Telecommunications	0	0.0%	0	0.0%
<b>Health, Safety and Welfare</b>	<b>36</b>	<b>18.0%</b>	<b>\$ 70,613,703</b>	<b>5.0%</b>
Water & Wastewater	33	16.5%	68,013,703	4.8%
Law Enforcement	0	0.0%	0	0.0%
Stormwater	1	0.5%	2,000,000	0.1%
Public Health Facilities	0	0.0%	0	0.0%
Fire Protection	1	0.5%	350,000	0.0%
Housing	0	0.0%	0	0.0%
Solid Waste	1	0.5%	250,000	0.0%
<b>Education*</b>	<b>2</b>	<b>1.0%</b>	<b>\$ 44,200,000</b>	<b>3.1%</b>
Non K-12 Education	2	1.0%	44,200,000	3.1%
K-12 New School Construction	0	0.0%	0	0.0%
School System-wide Need	0	0.0%	0	0.0%
<b>Recreation and Culture</b>	<b>16</b>	<b>8.0%</b>	<b>\$ 51,339,797</b>	<b>3.6%</b>
Recreation	5	2.5%	9,377,529	0.7%
Community Development	8	4.0%	36,605,298	2.6%
Libraries, Museums, & Historic Sites	3	1.5%	5,356,970	0.4%
<b>General Government</b>	<b>8</b>	<b>4.0%</b>	<b>\$ 34,414,371</b>	<b>2.4%</b>
Public Buildings	7	3.5%	34,264,371	2.4%
Other Facilities	1	0.5%	150,000	0.0%
Property Acquisition	0	0.0%	0	0.0%
<b>Economic Development</b>	<b>50</b>	<b>25.0%</b>	<b>\$ 165,811,254</b>	<b>11.6%</b>
Business District Development	14	7.0%	82,280,254	5.8%
Industrial Sites & Parks	36	18.0%	83,531,000	5.9%
<b>Total</b>	<b>200</b>	<b>100%</b>	<b>\$ 1,424,788,144</b>	<b>100%</b>

\*Needs at existing schools are not included because a single school could have needs in different stages of development.

**Preliminary**  
**Table 4. Public Infrastructure Improvements in Planning and Design**  
**July 1, 2008**

<b>County</b>	<b>Number of Projects</b>	<b>Estimated Cost</b>
Anderson	27	\$ 80,395,214
Bedford	30	164,400,070
Benton	3	1,405,048
Bledsoe	3	3,297,479
Blount	32	132,375,187
Bradley	13	9,899,756
Campbell	13	35,137,916
Cannon	3	2,450,000
Carroll	10	4,222,873
Carter	12	69,628,000
Cheatham	12	12,056,519
Chester	3	1,950,000
Claiborne	11	83,047,459
Clay	4	6,384,000
Cocke	18	200,816,184
Coffee	26	99,640,052
Crockett	2	100,000
Cumberland	27	135,328,662
Davidson	145	871,283,277
Decatur	10	18,892,500
DeKalb	8	48,335,000
Dickson	12	27,272,319
Dyer	8	3,779,492
Fayette	12	89,146,884
Fentress	11	39,523,900
Franklin	13	14,338,339
Gibson	14	24,633,175
Giles	18	52,946,256
Grainger	7	77,392,000
Greene	7	19,493,900
Grundy	9	10,248,000
Hamblen	19	93,247,140
Hamilton	49	122,284,377
Hancock	4	2,313,000
Hardeman	21	146,245,804
Hardin	16	151,612,871
Hawkins	13	58,772,186
Haywood	8	39,743,725
Henderson	14	95,114,454
Henry	7	3,025,000
Hickman	20	26,115,902
Houston	7	5,274,715
Humphreys	8	33,036,350
Jackson	8	4,980,086
Jefferson	17	88,794,760
Johnson	5	2,199,962
Knox	71	455,879,026
Lake	4	27,920,000

**Table 4. Public Infrastructure Improvements in Planning and Design  
July 1, 2008**

<b>County</b>	<b>Number of Projects</b>	<b>Estimated Cost</b>
Lauderdale	6	12,934,341
Lawrence	23	105,575,043
Lewis	13	6,425,000
Lincoln	13	5,726,613
Loudon	34	224,504,025
McMinn	8	4,807,710
McNairy	21	61,496,733
Macon	21	102,699,523
Madison	25	125,754,279
Marion	13	31,540,640
Marshall	16	19,332,447
Maury	28	93,496,852
Meigs	5	16,294,686
Monroe	13	27,796,075
Montgomery	64	211,943,969
Moore	2	1,740,000
Morgan	14	54,211,566
Obion	16	10,965,323
Overton	11	49,728,500
Perry	6	2,323,628
Pickett	5	5,325,000
Polk	8	5,979,000
Putnam	37	161,463,772
Rhea	2	686,576
Roane	31	50,421,272
Robertson	34	78,784,789
Rutherford	56	290,700,664
Scott	10	50,751,646
Sequatchie	2	193,118
Sevier	54	288,868,418
Shelby	170	1,543,706,302
Smith	16	26,796,000
Stewart	10	11,619,000
Sullivan	48	81,870,850
Sumner	52	192,177,283
Tipton	17	131,074,284
Trousdale	8	67,241,251
Unicoi	3	18,932,700
Union	6	49,858,000
Van Buren	3	7,831,000
Warren	14	32,492,915
Washington	37	177,710,421
Wayne	12	73,388,686
Weakley	11	5,265,269
White	3	3,215,000
Williamson	54	417,945,729
Wilson	22	105,330,784
Multi-county	296	1,352,081,607
<b>Total</b>	<b>2,187</b>	<b>\$ 10,097,387,105</b>

Preliminary  
**Table 5. Public Infrastructure Improvements in Planning and Design**  
*July 1, 2008*  
**Needed for Public Health or Safety**

<b>County</b>	<b>Number of Projects</b>	<b>Estimated Cost</b>
Anderson	16	\$ 37,942,540
Bedford	13	88,430,828
Benton	2	1,134,000
Bledsoe	2	3,090,000
Blount	21	28,260,319
Bradley	12	9,024,756
Campbell	6	29,220,000
Cannon	2	1,150,000
Carroll	5	2,989,732
Carter	12	69,628,000
Cheatham	9	10,510,200
Chester	2	550,000
Claiborne	6	53,816,773
Clay	3	6,204,000
Cocke	11	110,291,184
Coffee	19	84,497,638
Crockett	1	50,000
Cumberland	17	71,404,000
Davidson	77	373,015,772
Decatur	9	18,192,500
DeKalb	7	30,135,000
Dickson	4	2,100,000
Dyer	7	3,545,608
Fayette	8	63,482,746
Fentress	8	33,623,900
Franklin	8	11,330,000
Gibson	13	8,133,175
Giles	16	52,246,256
Grainger	4	42,000,000
Greene	4	18,093,900
Grundy	8	10,163,000
Hamblen	10	25,828,750
Hamilton	38	101,923,544
Hancock	2	1,104,000
Hardeman	18	145,391,804
Hardin	10	138,399,600
Hawkins	11	48,115,186
Haywood	5	37,125,665
Henderson	11	94,097,027
Henry	3	925,000
Hickman	17	23,890,902
Houston	1	500,000
Humphreys	3	25,860,350
Jackson	7	4,230,086
Jefferson	12	86,555,000
Johnson	5	2,199,962
Knox	48	297,259,618
Lake	3	13,720,000

**Table 5. Public Infrastructure Improvements in Planning and Design  
July 1, 2008  
Needed for Public Health or Safety**

<b>County</b>	<b>Number of Projects</b>	<b>Estimated Cost</b>
Lauderdale	3	1,660,580
Lawrence	13	94,118,284
Lewis	8	4,595,000
Lincoln	9	4,531,256
Loudon	24	169,357,900
McMinn	5	3,647,000
McNairy	17	57,915,961
Macon	19	65,189,523
Madison	22	123,491,973
Marion	10	30,930,000
Marshall	10	17,361,447
Maury	15	68,465,000
Meigs	3	447,464
Monroe	8	15,917,000
Montgomery	36	153,647,765
Moore	2	1,740,000
Morgan	8	6,982,000
Obion	13	7,121,890
Overton	8	46,750,000
Perry	1	300,000
Pickett	5	5,325,000
Polk	7	5,723,000
Putnam	26	125,030,652
Rhea	1	500,000
Roane	22	32,086,873
Robertson	22	69,623,789
Rutherford	31	177,114,903
Scott	5	46,000,000
Sequatchie	1	75,000
Sevier	33	139,351,057
Shelby	109	1,062,538,756
Smith	11	25,003,000
Stewart	5	6,150,000
Sullivan	31	59,361,050
Sumner	28	117,311,123
Tipton	9	21,368,526
Trousdale	6	63,698,228
Unicoi	1	432,700
Union	3	7,597,000
Van Buren	2	7,200,000
Warren	10	25,372,915
Washington	28	157,685,341
Wayne	8	72,264,686
Weakley	8	4,720,205
White	3	3,215,000
Williamson	34	181,483,778
Wilson	9	50,144,663
Multi-county	74	378,278,000
<b>Total</b>	<b>1,302</b>	<b>\$ 6,040,207,609</b>

**Preliminary**  
**Table 6. Public Infrastructure Improvements in Planning and Design**  
**July 1, 2008**  
**Needed for Economic Development**

<b>County</b>	<b>Number of Projects</b>	<b>Total Estimated Cost</b>
Anderson	0	\$ 0
Bedford	2	21,800,000
Benton	0	0
Bledsoe	0	0
Blount	0	0
Bradley	1	875,000
Campbell	1	242,929
Cannon	0	0
Carroll	0	0
Carter	1	30,700,000
Cheatham	1	2,500,000
Chester	2	1,850,000
Claiborne	1	3,500,000
Clay	0	0
Cocke	3	28,100,000
Coffee	2	1,850,000
Crockett	0	0
Cumberland	4	51,600,000
Davidson	6	103,414,000
Decatur	2	900,000
DeKalb	1	1,500,000
Dickson	2	1,900,000
Dyer	0	0
Fayette	2	23,350,000
Fentress	3	5,900,000
Franklin	1	1,000,000
Gibson	1	160,000
Giles	0	0
Grainger	1	592,000
Greene	4	17,503,900
Grundy	1	695,000
Hamblen	0	0
Hamilton	2	4,940,833
Hancock	2	1,209,000
Hardeman	4	38,450,000
Hardin	3	31,734,600
Hawkins	2	38,120,000
Haywood	1	1,930,000
Henderson	3	29,383,414
Henry	2	1,400,000
Hickman	1	1,300,000
Houston	2	1,700,000
Humphreys	1	25,000,000
Jackson	0	0
Jefferson	1	73,000
Johnson	0	0
Knox	2	3,840,000
Lake	1	14,200,000

**Table 6. Public Infrastructure Improvements in Planning and Design  
July 1, 2008  
Needed for Economic Development**

<b>County</b>	<b>Number of Projects</b>	<b>Total Estimated Cost</b>
Lauderdale	2	10,207,920
Lawrence	4	3,950,000
Lewis	1	500,000
Lincoln	1	500,000
Loudon	2	10,800,000
McMinn	1	500,000
McNairy	4	26,230,772
Macon	3	45,010,000
Madison	5	105,311,020
Marion	0	0
Marshall	2	450,000
Maury	4	6,100,000
Meigs	1	127,480
Monroe	2	2,489,475
Montgomery	3	6,688,120
Moore	0	0
Morgan	1	357,500
Obion	2	2,700,000
Overton	2	1,236,000
Perry	1	120,780
Pickett	0	0
Polk	2	1,756,000
Putnam	3	12,500,000
Rhea	1	186,576
Roane	2	4,600,000
Robertson	8	32,350,000
Rutherford	7	15,176,231
Scott	3	4,518,710
Sequatchie	0	0
Sevier	7	49,131,000
Shelby	10	312,634,555
Smith	0	0
Stewart	1	3,000,000
Sullivan	17	30,493,000
Sumner	9	32,806,560
Tipton	2	11,200,000
Trousdale	2	7,798,228
Unicoi	1	800,000
Union	0	0
Van Buren	0	0
Warren	0	0
Washington	2	86,000,000
Wayne	1	109,000
Weakley	0	0
White	0	0
Williamson	3	18,291,950
Wilson	7	38,400,000
Multi-county	2	46,543,591
<b>Total</b>	<b>200</b>	<b>\$ 1,424,788,144</b>