

Building Tennessee's Tomorrow: Anticipating the State's Infrastructure Needs *July 2011 through June 2016*

Infrastructure Needs Statewide

The estimated cost of public infrastructure needed statewide remains at \$37 billion.

State and local officials estimate the cost of public infrastructure improvements that should be started or completed sometime between July 1, 2011, and June 30, 2016, at \$37.1 billion, a decrease of approximately \$82.5 million (see table 4).¹ The cost reported in the inventories is still the highest ever, with transportation, water and wastewater, and education infrastructure needs dominating. Collectively, these types of infrastructure represent 85% of the total estimated costs reported (see figure 1).

**Table 4. Comparison of Estimated Cost of Needed Infrastructure Improvements
*July 2010 Inventory vs. July 2011 Inventory***

Category and Type of Need	July 2010 Inventory	July 2011 Inventory	Difference	Percent Change
Transportation and Utilities	\$19,005,989,502	\$20,220,785,127	\$ 1,214,795,625	6.4%
Transportation	18,745,623,793	20,029,354,418	1,283,730,625	6.8%
Other Utilities	243,565,709	172,130,709	(71,435,000)	-29.3%
Telecommunications	16,800,000	19,300,000	2,500,000	14.9%
Education	\$ 7,409,143,671	\$ 7,214,810,655	\$ (194,333,016)	-2.6%
Post-secondary Education & Preschools	3,641,579,205	3,545,708,199	(95,871,006)	-2.6%
Existing School Improvements	1,981,658,039	1,990,971,133	9,313,094	0.5%
New Public Schools	1,698,622,427	1,604,136,323	(94,486,104)	-5.6%
School System-wide	87,284,000	73,995,000	(13,289,000)	-15.2%
Health, Safety and Welfare	\$ 7,092,042,404	\$ 6,198,429,638	\$ (893,612,766)	-12.6%
Water and Wastewater	4,325,943,570	4,110,530,025	(215,413,545)	-5.0%
Law Enforcement	1,710,778,162	1,157,058,758	(553,719,404)	-32.4%
Public Health Facilities	474,612,100	426,157,900	(48,454,200)	-10.2%
Storm Water	354,693,182	285,963,178	(68,730,004)	-19.4%
Fire Protection	172,205,428	170,401,678	(1,803,750)	-1.0%
Solid Waste	38,709,962	33,518,099	(5,191,863)	-13.4%
Housing	15,100,000	14,800,000	(300,000)	-2.0%
Recreation and Culture	\$ 1,924,629,355	\$ 1,710,475,475	\$ (214,153,880)	-11.1%
Recreation	1,100,109,103	942,863,385	(157,245,718)	-14.3%
Community Development	430,873,862	455,078,856	24,204,994	5.6%
Libraries, Museums, and Historic Sites	393,646,390	312,533,234	(81,113,156)	-20.6%
Economic Development	\$ 1,240,582,735	\$ 1,218,490,633	\$ (22,092,102)	-1.8%
Business District Development	979,280,620	971,260,620	(8,020,000)	-0.8%
Industrial Sites and Parks	261,302,115	247,230,013	(14,072,102)	-5.4%
General Government	\$ 462,026,062	\$ 488,910,400	\$ 26,884,338	5.8%
Public Buildings	342,503,826	393,884,200	51,380,374	15.0%
Other Facilities	119,522,236	95,026,200	(24,496,036)	-20.5%
Grand Total	\$37,134,413,729	\$37,051,901,928	\$ (82,511,801)	-0.2%

¹ Totals for the July 2010 inventory have been adjusted because a systematic error involving state agencies' capital needs resulted in overestimating their cost in last year's report. For complete listings of all needs reported in the July 2011 inventory by county and by public school system, see appendixes D and E.

Some transportation and water and wastewater projects are needed to support other types of public infrastructure improvements. When that's the case, those costs are included with the infrastructure they support to show the full cost of that improvement. The same is true for all property acquisition and some storm water, telecommunications, and other utilities improvements. For example, if a rail spur is needed to create a new industrial site, then the rail spur is recorded in the inventory as an industrial site project with transportation as its secondary project type. Similarly, if a sewer line is needed for a new school, then the sewer line is recorded as new school construction with water and wastewater as its secondary type. This dual classification allows more flexibility in analyzing the costs of different types of infrastructure improvements. Those costs are included with the infrastructure they support in table 4 on the previous page and throughout this report except where they are broken out in table 5 below.

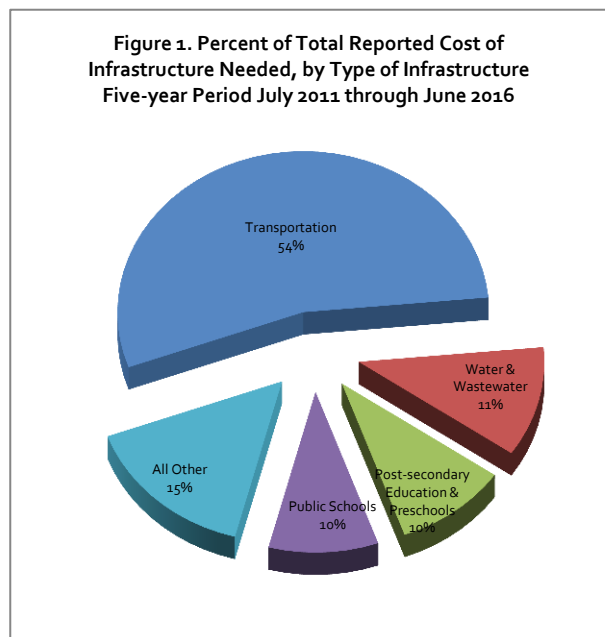
**Table 5. Comparison of Needs that Support Direct Service to Private Sector and Needs that Support Other Public Infrastructure
Five-year Period July 2011 through June 2016**

Type of Need	Direct Support to Private Sector		Support Other Public Infrastructure Needs		Type Total
	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]
Transportation	\$20,029.4	99.3%	\$134.9	0.7%	\$20,164.2
Water and Wastewater	4,110.5	99.3%	28.0	0.7%	4,138.5
Storm Water	286.0	99.1%	2.5	0.9%	288.5
Other Utilities	172.1	99.3%	1.3	0.7%	173.4
Telecommunications	19.3	32.6%	40.0	67.5%	59.3
Property Acquisition	0.0	0.0%	302.0	100.0%	302.0
Grand Total	24,617.3	98.0%	508.6	2.0%	\$25,125.9

Increases in transportation infrastructure needs mask decreases in most other types of infrastructure.

Equaling 54.1% of all estimated costs for infrastructure improvements, transportation dwarfs all other types of infrastructure needs. Transportation has comprised about half of all needed infrastructure in each of the last six reports. It is so large that it more than offsets decreases elsewhere in the Transportation and Utilities category and nearly offsets all other decreases in the inventory. The need for transportation infrastructure increased by nearly \$1.3 billion—the largest increase for any one type of infrastructure.

Transportation infrastructure includes more than just roads. Although road projects dominate, bridges, sidewalks, and signalization are also classified as transportation. And roads are not the only



Note: Public school needs consist of existing school improvements, new public school construction needs, and school system-wide needs.

transportation infrastructure that increased. As shown in table 6, the estimated cost to improve or build new roads increased by \$910.7 million (6.4%) since the last inventory, comprising \$15.2 billion or slightly more than three-fourths of the \$20 billion total, a record high.² Projects identified as roads can, and often do, include other transportation infrastructure, such as bridges, sidewalks, and signalization.

Other than roads, the greatest need is for bridges. Across the state, 492 new bridge projects were added at a cost of \$715.2 million, with eleven projects in Shelby County accounting for nearly one-third (\$248.2 million) of that total. Of those, the largest is a \$55.9 million bridge rehabilitation project over Nonconnah Junction Creek at Bill Morris Parkway. The state's bridges have improved since 2009, when with the General Assembly's approval, the Tennessee Department of Transportation (TDOT) implemented its Better Bridges Program to reduce the number of structurally deficient bridges.³ Under the program, more than 200 bridges were slated for repair, replacement, or rehabilitation over four years. In fiscal year 2011-12 alone, TDOT dedicated more than \$107 million to bridge repair and replacement.⁴ Even with this investment, TDOT estimates that it would take an additional \$3.1 billion to repair all of the state's deficient bridges.

ITS, which includes emergency warning systems and similar infrastructure, increased by \$50.1 million or 40.4% since the last inventory. The majority of the increase came from nine new ITS projects with a total estimated cost of \$36.9 million. Nearly three-fourths (71%) of this total is for projects in three counties: Coffee (\$5.5 million), Hamilton (\$13.7 million), and Williamson (\$7 million).

Table 6. Transportation Needs: One-year Comparison 2010 and 2011

Subtype	July 2010 Inventory	July 2011 Inventory	Difference	Percent Change
Road	\$14,311,715,448	\$15,222,379,321	\$910,663,873	6.4%
Bridge	3,060,372,696	3,402,789,672	342,416,976	11.2%
Rail	342,861,733	347,634,203	4,772,470	1.4%
Navigation	338,173,693	338,723,693	550,000	0.2%
Sidewalk	143,099,866	166,412,141	23,312,275	16.3%
Intelligent Transportation Systems	124,196,784	174,315,913	50,119,129	40.4%
Air	159,568,935	121,968,398	-37,600,537	-23.6%
Signalization	76,204,009	78,947,824	2,743,815	3.6%
Public Transit	21,350,000	21,136,000	-214,000	-1.0%
Other	168,080,629	155,047,253	-13,033,376	-7.8%
Total	\$18,745,623,793	\$20,029,354,418	\$1,283,730,625	6.8%

The estimated cost to improve or build additional sidewalks increased by 16.3% since the last inventory, from \$143.1 million to \$166.4 million. This can be attributed in part to a national push to invest in safer routes to schools. In 2005, Congress passed legislation to establish the national Safe Routes to School program, making this effort a top priority. From 2005 to 2011, funding for Tennessee's Safe Routes to School program more than tripled, increasing from \$1 million to \$3.8 million (281%).⁵ Across the state, thirty-one new sidewalk projects were added since the last inventory alone, totaling \$17.9 million. Six

² Because completion of a single project may involve various elements that are not reported separately, any given subtype in table 6 may include components that fall into other subtypes.

³ See <http://news.tn.gov/node/2523> (accessed May 13, 2013).

⁴ See <http://www.tdot.state.tn.us/bridgeinfo/reports/BridgeFacts.pdf> (accessed May 13, 2013).

⁵ National Center for Safe Routes to School. See <http://www.saferoutesinfo.org> (accessed May 8, 2013).

projects in four counties (Cumberland, Dyer, Shelby, and Weakley) account for close to half (41% or \$7.4 million) of that total.

Telecommunications, the smallest type of need in the Transportation and Utilities category, with the addition of a \$5 million broadband project in Gibson County added to this year's inventory, increased by 14.9%, a significant percentage change for this group of infrastructure needs.

While transportation needs are growing overall, several transportation subtypes decreased. Infrastructure for air transportation decreased 23.6%, with ten projects completed at a cost of \$34.7 million. Nearly half of this total was for a \$15.5 million taxi lane project in Blount County at the McGhee Tyson Airport, which belongs to the City of Knoxville. Public transit infrastructure, which does not include buses or other rolling stock, decreased a small amount (1.0 %), and other transportation infrastructure, including items like maintenance buildings and salt bins, decreased 13 million (7.8%). Twelve other transportation projects were completed at a cost of \$15.7 million, and eight new projects were added at a cost of \$3.2 million.

Another type of infrastructure in the Transportation and Utilities category, other utilities, decreased by the second largest percentage (29.3% or \$71.4 million) in the inventory, mainly because the start date for a \$56.4 million underground utilities project in Sevier County was moved out one year; that project is not included in the five-year period covered by this report.⁶

Improvements in other categories total \$17 billion, with all but one decreasing since last inventory.

Compared with the total estimated cost for the Transportation and Utilities category, the totals for the other categories are relatively small. At \$488.9 million, General Government is the smallest category for total estimated costs and is the only other category that increased overall. It includes only two types of infrastructure: public buildings and other facilities, which include storage, maintenance, and similar facilities that do not fit the definition of a more specific type of infrastructure. The estimated cost of needs reported in the General Government category increased by \$26.9 million or 5.8%. A new veterans' living center project in Montgomery County accounts for \$24.4 million or nearly half (47.5%) of the \$51.4 million increase in the estimated cost of public building improvements.

Estimated costs for Health, Safety, and Welfare infrastructure—the third largest category in the inventory—decreased by 12.6% or \$893.6 million. All seven types of infrastructure included in this category decreased in this inventory. Infrastructure needed for law enforcement and water and wastewater account for most of the decrease. The fact that some types of infrastructure in this category had some of the largest decreases, should not be taken to mean that needs reported in past inventories have been met. Much of the decrease can be attributed to canceled or postponed projects rather than completions.

Law enforcement—the second largest type of infrastructure in this category—decreased by the largest dollar amount (\$553.7 million) and the largest percentage (32.4%) of any type of infrastructure in the inventory, stemming from changing timelines and from the cancellation or completion of several projects. Although \$53.6 million for twenty-seven projects was added, that was not enough to offset the needs that

⁶ It should be noted that the Transportation and Utilities category does not include water utilities; those needs are reported in the Health, Safety, and Welfare category.

were pushed back, completed, or canceled. Twelve projects totaling \$302.6 million were pushed back primarily because of budget considerations according to officials at the Tennessee Department of Corrections. Of those postponed, the largest was a \$125 million women's prison in East Tennessee. While that project is still needed, the need is not immediate according to state officials. Although several law enforcement projects were put on hold, both state and local officials have made some progress since the last inventory, completing twenty-four projects at a total cost of \$121.9 million. Six of those projects—three jails, one police station, a justice center, and an armed forces center—account for three-fourths (75.3%) of that total (\$91.8 million). Twenty-six projects were canceled, accounting for another \$171.2 million, the largest being a \$43.2 million Tennessee Department of Safety headquarters in Davidson County.

Water and wastewater, the largest type of infrastructure in the Health, Safety, and Welfare category and the second largest in the entire inventory, decreased by the second largest dollar amount overall, approximately \$215.4 million (5%). The change in water and wastewater infrastructure needs makes up about 24.1% of the dollar decrease in this category and can be mostly attributed to the completion of more than 100 projects totaling \$324.9 million. Three projects in Davidson County and seven projects in Sullivan County make up most of that decrease. The largest project in Davidson County, a wastewater management facility, was completed at a cost of \$119.2 million, and the largest project in Sullivan County, a wastewater treatment plant expansion, was completed at a cost of \$21.3 million. Estimates for thirty-eight water and wastewater projects were revised downward, accounting for another \$80.3 million. The estimated cost of one of these projects—the refurbishment of a water treatment plant in Davidson County—decreased by 44.2%, from \$33 million to \$18.4 million. Historically, the need for water and wastewater fluctuates from year to year.

The estimated costs for storm water, public health facilities, and solid waste also decreased but much less dramatically. Infrastructure for storm water decreased by \$68.7 million (19.4%), attributed mostly to the scaling back of a storm water project in Washington County from \$40 million to \$7 million and the completion of a \$27.4 million infiltration project in Sullivan County. The decrease in solid waste comes primarily from the completion of a single project—a \$3.2 million fleet maintenance facility project in Williamson County. Estimated costs for public health facilities decreased by \$48.5 million (10.2%). Public health facilities costs increased over the last four inventories but decreased in the current inventory; however, if not for the cancellation of a \$94 million project in Knox County for a state psychiatric hospital, these costs would have increased \$45.5 million over the last inventory. Since the last inventory, only eleven public health facility projects were completed, totaling \$5.8 million.

The Recreation and Culture category as a whole decreased by 11.1% or \$214.2 million since the last inventory. This category includes three types of infrastructure: libraries, museums, and historic sites; recreation; and community development. Costs for library, museum, and historic site infrastructure

“Infrastructure is the foundation of our communities, and without it, our businesses, schools, and our everyday lives cease to function.... Simply, we must invest in our roads, bridges, ports, and water systems. This will help us build a 21st Century America for an ever-changing 21st Century economy.”

-Gregory E. DiLoreto

American Society of Civil Engineers, 2013.

decreased by the third largest percentage overall, 20.6% (\$81.1 million). Three projects decreased by a total of \$73.5 million. The largest was a state library and archives building in Davidson County, which was scaled back from \$71.1 million to just over \$2 million. In addition, the cost to relocate the metropolitan archives in Nashville decreased from \$5.7 million to \$1.6 million, and the cost to renovate and convert a former school in Jonesborough into a center for the arts decreased from \$700 thousand to \$300 thousand.

The need for recreation-related infrastructure decreased by 14.3% or \$157.2 million, the third largest dollar decrease in this year's inventory. Several large recreation projects were completed, the largest of which was a \$138 million stadium improvement project at the University of Tennessee in Knox County. Some smaller recreation projects were canceled, ranging in cost from \$50,000 for a greenway signage project in Knox County to \$10.7 million for a new park in Middle Tennessee (no location specified). The costs of community development infrastructure increased by \$24.2 million (5.6%), the only type of infrastructure in this category that increased. The bulk of this increase was for a civic center project in Sevier County, which increased from \$30 million to \$45 million, along with a welcome center in Sullivan County that went from \$1 million to \$12.5 million.

Infrastructure needs in both the Economic Development and the Education categories decreased by less than 3%. Economic Development costs decreased by \$22.1 million (1.8%). Both types of infrastructure in this category, industrial sites and parks and business district development, decreased. The decrease for industrial sites and parks, \$14.1 million, stems from several projects that were canceled or completed, the largest being the cancellation of a \$5 million industrial park in Hawkins County. Six completed projects—the largest of which was a \$2 million industrial park in White County—account for \$7 million of the decrease. Business district development costs decreased by \$8 million, less than 1%, since the last inventory, mainly because a business park in Putnam County decreased in cost from \$19 million to \$14.4 million and a \$3 million incubator project in Cumberland County was completed. Together, these two projects account for nearly all of the decrease in business district development.

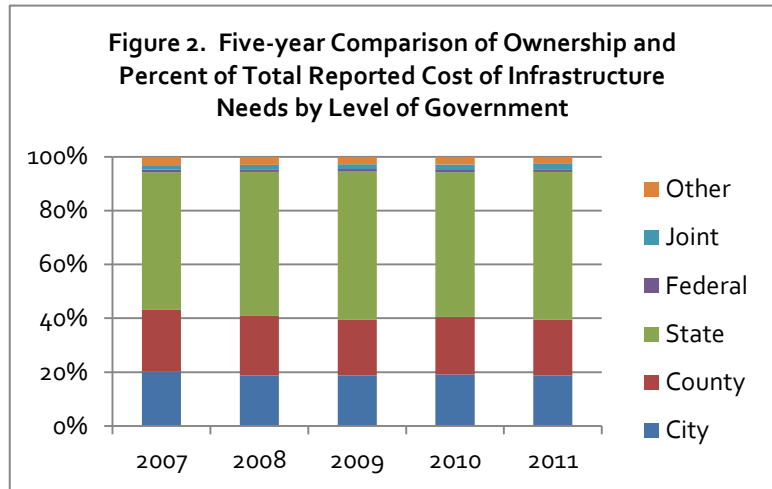
Education, the second largest category, tends to fluctuate from year to year, exhibiting no clear upward or downward trend. Since the last inventory, total education infrastructure costs decreased by \$194.3 million (2.6%), mostly because of decreases in post-secondary education and preschool needs type. Post-secondary education and preschool infrastructure includes improvements at the state's public colleges and universities, post-secondary vocational programs, and pre-kindergarten programs, such as Head Start. These costs decreased for the first time since the inventory began, declining \$95.9 million. While 90 new post-secondary education and preschool projects were added at a cost of \$298.8 million, this was not enough to offset the cost of projects that were canceled, completed, or scaled back, which totaled \$538.4 million. The estimated cost for new public schools decreased by \$94.5 million (5.6%) in this inventory, mostly because eleven projects totaling \$191.2 million were completed. School-system-wide needs decreased by \$13.3 million (15.2%), mainly because seven projects totaling \$19.6 million were canceled. Details about Tennessee's public schools are discussed in the school chapter later in this report.

State infrastructure improvements continue to dominate overall, and counties improvements continue to exceed those of cities.

Although local officials report a greater need for new infrastructure than state officials report, they won't necessarily own it all. Many of the needs identified by local officials, such as state or federal highway improvements, may be owned or controlled by either federal or state agencies. State agencies own or will own more than half of all public infrastructure in the inventory (55.1%), roughly the same as last year. The largest portion of six of the twenty-one types—transportation; post-secondary education and preschools;

school system-wide needs; law enforcement; public health facilities; and libraries, museums, and historic sites—belongs to the state. Slightly more than three-fourths (76.8%) of transportation infrastructure improvements are the responsibility of the state. Figure 2 illustrates that the distribution of infrastructure needs by level of government has remained fairly constant over the last five inventories.

Nearly all improvements needed for post-secondary education and preschool infrastructure (99.9%) belong to the state’s public colleges and universities. In fact, these improvements, combined with transportation, comprise the bulk of state-owned infrastructure in the inventory, accounting for \$18.9 billion



of the \$20.4 billion total reported for state government. The next largest areas of state responsibility are law enforcement and public health facilities. As shown in table 7, state needs exceed half of the totals for both of these types of infrastructure even though the dollar amounts are relatively small. Law enforcement costs comprise 54.3% (\$628.2 million), and public health facilities account for 89.5% (\$381.3 million). When transportation projects are excluded from total costs, ownership is more evenly distributed across cities (27.7%), counties (34.8%), and the state (29.6%), with 2.1% in joint ownership, 5.8% owned by other types of governmental entities such as utility districts, and only a tiny fraction (0.1%) in federal ownership.

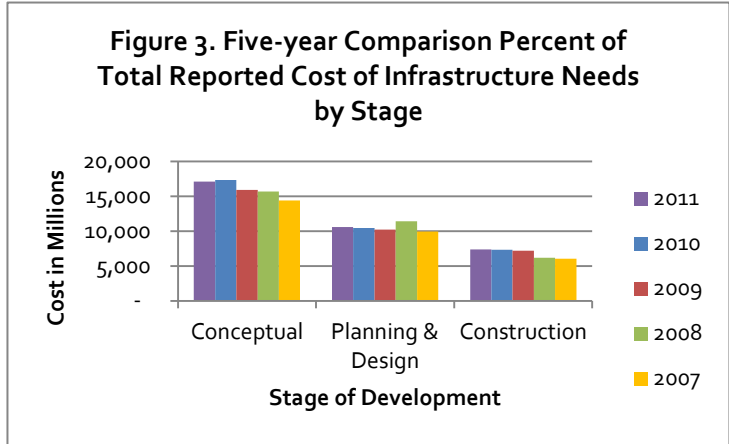
At the local level, infrastructure needed by counties slightly exceeds that needed by cities overall. Counties’ improvements make up over 85.2% of the Economic Development category because of the new convention center in Nashville. The convention center accounts for 72.5% of the estimated cost for all of business district development and 57.8% of the total for the entire Economic Development category. The convention center is treated as a county need because it is reported by a metropolitan government. Metropolitan governments have the characteristics of incorporated places and remain administrative divisions of the state with all the responsibilities of counties. For that reason, they are treated as county governments in the inventory. Counties are also responsible for most of the new school construction (91.7%), solid waste (74.4%), and existing school improvements (71.7%).

On the other hand, cities need the largest portion in the Recreation and Culture category (56.5%); the General Government category (55.7%); and the Health, Safety, and Welfare category (41.3%). Cities need most of the infrastructure in 9 of the 21 project types in the inventory. Nearly half of the water and wastewater infrastructure (48.3%) and the public buildings infrastructure (49.5%) in the inventory will belong to cities as will most of public housing (96.6%), storm water (96.7%), other facilities (81.5%), fire protection (79.1%), community development infrastructure (74.8%), and recreation (55.5%). Cities also need most of the other utilities infrastructure (50.9%), which includes such things as extensions to natural gas lines and power substations.

The overall distribution of needs by stage of development has remained relatively consistent over the last five years.

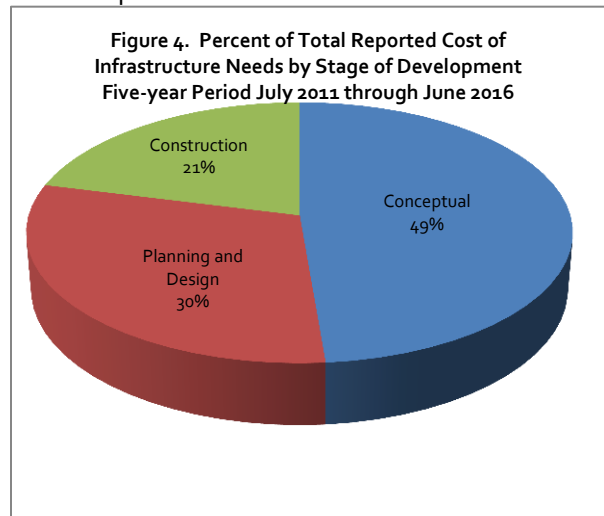
Infrastructure is also reported by stage of development, representing the various phases through which projects progress. These stages include conceptual, planning and design, and construction. Based on analysis described in the chapter on local needs (later in this report), stage of development may vary based on several factors, including taxable property values per capita, taxable sales per capita, population change, and total population.

Although infrastructure still in the conceptual stage decreased slightly and improvements in each of the other two stages increased by small percentages, the overall distribution of infrastructure by stage has remained relatively consistent over the last five years (see figure 3). The



total estimated cost of conceptual improvements is nearly half (48.9%) of all reported needs in this year's inventory. Improvements in the planning and design phase increased only slightly (from \$10.5 billion to \$10.6 billion or from 29.8% to 30.1%). Improvements under construction also increased by only a small percentage (from \$7.3 billion to nearly \$7.4 billion or 20.8% to 21%). See figure 4. The new Nashville convention center, which remains under construction, makes up most of the needs in the construction phase in the Economic Development category. Infrastructure in the conceptual stage continues to dominate five of the six major categories, all but Economic Development.

Infrastructure in the Education category remains mostly conceptual because many projects that were under construction in the last inventory have now been completed, and few projects have moved on to construction. Last year, \$705 billion in post-secondary education and preschool projects were under construction. Currently, only \$534 million for projects of that type are under construction. See table 8.



**Table 7. Total Estimated Cost in Millions and Percent of Total of Needed Infrastructure Improvements
by Project Type and Level of Government
Five-year Period July 2011 through June 2016**

Category and Type of Need	City		County		State		Federal		Joint		Other		Total	
	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total
Transportation and Utilities	\$2,317.6	11.5%	\$1,772.6	8.8%	\$15,373.2	76.0%	\$300.0	1.5%	\$399.1	2.0%	\$58.2	0.3%	\$20,220.8	100.0%
Transportation	2,222.9	11.1%	1,740.2	8.7%	15,373.2	76.8%	300.0	1.5%	393.1	2.0%	0.0	0.0%	20,029.4	100.0%
Other Utilities	87.6	50.9%	20.3	11.8%	0.0	0.0%	0.0	0.0%	6.0	3.5%	58.2	33.8%	172.1	100.0%
Telecommunications	7.1	36.8%	12.2	63.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	19.3	100.0%
Education	\$690.6	9.6%	\$2,904.5	40.3%	\$3,598.9	49.9%	\$0.0	0.0%	\$0.0	0.0%	\$20.8	0.3%	\$7,214.8	100.0%
Post-secondary Education & Preschools	1.7	0.0%	1.0	0.0%	3,543.0	99.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	3,545.7	100.0%
Existing School Improvements	541.9	27.2%	1,428.2	71.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	20.8	1.0%	1,991.0	100.0%
New Public Schools	133.8	8.3%	1,470.4	91.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,604.1	100.0%
School System-wide	13.2	17.8%	4.9	6.6%	55.9	75.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	74.0	100.0%
Health, Safety and Welfare	\$2,561.6	41.3%	\$1,501.0	24.2%	\$1,009.6	16.3%	\$0.0	0.0%	\$240.9	3.9%	\$885.4	14.3%	\$6,198.4	100.0%
Water and Wastewater	1,983.7	48.3%	1,016.5	24.7%	0.0	0.0%	0.0	0.0%	225.0	5.5%	885.4	21.5%	4,110.5	100.0%
Law Enforcement	142.6	12.3%	386.2	33.4%	628.2	54.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	1,157.1	100.0%
Storm Water	276.5	96.7%	6.4	2.2%	0.0	0.0%	0.0	0.0%	3.0	1.1%	0.0	0.0%	286.0	100.0%
Public Health Facilities	1.6	0.4%	31.2	7.3%	381.3	89.5%	0.0	0.0%	12.0	2.8%	0.0	0.0%	426.2	100.0%
Fire Protection	134.8	79.1%	35.3	20.7%	0.0	0.0%	0.0	0.0%	0.3	0.2%	0.0	0.0%	170.4	100.0%
Solid Waste	8.0	23.8%	24.9	74.4%	0.0	0.0%	0.0	0.0%	0.6	1.8%	0.0	0.0%	33.5	100.0%
Housing	14.3	96.6%	0.5	3.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	14.8	100.0%
Recreation and Culture	\$966.5	56.5%	\$366.5	21.4%	\$315.2	18.4%	\$0.2	0.0%	\$61.8	3.6%	\$0.3	0.0%	\$1,710.5	100.0%
Recreation	523.3	55.5%	209.9	22.3%	152.5	16.2%	0.2	0.0%	56.6	6.0%	0.3	0.0%	942.9	100.0%
Community Development Libraries, Museums, and Historic Sites	340.2	74.8%	93.4	20.5%	16.3	3.6%	0.0	0.0%	5.1	1.1%	0.0	0.0%	455.1	100.0%
	103.0	33.0%	63.1	20.2%	146.4	46.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	312.5	100.0%
Economic Development	\$121.9	10.0%	\$1,037.8	85.2%	\$0.2	0.0%	\$0.0	0.0%	\$41.3	3.4%	\$17.3	1.4%	\$1,218.5	100.0%
Business District Development	78.4	8.1%	878.4	90.4%	0.0	0.0%	0.0	0.0%	14.4	1.5%	0.0	0.0%	971.3	100.0%
Industrial Sites and Parks	43.4	17.6%	159.4	64.5%	0.2	0.1%	0.0	0.0%	26.9	10.9%	17.3	7.0%	247.2	100.0%
General Government	\$272.5	55.7%	\$85.0	17.4%	\$108.4	22.2%	\$20.0	4.1%	\$1.6	0.3%	\$1.4	0.3%	\$488.9	100.0%
Public Buildings	195.0	49.5%	70.2	17.8%	107.2	27.2%	20.0	5.1%	0.0	0.0%	1.4	0.4%	393.9	100.0%
Other Facilities	77.5	81.5%	14.8	15.5%	1.2	1.2%	0.0	0.0%	1.6	1.7%	0.0	0.0%	95.0	100.0%
Grand Total	\$6,930.6	18.7%	\$7,667.4	20.7%	\$20,405.5	55.1%	\$320.2	0.9%	\$744.7	2.0%	\$983.5	2.7%	\$37,051.9	100.0%

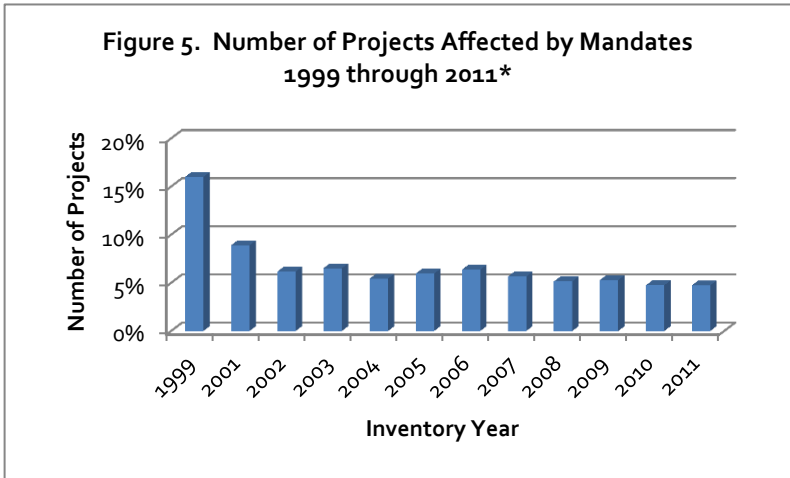
**Table 8. Needed Infrastructure Improvements in Millions and Percent of Total
by Category, Project Type, and Stage of Development
Five-year Period July 2011 through June 2016⁷**

Category and Type of Need	Conceptual				Planning & Design				Construction			
	Number		Cost		Number		Cost		Number		Cost	
Transportation and Utilities	2,899	67.7%	\$ 9,596.1	47.5%	810	18.9%	\$ 7,124.4	35.2%	575	13.4%	\$ 3,500.3	17.3%
Transportation	2,859	67.9%	9,480.8	47.3%	797	18.9%	7,088.2	35.4%	557	13.2%	3,460.3	17.3%
Other Utilities	37	56.9%	103.5	60.1%	12	18.5%	35.8	20.8%	16	24.6%	32.9	19.1%
Telecommunications	3	50.0%	11.8	61.1%	1	16.7%	0.4	2.1%	2	33.3%	7.1	36.8%
Education	427	68.9%	\$ 3,226.3	61.7%	109	17.6%	\$ 1,141.0	21.8%	84	13.5%	\$ 864.7	16.5%
Post-secondary Education & Preschools	349	69.8%	2,074.2	58.5%	91	18.2%	937.2	26.4%	60	12.0%	534.3	15.1%
New Public Schools	59	67.0%	1,099.8	68.1%	10	11.4%	189.0	11.7%	19	21.6%	325.8	20.2%
School System-wide	19	59.4%	52.2	72.9%	8	25.0%	14.8	20.7%	5	15.6%	4.6	6.4%
Health, Safety and Welfare	1,056	59.1%	\$ 2,879.2	46.4%	419	23.4%	\$ 1,646.9	26.6%	313	17.5%	\$ 1,672.4	27.0%
Water and Wastewater	757	58.4%	1,780.2	43.3%	303	23.4%	1,166.3	28.4%	237	18.3%	1,164.0	28.3%
Law Enforcement	117	60.0%	676.9	58.5%	49	25.1%	298.7	25.8%	29	14.9%	181.4	15.7%
Storm Water	32	48.5%	54.3	19.0%	17	25.8%	20.2	7.1%	17	25.8%	211.4	73.9%
Public Health Facilities	49	68.1%	264.9	62.2%	10	13.9%	90.4	21.2%	13	18.1%	70.8	16.6%
Fire Protection	78	69.6%	84.9	49.8%	26	23.2%	62.2	36.5%	8	7.1%	23.3	13.7%
Solid Waste	23	53.5%	17.9	53.5%	14	32.6%	9.0	27.0%	6	14.0%	6.6	19.6%
Housing	-	0.0%	-	0.0%	-	0.0%	-	0.0%	3	100.0%	14.8	100.0%
Recreation and Culture	506	62.2%	\$ 934.0	54.6%	201	24.7%	\$ 454.3	26.6%	107	13.1%	\$ 322.2	18.8%
Recreation	395	62.3%	488.0	51.8%	154	24.3%	261.1	27.7%	85	13.4%	193.8	20.6%
Community Development	60	66.7%	199.2	43.8%	16	17.8%	143.0	31.4%	14	15.6%	112.8	24.8%
Libraries, Museums, and Historic Sites	51	56.7%	246.8	79.0%	31	34.4%	50.2	16.1%	8	8.9%	15.6	5.0%
Economic Development	87	64.9%	\$ 239.5	19.7%	32	23.9%	\$ 60.6	5.0%	15	11.2%	\$ 918.3	75.4%
Business District Development	15	46.9%	41.9	4.3%	8	25.0%	28.0	2.9%	9	28.1%	901.3	92.8%
Industrial Sites and Parks	72	70.6%	197.6	79.9%	24	23.5%	32.6	13.2%	6	5.9%	17.0	6.9%
General Government	137	61.7%	\$ 257.2	52.6%	57	25.7%	\$ 142.9	29.2%	28	12.6%	\$ 88.7	18.1%
Public Buildings	103	59.9%	195.6	49.7%	43	25.0%	109.7	27.8%	26	15.1%	88.6	22.5%
Other Facilities	34	68.0%	61.6	64.8%	14	28.0%	33.3	35.0%	2	4.0%	0.1	0.1%
Grand Total	5,112	65.0%	\$17,132.3	48.9%	1,628	20.7%	\$10,570.1	30.1%	1,122	14.3%	\$ 7,366.6	21.0%

⁷ For complete listings of costs by project type, stage of development, and county, see appendix D.

State and federal mandates affect 4.7% of all projects.

Commission staff do not ask local or state officials to identify costs related to state and federal mandates—except for infrastructure at existing schools—because officials reporting their needs often do not have the detailed information necessary to separate that out of total project costs (e.g., the cost



*The percentage for 2000 was not available.

of ramps and lowered water fountains required by the Americans with Disabilities Act or ADA). They are asked, however, to indicate whether the costs of any projects are affected by mandates. While it is impossible to determine how much of the estimated total costs are associated with state and federal mandates, it is possible to determine the overall number of projects affected by mandates. It is a relatively small portion (4.7%) of the total in this inventory and only

slightly higher than the percentage reported in last year's inventory (4.4%) (see table 9). The long-term trend in the number of projects affected by mandates has declining to flat. About 15% of projects reported in 2001 included costs related to mandates. The percentage fell to 9% the following year and remained around 5% from 2004 through 2009. See figure 5. Existing school improvements alone account for nearly two-thirds (62.4%) of the total number of projects affected by mandates. Increasing by 48 projects since the last inventory, existing schools are far more likely to be affected by mandates than any other type of project. See table 9.

Table 9. Percent of Projects Affected by Mandates
Five-year Period July 2011 through June 2016

Type of Need	Number of Projects or Schools Reported	Projects or Schools Affected by Mandates	
		Number	Percent
Existing School Improvements	1,294	271	20.9%
School System-wide	29	3	10.3%
Public Health Facilities	72	8	11.1%
Post-secondary Education & Preschools	500	43	8.6%
Law Enforcement	195	6	3.1%
Solid Waste	43	1	2.3%
Recreation	634	24	3.8%
Public Buildings	172	9	5.2%
New Public Schools	88	2	2.3%
Storm Water	66	1	1.5%
Water and Wastewater	1,297	26	2.0%
Libraries, Museums, and Historic Sites	90	2	2.2%
Community Development	90	2	2.2%
Transportation	4,213	36	0.9%
Fire Protection	112	0	0.0%
Housing	3	0	0.0%
Business District Development	32	0	0.0%
Industrial Sites and Parks	102	0	0.0%
Other Facilities	50	0	0.0%
Other Utilities	65	0	0.0%
Telecommunications	6	0	0.0%
Grand Total	9,153	434	4.7%