

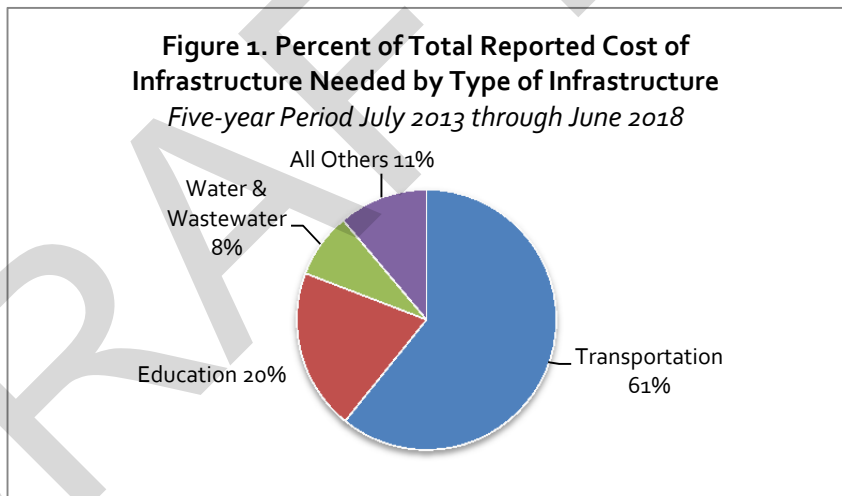
Building Tennessee's Tomorrow: Anticipating the State's Infrastructure Needs July 2013 through June 2018

INFRASTRUCTURE NEEDS STATEWIDE

The estimated cost of public infrastructure needed statewide increased to \$42.3 billion.

State and local officials estimate the cost of public infrastructure improvements that need to be in some stage of development between July 1, 2013, and June 30, 2018, at \$42.3 billion, an increase of approximately \$4.2 billion (10.9%) from last year's report (see table 3)⁶ because of the addition of 4,598 bridges rated insufficient and assigned an estimated repair or replacement cost by a state bridge inspector. In the past, some TDOT bridge projects were not included in the inventory as immediate needs if surveyors believed they were not likely to be repaired or replaced during the five years covered by the inventory. This approach was inconsistent with how other projects were evaluated and it did not reflect the critical role of bridge upkeep. Beginning with this inventory, all bridges rated insufficient by a state inspector and with an identified remedy and associated cost estimate

are reported as a need, no matter how long it is expected to take to obtain funding for the work. The total cost of improvements needed for these bridges is estimated at around \$3.7 billion. Without them, the total cost of the inventory would have increased only \$438 million (1.2%). With them, transportation infrastructure improvements now account for 61% of the total inventory (see figure 1), up from an average of 53% over the past six inventories. Education infrastructure remains flat at 20% of the total inventory, and water and wastewater follows at 8%, down from an average of 10%. All other types of infrastructure combined dropped from an average of 17% to 11%.



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⁶ Totals for the July 2012 inventory have been adjusted because of on-going data quality control. For complete listings of all needs reported in the July 2013 inventory by county and by public school system, see appendixes D and E.

Table 3. Comparison of Estimated Cost of Needed Infrastructure Improvements
July 2012 Inventory vs. July 2013 Inventory

Category and Type of Infrastructure	July 2012 Inventory	July 2013 Inventory	Difference	Percent Change
Transportation and Utilities	\$21,689,943,786	\$25,900,438,008	\$ 4,210,494,222	19.4%
Transportation	21,466,148,077	25,670,939,050	4,204,790,973	19.6%
Other Utilities	223,795,709	229,498,958	5,703,249	2.5%
Education	\$ 7,526,218,947	\$ 8,494,829,132	\$ 968,610,185	12.9%
Post-secondary Education	3,915,209,855	4,569,056,766	653,846,911	16.7%
School Renovations & Replacements	2,032,782,160	2,118,710,913	85,928,753	4.2%
New Public Schools & Additions	1,521,085,932	1,718,465,453	197,379,521	13.0%
Other Education	51,170,000	76,240,000	25,070,000	49.0%
School-System-wide	5,971,000	12,356,000	6,385,000	106.9%
Health, Safety, and Welfare	\$ 5,549,929,028	\$ 4,993,531,862	\$ (556,397,166)	-10.0%
Water and Wastewater	3,632,001,753	3,415,219,505	(216,782,248)	-6.0%
Law Enforcement	1,274,790,107	900,985,199	(373,804,908)	-29.3%
Public Health Facilities	310,944,500	353,479,500	42,535,000	13.7%
Fire Protection	170,469,132	175,486,676	5,017,544	2.9%
Storm Water	111,551,536	109,008,982	(2,542,554)	-2.3%
Solid Waste	36,172,000	34,802,000	(1,370,000)	-3.8%
Housing	14,000,000	4,550,000	(9,450,000)	-67.5%
Recreation and Culture	\$ 1,586,741,784	\$ 1,690,538,664	\$ 103,796,880	6.5%
Recreation	984,843,075	1,038,482,825	53,639,750	5.4%
Libraries, Museums, and Historic Sites	304,599,545	370,358,259	65,758,714	21.6%
Community Development	297,299,164	281,697,580	(15,601,584)	-5.2%
General Government	\$ 551,764,689	\$ 720,592,385	\$ 168,827,696	30.6%
Public Buildings	439,658,889	582,992,585	143,333,696	32.6%
Other Facilities	112,105,800	137,599,800	25,494,000	22.7%
Economic Development	\$ 1,235,555,051	\$ 508,443,614	\$ (727,111,437)	-58.8%
Business District Development	981,578,620	275,530,800	(706,047,820)	-71.9%
Industrial Sites and Parks	253,976,431	232,912,814	(21,063,617)	-8.3%
Grand Total	\$ 38,140,153,285	\$ 42,308,373,665	\$ 4,168,220,380	10.9%

*School Renovations and Replacements include school technology projects with estimated costs below the \$50,000 threshold used for other types of infrastructure included in the inventory. Individual technology projects under the threshold totaled \$4,529,749 in 2013 and \$4,012,845 in 2012.

Infrastructure projects that support other improvements total more than \$500 million.

Some infrastructure 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 or storm water drain is needed for a new school, then the project is recorded as new school construction with water and wastewater or storm water 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 3 on the previous page and throughout this report except where they are broken out in table 4 below.

Table 4. Comparison of Infrastructure that Supports Direct Service to Private Sector and Infrastructure that Supports Other Public Infrastructure
Five-year Period July 2013 through June 2018

Type of Infrastructure	Provide Direct Service to Private Sector		Support Other Public Infrastructure		Total
	Est. Cost [in millions]	Percent of Total	Est. Cost [in millions]	Percent of Total	Est. Cost [in millions]
Transportation	\$ 25,670.9	99.6%	\$ 94.6	0.4%	\$ 25,765.5
Water and Wastewater	3,415.2	98.5%	52.0	1.5%	3,467.3
Other Utilities	229.5	99.7%	0.7	0.3%	230.2
Storm Water	109.0	84.0%	20.8	16.0%	129.8
Property Acquisition	0.0	0.0%	393.8	100.0%	393.8
Grand Total	\$ 29,424.7	98.13%	\$ 561.9	1.87%	\$ 29,986.5

Transportation infrastructure continues to dominate the inventory.

Transportation and Utilities is the single largest category (\$25.9 billion) and increased the most in overall cost (\$4.2 billion), but the increase is mainly because a change in inventory procedures added \$3.7 billion in bridge projects to the 2013 inventory; without these bridges, the infrastructure needed in this category would have only increased \$438 million. Transportation alone, at \$25.7 billion, accounts for nearly all of this category and all but \$5.7 million of the increase. See table 3. Unlike in previous years, any bridge that is rated insufficient by a state inspector and has an identified remedy and an estimated cost is reported as a need, no matter how long it is expected to take to obtain funding and address the problems with the bridge. Aside from these bridges, new transportation projects in the inventory totaled \$2.4 billion, and hundreds of projects remaining in the inventory increased in cost by a total of \$1.1 billion. These increases were slightly offset by \$1.2 billion for projects completed since the last inventory, \$942 million for projects that decreased in cost, and \$655 million for projects that were canceled or postponed. Projects totaling \$36 million were removed from the inventory because they were reduced from true improvements to maintenance or repairs.

More than \$171 million of the \$942 million in decreased transportation project costs were because the Tennessee Department of Transportation's new Expedited Project Delivery program (EPD) is reflected in the inventory for the first time this year. Under the EPD program, TDOT evaluates projects and, where appropriate, recommends cost-effective modifications, such as multi-modal, intersection and lane modifications, and safety improvements.⁷ TDOT modified five projects included in this inventory, all on state routes in Fentress, Hardin, Jackson, Lauderdale, and Macon counties, and reduced their estimated costs from \$180 million to \$9 million. Instead of building new roads or widening existing roads, TDOT will add guardrails, pavement markings, and signage and improve intersections, lanes, shoulders, curves, and bridges.

The estimated cost of improvements for the other type of infrastructure in the Transportation and Utilities category—other utilities, which includes electricity, gas, and telecommunications—increased 2.5% to \$229 million, mainly because of new projects. Stewart County needs natural gas lines throughout the county (\$5 million), Loudon County needs a new substation at the Sugarlimb Industrial Park (\$3 million), and Sparta, in White County, needs to replace electric and water meters with automated meters for easier reading (\$2 million). Greeneville (Greene County) added two projects totaling \$2 million to build an operations center and training facility for Greeneville Light and Power. Offsetting these increases, Morristown, in Hamblen County, completed the largest project, \$3 million to improve energy efficiency and reduce demand for electricity during peak hours with smart grid automatic meters for 14,400 electric customers in the city.

Improvements at colleges and universities largely drive growth in Education infrastructure needs.

Education, including post-secondary and public school improvements, is the second largest category (\$8.5 billion) and increased \$969 million (12.9%). Most of that increase (\$654 million) is for improvements at the state's public college and university campuses increased, which now total \$4.6 billion. Tennessee Technological University in Cookeville, Middle Tennessee State University in Murfreesboro, and the University of Memphis each added more than \$200 million in new projects, combined totaling \$616 million. Out of a total \$1.4 billion in new post-secondary needs, the largest include a new \$82 million chemistry laboratory at Tennessee Tech, a new \$80 million housing and parking complex at UT Chattanooga, a new \$77 million student union at MTSU, and a new \$51 million university center at the University of Memphis.

Completion of a few large projects and a large decrease in the cost of another offset some of the increase for the post-secondary campuses. Tennessee State University spent \$23 million to refurbish the Avon Williams Campus building for non-traditional students in downtown Nashville

⁷ See <http://www.tdot.state.tn.us/STI/>, <http://www.greshamsmith.com/showcase/projects/showcase-7/tdot-expedited-proj-delivery>, and http://www.greenevillesun.com/news/tdot-commissioner-says-dept-taking-closer-look-at-road-project/article_01b50924-b10b-565d-becf-ce4052b857f9.html.

to comply with life safety and building codes, and Tennessee Tech completed a new \$23 million nursing and health services building. A new academic and student services building at Nashville State Technical Community College decreased from \$41 million to \$15 million because the project was split into phases with the later phases falling outside this report's five-year window.

Improvements for public school buildings include new space and improvements in existing school facilities. These costs have been relatively flat overall since 2007 but increased 8.1% this year mainly for new schools and a growing backlog of school renovations. The need for both new schools and additions increased with \$187 million (15.6%) more for new schools and \$11 million (3.3%) more for additions. Nashville-Davidson County needs five new schools at a total cost of \$94 million, and Fentress, Roane, Robertson, Sumner, Washington, and Wilson counties each need one new school at a total cost of \$151 million.

The estimated cost of improvements needed in existing schools, including renovations (\$1.5 billion), total replacements (\$345 million), technology (\$129 million), and mandated changes (\$119 million), increased \$86 million (4.2%) to \$2.1 billion—the fifth straight year that the estimated cost for improvement in existing schools has grown. Renovations required by mandates, such as fire code compliance and asbestos and lead removal, are the only type of school need that decreased since last year (2.5%). School-system-wide needs for projects like bus garages and central office buildings, which serve entire school systems, more than doubled to \$12 million (106.9%) after a downward trend since 2009. The school chapter, presented later in this report, provides more information about infrastructure needs for the state's local school systems.

Infrastructure needs at state-owned schools such as the Alvin C. York Agricultural Institute and the Tennessee Schools for the Blind and Deaf, included in the Other Education category, increased to \$76 million (49%), mainly because of one large cost increase. The School for the Deaf in Knox County adjusted the cost of its new high school from \$10 million, almost tripling to \$29 million. Two new projects also contributed to the overall increase: a \$3 million multi-purpose classroom expansion at Alvin C. York Agricultural Institute in Fentress County and a \$1 million upgrade to the communication system at the Tennessee School for the Blind in Davidson County.

Health, Safety, and Welfare needs decreased, mostly because of declines in water and wastewater and law enforcement needs.

Health, Safety, and Welfare, the third largest category in the inventory, decreased \$556 million (10%) to \$5 billion. This decline resulted primarily from decreases in the need for improved water and wastewater and law enforcement infrastructure. Water and wastewater accounts for the largest portion of the Health, Safety, and Welfare category at \$3.4 billion; it decreased \$217 million (6%) from last year, mainly because of completed and canceled projects. Several projects costing over \$10 million each were completed. Watauga River Regional Water Authority completed a \$16 million treatment and distribution facility, and Nashville-Davidson County completed a \$14 million upgrade that is part of the overflow abatement program at the Whites Creek Pump Station. Harrogate, in Claiborne County, completed a citywide sewer project, and Marshall County renovated the wastewater plant in Lewisburg; each cost \$14 million. Canceled

projects total \$132 million; Giles, Hamblen, and McMinn counties canceled the largest projects totaling \$95 million combined for water lines and sewer systems. New projects total \$175 million, and cost increases total \$168 million. The estimated cost of two sewer-system improvements to reduce combined storm water and sewer flows into the Cumberland River in Davidson County, required by the US Environmental Protection Agency so that Nashville complies with the Clean Water Act, increased \$91 million to a total of \$440 million because of delays and changes in scope.

The estimated cost for law enforcement infrastructure improvements decreased \$374 million (29.3%) to \$901 million, mainly because three large projects totaling \$385 million were postponed and are no longer needed in this inventory's five-year window. The new \$198 million women's prison, a \$140 million upgrade and expansion of clinical service facilities, and a \$47 million expansion of the Tennessee Prison for Women were all postponed until 2025—the Tennessee Department of Correction says it does not need a new prison in the near future because it's no longer in their updated strategic plan. Canceled projects totaling \$62 million also contributed to the overall decline. The Tennessee Department of Children's Services canceled four proposed youth development centers to house juvenile offenders in Hamilton (\$12 million), Warren (\$14 million), Gibson (\$15 million), and Sullivan (\$16 million) counties because it is no longer building these types of facilities to meet its long-range needs and are instead focusing on renovating and building onto existing facilities.

Decreases in costs for public housing, storm water, and solid waste infrastructure improvements also contributed to the overall decline in the Health, Safety, and Welfare category. Housing needs decreased a total of \$9 million (67.5%) to \$5 million, mainly because the \$12 million renovated Village of Cypresswood public housing in Memphis offset the need for new housing needs and scope changes in existing projects. The cost of storm water improvements decreased by \$3 million (2.3%) to \$109 million mainly because four projects were completed and four decreased in cost. The largest one completed was a \$2 million storm water control project on the Wolf River in Germantown (Shelby County). Solid waste needs decreased by \$1 million (3.8%) to \$35 million because of a few completed and canceled projects. Williamson County improved the Thompson Station Convenience Center at a cost of \$250,000, and Lake County replaced an old incinerator for \$230,000. Four projects were canceled totaling \$550,000—three of those, totaling \$475,000, are in Greeneville (Greene County) and were canceled because the city is instead working with the county to handle its solid waste. The other canceled project is a new \$75,000 convenience center in Robertson County that the county commission has decided it no longer needs.

The decrease in cost for Health, Safety, and Welfare projects would have been larger if not for increases in public health and fire protection facilities. The cost of public health facilities improvements increased \$43 million (13.7%) to \$353 million mainly because of \$88 million in new projects. The State Veterans Home Board added two new projects totaling \$58 million. The largest will build a \$48 million nursing home and community living center in Shelby County. The Department of Intellectual and Development Disabilities added four new projects totaling \$18 million, including \$12 million to continue implementing master plans for the Arlington, Clover

Bottom, and Greene Valley developmental centers. The largest project completed in this type was a \$12 million outpatient diagnostic center near Henry County's medical center. The cost of improvements in fire protection infrastructure increased \$5 million (2.9%) to \$175 million because of new projects and increases in the cost of some that were already in the inventory. The largest new project is \$7 million for either the construction of a new fire station or the renovation of several stations in Bristol (Sullivan County) based on a comprehensive fire station location study. The Memphis and Shelby County Port Commission will also build a new \$6 million fire station at its Pidgeon Industrial Park.

New state library and archives building and Nashville Sounds baseball stadium drive increase in Recreation and Culture costs.

The Recreation and Culture category increased \$104 million (6.5%) to \$1.7 billion despite a decrease in community development. The estimated cost of improvements for libraries, museums, and historic sites increased \$66 million (21.6%) to \$370 million mainly because the estimated cost of a new state library and archives building in Davidson County increased from \$2 million to \$89 million. In 2011, the project was put on indefinite hold and the cost dropped to \$2 million for renovating the existing building, but increased in 2013 when the plan shifted to a new building again. The addition of new projects offset completed infrastructure improvements, cost decreases, and cancelations to produce a \$54 million (5.4%) increase in the estimated cost of recreation infrastructure, which now totals a little more than \$1 billion. The largest addition is the Nashville Sounds baseball stadium and parking garage at the historic Sulphur Dell site just north of downtown, totaling \$65 million, followed by a \$35 million greenway connector that Montgomery County is building between Liberty and McGregor parks along the Cumberland River. Two other large recreation improvements are proposed for state universities. East Tennessee State University is planning a new \$18 million football stadium, and Austin Peay State University expects to spend \$17 million to renovate its football stadium.

The cost of community development projects decreased \$16 million (5.2%) to \$282 million because of completed projects, cost decreases, and a few canceled projects. The largest project completed is a \$3 million renovation of the Mitchellville Welcome Center in Robertson County on the southbound side of Interstate 65. The largest cost decrease is the Carroll County community center project in downtown McKenzie, which decreased from \$10 million to \$1 million because the existing building will be renovated instead of being replaced. Five projects were canceled totaling \$5 million.

Improvements in state facilities in Davidson County are driving the big increase in General Government infrastructure needs.

Both types of infrastructure improvements in the General Government category, public buildings and other facilities, contributed to the \$169 million (30.6%) overall cost increase, bringing the total to an estimated \$721 million. The estimated cost of improvements in public buildings alone increased \$143 million (32.6%) mainly because of new projects totaling \$175 million, 74% of which is for state-owned buildings (\$129 million), mostly in Davidson County (\$122 million). The largest

new project is the \$42 million proposed restoration and renovation of the John Sevier Building, which sits just below the state capitol. The state also plans a new visitor center for the capitol with renovations to Motlow Tunnel for \$12 million. The largest new project that is not state-owned is the \$30 million expansion of the Dickson County courthouse.

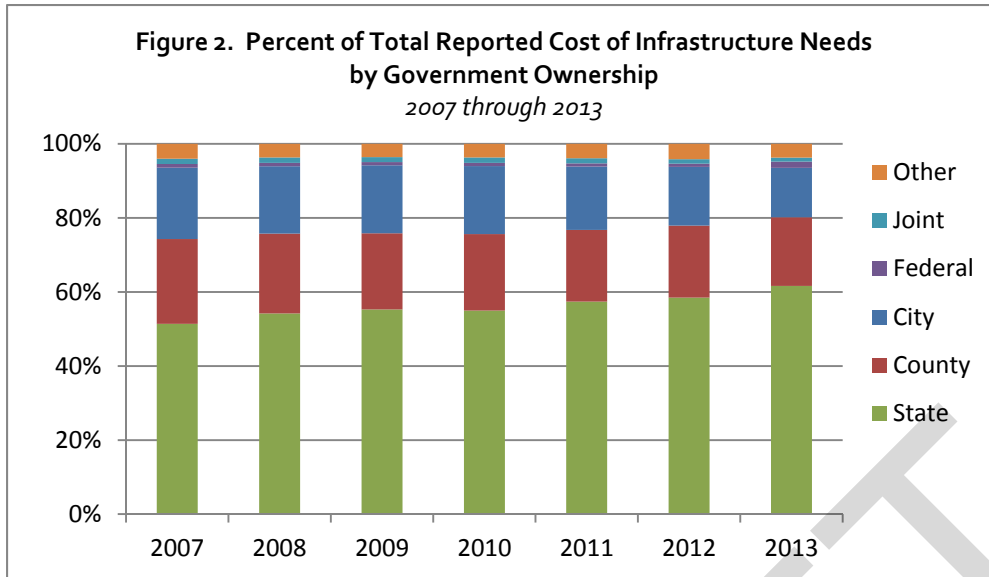
The cost of other facilities improvements, including those for storage and maintenance facilities, which do not fit the definition of a more specific type of infrastructure, increased \$25 million (22.7%) to \$138 million because of new projects and one large cost increase. The Department of Veterans Affairs and the State Veterans Home Board together added improvements estimated to cost \$9 million, 81% of the cost of all new projects. The Department of Veterans Affairs will develop a new \$8 million veterans cemetery in Madison County, and the Department of Agriculture's Division of Forestry will build a new \$1 million seedling cooler in Chester County to facilitate operations and increase revenue. The estimated cost of a land purchase and building construction project at the public works complex in Knox County increased from \$500,000 to \$19 million because the cost of the building was added to the estimate.

Completion of the Nashville's convention center caused a large decrease in Economic Development needs.

The Economic Development category decreased \$727 million (58.8%) to \$508 million because both types of infrastructure in the category decreased. The cost of business district development decreased \$706 million (71.9%) to \$276 million, mainly because Nashville completed its Music City Convention Center at a cost of \$624 million. The 1.2 million square-foot facility and the 1,800-space underground parking garage opened in May 2013. Ripley, the county seat of Lauderdale County, finished the next \$10 million phase in its effort to revitalize its town square, including upgrades to streets and sidewalks, landscaping, and buildings. One new project slightly offset the overall decrease: Bristol (Sullivan County) is building \$25 million of infrastructure to support a major retail, commercial, and restaurant center along Interstate 81. The cost of industrial sites and parks decreased \$21 million (8.3%) to \$233 million largely because of two canceled projects: a \$15 million commercial and industrial park in Fairview (Williamson County) and a \$22 million rail project at the Frank C Pidgeon Industrial Area in Shelby County.

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

State agencies own the majority of all public infrastructure in the inventory (61.7%), and their share of the total cost of needed improvements continues to increase (see figure 2). The largest portion of seven of the twenty-one infrastructure types (transportation; post-secondary education; other education; law enforcement; public health facilities; libraries, museums, and historic sites; and public buildings) and slightly more than three-fourths (77.2%) of transportation improvements are the responsibility of the state. Nearly all improvements needed for post-secondary education (99.8%) 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 \$24.4 billion of the \$26.1 billion total reported for state government.



The next largest areas of state responsibility are law enforcement and public health facilities. As shown in table 5, state needs exceed half of the totals for both of these types of infrastructure though the dollar amounts are relatively small. The state's share of law

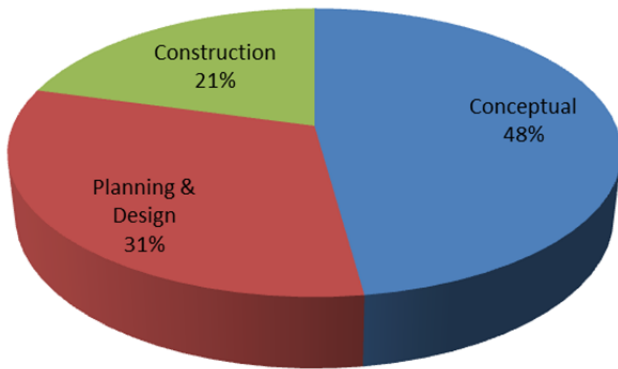
enforcement costs is 53.1% (\$479 million), and its share of public health facilities costs is 94% (\$332 million). The state is also responsible for 64.7% of the cost of libraries, museums, and historic sites (\$240 million) and 50.9% of the cost of public buildings (\$297 million). All improvements for other education infrastructure (\$76 million), including the schools for the deaf and blind and Alvin C. York Agricultural Institute, belong to the Department of Education.

At the local level, infrastructure needed by counties (\$7.8 billion) slightly exceeds what is needed by cities (\$5.7 billion). Counties need most of the infrastructure in six of the 21 project types in the inventory while cities need most of the infrastructure in eight of them. Counties are responsible for most of school system-wide (96%), new school and addition construction (89.5%), solid waste (78.1%), school renovations and replacements (75.3%), industrial sites and parks (63.9%), and business district development (62.6%) needs. On the other hand, almost half of the water and wastewater (45.2%) and recreation (49.9%) infrastructure in the inventory belong to cities, as do nearly all storm water (98.3%) and most other facilities (69.5%), other utilities (69.2%), public housing (67%), community development (65%), and fire protection (60.5%) infrastructure. When transportation projects are excluded from total costs, ownership is more evenly distributed across cities (19.7%), counties (31.6%), and the state (37.8%), with 1.4% in joint ownership, 9.5% owned by other types of governmental entities such as utility districts, and only a tiny fraction (0.1%) in federal ownership.

The estimated cost of infrastructure improvements in all three stages of development continues to trend upward.

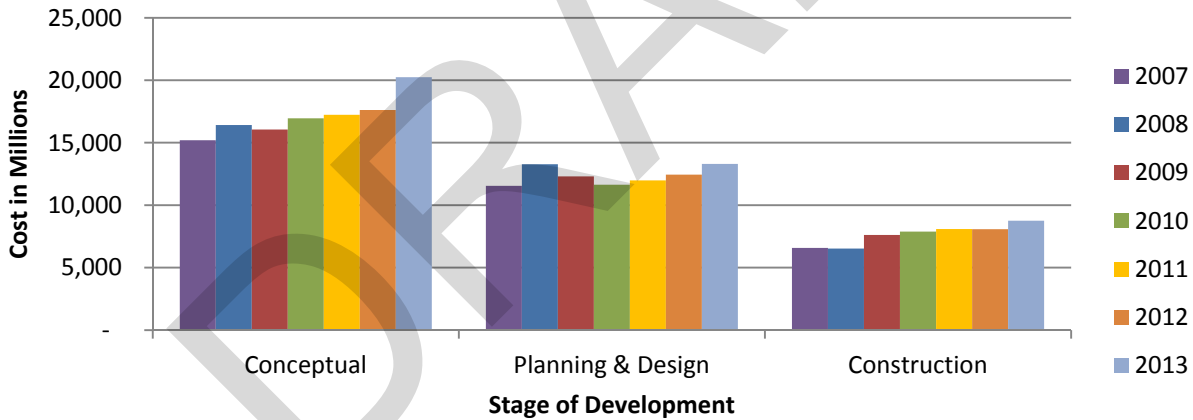
Infrastructure needs are reported as being in one of three stages—conceptual, planning and design, or construction (see figure 3). The distribution by stage has remained consistent over the past seven years with upward trends in the estimated cost of infrastructure improvements in all three. See figure 4.

Figure 3. Percent of Total Reported Cost of Infrastructure Needs by Stage of Development
Five-year Period July 2013 through June 2018



Projects in the conceptual stage increased the most because of the process change for bridges in the inventory this year and now make up nearly half (47.8%), \$20.2 billion, of all reported needs, dominating five of the six major categories except Economic Development. Improvements in the planning and design stage total \$13.3 billion (31.5%) and improvements under construction total \$8.8 billion (20.7%). See table 6. The estimated cost of infrastructure in the construction stage in the Economic Development category dropped from \$953 million to \$278 million because the Nashville convention center is now complete.

Figure 4. Percent of Total Reported Cost of Infrastructure Needs by Stage of Development
2007 through 2013



**Table 5. Total Estimated Cost in Millions and Percent of Total of Needed Infrastructure Improvements
by Project Type and Level of Government
Five-year Period July 2013 through June 2018**

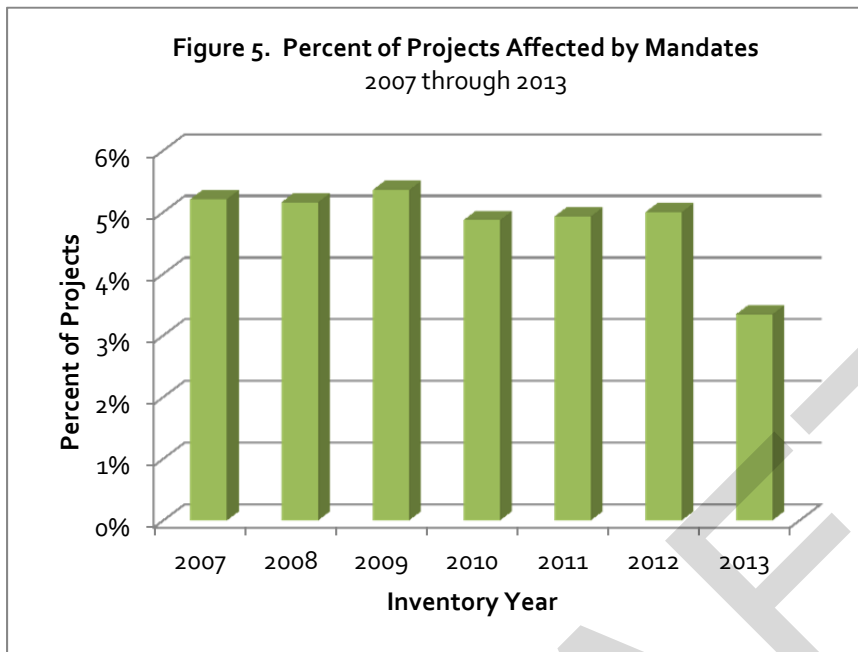
Category and Type of Infrastructure	City		County		State		Federal		Joint		Other		Total	
	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total	Estimated Cost [in millions]	Percent of Total
Transportation and Utilities	\$ 2,538.3	9.8%	\$ 2,604.6	10.1%	\$ 19,820.5	76.5%	\$ 698.0	2.7%	\$ 222.1	0.9%	\$ 16.9	0.1%	\$ 25,900.4	100.0%
Transportation	2,379.6	9.3%	2,563.7	10.0%	19,813.6	77.2%	698.0	2.7%	216.1	0.8%	0.0	0.0%	25,670.9	100.0%
Other Utilities	158.8	69.2%	40.9	17.8%	7.0	3.0%	0.0	0.0%	6.0	2.6%	16.9	7.4%	229.5	100.0%
Education	\$ 60.1	0.7%	\$ 3,150.6	37.1%	\$ 4,638.0	54.6%	\$ 0.0	0.0%	\$ 0.0	0.0%	\$ 646.2	7.6%	\$ 8,494.8	100.0%
Post-secondary Education	1.9	0.0%	5.5	0.1%	4,561.7	99.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4,569.1	100.0%
School Renovations & Replacements	38.2	1.8%	1,595.1	75.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	485.4	22.9%	2,118.7	100.0%
New Public Schools & Additions	19.5	1.1%	1,538.2	89.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	160.8	9.4%	1,718.5	100.0%
Other Education	0.0	0.0%	0.0	0.0%	76.2	100.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	76.2	100.0%
School System-wide	0.5	4.0%	11.9	96.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	12.4	100.0%
Health, Safety, and Welfare	\$ 1,876.3	37.6%	\$ 1,239.3	24.8%	\$ 823.1	16.5%	\$ 0.0	0.0%	\$ 155.9	3.1%	\$ 899.0	18.0%	\$ 4,993.5	100.0%
Water and Wastewater	1,542.7	45.2%	819.2	24.0%	0.0	0.0%	0.0	0.0%	154.3	4.5%	899.0	26.3%	3,415.2	100.0%
Law Enforcement	107.9	12.0%	314.5	34.9%	478.6	53.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	901.0	100.0%
Public Health Facilities	2.1	0.6%	19.1	5.4%	332.2	94.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	353.5	100.0%
Fire Protection	106.2	60.5%	56.7	32.3%	12.3	7.0%	0.0	0.0%	0.3	0.2%	0.0	0.0%	175.5	100.0%
Storm Water	107.2	98.3%	1.0	0.9%	0.0	0.0%	0.0	0.0%	0.8	0.7%	0.0	0.0%	109.0	100.0%
Solid Waste	7.2	20.6%	27.2	78.1%	0.0	0.0%	0.0	0.0%	0.5	1.3%	0.0	0.0%	34.8	100.0%
Housing	3.1	67.0%	1.5	33.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	4.6	100.0%
Recreation and Culture	\$ 782.5	46.3%	\$ 384.6	22.8%	\$ 486.2	28.8%	\$ 0.2	0.0%	\$ 36.5	2.2%	\$ 0.5	0.0%	\$ 1,690.5	100.0%
Community Libraries, Museums, & Historic Sites	183.1	65.0%	66.6	23.6%	22.0	7.8%	0.0	0.0%	9.4	3.4%	0.5	0.2%	281.7	100.0%
	81.0	21.9%	48.6	13.1%	239.8	64.7%	0.0	0.0%	0.9	0.2%	0.0	0.0%	370.4	100.0%
Economic Development	\$ 140.9	27.7%	\$ 321.4	63.2%	\$ 1.4	0.3%	\$ 0.0	0.0%	\$ 33.9	6.7%	\$ 10.8	2.1%	\$ 508.4	100.0%
Business District Development	80.7	29.3%	172.5	62.6%	0.0	0.0%	0.0	0.0%	19.4	7.0%	2.9	1.0%	275.5	100.0%
Industrial Sites and Parks	60.2	25.8%	148.9	63.9%	1.4	0.6%	0.0	0.0%	14.5	6.2%	7.9	3.4%	232.9	100.0%
General Government	\$ 252.7	35.1%	\$ 128.8	17.9%	\$ 318.3	44.2%	\$ 20.0	2.8%	\$ 0.0	0.0%	\$ 0.8	0.1%	\$ 720.6	100.0%
Public Buildings	157.1	26.9%	108.5	18.6%	296.7	50.9%	20.0	3.4%	0.0	0.0%	0.7	0.1%	583.0	100.0%
Other Facilities	95.6	69.5%	20.3	14.7%	21.6	15.7%	0.0	0.0%	0.0	0.0%	0.1	0.1%	137.6	100.0%
Grand Total	\$ 5,650.8	13.4%	\$ 7,829.3	18.5%	\$ 26,087.5	61.7%	\$ 718.2	1.7%	\$ 448.3	1.1%	\$ 1,574.2	3.7%	\$ 42,308.4	100.0%

**Table 6. Needed Infrastructure Improvements in Millions and Percent of Total
by Category, Project Type, and Stage of Development
Five-year Period July 2013 through June 2018**

Category and Type of Infrastructure	Conceptual				Planning & Design				Construction			
	Number		Cost		Number		Cost		Number		Cost	
Transportation and Utilities	7,305	84.1%	\$ 12,036.8	46.5%	874	10.1%	\$ 9,560.0	36.9%	507	5.8%	\$ 4,303.7	16.6%
Transportation	7,264	84.4%	11,901.2	46.4%	851	9.9%	9,486.7	37.0%	491	5.7%	4,283.0	16.7%
Other Utilities	41	51.3%	135.5	59.1%	23	28.8%	73.3	32.0%	16	20.0%	20.6	9.0%
Education	2,296	56.1%	\$ 4,678.9	55.1%	867	21.2%	\$ 1,627.1	19.2%	931	22.7%	\$ 2,188.8	25.8%
Post-secondary Education	219	40.3%	1,931.6	42.3%	132	24.3%	903.6	19.8%	192	35.4%	1,733.9	37.9%
School Renovations & Replacements	1,800	57.2%	1,399.6	66.1%	644	20.5%	369.0	17.4%	703	22.3%	350.1	16.5%
New Public Schools & Additions	257	68.9%	1,303.1	75.8%	85	22.8%	318.0	18.5%	31	8.3%	97.3	5.7%
Other Education	10	58.8%	36.3	47.7%	5	29.4%	36.3	47.6%	2	11.8%	3.6	4.7%
School System-wide	10	71.4%	8.3	67.4%	1	7.1%	0.2	1.5%	3	21.4%	3.8	31.2%
Health, Safety, and Welfare	884	57.2%	\$ 2,185.3	43.8%	398	25.8%	\$ 1,363.9	27.3%	263	17.0%	\$ 1,444.4	28.9%
Water and Wastewater	625	56.1%	1,327.7	38.9%	297	26.7%	991.5	29.0%	192	17.2%	1,096.0	32.1%
Law Enforcement	101	56.4%	449.8	49.9%	41	22.9%	235.3	26.1%	37	20.7%	215.9	24.0%
Public Health Facilities	31	62.0%	261.1	73.9%	11	22.0%	24.3	6.9%	8	16.0%	68.1	19.3%
Fire Protection	71	67.6%	76.1	43.4%	22	21.0%	82.3	46.9%	12	11.4%	17.1	9.8%
Storm Water	33	57.9%	51.7	47.4%	16	28.1%	17.8	16.3%	8	14.0%	39.5	36.2%
Solid Waste	14	45.2%	14.3	41.1%	11	35.5%	12.8	36.7%	6	19.4%	7.7	22.2%
Housing	9	100.0%	4.6	100.0%	0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%
Recreation and Culture	422	56.3%	\$ 718.0	42.5%	206	27.5%	\$ 577.6	34.2%	122	16.3%	\$ 395.0	23.4%
Recreation	333	56.8%	405.1	39.0%	156	26.6%	390.5	37.6%	97	16.6%	242.9	23.4%
Libraries, Museums, & Historic Sites	48	55.8%	201.2	54.3%	28	32.6%	149.7	40.4%	10	11.6%	19.5	5.3%
Community Development	41	52.6%	111.6	39.6%	22	28.2%	37.4	13.3%	15	19.2%	132.6	47.1%
General Government	152	66.4%	\$ 450.2	62.5%	48	21.0%	\$ 123.5	17.1%	29	12.7%	\$ 146.9	20.4%
Public Buildings	116	65.5%	354.5	60.8%	37	20.9%	104.3	17.9%	24	13.6%	124.2	21.3%
Other Facilities	36	69.2%	95.7	69.6%	11	21.2%	19.2	13.9%	5	9.6%	22.7	16.5%
Economic Development	76	57.6%	\$ 173.6	34.1%	30	22.7%	\$ 57.2	11.2%	26	19.7%	\$ 277.7	54.6%
Business District Development	12	37.5%	20.0	7.2%	10	31.3%	21.7	7.9%	10	31.3%	233.9	84.9%
Industrial Sites and Parks	64	64.0%	153.6	66.0%	20	20.0%	35.5	15.2%	16	16.0%	43.8	18.8%
Grand Total	11,135	72.1%	\$ 20,242.8	47.8%	2,423	15.7%	\$ 13,309.1	31.5%	1,878	12.2%	\$ 8,756.5	20.7%

Note: The project count includes all projects at a school. A school can have more than one project and those projects can be in different stages. For complete listings of costs by project type, stage of development, and county, see appendix D.

State and federal mandates affect 3.3% 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 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 that mandates affect. Other than schools, the numbers are small (see table 7) and have been a small percentage, around 5%, for many years. The inclusion of all bridges rated insufficient by a state inspector with an identified remedy and associated cost estimate, as discussed on pages 7 and 9, brings this year's percentage down to 3.3%. See figure 5. Since the bridge improvements are not mandated, their inclusion increases the total number of projects but not the number of mandated projects, producing a lower percentage.

Table 7. Percent of Projects Affected by Mandates
Five-year Period July 2013 through June 2018

Type of Infrastructure	Number of Projects or Schools Reported	Projects or Schools Affected by Mandates	
		Number	Percent
School Renovations & Replacements	1,283	242	18.9%
Transportation	8,606	54	0.6%
Post-secondary Education	543	53	9.8%
Recreation	586	32	5.5%
Water and Wastewater	1,114	25	2.2%
Public Buildings	177	10	5.6%
Law Enforcement	179	9	5.0%
Public Health Facilities	50	6	12.0%
Community Development	78	5	6.4%
Fire Protection	105	5	4.8%
Libraries, Museums, and Historic Sites	86	3	3.5%
New Public Schools & Additions	271	2	0.7%
Solid Waste	31	1	3.2%
Storm Water	57	1	1.8%
Business District Development	32	1	3.1%
Other Education	17	1	5.9%
School System-wide	0	0	0.0%
Housing	9	0	0.0%
Industrial Sites and Parks	100	0	0.0%
Other Facilities	52	0	0.0%
Other Utilities	80	0	0.0%
Grand Total	13,456	450	3.3%

Note: The project count includes all projects at a school and a school can have more than one project.