

## Overview

Tennessee is a low-tax state, and Tennesseans like it that way. Our citizens prefer that goods and services be provided by the private sector if at all possible. Nevertheless, there are some projects essential to the common good that the private sector cannot or will not take on. And so government must pick them up. One of the most expensive things government must do is provide the infrastructure that supports the health and welfare of its citizens.

This report is the third in a series that presents Tennessee's public infrastructure needs. It covers the five-year period of July 2001 through June 2006 and provides two basic types of information as reported by local officials: (1) needed infrastructure improvements and (2) the condition of existing elementary and secondary (K-12) public schools. The projects reported by state and local officials fall into six broad categories:

**Table 1. Summary of Reported Needed Infrastructure Improvements  
Five-year Period July 2001 through June 2006<sup>1</sup>**

<b>Category<sup>2</sup></b>	<b>Number of Projects or Schools Reported</b>		<b>Five-year Reported Estimated Cost</b>	
Transportation & Utilities	1,356	21.0%	\$ 8,320,311,820	40.7%
Education <sup>3</sup>	1,635	25.3%	4,779,475,405	23.4%
Health, Safety & Welfare	2,142	33.1%	4,408,005,642	21.6%
Recreation & Culture	826	12.8%	1,712,485,731	8.4%
Economic Development	239	3.7%	878,112,513	4.3%
General Government	267	4.1%	352,856,407	1.7%
<b>Grand Total</b>	<b>6,465</b>	<b>100.0%</b>	<b>\$20,451,247,518</b>	<b>100.0%</b>

These needs represent the best estimates that state and local officials could provide and do not represent only what they anticipate being able to afford. Additional information was gathered in the most recent inventory about availability and sources of funds. Preliminary analysis indicates that just under half of the funding necessary is expected to be available by the time these projects are needed. Nearly two-thirds of that funding is expected to come from local sources, about one-fifth is expected to come from state sources, one-tenth from federal sources and about two percent from various public-private partnerships or donations. This information will be reviewed and presented in greater depth in a later TACIR report.

<sup>1</sup> For a complete listing of all reported needs by county and by public school system, see Appendices D and E.

<sup>2</sup> A list of the types of projects included in the six general categories is shown in Table 3. Descriptions of the project types are included in the Glossary of Terms at the end of this report.

<sup>3</sup> Includes improvements needed at existing schools. Number of projects includes the 1,283 schools for which needs were reported.

## Why inventory public infrastructure needs?

The General Assembly proclaimed the value of public infrastructure in legislation enacted in 1996 when it deemed an inventory of those needs necessary “in order for the state, municipal and county governments of Tennessee to develop goals, strategies and programs which would

improve the quality of life of its citizens,

support livable communities, and

enhance and encourage the overall economic development of the state through the provision of adequate and essential public infrastructure.”<sup>4</sup> The public infrastructure needs inventory on which this report is based was derived from surveys of local officials by staff of the state’s developmental districts and information collected from the capital project budgets of state agencies. Local officials were asked to describe the needs they anticipated for the five-year

period of July 2001 through June 2006, categorizing those needs by type of project and by stage of development. The Commission has relied entirely on state and local officials to determine the infrastructure needs of their constituents as envisioned by the public act.

**“That mealy-mouthed word, infrastructure. It sticks to the roof of the mouth like peanut butter on white bread. But there is no level of human concern in America—race, economic fulfillment of the individual, fairness/equality, social justice, competitiveness, raising the national spirit and standards of living—that is not addressed, attended to, and ameliorated by the contribution that the infrastructure makes to our well-being.”**

*Jim Lebenthal  
Vice-Chair  
Rebuild America Coalition*

## What infrastructure is included in the inventory?

For purposes of this report, based both on the direction provided in the public act and common usage, public infrastructure is defined as

*capital facilities and land assets under public ownership or operated or maintained for public benefit.*

Further, to be included in the inventory, infrastructure projects must not be considered normal or routine maintenance and must involve a capital cost of at least \$50,000. This approach, dictated by the public act, is consistent with the characterization of capital projects adopted by the General Assembly for its annual budget.

Within these parameters, local officials are encouraged to report their needs as they relate to developing goals, strategies and programs to improve their communities. They are limited only by the very broad purposes for public infrastructure listed in the law. No independent assessment of need constrains their reporting. Further, for the current inventory, local officials were provided an opportunity to report whether projects were funded, and if so, from what source. Nevertheless, despite efforts to ensure that availability of funds played no role in whether needs were reported, it appears that in some cases local officials continue to understate their true needs and reported instead the infrastructure they plan to build or believe their tax base can support. As a result, it may again be useful to treat the inventory as a sample of statewide needs and use it to develop estimates for counties whose needs appear to be underreported. Some discussion of this type of analysis is included in this report; however, given the extensive amount of information gathered for the inventory, much more work could be done.

<sup>4</sup> Chapter No. 817, Public Acts of 1996. For more information about the enabling legislation, see Appendix A.

In addition, for the first time, the inventory includes capital projects requested by state agencies during the 2001-02 state budget cycle. The bulk of these projects are not expected to be funded because of the fiscal constraints currently facing the state. Most of them were not included in the Governor's recommended budget for this reason, but all are included in the current needs inventory. They include a wide array of needs representing each of the six major categories. Among the projects requested by state agencies are

- security and other health and safety needs at the state prisons—\$28 million including \$17 million for the Tennessee Correction Academy near Tullahoma;
- roof replacements and other major renovations at the National Guard Armories across the state—\$11.7 million including \$3.9 million for a soldier readiness center near New Tazewell;
- upgrades, renovations and additions to the campuses of the state's public higher education institutions—\$1.1 billion including \$651.0 million for new facilities at various campuses across the state;
- renovations and upgrades at the various youth development centers across the state—\$15.4 million;
- renovations, upgrades and other improvements such as new cabins at the state parks and natural areas across the state—\$37.3 million;
- renovations and upgrades at the state's special schools—a total of \$16.1 million, half of which is needed to repair major structural problems in the cottages at the School for the Deaf in Knoxville; and
- major renovations and upgrades at the state's mental health institutes—\$138.3 million including \$77.4 million for the Lakeshore Mental Health Institute in Knoxville.

### **What have we learned about public infrastructure needs?**

**State and local officials report a total need for public infrastructure improvements for 2001 through 2006 of nearly \$20.5 billion, including upgrading existing public schools to good condition.** This represents an increase of \$6.8 billion or almost 50 percent since the first inventory was published three years ago. Transportation and utilities represents the single largest category and the largest increase in estimated costs (from \$5.3 billion to \$8.3 billion). The second largest increase, however, was in the education category, which is attributable to two major efforts: first, the concerted effort made in 2000-01 by TACIR staff and development district staff, with the support of state education officials, to ensure that the needs of public schools were fully and consistently reported; and second, to the inclusion of public higher education needs reported by state officials in their 2001-02 budget requests submitted to the Governor. The total estimated cost for the education category, including non-K-12 education projects, increased 80 percent (from \$2.7 billion to \$4.8 billion).

**Needs reported by local officials for public elementary and secondary school facilities declined by more than ten percent since the last report.** The current inventory includes a total of just under \$3.6 billion in needs, which is down almost \$162 million from the last report. That report was based on an inventory begun two years earlier. The estimated costs reported for new school construction declined about \$153 million (nine percent), which may indicate that Tennessee public school systems are beginning to catch up with their new school needs;

however, the estimated cost of improvements needed at existing schools increased almost \$43 million, and the total for all public school facility needs remains significant at nearly 18 percent of all reported infrastructure needs.

The Education Improvement Act of 1992 (EIA) set a deadline of fall 2001 for the new standards to be met, and school systems across the state have been striving to meet them since 1992. According to the Tennessee Department of Education, all schools met the new class-size standards for school year 2001-02. While they employed a sufficient number of teachers to meet those standards, TACIR staff analysis of the projects indicates that more than \$1.3 billion of the needs reported by local officials are required to provide adequate classrooms for all of those teachers. Most of that cost is reported as new school construction. (TACIR staff estimated the portion of the new school construction costs attributable to the EIA as described in Appendix F.)

**Statistical analyses by TACIR staff indicate that the total statewide need could be as much as \$22 billion rather than the \$20.5 billion actually reported.** This estimate is based on the greater of the amount actually reported for each county or the amount projected for the county if its costs were more in line with costs reported by all counties while taking into account such factors as population, population growth, the proportion of the population considered urban, property tax base, sales tax base, per capita income, and the development district for each county. All data was divided by the geographic area within each county so that counties of different sizes could be fairly compared. Based on several statistical analyses by TACIR staff, low reported infrastructure costs continue to appear to be related to relatively low tax bases and per capita income. In other words, some local officials may be reporting not their need, but what they believe their locality can realistically afford.

**Projects in capital improvement plans continue to be far more likely to be under construction than are projects not included in those plans, which may indicate that a larger percentage of projects not included in plans cannot be funded.** One of the questions asked on the general survey form is whether the project reported is included in a capital improvement plan.<sup>5</sup> More than 51 percent of the projects not included in plans were in the conceptual stage and nearly a third were in the planning and design stage. In contrast, 40 percent of projects reportedly in capital improvement plans were under construction at the time of the survey; only 20 percent were still in the conceptual stage.

**State or federal mandates affect about 8.9 percent of all projects in the current inventory.** Except in the case of existing public schools, it is not clear from the data gathered in the current inventory how much of the total estimated costs reported is attributable to state or federal mandates; however, the overall number of projects affected by mandates, such as the Americans with Disabilities Act, is relatively small. Specific cost information on the cost of mandates at existing public schools is gathered as part of the inventory. In addition, TACIR staff used student counts from 1992 through 2001 to estimate the proportion of new school construction costs attributable to the EIA. Combining both reported costs and TACIR estimates, state and federal mandates account for about 40 percent of all needs reported for Tennessee's public schools. Nearly all of that amount is related to providing classrooms for the teachers necessary to meet the lower class sizes required by the EIA. Federal mandates account for only one percent of the total reported for local schools.

<sup>5</sup> A copy of the form is included in Appendix C.

### What else needs to be done?

Great strides have been made since the inception of the inventory to improve its coverage and quality. TACIR has tried to strike a balance between requiring sufficient information to satisfy the intent of the law and creating an impediment to local officials reporting their needs. By law, the inventory is required of TACIR, but it is not required of local officials. Local officials may decline to participate without penalty; similarly, they may provide only partial information, making comparisons across jurisdictions difficult.<sup>6</sup>

Since the passage of Public Chapter 817, the General Assembly has adopted a new growth policy act (Chapter No. 1101, Public Acts of 1998) and, further, has formally linked the two (Chapter No. 672, Public Acts 2000). TACIR is now directed to use the public infrastructure needs inventory as one element in monitoring implementation of the Growth Policy Act. This linkage requires two significant changes in the survey used to gather information for the inventory: Asking local officials to project their infrastructure needs over a twenty-year period and asking them to identify the locations of the projects they report in terms of the boundaries established pursuant to the growth policy act.<sup>7</sup> Estimating infrastructure needs over a twenty-year period is quite a challenge for local officials, and the information that can be derived from those projections is inherently less reliable than the information derived from the five-year reporting period of the first two inventories. Nevertheless, with staff support, the Commission will review progress toward implementing this aspect of Public Chapter 672 and recommend any changes that may be needed to meet the goals of the infrastructure inventory and the growth policy act. While this report focuses on the first five years of needs reported in the current inventory, the full 20-year data set will be reviewed over the next several months and presented in the context of the growth policy act.

Over the coming months, TACIR staff will also analyze and publish information about several new bits of information gathered about infrastructure needs in this most recent inventory.

#### Availability of funds for reported needs:

- ◆ Local
- ◆ State
- ◆ Federal
- ◆ Other (donations, etc.)

#### Driving force behind reported needs:

- ◆ Economic Development
- ◆ Community Enhancement
- ◆ Population Growth
- ◆ Public Health or Safety
- ◆ State or Federal Mandates
- ◆ Other (deferred maintenance, etc.)

#### Relationship between infrastructure needs and population density and growth:

- ◆ Is there one?
- ◆ If so, what is it?
- ◆ Does it vary with how urban or rural an area is?

Location of projects in relation to boundaries established pursuant to Tennessee's Growth Policy Act [Chapter No. 1101, Public Acts of 1998], including a review of estimated needs through the fiscal year 2021, the period covered by most of the initial growth plans adopted under PC 1101.

<sup>6</sup> For a brief summary of the history of the public infrastructure needs inventory project, see Appendix B.

<sup>7</sup> Appendix A includes the relevant legislation.



## Introduction: Basics of the Infrastructure Needs Inventory

The public infrastructure needs inventory is developed using two separate, but related inventory forms.<sup>8</sup> Both forms are used to gather information about needed infrastructure improvements; the second is also used to gather information about the condition of existing public school buildings, as well as the cost to meet all facilities mandates at the schools, put them in good condition and provide adequate technology infrastructure. Information about the need for new public school buildings and school-system-wide infrastructure improvements is gathered in the first form. This report begins with a statewide look at the information from both inventory forms and continues with a closer look at school systems.

In addition to gathering information from local officials, TACIR staff incorporated capital improvement requests submitted by state officials to the Governor's Office into the current inventory. Information reported in the inventory is based on the judgment of state and local officials. In many cases, information is found in the capital improvement programs of local governments. In order to be included in the inventory, projects reported by local officials must be recorded on the forms provided by TACIR. Both forms—the general form and the form for existing schools—include questions about the status of the projects reported and their relationship to state and federal mandates. Project status may be

- conceptual—an infrastructure need with an estimated cost, but not yet in the process of being planned or designed,
- planning and design—development of a set of specific drawings or activities necessary to complete a project identified as an infrastructure need, or
- construction—actual execution of a plan or design developed to complete or acquire a project identified as an infrastructure need.

Every project included in the inventory for this report was in one of these three phases during the five-year period of July 2001 through June 2006. Because the source of information from state agencies was their capital budget requests for 2001-02, all of those projects were recorded as conceptual. Each project was required to have either a beginning or an ending date within that period and an estimated capital cost of at least \$50,000.

In the context of the public infrastructure needs inventory, the term mandate is defined as *any rule, regulation, or law originating from the federal or state government that affects the cost of a project.*<sup>9</sup> The most commonly reported mandates relate to the Americans with Disabilities Act (ADA), asbestos, lead, radon, underground storage tanks and the Education Improvement Act (EIA). The EIA mandate is to reduce the number of students in each public school classroom by an overall average of about 4.5. That mandate became effective in fall 2001, and Tennessee public schools had been working toward it since the passage of the EIA in 1992.

**Mandates affect only 8.9% of all reported projects, but account for 39.5% of the total needs reported for public school facilities—nearly all of that is related to the EIA.**

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<sup>8</sup> Both forms are included in Appendix C.

<sup>9</sup> See the Glossary of Terms at the end of this report.

Except in the case of existing public schools, the inventory does not include estimates of the cost to comply with mandates, only whether the need was the result of a mandate; therefore, mandates themselves are not analyzed here except to report the number of projects with aspects related to mandates. Even in the case of public schools, aside from the EIA, the cost reported to TACIR as part of the public infrastructure needs inventory is relatively small at less than two percent of the total.