BUILDING TENNESSEE'S TOMORROW



Anticipating the State's Infrastructure Needs

Tennessee
Advisory
Commission on
Intergovernmental
Relations

March 2002

State of Tennessee Tennessee Advisory Commission on Intergovernmental Relations

Legislative members

Senator Robert Rochelle, CHAIR LEBANON

Senator Ward Crutchfield Chattanooga

Senator Tommy Haun Greeneville

Senator Douglas Henry Nashville

Senator Mark Norris Collierville

Representative Jere Hargrove

Representative Matthew Kisber Jackson

Representative Steve McDaniel Lexington

Representative Randy Rinks Savannah

Representative Larry Turner Memphis

Other Members

Truman Clark, Vice Chair Carter County Executive

Nancy Allen Rutherford County Executive

Mayor Victor Ashe Knoxville

Lana Bowman Ball Jonesborough

David Coffey Oak Ridge

Mary Jo Dozier Councilwoman of Clarksville

Mayor Sharon Goldsworthy Germantown

Jeff Huffman
Tipton County Executive

Commissioner Ruth Johnson Department of Revenue

Judy Medearis County Officials Assn. of TN

Comptroller John Morgan Comptroller of Treasury

Maynard Pate TN Development District Assn.

Mayor Jim Rout Shelby County

Mayor Tom Rowland Cleveland

Thomas Varian Knoxville

TACIR:

Harry A. Green Executive Director

Address:

226 Capitol Blvd., Suite 508 Nashville, TN 37243 615-532-2443 (FAX) 615-741-3012 March 2002

The Honorable John S. Wilder Speaker of the Senate

The Honorable Jimmy Naifeh Speaker, House of Representatives

Members of the General Assembly

State Capitol Nashville, TN 37243

Ladies and Gentlemen:

Transmitted herewith is the third in a series of reports on Tennessee's infrastructure needs by the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) pursuant to Public Chapter 817, Acts of 1996. That act requires the TACIR to compile and maintain an inventory of infrastructure needed in Tennessee and present these needs and associated costs to the General Assembly during its regular legislative session. The inventory, by law, is designed to support the development by state and local officials of goals, strategies and programs to

- improve the quality of life of all Tennesseans,
- · support livable communities, and
- enhance and encourage the overall economic development of the state through the provision of adequate and essential public infrastructure.

This report represents the TACIR's continuing efforts to improve the inventory, the two primary examples being inclusion for the first time of needs identified by state agencies in capital budget requests submitted to the Governor and refinement of the county comparisons to exclude regional projects, thereby more accurately describing the differences across counties in relation to population. Each year, the TACIR staff and staff of the nine development districts who gather information for the inventory strive to improve accuracy and coverage. Evidence of this improvement is a decrease in the difference between reported costs and costs estimated from the inventory based on population, land area and fiscal data.

Future reports will focus on the new information included in the inventory such as funding availability and location in relation to boundaries established under the Growth Policy Act (Public Chapter 1101, Acts of 1998) as required by Public Chapter 672, Acts of 2000.

Sir	ncerely,
Senator Robert Rochelle Chairman	Harry A. Green, Ph.D. Executive Director



JUNE 2001 THROUGH JUNE 2006

Prepared by

Harry A. Green, Ph.D. Lynnisse Roehrich-Patrick, J.D. **Executive Director Director of Special Projects**

T. Alan Waddell, M.S. Casey Dungan, M.P.A. Research Associate Senior Research Associate

> Brian Avent Information Systems Support



JUNE 2001 THROUGH JUNE 2006

Acknowledgements

Public Infrastructure Needs Inventoried by Development District Staff:

First Tennessee Development District Susan Reid. Executive Director Beulah Ferguson, Director of **Special Projects**

East Tennessee Development District Terry Bobrowski, Executive Director Wendy Carson, Regional Planner

Upper Cumberland Development District Wendy Askins, Executive Director Jason Thompson, Planner Southeast Tennessee Development District Joe Guthrie, Executive Director Mark Cranford, M.P.A., Regional Planner Chuck Hammonds, Regional Planner

Greater Nashville Regional Council Maynard Pate, Executive Director Phil Armor, Director of Regional Planning Tonya Blades, Regional Planner Annie Trauernicht, Chief Research Analyst

South Central Tennessee Development District

Northwest Tennessee Development District John Bucy, Executive Director Ken Steele, Planner Joe Max Williams, Executive Director David Fulkerson, Rural Development Specialist

Memphis Area Association of Governments John Sicola, Executive Director Carol Adams, Planner Southwest Tennessee Development District Evelyn Robertson, Jr., Executive Director Dvon Fulk, Economic Development Director Frank Zerfoss, Planner Angela Reid, Planner

Publication Layout and Printing by

Tennessee Department of General Services Printing Division / Graphic Arts

The staff of the TACIR would like to acknowledge the contributions of L. Mark McAdoo, M.S., who served as project manager from October 1999 through November 2001 and played a major role in improving the quality of the inventory. The staff would also like to acknowledge the support of Robert Freeman, who served as executive director for the East Tennessee Development District through the first three inventories.

Executive Summary

Adequate infrastructure is essential to economic growth, just as economic growth is essential to individual prosperity. Recognizing this, the Tennessee General Assembly charged the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) with developing and maintaining an inventory of the infrastructure needs "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."

[Public Chapter 817, Acts of 1996.]

This report is the third in a series that presents Tennessee's public infrastructure needs as reported by local officials and the first to include needs submitted by state agencies as part of their budget requests to the Governor. It covers the five-year period of July 2001 through June 2006 and provides two basic types of information: (1) needed infrastructure improvements and (2) the condition of existing elementary and secondary (K-12) public schools. It does not include highway construction projects

Reported Infrastructure Needs

Transportation & Utilities - \$8.3 billion Education - \$4.8 billion Health, Safety & Welfare - \$4.4 billion Recreation & Culture - \$1.7 billion Economic Development - \$878 million General Government - \$353 million Grand Total - \$20.5 billion

identified by the Tennessee Department of Transportation (TDOT) except those reported by local officials. The full range of needs identified by state transportation officials will be included in a later report.

The needs reported by state and local officials fall into the six broad categories shown in the sidebar below left. A number of conclusions may be drawn from the information included in the inventory:

- The total need for public infrastructure improvements for 2001 through 2006 is nearly \$20.5 billion—including upgrading existing public schools to good condition—an increase in reported need of more than \$6.8 billion (up nearly 50 percent) since the first inventory was published three years ago and an increase of about \$2.3 billion (twelve percent) from the February 2001 report, which was based on an inventory begun two years earlier.
- Transportation and utilities remained the single largest category and had the second largest increase in estimate costs (from \$7.4 billion of \$8.3 billion) since the last report. That figure will increase with the addition of the TDOT highway projects that were not reported by local officials.
- The second largest category is education. This category had the largest increase in estimated costs (from \$3.8 billion to 4.8 billion or more than 24 percent since the last report). The education category includes public postsecondary institutions, as well as public elementary and secondary schools. Because of the effort to include needs identified by state agencies, estimated postsecondary costs grew ten-fold, accounting for all of the increase in this broad category. Infrastructure improvements needed for the

JUNE 2001 THROUGH JUNE 2006

public elementary and secondary school system actually declined, indicating that Tennessee's school systems may be starting to catch up with their needs.

- According to the Tennessee Department of Education, all schools met the required classsize standards for school year 2001-02. While they employed a sufficient number of teachers to meet that standard, based on TACIR staff analysis, they expect to need more than \$1.3 billion statewide to provide adequate classrooms for all of those teachers.
- According to local government officials, nearly three-fourths of all public schools in Tennessee are in good or better condition. Nevertheless they estimate the total cost for infrastructure projects needed between fiscal years 2001 and 2006 at nearly \$3.6 billion. This figure includes new school construction, system-wide needs, mandate compliance, facility upgrades and technology infrastructure needs for kindergarten through high school.
- State or federal mandates affect about 8.9 percent of all projects in the current inventory. The lower class sizes required by the Education Improvement Act (EIA) of 1992 may be responsible for about 38 percent of the infrastructure improvement costs reported by all local school officials based on specific cost information for existing public schools gathered as part of the inventory and estimates by TACIR staff of the proportion of new school construction costs attributable to the EIA. Federal mandates account for about one percent of the total reported for schools.

Highlights of New Initiatives

Over the coming months, TACIR staff will 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 [Public Chapter 1101, 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.

Table of Contents

Overview	1
Why Inventory Public Infrastructure Needs?	2
What Infrastructure Is Included in the Inventory?	
What Have We Learned about Public Infrastructure Needs?	
What Else Needs to Be Done?	
Introduction: Basics of the Infrastructure Needs Inventory	7
Reported Infrastructure Needs Statewide	9
Reported Infrastructure Needs Have Grown Almost 50 Percent since the 1998 Inventory.	
Transportation, Education, and Water and Wastewater Dominate Statewide Needs	
City Ownership Dominates Four of the Six Major Categories of Need	
Stage of Development Varies with Type of Project	
Projects Included in Capital Improvement Programs Are Far More Likely to Be Under	
Construction	15
State or Federal Mandates Affect More than Eight Percent of All Projects and	
Account for More than Forty Percent of Elementary and Secondary School Costs	15
Reported Infrastructure Needs by County	19
The Largest Infrastructure Needs Are in Counties with the Largest Population Gains—	
Smallest Reported Needs Not So Easily Explained	
Higher Costs per Capita Are Associated with Larger Population Gains	
High Growth Rates Do Not Necessarily Mean High Costs per Capita	22
The Bottom Ten Counties for Total Reported Needs Are Not as Easily Explained	
as the Top Ten Counties	23
When Population Factors Do Not Explain the Relatively Low Costs Reported by Some	
Counties, Local Tax Base Factors May	25
Reported Public School Conditions And Needs	27
Seventy-four Percent of Tennessee's Public Schools Are in Good or	
Excellent Condition, but Upgrades of \$1.5 Billion Are Still Needed	28
The EIA Remains the Most Significant Mandate for Tennessee Schools	
Average Cost per Student to Meet Infrastructure Needs Varies Widely	
7.1.0.1.0go 0.001 por 0.1.001 initiation of 1.1.000 1.	
Appendices	33
Appendix A: Enabling Legislation	35
Appendix B: Project History	45
Appendix C: Survey Forms	
Appendix D: Reported Public Infrastructure Needs by County	55
Appendix E: Public School System Infrastructure Needs by School System	177
Appendix F: TACIR Methodology for Estimated Costs of New Schools Attributable	
to the Education Improvement Act	213
Glossary of Terms	215
Tennessee Development District Map	221