A Commission Report to the 101st General Assembly

Tennessee

Public Infrastructure Needs Inventory Assessment

for

FY 1998

Tennessee Advisory Commission on Intergovernmental Relations

January 1999

State of Tennessee

Tennessee Advisory Commission on Intergovernmental Relations

TACIR:

Harry A. Green
Executive Director

Address:

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

January 1999

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:

We are transmitting herewith an assessment of public infrastructure needs identified by local governments and other entities in Tennessee. The Tennessee Advisory Commission on Intergovernmental Relations (TACIR) was directed by Public Chapter No. 817, Acts of 1996, to annually compile and maintain an inventory of needed public infrastructure within the state. That Act also directs the TACIR to present these infrastructure needs and related costs to the General Assembly.

From the beginning of this monumental process, the TACIR adopted a goal to make the infrastructure inventory relative to other local, regional, and statewide economic development goals and plans. This report is viewed as a tool that can assist Tennessee in managing such initiatives as Tennessee's new and comprehensive growth policy legislation: Public Chapter 1101, Acts of 1998.

This report represents the first effort by any public or private agency or organization to provide such a comprehensive infrastructure needs assessment.

Sincerely,

Senator Robert Rochelle
Chairman

Harry A. Green, Ph.D.
Executive Director and
Research Director

Tennessee
Public Infrastructure Needs Inventory
Assessment for FY 1998

Prepared by:

Harry A. Green
Executive Director and
Project Director

John F. Norman
Associate Executive Director
and Project Manager

C. Bennett McClure, II
Research Associate
and Project Coordinator

Technical Support:

Cherri Brady
Publications Assistant

The Tennessee Advisory Commission on Intergovernmental Relations

January 1999

Acknowledgements

Many people representing a varied assortment of organizations and agencies contributed to the content of this report. It must be noted that this report could not have been completed without the cooperation of the many county and municipal officials responding to the survey questions of the Tennessee Advisory Commission on Intergovernmental Relations (TACIR). We also thank officials representing special districts, chambers of commerce, economic development agencies, and other private citizens for identifying infrastructure needs from the perspectives of their organizations.

The arduous task of collecting infrastructure needs data from local governments and other entities was accomplished by the staff of Tennessee's nine development districts. The development district directors are:

Susan Roberts-Reid
Executive Director
First Tennessee Development District

Robert Freeman
Executive Director
East Tennessee Development District

Joe Guthrie
Executive Director
Southeast Tennessee Development District

Wendy Askins
Executive Director
Upper Cumberland Development District

Maynard Pate
Executive Director
Greater Nashville Development District

Joe Max Williams
Executive Director
South Central Tennessee Development Dist.

Robert W. Brandon
Executive Director
Northwest Tennessee Development District

Evelyn C. Robertson, Jr.
Executive Director
Southwest Tennessee Development District

John Sicola
Executive Director
Memphis Area Association of Governments

Special thanks also goes to Dr. Ernestine McWherter, Executive Director of the Tennessee Organization of School Superintendents and members of the Superintendents' Study Council for their help in designing the K-12 public education infrastructure needs survey instrument. Jim Stephens and Jim Jones from the Tennessee Department of Education also provided input into the development of that survey instrument.

Technical assistance in the development of the eighteen regional databases (a "general infrastructure" database and "K-12 education" facilities database for each development district) and in a similar format, two state-wide databases used in creating this report was developed with the assistance of Mr. Griff Akins and Ms. Donporn Wangsawiboon. The services of Mr. Akins and Ms. Wangsawiboon were provided through a contract with the Business and Economic Research Center at Middle Tennessee State University. Dr. Reuben Kyle, Director of the Business and Economic Research Center, was instrumental in expediting the contract and for arranging the services of these MTSU Computer Information Systems interns.

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INTRODUCTION

The Public Infrastructure Needs Inventory Act (P.C. No. 817 of 1996) requires the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) to annually compile and maintain an inventory of needed public infrastructure within the state. The General Assembly determined that an inventory of infrastructure needs is necessary in order for the state and local governments to develop goals, strategies and programs to:[1]

- improve the quality of life of its citizens;
- support livable communities; and
- enhance and encourage the overall economic development of the state.

From the beginning of the data collection and analysis process, the Commission had one primary goal for the inventory:[2]

> *"Make the public infrastructure needs inventory relative to overall local, regional and statewide economic development goals and plans initiated in Tennessee."*

In 1998, the Tennessee General Assembly passed a law that has become the most comprehensive growth policy legislation ever enacted in this state. This legislation, Public Chapter 1101, represents a new vision for growth policy in Tennessee. Public infrastructure plays an important part in the growth policy aspect of P.C. 1101. Section 7 of that Act pertains to factors local governments must consider when identifying specific growth areas. Public infrastructure is one of the most critical issues local governments must address to comply with Section 7 of the new act.

Specifically, that section states that each city and county must determine and report the projected costs of providing infrastructure, urban services and public facilities – in their respective areas of responsibility – and determine the feasibility of recouping such costs by the imposition of taxes. Local governments must conduct an inventory and analysis of services for the urban growth boundaries, the planned growth areas, and the rural areas.

For those local governments that annually construct a capital improvement plan (CIP), the analysis of service needs will be somewhat easier. However for local governments, who do not construct a CIP, the infrastructure data collected by TACIR is the only information available for analysis from these communities. In the future, the TACIR and the development districts of Tennessee will focus on adapting our infrastructure survey to meet the critical needs of local governments in their efforts to comply with P.C. 1101.

This report represents the first effort by any public or private agency or organization to provide a comprehensive assessment of all public infrastructure needs in Tennessee. Hundreds of local government officials and private citizens have contributed information to TACIR's voluminous infrastructure database. Much of this data can be used, with the infrastructure reporting requirements of P.C. 1101 specifically in mind, for other purposes. The data for specific categories of infrastructure will be shared with those agencies of Tennessee's state government responsible for their planning and implementation.

BACKGROUND

On April 11, 1996, the General Assembly passed the Public Infrastructure Needs Inventory Act, sponsored by Senator Robert Rochelle (Senate District 17) and Representative Shelby Rhinehart (House District 37). This Act was signed into law by Governor Sundquist as Public Chapter No. 817 on April 25, 1996. The Act, which became effective July 1, 1996, requires the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) to be the lead agency for compiling and maintaining an annual inventory of needed public infrastructure within the state. See Appendix 3 for a copy of this act.

Early support for an infrastructure needs inventory came from the Rebuild Tennessee Coalition (RTC) and the Tennessee Development District Association (TDDA). The RTC is a coalition of public and private organizations committed to reversing the decline in Tennessee's investment in infrastructure. The TDDA is comprised of the nine development districts that provide planning and development assistance to the local governments in their respective regions. See Appendix 1-B for a list of development districts and the counties each district serves.

The main participants in the infrastructure inventory are the local governments being surveyed, the TACIR, and the nine development districts that are contracted to conduct inventory surveys. The key participants in the inventory are the various local governments and officials, who determine infrastructure needs in each community across the state.

Public Chapter 817 requires that, as a minimum, the following entities be surveyed to determine their infrastructure needs:[3]

- county executives;
- mayors;
- local planning commissions;
- local education agencies;
- utility districts;
- county road superintendents; and
- other appropriate local and state officials as deemed necessary.

The TACIR has contracted with the state's nine development districts to administer infrastructure inventory surveys to these officials and agencies within the counties located within their district boundaries. These surveys are being used to ascertain planned and anticipated infrastructure needs over the next five-year period, together with estimated costs and time of need, within the five-year time frame.

On a county-by-county basis, each development district has inventoried the needs within each of the following broad categories of infrastructure:[4]

- Education (K-12 and other facilities);
- transportation (i.e., roads, bridges, airports, etc.);
- water and wastewater;
- industrial sites;
- solid waste;
- recreation;
- low and moderate income housing;
- telecommunications;
- public health buildings;
- public buildings; and
- other public facilities as deemed necessary by the TACIR.

The development districts have contacted local government officials in order to facilitate the administration of surveys. Whenever possible, surveys are administered during face to face meetings with the representatives from the local government or agency being surveyed.

The development district staffs have compiled the results of their surveys and submitted them to the TACIR. The TACIR compiles the results from each development district into a master inventory, that is the base document for the annual report to the General Assembly.

The contents of this report are divided into two distinct areas. The first part contains information collected from our survey of local governments and other entities on general infrastructure needs, which includes all categories of need in the legislation except K-12 public education facilities. The second part of this document is dedicated totally to the K-12 education infrastructure needs.

FY 1998 PUBLIC INFRASTRUCTURE EXECUTIVE SUMMARY

Total of All Infrastructure Needs

The FY 1998 public infrastructure survey identified $13.7 billion in needed infrastructure projects and improvements as identified by local officials and other relevant individuals across the state. These $13.7 billion in identified needs represent approximately $11.2 billion in the category of "general" infrastructure needs and another $2.5 billion in public K-12 education infrastructure needs. All in all, respondents to our survey included 603 municipal officials, 182 county officials, and 191 individuals from other entities such as utility districts, chambers of commerce, and other special districts. In addition, officials at all of Tennessee's 138 K-12 public education school systems provided information reported in this document.

Total General Infrastructure Needs

General infrastructure needs include all categories of needs ***except*** those associated with K-12 public education. The total of all general infrastructure needs, by specific category, is shown in Table 1 of this report. There were 4,947 general infrastructure projects reported with a cost of $11.2 billion.

General Infrastructure Needs Quick Facts

- Transportation projects account for 1,092 (one fifth) of the total 4,947 general projects and $4.5 billion (40 percent) of all general project costs;
- 1,884 (38.1 percent) of the general infrastructure projects were identified from local government Capital Improvement Plans (CIPs);
- Projects identified in CIP's account for 50.8 percent of total general infrastructure needs costs—$5.7 billion of $11.2 billion in general costs.
- Of the 4,947 total general infrastructure projects, 3,120 (63 percent) are reported by municipalities while 807 (16 percent) are reported by counties.

Mandate-Related Needs

- 262 projects (about 5 percent of all reported projects) were identified as being needed because of a mandate requirement.
- These mandate required projects have a cost totaling over $402 million (3.6 percent of the total cost of all general project costs).
- Water and wastewater accounts for 143 (almost 55 percent) of the mandate related projects at a cost of $253 million (over 58 percent) of all mandated projects.

Total K-12 Public Education Infrastructure Needs

All of Tennessee's 138 K-12 public school systems were surveyed to ascertain K-12 public education infrastructure needs. Two survey instruments were used to determine K-12 education infrastructure needs. The first instrument consisted of a special form designed in conjunction with the Tennessee Organization of School Superintendents (TOSS) and the Superintendents Study

Council. This form was designed to collect information on the infrastructure needs of existing school facilities. The second form was the General Infrastructure Survey Form. This form was sent to all school superintendents specifically to determine the needs for new school construction. Every public K-12 school system in the state responded with at least some information requested from our survey. Table 7 in this report shows the total K-12 public education infrastructure needs and breaks out the cost by category.

K-12 Public Education Infrastructure Quick Facts

- K-12 public education infrastructure needs totaled $2.5 billion;
- Over 60 percent of Tennessee's 1580 K-12 public schools report an overall facility rating of either "good" or "excellent" condition;
- It will cost a reported $1 billion over the next five years to bring all other schools in the state up to at least a "good" condition;
- School officials report that 78.2 percent of Tennessee's 41,265 classrooms are rated in either a "good" or "excellent" condition;
- Barely half of Tennessee's 2,198 portable classrooms can be rated as being in either a "good" or "excellent" condition;
- School officials responding to the survey indicated a need for $246 million for computer-related technology;

Mandate Related Needs

- Local education agencies report that they will have to expend $91 million over the next five years to comply with federal and state mandates (this does not include any cost related to complying with the Education Improvement Act);
- 585 schools (37 percent) statewide report a facility need that is mandate related;
- By far, the most expensive mandate for the state's K- 12 public schools relates to compliance with the Americans with Disabilities Act – $55 million or 58 percent of all reported school facility mandate costs;

EIA Compliance

- Of the 1580 K-12 public schools in Tennessee;
  - 1,057 report EIA compliance
  - 504 do not comply
  - 19 did not respond
- Compliance with the EIA will require at least $910 million in additional school facilities through the 2002-03 school year.

Part I

General Infrastructure Needs Inventory

Public Chapter 817 lists eleven broad categories of what has come to be called in the TACIR surveys "general infrastructure" elements:[5]

- Education (K-12 and other facilities);
- transportation (i.e., roads, bridges, airports, etc.);
- water and wastewater;
- industrial sites;
- solid waste;
- recreation;
- low and moderate income housing;
- telecommunications;
- public health buildings;
- public buildings; and
- other public facilities as deemed necessary by the TACIR.

General infrastructure contains all those services and facilities except those involving public K-12 education facilities. K-12 education facilities are addressed in Part 2 of this report. To acertain the general infrastructure needs of the state, local officials and other entities such as chambers of commerce and utility districts were asked to complete the FY1998 General Survey Form. This form is included in this report as Appendix 1-A. The form was developed by the staff of the TACIR in consultation with the staffs of Tennessee's nine development districts to collect the following information:

- the county in which the project is located;
- the municipality in which the project is located;
- the type or category of the project;
- the ownership or controlling entity of the project;
- the geographic location of the project such as street address or best available landmark;
- the status/stage of project in the following terms:
  - Conceptual (project is an idea or concept)
  - Planning & Design (project is on paper and has received significant analysis)
  - Construction (project has moved earth, poured concrete, etc.)
- the projected start and finish dates for the project;
- whether the project is listed in the reporting entity's Capital Improvement Plan (CIP);
- the estimated cost of the project;
- a list of all possible funding sources;
- whether the project is the result of a mandate; and
- how this project is linked or related to other reported infrastructure projects.

Survey Results

Analysis of the FY1998 General Infrastructure Survey Forms indicates 4,947 projects identified by local governments as being needed across the state. The total reported cost of these projects is $11,154,772,676.

Table 1 shows the General Infrastructure Needs Reported by Type. The infrastructure types in the table are ranked by cost in descending order. The table contains 20 categories of infrastructure instead of the nine broad categories contained in the

Table 1
General Infrastructure Needs Reported by Type
(excludes K-12 Education)

Type of Infrastructure	Number of Projects	Cost of Projects	Percentage of Total
Transportation	1,092	$4,491,517,923	40.3%
Water and Wastewater	1,538	$2,633,706,661	23.6%
Public Buildings	339	$458,078,160	4.1%
Recreation	530	$456,447,821	4.1%
Other Utilities (gas, electric and multiple services)	85	$420,727,401	3.8%
Law Enforcement	131	$393,600,752	3.5%
Industrial Sites and Parks	218	$362,321,395	3.2%
Libraries and Museums	86	$310,790,593	2.8%
Stormwater	123	$288,971,368	2.6%
Business District Development	44	$258,140,869	2.3%
Navigation	1	$250,000,000	2.2%
Non K-12 Education	13	$131,758,543	1.2%
Community Development	21	$118,727,327	1.1%
Housing	135	$115,651,900	1.0%
Telecommunications	101	$104,172,930	0.9%
Fire Protection	201	$98,430,121	0.9%
Solid Waste	135	$86,125,766	0.8%
Other Facilities	61	$61,748,396	0.6%
Property Acquisition	8	$61,025,000	0.5%
Public Health	85	$52,829,750	0.5%
Statewide Totals	4,947	$11,154,772,676	100.0%

Public Infrastructure Needs Inventory Act. This increase in the number of categories is necessary because the extremely high number of projects originally categorized as "public buildings" and "other." For the purposes of this report, the public buildings category is broken down into the following categories:

- libraries and museums;
- public health; and
- other public facilities.

The "other" category has been broken down to include the following new project categories:

- law enforcement;
- stormwater;
- business district development;
- navigation;
- community development;
- fire protection; and
- property acquisition.

Not surprisingly, transportation related infrastructure needs are the most costly items in the survey outdistancing water and wastewater infrastructure needs by an almost two to one margin. Approximately 64 percent of all costs reported in the survey relate to these two categories of public infrastructure, with transportation at 40.3 percent and water – wastewater at 23.6 percent.

Appendix 1 provides a count of projects and the related cost for each type of general infrastructure as reported by county. If a county is not listed in an appendix, no projects were reported (Appendices 1-C through 1-W).

As required by the infrastructure legislation, TACIR contacts other state agencies to determine any overlap of the needs reported by local governments in our survey and the State of Tennessee. TACIR staff verified that only 89 of the 1,068 total transportation projects are included in an inventory of the State Department of Transportation. Based on our survey findings, these overlapping projects have a total reported cost of $1,334,595,000. This accounts for 29.7 percent of the reported cost of all transportation projects. However, of these 89 projects in our survey, 11 do not

provide a cost estimate. Similarly, TACIR staff has verified that only 8 of the 510 recreation projects are identified in an inventory by the Department of Environment and Conservation. Our survey reports that these projects have a total reported cost of $2,150,000. This accounts for only 0.5 percent of the cost of all recreation projects in our survey. The low number of projects identified by this survey that are included in an inventory by other state agencies, demonstrates that our survey is meeting the goal of identifying new infrastructure projects that are needed by communities across the state.

The General Survey Form also collects data on non K-12 education facilities, such as technology centers and community learning facilities. Additionally, the information collected on the General Infrastructure Form addresses needed infrastructure while the Education Survey From requests information and needs on existing K-12 facilities. Thus, there is more data available for K-12 facilities than for those projects addressed in the General Infrastructure Survey.

Ownership

For each project, the General Survey Form asks for the ownership or controlling entity for each of the reported projects. While projects in the vast majority of cases are reported as needs by city and county government officials, the ultimate responsibility for operation and ownership is sometimes indicated as either state, federal, joint, or other.

Table 2 shows the reported general infrastructure needs by ownership and the number and cost of projects by type of infrastructure.

Overall, ownership of projects could be ascribed to one of the six following categories:

- City;
- County;
- State;
- Federal
- Joint; and
- Other.

Joint ownership represents those projects where the official being surveyed reported a need whose implementation responsibility would rest with a combination of public agencies at multiple levels of government and/or in partnership with the private sector. The "other" category represents ownership by an independent public entity such as a utility and/or other special districts and authorities.

Projects that would be the responsibility of municipal governments to implement accounted for 63.1 percent (3,120 of 4,947) of all projects reported in the general survey. The 3,120 projects account for about $5.1 billion of the $11 billion in reported costs. Table 2 also shows that 807 projects identified in the survey would be "owned" or have ultimate responsibility for implementation in the hands of county government. These projects account for about $1.5 billion of the $11 billion in reported costs for all projects. The $1.5 billion represents almost 14 percent of the costs for projects statewide.

Capital Improvement Plans

Table 3 shows the infrastructure projects identified by local governments as being in their Capital Improvement Plan (CIP). From the beginning of TACIR's involvement in the Public Infrastructure Needs Inventory Act of 1996, staff has stressed the importance of CIPs to local governments for two reasons. First, communities using a CIP as a planning tool, increase the possibility for capital savings for that community and the state. Second, projects listed in CIPs are less likely to be "wish list" projects, and are usually taken seriously by those entities having a role in the planning and funding of capital infrastructure. Certain categories of infrastructure reflect a large percentage of

Table 2
General Infrastructure Needs Project Ownership
(by Type of Project)

	CITY		COUNTY		STATE		FEDERAL		JOINT*		OTHER**		TOTAL	
Type of Project	No. of Projects	Cost of Projects	No. of Projects	Cost of Projects	No. of Projects	Cost of Projects	No. of Projects	Cost of Projects	No. of Projects	Cost of Projects	No. of Projects	Cost of Projects	No. of Projects	Cost of Projects
Transportation	524	$941,511,772	236	$638,210,151	264	$2,767,554,000	1	$0	58	$102,736,000	9	$41,506,000	1,092	$4,491,517,923
Water/Wastewater	1,041	$2,038,926,258	73	$137,541,118	1	$123,000	0	$0	29	$107,716,152	394	$349,400,133	1,538	$2,633,706,661
Public Buildings	229	$292,846,136	84	$117,659,024	1	$200,000	1	$300,000	18	$41,913,000	6	$5,160,000	339	$458,078,160
Recreation	418	$320,522,357	80	$84,162,061	5	$21,150,000	1	$2,830,000	21	$21,883,403	5	$5,900,000	530	$456,447,821
Other Utilities	51	$44,529,864	4	$4,400,000	0	$0	0	$0	2	$1,950,000	28	$369,847,537	85	$420,727,401
Law Enforcement	80	$237,246,678	47	$150,454,075	0	$0	0	$0	4	$5,899,999	0	$0	131	$393,600,752
Industrial Sites/Parks	99	$112,489,000	81	$168,637,895	0	$0	0	$0	18	$51,934,500	20	$29,260,000	218	$362,321,395
Libraries/Museums	37	$199,274,000	35	$55,748,571	0	$0	0	$0	12	$55,171,022	2	$597,000	86	$310,790,593
Stormwater	112	$210,598,500	7	$71,787,868	0	$0	0	$0	4	$6,585,000	0	$0	123	$288,971,368
Business District Development	39	$257,340,869	0	$0	0	$0	0	$0	4	$800,000	1	$0	44	$258,140,869
Navigation	0	$0	0	$0	0	$0	1	$250,000,000	0	$0	0	$0	1	$250,000,000
Non K-12 Education	2	$9,000,000	5	$2,482,543	2	$101,400,000	0	$0	2	$17,876,000	2	$1,000,000	13	$131,758,543
Community Development	19	$114,727,327	1	$500,000	0	$0	0	$0	1	$3,500,000	0	$0	21	$118,727,327
Housing	53	$43,141,900	22	$15,417,500	0	$0	0	$0	25	$23,000,500	35	$34,092,000	135	$115,651,900
Telecommunications	77	$80,152,000	9	$11,160,930	0	$0	0	$0	14	$12,860,000	1	$0	101	$104,172,930
Fire Protection	173	$83,921,171	20	$6,728,950	0	$0	0	$0	4	$1,800,000	4	$5,980,000	201	$98,430,121
Solid Waste	75	$55,345,766	51	$24,627,500	0	$0	0	$0	6	$6,002,500	3	$150,000	135	$86,125,766
Other Facilities	37	$44,297,462	19	$16,560,934	0	$0	0	$0	1	$150,000	4	$740,000	61	$61,748,396
Property Acquisition	6	$25,725,000	1	$300,000	0	$0	0	$0	0	$0	1	$35,000,000	8	$61,025,000
Public Health Facilities	48	$27,472,750	32	$23,032,000	0	$0	0	$0	4	$1,825,000	1	$500,000	85	$52,829,750
Total	3,120	$5,139,068,810	807	$1,529,411,120	273	$2,890,427,000	4	$253,130,000	227	$463,603,076	516	$879,132,670	4,947	$11,154,772,676

*Joint: Ownership of reported needs by any combination of public agencies at multiple levels of government or a in partnership with the private sector.

**Other: Ownership of reported needs by an independent public entity that is not identified with a specific level of government or publicly funded needs that are owned by the private sector. (This includes most utility district needs, as well as privately owned needs such as low and moderate income housing rehabilitation to be funded with public monies.)

Table 3
General Infrastructure Projects
Cost and Percentage of Projects by Type Reported in a Capital Improvement Plan

Type of Project	Number of Projects	Cost of Projects	Percent of Cost by Type reported in a CIP
Transportation	459	$1,528,990,062	34.0%
Water and Wastewater	520	$1,353,893,733	51.4%
Other Utilities	42	$383,331,112	91.1%
Public Buildings	114	$292,253,656	63.8%
Law Enforcement	53	$286,575,897	72.8%
Recreation	263	$265,020,661	58.1%
Libraries and Museums	33	$263,759,593	84.9%
Stormwater	81	$254,775,368	88.2%
Business District Development	24	$251,916,000	97.6%
Navigation	1	$250,000,000	100.0%
Community Development	18	$113,170,327	95.3%
Telecommunications	42	$76,902,930	73.8%
Industrial Sites and Parks	39	$67,327,000	18.6%
Fire Protection	84	$60,781,950	61.8%
Property Acquisition	6	$60,425,000	99.0%
Solid Waste	32	$48,273,500	56.1%
Other Facilities	33	$44,652,934	72.3%
Public Health Facilities	25	$36,414,750	68.9%
Housing	12	$18,648,000	16.1%
Non K-12 Education	3	$14,658,543	11.1%
Statewide Totals	1,884	$5,671,771,016	50.8%

correlation to local government CIPs. At least 1,884 projects identified in this survey are derived from a CIP. These projects reflect a cost of almost $5.7 billion dollars or about one-half of the total costs of all reported projects. This includes 38.1 percent of all general infrastructure projects.

Project data from 77 cities was collected that reports inclusion in a local government CIP. The survey found 1,615 projects (32.6 percent of all general infrastructure projects) that are located within a municipality and are included in a local CIP. This represents a cost of $4,985,460,580 (44 percent of all projects). Likewise, 269 projects located in unincorporated areas (5.4 percent of all general infrastructure projects) are included in a local CIP and total to a cost of $686,310,436 (5.4% of all projects).

However, because a project is not derived from a CIP does not mean that it should be discounted. Since the Infrastructure Act did not direct staff to rely solely on CIP data. The infrastructure legislation specifically states that the TACIR must consult with the appropriate local and state officials concerning planned and anticipated needs during the compilation of the public infrastructure needs inventory.[6]

Stage of Development

To better assess the significance and the investment made in a project to date, the TACIR survey requests local officials to identify the "stage of development" for each project with the following criteria:

- The project is in a "conceptual" stage, it is an idea or concept;
- The project is in a "planning and/or design stage; or
- The project is actually in the construction phase.

Table 4 shows the general infrastructure needs reported by their stage of development. As displayed in the table, of the total 4,947 general infrastructure projects:

Table 4
General Infrastructure Needs by Stage of Development

	CONCEPTUAL			PLANNING AND DESIGN			CONSTRUCTION			TOTAL		
Type of Project	No. of Projects	Cost of Projects	Percent of Cost by Type	No. of Projects	Cost of Projects	Percent of Cost by Type	No. of Projects	Cost of Projects	Percent of Cost by Type	No. of Projects	Cost of Projects	Percent of Cost by Type
Transportation	741	$3,361,399,279	74.8%	263	$921,533,994	20.5%	88	$208,584,650	4.6%	1092	$4,491,517,923	40.3%
Water/Wastewater	1010	$1,901,420,060	72.2%	405	$514,583,257	19.5%	123	$217,703,344	8.3%	1538	$2,633,706,661	23.6%
Public Buildings	231	$208,413,857	45.5%	71	$191,664,029	41.8%	37	$58,000,274	12.7%	339	$458,078,160	4.1%
Recreation	323	$291,561,080	63.9%	152	$125,326,300	27.5%	55	$39,560,441	8.7%	530	$456,447,821	4.1%
Other Utilities	63	$401,980,537	95.5%	16	$12,323,575	2.9%	6	$6,423,289	1.5%	85	$420,727,401	3.8%
Law Enforcement	97	$286,307,947	72.7%	21	$78,559,730	20.0%	13	$28,733,075	7.3%	131	$393,600,752	3.5%
Industrial Sites/Parks	136	$206,521,645	57.0%	66	$141,096,750	38.9%	16	$14,703,000	4.1%	218	$362,321,395	3.2%
Libraries/Museums	55	$229,560,000	73.9%	24	$64,235,593	20.7%	7	$16,995,000	5.5%	86	$310,790,593	2.8%
Stormwater	75	$170,221,000	58.9%	27	$63,717,000	22.0%	21	$55,033,368	19.0%	123	$288,971,368	2.6%
Business District Development	28	$189,008,000	73.2%	13	$58,085,869	22.5%	3	$11,047,000	4.3%	44	$258,140,869	2.3%
Navigation	0	$0	0.0%	1	$250,000,000	100.0%	0	$0	0.0%	1	$250,000,000	2.2%
Non K-12 Education	8	$115,500,000	87.7%	3	$1,720,000	1.3%	2	$14,538,543	11.0%	13	$131,758,543	1.2%
Community Development	15	$107,689,000	90.7%	1	$2,625,000	2.2%	5	$8,413,327	7.1%	21	$118,727,327	1.1%
Housing	89	$89,227,500	77.2%	30	$18,366,400	15.9%	16	$8,058,000	7.0%	135	$115,651,900	1.0%
Telecommunications	82	$77,859,000	74.7%	13	$12,593,000	12.1%	6	$13,720,930	13.2%	101	$104,172,930	0.9%
Fire Protection	138	$73,823,171	75.0%	48	$19,226,450	19.5%	15	$5,380,500	5.5%	201	$98,430,121	0.9%
Solid Waste	90	$44,515,000	51.7%	30	$26,969,000	31.3%	15	$14,641,766	17.0%	135	$86,125,766	0.8%
Other Facilities	38	$51,863,462	84.0%	14	$6,565,000	10.6%	9	$3,319,934	5.4%	61	$61,748,396	0.6%
Property Acquisition	6	$58,375,000	95.7%	2	$2,650,000	4.3%	0	$0	0.0%	8	$61,025,000	0.5%
Public Health Facilities	69	$32,665,000	61.8%	4	$800,000	1.5%	12	$19,364,750	36.7%	85	$52,829,750	0.5%
	3,294	$7,897,910,538	70.8%	1,204	$2,512,640,947	22.5%	449	$744,221,191	6.7%	4,947	$11,154,772,676	100.0%

- 3,294 (70.8 percent) are in the conceptual stage;
- 1,204 (22.5 percent) are in the planning and design stage; and
- 449 (6.7 percent) are in the construction phase.

Mandates

The General Survey Form also requests those surveyed to report whether or not the infrastructure was needed in order to comply with a government mandate or regulation. If so, respondents are asked to cite the "origin" of the mandate, rule or regulation. Table 5 shows needed infrastructure projects resulting from mandates and the associated cost as reported in our survey. The table shows that 262 projects at a cost of $402,390,300 could be attributed to federal regulations, state regulations, or both. Water and wastewater projects account for most of the individual mandate-related projects, and the total cost of all reported mandate-related projects. The 143 water and wastewater projects represent 54.6 percent of all such projects while the cost, $235 million represents 58.5 percent of the $402 million in mandated projects.

It is the opinion of TACIR staff that the number of projects and cost of those projects resulting from mandates may be seriously under reported. The water and wastewater category of infrastructure can be used to illustrate staff's concern. In the General Infrastructure Survey, water and wastewater projects accounted for 1,538 or 31.1 percent of the 4,947 projects reported to the TACIR. These same projects accounted for $2.6 billion or 23.6 percent of the total cost of $11 billion for all general infrastructure projects. However, the reported number of water and wastewater projects that result from a mandate is only 9.3 percent of all reported water and wastewater projects. The cost of the mandated projects, $235 million, represents only 9.3 percent of the total cost of $2.5 billion for all water and wastewater projects.

Because of the large number of federal and state water and wastewater regulations which impose mandates, TACIR staff expects that the actual number of projects related to mandates should be higher. Also while conducting the survey, development district staff reported to the TACIR that many local officials were confused about what constituted a mandate, as well as the regulatory source of mandated needs.

Table 5
Projects Reporting Mandates by Type of Project

	Level of Government of the Regulation Requiring Compliance							
	Federal Regulations		State Regulations		Federal & State Regulations		Total	
Type of Project	No. of Projects	Cost	No. of Projects	Cost	No. of Projects	Cost	No. of Projects	Cost
Water/Wastewater	21	$66,639,000	117	$152,259,534	5	$16,480,000	143	$235,378,534
Solid Waste	2	$200,000	33	$36,469,766	1	$170,000	36	$36,839,766
Housing	2	$5,070,000	6	$27,150,000	0	$0	8	$32,220,000
Stormwater	12	$28,100,000	1	$200,000	0	$0	13	$28,300,000
Other Facilities	4	$17,330,000	1	$150,000	0	$0	5	$17,480,000
Transportation	2	$1,925,000	23	$9,575,000	3	$3,400,000	28	$14,900,000
Law Enforcement	8	$21,955,000	0	$0	0	$0	8	$21,955,000
Public Buildings	9	$12,640,000	0	$0	0	$0	9	$12,640,000
Recreation	4	$1,150,000	2	$552,000	0	$0	6	$1,702,000
Public Health	1	$500,000	0	$0	0	$0	1	$500,000
Other Utilities	0	$0	3	$250,000	0	$0	3	$250,000
Fire Protection	0	$0	1	$175,000	0	$0	1	$175,000
Libraries/Museums	1	$50,000	0	$0	0	$0	1	$50,000
Total	66	$155,559,000	187	$226,781,300	9	$20,050,000	262	$402,309,300

PART II

K-12 Education Infrastructure Needs

The Public Infrastructure Needs Inventory Act passed by the Tennessee General Assembly in 1996, directed the Tennessee Advisory Commission on Intergovernmental Relations to be the lead agency for the conduct of a statewide assessment of public infrastructure needs. Such an activity had never before been attempted in Tennessee. K-12 public education facilities are included as a part of a core group of public infrastructure categories mandated for assessment in the Public Infrastructure Needs Inventory Act.

To accomplish an assessment of education infrastructure needs, each of Tennessee's 1,580 public K-12 schools are surveyed with the assistance of the state's nine development districts.

The survey form used in this process, the FY 1998 Education Survey Form was developed by the TACIR in consultation with the Tennessee Organization of School Superintendents; the Superintendents Study Council; and other education officials in Tennessee, as well as other states. In addition, survey questions included in two General Accounting Office (GAO) reports were adapted for TACIR's survey.

The K-12 Public Education Survey Form was developed to capture the following information:

- General information necessary to identify the location of the school, grade levels served, and its parent school system;
- Current campus conditions and the costs associated to improve the physical condition of the campus; and
- Future campus needs and the costs of those needs.

A copy of the Education Survey Form is included in Appendix 2-A of this report.

Also, a General Survey Form is included in each superintendent's packet to capture all K-12 education facility needs that apply to:

- new school construction;
- more than one school;
- administrative facilities (e.g., central office, bus garage);
- an entire system; or
- joint ventures with another school system.

Copies of these forms were distributed by the development districts' staff to each school superintendent beginning the last week of February 1998. It is the responsibility of each superintendent to disseminate these forms to individual schools in his or her system. School superintendents are asked to complete the forms and return them to their respective development district office. Staffs of the state's nine development districts are directed to be in contact with the school superintendents in their districts to provide assistance and collect the completed surveys.

Each development district office is responsible for entering the raw data into the survey database for processing. During June 1998 each development district submitted the data from their region for statewide compilation and assessment.

For the FY1998 survey, the TACIR has received completed education facilities needs assessments from each of the 138 public school districts. To date, our survey has collected facility conditions or needs

from over 99 percent of the state's 1,580 public schools. See Appendix 2-B for a listing of school systems by county.

Prior Estimates of Education Infrastructure Needs

In 1996, the General Accounting Office (GAO) published two reports that would provide insight into the types of questions and concerns that should be included in TACIR's survey of public education facilities. In *School Facilities: America's Schools Report Differing Conditions* the GAO focuses on determining the amount of funding needed to improve inadequate facilities, the overall condition of schools, and the prevalence of schools that needed major repairs.[7] The second report, *School Facilities: Profiles of School Conditions by State,* the GAO organizes information into profiles for each state showing:

- the percent of schools with inadequate facilities;
- technology needs, and
- the financial impact of complying with specific federal mandates.

The GAO estimates that America's investment in its schools needs to be increased by about $112 billion from 1996 to 1999 to repair or upgrade facilities to a "good" condition and to comply with federal mandates. The GAO report notes that federal mandates account for approximately 10 percent of the $112 billion in estimated costs. Unfortunately, the GAO was unable to produce specific numbers explaining what amount of $112 billion relates to the needs of school facilities in Tennessee.[8] The survey questions developed by the TACIR would address these and other issues for each K-12 public school in Tennessee.

The FY1998 Education Survey Form

The FY1998 Education Survey Form was designed with two main sections

- current campus conditions; and
- future campus needs.

Current Campus Conditions

The TACIR Education Survey Form requests several responses concerning the overall school campus and its component parts. We ask each school to rate its overall condition using the following Facility Rating Scale:

Excellent:	new or easily restorable to "like new" condition; minimal routine maintenance required.
Good:	some routine and preventive maintenance or minor repair required.
Fair:	fails to meet building code or functional requirements in some cases (facility problems are inconvenient); extensive corrective maintenance and repair required.
Poor:	consistent substandard performance (facility problems are disruptive and very costly); fails most building code or functional requirements, requires constant attention, renovation, or replacement; major corrective repair or overhaul required.
Replace:	significantly substandard performance; replacement required.

Using this same rating scale, we request each K-12 public school to rate the following components of their facility:

- Regular Classrooms (Permanent)
- Regular Classrooms (Portable)
- Science Labs
- Auditorium
- Cafeteria
- Library/Media Center
- Restrooms
- Vocational/Industrial Arts Labs and Shops
- Administrative & Support Offices/ Workspace
- Health/First Aid Room
- Indoor Physical Ed. Facilities/Gymnasium
- Outdoor Playground Area
- Auxiliary Support Buildings

Each school is queried to estimate the total cost of repairs, renovations and modernizations to put the school in at least a "good" overall condition over the next five years.

Mandates

The TACIR survey also inquires about the costs associated with the school making improvements to comply with federal and state mandates. The state mandates do not include those associated with the requirements of the Education Improvement Act of 1992 (EIA). Costs associated with EIA requirements are addressed in a later section of the survey. The mandates addressed in the TACIR survey are those associated with:

- the Americans with Disabilities Act;
- asbestos management/correction;
- lead in water/paint;
- underground storage tanks;
- radon management;
- Other (Federal); and
- Other (State).

The State of Tennessee mandates do not include those associated with the requirements of the Education Improvement Act of 1992 (EIA). Costs associated with EIA requirements are addressed in a later section of the survey.

Technology

The survey asks each school to identify the use of the following technological resources:

- Internet
- Local Area Network
- Fiber Optic Cable
- Integrated Services Digital Network (ISDN)
- Distance Learning/Instruction

In addition, the survey requests a description of current technology needs and their estimated costs.

Future Campus Needs and the Education Improvement Act of 1992

The final section of the TACIR Education Survey seeks data concerning total facility needs, in square feet, for anticipated changes in student enrollment. The survey also asks the following questions about the Education Improvement Act of 1992 (EIA):

- If the class size requirement in the EIA were in effect in the 1998-1999 school year, would this school be in compliance?

- How many additional classrooms will this school need to comply with the EIA during the next five years?

- Please give your best estimate of the total cost for each classroom and facility addition needed to comply with the EIA over the next five years.

The FY 1998 General Survey Form

Because the Education Survey Form is designed to capture needs that are unique to an existing school campus, the General Survey Form is used to capture school system facility needs that were not associated with a single existing school campus. This form allows superintendents a simpler method to report new school and system-wide needs. The General Survey Form captures information for each need as a separate project. The form requests the following information for each project:

- location;
- cost;
- status of and the timeframe for completion;
- ownership;
- potential funding sources;
- federal or state mandates that drive the project; and
- a description of the project's significance or impact on the community it serves.

The dollar figures in the survey are taken directly from survey report filed by the individual schools and school systems throughout the state. It is the responsibility of each school or LEA to determine its own cost estimates, using available resources. Table 6 shows by percent how and/or where the schools and LEAs calculate the costs for the individual needs.

The remainder of this report addresses the information we have gleaned from the surveys.

Survey Results

A detailed breakdown of infrastructure needs for each LEA is provided in Appendix 2.

The total reported cost of K-12 public education needs over the next five years is $2.5 billion. Table 7 provides a comprehensive breakdown of the reported cost of all K-12 Education Infrastructure

Table 7
Summary of Education Infrastructure Needs Inventory Cost

		(% Total)
Total K-12 Education Infrastructure Needs *(Sum of Existing School-based Needs and System-wide Needs and New School Construction)*	**$2,520,422,533**	**(100.0%)**
❑ **Needs at Existing Schools**	$1,735,816,096	(68.9%)
▪ EIA Compliance for Existing Schools (additional buildings at existing schools)	$393,139,022	(15.6%)
▪ Other Needs at Existing Facilities	$1,342,677,074	(53.3%)
➢ Repair/Renovations	$1,004,165,795	(39.8%)
➢ Existing School Mandate Compliance	$91,791,650	(3.6%)
➢ Current Technology	$246,719,629	(9.8%)
❑ **System-wide Needs & New School Construction**	$784,606,437	(31.1%)
▪ Total System-wide EIA needs	$517,689,310	(20.5%)
❑ **Education Improvement Act Reported Compliance Cost**		
▪ Existing Schools	$393,139,022	
▪ System-wide Needs & New Schools	$517,689,310	
TOTAL	$910,828,332	(36.1% of total)

Source: TACIR Infrastructure Database.

Needs in Tennessee. A total cost of infrastructure needs by school system is shown in Appendix 2-C.

System-wide Needs and New School Construction Cost was reported by LEA system administrators, separate from existing school-based needs. 64 school systems reported 118 system-wide or new school construction projects at a total cost of $784,606,437 (31.1 percent) of all reported K-12 education infrastructure needs. See Appendix 2-D for a breakdown of the cost of these needs for each LEA reporting in this category.

Needs at Existing Schools Cost is composed of the reported cost of infrastructure needs related to the existing facilities and the cost of the construction or acquisition of additional facilities on an existing school's campus. Appendix 2-E displays this cost for each LEA.

The Other Needs at Existing Facilities Cost reflects the total reported cost to bring all existing school facilities up to a "good" condition (repair costs), comply with federal and state mandates, and implement new learning technology is $1,342,677,074 (excluding EIA compliance costs).

EIA Compliance Cost for Existing Schools is separated here for analysis, since the needs reported will involve the construction or acquisition of additional facilities on an existing school's campus. A portion of the total cost of EIA compliance is included in the system-wide needs and new school construction cost. This is addressed later in this document.

Overall Existing Conditions

Although the state's schools report their main buildings have an average age of 34.9 years, the overall condition of Tennessee's school facilities are rated as "Good" (some routine and preventive maintenance required).

Table 8 provides a breakdown of responses by the overall condition rating reported. See Appendix 2-F for a listing of the average age of the main campus building and overall condition of existing schools for each LEA.

Table 8
Overall Condition of Schools State-wide by Condition

Rate of Condition	Number of Schools	Percentage of Schools
Excellent	213	13.5%
Good	723	45.8%
Fair	496	31.4%
Poor	113	7.2%
Replace	33	2.1%
No response	2	0.1%
Total	1,580	100.0%

The costs of repairs, renovations and modernizations to bring all components of the schools in Tennessee up to at least a "good" condition came to $1,004,165,795 over the next five years. This type of need is reported by 1,018 schools across the state.

Although the 1,018 schools reporting these renovation/repair needs may overlap with the schools listing an overall "excellent" or "good" or rate of condition, one or more components of the given schools (e.g. a gymnasium, cafeteria, classroom wing) may be in need of renovation or repair. Additionally, development district staff reported that many local school officials were reluctant to rate a school's overall condition "fair" or worse despite renovations or repairs that were needed for one component of the school.

One question that may arise is "why is the cost of repairs or renovations so great, if the overall ratings of the schools and their components are mostly "excellent" or "good"?" There are two possible explanations for this trend. First, as indicated above, many school officials seemed reluctant to rate their schools'

overall condition as "fair" or worse, therefore the overall ratings are mostly "excellent" or "good". Second, when making "requests" for repairs or renovations, many officials are eager to list all possible needs that they anticipate, increasing the number of projects listed as "needed to bring the schools up to a "good" condition". However, technically, if the schools are in "good" condition, no repairs should be needed to return the school to an "excellent" or "good" condition. Despite this, many administrators listed major maintenance costs for their schools. This is a fault of the survey instrument and it's organization. To prevent confusion over this in subsequent years, the survey instrument must be modified to allow inclusion of major routine and preventative facility maintenance needs (e.g. the replacement of a roof).

Table 9
Number of Classrooms by Condition

	Regular Classrooms (Permanent)		Regular Classrooms (Portable)	
Rate of Condition	Number	Percentage	Number	Percentage
Excellent	11,405	27.6%	219	10.0%
Good	20,879	50.6%	895	40.7%
Fair	6,623	17.0%	607	26.6%
Poor	1,715	4.2%	344	15.7%
Replace	643	1.6%	133	6.1%
Total	41,265	100.0%	2,198	100.0%

Table 10
Component Facility Condition Rating

Component Facility	Percent of components reported as being in "excellent" or "good" condition
Administrative and Support Offices/Workspace	81.2%
Health/First Aid Room	78.8%
Library/Media Center	76.3%
Vocational/Industrial Arts Labs and Shops	76.0%
Science Labs	74.3%
Cafeteria	73.0%
Outdoor Playground Area	72.9%
Indoor Physical Ed. Facilities/Gymnasium	72.0%
Restrooms	68.0%
Auxiliary Support Buildings	65.1%
Auditorium	64.5%

A more detailed examination of the condition of the major facility components at schools across the state reveals that they are in generally good condition. Perhaps the most critical of each school facility's components and learning environments is the classrooms. According to schools officials, 78.2 percent of the 41,265 permanent classrooms reported from across Tennessee are in "excellent" or "good" condition. However, barely half of the 2,198 portable classrooms reported were rated as being in "excellent or good" condition. Table 9 provides a break down by each rate of condition.

The majority of the other component facilities in Tennessee's schools are rated as being in "excellent" or "good" condition. Table 10 shows the percentage of these component facilities for all reporting schools rated as "excellent" or "good".

Mandates

Tennessee schools must comply with a variety of Federal and state mandates in their daily operation. These mandates have been established to ensure the quality and safety of the buildings in which our students

are educated. Currently, 585 schools (37.0 percent) statewide report a facility need that is mandate related. These mandated needs will require our schools to spend a total of $91,791,650 over the next five years. For a listing of these needs by LEA see Appendix 2-H.

Of this total reported cost of mandate compliance, $85,498,350 (93.1 percent) is the result of federally mandated needs. Meanwhile the remaining cost of $1,496,300 (6.9 percent) is the result of needs mandated by the State of Tennessee. These needs do not include the cost of compliance with the EIA, which is addressed later in this report.

Table 11 shows some of the specific mandates and their reported costs. The five mandates that are specifically reported will allow for comparison to General Accounting Office (GAO) studies at a later date.

By far, the most expensive mandate to LEAs is the American's with Disabilities Act, for a cost of $56,886,360 (62.0 percent of all reported mandate costs). The 3 schools reporting "Other: Federal" mandates reported are Title 1 related needs $249,750 (0.3 percent of total mandate costs).

Meanwhile, the most expensive state mandated needs is fire code regulations. Over 90.1 percent of the reported state-mandated needs is related to fire code compliance, totaling $5,672,000. The second notable group of state-mandated needs is special education related mandates. These needs total $586,300 (9.4 percent of state-mandated needs). The remaining unspecified state mandated needs total $35,000, or less than one percent of state-mandated needs.

The over $91 million dollars that LEAs should spend to comply with the above mentioned mandates represents 3.6 percent of the cost of all reported K-12 education infrastructure needs.

Technology

Computers and current technology must be made available to all students in Tennessee's schools to keep up with ever changing technology. Based on the response of 1422 schools, or 90 percent, to

Table 11
Number of Reported Mandate Compliance Needs and Related Costs By Mandate

Mandate	Number of Schools Reporting Needs	Total Reported Mandate Cost	Percentage of Total Reported Mandate Cost
ADA	452	$56,886,360	62.0%
Asbestos	321	22,796,482	24.8%
Lead	15	222,758	0.2%
Radon	107	3,484,000	3.8%
Undrgrd. Stor. Tanks	22	1,829,000	2.0%
Other: Federal	3	279,750	0.3%
Other: State	140	6,293,300	6.9%
Total Cost		$91,791,650	100.0%

this part of the survey, the current accessibility of technology resources to Tennessee's students is as follows in Table 12:

Table 12
Availability of Technology Resources in Each School for Student Use

Technology Resources	Percent of All Schools
Internet	85.5%
Integrated Services Digital Network (ISDN)	61.3%
Local Area Network (LAN)	55.8%
Fiber Optic Cable	13.9%
Distance Learning/ Instruction	7.6%

To meet the increasing technical demands on students as they enter the workforce, 1,145 schools report technology needs in this survey. According to the school administrators that completed our survey, fulfilling these needs will require $246,719,629. These needs include the provision of computer hardware (e.g. processors, monitors, printers, networking equipment, etc.), and computer software (e.g. programs for word processing, language and math teaching, graphic arts, research, etc.) Appendix 2-I provides a listing of these needs by LEA.

Although these reported technology needs will require an expenditure over $246 million, these costs account for only 9.8 percent of the total K-12 education infrastructure needs.

Future Campus Facilities and EIA Compliance

The Education Improvement Act of 1992 requires all schools in the State of Tennessee to reduce their class sizes, and hence their student-teacher ratios to improve the quality of education being provided to students in Tennessee. In order to meet the class size regulations, schools must have the classroom space to accommodate the increased number of students per school. Also, related facilities (e.g. restrooms, storage areas, workspaces) are often required when additional classrooms are added to an existing facility. Therefore, many schools in Tennessee will require new construction or additions to existing schools to meet the EIA requirements over the next five years (school years 1997-98 through 2002-03).

The EIA cost sub-component was singled out for analysis for a number of reasons. First, lawmakers, educators, and policymakers must know and understand the compliance costs for the EIA. Second, the needs reported will involve both the construction or acquisition of additional facilities on an existing school's campus or on an entirely new school campus.

Currently, only 1,057 of the responding schools, (66.8 percent) are in full compliance with EIA. According to the survey, additional classroom space is currently needed in at least 504 schools (31.9 percent) that are not in compliance. A total of 19 schools (1.2 percent) failed to respond to this question. Due to the critical nature of this information, these responses were verified in the summer of 1998 by TACIR and the development districts. Table 13 displays the status of compliance to the EIA.

Table 13
EIA Compliance as Reported by Schools

Response	Number of Schools	Percent of Schools
Comply	1,057	66.9%
Not Complying	504	31.9%
Not Responding	19	1.2%
Total	1,580	100.0%

Over the next five years, an additional 682 schools will need new classroom space or other related facilities to comply with the EIA. This will include the addition of 4,071 new classrooms, and other related school

facilities at a cost of $393,193,022. Table 14 shows the number of additional classrooms required by schools for EIA compliance by status of compliance.

Table 14
Number of Classrooms Required for EIA Compliance over the next 5 years
(by Current EIA Compliance as Reported by Schools)

Current Reported EIA Compliance Status	Additional Classrooms Required
Complying Schools	1,228
Non-Complying Schools	2,835
Non-Responding Schools	8
Total	4,071

Appendix 2-J shows the number of additional classrooms required to comply with the EIA by LEA as reported by school officials.

The total cost of EIA compliance over the next five years is listed in Table 15. However, no cost estimate was provided by school administrators at 109 schools that reported 654 of these additional classrooms. Due to the failure by school administrators to respond to this question or provide cost estimates the actual cost is higher than the cost reported in Table 15.

Table 15
EIA Compliance Cost

EIA Compliance Need	Cost
Existing Schools	$393,139,022
System-wide Needs and New School Construction	$517,689,310
Total Cost of All EIA Compliance Needs	$910,828,332

When the cost of new school construction and system-wide needs directly related to EIA compliance over the next five years is included, the EIA Compliance needs represent over one-third (36.1 percent) of all reported K-12 education infrastructure needs. The EIA Compliance cost reported by each LEA is listed in Appendix 2-K.

Conclusion

The significance of this report is more than the number of projects reported or the cost to complete these infrastructure needs. This report marks the culmination of the first-ever process of assessing on a statewide basis, the infrastructure needs of local communities and their governments in Tennessee. Also, based on the research of TACIR staff, this is the most comprehensive assessment on a statewide basis to date in the nation.

This survey has led local officials, in many instances for the first time to examine the physical infrastructure needs in their community, over a five-year period. This report provides information that is crucial to the continuing development of each community in Tennessee. The economic stability of our state relies on a system of infrastructure that requires ongoing maintenance and updating to meet the increasing demands of the businesses, families, and governments that utilize its resources. Further, a system to determine the needs of each community is necessary to provide guidance in funding projects with a finite budget. In a similar manner, community needs must be considered in land use and growth management, in light of a growing population and a finite amount of land available for development or conservation. Therefore, a commitment to constantly improve the quality of the available infrastructure is essential to the future of Tennessee.

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[1] Tennessee Code Annotated § 4-10-109 (a).
[2] FY 1998 Infrastructure Needs Inventory TACIR - Development Districts Contract.
[3] Tennessee Code Annotated § 4-10-109 (b).
[4] Tennessee Code Annotated § 4-10-109 (a).
[5] Tennessee Code Annotated § 4-10-109 (a).
[6] Tennessee Code Annotated § 4-10-109 (a).
[7] GAO/HEHS: 96-103. School Facilities: America's Schools Report Differing Conditions. (June 1996).
[8] GAO/HEHS: 96-148. School Facilities: Profiles of School Conditions by State. (June 1996).