GROSS NATIONAL PRODUCT

Almost 20% Transportation-Related Expenditures

1991

TEXAS TRANSPORTATION INSTITUTE
U.S. Economic Growth

Economy (Billions of $)

1900  1945  1991

Time

World War II
Tremendous Growth & Development of Inter State & Intra State Commerce
RESEARCH $ AS PERCENT OF TOTAL BUDGET

U.S.  0.2%

Other Industrial Nations  2%
FEDERAL INITIATIVES

Federal Highway Research Program
Intelligent Vehicle Highway Systems (IVHS)
Regional University Transportation Centers Program

TEXAS TRANSPORTATION INSTITUTE
CONSTRUCTION $ FROM FEDERAL TRANSPORTATION TRUST FUND

States
Construction Program

Construction 98.0%

Highway Planning and Research 2.0%

National Cooperative Highway Research Program 2.5% (varies)
HIGHWAY RESEARCH AND PLANNING

Texas has by far, the largest and most active state Cooperative Research Program in the nation.
40 YEAR PARTNERSHIP

TEXAS TRANSPORTATION INSTITUTE
1991
$21 Million Budget
Multi-Modal Research
TEXAS TRANSPORTATION INSTITUTE
LEVERAGING THE STATE'S INVESTMENT

$1 RESEARCH $22 BENEFITS
LEVERAGING THE STATE'S INVESTMENT

$1
GENERAL REVENUE

$8.80
RESEARCH

AND

$1 RESEARCH

$22 BENEFITS

TEXAS TRANSPORTATION INSTITUTE
The Texas Highway System
CONSTRUCTION METHODS AND MATERIALS

TEXAS TRANSPORTATION INSTITUTE
Strategic Highway Research Program

$8 Million Under Contract
SELF-HEALING PAVEMENTS

CHEMICAL AND MOLECULAR BONDS
TRAFFIC MANAGEMENT IMPROVEMENTS

High Occupancy Vehicle Lane Technology

TEXAS TRANSPORTATION INSTITUTE
OPERATIONS
SAFETY APPURTENANCES

College Station
EXIT
1/2 Mile
CRASH TESTING

Riverside Research Center

TEXAS TRANSPORTATION INSTITUTE
TECHNOLOGY TRANSFER

TTI Holds 7 Patents on Research Developments to Date
HAWKINS' BREAKAWAY SYSTEMS

- Save lives
- Prevent injuries
- Reduce property damage

TEXAS TRANSPORTATION INSTITUTE
ET2000

- Low Cost End Treatment
- Licensed for Commercial Production
- Implemented Nationwide
VEGETATION ENGINEERING PROGRAM

• Initial Funding from State

• Test Facilities at Annex

• Study/Test Engineering Properties of Plants
HIGH SPEED GROUND TRANSPORTATION
INTRACOASTAL CANAL

Dredge, Widen, Straighten

TEXAS TRANSPORTATION INSTITUTE
ECONOMIC INVESTMENT IN HIGHWAYS

RELATED TO ECONOMIC DEVELOPMENT

TEXAS TRANSPORTATION INSTITUTE
Texas A&M
✓ Talent
✓ Facilities
✓ Services

TTI
✓ Research Opportunities for Faculty and Students

Texas Transportation Institute
TTI WILL PROVIDE:

$2.5 Million

Faculty/Student Support
ENGINEERING PROGRAM-SYNERGY

College of Engineering

Texas Engineering Experiment Station

Texas Transportation Institute

Texas Engineering Extension Service

TEXAS TRANSPORTATION INSTITUTE
FACULTY INVOLVED IN
TTI RESEARCH

32  Civil Engineering
19  Other

51  Joint Faculty
STUDENTS INVOLVED IN TTI RESEARCH

138 Undergraduate
146 Graduate

284 Total Students
LABOR ATTRITION

Professional Transportation Labor Force

Up to 1/3 Retire
ADVANCED INSTITUTE PROGRAM

- Part of SWUTC Program

- Education Complement to Research
  - Multidisciplinary
  - Across All Modes
  - Involve All Sciences

- Area of Emphasis
  - TTI/TAMU: Transportation Operations
EXPERIMENTAL
COMPUTER SIMULATION LAB

TEXAS TRANSPORTATION INSTITUTE
Texas will invest over $400 million for Management Control Centers
NEEDED RESOURCES

Research + Space + Operating Dollars

= GROWTH

TEXAS TRANSPORTATION INSTITUTE
Original Campus Headquarters
Accommodates only 68% of Institute Staff

32% Displaced Personnel

TEXAS TRANSPORTATION INSTITUTE
OFF CAMPUS RELOCATION

- Accident Analysis Division
- Human Factors Division
- Traffic Monitoring Program
1991 TOTAL BUDGET

92%

General Revenue
1.85 Million

TEXAS TRANSPORTATION INSTITUTE
REGIONAL TRANSPORTATION MATCHING FUNDS

OIL OVERCHARGE FUNDS

$1.0 Million for 1991

TEXAS TRANSPORTATION INSTITUTE
<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Revenue Request</td>
<td>$2,385,963</td>
<td>$2,497,117</td>
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<tr>
<td>Special Request:</td>
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<td></td>
</tr>
<tr>
<td>Regional Center Match</td>
<td>$1,000,000</td>
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A NEW ERA
OF TRANSPORTATION
REAUTHORIZATION
1991 Act
Intermodal Surface Transportation Efficiency Act
TEXAS TRANSPORTATION INSTITUTE
TTI LEADERSHIP ROLE

- Hosted Mobility 2000 Conferences
- Published Proceedings
- Published Executive Documents
IVHS AMERICA

- H.H. Richardson, Coordinating Council
- W.J. Harris, Chairman, Clearinghouse Committee
- G.S. Bridges, Coordinating Council
IVHS RESEARCH PROGRAM

- Communications
- Human Factors
- Operations
RENEWED EMPHASIS ON SAFETY
ENACTED FEDERAL LEGISLATION

- Clean Air Act
- Americans with Disabilities Act
- Free Trade Agreement
OPPORTUNITY
"The quality of research produced is representative of the quality of the research staff, commitment of the university and the desire of the research organization to be the best there is."