

Overview of Louisiana Transportation Research Center

Presented to

FEHRL

29/30 March 2012

LTRC

**Created by
R.S. 48:105
in 1986**

Cooperative research, technology transfer
and training center jointly administered
by
LADOTD and LSU

LTRC's Mission

Effectively merge the resources of DOTD/LTRC and universities to provide transportation related research, education and training in a manner that:

- Addresses DOTD problems/needs
- Addresses transportation industry problems/needs
- Supports local government
- Advances transportation technology
- Benefits Louisiana's universities
- Provides optimal return on taxpayers' dollars

Functions and Duties of LTRC

- To develop & conduct a nationally recognized research program in transportation systems
- **To offer educational & training programs**
- To develop & implement a technology transfer program
- **To establish cooperative relationships with universities, associations & agencies**
- To report & publish research findings

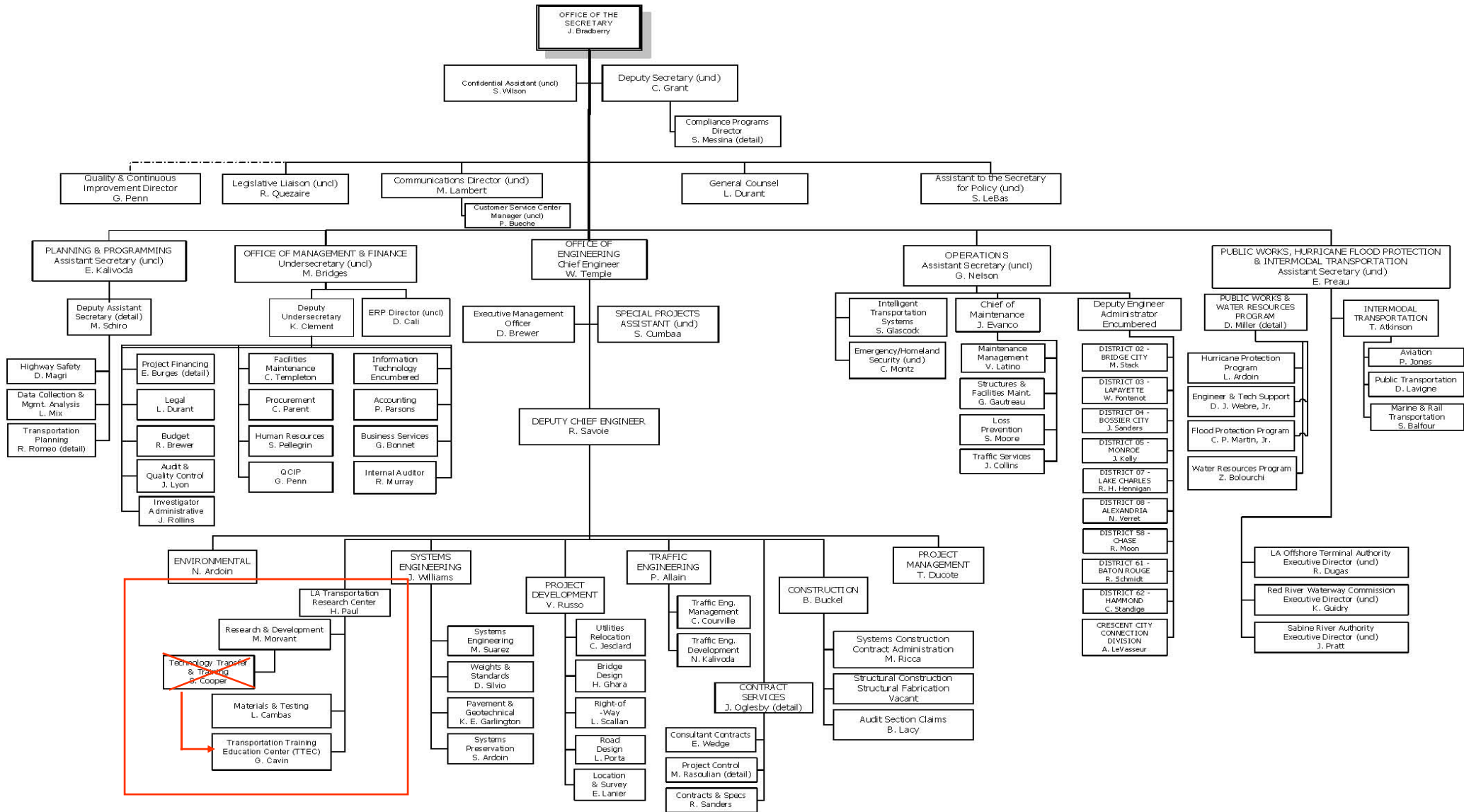
Policy Committee

Advises LTRC and makes recommendations concerning research and technology transfer programs, fiscal-year budgets, and reviews activities and progress of the center.

LTRC Policy Committee

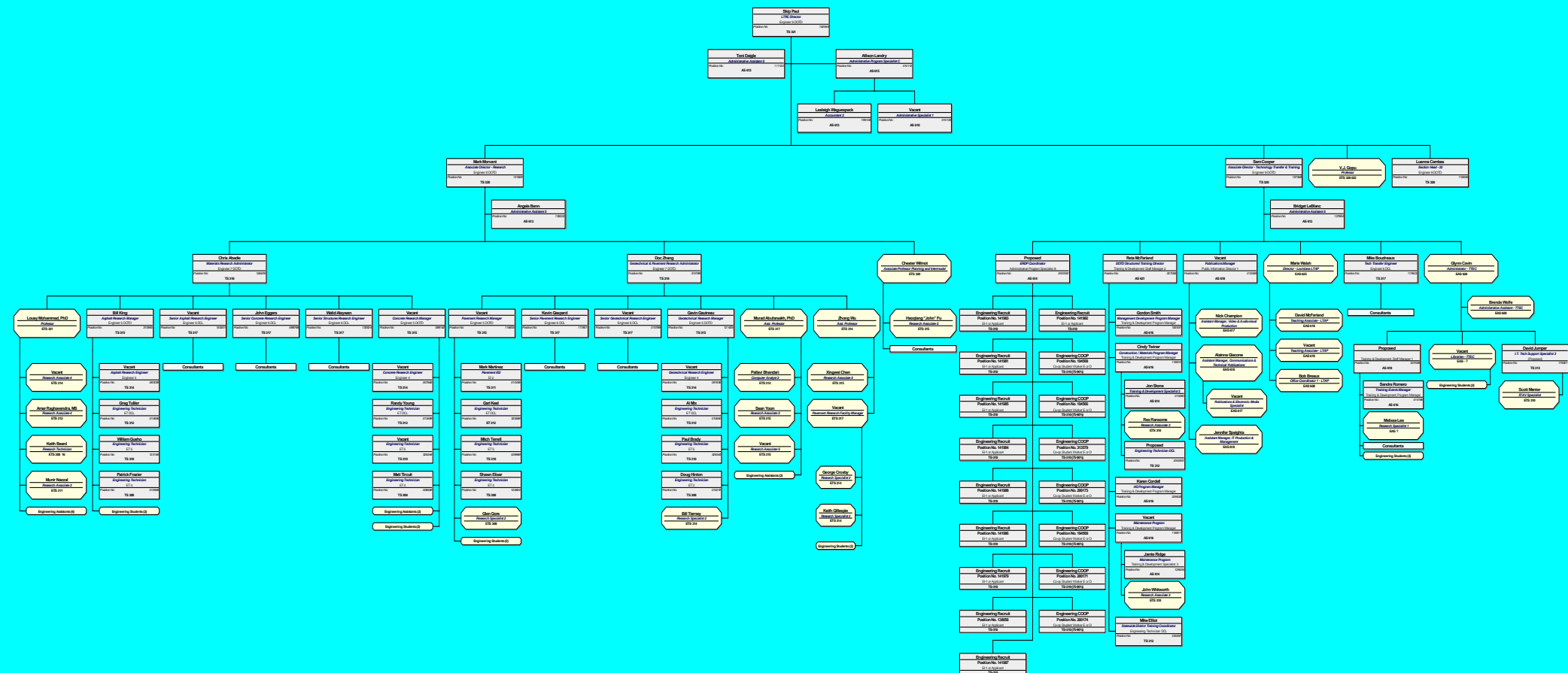
- **DOTD - Secretary appoints 3 members**
- **Universities - one member from each with School/College of Engineering**
 - LSU
 - USL
 - Southern
 - LTU
 - UNO
 - Tulane
 - McNeese
- **LTRC Director**
- **FHWA - invited observers**

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT



REV. 09/07

LTRC Organization Chart



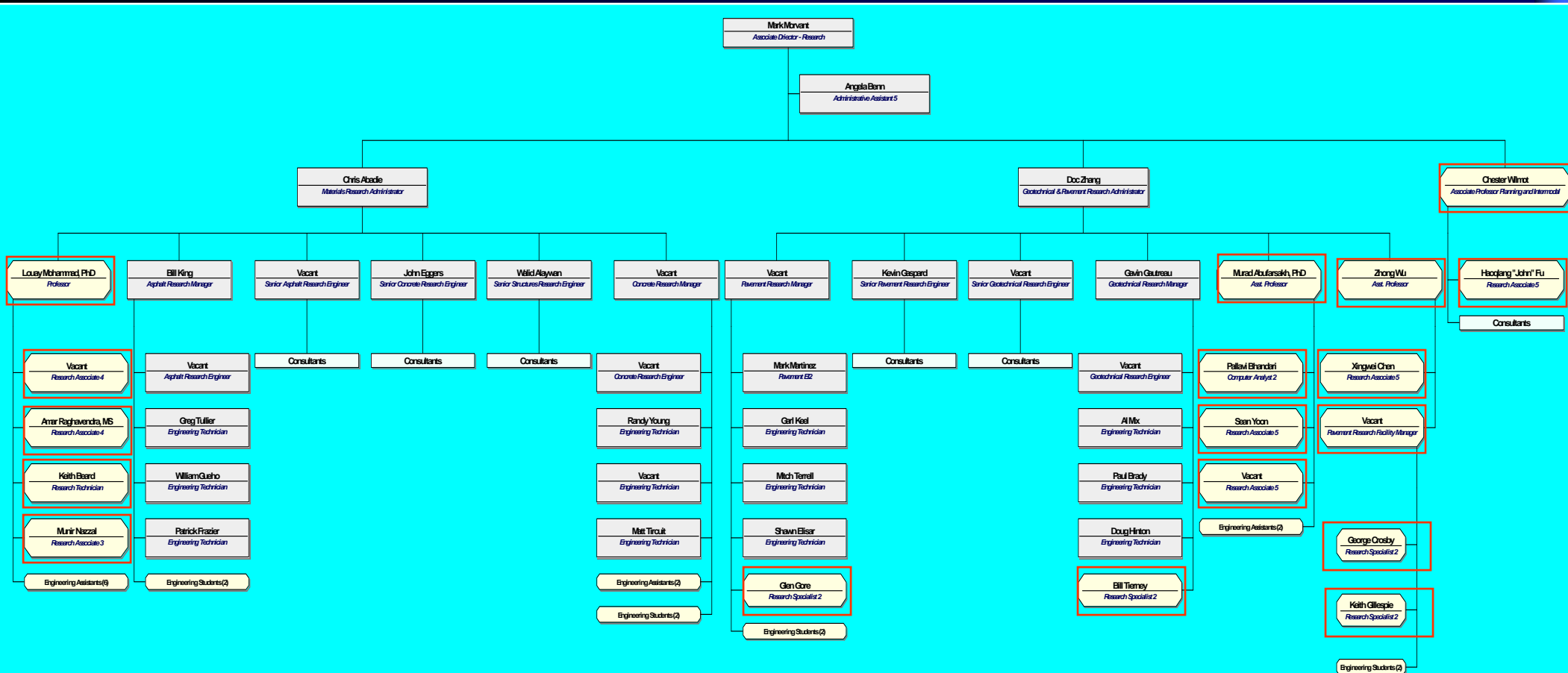
LTRC Staff

	Director	R & D	Training	Total
■ DOTD Personnel	2	27	15	44
■ University Personnel	1	18	12	31
TOTAL	3	45	27	75

- Full-time classified employees of department
- Faculty and staff of university
- Graduate and undergraduate students not shown

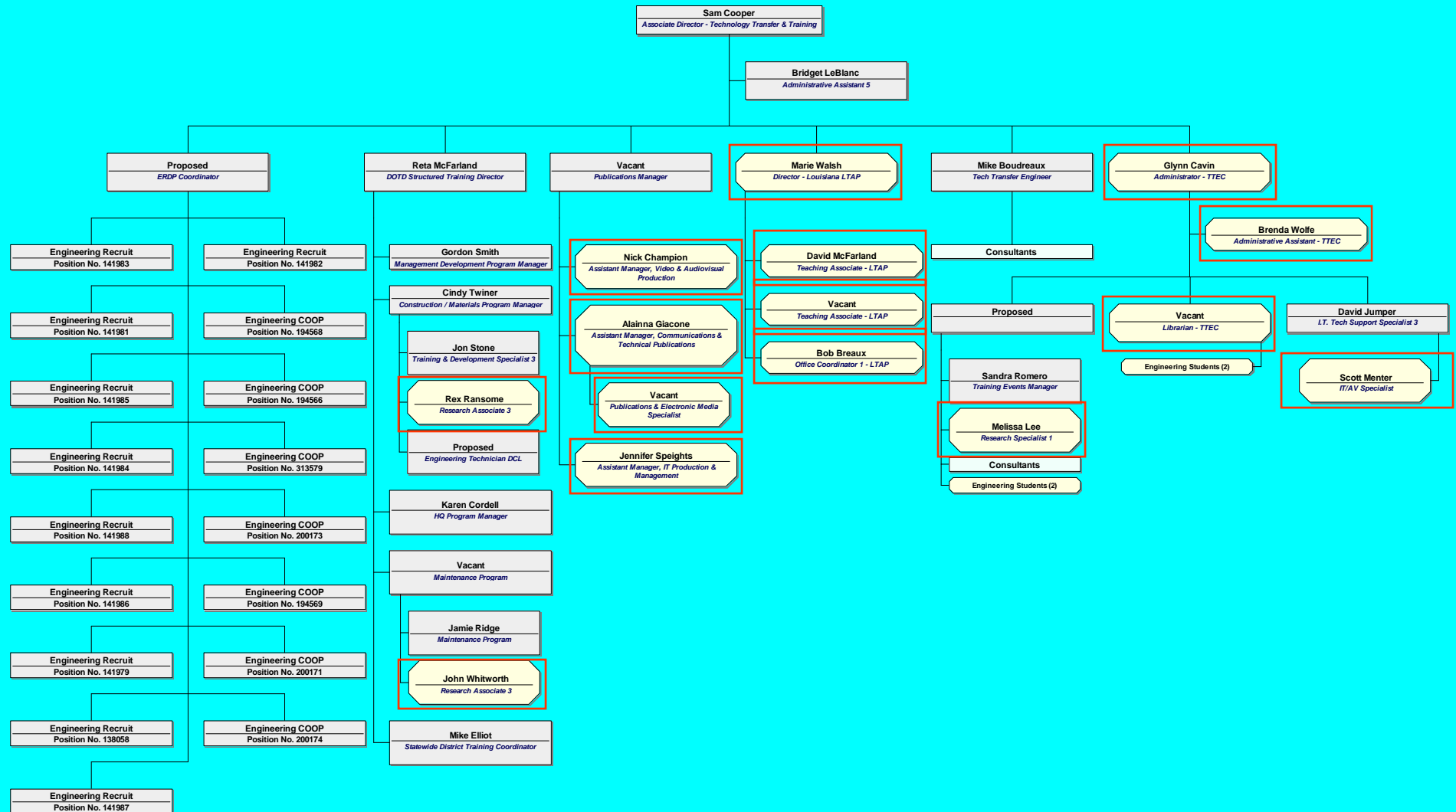
LTRC Organization Chart

Research Section



LTRC Organization

Training & Technology Transfer Section



LTRC Facilities

 **LTRC Main Office (LSU BR campus)**

10,920 sq. ft.

 **Laboratories (LSU BR campus)**

11,760 sq. ft.

 **Training Center (LSU BR campus)**

14,000 sq. ft.

 **Pavement Research Facility (Port Allen)**

6 acres site

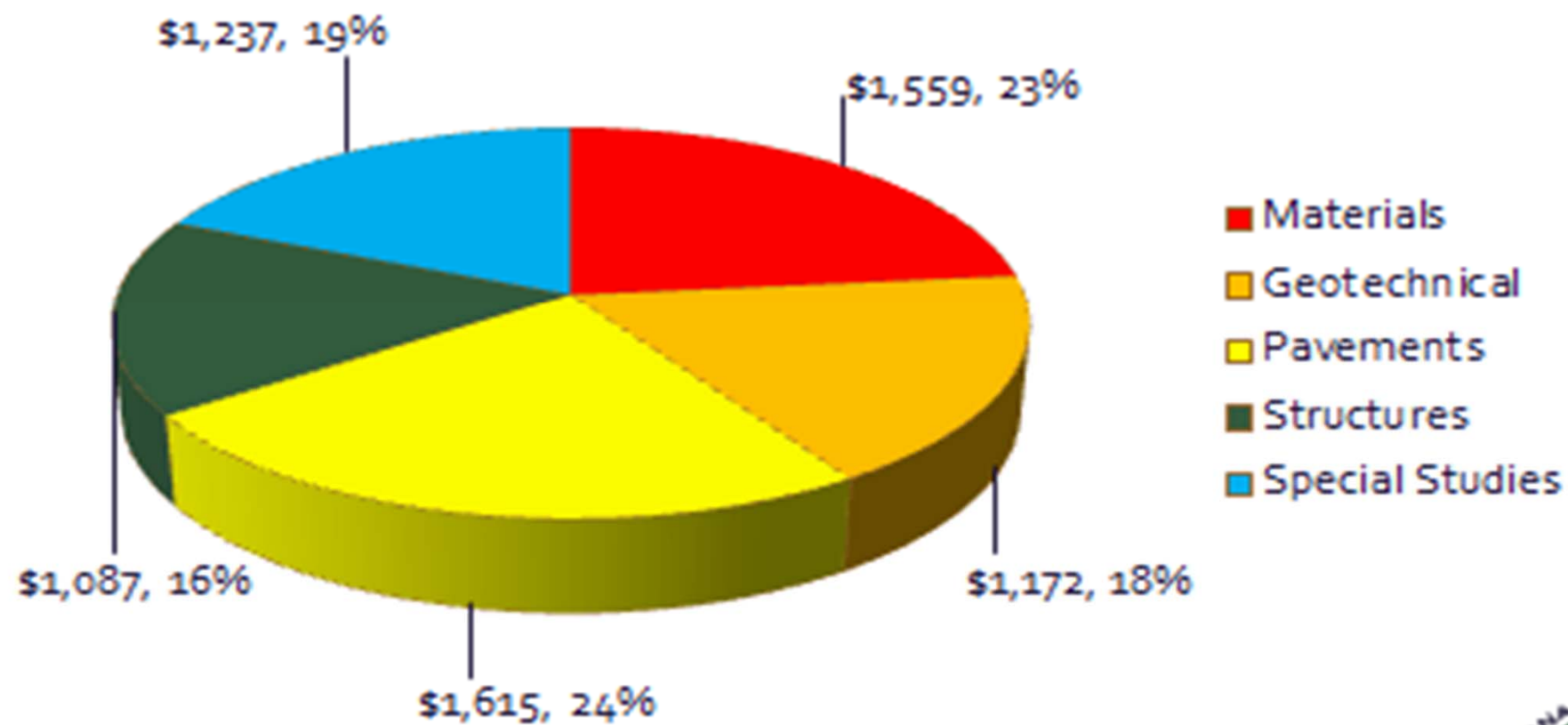
LTRC

Transportation Training & Education Center



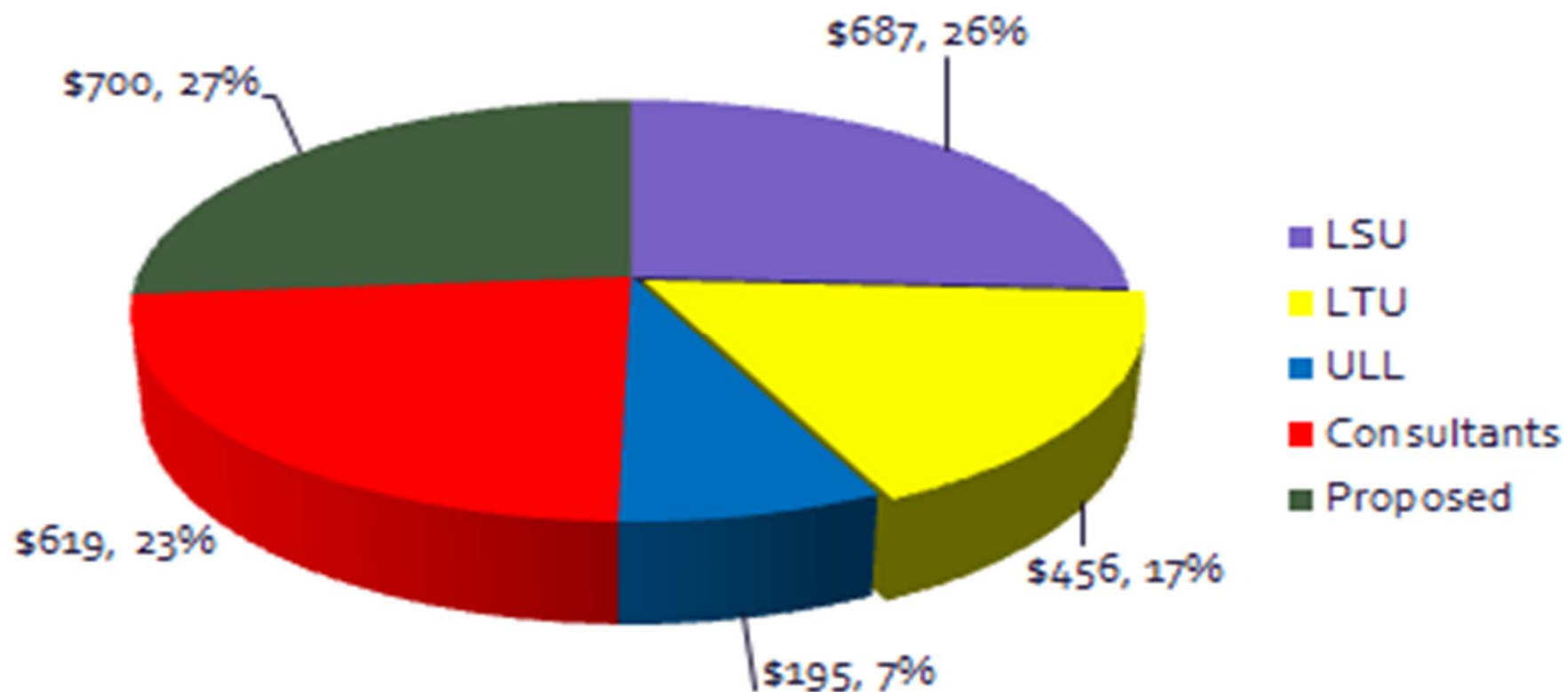
Research by Technical Area

(\$1,000's)



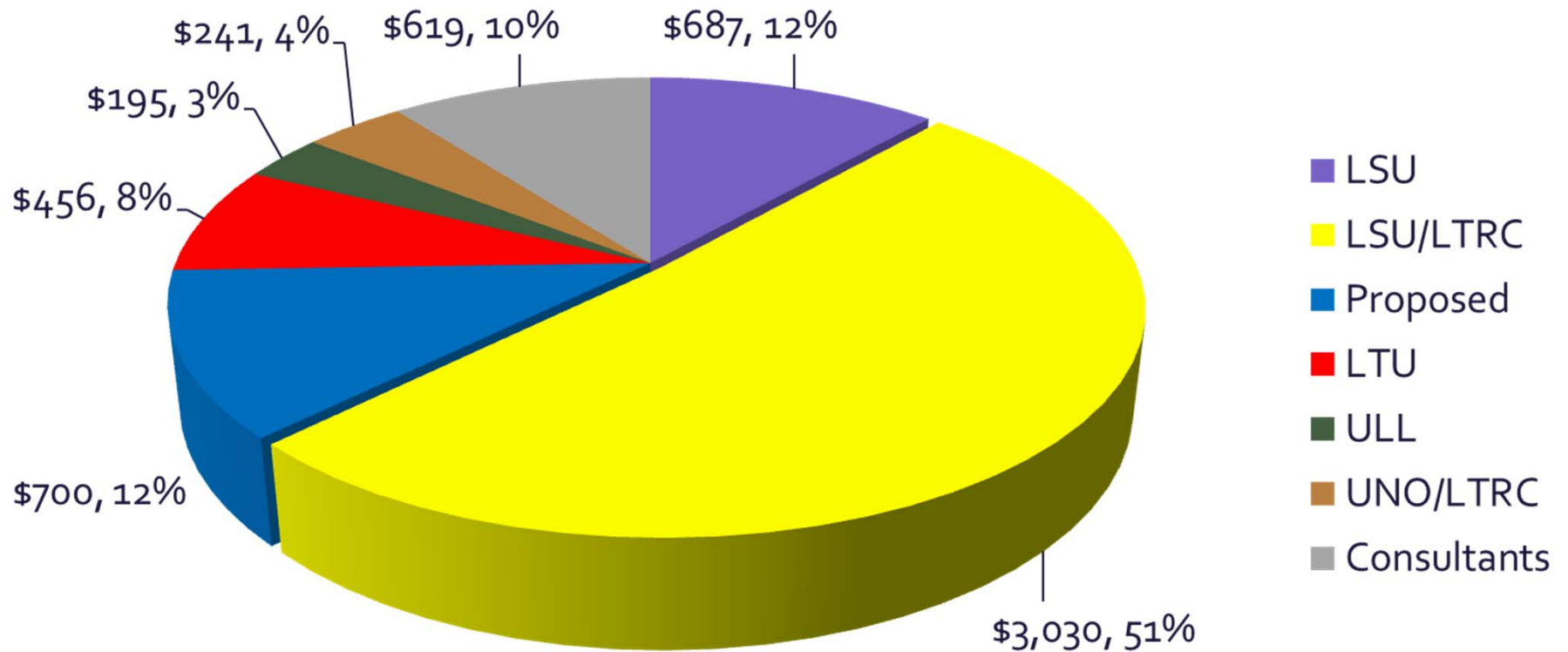
Contract Research Projection

(\$1,000's)



Contract Research Projection

(\$1,000's)

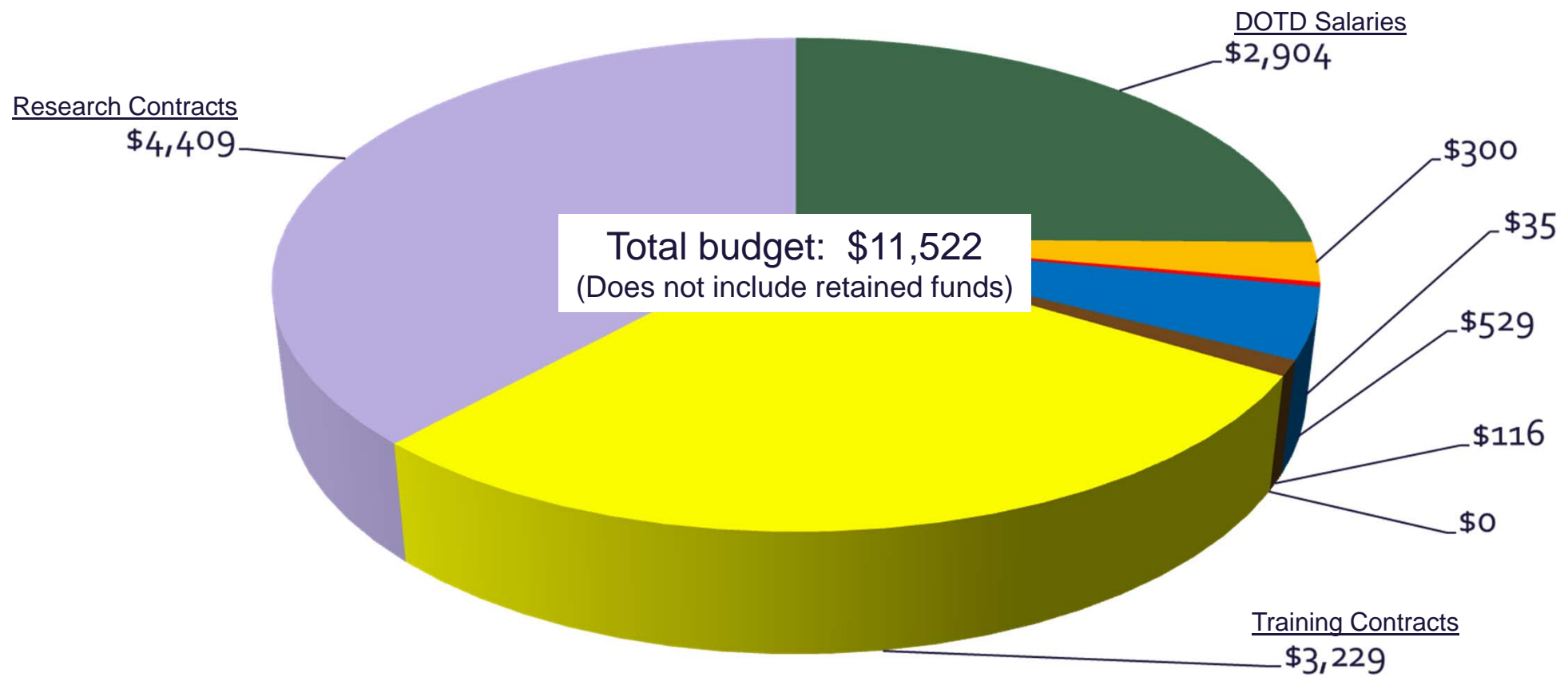


Total Work Program Request: \$5,928



2011-1012 Projected Budget

(\$1,000's)



- DOTD Salaries
- Student Wages
- Travel
- Operating Services
- Supplies
- Acquisitions
- Training Contracts
- Research Contracts



WORK PROGRAM FUNDING

- Federal SP&R Part II (Internal research program)
- State funding (External University contracts)
- Federal (IBRC, Corp of Engineers, etc)
- Federal STP (Technology Transfer, Workforce Development)
- Self Generated (NCHRP, Private)
- Other funding (non LTRC budgeted)

WORK PROGRAM STUDIES

Fiscal Year	08	09	10	11	12
□ SP&R					
■ Active	18	18	19	17	20
■ Proposed	19	11	17	22	17
□ State					
■ Active	8	19	16	10	19
■ Proposed	16	8	12	19	13
□ Self-Generated & IBRD					
■ Active	4	6	9	9	9
■ Proposed	2	6	4	5	3
□ Other Funded					
■ Active	0	5	4	4	2
■ Proposed	4	3	4	1	1

FY 10-11 projects started: 28 - 10 in-house / 18 external
FY 11-12 Total Active Projects : 50 Total Proposed Projects: 34

LTRC *Support for Higher Education*

- Research opportunities for faculty
- Theses, dissertations for grad students
- Education/training opportunities for faculty
- Student worker program (LSU)
- Co-op program (7 universities)
- Senior CE project support program
- Teaching by LTRC research & adjunct professors
- TIRE Program

LTRC Training / Education Role

- **Engineering continuing education**
 - *PDH requirements by board of registration*
 - *Transportation related topics*
 - *Conferences, seminars, workshops*
- **Job skills training for technicians**
 - *Construction*
 - *Design*
 - *Maintenance*
- **Management / professional development programs**
 - *CPTP*
 - *Management topics*
 - *Construction project management*
 - *TQM*
 - *Strategic planning*

LTRC Training and Education Role

■ Major customers

- *4400 DOTD personnel*
- *Consultants*
- *Contractors*
- *Local government personnel*

■ Major resources

- *LTRC tech transfer/training staff*
- *Technology transfer center*
- *National highway institute*
- *Universities*
- *Consultants*
- *LTRC research staff*

Technology Transfer Center (LTAP)

- One of 51 T² centers in USA
- Cooperative effort of DOTD, FHWA, and LSU
- Goal is to help improve local transportation agencies by providing:
 - Training
 - Technical materials
 - Assistance and information

LTRC Foundation, Inc.

Connecting Government, Industry, and Academia

Louisiana Transportation Research Center

What Is the LTRC Foundation?

- The Foundation is a nonprofit corporation formed to enhance and support LTRC
- LTRC is committed to establishing cooperation in the transportation community to improve transportation systems in Louisiana
- The Foundation represents a unique opportunity for government, industry, and academia to work together

Functions of the Foundation

- Can solicit and accept donations of funds and equipment to enhance and support LTRC
- Permits LTRC to partner with other transportation interests / customers in providing services
- Permits LTRC to purchase liability insurance necessary to receive research grants

Board of Directors

- **LTRC** - *Director, Assoc. Director for Research and Assoc. Director for Technology Transfer*
- **DOTD** - *Deputy Secretary, Chief Engineer, Assistant Secretary, Planning & Programming*
- **ACADEMIA** - *Civil Engineering Dept. Heads representing LSU, LTU, UNO, USL, Tulane, Southern and McNeese*
- **INDUSTRY** - *6 positions to be named*

What Are the Goals of the Foundation?

- Constructing an education and training facility for the transportation community
- Enhancing the research/equipment capabilities of LTRC
- Endowing LTRC research professorships

LTRC

Development &
Approval of
Research Work
Program

LTRC Customers

This is your opportunity
to assist LTRC in
focusing future activities to optimize benefits
to transportation industry.

**Problem statements welcomed
at any time**

BUT

Formally solicited on a biennial basis

Financial commitments for research over
two-year period

Development / Approval of Research Work Program



Problem Statements are Solicited From:

- DOTD Personnel
- LA State Universities
- FHWA
- Private Transportation Interests
- Local Government Transportation Interests

Solicitation of Research Problem Statements

- LA DOTD
 - 5 Each Director
 - 3 Each Division Chief
 - 2 Each District
 - 5 Each Section

Solicitation of Research Problem Statements

- Associations

- American Society of Civil Engineers

- Asphalt Institute

- LA Chap. of American Concrete Paving Assoc.

- Concrete Aggregates Assoc. of LA, Inc.

- LA Crushed Stone Association

- LA Asphalt Pavement Association

- LA Highway Safety Commission

- LA Motor Transport Association, Inc

- LA Engineering Society

- American Concrete Institute

- Ports Association of LA

- Associated General Contractors of LA, Inc.

- LA Public Transit (Railroads)

- LA Airport Managers Association

- Consulting Engineers Council of LA

contd.

Solicitation of Research Problem Statements, contd.

- Universities

- 5 Louisiana Tech University
- Louisiana State University
- McNeese State University
- 5 Southern University
- Tulane University
- 5 University of New Orleans
- 5 University of Southwestern Louisiana

contd.

Solicitation of Research Problem Statements, contd.

- Local Governments

- Rapides Area Planning Commission

- Capital Region Planning Commission

- Terrebonne Parish Consolidated Gov't

- Lafayette Areawide Planning Commission

- Imperial Calcasieu Regional Planning & Development Commission

- Ouachita Council of Governments

- N.O. Regional Planning Commission

- Shreveport Area Council of Governments

- 5 City Departments of Public Works

- Shreveport - Alexandria

- Baton Rouge - Lafayette

- New Orleans - Monroe

contd.

Solicitation of Research Problem Statements, contd.

- Federal Highway Administration
 - LA FHWA Division
 - FHWA - Region VI

LTRC USE ONLY
PROBLEM STATEMENT NO.
DATE OF RECEIPT

LTRC PROBLEM STATEMENT SOLICITATION

1. PROBLEM TITLE:

(GIVE A BRIEF AND APPROPRIATE NAME TO THE PROBLEM YOU ARE PROPOSING)

2. PROBLEM STATEMENT:

(BRIEFLY DESCRIBE THE PROBLEM YOU ARE PROPOSING)

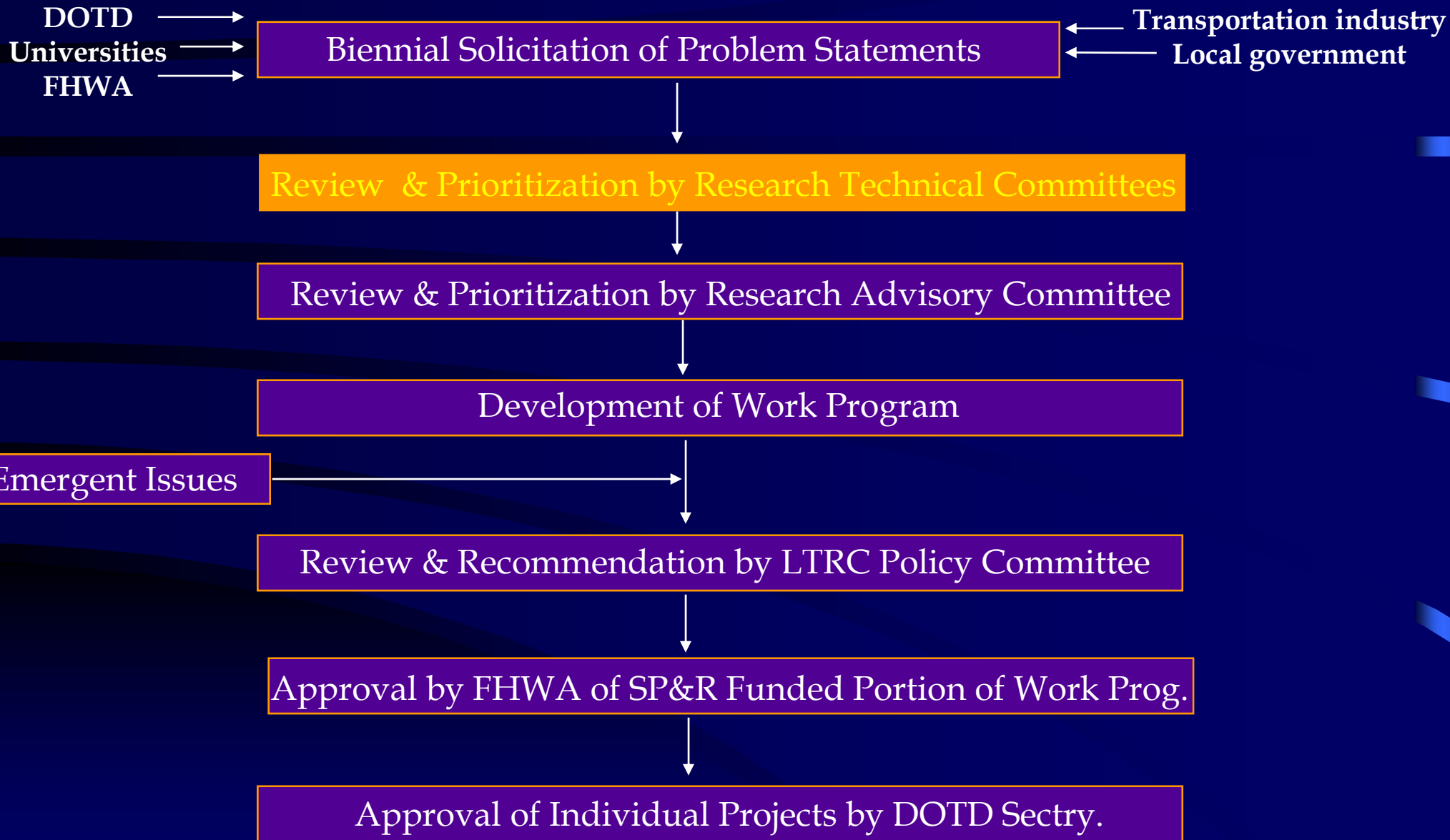
3. PROPOSED RESEARCH:

(DESCRIBE THE APPROACH YOU ENVISION TO SOLVE THE PROBLEM)

4. POTENTIAL IMPLEMENTATION AND BENEFIT:

(DESCRIBE HOW YOU FORESEE THE RESULTS WILL BE IMPLEMENTED AND HOW THE TRANSPORTATION COMMUNITY WILL BENEFIT. HIGHER PRIORITIES WILL BE GIVEN TO STATEMENTS WITH SIGNIFICANT IMPLEMENTATION POTENTIAL)

Development / Approval of Research Work Program



Problem Statement Solicitation Process

- Advantage

 - Involves Customers / Reflects Needs

 - Improves Implementation Potential

- Disadvantage

 - More Ideas Generated Than Can Be Funded

- Solicitation was closed on Dec. 1, 2008
- Received 60 problem statements
 - Material 18 - Structure 11
 - Pavement 9 - Safety 7
 - Hydraulic 3 - Geotech 3
 - Environment 3 - Other 4
- Planned RPIC committees
 - Material
 - Structure
 - Pavement, Geotech & Hydraulics
 - Planning & Environment

RESEARCH PROGRAM DEVELOPMENT PROCESS

- **RESEARCH PROBLEM IDENTIFICATION COMMITTEES**
 - **Bridges and Hydraulic**
 - **Materials and Construction**
 - **Geotech, PMS, Pavement Design, and Preservation**
 - **Traffic, Safety, and ITS**
 - **Planning and Environmental**

Composition of Research Technical Committee

- Chairman - DOTD Staff Member
- LTRC Coordinator - Group Research Manager
- Transportation Industry Representatives
- Academic Representatives
- FHWA Representatives
- DOTD Representatives
- Local Government Representatives

Technical Committee Meeting Activities

- Review of Existing Research Program
- Review Problem Statements

Consider & Advocate Problems With Merit /
Implementation Potential / Urgency

- Identify
 - Non-Research Problems
 - Duplication of Existing Research
- Consolidate Similar Ideas
 - Document Revised Scope
- Develop / Discuss New Ideas Not Previously Submitted

Problem Statement Rating Process

- A) Importance as a Transportation Problem

Low = 1

Med. = 2

High = 3

- B) Implementation Potential

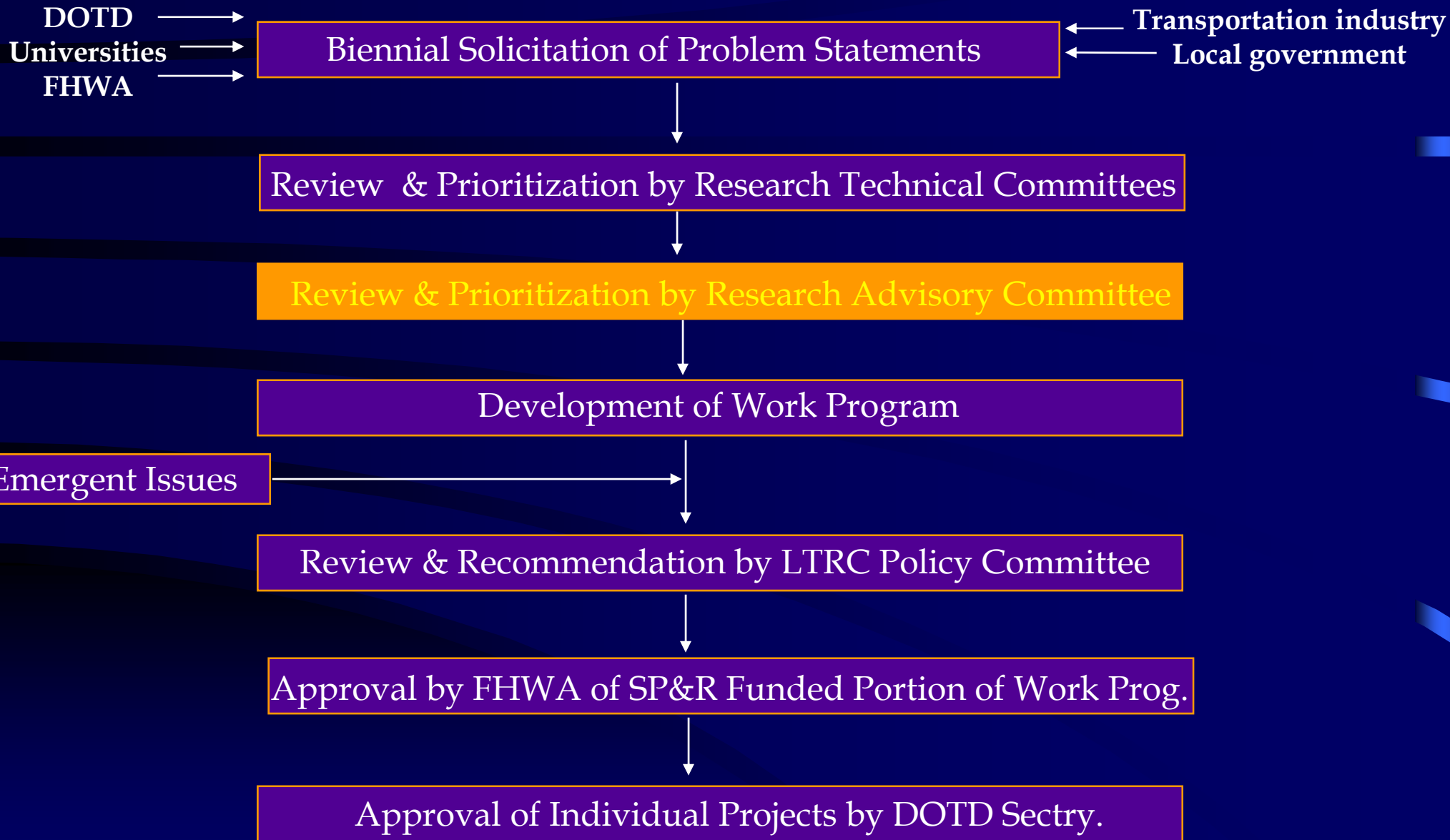
Low = 1

Med. = 2

High = 3

- Rating = $A \times B$ From 1 to 9
- Minimum Favorable Composite Rating = 5.50
- Rating Forms Mailed Following Committee Meeting

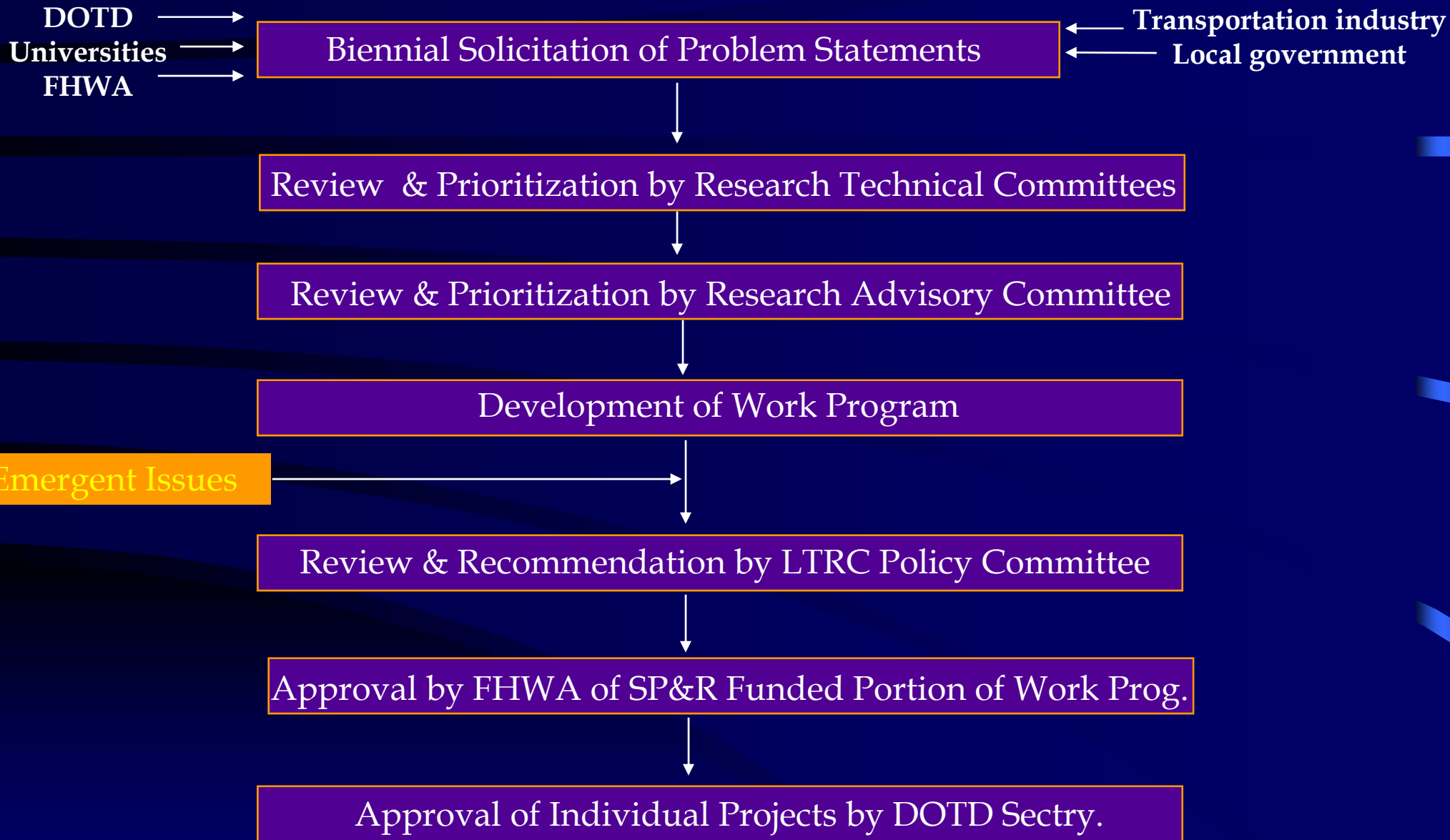
Development / Approval of Research Work Program



Composition of Research Advisory Committee

- Each Research Technical Committee Chairman
- DOTD Staff
- LTRC Personnel
- FHWA

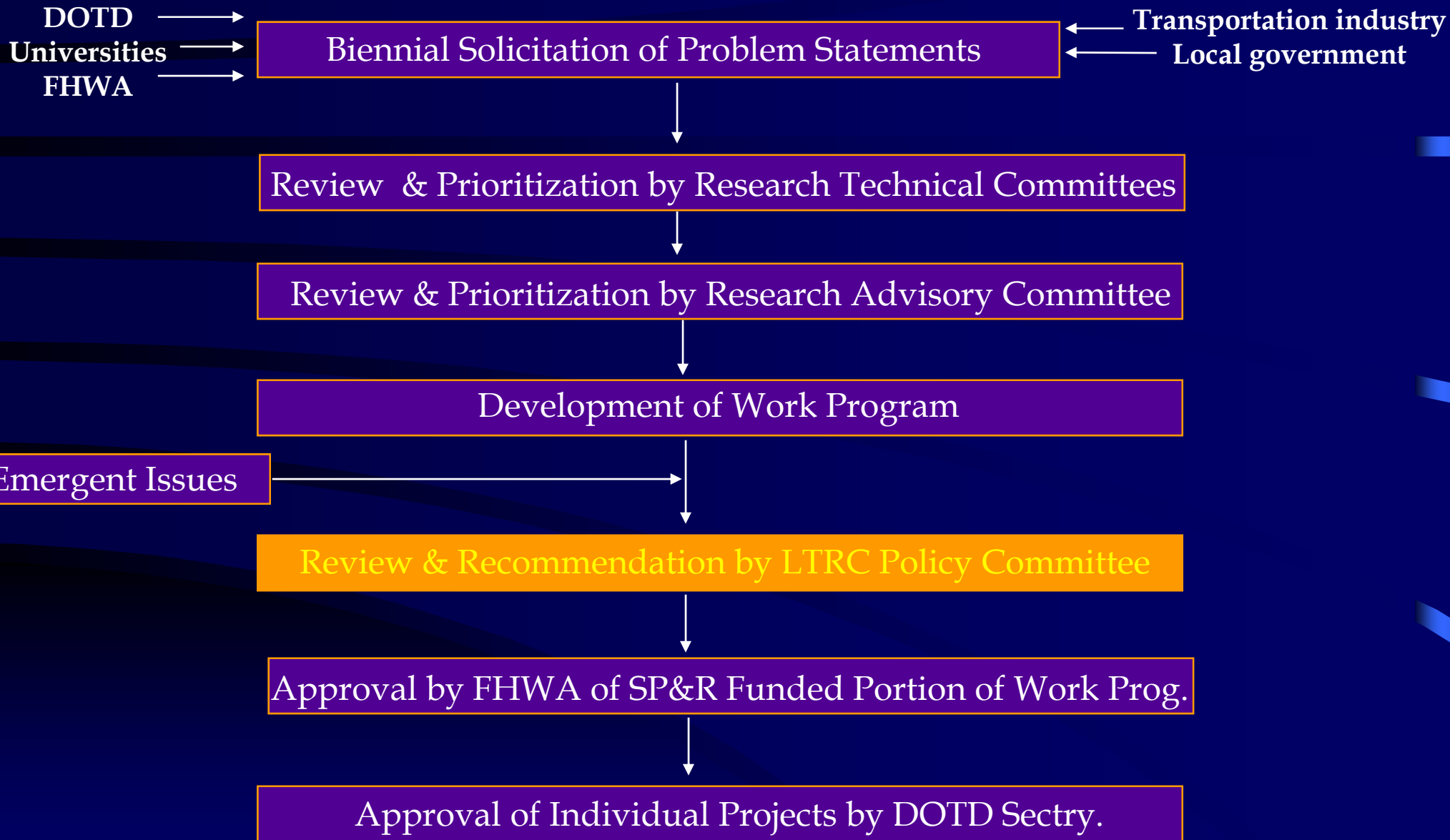
Development / Approval of Research Work Program



Emergent issues must be dealt with:

- Unanticipated problems/needs
- Emerging technology

Development / Approval of Research Work Program



LTRC

World Wide Web Home Page

<http://www.ltrc.lsu.edu>