

## **LTRC GUIDE TO PROPOSAL DEVELOPMENT**

### **PROPOSAL FORM AND CONTENT**

**(An excerpt from the LTRC Research Manual, 2003 Edition, Chapter 2, Pages 14-19)**

This section provides the basic requirements for the form, sequence and content of the research proposal. The proposal shall contain, but is not limited to, the following essential elements (figure 2-4 shows required forms):

- A. PART I- IDENTIFICATION - The title sheet, which includes the amount of funding requested; duration of the project in months with beginning and ending dates indicated; a concise descriptive title for the proposed study; the name and business address of the organization which will conduct the work; the major subdivision of that organization responsible for the research and the name, title, mailing address and telephone number of the principal investigator.
- B. PART II - APPROVAL - For LTRC use in the process of modification and/or approval of the proposal.
- A. PART III - AMOUNTS REQUESTED FOR PROJECT - This part of the proposal requires an itemized list of the funds requested for the proposed research by types of expense and fiscal year (July 1 through June 30).
  - (1) PERSONNEL - List the names, positions and percentage of time (based on a 40-hour work week) to be spent on the project for all persons involved in the research, including PI, Co-PI, and graduate students, if applicable. When the percent time spent on the project varies with a given period (e.g. spring, fall, summer) the individual periods and appropriate percent time shall be listed separately for each. The amounts requested for each person listed must not exceed the proportion of total salary computed from the percent time spent on the project for that person. The salaries used as the basis for computing individual personnel costs shall be exclusive of the cost of employee benefits; however, that percentage used by the contracting agency to compute employee benefits shall be shown where indicated on the form and costs computed and included in totals.
  - (2) NON-EXPENDABLE EQUIPMENT- Itemize only non-expendable equipment which is to be purchased specifically for the performance of the study. Non-expendable

equipment includes any items having a useful life of more than one year and an acquisition cost of more than \$1000 per unit.

- (3) CONSUMABLE SUPPLIES- This item includes the estimated cost of all expendable equipment, materials and supplies. Any item for which the cost exceeds \$300 must be listed individually.
- (4) TRAVEL - Itemize expenses for trips to be made in connection with the research project and state the purpose of the trip. Expenses incurred for out-of-state travel should be listed separately from those for in-state travel. When travel expenses are requested for conferences, conventions and seminars in connection with the research, each instance must be separately identified and justified.
- (5) OTHER EXPENSES – Itemize all miscellaneous expenses associated with the project which is not included in the agency’s computation of indirect cost, such as those required for reference materials, copying, computer time and software, photography, etc. All costs to be incurred for equipment rental or use of subcontractors/consultants associated with the project should be listed in this section.
- (6) TOTAL DIRECT COST - The summation of total estimated costs for items (1) through (5).
- (7) TOTAL INDIRECT COST - This item is intended to provide reimbursement for general and research administration and overhead expenses incurred by the contracting agency in the prosecution of the research project for which no charge is made elsewhere in the study. The total indirect costs shall not exceed 25 percent of the total direct costs, excluding costs for non-expendable equipment. The actual percentage used and method of application shall be described in the proposal and shall be verifiable through audits by DOTD, FHWA and their representative.
- (8) TOTAL COSTS - The summation of total estimated costs for items (6) and (7).

D. PART IV - BIOGRAPHICAL SKETCHES - Provide brief biographical sketches for the professional personnel indicated by Part III, Section (1), to be actively engaged in the study such that required expertise can be determined.

- E. PART V - TITLE VI STATEMENT - This portion of the proposal shall include a statement that the agency or contractor will comply with the provisions contained in Title VI of the Civil Rights Act of 1964.
- F. PART VI - PROPOSED RESEARCH - This portion of the proposal is the basic guide to the study containing the detailed description of the approach the PI intends to employ to complete the study and its potential for implementation. This portion shall contain the following elements in the sequence indicated:
- (1) PROBLEM STATEMENT – Proposer’s understanding of the problem to be solved through research.
  - (2) OBJECTIVES OF RESEARCH - Provide concise statements to describe the specific aims of the work proposed and relate them to long-term goals.
  - (3) METHODOLOGY - This section should describe the details of the researcher's approach to solving the problem:
    - (a) WORK PLAN - For each phase of the proposed research, itemize and discuss the tasks necessary to fulfill the objectives. A preliminary literature search should be accomplished and demonstrated in the discussion. The discussion should include principles or theories to be used; devices, processes, materials or systems to be developed; possible solutions to the problems; critical experiments to test the applicability of the theory, the type and range of variables to be used or considered; and the methods of data analysis to be used including statistical methods. The preparation of the final report should be acknowledged. A draft final report should be scheduled for delivery at least 90 days prior to the project completion date to permit time and charges for revisions.
    - (b) WORK SCHEDULE - A time chart in the format shown in figure 2-5 shall indicate the proposed time schedule of completion for each task (and subtask when applicable) discussed in part (a). This should include periodic PRC meetings, preparation of progress, interim (if applicable) and final reports and other deliverables.
    - (c) STAFFING PLAN - The responsibilities and time allocation of personnel to the required tasks should be briefly

stated for each fiscal year for the duration of the project. Also include a table or chart indicating personnel by task with hours or percent of time and cost per task.

(d) DELIVERABLES - A list of all deliverables along with a brief statement describing each one should be presented in this section.

(4) FACILITIES AVAILABLE - The general facilities at the disposal of the proposing agency which are relevant to the study should be described, along with major items of permanent equipment to be used.

(5) STATE OF THE KNOWLEDGE

(a) PREVIOUS WORK BY RESEARCHERS - The researchers should list and describe briefly any previous work they have done pertinent to the proposed study. Personal publication on the subject area or closely related work should be cited. (List no more than five). It should be demonstrated that previous work has not attempted to solve the problem using the same approach.

(b) RESULTS OBTAINED BY OTHERS - Describe the results of literature search for information on the findings of others pertinent to the proposed study. The findings available through TRIS are required for all studies.

(c) SIGNIFICANCE OF RESEARCH - The importance of the proposed work should be explained in this section. Adequate explanation must be given about how the proposed research will extend, modify, or refine the previous work of others.

(6) IMPLEMENTATION - An assessment by the researcher of the areas of potential application of anticipated research findings. The form in which the findings might be reported (mathematical model or formula, test procedure, specification, design procedure, etc.) should be described. The specific area of practice that would be changed by the findings and those organizations or groups that might benefit from the new technology should be identified. The responsibility for and means of technology transfer relative to the study should be proposed when possible.

(7) AMOUNTS REQUESTED - Provide justification for the itemized amounts shown in Part III for nonexpendable equipment, equipment rental, travel, and other items. It is required that the manner in which indirect costs are calculated and applied be stated.

G. PART VII - LIST OF REFERENCES - A numerical list of references used in the text of the proposal should be included in the order referred to in the text.