UNIVERSITY TRANSPORTATION CENTERS PROGRAM

2011 GRANT SOLICITATION

Opening Date: July 26, 2011

Closing Date: October 26, 2011

Research and Innovative Technology Administration
U.S. Department of Transportation
Washington, D.C. 20590-0001

http://utc.dot.gov/

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GENERAL INFORMATION ABOUT THIS SOLICITATION

The Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation (US DOT) plans to competitively select ten Tier 1 University Transportation Centers (UTCs), two Tier 1 Transit-Focused UTCs, and ten Regional UTCs.

The purpose of the Centers is to advance U.S. technology and expertise in the many disciplines comprising transportation through the mechanisms of research, education, and technology transfer; and to provide a critical transportation knowledge base outside the US DOT and address vital workforce needs for the next generation of transportation leaders.

To accomplish this purpose, RITA plans to provide approximately **$3.5 million from federal Fiscal Year 2011 funds to each nonprofit institution of higher learning selected through this competition to operate a Center. A UTC must be located in the United States or territories.** It may be a single university or a consortium of two or more universities. **Each Center is required to obtain matching funds from non-federal sources in an amount at least equal to the US DOT grant amount.** The grant may be extended subject to a) transportation authorization legislation that continues the UTC Program as structured in this solicitation and b) availability of subsequent-year funds.

WHAT YOU NEED TO SEND US

If your university is eligible to receive an award under this solicitation (see Part II-A-2), your university's authorized representative must submit the application through the federal "Grants.gov" electronic grant identification and application system. **You will want to ensure well in advance that the university is registered with Grants.gov, as registration is not instantaneous.** Eligible entities must have or must secure a DUNS number for the purposes of formal application. The DUNS number is a unique nine-character number that identifies your organization. Each applicant's DUNS number will be maintained as part of the applicant's profile. This number can be obtained free through the D&B website (http://www.dnb.com/US/duns_update/).

You are responsible for the accuracy and validity of all the administrative, fiscal, and technical information in your application.

The application will consist of:

1. Standard Form SF-424 "Application for Federal Assistance"

2. Standard Form SF-424A "Budget Information – Non-Construction Programs"

3. Standard Form SF-424B "Assurances – Non-Construction Programs"

4. A written prospectus no more than 35 pages long, plus additional appendices with supporting documentation (specified in Part III). Applicants for Regional Center funding must submit additional written documentation (no more than three pages) that addresses the Center's regional role. Applicants for Tier 1 Transit-Focused Center funding must submit additional written documentation (no more than five pages) that describes how the Center will address transit-related research and workforce needs. Detailed instructions for the application appear later in this document.

Personally Identifiable Information (PII) such as Social Security numbers, birth dates, or home addresses should not be included in the application. Information submitted as part of the application may be subject to the Freedom of Information Act (FOIA).

WHERE TO SUBMIT YOUR APPLICATION

Submit your application via: Grants.gov, located at Internet address http://www.grants.gov, Opportunity No. UTCOPENCOMP2011

DEADLINE FOR SUBMITTING YOUR APPLICATION

Your application must be submitted to Grants.gov no later than:

11:59 PM EST, WEDNESDAY, October 26, 2011.

Your application will be considered complete as initially received by us; if you need to make changes after submission, you will need to withdraw and resubmit your application in whole. Any materials submitted after the due date will not be incorporated into the review process unless we specifically request such material to complete the review of your application.

RETURN RECEIPT ACKNOWLEDGMENT

The electronic Grants.gov system will provide you with an acknowledgement of your submission.

QUESTIONS ABOUT THIS SOLICITATION

If you have questions about this solicitation or need information about the University Transportation Centers Program in general, you may contact the UTC program at UTCgrants@dot.gov until 4:00PM EST on October 26, 2011. **Please note**: Until a formal notice of award is issued, no communication by the Government, either written or oral, shall be interpreted as a promise that an award will be made. Questions posed by applicants will be posted with RITA's answers on the UTC Program website at http://utc.dot.gov/about/grants_competitions/2011/index.html .

PART I. INTRODUCTION TO THIS SOLICITATION

A. Background on the UTC Program

In 1988, the U.S. Department of Transportation (US DOT) initiated the University Transportation Centers (UTC) Program as authorized in the Surface Transportation and Uniform Relocation Assistance Act of 1987. After a nationwide competition, US DOT awarded grants to create a University Transportation Center in each of the ten standard federal regions. The primary purpose of the program at that time was conducting research.

The Intermodal Surface Transportation Equity Act (ISTEA) of 1991 reauthorized the UTC Program through fiscal year 1997, and expanded its mission to include education and technology transfer, as well as research. In addition to the ten Regional Centers, ISTEA created three "national" Centers and six University Research Institutes at universities that were named in the Act. The program expansion led US DOT to adopt a strategic planning approach to program management based on a mission and goal set that was the same for all 13 Centers and 6 Institutes. US DOT extended the grants to the Regional Centers for three years, but announced its intention to reopen the program to competition. That occurred in 1994, at which time two of the ten regions experienced a change in the identity of the Regional Center.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) reauthorized the UTC Program for an additional six years and increased the total number of Centers to 33. In addition to the ten Regional Centers, which were selected competitively in 1999 (two of the ten Regional UTCs changed hands), TEA-21 created 23 other Centers at institutions named in the Act. TEA-21 established education as one of the primary objectives of a University Transportation Center and institutionalized the use of strategic planning in university grant management.

The Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU, Public Law 109-59), enacted in 2005, provided the most significant expansion of the UTC program to date. SAFETEA-LU increased the number of University Transportation Centers from the 33 established in TEA-21 to 60, including the ten Regional UTCs plus a new group of ten competitive centers called Tier 1 Centers; the other 40 UTCs were at institutions named in the Act. Annual authorized funding for the UTC program also increased from $32.5 million in TEA-21 to $85.9 million in SAFETEA-LU.

The Surface Transportation Extension Act of 2011 (the Extension Act), Title 3, Section 306(c)(1)-(2), gave the Department of Transportation the discretion to redistribute funds allocated to specified research projects and programs designated in SAFETEA-LU if the Secretary of Transportation determined that these projects had received "sufficient funds in Fiscal Year 2010, or a previous fiscal year, to carry out the purpose for which the project or activity was authorized." After careful review and deliberation, US DOT determined that UTC projects had been sufficiently funded, so the federal

Fiscal Year 2011 funds are now being made available through full and open competition following the framework of the competitive UTC programs under SAFETEA-LU Sections 5506(e) & (f).

US DOT will operate the UTC program based on the principles of full and open competition. RITA plans to make grants of approximately $3.5 million each to eligible nonprofit institutions of higher learning located in the United States or territories selected to establish and operate University Transportation Centers. These federal Fiscal Year 2011 funds may be expended up to two full years from the award date. The grant may be extended subject to a) transportation authorization legislation that continues the UTC Program as structured in this solicitation and b) availability of subsequent-year funds. Ten Tier 1 Centers, two Tier 1 Transit-Focused Centers, and ten Regional Centers will be selected from the pool of applicants. **Applicants may choose to be considered for more than one type of Center, but can only be selected for one type of Center.**

For additional information on the UTC Program, please visit http://utc.dot.gov/

B. Mission

The role of each Center shall be the following:

- Advance transportation expertise and technology in the many disciplines that comprise transportation through research, education and workforce development, and technology transfer.

- Provide a critical transportation knowledge base outside the Department and address vital workforce needs for the next generation of transportation leaders.

C. Objectives

Specific objectives of the UTC Program and of each individual Center are:

Research: Basic and applied research, the products of which are judged by peers or other experts in the field of transportation to advance the body of knowledge in transportation.

Education and Workforce Development: An education program relating to transportation that includes multidisciplinary course work and participation in research; workforce development activities and programs to expand the workforce of transportation professionals.

Technology Transfer: An ongoing program of technology transfer that makes transportation research results available to potential users in a form that can be implemented, utilized, or otherwise applied.

UTCs shall support one or more of the Secretary of Transportation's Strategic Goals:

- Safety
- State of Good Repair
- Economic Competitiveness
- Livable Communities
- Environmental Sustainability

Although every Center has the same broad objectives, US DOT encourages diversity in the program participants and in the approaches individual Centers take to reach the program objectives. US DOT encourages unique approaches to research, education, workforce development and technology transfer, building on or reflecting institutional expertise, facilities, and partnerships. Finally, in order to achieve the Department's vision of a truly multimodal integrated system, DOT encourages UTCs to cut across disciplines and span all modes of transportation, enabling improvements to the Nation's entire surface transportation system, inclusive of rail, marine, highway, pipelines and transit.

D. Types of Centers

Three types of Centers will be selected under this solicitation. Awards will be made to ten Tier 1 Centers, two Tier 1 Transit-Focused Centers, and ten Regional Centers.

1. Tier 1 Centers

Tier 1 Centers may be based in any region or location and may include consortium members that are not in the same federal region as the grantee university.

2. Tier 1 Transit-Focused Centers

The Transit-Focused Centers have the same mission and objectives as the Tier 1 University Transportation Centers, but they must focus their efforts on advancing transit-related research and enhancing the workforce that supports the provision of transit services.

3. Regional Centers

The ten Regional Centers are to be located in each of the ten standard federal regions listed in Table 1 below. They are distinct from the Tier 1 Centers in that they must also address regional needs. While a Tier 1 Center may be based in any region or location and may form a consortium with universities that are not located in its region, a Regional Center, plus any consortium members, must be located within the federal region to be served. Each Regional Center must serve as a focal point within its respective region to help coordinate UTC transportation research and education programs with regional needs and initiatives. At a minimum, a Regional Center should work with the other UTCs in its regions to maximize the effectiveness of the region's collective services and programs.

Table 1. Standard Federal Regions

Table 1. Standard Federal Regions	
Region 1	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Region 2	New Jersey, New York, Puerto Rico, U.S. Virgin Islands
Region 3	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
Region 4	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
Region 5	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
Region 6	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
Region 7	Iowa, Kansas, Missouri, Nebraska
Region 8	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Region 9	Arizona, California, Guam, Hawaii, Nevada
Region 10	Alaska, Idaho, Oregon, Washington

E. Multiparty Arrangements

UTCs may be a consortium of two or more non-profit institutions of higher learning located in the United States or territories. Universities may collaborate with state DOTs, the private sector, and community, junior, or technical colleges; however, these organizations or others that are not U.S. non-profit institutions of higher learning will not be considered members of a consortium nor may they receive any of the federal UTC funds. The grantee institution will be the direct and primary recipient of US DOT funds, and as such must perform a substantive role in carrying out Center activities, and not merely serve as a conduit for awards to another party. However, under this solicitation there is no minimum requirement for concentration of funding at the grantee institution.

A university may be included in more than one application for funding, and may be a member of more than one UTC that is awarded grant funds.

PART II. REVIEW, SELECTION, AND AWARD PROCESS

A. Review of Applications

1. **Compliance Review.** After the closing date, RITA staff will conduct an initial review of applications to identify any that are substantially incomplete or nonresponsive to this solicitation. Any such applications will be rejected.

2. **Merit Review**. RITA will utilize knowledgeable and experienced reviewers drawn from the transportation-research community and/or the U.S. Department of Transportation to review all complete and responsive applications and make recommendations for funding to the selecting official. Reviewers will base their evaluations on the following criteria:

a. <u>Eligibility Criteria</u>

An application from an institution that fails to satisfy the eligibility criteria listed below will be disqualified from further consideration. In the case of a consortium, the lead university applicant itself must meet these criteria.

Tier 1 and Tier 1 Transit-Focused Centers:

1. **Financial Commitment**. The institution's demonstrated commitment of at least $400,000 each year in regularly budgeted institutional amounts to support ongoing research and education programs.

2. **Established, Nationally Recognized Program**, as evidenced by:

   i. Not less than $1,000,000 in transportation research expenditures each year for each of the preceding 5 years or not less than $6,000,000 in such expenditures during the preceding 5 years; and
   ii. Not fewer than 5 graduate degrees awarded in professional fields closely related to transportation each year for each of the preceding 5 years; and
   iii. Not fewer than 3 tenured or tenure-track faculty members who specialize on a full-time basis in professional fields closely related to transportation and who, as a group, have published a total of at least 20 refereed journal publications on transportation research during the preceding 5 years.

Regional Centers:

1. **Financial Commitment**. The institution's demonstrated commitment of at least $400,000 each year in regularly budgeted institutional amounts to support ongoing transportation research and education programs.

2. **Established, Nationally Recognized Program**, as evidenced by:

   i. Not less than $2,000,000 in transportation research expenditures each year for each of the preceding 5 years; and
   ii. Not fewer than 10 graduate degrees awarded in professional fields closely related to transportation each year for each of the preceding 5 years; and
   iii. Not fewer than 5 tenured or tenure-track faculty members who specialize on a full-time basis in professional fields closely related to transportation and who, as a group, have published a total of at least 50 refereed journal publications on transportation research during the preceding 5 years.

3. **Location:** Regional Centers must be located within the federal region to be served.

b. <u>Evaluation Criteria</u>

All Centers:
Tier 1, Tier 1 Transit-Focused, and Regional Centers will be selected on the basis of the following evaluation criteria, which are individually weighted. Section D in Part III (Prospectus Preparation and Submission Instructions) of this RFP provides more specific information on these criteria.

- **Research Capability (25 points):** A demonstrated ability to conduct research activities that are multidisciplinary in scope and support one or more of the Secretary of Transportation's Strategic Goals:
    - Safety
    - State of Good Repair
    - Economic Competitiveness
    - Livable Communities
    - Environmental Sustainability

- **Leadership (10 points):** High standing within the national and international arena of transportation research; and capability to provide leadership in making national and regional contributions to the solution of immediate and long-range transportation problems.

- **Education and Workforce Development (25 points):** A commitment to transportation education and workforce development programs.

- **Technology Transfer (15 points):** The ability to disseminate research results and spur implementation.

- **Collaboration (15 points):** A commitment to forming collaborative relationships among different types and/or sizes of institutions.

- **Program Efficacy (10 points):** The power to produce results through the availability of research, extension, and other resources and the ability to implement planned activities in an effective and cost efficient manner.

- **Diversity (additional 10 points):** Applications that demonstrate a Center's commitment to broadening participation and enhancing diversity will be given additional consideration.

Tier 1 Transit-Focused Centers (additional 10 points):
An additional qualitative criterion for Tier 1 Transit-Focused Center applicants is their commitment and ability to implement activities that advance research and enhance the workforce of the transit enterprise.

Regional Centers (additional 10 points):
An additional criterion for Regional Center applicants is their commitment and ability to provide leadership within their respective regions, to collaborate with other UTCs in the region, and to coordinate UTC transportation research, education, and technology transfer programs with regional needs and initiatives.

B. Additional Information

RITA reserves the right to request from any or all applicants such additional information as it may deem necessary to complete its review of applications.

C. Recommendation of Awards

The review team will prepare a memorandum forwarding its collective recommendations to the selecting official, the Administrator of the Research and Innovative Technology Administration (RITA).

D. Awards

The RITA Administrator will select ten applicants to receive Tier 1 UTC grants, two applicants to receive Tier 1 Transit-Focused UTC grants, and ten applicants to receive regional UTC grants. The selection made by the RITA Administrator is final.

US DOT seeks to select a balanced portfolio of UTCs that support the Secretary of Transportation's Strategic Goals, contain different types and/or sizes of universities, and focus on improving overall system performance using multiple transportation resources. The overall array of proposals submitted by applicants (for example, how many applications address safety compared with how many address livable communities), which cannot be known until all applications have been submitted and reviewed, will be a factor in the selection.

RITA plans to provide approximately $3.5 million per Center. The grants may also be extended subject to: a) transportation authorization legislation that continues the UTC Program as structured in this solicitation; and b) availability of subsequent-year funds.

E. Period of Performance

The funding and authorization available to RITA for this solicitation at this time are solely from federal Fiscal Year 2011. RITA will allow funds awarded to be spent over a two-year period, beginning on the award date.

F. Matching Funds

Total funding for a Center's operation will include the US DOT funding plus an equal or greater amount of non-federal matching funds. The non-federal funds may include funds provided to a recipient under sections 503, 504(b), or 505 of Title 23, United States Code (the technology deployment, local technical assistance, and state planning and research programs managed by the Federal Highway Administration). The non-federal funds may be cash or in-kind, must be used to accomplish program objectives and the purpose of the grant, and must be fully documented in the Center's records.

PART III. APPLICATION INSTRUCTIONS (STEPS 1-3)

The applicant (in the case of a consortium, the lead institution) will submit an application consisting of the following:

- Standard Form SF-424 "Application for Federal Assistance"
- Standard Form SF-424A "Budget Information – Non-Construction Programs"
- Standard Form SF-424B "Assurances – Non-Construction Programs"
- A cover sheet and a written prospectus no more than 35 pages long, plus additional appendices with supporting documentation specified below. Standard Forms, appendices, and additional documentation do not count towards the thirty-five page limit for the prospectus.

1. Standard Forms SF424, SF424A, and SF424B

Prepare and submit Standard Forms SF424, SF424A, and SF424B.

Use Standard Form SF424A to prepare a two-year Center budget that shows how you expect to allocate the Center's total annual resources (federal funds plus required matching funds). Prepare a two-year budget in the same format for each of the participating institutions including the grantee university. Any leveraged funds relevant to the work being proposed in this application but that will not or may not be counted as matching funds should be described in section D.f "Program Efficacy" of the prospectus (see below).

NOTE: Under this solicitation, there is no minimum requirement for concentration of funding at the grantee institution of a consortium.

2. Cover sheet and prospectus

> **Page Limit:** Your prospectus must not exceed a total length of thirty-five (35) 8.5x11 standard-size pages, single-spaced, Times New Roman 11 font, with one-inch margins. For Regional Center or Transit-Focused Center applicants, the additional pages required to address regional or transit capabilities do not count towards the thirty-five page limit.

Prepare and submit a cover sheet and prospectus that includes the following:

a. A cover sheet. Please indicate (in bold letters) on the cover page of the prospectus the type of UTC for which you are applying for grant funding: (1) Tier 1 Center; (2) Tier 1 Transit-Focused Center; or (3) Regional Center. You may choose to be considered for more than one type of Center, but may only be selected for one type of Center. It is not necessary to submit additional applications if you are applying to be more than one type of Center--simply denote which Center(s) you are applying for on the cover sheet and provide the required documentation as explained below. **The cover sheet does not count towards the thirty-five page limit.**

b. A narrative statement that addresses the following sections A-G:

A. Applicant Information

In this section, identify by name and city/state, the grantee university, and in the case of a consortium the other universities that will participate in your Center. In order for RITA to comply with federal agency reporting requirements, state whether any of the participating universities is a minority-serving institution.

If you are applying as a Regional Center, please indicate the federal region in which you are located (as shown on Table 1 previously in this document).

B. Demonstration of Eligibility

In this section, you need to demonstrate that your institution meets the following quantifiable selection criteria, which are set forth in the UTC Program's authorizing legislation (SAFETEA-LU, sec. 5402). An application from an institution that fails to satisfy the eligibility criteria will be disqualified from further consideration. In the case of a consortium, the lead university applicant itself must meet these criteria.

Tier 1 and Tier 1 Transit-Focused Centers:

- Demonstrate that your institution has committed at least $400,000 in regularly budgeted institutional amounts to support ongoing transportation research and education programs in preceding years.

- Provide evidence of not less than $1,000,000 in transportation research expenditures each year for each of the preceding 5 years or not less than $6,000,000 in such expenditures during the preceding 5 years.

- Provide evidence of not fewer than 5 graduate degrees awarded in professional fields closely related to transportation each year for each of the preceding 5 years.

- Provide evidence of not fewer than 3 tenured or tenure-track faculty members who specialize on a full-time basis in professional fields closely related to transportation and who, as a group, have published a total of at least 20 refereed journal publications on transportation research during the preceding 5 years.

Regional Centers:

- Demonstrate that your institution has committed at least $400,000 in regularly budgeted institutional amounts to support ongoing transportation research and education programs in preceding years.

- Provide evidence of not less than $2,000,000 in transportation research expenditures each year for each of the preceding 5 years.

- Provide evidence of not fewer than 10 graduate degrees awarded in professional fields closely related to transportation each year for each of the preceding 5 years.

- Provide evidence of not fewer than 5 tenured or tenure-track faculty members who specialize on a full-time basis in professional fields closely related to transportation and who, as a group, have published a total of at least 50 refereed journal publications on transportation research during the preceding 5 years.

The SAFETEA-LU legislation did not specify what type of evidence to show for these criteria, so reviewers will be instructed to accept any evidence that they find to be credible. Be advised that making false statements to the federal government is a crime.

C. Potential Sources of Matching Funds

In this section, describe where you anticipate obtaining the required non-federal match to the federal funds to be awarded. Although the consortium may include only non-profit institutions of higher learning, non-federal funds may be provided by such entities as state/local governments, private industry, and foundations as well as universities.

All Centers are required to obtain matching funds from non-federal sources in an amount at least equal to the amount of the US DOT grant. **NOTE:** The non-federal share of Center costs may include funds provided to a recipient under section 503, 504(b) or 505 of title 23, United States Code. (Those sections refer to the technology deployment, local technical assistance, and state planning and research programs managed by the Federal Highway Administration.)

Discussion of leveraged resources relevant to the work being proposed in this prospectus but that will not or may not be counted as matching funds should be included in section D.f "Program Efficacy" of the prospectus (see below).

D. Response to Evaluation Criteria: All Centers

All applicants must respond to the following evaluation criteria, in the order specified below.

a. Research Capability (25 points)

In this section, you must, first, describe the key research activities that you will undertake and second, demonstrate your capability and experience to carry out these activities and achieve the objectives of the UTC Program.

In previous years, each UTC awardee was required to develop a multiyear Strategic Plan describing specific outcomes and activities to be undertaken during the life of the grant. Given the time constraints of this competition, Strategic Plans will not be required. Therefore, you must provide sufficient detail in this prospectus to enable the reviewers to

understand what you intend to accomplish with your Center, to see how you plan to carry out the projects financed with your grant, and to evaluate the feasibility of your proposed approach as well as your capability to achieve the proposed outcomes within the designated grant time frame.

This section must include the following:

- **A description of your Center's planned research activities and their relationship to DOT's Strategic Goals and research priorities.** You must provide information on the key research activities that you plan to undertake to achieve the objectives of the UTC Program. These activities must support one or more of the Secretary's Strategic Goals: Safety, State of Good Repair, Economic Competitiveness, Livable Communities and Environmental Sustainability.

  The US DOT modal administrations have also identified specific research topics of interest under each of the DOT Strategic Goals (see Appendix A). In addition to describing your own ideas for research activities, you should discuss how you would approach addressing two or more of these topics and where these would fit within your planned research program. DOT welcomes a focused Center that will make dramatic impacts on one or a few closely related topics and is not necessarily looking for Centers trying to demonstrate the ability to connect to a large number of goals or topics.

  In describing your research activities, you should discuss how you will use peer review and other research best practices in the selection and management of research projects.

  NOTE: If you are applying to be a Tier 1 Transit-Focused Center, your research activities should reflect transit priorities. You will have an opportunity to expand on your contribution to transit goals in Section F below.

- **A demonstration of your capability and prior experience** in conducting related transportation research activities. Capability may be demonstrated through evidence of the research excellence, innovation, and impact of prior research activities and outputs such as peer-reviewed publications and conferences.

- **A description of the desired outcomes** of your research activities, the performance metrics that you will use to measure the effectiveness of these activities, and how you will obtain the information to track these outcomes.

b. Leadership (10 points)

In this section, you must describe your plans for providing leadership in making national and regional contributions to the solution of immediate and long range transportation problems and advancing transportation expertise and technology. You should provide examples of:

- Your high standing within the national and international arena of transportation research as evidenced by activities such as presentations at national and international conferences and widely-referenced publications in established and peer-reviewed periodicals

- Your prior experience in contributing to the solution of regional and national transportation problems

- The performance metrics that you will use to measure your Center's leadership and how you will obtain the information to track these outcomes

c. Education and Workforce Development (25 points)

Education and workforce development efforts should relate to the development of a transportation workforce that is prepared to design, deploy, operate, and maintain the complex transportation systems of the future. In describing your Center's planned education and workforce development activities, you must demonstrate:

- The existence of an established degree-granting transportation program with high academic standards

- Programs of course work and experiential learning that reinforce your Center's planned research activities

- A commitment to transportation workforce development through training seminars for practicing professionals, outreach activities to attract new entrants into the transportation field, and primary and secondary school transportation workforce outreach

- Significant numbers of graduates and placement of students in industry, academia, and government jobs related to transportation

- The performance metrics that you will use to measure the effectiveness of the Center's education and workforce development activities, and how you will obtain the information to track these outcomes

d. Technology Transfer (15 points)

UTC programs must include an ongoing program of technology transfer to make research

results available to potential users in a form that can be implemented, utilized, or otherwise applied. In this section, you must describe the technology transfer activities you will undertake to ensure the handoff of information and technology to those who can use it, especially current transportation practitioners. This includes:

- The activities planned to move the results of research into practice, such as:
  - Peer-reviewed journals or academic publications where you plan to showcase research results
  - Types of information exchanges you plan to utilize, including new or social media and forums
  - Use of technology transfer mechanisms, such as licensing, cooperative research and/or user agreements, creation of new business entities
  - Partnerships with or technical assistance to others who might take leadership in applying research results, including cooperation with US DOT/RITA research clusters to facilitate multimodal collaboration.

NOTE: DOT/RITA has established a set of research clusters to promote information sharing among the hundreds of DOT-funded researchers within the DOT and across the nation. The research clusters are comprised of senior research professionals from each mode. Cross-modal research working groups and online forums have been established to foster ongoing collaboration among the DOT operating administrations, UTCs, DOT Centers of Excellence, and other partners. These clusters help ensure that related research is coordinated and foster technology transfer and optimal sharing of research results and products.

- Prior experience in outreach, dissemination, and technology transfer related to transportation research and education, including:
  - Academic programs, such as statewide or region-wide continuing education or distance learning
  - Seminars, symposia, and workshops related to transportation
  - The use of new or social media
  - Experience with licensing, commercialization, or creation of new business entities in transportation or related fields
  - Examples of partnerships across sectors, with private enterprise or state and local government, to move research into practice

- The performance metrics that you will use to measure the effectiveness of outreach efforts as well as the progress in implementing research results and how you will obtain the information to track these outcomes

e. Collaboration (15 points)

Centers are encouraged to form consortia and other collaborative relationships with other

academic and/or research institutions in order to achieve their objectives. Centers must also demonstrate a commitment and capability to form other partnerships with public and private entities, in order to advance transportation expertise and technology and address critical workforce needs.

In this section, you should describe:

- Plans for collaborating with other universities or research institutions. If you are proposing a consortium, describe how the participating universities will draw upon diverse types and/or sizes of institutions, how the members will work together within the proposed consortium, including roles and responsibilities of lead and other organizations, what each university brings to the proposed consortium, and how the presence of multiple parties will enhance your ability to reach your goals.

- Plans for establishing collaborative relationships and linking your research, education, workforce development, and technology transfer activities with other entities in the region, including private sector concerns, Minority Serving Institutions, state Departments of Transportation, Metropolitan Planning Organizations, other public sector organizations at all levels of government, and not-for-profit institutions such as the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), and the American Public Transportation Association (APTA).

- The composition of any existing or planned advisory committees

- Your prior experience forming collaborative relationships including the outcomes of these relationships

- The performance metrics that you will use to measure the effectiveness of collaborative efforts and how you will obtain the information to track these outcomes

f. Program Efficacy (10 points)

In this section, you should describe your management approach and procedures, and how you will produce results and implement planned activities in an effective and cost efficient manner. This should include the following:

- A description of the availability of institutional resources to carry out planned activities. If your Center includes more than one institution, describe the institutional resources available from all.

  Institutional resources encompass such things as research and training facilities, human resources, physical facilities, and institutional support capabilities. If you are

proposing a multiparty arrangement, such as a consortium or partnership with another university, discuss the collective resources that will be available to your Center. **NOTE:** If there is any pre-existing center of transportation studies or research at the institution[s] comprising your Center, describe how the UTC's activities and accomplishments will relate to, and be distinguishable from, those of the other center[s].

- Plans for overall management and oversight of fiscal and technical activities, including methods for minimizing overhead/facilities, administrative (F&A) shares and overall administrative costs, and plans for leveraging resources other than those provided as matching funds.

- Procedures for tracking and coordinating research efforts.

g. Diversity (additional 10 points)

Applications that demonstrate a Center's commitment to broadening participation and enhancing diversity will be granted additional consideration. Categories of diversity may include rural to urban populations, communities underrepresented in transportation research and careers, partnerships comprised of different types of institutions, and demonstrable reliance upon interdisciplinary contributions. Also, describe any planned outreach or workforce development activities designed to increase interest in STEM (science, technology, engineering, and mathematics) disciplines and/or raise awareness of transportation careers among the next generation of the transportation workforce.

E. Regional Centers (additional 10 points)

If you are applying for Regional Center funding, you must submit additional documentation (up to three 8.5x11 standard-size pages, single-spaced, Times New Roman 11 font, with one-inch margins) that provides the following:

- Demonstrate how your Regional Center will serve as a focal point within your region to help coordinate UTC transportation research, education, workforce development, and technology transfer programs with regional needs and initiatives.

- Describe how your Regional Center will work with the other UTCs in the region to maximize the effectiveness of their collective services and programs

- Describe your institution's relevant experience, if any, in leading regional efforts

- Discuss your ideas for how your Center can use regional efforts to further UTC program objectives.

F. Transit-Focused Centers (additional 10 points)

If you are applying to be a Tier 1 Transit- Focused Center, you must submit additional documentation (up to five 8.5x11 standard-sized pages, single-spaced, Times New Roman 11 font, with one-inch margins) that describes:

- The specific transit-oriented research, education, workforce development, and technology transfer activities you plan to undertake. These activities should be of national and/or regional scope (or if locally focused, should have national/regional applicability)

- How these activities will advance research and enhance the workforce of the transit industry

- Your knowledge, capabilities and prior experience in addressing transit issues. This should include details concerning:

    - Key areas of expertise
    - Past and current research focused on public transit
    - Past education, workforce development and technology transfer activities
    - The extent and depth of past and current relationships and interactions with stakeholders in the transit industry. These can include, but are not limited to, transit agencies, state departments of transportation, manufacturers in the transit industry, research organizations, trade associations, labor unions, universities and community colleges, and non-profit organizations.
    - Past experience working with federal partners in public transit

- How you will align your transit-oriented research, education, workforce and technology transfer activities to support the needs of the transit industry, which receives substantial federal assistance from the Federal Transit Administration. At a minimum, a demonstrable commitment to directly supporting targeted areas of need should be articulated.

- What areas of transit that you plan to support. Please refer to Appendix B for suggested areas of interest

G. Center Director and Key Staff

In this section, name the individual who will lead the Center and the key staff who will support the Center Director. For purposes of management and oversight, RITA requires that a single Center Director be identified and that that person be affiliated with the grantee institution, not any of the sub-grant consortium-member institutions.

- Describe how your Center Director plans to effectively direct and oversee the Center's funds,

personnel, and programs.

- State the titles and describe the duties and responsibilities of any other key Center staff that will spend 50% or more of their time on Center activities. Provide the names of those individuals, if known, and briefly discuss their qualifications. Their curriculum vitae may be attached to the application. (See Part IV, below)

The Center Director is the person responsible for ensuring compliance with all UTC Program requirements. This role is particularly important in multiparty consortia involving distant partners. The Center Director is expected to represent the Center and/or the UTC Program at external meetings, and is required to participate in up to two annual meetings convened by US DOT with the directors of all University Transportation Centers.

3. Appendices

Prepare and submit the following in appendices attached to your prospectus:

A. (Required) Curriculum Vitae for Center Director and Key Staff.

Curriculum vitae will be limited to two pages per individual.

B. (Required) Confirmation of Negotiated Overhead and Fringe Benefit Rates.

- Provide a legible copy of your institution's most recent negotiated overhead rates and fringe benefit rates, including the name and telephone number of the cognizant federal audit agency representative.
- If your Center is a consortium of two or more universities, obtain the same evidence from each of the consortium institutions and include it as part of your application.

C. (Optional) Other Documentation.

You may include here any other document(s), **not to exceed ten 8.5 X 11 standard-size pages**, not specifically called for elsewhere in this solicitation that you believe would assist reviewers to understand the significance and quality of your proposal.

Note: RITA uses only the criteria described in this solicitation to evaluate applications. Letters of support from elected officials do not influence RITA's selection; however, RITA welcomes supporting letters from agencies, firms, or other users that describe how these entities actually have used your research results in a practical transportation-related context.

APPENDIX A: Potential Research Topics Proposed by US DOT

SAFETY

- Crashworthiness-related research that might address:
  1) Heavy vehicle research regarding occupant protection; or
  2) Evaluation of alternative methods of protecting rail passengers and train crew in the events of accidents; or
  3) Performance-based methods and criteria to enable fair and consistent evaluation of new and emerging materials.

- Human factors research that might address:
  1) Transportation user-infrastructure interaction; or
  2) Safety issues for vulnerable users; or
  3) Risk analysis and risk management systems; or
  4) Operator distraction; or
  5) Operator drowsiness and fatigue.

- Manufacturing-related research that might address development of:
  1) Engineering products to test the safety of vehicles, equipment, and infrastructure; or
  2) Low cost vehicle condition monitoring devices; or
  3) New or improved tools for reducing damage to critical infrastructure due to excavation and outside forces during transportation or construction.

- Technology-related research that might focus on:
  1) Intelligent Transportation Systems (ITS) Vehicle-to-Infrastructure or Vehicle-to-Vehicle technologies and methods for crash avoidance and other benefits; or
  2) Safety data analysis and modeling; or
  3) Information technology for safety compliance and enforcement; or
  4) Technologies, tools, methods and policies to effectively enforce anti-texting and/or anti-cell phone use rules for transportation operators; or
  5) Freight and hazardous material cargo routing to improve safety and reduce environmental risks

STATE OF GOOD REPAIR

- Infrastructure monitoring research that might address:
  1) Tools to prevent and detect corrosion in transportation infrastructure; or
  2) Tools, solutions, and processes for identifying and locating critical defects and characterizing the severity of complex defects from a variety of threats; or
  3) Bridge condition monitoring.

- Performance measures and performance management research that might address:
  1) Performance measures for asset management; or
  2) Analytical tools for infrastructure performance management; or
  3) Methods and criteria to measure performance of new materials and methods.

ECONOMIC COMPETITIVENESS

- Multimodal research focusing on issues such as:
  1) Multimodal congestion points and effective mitigation strategies and modeling tools for maximum safety and minimal environmental impact; or
  2) New high-performance materials.

- Freight research that might address:
  1) New technologies and/or operating procedures that reduce air emissions and noise from freight movements and improve services to small and medium-sized cities and towns; or
  2) Methods for detecting and preventing invasive species transmission through the freight supply chain; or
  3) The value of improvements to time and reliability of shipping freight; or
  4) Standardized valuation of time savings for various freight shippers; or
  5) Sources of private multimodal freight movement data and the methods by which these data can generate statistically reliable and valid estimates.

- Policy and finance research that might address:
  1) Effects of financial policies and practices on the overall efficiency and competitiveness of the transportation system and potential modal integration; or
  2) Future funding mechanisms for system development and maintenance.

LIVABLE COMMUNITIES

- Land use planning and multi-modal transportation research that might address:
  1) Transit-Oriented Development (TOD) and consideration of social equity, mobility, and accessibility issues; or
  2) Congestion management for livability using real-time transportation information; or
  3) Optimization of multimodal systems to address environmental, health or congestion impacts on communities; or

4) Impact of mixed-use/joint transit development on household transportation costs; or
5) Methods to integrate and analyze the large amounts of passenger transportation data generated by vehicle-to-vehicle, vehicle-to-infrastructure, GPS, and other data capture and delivery systems for statistical purposes; or
6) The development of community-based data visualization tools to support transportation decision makers and their localities to enhance livability and sustainability.

- Bicycle and pedestrian research that might address:
  1) Economic and/or health benefits of bicycle and pedestrian lanes and paths; or
  2) Willingness-to-pay valuations for non-motorized transportation facilities (bike-pedestrian facilities, Complete Streets); or
  3) Development of non-motorized transportation benefit-cost values applicable to a general benefit-cost analysis framework.

- Rural transportation research that might address:
  1) Institutional needs and intergovernmental coordination; or
  2) Access and mobility.

- Development of livability performance measures that might address:
  1) Measuring the linkage between transportation and land use (through economic development, jobs creation, environmental outcomes, etc.); or
  2) Specific data needs required for effective performance measures; or
  3) Effectiveness of data sets and performance measurement systems; or
  4) Current local/state capabilities in performance measures management.

ENVIRONMENTAL SUSTAINABILITY

- Climate change mitigation and adaptation research that might address:
  1) Development of next generation design concepts for transportation infrastructure (bridges, roads, railroads, ports, etc.) and systems (transit, rail and fleet vehicles, pipelines, ships, etc.) that respond favorably to extreme weather events; or
  2) Development of mitigation/adaptation measures for asset management; or
  3) Analytical tools to protect transportation infrastructure and systems against natural and human-induced hazards; or
  4) Ecological, sustainability and safety impacts of climate change on the transportation system; or
  5) Analytical support in preparing the National Climate Assessment; or

6) Applicability of linking agent-based microscale simulations of traffic data to fuel consumption/emissions models to produce better estimates of the fuel consumption and emissions impacts of various transportation strategies and technologies.

- Alternative energy/power research that might address:
  1) Alternative fuels/energy and other sustainable technology solutions; or
  2) Safety analysis of hybrid propulsion systems and natural gas fuel systems for motor coaches, marine vessels and other vehicles; or
  3) Policies for efficient utilization of domestic energy resources and that foster the growth of the domestic transportation energy infrastructure.

APPENDIX B: Potential Transit Research Topics

SAFETY

1) Safety culture and training
2) Safety incident reporting
3) Engineering and testing of vehicles, equipment, and infrastructure
4) Applications of safety management systems to public transportation

STATE OF GOOD REPAIR

1) Asset management
2) Performance metrics
3) Transit infrastructure data collection and analysis
4) Transit maintenance - best and new practices
5) Engineering of vehicles and equipment
6) Impacts of system reliability on ridership
7) Capital maintenance funding balance and relationship to service levels

ECONOMIC COMPETITIVENESS

1) Workforce development and training/human resources
2) Transit and job creation
3) Transit system operations and service planning - best and new practices
4) Transit system management, administration, and finance
5) Transit and economic development/value capture
6) Service availability levels and impacts on public benefits and ridership levels
7) Operations and funding issues

LIVABLE COMMUNITIES

1) Transit-Oriented Development (TOD)
2) Bike/pedestrian research – first mile, last mile
3) Rural/tribal/parks/paratransit research
4) Affordable housing and transit
5) Transit access, social equity, and mobility
6) Transit and High Speed Rail (HSR) interconnectivity

ENVIRONMENTAL SUSTAINABILITY

1) Land use planning
2) Climate change mitigation and adaptation
3) Metropolitan planning
4) Alternative energy and transit.