

**Appalachian Regional Commission
Request for Proposals (RFP)**

**Economic Analysis Study of the Appalachian Development Highway System
(ADHS)**

**Proposals are due by close of business on
July 17, 2015**

Appalachian Regional Commission
1666 Connecticut Ave., NW, Suite 700
Washington, D.C. 20009-1068

Attention: Scott Hercik
shercik@arc.gov
202-884-7717

Appalachian Regional Commission Request for Proposals: Economic Analysis Study of the Appalachian Development Highway System (ADHS)

I. Overview of Request for Proposals

The Appalachian Regional Commission (ARC) invites proposals from qualified researchers and consultants to conduct a large-scale research study on the economic and transportation impacts of the Appalachian Development Highway System (ADHS). The ADHS is a 3,571-mile system of corridors that was designed to generate economic development in previously isolated areas of the Appalachian Region, supplement the interstate system, and provide access to areas within the 13-state Appalachian Region as well as to markets in the rest of the nation and overseas. A total of 3,090 miles of the ADHS are authorized for construction or improvement. As of September 30, 2014, a total of 2,549.3 miles of the ADHS had been completed.

The main purpose of this study is to provide an updated assessment, based on state-of-the-art economic and transportation modeling projections, of the costs, benefits, and economic impacts of completing the ADHS, on the Appalachian Region and on the nation as a whole.

The study should also synthesize and document the economic benefits of the ADHS to date, drawing from past research studies.

The study **should not** include construction-related economic impacts or potential construction-related fiscal impacts: its focus should be on non-construction economic and transportation impacts only.

The study will help answer the following questions:

- To what extent have the completed portions of the ADHS contributed to economic gains (increases in jobs and income) in Appalachia?
- What are the likely economic and transportation benefits, for both the Appalachian Region and the nation, of completing the remaining sections of the ADHS, and what are the costs?
- What are the expected benefits and costs to the Appalachian states, to the Region, and to the nation of completing key remaining ADHS corridors?
- What economic opportunities would be lost by a delay in the completion of key ADHS corridors? Are there compelling economic arguments to accelerate the completion of corridors currently scheduled for completion in 2025 or later?

The analysis will require multiple research and modeling estimation steps, including a travel-demand model, estimates of transportation user benefits and economic impacts; and a benefit-cost analysis framework capable of evaluating multiple scenarios. ARC encourages bidders to propose creative, compelling, and practical approaches to help answer the above questions, using existing reports, data, and forecasts as appropriate.

The study will provide policymakers, as well as local and regional economic development practitioners, with a comprehensive and detailed analysis of the economic impacts on the

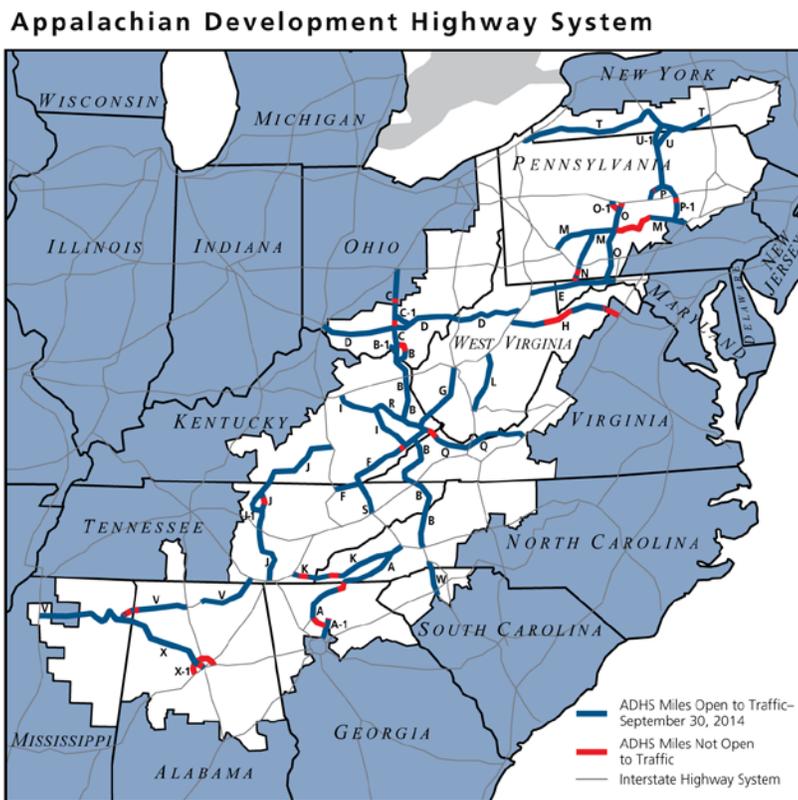
Appalachian Region of the completion of the ADHS, as well as an assessment of the effects of completion of the ADHS on national transportation efficiencies.

The final product will be a detailed written report that includes an executive summary. Both the report and the executive summary must be written for a non-technical audience. The full report, including the executive summary, must be submitted to ARC within 18 months of the project start date. The report should include descriptive statistics, analyses, graphs, maps, and tables where appropriate. The contractor will work closely with ARC in the development of the report. An electronic copy must be submitted to ARC upon completion of the project, along with relevant databases developed for the project.

II. Background

About the Appalachian Development Highway System

Congress established the Appalachian Regional Commission in 1965 to foster economic and social development of the Appalachian Region. In order to promote economic development in Appalachia, Congress authorized ARC to carry out a number of programs, including the Appalachian Development Highway System.



From its inception, the ADHS was designed to be an instrument of economic development, linking to national and international markets, improving regional traffic efficiency by connecting to the interstate system, facilitating access to jobs and public services, and opening up remote areas within Appalachia for development and job creation. ADHS corridors were designed to close gaps between markets within the Region, as well as to provide access to markets outside of the Region, and to connect to the Interstate Highway System.

Table 1. Status and Work Remaining on the ADHS (9/30/14)

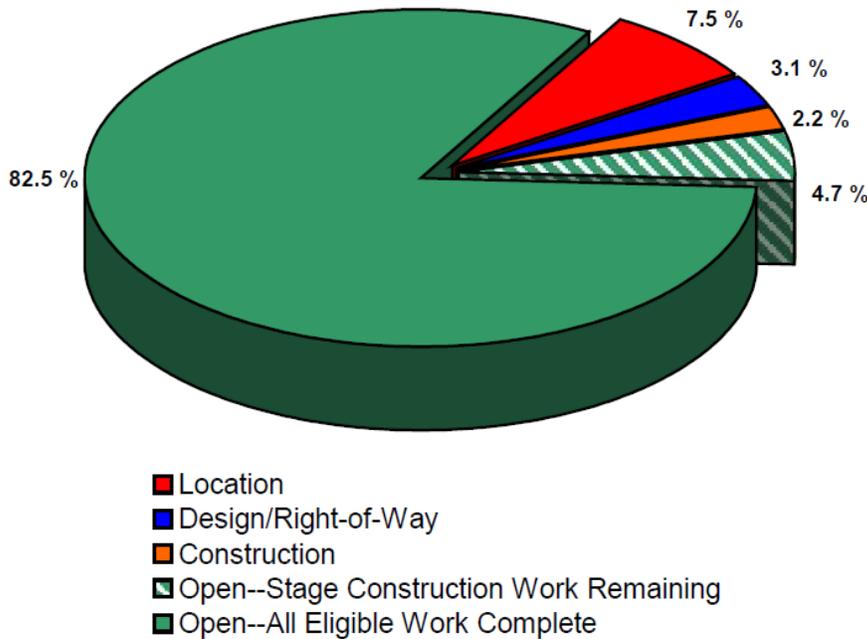
Status of Completion of the ADHS (Miles) as of September 30, 2014						
State	Miles Open to Traffic		Miles Not Open to Traffic			Total Miles Eligible for ADHS Funding^a
	Complete	Remaining Stage Construction	Construction Under Way	Design Stage	Location Stage	
Alabama	160.9	59.8	12.5	19.2	43.3	295.7
Georgia	100.9	0.0	0.0	11.1	20.5	132.5
Kentucky	402.9	0.0	14.3	0.9	8.2	426.3
Maryland	77.0	3.7	0.0	0.0	2.5	83.2
Mississippi	109.2	0.0	0.0	8.3	0.0	117.5
New York	220.7	1.3	0.0	0.0	0.0	222.0
North Carolina	178.2	8.0	0.0	0.0	18.1	204.3
Ohio	178.2	0.0	0.0	16.2	7.1	201.5
Pennsylvania	336.9	2.9	11.4	14.5	87.4	453.1
South Carolina	22.9	0.0	0.0	0.0	0.0	22.9
Tennessee	237.3	68.6	5.9	3.4	14.1	329.3
Virginia	161.5	1.2	7.3	7.5	14.7	192.2
West Virginia	362.7	0.9	15.8	14.9	15.3	409.6
System Totals	2,549.3	146.4	67.2	96.0	231.2	3,090.1

^a Congress authorized 3,090 miles for corridors approved as part of the ADHS and eligible for construction under the ADHS program. Final mileage on the corridors completed under the program will be within the authorized mileage.

Appalachian Development Highway System

Status of Completion as of 9/30/2014

3090.1 Eligible Miles



The September 2013 [Appalachian Development Highway System Completion Plan Report](http://www.arc.gov/images/programs/transp/ADHSCompletionPlanReport-9-2013.pdf) (www.arc.gov/images/programs/transp/ADHSCompletionPlanReport-9-2013.pdf) contains comprehensive data on each Appalachian state's status and completion plans. The report will be a key resource for this economic research study. Most, but not all, ADHS corridor segments were included in the report; please note that the contractor will be required to estimate the likely costs and completion dates for those highway segments.

Benefits of the ADHS

In many cases, the benefits from completed ADHS segments will increase substantially when the entire network is completed. For example, when all segments of Corridor H have been completed, in both West Virginia and Virginia, the corridor will connect to Interstates I-81 and I-66, providing access to the Washington, D.C., metropolitan area and to major East Coast seaports.

Recent work by ARC and its partners¹ has highlighted the importance of all modes of transportation and the role the ADHS plays in making connections to intermodal rail facilities, airports, seaports, river ports, and transit centers. Examples of multi-modal initiatives and assets with implications for Appalachia and the ADHS include the upcoming expansion of the

¹ One example is the [Network Appalachia](http://www.arc.gov/program_areas/NetworkAppalachia.asp) initiative, which stresses the importance of intermodal connections to global trade opportunities: (www.arc.gov/program_areas/NetworkAppalachia.asp)

Panama Canal; the Heartland, Crescent, and National Gateway rail corridor projects; an expanded set of inland port and intermodal rail terminal facilities; and the extensive inland waterway system. The networking power and the benefits of completing the ADHS, for residents and businesses throughout the Region as well as nationwide, are intrinsically tied to these multi-modal connections.

Past Economic Research on the ADHS

Numerous research studies have been conducted to evaluate and estimate the transportation and economic benefits of the ADHS. Given the initial rationale for the ADHS, much of this research has centered on assessing the economic development effects of completing ADHS corridors, either by comparing areas with completed ADHS segments to areas without completed ADHS segments, or by using modeling techniques to forecast the likely effects of completion. Research studies over the past 5 to 10 years have built on past findings to highlight the role of the ADHS in helping connect the Region to national and global trade markets and in improving goods movement within the Region and nationwide.

For this study, relevant ARC-funded economic research studies include the following:

Economic Impact Study of Completing the Appalachian Development Highway System (July 2008): (www.arc.gov/research/researchreportdetails.asp?REPORT_ID=69)

Sources of Regional Growth in Non-Metro Appalachia (January 2007)
(http://www.arc.gov/research/researchreportdetails.asp?REPORT_ID=84)

Appalachian Development Highways Economic Impact Studies (July 1998):
(www.arc.gov/research/researchreportdetails.asp?REPORT_ID=68)

For additional transportation research, see
www.arc.gov/research/ResearchReports.asp?F_Category=18

For more information on the ADHS and links to ADHS reports, see www.arc.gov/adhs.

About Appalachia

The Appalachian Region, as defined in ARC's authorizing legislation, is a 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. It includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. Forty-two percent of the Region's population is rural, compared with 20 percent of the national population.

The Region's economy, once highly dependent on mining, forestry, agriculture, chemical industries, and heavy industry, has become more diversified in recent times and now includes manufacturing and service industries. In 1960, about 31 percent of Appalachians lived in poverty; over the 2008–2012 period, 16.6 percent lived in poverty. The number of high-poverty counties in Appalachia (counties with poverty rates at least 1.5 times the U.S. average) declined from 295 in 1960 to 107 in the 2008-2012 period.

These gains have transformed the Region from one of widespread poverty to one of economic contrasts: some communities have successfully diversified their economies, while others still

require basic infrastructure such as roads and water and sewer systems. The contrasts are not surprising in light of the Region's size and diversity—the Region includes 420 counties in 13 states, extends more than 1,000 miles, from southern New York to northeastern Mississippi, and is home to more than 25 million people.

About the Appalachian Regional Commission

In the mid-1960s, at the urging of two U.S. presidents, Congress enacted legislation to address the persistent poverty and growing economic despair of the Appalachian Region. The Appalachian Regional Commission is a regional economic development agency that represents a partnership of federal, state, and local government. ARC is composed of the governors of the 13 Appalachian states and a federal co-chair appointed by the president. Local participation is provided through multi-county local development districts.

ARC's mission is to be a strategic partner and advocate for sustainable community and economic development in Appalachia. ARC funds projects that address the four goals identified in the Commission's 2011-2016 strategic plan:

1. Increase job opportunities and per capita income in Appalachia to reach parity with the nation.
2. Strengthen the capacity of the people of Appalachia to compete in the global economy.
3. Develop and improve Appalachia's infrastructure to make the Region economically competitive.
4. Build the Appalachian Development Highway System to reduce Appalachia's isolation.

In addition to its efforts related to the ADHS, each year ARC provides funding for several hundred projects in the Appalachian Region, in areas such as business development, education and job training, telecommunications, infrastructure, community development, housing, and transportation. These projects create thousands of new jobs, improve local water and sewer systems, increase school readiness, expand access to health care, assist local communities with strategic planning, and provide technical and managerial assistance to emerging businesses.

In many cases, the Commission functions as a predevelopment agency, providing modest initial funding that is unavailable from other sources. ARC funds attract capital from the private sector and from other public entities. In fiscal year 2013, approximately 400 non-highway projects were approved; ARC funds accounted for \$61 million of the more than \$190 million in total funding for these projects.

For additional information on the Appalachian Regional Commission, see www.arc.gov.

III. Scope of Work

Proposals must present an outline and description of the research and analysis to be conducted, a work plan, and a schedule for reports and deliverables. The scope of work will require a team of researchers and consultants with a broad set of skills to execute the project. The successful applicant will develop a clear and logical methodology to analyze the topics and key objectives specified in the scope of work. The methodology should include:

- Specification of data sets and methods to be used for each of the proposed analyses, including development of data collection methods and sources of information.
- Discussion of the scope, advantages, and limitations of these resources for the purposes of this analysis, including issues related to local, regional, and national data coverage.
- Specification of the analytical framework, research methods, and statistical/forecasting techniques to be used for the proposed analysis. Proposals should acknowledge the relative merits of various approaches, and outline the advantages and limitations of the selected approach.
- Specification of any proposed stakeholder outreach or other external feedback and input that would directly inform the analysis and modeling.

The following tasks and key work items should be addressed in the design of proposals for this research project. Proposals may offer additional research and policy items to be considered above and beyond the scope described in this RFP that would be advantageous to ARC and its stakeholders.

1. *Synthesis of Findings on Benefits of ADHS to Date*

Compile and synthesize findings on the economic and transportation benefits of ADHS corridors currently open to traffic, and use the results to produce a definitive assessment of the benefits to the Appalachian Region, to the Region's counties and communities, and the to the nation, of that have accrued from the completed ADHS segments and corridors. We strongly encourage the use of existing research as the base for this assessment.

In addition to research funded by ARC, and research focused solely on the ADHS, there are other studies on the economic development impacts of highway capacity investments that may be relevant. One such study is the Strategic Highway Research Project report *Interactions Between Transportation Capacity, Economic Systems and Land Use*. (http://onlinepubs.trb.org/onlinepubs/shrp2/SHRP2_S2-C03-RR-1.pdf)

2. *Methodology and Modeling Framework*

Develop and outline the research methodology and modeling framework that will be used to quantitatively estimate and forecast the economic and transportation benefits and costs of ADHS completion. Key elements of this modeling framework are expected to include:

- A highway travel-demand model capable of assessing the regional and national effects of ADHS corridor completions, including the entire Appalachian Region and nearby regional highways, markets, and transportation facilities;
- Forecasts of economic, demographic, personal travel and freight/trade volumes out to at least 2045 (may go further) for use in the development and assessment of ADHS completion scenarios;
- Cost estimates of ADHS completion by corridor, which can be based largely on the most recent completion plan report and data (see *State DOT Data* in 3. below), but will likely require careful review and, in some cases, development of cost estimates for the limited number of segments not in the completion plan report.
- Transportation user, societal and environmental benefits in terms of travel time, travel costs, safety, emissions and other relevant benefits of ADHS completion;

- Economic development modeling focused on potential job creation, tourism, and business growth opportunities that will result with the completion of these corridors.
- Total net economic impacts of ADHS corridor completion scenarios based on jobs, wages/income, business output/value added, and other related concepts; and
- Benefit-cost analysis capable of assessing both system-wide completion scenarios and corridor-specific completion scenarios (up to five corridors). The benefit-cost analysis must meet industry-accepted standards of benefit concepts and parameters (including appropriate social and environmental impacts), while allowing for both regional and nationwide perspectives.

ARC will require the development of at least three scenarios for analysis and quantitative estimation of benefits and costs, to allow for analysis of the benefits of completing the system sooner, and the economic and transportation benefits that would be forgone by a delay in completion.

1. ADHS highway segments currently completed or under construction only (baseline scenario);
2. All ADHS segments completed by 2045, (aligned with the *ADHS Completion Plan Report*); and
3. All ADHS segments completed by no later than 2030 (accelerated completion scenario).

The detailed assumptions of these scenarios will be developed in consultation with ARC staff.

3. *Data Collection*

Develop and implement a data collection method to obtain all data necessary for this project. This is expected to include a large number of data resources on travel volumes, trade flows, economic activity, forecasts, highway infrastructure, multi-modal connections, etc. The contractor will be able to work directly with ARC staff to access available data on ADHS highway corridors, GIS mapping, and other relevant metrics.

State DOT Data

In MAP-21, Congress mandated that “each State represented on the Appalachian Regional Commission shall establish a plan for the completion of the designated corridors of the Appalachian Development Highway system within the State.” As a result, in 2013, ARC and FHWA, working with 12 ARC state departments of transportation (DOTs) that had remaining ADHS mileage to be completed, developed an ADHS completion plan with detailed data on each remaining section with estimated beginning and ending dates by project phase (location study, design and right-of-way acquisition, stage construction, and final construction completed). These data were based on the DOT’s input into a centrally developed online data management system by the state DOTs, and were based on their best knowledge as of April 30, 2013. This detailed data is managed by the ARC and their research partner at the Rahall Transportation Institute with complete coverage for all remaining ADHS Cost-to-Complete estimate sections, which will be a valuable data source for this economic analysis study.

4. *Data Analysis and Forecasting*

Based on the methodology and modeling framework outlined above and the data collected, this project will require extensive analysis and forecasting of travel and trade volumes and of how different system and corridor completion scenarios will impact economic and

transportation conditions. As noted, ARC will require at least three scenarios representing different completion dates, as well as up to five corridor-specific benefit-cost analyses (to be determined in consultation with ARC staff). The ideal modeling framework will facilitate both corridor-level and system-wide analysis.

5. *Data Presentation*

The analyses conducted for this study and the resulting data-driven results will likely generate a substantial amount of information by region, scenario, and output variables (e.g., travel time savings, economic impacts, costs and benefits, etc.). This information must be organized and presented in a clear set of graphs, maps and tables for use by multiple audiences (federal government, regional stakeholders, state departments of transportation, etc.). The contractor will provide examples of how this information and the study results can most successfully be presented and communicated. In addition, database files containing project information and key economic, demographic, and transportation data must be prepared and submitted to ARC.

6. *Policy Implications and Strategic Recommendations*

Summarize the regional and national policy implications raised by the study findings. Analyze current ADHS completion issues, challenges, and opportunities and offer recommendations for best-practice strategies.

IV. Deliverables

The contract will require quarterly progress reports, a draft report, and a final report. The final report must include an executive summary that integrates, summarizes, and interprets key findings of the study. The final report, as well as the executive summary, must be written for a non-technical audience and must include descriptive statistics, analyses, graphs, maps, and tables where appropriate. Technical details, data tables, and details regarding methodology must be presented in appendices.

Contractor must submit one printed copy of the report and two electronic versions: a Microsoft Word file and an Adobe PDF file. Contractor must also submit a Microsoft Excel workbook or a Microsoft Access database containing all relevant data compiled during the study. Contractor will provide metadata (field name description, definition, source, sourced date, and equation if computed) for all raw and computed data fields. If geographic information system maps are developed for the project, contractor must provide map databases, map images, and map documents. ARC will provide contractor with formatting guidance documents for all reports.

V. Technical, Management, and Cost Proposals

A. *Technical Proposal* (*This narrative should be 15 pages or fewer, not including abstract, resumes, or organizational background materials.*)

1. *Summary Abstract (300 words)*

Provide a brief abstract of the technical portion of the proposal by summarizing the background, objectives, proposed methodology, and expected outputs and results of the research.

2. *Methodology*

Describe the step-by-step approach or methods intended to accomplish all tasks specified in this RFP. This section should provide a detailed explanation of the data and methodologies to be used, describe the limits of the selected methods, and justify the selection of these

methods over others. The narrative must identify the tasks in this research project that will require participation by ARC staff. Finally, the narrative must identify any difficulties that may be encountered in this project and propose practical and sound solutions to these problems.

3. *Project Work Plan and Milestones*

Describe the phases into which the proposed research can logically be divided and completed. Flow charts should be included as necessary. A schedule of milestones and deadlines must be specified for the completion of various work elements, including information collection, interviews, surveys, analyses, quarterly progress reports, preliminary drafts for review, and final draft reports.

B. Management Proposal

1. *Business Management Organization and Personnel*

Furnish a brief narrative description of the organization, including the division or branch planned to perform the proposed effort, and the authority responsible for controlling these resources and personnel.

2. *Staffing Plan and Key Personnel*

Provide a staffing plan that describes your proposed key personnel and staff distribution to accomplish this work. Describe key personnel performing the research and their role on the project (e.g., project manager, economist, freight analyst, transportation modeling). Brief resumes (two pages or less) of key personnel are required. The selected contractor will be required to furnish the services of those identified in the proposal as key personnel unless ARC authorizes a change in personnel. The staffing plan should present a chart that partitions the time commitment of each professional staff member to the project's tasks and schedule. In addition, the proposal should include a detailed description of activities for key project-related personnel and anticipated deliverables. Finally, the proposal should identify the relationship of key project personnel to your organization, including consultants and subcontractors.

3. *Relevant Prior Experience*

Describe the qualifications and experience of the organization and the personnel that will be assigned to the project. Include direct experience with the specific subject-matter area and provide examples (via web links and/or printed materials) of the three most-similar research reports your organization has produced. Provide associated organization names, addresses, names of contact persons, and telephone numbers for reference.

4. *Contract Agreement Requirements*

List any special requirements you want included in the contract.

C. Cost Proposal

This section must include all cost information. Cost information must be itemized and must include direct labor costs (consistent with the staffing plan), labor overhead costs, transportation, the estimated cost of any subcontracts, other direct costs (such as those for databases), university overhead, total direct cost and overhead, and total cost and fee or profit. Please note that the university overhead rate charged to ARC should not exceed the rate charged to the university's home state.

In addition, ARC requires that the selected contractor travel to four meetings in

Washington, D.C.—one meeting with ARC staff to kick off the project, two interim project update meetings, and at least one formal presentation and discussion of key findings with ARC officials at the conclusion of the project.

VI. Cost and Timing

ARC rates this RFP as a **major research project**, according to the Commission's rating of the level of effort for conducting research:

Major research projects: \$250,000-\$375,000

Large-scale projects: \$150,000-\$249,000

Medium-scale projects: \$75,000-\$149,000

Small-scale projects: \$26,000-\$74,000

Sole-source projects: under \$25,000

The contract awarded for this research project will be a **FIRM FIXED-PRICE CONTRACT**, with payments on a quarterly schedule. The contract scope of work and budget shall remain firm during the project. The project should be completed within 18 months, and a more accelerated research study timeline would be advantageous. **The contract will be financed through the Federal Highway Trust Fund; therefore funding is subject to MAP-21 extensions and reauthorizations). Contract payments will draw from FY 2015 funds, then be supplemented by additional funds drawn from FY 2016 funds, once available.** The 2016 funds will be added through an amendment to the original agreement.

VII. Evaluation of Proposals

All proposals will be evaluated based on the following criteria:

- Complete, clearly articulated, and logical study design;
- Technically competent methodology;
- Qualifications, relevant prior experience, command of existing research on telecommunications and technology issues, and ability to present findings in a useful manner;
- A credible management proposal for staffing, and the capability to carry out and support the project in a timely fashion;
- The quality of interviews, focus groups, surveys, and/or case study protocols proposed.
- The cost-effectiveness of the proposal.

It is anticipated that (a) contractor(s) will be selected by mid-to-late August, 2015.

VIII. Proposal Submission

Proposals are due by close of business on July 17, 2015.

An original and three hard copies of the proposal must be submitted to: Scott Hercik

Regional Planning and Research Division
Appalachian Regional Commission
1666 Connecticut Ave., NW, Suite 700
Washington, D.C. 20009-1068

In addition to the hard-copy submission, ***proposals must also be emailed on or before the deadline*** to shercik@arc.gov. Email attachments should be no more than 10 MB.

Questions about this proposal should be directed to Scott Hercik, at shercik@arc.gov, or 202-884-7717.