RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR TO ENTER INTO AN AGREEMENT WITH THE UNIVERSITY OF TENNESSEE KNOXVILLE TO ESTABLISH THE CITY OF CHATTANOOGA AS A TEST SITE FOR CONNECTED VEHICLE PILOT DEVELOPMENT WITH THE PRIMARY GOAL OF BRINGING CONNECTED VEHICLE TECHNOLOGY INFRASTRUCTURE INTO CHATTANOOGA FOR SAFER AND MORE EFFICIENT TRANSPORTATION OPERATIONS.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, it is hereby authorizing the Mayor to enter into an agreement with the University of Tennessee Knoxville to establish the City of Chattanooga as a test site for Connected Vehicle Pilot Development with the primary goal of bringing connected vehicle technology infrastructure into Chattanooga for safer and more efficient transportation operations.

ADOPTED: _____, 2015

/mem

City of Chattanooga

Resolution Request Form

(This form is only required for resolutions requiring expenditure of City funds)

Date Prepared: March 12, 2015

Preparer: John Van Winkle **Department: Transportation**

Brief Description of Purpose for Resolution: Resolution Number (if approved by Council):

A resolution authorizing the Mayor to enter into an agreement with the University of Tennessee Knoxville to establish the City of Chattanooga as a test site for Connected Vehicle Pilot Development with the primary goal of bringing connected vehicle technology infrastructure into Chattanooga for safer and more efficient transportation operations.

Total project cost $ _____

Total City of Chattanooga Portion $ _____

City Amount Funded $ _____

New City Funding Required $ _____

City's Match Percentage % _____

New Contract/Project? (Yes or No) _____

Provide Fund _____

Provide Cost Center _____

Proposed Funding Source _____

Grant Period (if applicable) _____

List all other funding sources and amount for each contributor.

Grantor(s)

Agency Grant Number

CFDA Number if known

Other comments: (Include contingency amount, contractor, and other information useful in preparing resolution)

Approved by: _____

Reviewed by: FINANCE OFFICE

DESIGNATED OFFICIAL/ADMINISTRATOR

Please submit completed form to @budget, City Attorney and City Finance Officer

Planning Connected Vehicle Pilot Deployment in City of Chattanooga

Introduction

Along with the announcements [1-2] National Highway Traffic Safety Administration (NHTSA) made recently, the capability for all vehicles to talk to each other and to infrastructure can be expected in the near future. The connected vehicle (CV) technology will bring new opportunities to make our transportation system safer and more efficient. For example, this technology will provide traffic signal preemption functions to vehicles other than emergency responders with communication capabilities. That is, it will have the ability to give a green signal to a specific vehicle in time and to keep conflicting traffic informed at the same time.

According to potential benefits, the U.S. Department of Transportation (USDOT) envisions an initial wave of pilot deployments to be awarded and commence in 2015 [3]. According to the Vision of CV Pilots Deployment Program [4], the intent of these pilot deployments is to encourage partnerships of multiple stakeholders to deploy applications utilizing data captured from multiple sources (e.g., vehicles, mobile devices, and infrastructure) across all elements of the surface transportation system to improve system performance and enhance performance-based management.

The City of Chattanooga has demonstrated its ambition on efficient transportation and is willing to apply a comprehensive approach to its transportation network with consideration of how transportation needs impact the community's priorities as a whole, from public safety to economic and community development. Recent economic development in the City of Chattanooga brings more truck traffic into the area. However, this additional traffic does not necessarily represent more congested streets and worst air quality if it is well managed. The proposed project will work with the USDOT's CV pilot deployment program to handle the increasing truck traffic through the newly-introduced CV technology.

A team, including experts from Oak Ridge National Laboratory and University of Tennessee, has been formed to pursue the opportunity accordingly. Participation from other stakeholders, such as the State of Tennessee, private companies, commercial vehicle operators, and freight shippers, is expected. The proposed project is planned to benefit residents of the City and to be a national model in deploying the CV technology for future transportation.

The Proposed Project

The primary goal of the proposed project is to bring infrastructure of connected vehicle (CV) technology into Chattanooga area for safer and more efficient transportation operations with an emphasis on smoother truck traffic flow. If successful, the deployed technologies will remain as permanent operational elements. Benefits of smoother truck traffic include:

1. Reliable travel time - Increasing reliability of truck travel time which can facilitate a more reliable schedule of freight shipment, and help in attracting more development in the area;
2. Sustainable development - Improving fuel efficient of all vehicles operating in the area;

3. Maintaining economic and community development – reducing vehicle emissions by providing more reliable truck operations using CV technology applications while enhancing industrial development in the area.

Even though smoother truck traffic on surface streets is emphasized, it can only be achieved by coordinating other vehicles and traffic control units through the CV technology. Infrastructure of CV technology, including hardware and software, is critical for a pilot deployment. In addition to the hardware components, the following CV applications have been considered as the core applications for the proposed deployment. The core applications include:

1. Freight Signal Priority and Transit Signal Priority - Two applications that provide signal priority to freight vehicles along an arterial corridor near a freight facility as well as signal priority to transit at intersections and along arterial corridors.
2. Emergency Vehicle Preemption - An application that provides signal preemption to emergency vehicles, and accommodates multiple emergency requests.
3. Dynamic Speed Harmonization - An application that aims to recommend target speeds in response to congestion, incidents, and road conditions to maximize throughput and reduce crashes.
4. Eco-Approach and Departure at Signalized Intersections- A V2I application where intersection traffic signals broadcast the current state of signal phasing (red, yellow, or green) and time remaining in that phase. These data are used by connected vehicles to support eco-friendly speed trajectories as vehicles approach and depart from a signalized intersection.
5. Eco-Traffic Signal Timing - An application that uses data collected wirelessly from vehicles (and other sources) to optimize the performance of traffic signals, thus reducing fuel consumption and emissions.
6. Eco-Traffic Signal Priority - An application that allows transit or freight vehicles approaching a signalized intersection to request signal priority, thereby adjusting the signal timing dynamically to improve service for the vehicle. Priority decisions are optimized for the environment by considering vehicle type, vehicle speed, passenger count, or adherence to schedule.
7. Monitoring emissions – Using a state-of-the-art remote sensing technology to measure real-time emissions from traffic operations.

More applications (described in [5]), such as Emergency Electronic Brake Lights, Blind Spot/Lane Change Warning, Freight-Specific Dynamic Travel Planning and Performance, Dynamic Eco-Routing, and Smart Truck Parking, can be added once the infrastructure has been built.

Next Steps

As disclosed in [6], USDOT has scheduled a solicitation for Wave 1 Pilot Deployment Concepts in early 2015. To get more stakeholders involved now would be a critical step to advance the proposed project. Let's start the discussion and go after the opportunity.

THE UNIVERSITY of TENNESSEE

Office of Research, Sponsored Programs, 1534 White Avenue, Knoxville, TN 37996-1529
Phone: 865-974-3466, Fax: 865-974-2805, osp@utk.edu

Subrecipient (SR) Commitment Form

(1) Project Information (to be completed by UT)

Proposal Number: 15-1315

(a) UT PI: Dr. James Li (b) Start & End Dates: 10/01/15 - 09/30/16

(c) Prime Sponsor*: FHWA (d) Proposed Total Project Costs ~$1M

(e) Proposal Title: Pilot Deployment of Connected Vehicle Environment in Chattanooga, Tennessee: Maximizing Mobility and Minimizin

(2) Subrecipient Information (to be completed by SR Organization)

(a) Subrecipient Organization: City of Chattanooga, TN

(b) SR PI: Kevin Comstock and/or John Van Winkle 043112341

(d) Congressional District of SR Organization: TN 3rd Dist (e) Congressional District of SR Site: TN 3rd Dist

*If NIH, complete the NIH PI Assurance Certification Form http://research.utk.edu/files/2013/06/nih_certification.pdf

(3) Documentation (SR to provide UT all documents that are checked)

(a) ☑ Statement of Work (REQUIRED)

(b) ☑ Budget and Budget Justification (REQUIRED)

(c) ☑ This Subrecipient Commitment Form, completed and signed by the Authorized Organizational Representative (REQUIRED)

(d) ☐ Small/Disadvantaged Business Subcontracting Plan, in agency-required format

(e) ☐ Biographical Sketches of all Key Personnel, in agency-required format

(f) ☐ Other Support (Current and Pending) of all Key Personnel, in agency-required format

(g) ☐ Letter of Commitment/Support

(h) ☐ Other: _____

(i) ☐ Other: _____

(4) Certifications (to be completed by SR Organization)

(a) Conflict of Interest

☑ (1) Not applicable because this project is not being funded by PHS or any other sponsor that has adopted federal financial disclosure requirements.

☐ (2) Subrecipient hereby certifies that it has an active and enforced conflict of interest policy that is consistent
nsibility of Applicants for Promoting Objectivity in

have been made related to the activities that may be funded by or through a resulting agreement, and required by its conflict of interest policy; and (2) all identified conflicts of interest have or will have been satisfactorily managed, reduced or eliminated in accordance with Sub
expenditures of any funds under any resultant agreement.

☐ (3) Subrecipient does not have an active and/or enforced conflict of interest policy and hereby agrees to abide
policy is available at http://policy.tennessee.edu/fiscal_policy/fi0125/.

Names of individuals working on this project who are responsible for design, conduct, or reporting of the research are shown below (Attach Financial Interest Disclosure Form for PHS Investigators for each)

	Form Attached?
Subrecipient PI: _____	☐
Investigator/Key Personnel: _____	☐
Investigator/Key Personnel: _____	☐
Investigator/Key Personnel: _____	☐

(Please attach additional pages if needed.)

(b) Facilities & Administrative (F&A) Rates included in this proposal have been calculated based on:

☐ Our federally-negotiated F&A rates for this type of work, or a reduced F&A rate that we hereby agree to accept. If this box is checked, a copy of our current F&A rate agreement must accompany this form.

☐ Other rate (Please specify in the Notes/Comments section below the basis on which these rates have been calculated.)

Notes and Comments:

(c) Fringe Benefit Rates included in this proposal have been calculated based on:

☐ Rates consistent with or lower than our federally-negotiated rates. If this box is checked, a copy of your benefit rate agreement must accompany this form.

☐ Other rates (Please specify in the Notes/Comments section below the basis on which these rates have been calculated.)

Notes and Comments:

(d) Human Subjects (IRB) ☐ Yes ☐ No

(e) Animal Subjects ☐ Yes ☐ No

(f) Matching/Cost Sharing (M/CS) ☐ Yes ☐ No

M/CS amounts and justification should be included in the Su
Subrecipient agrees to track all expenditures and report match/cost share to prime awardee in accordance with the terms of the subaward agreement.

(5) Approvals of Subrecipient Organization (to be completed by SR Organization)

By signing this form, I certify that the above information, certifications and representations have been read, are understood, and are accurate and true to the best of my knowledge. The appropriate programmatic and administrative personnel involved in this application are aware of pertinent regulations and policies, and we are prepared to establish a subaward agreement with The University of Tennessee that ensures compliance with such regulations and policies should this proposal be funded.

(a) Authorized Organizational Representative

Signature: _____ Date: _____

Name and Title: Andy Berke; Mayor Phone: 423-643-7800

Address: 101 East 11th Street

City, State, Zip: Chattanooga, TN 37402 email: mayor@chattanooga.gov

Note: Any work begun or expenses incurred prior to execution

Broad Agency Announcement No. DTFH6115R00003

L.4 PROPOSAL FORMAT
Volume II - Part IV – Other Financial / Organizational Information (page 70 of 94)

"The Offeror must state that they agree to all terms and conditions of the model contract of this Broad Agency Announcement, which consists of the Sections A through J, including all documents, exhibits, and all other attachments that are incorporated therein by reference and made a part thereof, or provide an explanation for any exceptions."

By signing below, the subcontracting organization agrees to all terms / conditions in the BAA, with any exceptions included below.

_____

(Signature of Authorized Official)

_____

(Organization Name)

Include any Exceptions;