



**STATE OF VERMONT**  
JOINT FISCAL OFFICE

**MEMORANDUM**

To: Joint Fiscal Committee members  
From: Maria Belliveau, Associate Fiscal Officer  
Date: May 27, 2015  
Subject: Grant Request #2759, #2760, #2761

Enclosed please find three (3) items that the Joint Fiscal Office has received from the administration. Two (2) limited-service positions are associated with these requests.

**JFO #2759** – One (1) limited-service position with the Department of Vermont Health Access (DVHA). The position would be titled Administrative Services Coordinator III and paid for from funding related to the State Innovation Models (SIM) grant (JFO #2622). The position will assist in handling the higher-than-expected volume of contracts, invoices and contract/grant monitoring tasks.

*[JFO received 5/11/15]*

**JFO #2760** – \$981,760 grant from the Federal Highway Administration to the Vermont Agency of Transportation. These funds will be used by Vtrans, as well as by the Chittenden County Regional Planning Commission (CCRPA), to implement corridor level advanced traffic monitoring by using Bluetooth monitoring devices in certain high volume roadway corridors to provide real-time information for systems management. State funding will come from existing funds budgeted to AOT.

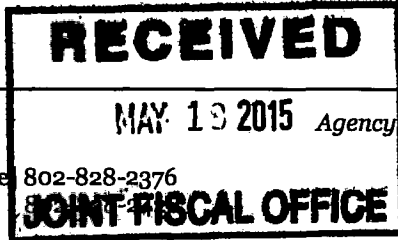
*[JFO received 5/18/15]*

**JFO #2761** – The request is for approval of one (1) limited service Wildlife Scientist II position for a three year period to be funded with both federal Pittman-Robertson (PR) funds and state funds. The federal PR funds are an on-going, long term, funding source for the department. The state funds will come from a \$100,000 impact fee established as a result of department mitigation efforts with wind energy development in Vermont.

The position will be located in the Barre District office and will provide regulatory review functions for the Wildlife Division of the Department of Fish and Wildlife. The position will address staff capacity limitations for the review and coordination of state and federal land use permit applications including, to name a few, Act 250 permit applications, Public Service Board applications, and timber harvest reviews.

*[JFO received 5/22/15]*

Please review the enclosed materials and notify the Joint Fiscal Office (Maria Belliveau at (802) 828-5971; [mbelliveau@leg.state.vt.us](mailto:mbelliveau@leg.state.vt.us)) if you have questions or would like an item held for legislative review. Unless we hear from you to the contrary by June 10, 2015 we will assume that you agree to consider as final the Governor's acceptance of these requests.



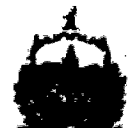
**State of Vermont**  
 Department of Finance & Management  
 109 State Street, Pavilion Building  
 Montpelier, VT 05620-0401

[phone] 802-828-2376  
 [fax]

Agency of Administration

**STATE OF VERMONT**  
**FINANCE & MANAGEMENT GRANT REVIEW FORM**

<b>Grant Summary:</b>		This grant is to fund highway research and development as authorized by MAP-21. This grant amount is for corridor level advanced traffic monitoring.			
<b>Date:</b>		5/12/2015			
<b>Department:</b>		AOT Maintenance 8100002000			
<b>Legal Title of Grant:</b>		Accelerated InnovationDeployment (AID) Demonstration - Advanced Traffic Monitoring Project			
<b>Federal Catalog #:</b>		20.200			
<b>Grant/Donor Name and Address:</b>		US DOT, FHWA, 1200 New Jersey Ave, SE, Washington DC 20590			
<b>Grant Period:</b>		<b>From:</b>	<b>To:</b>		
		3/1/2015	10/1/2018		
<b>Grant/Donation</b>		981,780.00			
	<b>SFY 1</b>	<b>SFY 2</b>	<b>SFY 3</b>	<b>Total</b>	<b>Comments</b>
<b>Grant Amount:</b>	\$25,000	\$600,000	\$356,780	\$981,780	
<b>Position Information:</b>		<b># Positions</b>	<b>Explanation/Comments</b>		
		0			
<b>Additional Comments:</b>		Matching state funds totaling \$196,356.00 (FY1 \$5,000; FY2 \$120,000; FY3 \$71,356 are available from AOT-Maintenance budgets over the next three years.			
<b>Department of Finance &amp; Management</b>				<i>M 5/13/15</i>	(Initial)
<b>Secretary of Administration</b>				<i>VE 05/13/15</i>	(Initial)
<b>Sent To Joint Fiscal Office</b>					<b>Date</b>



**STATE OF VERMONT REQUEST FOR GRANT (\*) ACCEPTANCE (Form AA-1)**

<b>1. Agency:</b>	Vermont Agency of Transportation (VTrans)		
<b>2. Department:</b>	Maintenance		
<b>3. Program:</b>	Intelligent Transportaton System (ITS)		
<b>4. Legal Title of Grant:</b>	Accelerated Innovation Deployment (AID) Demonstration - Advanced Traffic Monitoring Project		
<b>5. Federal Catalog #:</b>	20.200		
<b>6. Grant/Donor Name and Address:</b>	US Department of Transportation Federal Highway Administration 1200 New Jersey Ave., S.E. Washington, DC 20590		
<b>7. Grant Period:</b>	<b>From:</b>	3/1/2015	<b>To:</b> 10/1/2018
<b>8. Purpose of Grant:</b>	This grant will provide VTrans and the Chittenden County Regional Planning Commission (CCRPC) funding to implement corridor level advanced traffic monitoring. The project is designed to advance traffic monitoring in high volume roadway corridors where safety, commuter congestion, and construction activity are paramount issued. The project will use blue tooth monitoring device deployment on up to five (5) corridors to establish real time systems management information which will be utilized by the VTrans Advanced Transportation Management System and Traveler Information System through the State Traffic Operations Center.		
<b>9. Impact on existing program if grant is not Accepted:</b>	Federal grant funds would not be put to use to reduce commuter congestion and crashes in selected corridors of the state.		

<b>FINANCIAL INFORMATION</b>				
	SFY 1	SFY 2	SFY 3	Comments
<b>Expenditures:</b>	FY 15	FY 16	FY 17	
Personal Services	\$	\$	\$	
Operating Expenses	\$	\$	\$	
Grants	\$	\$	\$	
<b>Total</b>	\$	\$	\$	
<b>Revenues:</b>				
State Funds:	\$5,000	\$120,000	\$71,356	
Cash	\$	\$	\$	
In-Kind	\$	\$	\$	
Federal Funds:	\$25,000	\$600,000	\$356,780	
(Direct Costs)	\$	\$	\$	
(Statewide Indirect)	\$	\$	\$	
(Departmental Indirect)	\$	\$	\$	
Other Funds:	\$	\$	\$	
Grant (source )	\$	\$	\$	
<b>Total</b>	\$30,000	\$720,000	\$428,136	

APR 22 2015

**STATE OF VERMONT REQUEST FOR GRANT (\*) ACCEPTANCE (Form AA-1)**

<b>Appropriation No:</b>	8100002000 - 59575 - 20135	<b>Amount:</b>	\$981,780
	8100002000 - 59575 - 20105		\$196,356
			\$
			\$
			\$
			\$
			\$
		<b>Total</b>	\$1,178,136

**Has current fiscal year budget detail been entered into Vantage?**  Yes  No

**PERSONAL SERVICE INFORMATION**

**11. Will monies from this grant be used to fund one or more Personal Service Contracts?**  Yes  No  
 If "Yes", appointing authority must initial here to indicate intent to follow current competitive bidding process/policy.

Appointing Authority Name: \_\_\_\_\_ Agreed by: \_\_\_\_\_ (initial)

<b>12. Limited Service Position Information:</b>	<b># Positions</b>	<b>Title</b>
<b>Total Positions</b>		

**12a. Equipment and space for these positions:**  Is presently available.  Can be obtained with available funds.

**13. AUTHORIZATION AGENCY/DEPARTMENT**

I/we certify that no funds beyond basic application preparation and filing costs have been expended or committed in anticipation of Joint Fiscal Committee approval of this grant, unless previous notification was made on Form AA-1PN (if applicable):

Signature: *Chris Ch* Date: *4/20/15*  
 Title: Secretary of Transportation  
 Signature: *Deputy*  
 Title: \_\_\_\_\_

**14. SECRETARY OF ADMINISTRATION**

Approved: \_\_\_\_\_ (Secretary or designee signature) Date: *05/13/15*

**15. ACTION BY GOVERNOR**

Check One Box:  
 Accepted \_\_\_\_\_ (Governor's signature) Date: *4/14/15*  
 Rejected

**16. DOCUMENTATION REQUIRED**

**Required GRANT Documentation**

- |   |   |
|---|---|
| <input type="checkbox"/> Request Memo                           | <input type="checkbox"/> Notice of Donation (if any)              |
| <input type="checkbox"/> Dept. project approval (if applicable) | <input type="checkbox"/> Grant (Project) Timeline (if applicable) |

**Technology and Innovation Deployment Program (TIDP)  
Accelerated Innovation Deployment (AID) Demonstration**

**Chittenden County Regional Planning Commission, Vermont  
Advancements in Micro-Urban Metropolitan Corridor Monitoring:  
Real Time Traffic Information through Blue Tooth Deployment in Vermont**

**I. Project Abstract**

The Chittenden County Regional Planning Commission (CCRPC), Vermont's sole Metropolitan Planning Organization (MPO), conducts local, regional, state and federal transportation planning in Vermont's major metropolitan area which includes one-quarter of the state's population and one-third of the state's jobs. In coordination with the Vermont Agency of Transportation (VTrans), CCRPC will implement corridor level advanced traffic monitoring of travel times and average vehicle speeds through anonymously tracking Blue Tooth (BT) devices carried by motorists and their vehicles. To date, there are no advanced traffic monitoring installations in Vermont; all traffic monitoring is currently conducted using automated traffic counter installations and live person traffic count programs.

Implementation of this innovation will address the Technology and Innovation Deployment Program (TIDP) goals of (1) accelerated adoption of innovative technologies, (2) leadership to demonstrate and promote state-of-the-art technologies, elevated performance standards, and new practices in highway construction processes that result in improved safety, reduced congestion from construction, and improved quality and user satisfaction, (3) improved highway efficiency, safety, mobility, reliability, environmental protection, and sustainability, (4) deployment of new tools, techniques and practices to accelerate the adoption of innovation in highway transportation.

This project will also integrate with four Every Day Counts (EDC) program focal areas: (1) EDC 1 - Adaptive Signal Control, (2) EDC 3 - Regional Models of Cooperation, (3) EDC 3 - Smarter Work Zones, (4) EDC 3 - Data-Driven Safety Analysis.

CCRPC's request for Accelerated Innovation Deployment (AID) Demonstration grant funding will assist the region in advancing the accelerated adoption of real-time congestion and safety management technologies, provide leadership to other rural MPOs in the adoption of new practices, improve our region's transportation system efficiency, safety, mobility, reliability, and sustainability, including environmental sustainability as a result of reduced emissions and enhanced air quality, and provide the opportunity to deploy a new practice and tools to accelerate innovation in our small state. In addition, this project, will aid VTrans in the deployment of the Tri-State Advanced Transportation Management System (ATMS) and Traveler Information System (TIS), and will advance the US DOT, FHWA objectives under Section 511 of Title 23 of the Code of Federal Regulations that establishes a **real-time system management information program** pursuant to Section 1201 of Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21).

## II. Project Description

The project is designed to advance traffic monitoring in high volume roadway corridors where safety, commuter congestion, and construction activity are paramount issues. Up to five (5) corridors of BT monitoring device deployment will be implemented, pending funding, to establish real time systems management information which will be utilized by the VTrans ATMS and TIS systems through the State Traffic Operations Center (TOC). The first corridor of deployment is anticipated to be equipped with Adaptive Signal Control technology within the next 24 months (EDC 1). BT is a proven technology for improving traffic efficiency and safety in work-zone related congestion and in areas of general congestion. The BT monitoring deployment will provide the opportunity to deliver real time monitoring and communication (through the VTrans TOC, ATMS, TIS system) including travel time, start of congestion, and crash avoidance areas – enhancing safety and reducing congestion and congestion related vehicle emissions in our region.

Corridor Number	Municipality	Route	AADT	Commuter /Retail	High Crash Location (s)	Planned Construction
1	South Burlington	I-89, Exit 14	40,500	C/R	Yes	N
2	Essex	VT 289 Susie Wilson Rd.	21,000	C	Yes	Y
3	Williston	Exit 12 VT 2/2A	26,700	C/R	Yes	Y
4	Colchester	I-89 Exit 17	14,400	C	Yes	Y
5	Colchester	I-89 Exit 16	22,700	C/R	Yes	Y

The performance goals of this project will be to reduce commuter congestion and crashes in the corridors selected for implementation. Achievement of the goals will be measured utilizing the output of the BT data for congestion monitoring and the VTrans Crash Data Reporting System to monitor reduction in crashes.

As described in FHWA’s communications regarding EDC-3 Smarter Work Zones – “effective traffic management during construction is necessary to minimize travel delays, ensure motorist and worker safety, maintain access to local businesses and residences, and complete road work on time.” This project will put in place the technological tools to monitor and manage queues and speed which can then feed information to smart traffic control applications through the TOC, deployed by the variable message boards currently available for transportation communications. Four of the corridors identified for implementation in this project have planned construction in the Chittenden County Transportation Improvement Program (TIP) and the State Transportation Improvement Program (STIP).

An additional output benefit of this project will be the availability of detailed data to conduct safety monitoring and analysis. Under FHWA EDC 3 – Data-Driven Safety Analysis

CCRPC will be able to meet the EDC objective to utilize data collected through this continuous monitoring process to address “predictive approaches to combine crash, roadway inventory and traffic volume data to provide more reliable estimates of an existing or proposed roadway's expected safety performance, such as crash frequency and severity.” These data outputs will inform not only planning for safety improvements in projects undertaken through Metropolitan Planning (PL) but would be available to VTrans for use in development and deployment of construction projects. Each of the corridors identified for implementation in this project have identified high crash locations.

Use of BT has become more widespread nationally in recent year, however, this deployment will be the first of its kind in Vermont. As the state's sole MPO, CCRPC advances innovations in transportation planning including the development of a state of the art regional transportation model, acceleration of transportation demand management (TDM) deployment through a Transportation, Community, Systems Preservation (TCSP) Grant, and as a key planning, communication and cooperative partner with VTrans in the coordination of local, regional, state, and federal transportation system advancements in Vermont.

CCRPC currently staffs one full time position to manage the region's traffic count program. In addition to counts obtained for regional studies and systems monitoring, counts are collected for local, state, and federal system purposes. CCRPC hires eight student interns for a period of 12 weeks each summer to collect intersection, roadway, and other types of counts. Live counts in high volume areas can be dangerous for the personnel involved; there is currently no real-time count data available in the state. This project would allow for continuous, real-time count data to be available for incident and systems response, with limited involvement of personnel in the field. This project would also provide data on a 365 days per year basis over a corridor study area, rather than a single point count over a limited time duration period.

This project closely aligns VTrans and CCRPC in a cooperative advancement of the delivery of an innovation and implements the EDC 3 objective of Regional Models of Cooperation. In addition to the cooperation described with VTrans, CCRPC will be cooperating with the Vermont FHWA Division office to develop and implement a plan to collect information and report on the project's performance. CCRPC will also be collaborating with the municipalities which the project innovation corridors are located including Burlington, Colchester, Essex, South Burlington and Williston. Activities at the municipal level will include reporting on corridor performance, collaborating on signal timing improvements and other municipal level transportation systems management activities (placement of BT and variable message boards, etc.).

### **III. Innovation Performance**

BT monitoring deployments involve the real-time collection and delivery of data through reports to a central point of contact, typically the TOC. The data can then be used for direct communications through the ATMS or TIS, and be disseminated to CCRPC or other interested planning entities (municipalities, VTrans, etc.) to utilize in systems performance monitoring and improvements (such as signal timing, TDM programming, and construction schedule management). CCRPC will monitor the selected project corridors to measure the



reduction in travel time, queuing, and crashes in these corridors against the pre-installation performance to determine if project implementation goals are being achieved.

Project Timeline

Month 1	Award
Months 1-6	Project mobilization, Systems Engineering and contracting for and development of System Structure, Deployment Plans and Specifications
Months 7-12	Hardware/Software Deployment and Testing
Months 12-24	* Operational Implementation through VTrans TOC * Measurement of System Performance * Implementation of System Improvements based on outcomes * Communication of progress at local, regional, state, and federal levels
Months 25-36	Adoption of Innovation in test corridors and advancement of innovation to additional locations in the region
Months 37-42	Final Reporting to FHWA

**IV. Applicant Information and Coordination with Other Entities**

The applicant for the project is the Chittenden County Regional Planning Commission, in collaboration with the Vermont Division of the Federal Highway Administration (FHWA), Vermont Agency of Transportation (VTrans), and the municipalities of Burlington, Colchester, Essex, South Burlington and Williston. The principal points of contact are:

- CCRPC – Michele Boomhower, MPO Director, (802) 846-4490 x15), [mboomhower@ccrpcvt.org](mailto:mboomhower@ccrpcvt.org)
- FHWA – Matthew Hake, Vermont Division Administrator, (802) 828-4423, [matthew.hake@fhwa.dot.gov](mailto:matthew.hake@fhwa.dot.gov)
- VTrans – Robert T. White, Senior Manager II, VTrans ITS, (802) 522-9867, [Robert.T.White@state.vt.us](mailto:Robert.T.White@state.vt.us)
- Burlington - Chapin Spencer, Director of Public Works, (802) 865-5818, [cspencer@burlingtonvt.gov](mailto:cspencer@burlingtonvt.gov)
- Colchester - Bryan Osborne, Director of Public Works, (802) 264-5625, [bosborne@colchestervt.gov](mailto:bosborne@colchestervt.gov)
- Essex - Dennis Lutz, Director of Public Works, (802) 878-1344, [dlutz@essex.org](mailto:dlutz@essex.org)
- South Burlington - Justin Rabidoux, (802) 658-7961 x101, [jrabadoux@sburl.com](mailto:jrabidoux@sburl.com)
- Williston - Bruce Hoar, Director of Public Works, (802) 878-1239, [bhoar@willistontown.com](mailto:bhoar@willistontown.com)

**V. Funding Request**

The expected cost for the project is \$1,227,225. CCRPC is requesting \$981,780 of AID Demonstration funding for the project.

Budget Summary

Fund	Federal	Non-Federal	Total
AID Demo (80/20)	\$ 981,780	\$ 245,445	\$ 1,227,225

## **VI. Eligibility and Selection Criteria**

- CCRPC is an MPO eligible for assistance under Title 23, U.S.C.
- CCRPC has not received prior AID funding.
- The project meets Title 23, U.S.C. eligibility requirements under transportation operations, safety, and traveler information services provisions. The project will meet the MAP-21 Section 1201 Real-Time Traveler Information requirements.
- ITS advancements in Chittenden County and Vermont are progressing efficiently including the update of the CCRPC ITS Plan, recent deployment of the first Adaptive Signal Control project in Vermont in the CCRPC region, development and plans for deployment of advanced Adaptive Signal Control in the state's busiest commuter corridor in the CCRPC region, and preparations to deploy the state's first advanced traffic monitoring system, through AID Demonstration funding, within six months of project award.
- The project meets Technology and Innovation Deployment Program (TIDP) goals as described in Section I.
- Use of BT monitoring has become an accepted practice in the transportation planning and operations arena.
- CCRPC and VTrans have no prior experience with the deployment of BT monitoring, this would be a new application in Vermont.
- The implementation of BT would be a significant improvement over the existing transportation systems monitoring which consists of static traffic counting and Road Weather Information Systems (RWIS) camera monitoring of conditions in a limited number of areas.
- The CCRPC (and VTrans) agrees to participate in monitoring and assessment activities, working with FHWA to develop an appropriate monitoring and assessment plan. A process of evaluation will be developed to evaluate the effectiveness of the innovation and plan for subsequent technology transfer. The project will include the development of reports, presentations, and other materials to transfer the project outcomes to other organizations.
- The CCRPC (and VTrans) will accept oversight from FHWA for the project and actively coordinate with FHWA throughout the project process.
- The CCRPC (with input from VTrans) will conduct a before and after customer satisfaction determination to assist in evaluating the performance of the innovation. The CCRPC recently completed an update to its Public Participation Plan ([http://www.ccrpcvt.org/about/public/CCRPC\\_2014\\_PPP.pdf](http://www.ccrpcvt.org/about/public/CCRPC_2014_PPP.pdf)); the project review process outlined in the PPP will be initiated at the outset of this project to develop a project level participation and outreach plan. The plan will include the development of a plan for measuring customer satisfaction to evaluate performance of the innovation.

**Additional Attachments**       No    Yes [NOTE: PDF files should be identified by Applicant and Project Title]

CCRPC, Vermont  
Advancements in Micro-Urban Metropolitan Corridor Monitoring:  
Real Time Traffic Information through Blue Tooth Deployment in Vermont

Budget Element	Description	Corridor Number	Number of Units	Number of Hours or Years for Software Licencing	Unit Cost	Total Cost
CCRPC Personnel	Project Manager - 3 years	n/a	0.25 FTE	1560	\$75	\$117,000
	Program Director - 3 years	n/a	0.15 FTE	936	\$120	\$112,320
<i>CCRPC Personnel Costs \$229,320</i>						
VTrans Personnel	TOC Operator - 3 years	n/a	0.25 FTE	1560	\$50	\$78,000
	Connect Vermont ITS Administrator	n/a	0.15 FTE	936	\$105	\$98,280
	Traffic Engineer	n/a	0.25 FTE	1560	\$75	\$117,000
<i>VTrans Personnel Costs \$293,280</i>						
Project Consultant	Development of Systems Engineering	n/a	1	40	\$75	\$3,000
Project Consultant	Development of System Structure, Deployment Plans and Specifications, Deployment	1	1	n/a	\$75,000	\$75,000
	Development of System Structure, Deployment Plans and Specifications, Deployment	2	1	n/a	\$50,000	\$50,000
	Development of System Structure, Deployment Plans and Specifications, Deployment	3	1	n/a	\$75,000	\$75,000
	Development of System Structure, Deployment Plans and Specifications, Deployment	4	1	n/a	\$50,000	\$50,000
	Development of System Structure, Deployment Plans and Specifications, Deployment	5	1	n/a	\$50,000	\$50,000
Blue Tooth	Hardware	1	15	n/a	\$5,475	\$82,125
	Software/Licencing/Data Transmission-Processing	1	15	3	\$1,150	\$51,750
	Hardware	2	5	n/a	\$5,475	\$27,375
	Software/Licencing/Data Transmission-Processing	2	5	3	\$1,150	\$17,250
	Hardware	3	10	n/a	\$5,475	\$54,750
	Software/Licencing/Data Transmission-Processing	3	10	3	\$1,150	\$34,500
	Hardware	4	5	n/a	\$5,475	\$27,375
	Software/Licencing/Data Transmission-Processing	4	5	3	\$1,150	\$17,250
	Hardware	5	10	n/a	\$5,475	\$54,750
	Software/Licencing/Data Transmission-Processing	5	10	3	\$1,150	\$34,500
<i>Consultant Costs \$704,625</i>						
<b>Budget Source Summary</b>				<b>Project Costs by Element</b>		
Funding Source	Federal	Non-Federal	Total	Personnel/General Consulting		
AID Demo (80/20) \$	981,780	\$ 245,445	\$ 1,227,225			\$525,600
					Site 1	\$208,875
					Site 2	\$94,625
					Site 3	\$164,250
					Site 4	\$94,625
					Site 5	\$139,250
				<b>Total Cost</b>		<b>\$1,227,225</b>