

**2009 Innovations Awards Program  
APPLICATION**

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ID # (assigned by CSG): 09-W-16WA

**Please provide the following information, adding space as necessary:**

State: WASHINGTON

Assign Program Category (applicant): Public Safety (Use list at end of application)

**1. Program Name**

DUI Aerial Response Team (DART)

**2. Administering Agency**

Washington State Patrol (WSP), Special Operations Division, Aviation Section

**3. Contact Person (Name and Title)**

Lieutenant Tristan Atkins, WSP Aviation Section Commander

**4. Address**

Washington State Patrol Aviation Section  
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[Tristan.Atkins@wsp.wa.gov](mailto:Tristan.Atkins@wsp.wa.gov)

**8. Web site Address**

<http://www.wsp.wa.gov/>  
<http://www.wsp.wa.gov/crime/sod.htm#aviation>

**9. Please provide a two-sentence description of the program.**

DUI Aerial Response Team (DART) is a first-in-the nation public safety program to use FLIR (Forward Looking Infrared) equipped airplanes to locate, track, and coordinate the apprehension of drunk drivers. DART is a team effort by citizens armed with cellular phones, WSP aircrews, troopers, and WSP Communication Officers to effectively combine proactive DUI aerial patrols with a rapid air response to citizen reports of erratically driven vehicles.



**10. How long has this program been operational (month and year)? Note: the program must be between 9 months and 5 years old on March 2, 2009 to be considered.**

A DART “pilot program” was started on May 23, 2007 (Memorial Day weekend) with a DUI enforcement emphasis and media “kick-off event”. On July 1, 2008, DART became a fully operational/staffed Aviation program. On March 2, 2009, DART will be approximately 1 year and 9 months old.

**11. Why was the program created? What problem[s] or issue[s] was it designed to address?**

Statewide less than 8% of vehicles reported by citizens as erratically driven or possible DUIs to the Washington State Patrol are stopped by troopers. In the greater Puget Sound metropolitan area (Seattle, Tacoma, and Everett) that figure drops to only 4% contacted. Of those contacted, 37% are arrested for DUI. The simple fact is that line-troopers are stretched thin. We believed that experienced troopers in a FLIR equipped aircraft could increase the percentage of citizen reported DUI’s contacted by a trooper from 4% (Seattle) to 20% or more.

Citizen Reports of DUI's (1/1/07- 6/30/07)					
	DUI Reports	Total Contacted	% Contacted	Total DUIs	% Contacted DUI
District 1	3031	113	3.73%	36	31.86%
District 2	4676	187	4.00%	91	48.66%
District 3	1185	213	17.97%	55	25.82%
District 4	289	93	32.18%	62	66.67%
District 5	997	180	18.05%	75	41.67%
District 6	691	133	19.25%	32	24.06%
District 7	5510	297	5.39%	99	33.33%
District 8	1021	166	16.26%	61	36.75%
Agency Total	17400	1382	7.94%	511	36.98%
<b>Tacoma: 3.7%</b>		<b>Seattle: 4%</b>		<b>Everett: 5.4%</b>	

Figure 1: Citizen Reports of DUI's (1/1/07-6/30/07) by Washington State Patrol Districts

**12. Describe the specific activities and operations of the program in chronological order.**

- May 2007: In response to the low percentage of citizen-reported DUI's contacted by law enforcement; the WSP Aviation Section initiated a Problem Oriented Public Safety (POPS) project called the DUI Aerial Response Team (DART).
  
- May 2007: The DART concept was tested over Memorial Day Weekend 2007 with an emphasis in the Everett area and a media "kick-off event". The emphasis resulted in 11 potential DUI contacts including 1 reckless driving arrest, 1 open container, and 2 DUI arrests. The emphasis was covered by all four Seattle major network stations with a total of 15 TV news stories over the weekend and front page coverage in the Everett Herald.
  
- June 2007 - July 2008: With the assistance of federal grant funding, additional equipment/technology was installed in the two FLIR equipped aircraft to enhance the effectiveness of DART. Tactics, Techniques, and Procedures (TTPs) were developed for this first-in-the nation program.
  
- August 2007: Operational testing began August 29, 2007 (Labor Day Weekend) with emphases and media coverage in the greater Seattle metropolitan area. The DART aircrew located three DUIs reported by cell callers, one reckless driving arrest, two negligent driving arrests, and one felony eluding arrest. The Everett Herald covered an aggressive driving emphasis that led up to the evening DUI emphasis and all four Seattle network TV stations provided live reports of the DUI emphasis.
  
- September 2007 - June 2008: Tactics, Techniques, and Procedures (TTPs) were further refined and a written DART procedure was developed. The WSP Aviation Section conducted DART training sessions for Troopers and Communication Officers in Seattle, Tacoma, and Everett. A Tactical Flight Officer (TFO) position was created, justified, and approved to directly support DART. The TFO operates the FLIR stabilized camera/video, digital video broadcast (downlink) system, GPS moving street map, digital recorder, Mobile Communications Network (MCN) computer uplink/downlink, voice overlay system, satellite cellular phones, and police radios.

■ July 2008: With enhanced staffing and newly upgraded FLIR aircraft, a scheduled evening DART shift was started from 4:00 PM - 2:00 AM on Wednesday through Saturday. The Aviation Section’s computerized tracking system using Remedy software was modified to track DART outputs, see below.

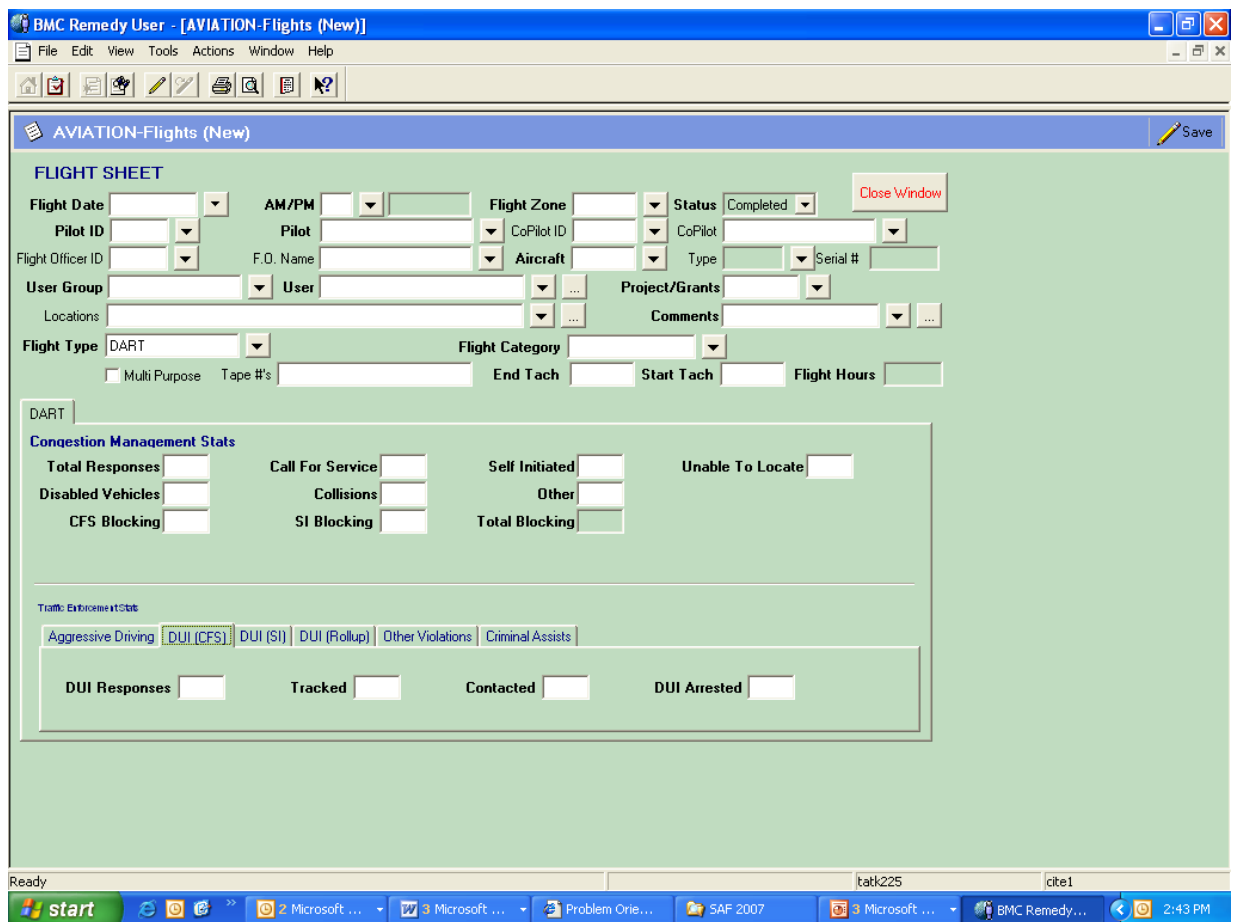


Figure 2: DART Remedy computerized tracking software page

■ February 2009: DART outputs and outcomes for the second six-months of 2008 (July 1 – December 31, 2008) were reported to the WSP Executive Staff as part of the WSP’s Strategic Advancement Forum (SAF) process (Accountability Driven Leadership Model). A PowerPoint presentation at the SAF included videos from the DART aircraft’s FLIR camera of a “textbook” 911-caller initiated DUI stop and two TV news stories from an aircraft self-initiated DUI stop that resulted in a 40-minute vehicle and foot pursuit.

### 13. Why is the program a new and creative approach or method?

Based on our research through the Airborne Law Enforcement Association (ALEA), the WSP is the first public safety agency in the nation to successfully use airplanes to locate, track, and coordinate the apprehension of drunk drivers reported by citizens.

In 2007, we were told by an ALEA official and author of a book on airborne law enforcement that the Hawthorne (California) Police Department had unsuccessfully attempted to use helicopters for DUI enforcement. The ALEA official warned, “I’m not trying to pop anyone’s bubble for thinking outside the box, but if anyone ever figures out how to do this from the air effectively, we’d sure like to know”.

**14. What were the program’s start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.)**

The WSP has operated two FLIR equipped aircraft since 2005. Aircraft upgrades such as GPS moving street mapping systems, radar altimeters, Terrain Awareness and Warning Systems (TAWS), multi-band police radios, and digital recorders were already programmed for installation using federal homeland security grant funding. In addition, a network of downlink receivers were previously installed at WSP offices/communication centers and state/county emergency operations centers and linked by fiber optics to other public safety agencies.

Satellite cellular phones were specifically purchased with federal grant funding for the DART program at approximately \$20,000 each with installation. The satellite phones allow the TFO in the aircraft to communicate directly with citizens reporting/following a suspected impaired driver and obtain real-time updates on the location and actions of the suspected drunk driver.

Current trooper pilots staffed the DART program. One trooper was transferred from “line duties” and trained as a Tactical Flight Officer (TFO). The estimated annual cost of salary, benefits, and training for this full-time equivalent (FTE) is approximately \$80,000.

**Summary: WSP Start-Up Costs for DART:**

- Equipment/technology (satellite cellular phones) - \$20,000 each x 2= \$40,000
- Staffing (one TFO) - \$80,000 annually
- Computer reproduction media center for aerial video tapes- \$16,000

**Summary: Cost to purchase and equip one fixed-wing aircraft for DART**

Description	Unit	x	Cost Each	Total
Cessna 206H Stationair airplane (new)	1	x	\$620,000	\$620,000
FLIR 8500FW- mount, monitor & install	1	x	\$350,000	\$350,000
BMS digital microwave downlink system	1	x	\$70,000	\$70,000
Aerial GPS street mapping system (ARS)	1	x	\$120,000	\$120,000
Technisonic 800 MHz radio and install	1	x	\$55,000	\$55,000
MCN Computer and install	1	x	\$5,000	\$5,000
Aircraft satellite cellular phone system	1	x	\$45,000	\$45,000
Radar altimeter and install	1	x	\$20,000	\$20,000
High intensity wingtip lights	1	x	\$2,000	\$2,000
Low airspeed vortex winglets	1	x	\$2,000	\$2,000
Equipment Training	1	x	\$10,000	\$10,000
Total			\$1,299,000	<b>\$1,299,000</b>

Table 1: Cost to purchase and equip one Cessna 206 fixed-wing for DART mission

**15. What are the program’s annual operational costs?**

Table 2 below outlines the WSP’s annual operational cost for the DART program.

Description	Unit	x	Cost Each	Total
Aircraft Fuel and Maintenance	\$244/flight hour	x	1,152 hours	\$281,088
FTEs (pilot and TFO)	\$80,000/year	x	2 FTE	\$160,000

Media reproduction supplies		\$200/month	x	12 months	\$2,400
			x		
<b>Total</b>					<b>\$443,488</b>

Table 2: WSP Aviation Section’s annual operational cost for DART

**16. How is the program funded?**

Start-up costs were funded through a variety of federal and state grants, including the Urban Area Security Initiative (UASI), Washington Auto Theft Prevention Authority (WATPA), Department of Defense Combating Terrorism Readiness Initiative Fund (CBT RIF), and Washington State Traffic Safety Commission (WTSC).

Annual operational costs were funded 90% through existing state funding and 10% from Washington State Traffic Safety Commission (WTSC) grant funding for aircraft fuel and maintenance and overtime.

**17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.**

None required.

**18. What equipment, technology and software are used to operate and administer this program?**

The WSP uses two specialty equipped Cessna 206 fixed-wing airplanes to support the DART mission. Each aircraft is equipped with the items listed in Table 1 above.

**19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator’s name, present address, telephone number and e-mail address.**

Yes, the concept of combining proactive aerial DUI patrols with a rapid air response to citizen reports of erratically driven vehicles originated with the Washington State Patrol. This innovation was a team effort by the WSP Aviation Section’s management team, pilots, tactical flight officers, and aircraft maintenance technicians. The commander of the WSP Aviation Section is Lieutenant Tristan Atkins, 7525 Old Highway 99 SE, Olympia, WA 98501, (360) 753-6173, and [Tristan.Atkins@wsp.wa.gov](mailto:Tristan.Atkins@wsp.wa.gov).

**20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?**

No, based on our research through the Airborne Law Enforcement Association (ALEA), the WSP is the first public safety agency in the nation to use airplanes to locate, track, and coordinate the apprehension of drunk drivers reported by citizens.

**21. Has the program been fully implemented? If NO, what actions remain to be taken?**

No, the DART program has not been fully implemented. A well-trained, full-time Tactical Flight Officer (TFO) is critical to the success of this program. Currently, we are utilizing a temporary TFO on-loan from a different bureau within the WSP. Funding for a full-time TFO dedicated to the Aviation Section is required to fully implement a sustainable DART program.



**22. Briefly evaluate (pro and con) the program’s effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.**

Pros: The DART program was more effective than anticipated. The percentage of citizen reported DUI’s contacted by a trooper increase from 4% (Seattle) to 25% instead of the 20%

we originally projected. In addition, we believe that the DART program successfully met its two goals: 1) decrease DUI related collisions and injuries with a unique enforcement tool (aircraft with FLIR) and 2) increase public awareness of the dangers of impaired driving and discourage individuals that have been drinking from getting behind the wheel in the first place.

DUI fatality collisions are down 48% and DUI injury collisions are down 12% in Washington State in 2008 compared to the previous year. Between July 1 and December 31, 2008, over 40 media stories with a nexus to the DART program aired on the nightly local news or were read or heard in newspapers and on the radio. Three example media stories are provided below, others including video available upon request.


**Significant Accomplishments / Aviation Section**

### **Drunken driving enforcement up in December**

Washington State Patrol trooper Jonathan Ames operates a Forward Looking Infra-Red camera, recorder, satellite phone and GPS systems from an airplane the department is using to track drunken drivers at night. *Photo courtesy of Washington State Patrol*

**By EVAN McLEAN**  
*Staff writer*

The state's goal is zero fatalities on Washington roads by 2030. The means to that goal are enforcement, education and engineering. This holiday season law enforcement agencies in the area are stepping up their level of enforcement to reach Project Zero's goal.

Specifically, the Sequim Police Department, Clallam County Sheriff's Office, Port Angeles Police Department and Washington State Patrol are participating in the 18th annual Night of 1,000 Stars, the X-52 Driving Under the Influence Emphasis Program and a new program troopers began doing this year, **enforcement through a DUI Aerial Response Team**.

"Impaired driving continues to be the leading cause of death in motor vehicle crashes throughout Washington and therefore remains our No. 1 traffic safety priority," said Lowell Porter, director of the safety commission.

Washington State Patrol troopers are being assisted by a new program this year; one that places troopers in a plane with an infrared camera to track suspected drivers under the influence. Many times dispatch centers will receive citizen reports of possibly intoxicated drivers but ground enforcement is not close enough to respond in a timely fashion. However, with a plane, troopers can be on scene within minutes.

The **DUI Aerial Response Team** is not likely to be flying over the peninsula this holiday season. However, their presence could be requested at any time by the local state patrol detachment.

"The program primarily covers King, Pierce and Snohomish counties," said DART team member Lt. Tristan Atkins. "But we have responded to the peninsula before, so it would not be unheard of for us to travel out there at the request of troopers in that area."

June 2007
Special Operations Division
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**Significant Accomplishments / Aviation Section**

## **The Olympian**

www.theolympian.com

### **DUI tracking takes to the air**

**The Washington State Patrol is going high-tech to catch law-breaking drivers at night.**

A State Patrol airplane observed a white Cadillac Escalade driving erratically north on Interstate 5 from Olympia early Friday morning. Using a stabilized aerial video camera with thermal imaging, the troopers videotaped the sport utility vehicle as the driver passed other cars, going faster than 110 miles per hour.

A ground trooper stopped the driver just north of the Nisqually River Bridge in Pierce County, near the Thurston County line. The driver, a 24-year-old man from Tacoma, was taken into custody on suspicion of DUI and a felony drug warrant about 12:38 Friday and booked into Pierce County Jail.

Starting this month, **State Patrol began routinely using specially equipped airplanes to assist with DUI enforcement. The new program is called DART, or DUI Aerial Response Team.**

**DART uses "forward-looking infrared-equipped" airplanes to find and coordinate apprehension of impaired and reckless drivers,** according to the State Patrol. The program involves residents armed with cellular phones, State Patrol air crews, troopers and communication officers, the State Patrol says.

**"We believe that DART will improve the apprehension rate of drunk drivers reported by concerned citizens via cell phones," Capt. Mark Couey with the Special Operations Division said.**

October 2008
Special Operations Division
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## HeraldNet

Published: Friday, May 25, 2007

## Police planes to hunt DUIs

### Troopers overhead will track impaired drivers

By Jackson Holtz  
Herald Writer

New technology may make Snohomish County a particularly bad place to drink and drive this weekend.

Police plan to be watching from the sky with sophisticated video. They're asking drivers to keep an eye out from the ground and to use cell phones to report suspected drunken drivers.

They hope the partnership will prevent accidents and fatalities during one of the year's busiest travel times.

"The bottom line for us is public safety," Washington State Patrol trooper Kirk Rudeen said. "We're trying to make the roads safe. The more impaired drivers we remove from the roadways, the safer the roadways are going to be."

June 2007

Special Operations Division

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We don't know for certain how much of the dramatic reduction in DUI fatality and injury collisions is attributed to the DART program; however, we do know that DART increased the percent of citizen 911-cell caller reported erratically driven vehicles that were contacted by a trooper from 4% to 25%. We also know that the percent arrested for DUI increases from 38% (average) to 50% when a DART aircraft is involved.

### **DART STATS (July 1 – December 31, 2008)**

- 47 DUI's Tracked (includes pilot self-initiated)
- 21 DUI's Arrested
- 116 Aggressive Drivers
- 13 Pursuits Safely Managed from the Air
- 70 Suspect Searches/Containments
- 8 Stolen Vehicle Recoveries
- 295 Total Traffic Safety Violations
- 1,113 Traffic Congestion Responses = \$553K in economic savings (University of Washington study)

Cons: Initially, the operating cost of an aircraft appears high (\$244 per flight hour plus crew salaries); however, studies have shown that law enforcement aircraft are a "force multiplier" and offer the same crime reduction effectiveness as 10 to 15 ground units (University of South Carolina study). The website link for ALEA members is:

<http://www.alea.org/Members/restricted/studies/pdf/SoCarolina.pdf>

### **23. How has the program grown and/or changed since its inception?**

The primary growth of the DART program occurred after satellite cellular phones were installed in the aircraft, allowing the Tactical Flight Officer to communicate directly with citizen 911-cell callers. Prior to the installation of satellite cellular phones, WSP Communication Officers/911-Operators relayed information from the cell callers to the DART aircrew via radio. Please also refer to the response to question #12.

**24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?**

A majority of states have existing airborne law enforcement units. States that have equipped their law enforcement aircraft with advanced technology will face fewer obstacles to adopt an aerial DUI apprehension program such as DART. States that have limited aviation assets will face great challenges, including:

- Funding the required technology
- Staffing
- Successfully communicating the cost benefit advantages

## 2009 Innovations Awards Program Program Categories and Subcategories

Use these as guidelines to determine the appropriate Program Category for your state's submission and list that program category on page one of this application. Choose only one.

### *Infrastructure and Economic Development*

- Business/Commerce
- Economic Development
- Transportation

### *Government Operations*

- Administration
- Elections
- Public Information
- Revenue

### *Health & Human Services*

- Aging
- Children & Families
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- Human Services

### *Human Resources/Education*

- Education
- Labor
- Management
- Personnel
- Training and Development
- Workforce Development

### *Natural Resources*

- Agriculture
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- Environmental Protection
- Natural Resources
- Parks & Recreation
- Water Resources

### *Public Safety/Corrections*

- Corrections
- Courts
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- Emergency Management
- Public Safety

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This application is also available at [www.csg.org](http://www.csg.org), in the Programs section.

**Deadline: March 2, 2009**