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## 2011 Innovations Awards Application

**DEADLINE: MARCH 28, 2011**

ID # (assigned by CSG): 2011- \_\_\_\_\_

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

State: **Maryland**

Assign Program Category (applicant): **Criminal Justice** (Use list at end of application)

1. Program Name:  
**Maryland's Security Integration Initiative**
2. Administering Agency:  
**Governor's Office of Crime Control & Prevention**
3. Contact Person (Name and Title):  
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4. Address  
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8. Web site Address  
[www.goccp.maryland.gov](http://www.goccp.maryland.gov)
9. **Please provide a two-sentence description of the program.**

Maryland's Security Integration Initiative gives law enforcement and criminal justice professionals the real-time data they need to make fast, accurate decisions in the fight against violent crime. Within three years, the Criminal Justice Dashboard (Dashboard) has become Maryland's premier web-based clearinghouse of State criminal justice data and tools, in tandem with the Maryland Offender Management System (MOMS) providing unprecedented statewide mapping capability that has taken data beyond textual information to the geospatial plotting of offender presence in local communities.

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 28, 2011 to be considered.**

The Maryland Offender Management System went live in June 2008. The Dashboard went live January 2009.

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

**The Criminal Justice Dashboard (Dashboard)** is the fundamental public safety component of Governor Martin O'Malley's Security Integration Initiative - Maryland's commitment to making State data accessible across all levels of government. Within three years, the Dashboard has become Maryland's premier clearinghouse of State criminal justice data and tools. A web-based application drawing from more than 100 data sources within 22 agencies, the Dashboard gives law enforcement and other criminal justice professionals the real-time data they need to make fast, accurate, informed decisions in the fight against violent crime.

### **Problem**

In 2007, The O'Malley-Brown Administration identified a significant obstacle in the State assisting local jurisdictions in the fight against violent crime. State data that law enforcement were legally authorized to access sat in siloed databases unused. Each siloed system required separate log-ins, user IDs, and passwords. Systems were difficult to navigate, data was hard to aggregate, and systems contained abbreviated codes. Some information was available only by phone, often during normal business hours only. Little information was available from mobile devices. If a federal, State or local law enforcement officer, State's Attorney or U.S. Attorney needed data on a particular offender, the search was arduous and often found unworthy of the effort in an environment of higher work volume and decreasing resources.

### **Solution**

Governor O'Malley envisioned a system that could access any data Maryland owned regardless of what platform it was on or what vendor database type was used. The system would require little to no modifications on the data owning agency's part. For security reasons, the system would not store anyone's data. The system would deliver information that was as current as what the data owning agencies' production systems had available at the moment of inquiry. Users would get the full picture of an offender's history and interaction with the State without having to access State databases one-by-one.

Dashboard currently consolidates more than 100 existing databases from 22 agencies into a single platform.

## **Maryland Criminal Justice Dashboard**



### **Offender data from...**

- Maryland Criminal History (CJIS)
- Division of Parole and Probation
- Division of Pretrial and Detention Services
- Division of Corrections
- Baltimore Police Department Gun Offender Registry
- Maryland State Police
- Department of Natural Resources
- Department of Health & Mental Hygiene
- Department of Labor and Licensing
- Motor Vehicle Administration
- Department of Juvenile Services
- Judiciary Information System
- Washington D.C. Metropolitan Police
- Sex Offender Registry
- CODIS (DNA Database)
- Automated Gang Intelligence
- High Intensity Drug Trafficking Area
- Social Security Administration
- Maryland Image Repository System
- and more...

## Through the Dashboard, users can obtain offender information including:

|                      |   |                               |
|----------------------|---|-------------------------------|
| Name                 | Criminal History                        | Juvenile Record               |
| Physical Description | Parole & Probation Information          | Motor Vehicle Information     |
| Date of Birth        | Pretrial Case History                   | Gun Registration Information  |
| Photo and Profile    | Incarceration History                   | Employment History            |
| Home Address         | Sex Offender Information                | Labor & Licensing Information |
| Agency ID Numbers    | Protective Order Information            | Warrant Information           |
| Cautions and Alerts  | Hunting and Fishing License Information | DNA Sample Information        |

*The Maryland Offender Management System (MOMS)* provides a growing statewide repository of geocoded State data to assist law enforcement and crime analysts in proactive enforcement and containment of priority offenders in their communities. MOMS enhances the mission of the Dashboard by charting offenders spatially and presenting a stepping off point from which users may initiate more detailed research on the Dashboard.

### ***Problem***

Prior to MOMS, sharing Maryland Division of Parole and Probation (DPP) data and mapping supervised offenders per local jurisdiction was dependent upon individual agency requests. Offenders released into the communities remained anonymous until law enforcement could access the right DPP agent or paper trail. Although local law enforcement and DPP agents had the same goals regarding supervising and containing offenders, they had no platform or uniform procedure for sharing information. The result was not only stymied partnerships and inefficiencies, but a lack of understanding of how DPP and law enforcement agencies could partner to hold offenders accountable.

### ***Solution***

Maryland envisioned a geographic information system that would provide law enforcement and criminal justice partners with an interactive view of offenders under supervision in their communities, a mapping application that would assist detectives and analysts in identifying possible suspects based on the relationship between an offender's geographic location and areas of current criminal activity. Maryland wanted to flag offenders recently released into the community so that local law enforcement could expedite proactive home visits to inform offenders that their return has been noted. Users would get the full geospatial picture of State supervised offenders without having to make case-by-case requests and use valuable manpower to import, code, and plot data using local systems, if those systems were even available within their agencies.

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

#### ***Dashboard***

|                  |   |
|------------------|---|
| 1/2008           | Governor's Office announces concept                           |
| 1/2008 - 3/2008  | Technology solutions researched and evaluated                 |
| 2/2008 - 6/2008  | Law Enforcement/User focus groups conducted                   |
| 4/2008 - 9/2008  | Oracle BI procured  |
| 10/2008 - 1/2009 | Pilot systems developed                                       |
| 11/2008 - 1/2009 | Secure data tunnels to data "owning" agencies created         |
| 1/2009           | Pilot system goes live  |
| 1/2009 - present | Additional data sources added (now more than 100 databases)   |
| 1/2010           | Creation of Dashboard Steering Committee                      |
| 3/2011           | Facial Recognition and Warrants Database go live on Dashboard |

### *Maryland Offender Management System*

Each week the offender data is downloaded from secure FTP sites and then processed at Washington College in a procedure known as geocoding. This adds a set of coordinates to each data record that enables the offender home address to be mapped in the online web mapping program. Users access this data via the Internet and search and query the data. Users may download data of interest via Excel or print maps for use in active criminal investigations. Once suspects are identified in a specific area, users can take this data and run additional data queries on the Dashboard.

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

##### *Dashboard*

The Dashboard does not use a data warehouse model that many other “federated query” systems use. Because of the need for the information to be accurate and timely, data is accessed real-time from the agencies that own the data. The information that is displayed is as up-to-date and accurate as what the data owning agency has. Secure data tunnels are created to each agency that is sharing data and real time queries are performed at the time of a user inquiry. This provides the user with real-time data and means no outside agency data is stored by the Dashboard itself.

To share information with the Dashboard, agencies do not have to send their data to a data warehouse or modify their systems in order to share information. Information can be securely accessed from any platform and any database using existing queries and web service calls. Agencies do not need to create data extracts or to modify their systems in order to share their data.

Access to the Dashboard is based on pre-existing credentials; specifically, valid NCIC user IDs. No users need to be maintained (added/deleted) in the Dashboard; LDAP queries are done to the agencies that house the users NCIC credentials for validation and verification at each logon. This means the user is using a user ID and password that they already have, the user has already been certified to access the system by NCIC, and the Dashboard does not have the responsibility of housing and maintaining user IDs.

From an offender’s State Identification Number, the system mines their social security number, date of birth, name and alias, court tracking numbers, Division of Parole and Probation numbers, Division of Corrections numbers, and driver’s license number. These identifiers are used to access data from agencies that do not use the State Identification Number.

##### *Maryland Offender Management System*

In tandem with Dashboard, the creative approach of MOMS is primarily the policy of supplying as much State data as possible to local users in a substantive tool that helps them improve their existing business practice. Where a Dashboard search gives users a comprehensive view of data on an offender-by-offender basis, MOMS gives a geospatial picture of State supervised offenders in local communities. In one application, Maryland has provided a statewide platform to identify offenders in the community, identify potential suspects, and engage proactive monitoring of new releases. Once offenders are identified, additional investigations and research may be completed using additional tools on the Dashboard. Recidivism rates are high for convicted offenders, and criminal justice partners may use MOMS to effectively manage them collaboratively. The amount of datasets contributed to MOMS and the potential of expansion to new datasets, gives MOMS the edge on statewide geospatial tools.

#### 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.)

##### *Dashboard*

The Department of Public Safety & Correctional Services hired one new programmer and used one existing programmer to develop the system. DPSCS currently has two full time developers devoted to The Dashboard. Initial Oracle BI software cost \$600,000. Initial hardware cost \$120,000. Since these initial purchases, Maryland has spent an additional \$1,200,000 on Oracle BI licenses (for high availability and disaster recovery) and an additional \$180,000 in hardware.

*Maryland Offender Management System*

Two staff manage MOMS and provide technical assistance to the user community. Three students work on data quality issues of input data from State agencies. Initial start-up cost for the program was \$82,000, which included the purchases of necessary hardware, software, and programming to develop the application. An IBM Server houses the system, an ESRI ArcGIS Server performs mapping, and a Microsoft SQL Server Enterprise handles the data. Programming was done in a .net environment and utilizes Microsoft Silverlight.

15. What are the program's annual operational costs?

Maryland spends \$200,000 annually in hardware/software maintenance for the Dashboard and approximately \$160,000 for staff and server hosting for the Maryland Offender Management System. Federal, State, and local users access the systems at no cost.

16. How is the program funded?

Start-up costs for the Dashboard and Maryland Offender Management System were funded by Byrne Justice Assistance federal grant monies allocated to the Maryland Governor's Office of Crime Control & Prevention. Annual operational costs for the Dashboard are funded currently with State general funds. Annual operational costs for MOMS are funded currently with Byrne Justice Assistance federal grant monies.

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

*Dashboard*

No; however, we obtained approval of the Maryland Office of Attorney General (OAG) before moving forward. The OAG requires that the Maryland Department of Public Safety & Correctional Services:

- Maintain no user IDs
- Clearly define a process for approving users (existing NCIC access)
- Require an active NCIC user ID
- Require LDAP Calls for NCIC authentication
- Store no agency data; data read and display only
- Gain prior approval with OAG before adding new data sources to the Dashboard

*Maryland Offender Management System*

No; however, any agency who shares data with the Maryland Offender Management System enters into an MOU with Washington College.

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

*Dashboard*

- Windows platform running on IBM blade servers
- DataDirect Connect
- Oracle Business Intelligence Suite Enterprise Edition
- Dataworks Plus – Face Plus
- Service oriented architecture (SOA) - enabled J2EE environment
- Three-layer architecture, based around OBIEE framework
- Presentation Layer contains query tools  
Dashboard, Answers, Hyperion, SOA
- Business Logic Layer contains Metadata  
Oracle BI Server
- Data Services layer contains data and supporting processes

Oracle data integrator (ODI), Oracle Warehouse Builder (OWB), Web Services

- Data access
- Data accessed direct from source applications
- Use ETL tool to map data from sources
- LDAP calls for user authentication
- ODBC drivers for accessing data
- VPN tunnels for data sharing
- Clustered/high availability system
- Disaster recovery capabilities

*Maryland Offender Management System*

- ESRI ArcGIS to process the data for inclusion in the web mapping environment. Extensive models have been developed to provide the most accurate coordinate information.
- ArcGIS Server and ArcInfo for mapping
- Microsoft Bing maps for base maps and aerial imagery with additional data layers added to provide unique information such as schools, courthouses, daycares, police district boundaries, etc.
- Microsoft SQL Server relational database to manage the attribute data
- The application server is hosted at a secure co-location facility with redundant ISP services and dedicated bandwidth to insure 24/7 operation

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.

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

*Dashboard*

Some states have created limited data warehouses to consolidate data for criminal justice agencies. Maryland believes we are the only state that has real-time access to agency data and that uses existing user

credentials to access the system. We do not house any data that is shared on the Dashboard. Data remains housed by the agency that owns the data. No states match the Dashboard in the number of agencies or amount of data shared, nor the technical and administrative efficiency by which new sources and tools are added.

#### *Maryland Offender Management System*

Some states (Colorado is one example) have added web mapping capability for adult parole offenders but primarily for internal use. No other states we are aware of have an application that provides several datasets such as adult parole and probationers, juvenile clients, sex offenders, and arrest warrants into a single application whose purpose is not to primarily serve the agencies themselves, but to serve federal, State, and local criminal justice partners.

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

Yes; however, as the user community increases, user feedback and requests for additional functionality are taken into account. The Dashboard and Maryland Offender Management System will continue to expand, adding new databases as they are approved and tools as they are created over time. Maryland foresees constant improvement of these systems with the best technology available to meet user needs statewide.

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

#### *Dashboard*

Maryland's primary indicators of effectiveness are usage and Dashboard Steering Committee reforms.

##### *Usage*

Approximately 5,500 users per day originating from 110 criminal justice agencies query the Dashboard. The Dashboard currently receives 60,000 – 80,000 queries per day. Queries are single searches (i.e. for a particular offender, a facial recognition match, a list of active warrants via customized search parameters, etc.). The relevance of the Dashboard has been discovered by federal and cross-border agencies such as the FBI, ATF, U.S. Marshal, DC Metropolitan Police, the Department of Justice, and the US Coast Guard who access the system daily. The primary obstacle to effectiveness is our ability to effectively communicate new capabilities and train all 16,000 potential criminal justice users who are eligible for Dashboard access via their existing NCIC log-in and password.

##### *Dashboard Steering Committee Reforms*

Since January 2010, the Dashboard Steering Committee has identified and solved obstacles to effectiveness regarding design, navigation, and data access. A primary reform has been redesign of the user interface. The original version of Dashboard pulled all available data onto one scrollable offender page. Users deemed this layout overly cumbersome, and the Steering Committee pursued a custom search approach. A standard set of demographic data now appears upon the initial search, with a sidebar of related reports/databases a user may navigate at will. Beyond keeping watchful eye on usability, the Steering Committee oversees a rolling list of formal requests to data "owning" agencies for new data sharing opportunities that would benefit users. Among current requests in the pipeline are wage records that show place of current employment from the Department of Labor, Licensing, and Regulation and pawn and secondhand precious metal transactions from Maryland's Regional Automated Property Information Database.

#### *Maryland Offender Management System*

Beyond the aforementioned pros of improved partnerships, suspect identification, proactive monitoring of new releases, MOMS has been identified as a tool to ensure officer safety. The FBI now uses MOMS for situational awareness to obtain a clear picture of offender presence in neighborhoods before the execution of field operations. These kinds of uses are driving the need to add additional data so a complete picture of offender presence in communities may be mapped. Beyond operational successes achieved with the

application, Washington College has been able to identify and correct State data quality issues. At the start of the program only 85 % of violent offenders had correct address location data. After data corrections, we are now at 97 % accuracy. Significant improvements in data accuracy have been achieved for each dataset that has been added to the application. As with the Dashboard, far-reaching statewide training is an obstacle. In order for MOMS to be an effective tool, supervisors and ground level personnel must be trained effectively. During 2011, a combination training of Dashboard and MOMS will be launched to capture 75 % of local law enforcement agencies, as well as federal, State, and local State's Attorney's Office partners. In order to continue proactive expansion, a rigorous evaluation protocol will be established in 2011 to ensure feedback is constantly being generated.

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

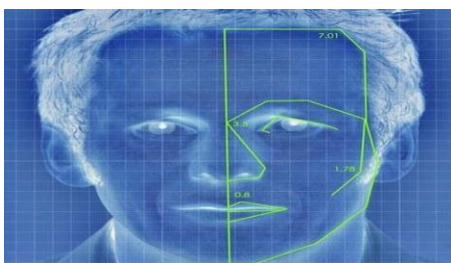
Upon launch in January 2009, the Dashboard included data from three agencies and averaged 200 users per day. In March 2011, the Dashboard includes more than 22 agencies and averages 5,500 users per day. As the system grew, a Dashboard Steering Committee of State and local users was established to promote new, relevant components and provide oversight and direction. As functionality has increased, local agencies have begun to share information. The Dashboard has grown to incorporate customized interfaces for specific purposes and security considerations like the Children's Dashboard, which delivers juvenile client information.

**Expansion from Display to Interactive Tools**

Originally designed to display data only, the Dashboard has expanded to include mapping, graphing, and facial recognition capabilities.

***Facial Recognition***

The facial recognition capability launched in January 2011. Over 2.1 million photos have been uploaded into the Dashboard from the Maryland Image Repository System. A photo or good sketch can be copied to the Dashboard where a comparison is made to the 2.1 million photos and the closest matches will be displayed. In order to improve the effectiveness of this feature, Maryland is committed to coordinating with other agencies, especially the Motor Vehicle Administration to add more photos into the Dashboard.



***Warrants.now***

In January 2011, the Dashboard launched a new tool that gives criminal justice users access to a live feed of all active warrants from the Maryland Judiciary. This is the first time in Maryland history that warrants may be searched and mapped statewide. Dashboard now gives access to all warrants at the District, Circuit, and the Federal level. These warrants may be searched through a variety of categories such as date range, charge description, offender name, or county. Reports may be created on active Maryland warrants by jurisdiction, charge type, or by the length of time the warrant is open. Through the Maryland Offender Management System (MOMS) provided by Washington College, every warrant in the state of Maryland is mapped by the offender's home address.

## Maryland Offender Management System

MOMS launched initially with Division of Parole and Probation data only and throughout 2009 and 2010 expanded to include Maryland Department of Juvenile Services data, Maryland Sex Offender Registry data, and, in January 2011, open warrants issued by the Maryland Judiciary. Other datasets in the pipeline to be shared include Washington DC supervised offender data, federal parole data, pawn transaction data, and gang intelligence data.

**Case Number:** 1721172  
**Case Name:** FRANKLIN, MIGUEL  
**Case SID:** 1140704  
**Address:** 2867 PELHAM AVENUE  
**City:** BALTIMORE  
**DOB:** 19690218  
**Agent Name:** ALSTON, S  
**Legal Offense 1 and 2:** Theft-Felony Theft-Felony  
**Case Status:** Delinquent  
**SUP Type:** LOW

**Name:** FRANKLIN, MIQUEL  
**Address:** 2867 PELHAM AVE, BALTIMORE, MD 21213  
**Warrant UIN:** 974238-20100913-FTAI  
**Warrant Type:** W  
**Date Warrant Received:**  
**LE Agency:** SHERIFFS OFFICE BALTIMORE CITY  
**Court Name:** JIS CIRC COURT (8TH) FOR BALTIMORE CITY  
**Offense:** Failure to Appear  
**Date Of Birth:** 2/18/2069

| Offender Name    | Case SID |
|------------------|----------|
| FRANKLIN, MIGUEL | 1140704  |

**Returned From Search**

| City      | State | County         | Zip Code | Gender | Race  | Weight | HeightT          | Marital Status | DOB      |
|-----------|-------|----------------|----------|--------|-------|--------|------------------|----------------|----------|
| BALTIMORE | MD    | Baltimore City | 21213    | Male   | Black | 260    | 6 feet 00 inches | Divorced       | 19690218 |

Maryland Offender Management System Search Offender Names barger Log Out

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

Reluctance of agencies to share data is the primary obstacle. Having Governor O'Malley as the primary sponsor of the Dashboard and Maryland Offender Management System has been instrumental in overcoming this obstacle in Maryland. Beyond policy barriers to access, legal limitations on what data may be shared with whom must be considered.

CSG reserves the right to use or publish in other CSG products the information provided in this application. If your agency objects to this policy, please advise us in a separate attachment.



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## 2011 Innovations Awards Application 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 and Technology*

- Administration
- Elections
- Information Systems
- Public Information
- Revenue
- Telecommunications

### *Health & Human Services*

- Aging
- Children & Families
- Health Services
- Housing
- Human Services

### *Human Resources/Education*

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- Management
- Personnel
- Training and Development
- Workforce Development

### *Natural Resources*

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

### *Public Safety/Corrections*

- Corrections
- Courts
- Criminal Justice
- Drugs
- Emergency Management
- Public Safety

**Save in .doc or rtf. Return completed application electronically to [innovations@csg.org](mailto:innovations@csg.org) or mail to:**

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**This application is also available at [www.csg.org](http://www.csg.org).**