Schedule 13
Change Request for FY 2010-11 Budget Request Cycle

Decision Item FY 2010-11 ☑	Base Reduction Item FY 2010-11 ☐	Supplemental FY 2009-10 ☐	Budget Amendment FY 2010-11 ☐

Request Title: CSP, Computer-Aided Dispatch, Records Management System, and Mobile Data Computer Asset Maintenance

Department: Public Safety   Dept. Approval by: _(signature)_   Date: 10/14/09

Priority Number: 1   OSPB Approval: _(signature)_   Date: 10-14-09

	Fund	1 Prior-Year Actuals FY 2008-09	2 Appropriation FY 2009-10	3 Supplemental Request FY 2009-10	4 Total Revised Request FY 2009-10	5 Base Request FY 2010-11	6 Decision/ Base Reduction FY 2010-11	7 November 1 Request FY 2010-11	8 Budget Amendment FY 2010-11	9 Total Revised Request FY 2010-11	10 Change from Base (Column 5) FY 2011-12
Total of All Line Items	Total	839,168	843,020	0	843,020	843,020	2,000,000	2,843,020	0	2,843,020	2,000,000
	FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GF	0	0	0	0	0	0	0	0	0	0
	CF	0	0	0	0	0	0	0	0	0	0
	HUTF	839,168	843,020	0	843,020	843,020	2,000,000	2,843,020	0	2,843,020	2,000,000
	RF	0	0	0	0	0	0	0	0	0	0
	FF	0	0	0	0	0	0	0	0	0	0
(2) Colorado State Patrol IT Asset Maintenance (Renamed from MDC Asset maintenance)	Total	839,168	843,020	0	843,020	843,020	2,000,000	2,843,020	0	2,843,020	2,000,000
	FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GF	0	0	0	0	0	0	0	0	0	0
	CF	0	0	0	0	0	0	0	0	0	0
	HUTF	839,168	843,020	0	843,020	843,020	2,000,000	2,843,020	0	2,843,020	2,000,000
	RF	0	0	0	0	0	0	0	0	0	0
	FF	0	0	0	0	0	0	0	0	0	0

Non-Line Item Request: None

Letternote Revised Text: None

Cash or Federal Fund Name and COFRS Fund Number: Highway Users Tax Fund "Off the Top"

Reappropriated Funds Source, by Department and Line Item Name:

Approval by OIT?   Yes: ☐   No: ☐   N/A: ☐

Schedule 13s from Affected Departments:

Department of Public Safety

CHANGE REQUEST for FY 2010-11 BUDGET REQUEST CYCLE

Department:	Colorado Department of Public Safety
Priority Number:	1
Change Request Title:	Computer-Aided Dispatch, Records Management System, and Mobile Data Computer Asset Maintenance

SELECT ONE (click on box):
☒ Decision Item FY 2010-11
☐ Base Reduction Item FY 2010-11
☐ Supplemental Request FY 2009-10
☐ Budget Request Amendment FY 2010-11

SELECT ONE (click on box):
Supplemental or Budget Request Amendment Criterion:
☒ Not a Supplemental or Budget Request Amendment
☐ An emergency
☐ A technical error which has a substantial effect on the operation of the program
☐ New data resulting in substantial changes in funding needs
☐ Unforeseen contingency such as a significant workload change

Short Summary of Request:

The Department requests $2,000,000 HUTF "Off the Top" to establish an asset maintenance budget for the Colorado State Patrol's (CSP) three critical communications systems. Over the course of three years, this request would allow the Patrol to replace the current Computer-Aided Dispatch (CAD), Records Management System (RMS), and Mobile Data Computer (MDC) hardware and software architectures. It would also allow for the proper maintenance of ancillary systems to include voice recorders, communications consoles, and communication centers' uninterruptable power supply (UPS) devices. This request excludes the in-car MDC hardware.

Background and Appropriation History:

The CAD, RMS, and MDC systems are ten years old, have significant technological limitations, and are approaching or are at end-of-life, meaning their vendors will no longer support them. The CAD system and ancillary systems are the CSP's backbone for

providing emergency response services to multiple public safety agencies serving the residents of Colorado.

The CAD architecture is considered a legacy system by the vendor, as the system hardware will reach end-of-life in 2010 and the system software will reach end-of-life in 2011. Costs to maintain the CAD architecture will exponentially increase after 2010. In event of a system failure, an immediate delay will occur in the CSP's ability to manage critical public safety communications for the 64 agencies it serves, causing degraded public safety responsiveness to the residents throughout Colorado.

The current RMS architecture is proprietary and was developed in 2001 for the CSP. The RMS architecture does not integrate with the CAD or MDC architecture. An RMS system failure would significantly affect the CSP's ability to develop strategic and tactical plans to achieve its core mission and traffic safety goals.

The MDC system software is also proprietary, and was developed over ten years ago.

The current CAD, RMS, and MDC architectures are disparate, and are technologically out-of-date. The lack of architecture integration significantly limits these systems' interoperability and data exchange capabilities. The current CAD and MDC systems cannot receive and process data types such as digital voice, texting, and imaging (video, automatic fingerprint recognition, etc.). Most of the current system technologies do not meet Colorado Cyber Security and FBI CJIS requirements.

The CDPS COPLINK solution, an intelligence-sharing software program being adopted by law enforcement agencies throughout the state, cannot utilize many data items from the current CAD, RMS, and MDC architectures due to the limitation of these older technologies.

Additionally, the current CSP voice recording systems consist of three different brands. All are at end-of-life, and, because of the age of the recorders, cannot technically accommodate the current State Voice Over IP (VOIP) technology deployment.

During FY 2008-09, CAD system hardware experienced five critical component failures, including processor and hard-drive failures. The maintenance and support costs of the CAD system hardware and software have increased 54% over the last ten years.

The current MDC system hardware is not under manufacturer warranty. The MDC system software maintenance and support costs have increase 39% over the past eight years.

As a custom-developed software system, the current RMS system has no maintenance and support agreement in place.

In recent years, the CSP's voice recorder systems have experienced system crashes affecting the Denver, Montrose, and Pueblo communications centers. In all three cases, these system failures resulted in lost voice data. In FY 2008-09, the multiple crashes experienced in the Denver system have cause a loss of nearly 17% of caller and radio traffic recorder voice information.

General Description of Request: Approval of this request would add $2.0 million to the Patrol's existing IT asset maintenance budgets, allowing the CSP to upgrade the current end-of-life CAD, RMS, MDC, and ancillary systems with current hardware and software technologies. This would enable the Patrol to continue to provide dispatch services for Colorado law enforcement agencies through the use of state-of-the-art CAD, RMS, and MDC architectures.

Implementing new CAD, RMS, and MDC architectures will support standardized data, application, and technology architectures that offer accurate, reliable, and secure information to the CSP. Gained efficiencies in interoperability, data sharing, and intelligence analysis would translate to improved crime prevention, and criminal and terrorist activity intervention. The new architectures will support the use of the NIEM XML standards designed specifically for criminal justice information exchanges,

providing law enforcement, public safety agencies, prosecutors, public defenders, and the judicial branch with a tool to effectively share data and information in a timely manner.

These systems would improve customer service and responsiveness by providing an integrated service-oriented architecture (SOA) using industry-standard relational databases for CAD-to-CAD interface functionality, Voice (radio and telephone) recording system, Geographic Information System (GIS), and E911 interface systems. The new CAD, RMS, and MDC architectures would meet the State's Cyber Security Policies and FBI CJIS requirements.

Following is a list of performance criteria the Patrol will employ to ensure appropriate installation and configuration of the requested components:
- Replacement and maintenance of the Computer Aided Dispatch system;
  - o Compliance with Colorado Cyber Security and FBI CJIC requirements
  - o Decrease in dispatch time;
  - o Reduced Software maintenance and support costs;
- Replacement and maintenance of the Records Management System;
  - o Documentation and evaluation of any loss of caller and radio traffic recorder voice information;
  - o Compliance with Colorado Cyber Security and FBI CJIC requirements
  - o Reduced Software maintenance and support costs;
- Replacement and maintenance of the Mobile Data Computers and software;
  - o Compliance with Colorado Cyber Security and FBI CJIC requirements
  - o Reduced Software maintenance and support costs;
- Replacement and maintenance of Voice Recorders;
  - o Compliance with Colorado Cyber Security and FBI CJIC requirements
  - o Reduced Software maintenance and support costs;
- Replacement and maintenance of related Support Equipment, including;
  - o Dispatch Workstations and Radio Consoles
  - o Uninterrupted Power Supply
  - o Backup Communication Center

      o   Network Infrastructure, Interfaces, and Wiring
      o   The Emergency Medical Dispatch Solution
      o   Backup Solutions
      o   PCs, Laptops, Monitors, and Printers

Consequences if Not Funded:

If this request is not approved, the current CAD, RMS, and MDC hardware and software architectures, and ancillary systems, will all be at end-of-life and will see an increase in the number of systems failures as the systems continue to age. Maintenance and support costs will significantly increase as a result of age and technology obsolescence. Systems failures will result in operational inefficiencies including reverting to pen-and-paper method of dispatching emergency services.

In addition, the CSP's ability to manage critical public safety communications for the 64 agencies that are currently served will be negatively affected by the technology limitations and failures, which will result in degraded public safety responsiveness to the residents of Colorado. CAD, RMS, and MDC architecture technology limitations will continue to negatively impact systems interoperability and data exchange capabilities, as well as integration with current voice and data technologies such as VOIP. Ultimately the loss of improved data, and analysis from the data, may very well decrease the possibility for the next significant decrease in the number of fatal and injury crashes.

Without new voice recorders, the Communications Branch will be unable to reliably provide critical-incident, pursuit-, and complaint-related information to the AG's office, attorneys, CSP, and other customer agency supervisors. Further, without proper recordings, the Communications Officers will not be able to instantly recall recordings to determine officer locations. This could mean the difference in locating or assisting an officer in crisis which will result in a significant increase in the State of Colorado's liability risks.

Calculations for Request:

Summary of Request FY 2010-11 and FY 2011-12	Total Funds	General Fund	Cash Funds	HUTF "Off the Top"	Federal Funds	FTE
Total Request	$2,000,000	0	0	$2,000,000	0	0.0
CSP IT Asset Maintenance (Renamed from MDC Asset maintenance)	$2,000,000	0	0	$2,000,000	0	0.0

Cash Funds Projections:

The source of revenue for this request will be HUTF "Off the Top," which has only a marginal effect on the year-end fund balances for the overall HUTF.

Assumptions for Calculations:

The calculations for this request are derived from several sources, including previous captial construction requests for the Multi-Agency Public Safety System for FY 2008-09 and FY 2009-10, and budgetary quotes obtained in the last six months. The previous MAPSS decision items included the replacement of the CSP's CAD, RMS, and MDC as well as ancillary systems and interfaces associated with these systems. Based upon new market scan information and budgetary quotes obtained during 2008 and 2009, along with the Alamosa Troop Office project (where some items will be purchased with the Alamosa project funds) these figures have been revised accordingly. The categories have been somewhat simplified showing previous years' figures compared with updated FY 2010-11 figures.

The following table summarizes the difference in price between the Department's previous capital construction submissions ("Original Figures" column), the latest price estimates for full replacement ("FY 2010-11 Figures" column), and a preliminary

estimate of how the Department would make use of a $2.0 million annual appropriation in the first three years.

Description	Original Figures TOTAL	FY 2010-11 Figures TOTAL	FY 2010-11 $2.0 Million	FY 2011-12 $2.0 Million	FY 2012-13 $2.0 Million
Computer Aided Dispatch (CAD) Hardware and Software	4,000,000	2,500,000	1,500,000		
Mobile Data Computer (MDC)	1,100,000	1,100,000		250,000	25,000
MDC Hardware					
Records Management System (RMS)	1,750,000	1,100,000	50,000	225,000	
Voice Recorders	700,000	600,000	200,000	400,000	
Radio Consoles	731,000	612,000			612,000
Dispatch Workstations	1,156,000	900,000		200,000	400,000
Uniterrupted Power Supply	750,000	625,000		100,000	100,000
Emergency Medical Dispatch Solution	300,000	300,000			300,000
PCs, Laptops, Monitors, Printers	388,000	336,100		25,000	228,000
Backup Solution and Other Hardware	349,000	349,000	60,000	100,000	100,000
Network Infrastructure, Interfaces, and Wiring	209,000	209,000	15,000	50,000	135,000
Training	280,000	200,000	25,000	75,000	75,000
Project Management and Professional Services	1,405,000	900,000	150,000	75,000	25,000
Backup Communications Center		500,000		500,000	
TOTAL	**13,118,000**	**10,231,100**	**2,000,000**	**2,000,000**	**2,000,000**

Under a three-year plan to replace the CAD, RMS, and MDC and associated systems, the Patrol would employ the following strategy:

- Year 1, $2,000,000 – Develop and issue RFP, use a contract project manager, update or replace CAD and backup systems, and begin replacing the RMS, Voice Recorders and network infrastructure.
- Year 2, $2,000,000 – Develop and issue RFP, use a contract project manager, continue the replacement of the RMS system, begin the replacement or update the

> MDC and uninterrupted power supply systems, backup systems, voice recorders, some CAD workstations, and create a backup communications center.
> - Year 3, $2,000,000 – Complete replacement of CAD workstations, radio consoles, add an emergency medical dispatch solution, continue the replacement of the MDC and network infrastructure hardware, and replace PC and peripheral assets.

Under this strategy, the Department would look to replace or update the MDC infrastructure, and continue replacement of the MDC system, uninterrupted power supply and backup hardware in years 4 and 5. After this time, the Patrol would begin to analyze the components of these replaced systems that would require updates or upgrades, and begin the cycle anew.

It is important to note, however, that this strategy is preliminary, and may be altered from year to year depending on the actual cost of replacing and renewing these critical IT assets.

Impact on Other Government Agencies:

There are no known fiscal impacts for other state and local agencies supported on these systems. Local agencies that contract with the CSP to perform dispatch services will see improvements in the services received.

Cost Benefit Analysis:

The replacement of the current CSP CAD, RMS, and MDC architectures and ancillary systems will enable the Communications Branch to continue to provide professional, efficient critical public safety communications to CSP members, the 63 external agencies currently served, and Colorado residents. This will enable the CSP to meet its goal of being first in traffic safety and its key strategic assumptions and operational principles. The state-of-the-art CAD, RMS, and MDC architectures provide near real-time data analysis, giving the CSP opportunities to improve incident response time to calls for service. As a result, the Patrol will likely be able to clear State roadways more quickly, increase its criminal interdiction activities on Colorado's roadways, and better interrupt the flow of illegal contraband.

As the CSP continues to see an increase in calls for service, which result in an increasing demands on the current workforce, CAD, RMS, and MDC systems can provide automated business process support for the workforce. Gained efficiencies in interoperability, data sharing and intelligence analysis would translate to improved public safety activities. Today's CAD, RMS, and MDC technologies are based on a Service Oriented Architecture, which provides the ability to receive NIEM compliant XML data formats, digital voice, mobile texting, and images. The new technologies also allow the ability to transfer real-time incident information to public safety personnel, ultimately saving lives and property.

The replacement CAD, RMS, and MDC architectures would provide full disaster recovery services and Continuity of Operations Plan (COOP) implementation, along with the ability to use technologies that meet the State of Colorado Cyber Security and the FBI CJIS requirements.

The safety and life saving benefits resulting from gained efficiencies in interoperability, data sharing and intelligence analysis would be meaningful, but not readily calculable.

The risks of not implementing the Communications Package System include, but are not limited to, a decline in Trooper and other officer safety, increased harm and loss of life to Colorado citizens, and increased property damage.

Implementation Schedule: A three year phased approached will be used to deliver all of the resources identified in this request. Total costs of the three-year implementation will be $6,000,000. Beyond the three year implementation phase, the increased appropriation will be used to maintain the implemented system(s), purchase maintenance contracts, and replace end-of-life-cycle equipment and software.

Task	Month/Year
Internal Research/Planning Period	May-June 2010
RFP Issued	June 2010
Contract or MOU Written	August 2010
Start-Up Date	September 2010

Statutory and Federal Authority: 24-33.5-203 (2), C.R.S. (2009) Duties of executive director and patrol. (2) The Colorado State Patrol shall enforce or aid in enforcing all state laws pertaining to motor and all other vehicles, their equipment, weight, cargoes, and licenses, vehicle operators, and other operations including checking for brand inspection certificates or official bills of sale or acceptable trucking waybills on livestock or agricultural products upon the highways of Colorado and for the use thereof. The Colorado State Patrol shall also aid in the enforcement of the collection of all motor and other vehicle taxes and license fees, motor fuel taxes, and highway compensation taxes (with respect to the transportation of persons and property over public highways) as provided by law and shall otherwise promote safety, protect human life, and preserve the highways of this state by the courteous and strict enforcement of laws of this state which relate to highways and traffic upon such highways, notwithstanding any provisions of law charging any other department or agency in the state with the enforcement of such laws. The Colorado State Patrol shall also aid in the enforcement of other laws of this state as specifically authorized by the provisions of this part 2.

Performance Measures: This request is in alignment with the following Department strategic objective and performance measure:

CSP, Objective 2 *Reduce the time taken by CSP Troopers to respond to calls for service.*

Performance Measure *Reduce by at least five percent annually the time it takes CSP Communications Branch employees to dispatch calls for assistance to fatal and injury crashes or other reports of road hazards.*

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