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Prepared for the Connecticut Department of Transportation

STATE OF CONNECTICUT

CRASH DATA IMPROVEMENT BUSINESS PLAN

DATA NEXUS, INC.

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Introduction

This document presents a plan for improving the way Connecticut collects, manages, stores, compiles, analyzes, and distributes information about motor vehicle crashes. It addresses all aspects of the process and related data systems including electronic crash data collection, electronic citation systems, digital roadway networks, and centralized systems designed to make safety data accessible. The purpose is to outline a strategy for improving each system individually as well as to integrate all the systems in a manner that allows efficient processing and is easy to use.

The document begins with a statement of the vision for the future of the Connecticut's crash data system—and by extension all related safety data systems. The remainder of the document presents the current and planned projects related to crash and citation data.

Projects described in this document answer key questions such as:

- How will the data be collected and shared?
- What kinds of post-processing will be performed, and how much of that processing will require human intervention?
- What kind(s) of users (and uses) are to be supported?

Each project description includes a task listing and timeline. The relationships between projects are described so that project managers and the Traffic Records Coordinating Committee can coordinate efforts.

Vision

VISION STATEMENT

The Connecticut crash data system will be an integrated, easy-to-use resource designed to meet the need for safety data and analysis throughout state and local government.

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GOALS

Connecticut's Traffic Safety Stakeholders will work to develop state-of-the-practice law enforcement data management systems that:

- *Avoid paper wherever possible*
- *Support accurate and efficient data gathering by law enforcement officers*
- *Work well for small, medium, and large agencies*
- *Smoothly share data between the field, to the agency, and to statewide repositories*
- *Decrease delays in data submission and availability of the data for analysis.*
- *Use resources efficiently*
- *Support linkage based on location, persons, events, and other key variables*
- *Aggregate easily for reporting and analysis*
- *Produce data quality metrics automatically*
- *Support data quality management efforts by providing pertinent information to data collectors, managers, and users*

The long-term goals for all law enforcement data in Connecticut are an essential part of a good business plan. Here, the stakeholders present their shared view of what the future should look like. The vision, along with a set of specific goals, are aimed at developing a system that meets the needs of data collectors, data managers, and data users.

Most importantly, the vision sets a direction. That gives project managers, decision-makers, and advisory groups a way to determine if projects are moving the State *toward* the vision or if we have perhaps strayed off course.

Section 1: Project Descriptions

Digital Roadway Network

Crash Data Repository

MMUCC-Compliant Crash Report Form

100% Electronic Submission

Reduction of the Backlog

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eCitation

Overview

This section presents the projects that are included in the Business Plan. Connecticut's safety data stakeholders may choose to add more projects in the future, alter the projects listed here, revise the timelines and deliverables, or even drop projects altogether. This document thus represents a snap-shot in time. It is designed to be a resource that the State can update on its own—keeping the information refreshed with current project status reports and modifications to the project descriptions, action item tables, and (if desired) the PERT charts in the two sections that follow the project descriptions presented here.

To make the best use of this business plan, it is recommended that Connecticut designate an overall project manager—preferably someone who can interact with the managers of individual projects, the Connecticut DOT staff funding the various projects using Section 408 funds (and other funding sources), and the Traffic Records Coordinating Committee. In the recent Crash Data Improvement Program (CDIP) report, the technical advisory team recommended that Connecticut designate a "champion" for crash data improvement. This individual would be an ideal candidate to serve as overall project manager.

In addition, it is recommended that Connecticut acquire some project planning and management software tools to make the project management job easier and more amenable to reporting progress on an ongoing basis. The TRCC and CTDOT have already begun exploring the various options available.

Digital Roadway Network

The Digital Roadway Network (DRN) will create a "dual-centerline" roadway network (digital map) for divided highways. For state routes there will be a single centerline. For roads currently only coded in the logged direction, the DRN will also establish reverse milelogs.

This project will give the state a highly detailed, highly accurate location coding method that *could* be used to integrate all roadway features and spatially codable events (e.g., crashes, citations, etc.) that happen on the roadways. It is beyond a simple shared basemap, but serves that need as well – a way to spatially locate *anything* and have it be instantly linkable with any other source of data that has been located on the same network.

At present, the interstates have been completed and that portion of the network is ready for use. Over time, the remaining state-maintained roads will be added to the digital network in sequence. Connecticut DOT(CTDOT) is considering the use of external resources (including consultant services and off-the-shelf software) to facilitate inclusion of local roads in the digital roadway network.

Task Listing and projected completion dates:

Task	Completion Date
DRN 1.0: Develop project timeline & milestones	Completed, needs updating
DRN 1.1: Complete Interstate roadways	Completed 2011
DRN 1.2: Complete other expressways (state routes)	Within 2012
DRN 1.3: Complete other state highways	Within 2012
DRN 1.4: Complete town roads that are included in the HPMS	Within 2012
PHASE 2: Local Roads	
DRN 2.1: Decide on method and resources for local road inclusion	(see issues list)
DRN 2.2: Design local road location coding standard	(see issues list)
DRN 2.3: Collect local road location data	(see issues list)
DRN 2.4: Create local road Digital Roadway Network	(see issues list)

Issues:

- The timing of tasks in Phase 2 was undecided at the start of the Business Plan Development. Since then the situation has changed in that a contractor has been tasked to deliver a completed Digital Roadway Network for local roads. A final timeline was not provided for the tasks in Phase 2. It is anticipated that the timeline can be updated with a reasonable degree of certainty in the coming months, with a targeted completion date (perhaps) in 2012.

- There are several points of coordination between the DRN project and the projects related to new or upgraded field data collection systems for law enforcement and analytic systems making use of linked roadway and law enforcement data. These include the Crash Data Repository at the University of Connecticut (UCONN), and multiple projects undertaken by the Capitol Region Council of Governments (CRCOG) for eCrash and eCitation data collection. The Action Item Tables for these projects explicitly incorporates suggested coordination tasks.

Crash Data Repository; Phase 2 & 3

The Crash Data Repository (CDR) is a University of Connecticut (UCONN) project designed to gather crash report information into a single statewide resource containing multiple years of data. It is capable of receiving data electronically from law enforcement agencies, thus eliminating data entry delays and costs, while, at the same time, imposing some data quality standards on the incoming information. The CDR is also a web-based utility serving users with access to data as well as tabular and spatial analysis tools. The CDR will include merged roadway and crash data so that users may analyze the relationship between safety (crash reductions) and roadway features.

Task Listing and projected completion dates:

Task	Completion Date
CDR 2.1: Develop proposal	September 2011
CDR 2.2: Submit grant application	September 2011
CDR 2.3: Establish Technical Advisory Committee (TAC)	October 2011
CDR 2.4: Develop TAC user requirements and functionality	December 2011
CDR 2.5: Design updated crash data repository structure	February 2012
CDR 2.6: Update design for integration of roadway databases	April 2012
CDR 2.7: Add new options for data query and analysis	May 2012
CDR 2.8: Database modification	June 2012
CDR 2.9: Develop web access and analysis tools	July 2012
CDR 2.10: Develop web front-end application	August 2012
CDR 2.11: Pilot testing	September 2012
PROJECTED LAUNCH DATE	September 30, 2012
PHASE 3: Updates required based on other projects	
CDR 3.1: Create MMUCC-compliant version of repository database	2014
CDR 3.2: Incorporate CTDOT state-system digital roadway network	2013
CDR 3.3: incorporate CTDOT local system digital roadway network	2014 and beyond

Issues:

- There are several updates that will be required in the Crash Data Repository as a result of progress in other projects affecting crash and roadway data. In particular, the Digital Roadway Network project will supply statewide standard location information for state and local roads over the course of 2012 through 2013 or beyond. In addition, the State is close to deciding to adopt a new crash report form to attain 100% MMUCC compliance. The change in data elements and logical structure within the crash report will necessitate changes to the crash database within the CDR.

MMUCC-Compliant Data Collection

This is currently considered a part of the CRCOG electronic crash reporting system development project. However, it should be recognized that the design and adoption of a MMUCC-compliant form is both separable from the eCrash solution proposed by CRCOG (which would implement a MMUCC-compliant data collection tool, but not a paper form) and a task that must affect the entire crash reporting community…not just a subset of law enforcement agencies (LEAs). Planning and adoption of a new crash report form involves major efforts in coordination and schedules for various vendors and the statewide repositories must be taken into account.

Task Listing and projected completion dates:

Task	Completion Date
MCDC 1.0: CTDOT "go/no go" decision	Completed February 2012
MCDC 1.1: Preliminary decision on support for a paper form	Q1 2012
MCDC 1.2: Data entry design prototype for field use	March 2012 (CRCOG)
MCDC 1.2a: Develop location tool	Early 2013
MCDC 1.2b: Develop diagramming tool	Early 2013
MCDC 1.3: Develop edit check and validation rules	Mid-2012
MCDC 1.4: XML data transfer rules	Mid-2012
MCDC 1.5: Assess law enforcement agencies and vendors	End of 2012
MCDC 1.6: Develop resource package for vendors & LEAs	Early 2013
MCDC 1.7: Design paper form (if needed)	Early 2013
MCDC 1.8: Pilot test CRCOG software and paper form (if used)	Summer 2013 (CRCOG software beta 6/2012)
MCDC 1.9: Modify CTDOT and CDR databases	Summer 2013
MCDC 1.10: Schedule rollout of software and paper form (if used)	Summer 2013 (CRCOG rollout 7/2102)
MCDC 1.11: Develop training	Summer 2013
MCDC 1.12: Deliver Training	End of 2013
Go Live Date	01/01/2014 target date (CRCOG rollout 7/2012 with evaluation by 9/2012)

Note: the dates listed in this table differ from those presented by CRCOG for their project to implement a MMUCC-Compliant data collection system. The project described here combines elements from the CRCOG proposal and the necessary other activities that must take place if there is to be a statewide MMUCC-compliant system. In particular, step 1.9 (Modify CTDOT and CDR databases) must be updated to accept data that arrives

with different data elements and data element values that those reflecting the current crash report form. This will not be completed in time for the CRCOG intended roll-out date (July 2012), nor can the State rapidly deploy a new form Statewide in order to switch *all* law enforcement agencies to the new MMUCC-compliant form (a paper form has not yet been designed). The implementation of a major change in the crash report form by a sector of the law enforcement needs to be accounted for in the overall business plan, but it should be noted that the CRCOG project takes place in a larger context of all law enforcement crash data collection.

Issues:

- There must be one form in use Statewide.
- Multiple vendors means multiple costs to LEAs and the State to get every electronic system switched over.
- If agencies are not able to implement electronic data collection by 01/01/2014, a paper form may be required – or, alternative, the rollout of the MMUCC-compliant form would have to be delayed. Again, there must be only one form (and data element list) used by all law enforcement.
- There are multiple points of coordination between this project and others affecting crash data. These are addressed in the Action Item Tables.

100% Electronic Submission

This is in reality multiple projects each aimed at serving a segment of the law enforcement community in Connecticut. The Connecticut State Police (CSP) uses a major software vendor (NexGen) for crash and other reporting from the field. There are currently ten law enforcement agencies participating in the Capital Region Council of Governments (CRCOG) project to develop field data collection. Other agencies throughout the state have their own systems. One option is that the CRCOG solution could be offered statewide to local law enforcement, with the CSP continuing to use their own software (or also adopting the CRCOG solution). The need for planning and coordination among the law enforcement agencies is acute.

Task Listing and projected completion dates:

Task	Completion Date
eCrash 1.0: Assess law enforcement agencies' capabilities	By end of 2012
eCrash 1.1: Identify early adopters beyond CSP and CRCOG	Q1 2013
eCrash 1.2: Identify programming & other support needs	Q1 2013
eCrash 1.3: Develop funding proposals (Section 408 & other)	Mid-2013
eCrash 1.4: Coordinate rollout for early adopters, CRCOG, CSP	End of 2013 1/1/2014 go live
PHASE 2: 2nd tier rollout of eCrash solutions	
eCrash 2.1: Identify mid-term adopters among law enforcement	Q1 2014
eCrash 2.2: Identify mid-term adopters' support needs	Q1 2014
eCrash 2.3: Develop funding proposals (Section 408 & other)	Mid-2014
eCrash 2.4: Rollout to mid-term adopters	End of 2014
eCrash 2.5: Identify later adopters	Q1 2014
eCrash 2.6: Develop additional/alternative methods of eCrash to serve later adopters	Q1 2014
eCrash 2.7: Develop budget and timeline for aiding later adopters	Mid-2014
eCrash 2.8: Implement alternative solutions	Through 2016?

NOTE: electronic crash data collection efforts include the CRCOG effort described under the heading of MMUCC-compliant data collection. The timeline shown here for eCrash does not follow the CRCOG project timeline, but rather is designed to coordinate with the larger statewide effort towards MMUCC compliance which, as discussed earlier, will happen on a timeline that differs substantially from the CRCOG effort.

Issues:

- This project is clearly tied to the development of the MMUCC-compliant data collection instrument. The suggested timeline uses the adoption of that new system as the launching point for the move toward 100% electronic data collection and transmission. The timeline reflects an overall project for all law enforcement, not the CRCOG plan for their system.
- There are multiple points of coordination between this project and others addressing needs and capabilities of law enforcement agencies for electronic data collection and transmission. These are addressed in the Action Item Tables.

Reduction of the Backlog

UCONN has embarked on a pilot study of 10,000 crash reports from the backlog. The work involves scanning, optical character recognition (OCR), and manual data entry. The pilot test will allow UCONN and CT DOT to determine if the planned completion of 120,000 crash reports within 2012 is feasible. In addition, if the option exists, it would be preferable to avoid costs and expand the breadth of data captured by replacing the paper reports (those sitting in batches at Connecticut DOT) with electronically-submitted reports. At present, this option is not supported by the University of Connecticut's proposal for backlog elimination; however, it must be recognized that until more information is know from the pilot test, the project timeline must be considered preliminary.

Task Listing and projected completion dates:

Task	Completion Date
Backlog 1.0: Initial project proposal	Completed
Backlog 1.1: Pilot test 10,000 crash reports	March 2012 or June 2012
Backlog 1.2: CT DOT decision "go/no go" to complete remainder	April or July 2012
Backlog 1.3: Full project of 60,000 crashes	November 2012

Issues:

- Current data entry staffing levels appear insufficient to ensure that the backlog, once eliminated, will stay gone.
- As the state moves to greater use of electronic submission, the current data entry operation must transition to perform the data quality management roles needed by the system. This need is captured in the project for Data Quality Staff Transition.

Data Quality Staff Transition

Based on multiple projects, it is likely that Connecticut DOT will see a reduction in the number of crash reports requiring manual data entry. This change will happen over time, in discrete steps from the initial implementation of electronic data transfer from CSP and the CRCOG participating agencies, to other “early adopters” and finally to statewide implementation of eCrash solutions for all law enforcement agencies. While it is difficult to know in advance what the expected number of electronic versus paper reports will be in any given year, it is likely that between now and 2016 the data entry workload will drop in each successive year by a substantial amount (25% or more in each year is not impossible). As this drop-off occurs, it is imperative that the crash data management staff transition to completing more of the data quality tasks that are now only partially performed. An additional workload reduction will occur with the implementation of the complete Digital Roadway Network and use of the DRN in field data collection of location information. Currently, staff manually enter location codes whereas after the implementation of the DRN some or all of this effort will be automated. As the data entry and manual location coding efforts are reduced, the staff will need training and a re-emphasis of their duties toward spending a greater proportion of their time on the existing data quality tasks.

Task Listing and projected completion dates:

Task	Completion Date
DQS 1.0: Develop data quality staff job description	End of 2012
DQS 1.1: Coordinate with eCrash deployment to plan FTE transitions to data quality tasks through 2016	End of 2013 with updates in 2014 through 2016
DQS 1.2: Develop data quality staffing plan for near term and long term	By 1/1/2014 (near term)
DQS 1.3: Implement near-term data quality staffing plan	Mid-2014
DQS 1.4: Implement long term data quality staffing plan	2016 or earlier

Issues:

- The first task requires some internal review by Human Resources and others within CT DOT.

eCitation Projects

There are at least four electronic citation projects in Connecticut today, two of which are proceeding in a coordinated manner: the "front-end" system being designed and developed by CRCOG for use by law enforcement agencies, and the "back-end" processes and system being developed by the Centralized Infractions Bureau (CIB) where the eCitations would be delivered for processing and then sent on to the courts. At least two other eCitation projects were initiated in 2011: one included in the 2011 Traffic Records Strategic Plan covering Ansonia, Fairfield, Shelton, and North Branford; the other funded by FMCSA for the Commercial Vehicle Safety Division of the DMV. Other projects *may be* in the works through vendors at individual LEAs, including the CSP.

Task Listing and projected completion dates:

Task	Completion Date
eCite 1.0: Project descriptions	Completed
eCite 1.1: Develop back end system for CIB	
eCite 1.2: Develop front end system at CRCOG	
eCite 1.2a: Incorporate location tool from MMUCC-compliant crash data collection system	Timing to be completed before pilot test in 2013
eCite 1.3: Develop edit check and validation rules	
eCite 1.4: Develop XML data transfer rules	
eCite 1.5: Assess law enforcement agencies' capabilities	End of 2012
eCite 1.6: Develop resource package for vendors and LEAs	Early 2013
eCite 1.7: Pilot test	Summer 2013
eCite 1.8: Plan the sequence for LEAs and courts to go live	End of 2013
eCite 1.9: Assist with equipment purchases and software updates	Mid-2014
eCite 1.10: Develop training	End of 2013
eCite 1.11: Deliver training	2014 and beyond
eCite 1.12: Ongoing implementation	2014 and beyond
eCite 1.13: Integrate with law enforcement agencies' records management systems	2014 and beyond

NOTE: This timeline reflects input from CRCOG and the CIB, but will need to be finalized as those agencies move forward with their projects. Other initiatives (CIDRIS and CISS) also have an impact on these timelines and should be incorporated where they impact the initiatives described here.

Issues:

- Other LEAs (and the CSP) might have unmet needs and/or their own system preferences.
- If multiple 3rd-party vendors are going to get involved, a plan needs to be developed coordinating the vendors and the LEAs
- A vendor guide will be needed to be produced.

Section 2: Action Item Tables

Digital Roadway Network

Crash Data Repository

MMUCC-Compliant Crash Report Form

100% Electronic Submission

Reduction of the Backlog

Data Quality Staff Transition

eCitation

Digital Roadway Network

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
DRN 1.0	Develop project timeline & milestones	None	CTDOT/ James Spencer Mike Connors	2011		Needs updating
DRN 1.1	Complete Interstate DRN	DRN 1.0 (partial)	CTDOT/ James Spencer Mike Connors	2011		Completed
DRN 1.2	Complete other expressways (state routes)	DRN 1.1	CTDOT/ James Spencer Mike Connors	2012 (early)	Within 2012	Partial
DRN 1.3	Complete other state highways	DRN 1.2	CTDOT/ James Spencer Mike Connors	2012 (mid)?	Within 2012?	
DRN 1.4	Complete town roads in HPMS	DRN 1.3	CTDOT/ James Spencer Mike Connors	2012 (late)	Within 2012	
Phase 2: Local Digital Roadway Network						
DRN 2.1	Decide on contract and CTDOT level of effort	DRN 1.4	CTDOT/ James Spencer Mike Connors	*		
DRN 2.2	Design location coding standard	DRN 1.4	CTDOT/ James Spencer Mike Connors	*		
DRN 2.3	Collect local roadway location data	DRN 2.1 and 2.2	CTDOT/ James Spencer Mike Connors	*		
DRN 2.4	Create local DRN	DRN 2.3	CTDOT/ James Spencer Mike Connors	*		

*Dates for these items are left blank here. The possibility of an accelerated plan based on contractor-supplied data/geocoding has been discussed within CTDOT.

Crash Data Repository: Phases 2 & 3

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
CDR 2.1	Develop Proposal	None	UCONN/ Eric Jackson	September 2011		Completed
CDR 2.2	Submit grant application	CDR 2.1	UCONN/ Eric Jackson	September 2011		Completed
CDR 2.3	Establish TAC	CDR 2.2	UCONN/ Eric Jackson	October 2011		Completed
CDR 2.4	TAC user requirements & functionality	CDR 2.3	UCONN/ Eric Jackson	December 2011		Completed
CDR 2.5	Design Updated Crash Data Repository Structure	CDR 2.4	UCONN/ Eric Jackson	12/20/2012	5 weeks/ 2/1/ 2012	
CDR 2.6	Update design for integration of roadway databases	CDR 2.5 and DRN 1.1 (at a minimum),	UCONN/EJ plus CTDOT/J Spencer	2/1/2012	8 weeks/ 4/1/2012	
CDR 2.7	Add new options in data query and analysis	CDR 2.5	UCONN/ Eric Jackson	2/1/2012	12 weeks/ 5/1/2012	
CDR 2.8	Database modification	CDR 2.6	UCONN/ Eric Jackson	4/1/2012	8 weeks/ 6/1/2012	
CDR 2.9	Web access and analysis	CDR 2.7	UCONN/ Eric Jackson	5/1/2012	8 weeks/ 7/1/2012	
CDR 2.10	Web front end application	CDR 2.8 and 2.9	UCONN/ Eric Jackson	6/1/2012	8 weeks/ 8/1/2012	
CDR 2.11	Pilot testing	CDR 2.10	UCONN/ Eric Jackson	8/1/2012	8 weeks/ 9/30/2012	
Launch					9/30/2012	

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
Phase 3 Continuing Tasks: Updates (Not currently budgeted)						
CDR 3.1	Create MMUCC-compliant version of repository databases	CDR 2.11. Same as MCDC 1.9	UCONN, CRCOG, Connecticut State Police	Early 2013	Summer 2013	
CDR 3.2	Incorporate CTDOT State-system Digital Roadway Network (all other state roads)	CDR 2.11 and DRN 1.2 – DRN 1.4	UCONN and CTDOT	2012	2013?	
CDR 3.3	Incorporate CTDOT local roads Digital Roadway Network (full implementation)	CDR 3.2 and DRN 2.4	UCONN and CTDOT	2012	2014?	

MMUCC-Compliant Data Collection

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date*	Current Status
MCDC 1.0	CT DOT Decision	None	CTDOT/Maziarz	1/20/2012	3 weeks 2/7/2012	Completed
MCDC 1.1	Decision on generating a new paper form	None	CTDOT/Wojenski	1/20/2012	By end of 1st quarter 2012	
MCDC 1.2	Data entry design prototype for field use	MCDC 1.0	CRCOG/Donnelly	Early 2012	By mid-2012	
MCDC 1.2a	Develop location tool	MCDC 1.2	CRCOG/Donnelly; Working group to include CTDOT GIS and others	Early 2012	Must be completed before pilot test in early 2013	
MCDC 1.2b	Develop crash diagramming tool	MCDC 1.2	CRCOG/Donnelly	Early 2012	Must be completed before pilot test in early 2013	
MCDC 1.3	Develop edit-check and validation rules	MCDC 1.0	CRCOG/Donnelly CTDOT/Wojenski CSP/Battle	Early 2012	By mid-2012	
MCDC 1.4	XML data transfer rules	MCDC 1.0	CRCOG/Donnelly UCONN/Jackson CSP/Battle	Early 2012	By mid-2012**	
MCDC 1.5	Assess law enforcement agencies and vendors	MCDC 1.3 and 1.4. Same task as eCrash 1.0 and eCite 1.5	CRCOG/Donnelly Plus TRCC, CTDOT, LELs	Summer 2012	By end of 2012***	
MCDC 1.6	Develop resource package for vendors and law enforcement agencies	MCDC 1.5 Could coincide with eCite 1.6	CRCOG/Donnelly	Late 2012	Early 2013	
MCDC 1.7	Design paper form	MCDC 1.1 and 1.5	CTDOT	Late 2012	Early 2013	

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date*	Current Status
	(if needed)					
MCDC 1.8	Pilot test	MCDC 1.2a&b, plus1.6 and 1.7	CRCOG/Donnelly	Early 2013	Summer 2013	
MCDC 1.9	Modify CTDOT and CDR databases	MCDC 1.8	CTDOT and UCONN	Early 2013	Summer 2013	
MCDC 1.10	Schedule rollout of paper (if required) and electronic forms	MCDC 1.9	CRCOG/CTDOT Plus TRCC	Early 2013	Summer 2013	
MCDC 1.11	Develop training	MCDC 1.10	CRCOG/CTDOT CSP	Early 2013	Summer 2013	
MCDC 1.12	Deliver training	MCDC 1.11	CRCOG/CTDOT CSP	Last quarter 2013	Just prior to go live (by end of 2013)	
	Go Live	MCDC 1.12			01/01/2014?	

*All dates are approximate, based on backing up from the assumed “go live” date of January 1, 2014. If “go live” is delayed, it is recommended that project rollout for a major form revision be scheduled for January 1, so the next recommended data (should 1/1/2014 not be feasible) is 1/1/2015. With that change, all other dates should be adjusted accordingly.

**The date for completion of the XML standard may be delayed somewhat depending on release of the MMUCC 4th Edition (currently set for Summer or Fall of 2012). See the MMUCC website (www.mmucc.us) for details.

***Timing set to coincide with the eCitation and eCrash (100% electronic data collection) projects in order to combine all of the planned assessments of law enforcement agencies into a single survey questionnaire. It is recommended that this survey be designed to cover “electronic data collection capabilities” in general as well as the specifics for each of the projects.

100% Electronic Submission of Crash Reports*

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
eCrash 1.0	Assess law enforcement agencies' capabilities, current vendors, ability to adopt eCrash	Same task as MCDC 1.5 and eCite 1.5	CRCOG/Donnelly Plus TRCC, CTDOT (Wojenski), LELs	Summer 2012	By end of 2012**	
eCrash 1.1	Identify early adopters beyond CSP and CRCOG implementation	eCrash 1.0 and MCDC 1.5	CTDOT (Wojenski) /CRCOG/ TRCC	Early 2013	By end of 1st quarter 2013	
eCrash 1.2	Identify early adopters' needs for programming and other assistance	eCrash 1.1	CTDOT(Wojenski) /TRCC	Early 2013	By end of 1st quarter 2013	
eCrash 1.3	Develop Section 408 and other funding proposals to support early adopters as needed	eCrash 1.2	CTDOT(Wojenski) /TRCC	2nd quarter 2013	By Section 408 deadline (mid 2013)	
eCrash 1.4	Coordinate rollout for early adopters, CRCOG agencies and CSP	eCrash 1.3 and MCDC 1.12	CTDOT(Wojenski) /CRCOG/CSP and the TRCC	Last half of 2013	By end of 2013/ 01/01/2014 go live date	
Phase 2: 2nd tier rollout of eCrash						
eCrash 2.1	Identify next group (mid-term adopters) among law enforcement agencies and vendors to implement eCrash	eCrash 1.4	CTDOT/TRCC	01/01/2014	By end of 1st quarter 2014	
eCrash 2.2	Identify mid-term adopters' needs for programming and	eCrash 2.1	CTDOT/TRCC	Early 2014	By end of 1st quarter 2014	

	other assistance					
eCrash 2.3	Develop Section 408 and other funding proposals to support mid-term adopters as needed	eCrash 2.2	CTDOT(Wojenski) /TRCC	2nd quarter 2014	By Section 408 deadline (mid 2014)	
eCrash 2.4	Roll-out to mid-term adopters	eCrash 2.3	CTDOT(Wojenski) /TRCC	Mid 2014	By end of 2014	
eCrash 2.5	Identify late adopter and potential non-adopter law enforcement agencies	eCrash 2.1	CTDOT(Wojenski) /TRCC	Early 2014	By end of 1st quarter 2014	
eCrash 2.6	Develop additional and alternative methods to support eCrash solutions for late- and non-adopters	eCrash 2.5	CTDOT(Wojenski) /TRCC	Early 2014	By end of 1st quarter 2014	
eCrash 2.7	Develop budget and timeline for aiding late- and non-adopter support for eCrash solutions	eCrash 2.6	CTDOT(Wojenski) /TRCC	2nd quarter 2014	By Section 408 deadline (mid 2014).	This initiative may not be funded through Section 408, but it should be included in the Strategic Plan update for that year's funding. A special request may be needed to NHTSA and FHWA.
eCrash 2.8	Implement alternative solutions for the remaining law enforcement agencies	eCrash 2.7	CTDOT(Wojenski) /TRCC	Last quarter 2014	Plan for 1-2 year gradual implementation. End of 2016 as the target date	

*NOTE: for the purposes of this project timeline, it is assumed that there are two distinct projects aimed at electronic submission of crash report data: the first is through UCONN and deals with the current crash report form. The second is a transition to a new MMUCC-compliant form that will be implemented electronically by CRCOG (and others). The project presented in this action item table deals with the process of attaining 100% crash reporting AFTER the completion of the

new MMUCC-compliant form. It involves a transition from current forms and processes to the new form and to electronic reporting for all law enforcement agencies in the State.

**Timing set to coincide with the MCDC and eCrash (100% electronic data collection) projects in order to combine all of the planned assessments of law enforcement agencies into a single survey questionnaire. It is recommended that this survey be designed to cover “electronic data collection capabilities” in general as well as the specifics for each of the projects.

Reduction of the Backlog

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
Backlog 1.0	Initial project description	None	UCONN/ Eric Jackson And CTDOT (Wojenski)	01/15/2012		Completed
Backlog 1.1	Pilot test: 10,000 crash reports	Backlog 1.0	UCONN/ Eric Jackson	1/15/2012	8 – 16 weeks	In process
Backlog 1.2	CT DOT decision	Backlog 1.1	CT DOT/ Wojenski	March 2012	April 2012	
Backlog 1.3	Full program: 120,000 crashes	Backlog 1.2	UCONN/ Eric Jackson And CTDOT (Wojenski)	April 2012	November 2012	

Data Quality Staff Transition

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
DQS 1.0	Develop Data Quality staff job description based on current position descriptions for data entry and QC	None	CTDOT/ Wojenski	01/01/2012	1 year/ 12/31/2012	
DQS 1.1	Coordinate with eCrash deployment to identify data entry reduction schedule through 2016	DQS 1.0 plus eCrash 1.4, 2.4, and 2.8	CTDOT/ Wojenski	01/01/2012	End of 2013 with updates set for end of 2014 through 2016	
DQS 1.2	Develop data quality staffing plan with near-term and longer-term components	DQS 1.1	CTDOT/ Wojenski	Last half of 2013	Six months implementation for planned transition on 1/1/2014 to coincide with early adopters, CRCOG and CSP rollout of eCrash.	The longer-term plan component should carry the agency through 2016 (or whenever the eCrash 2.8 completion date is set)
DQS 1.3	Implement near-term data quality staffing plan	DQS 1.2	CTDOT/ Wojenski	01/01/2014	Mid 2014	This plan needs to allow for gradual transition as the remaining prior year crashes are entered in the current system
DQS 1.4	Implement longer-term data quality staffing plan	DQS 1.3	CTDOT/ Wojenski	Mid 2014	2016	

eCitation

Item Number	Description	Dependencies	Lead Agency/ Contact	Start Date	Duration/ Completion Date	Current Status
eCite 1.0	Project Descriptions	None	CRCOG/Donnelly CIB/Manware CSP/Battle			Completed
eCite 1.1	Develop back end system for CIB	eCite 1.0	CIB/Manware			
eCite 1.2	Develop front end system at CRCOG	eCite 1.1	CRCOG/Donnelly	Early 2012*		
eCite 1.2a	Incorporate location tool from MMUCC-compliant crash data collection	eCite 1.2, Same task as MCDC 1.2a	CRCOG/Donnelly	Early 2012	Timing to coincide with pilot test of the MMUCC-compliant form and associated eCrash software from CRCOG	
eCite 1.3	Develop edit check and validation rules	eCite 1.2	CRCOG/Donnelly CIB/Manware CSP/Battle			
eCite 1.4	Develop XML data transfer rules	eCite 1.3	CRCOG/Donnelly CIB/Manware CSP/Battle			
eCite 1.5	Assess law enforcement agencies capabilities	eCite 1.4. Same task as MCDC 1.5 and eCrash 1.0	CRCOG/Donnelly Plus TRCC, CTDOT, LELs	Summer 2012	By end of 2012**	
eCite 1.6	Develop resource package for vendors and law enforcement agencies	eCite 1.5 could coincide with MCDC 1.6	CRCOG/Donnelly	Late 2012	Early 2013	
eCite 1.7	Pilot test	MCDC 1.6 and eCite 1.2a	CRCOG/Donnelly CIB/Manware	Early 2013	Summer 2013	
eCite 1.8	Plan the sequence law enforcement	eCite 1.7	CRCOG/Donnelly CIB/Manware	Summer 2013	End of 2013	

	agencies and courts to go live		CSP/Battle		
eCite 1.9	Assist with equipment purchases and software updates as needed	eCite 1.8	CT DOT and TRCC	Summer 2013	mid-2014
eCite 1.10	Develop training	eCite 1.7	CRCOG/Donnelly CIB/Manware CSP/Battle	Summer 2013	End of 2013
eCite 1.11	Deliver training	eCite 1.10	CRCOG/Donnelly CIB/Manware CSP/Battle	Early 2014	Ongoing task as new agencies go live
eCite 1.12	Ongoing implementation	eCite 1.9 and 1.11	CRCOG/Donnelly CIB/Manware	Early 2014	Unknown end date
eCite 1.13	Integrate with law enforcement agencies' records management systems	eCite 1.9	CRCOG/Donnelly CIB/Manware	Mid-2014	Ongoing task as new agencies go live

*Start date is set to coincide with development of the MMUCC-compliant data collection (MCDC) system at CRCOG. Timing of eCitation development can differ from MCDC development without affecting the MCDC timeline, however the two software modules will share many components and functionality.

**Timing set to coincide with the MCDC and eCrash (100% electronic data collection) projects in order to combine all of the planned assessments of law enforcement agencies into a single survey questionnaire. It is recommended that this survey be designed to cover "electronic data collection capabilities" in general as well as the specifics for each of the projects.

Section 3: PERT Charts

Digital Roadway Network

Crash Data Repository

MMUCC-Compliant Crash Report Form

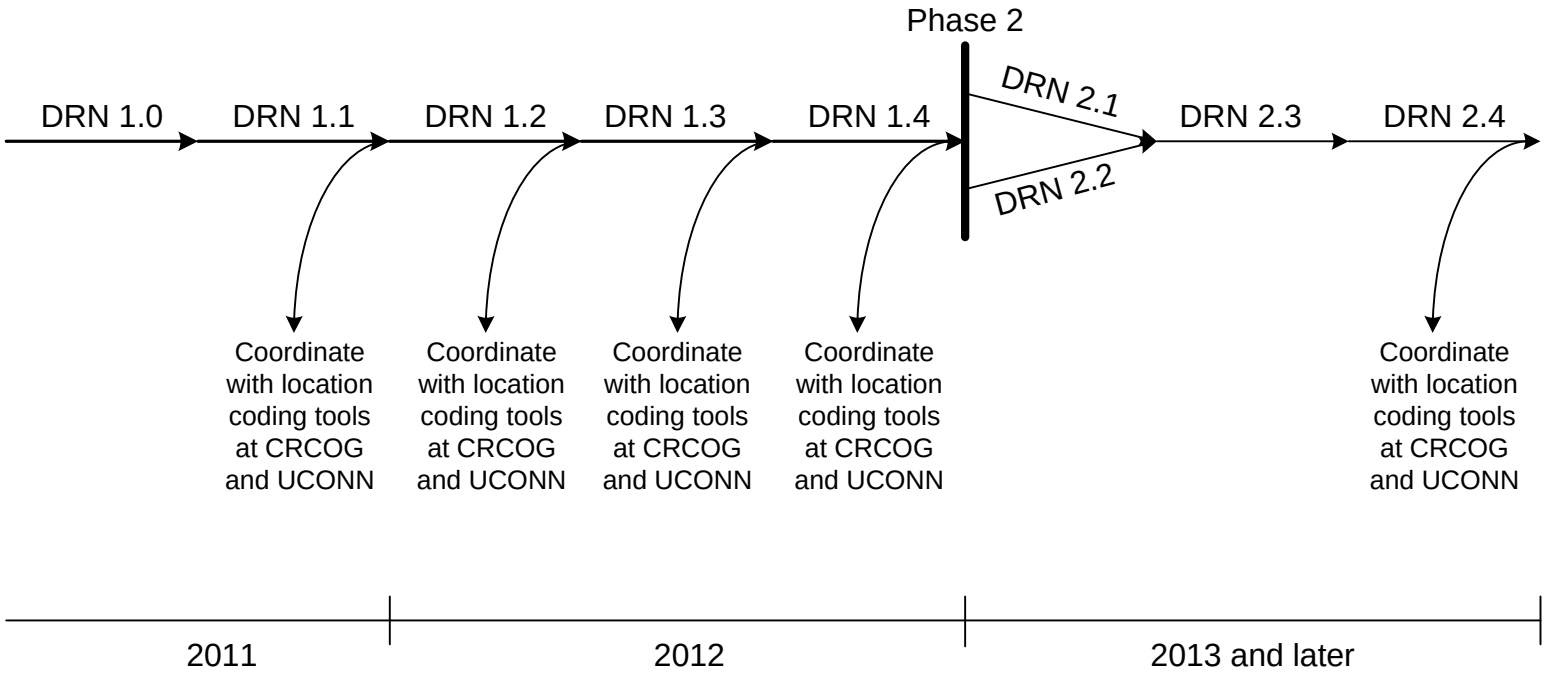
100% Electronic Submission

Reduction of the Backlog

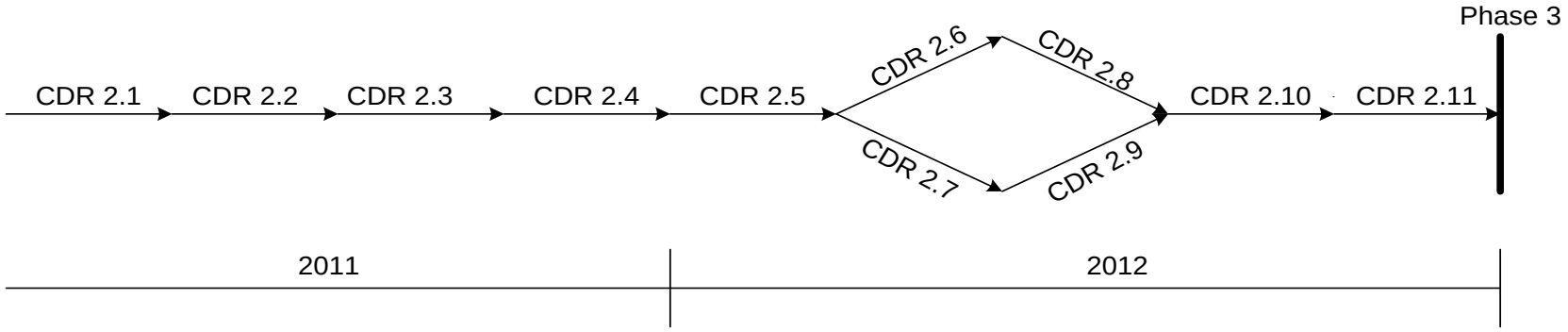
Data Quality Staff Transition

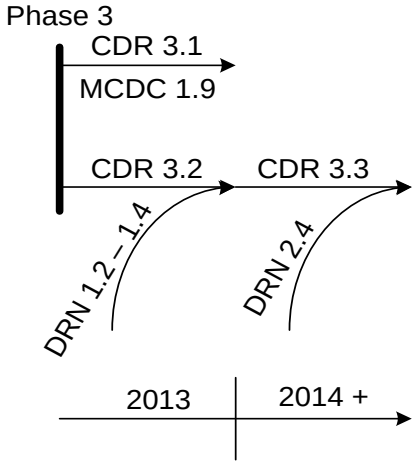
eCitation

Digital Roadway Network

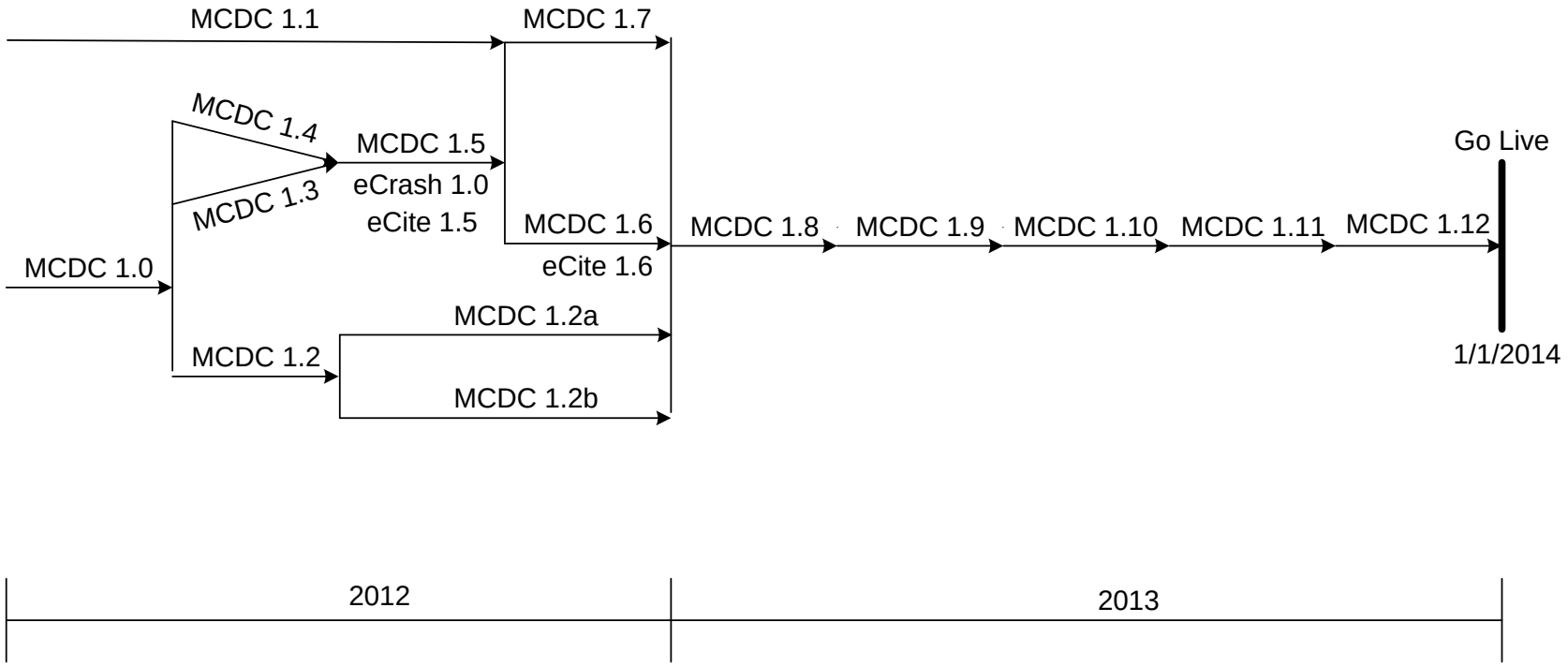


Crash Data Repository

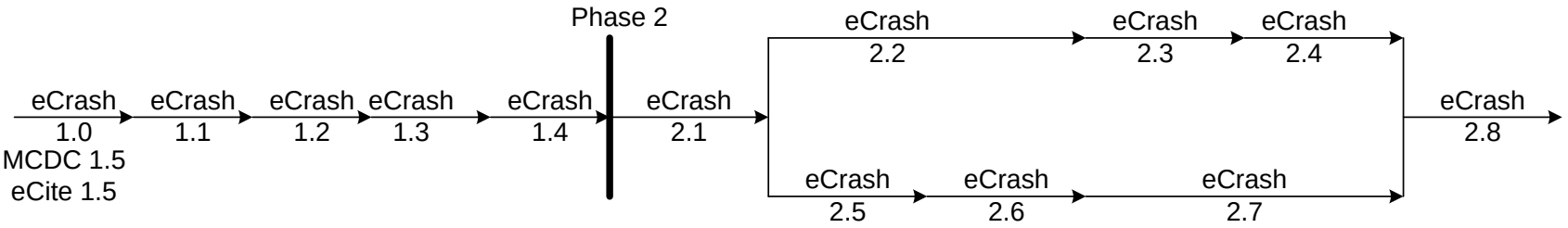


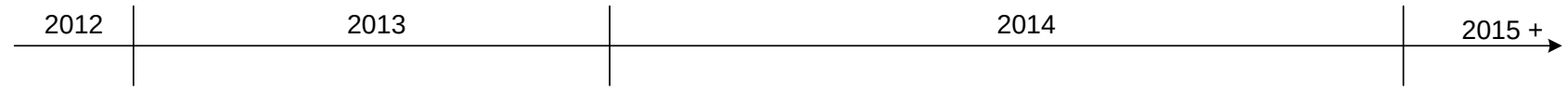


MMUCC Compliant Data Collection

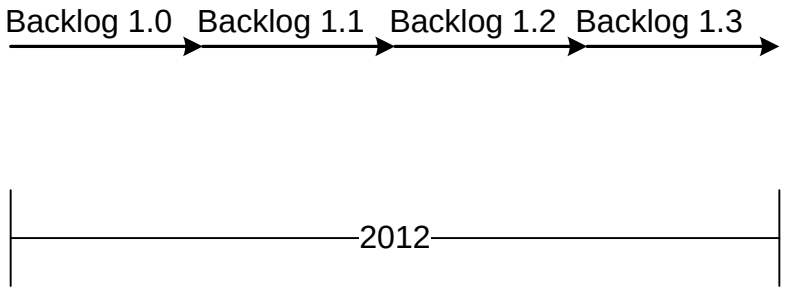


100 Percent Electronic Crash Data

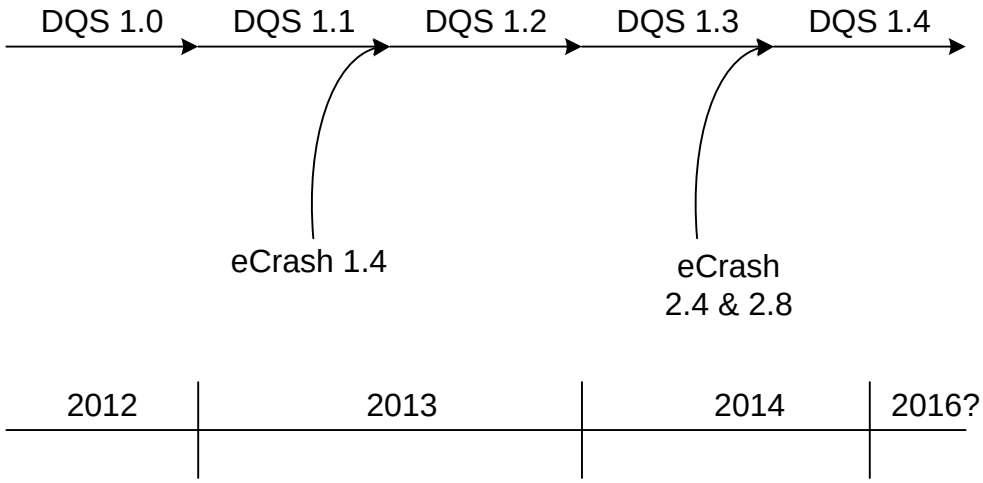


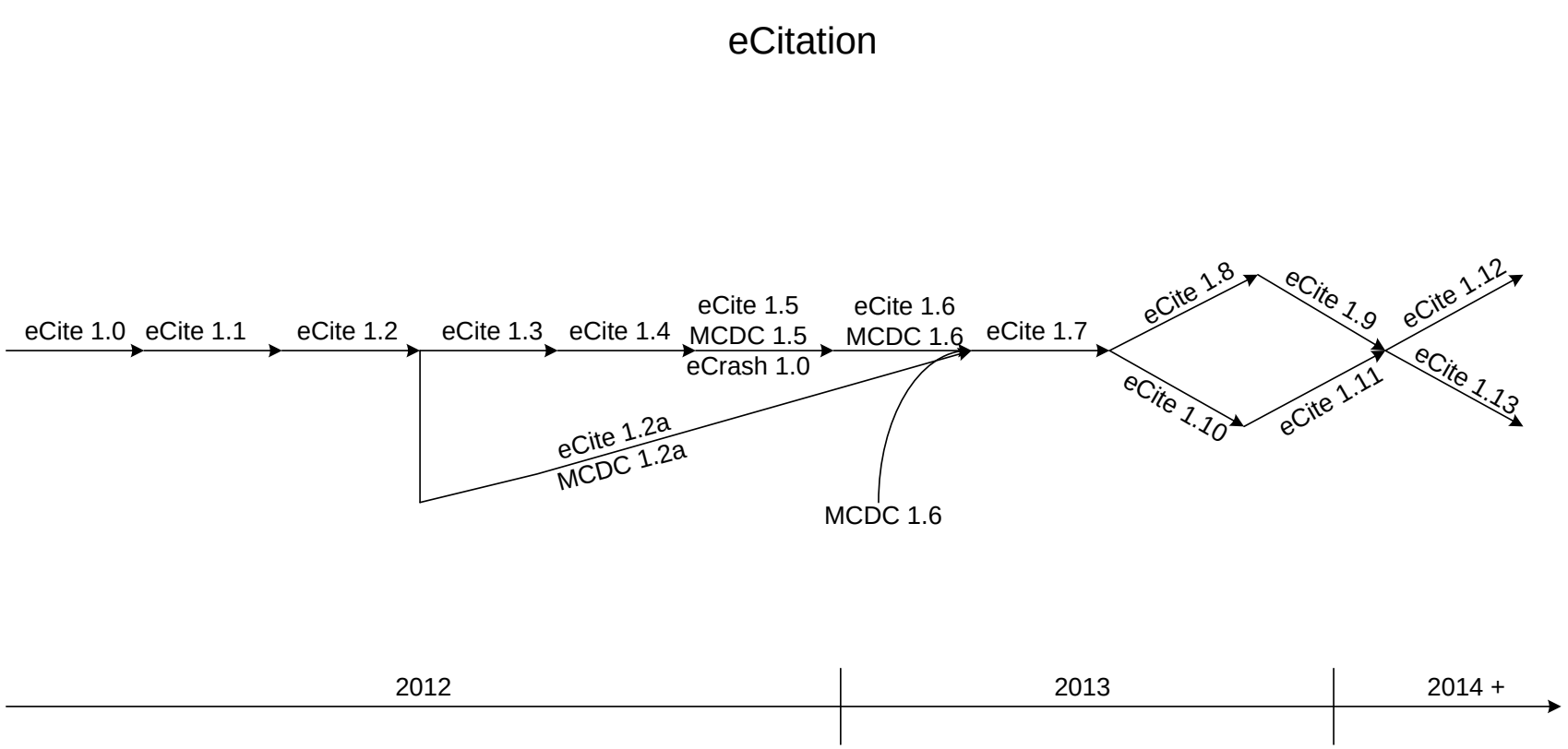


Reduce the Backlog of Crash Reports



Data Quality Staff Transition




eCitation
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eCite 1.1
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eCite 1.5
MCDC 1.5
eCrash 1.0
eCite 1.6
MCDC 1.6
eCite 1.7
eCite 1.8
eCite 1.9
eCite 1.12
eCite 1.10
eCite 1.11
eCite 1.13
eCite 1.2a
MCDC 1.2a
MCDC 1.6
2012
2013
2014 +

Overall, Showing Task Linkages