

Creating the National Criminal Justice Research Data Network (NCJRDN)

1.0 Overview

Context

- There is growing demand for quantitative research in the criminal justice sector (CJS). CJS agencies are increasingly calling on researchers and criminologists to provide the evidence base to enable efficient service provision and for the development of effective crime prevention/ reduction strategies.
- The Australian CJS is 'data rich'. Information is routinely collected on reported crime levels, arrest rates, court processing, sentencing, imprisonment rates and re-offending. These administrative datasets are an invaluable resource for researchers.
- Not all researchers have equal or easy access to such datasets, however. In a handful of jurisdictions, research centres have negotiated with government agencies to gain access to data for research. These centres often 'value-add' to the data and provide a quality assurance function to government.
- Expertise in CJS research across Australia is spread across states and between government and university-based centres and almost all of these are localized (state-based). Quantitative research skills are limited as are opportunities for new researchers with quantitative skills to enter the field and undertake significant projects using high quality cross-jurisdictional data.
- The localized nature of these centres limits opportunities for co-operation in research, as does the limited information about and understanding of relevant datasets across Australian States and the Commonwealth. Consequently, there are few collaborative data-driven projects and lost potential for sharing of skills and ideas. National and/or cross-jurisdictional research projects are difficult to undertake, despite the interest and efforts of organisations such as the Australian Institute of Criminology and the Criminology Research Council to encourage such research.
- It is difficult for researchers who are located outside of these centres to access or use administrative data for research. Government agencies, too, have limited capacity to service the needs of 'individual' researchers. These factors act as major disincentives for new/other researchers to engage in quantitative criminal justice research. As a consequence the "pool" of quantitative researchers in the CJS remains small.

Project description

Broadly, the project seeks to establish a web-based service through which researchers and students can obtain information about, and access to, an array of criminal justice research datasets and tools from across Australia.

1.1 Users

The network would be expected to serve the needs of criminal justice researchers throughout Australia. These include academic researchers (including doctoral candidates, postgraduates and undergraduates in criminology/criminal justice courses and related social sciences studies) and researchers located within government (state and Commonwealth). Some of the main research groups identified are:

- Australian Institute of Criminology (AIC, Canberra)
- National Centre for Crime and Justice Statistics, Australian Bureau of Statistics (NCCJS, ABS)

- Bureau of Crime Statistics and Research, NSW Department of the Attorney-General (BOCSAR)
- Office of Crime Statistics, SA Department of the Attorney-General (OCSAR)
- Crime Research Centre, University of Western Australia (CRC)
- Justice Modelling @ Griffith, Key Centre for Ethics, Law, Justice and Governance, Griffith University (JMAG)
- Centre for Criminological Research & Evaluation, University of Melbourne
- Centre for Excellence in Policing and Security, Griffith University (et al)
- Tasmanian Institute of Law Enforcement Studies, University of Tasmania (TILES)
- Department of Justice, Northern Territory
- Judicial Commission of NSW
- Office of Crime Prevention, WA
- Office of Crime Prevention, NT

1.2 Needs

The proposed project (described below) seeks to address the following needs. At highest level :

- Increase the quantity and quality of CJS research that can be undertaken using administrative data (i.e. capacity build within the CJS research community)
- Promote national-level and cross-jurisdictional CJS research and collaboration

This would be achieved through:

- Increasing the availability of CJS data for research (via “pooling” of currently available administrative datasets)
- Reducing barriers to access - by providing a one-stop e-shop; improving & streamlining data access protocols, etc as per the Australian National Data Service (ANDS) Data Commons framework
- Encouraging the release of data for research purposes by data custodians (by establishing controlled access mechanisms which are ethically sound, maintain the highest levels of confidentiality and yet minimise labour intensive processes)
- Developing minimal standards (as per ANDS Data Commons & ABS National Information Development Plan for Crime and Justice Statistics (NIDP framework, ABS Cat. No. 4520.0)
- Showcasing analytical tools being developed by CJS researchers in Australia
- Developing resources that promote quantitative research skills and interest in CJS issues amongst early career and future researchers.

1.3 Services

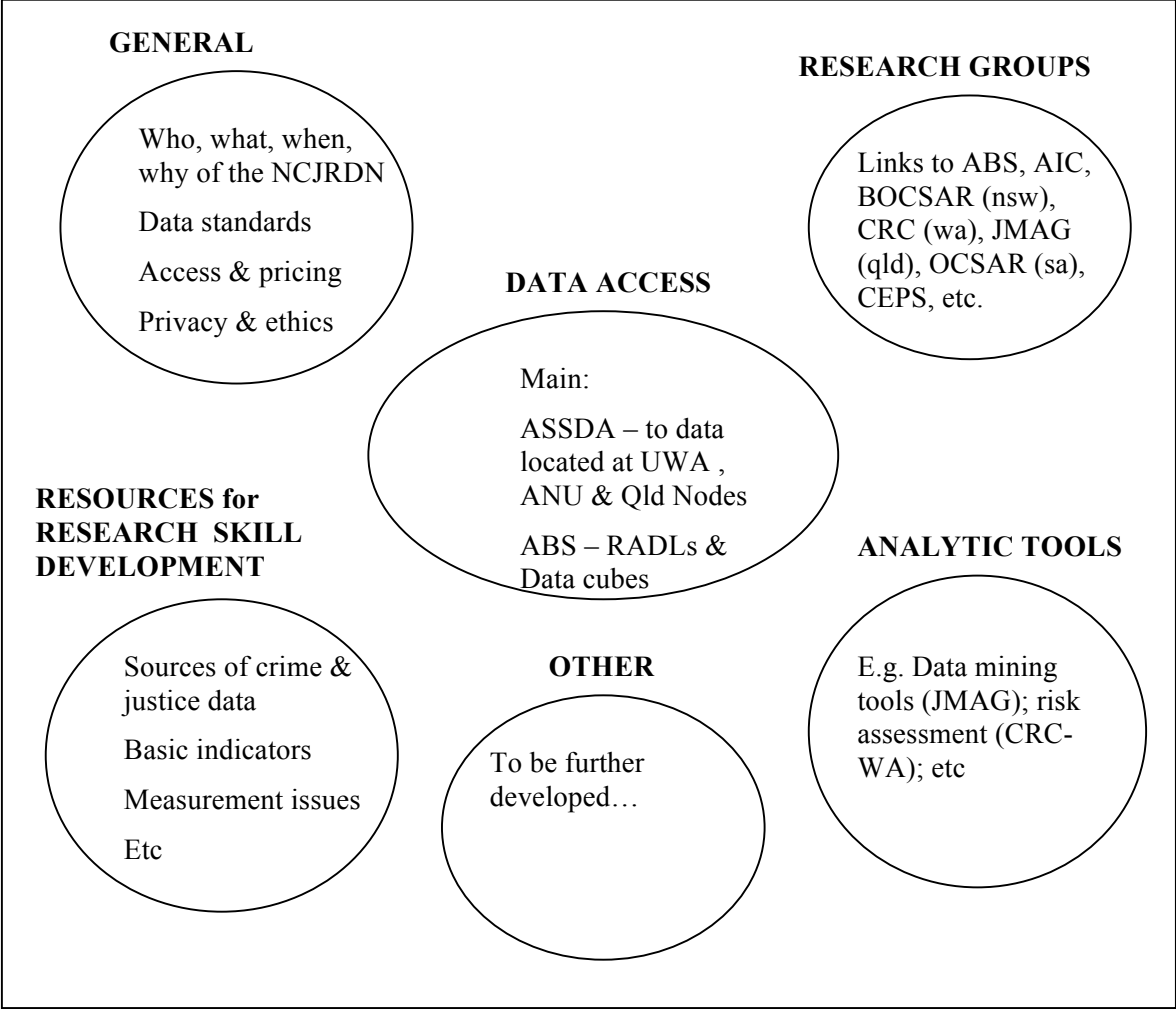
The project seeks to establish a web-based service through which researchers and research students can obtain information about, and access to, an array of criminal justice research datasets and tools from across Australia.

A core function of the service is to provide a streamlined, single-point access to various de-identified, unit-record level research dataset(s) sourced from the administrative systems of CJS agencies in all jurisdictions. Early focus of the project is on securing access to CJS datasets and on preparing these datasets for lodgement into a data repository. The most likely, and preferred, repository for the collection is the Australian Social Sciences Data Archive (ASSDA). This existing national infrastructure has functionalities – such as search and data retrieval services, computation tools & analysis, unit record file data archives and aggregated data (data cube) archives - that are intended to be harnessed by the NCJRDN. Additionally, ASSDA has established processes and protocols that control researcher

access. The NCJRDN project will seek to use (and possibly adapt) these processes to suit researcher needs and to comply with relevant conditions/requirements that may be imposed by data providers/custodians.

In addition to the data access function, the NCJRDN would provide a number of other functions. These are depicted in Figure 1 and described in more detail below.

Figure 1: Major functions of the National Criminal Justice Research Data Network (NCJRDN)



Research Groups – provide links to the major organisations who engage in criminal justice research in Australia.

Analytic tools – provide an avenue through which the utility and functionality of current (and future) analytical tools may be showcased to other researchers and to practitioners in the CJS. A number of tools have already been developed – such as data mining tools (JMAG) and the actuarial risk assessment instrument (AARI) developed by the CRC. There is scope to identify and demonstrate a number of such projects.

Resources for Research Skill Development – Currently, the criminal justice system is characterised by a dearth of professionals with the skills to utilise the rich array of data available. The NCJRDN intends to develop services to improve and increase the research skills of current and future researchers. This would be achieved through the provision of:

- (a) a user friendly interface that will facilitate the access too, and understanding of, the extensive data resources available;

- (b) a comprehensive source of information about criminal justice trends and issues;
- (c) access to exemplary tools allowing researchers to explore the predictive power of existing models and theories of offending, victimisation and criminal justice system processing.

It is envisaged that this component of the network could be further developed to become an invaluable teaching resource for academics and those involved in research skills development in the CJS. The project recognises the potential of developing and expanding the proposed resources to include a range of on-line teaching materials and tools for courses that instruct on research methods, crime analysis and quantitative data analysis. However, it should be noted that this potential development work is not part of the current proposal.

Data Access - *the Data Access component of the NCJRDN is seen as a major component of the project.* This component is envisaged as branching into additional pathways – one leading to CJS data that will be lodged with a data repository (such as ASSDA), another leading to ABS-owned Confidentialised Unit Record Files (CURFs), available through the ABS Random Access Data Laboratory (RADL) system, and so on.¹

CJS data to be collected and lodged with a data repository (such as ASSDA) will comprise de-identified datasets (collected at aggregate and/or unit-record level, as appropriate). The CJS datasets will be sourced by, & through, the state coordinating agencies (SCA, see list below). Datasets envisaged to be part of the collection include:

- Police data – recorded crime; arrests
- Court data – Children’s court, adult lower court, adult higher court (offender-based)
- Corrections data – imprisonment, community corrections
- Other – e.g. National Homicide database, National firearms database, etc

Each SCA would be responsible for the provision and support of research datasets that, in turn, are sourced from the administrative systems of CJS agencies within each jurisdiction. It would be the intention of the network to act as an initial aggregation point and then seed to a more functional data repository. It is anticipated that the network would start with a simple register of available datasets hosted by the various state agencies and research groups. The network would then move to a more sophisticated (and likely centralised) repository with browsing and some analytic tools. ASSDA is the project’s most likely and preferred repository; however, should this option not be possible, then the project would seek to set up its own repository. This issue would be explored in more detail during project planning.

Under the proposed service, each SCA is responsible for:

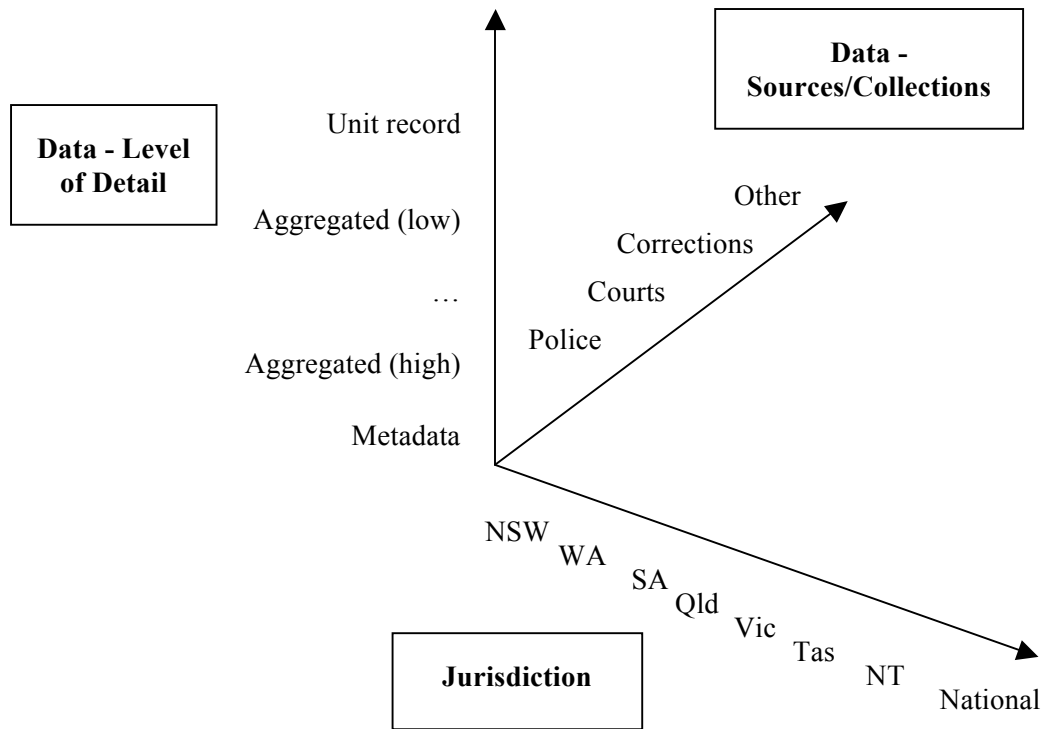
- negotiating with state government agencies for access to data
- provision & support of state-level data & associated documentation to the network
- liaison with other SCAs to develop minimum data standards, access protocols, etc for the effective use of the network
- promoting usage of the data network within its jurisdiction and by other researchers

The Crime Research Centre at the University of Western Australia, would act as lead agency in the development of the network. It would co-ordinate the activities of all other SCAs and, in association with a data repository, oversee the development & implementation of on-line systems, approval processes, etc.

The project foresees that different jurisdictions (and, different data custodians within those jurisdictions) will be in different positions to supply data. Moreover, the level of detail contained in those datasets may vary – some may comprise aggregated data (only), while others may provide information at so-called ‘unit record’ level. The schematic in Figure 2 illustrates these three dimensional aspects.

¹ Note that the ABS CURF/RADL system is already in place but access is restricted to ABS-owned survey datasets. The *Census Act* prevents the ABS from sharing other administrative datasets.

Figure 2: Data availability and accessibility is expected to vary by jurisdiction, by data source and by level of detail.



1.4 Governance

The governance mechanism for the project would follow NeAT guidelines. With regards to Steering Group membership, the following organisations are identified as playing a significant role:

Jurisdiction	Research group	Proposed Role(s)	On-board?
WA	Crime Research Centre, UWA	Lead agency, state co-ordination, steering group rep	Y
NSW	Bureau of Crime Statistics and Research, Dept of A-G	state co-ordination, steering group rep	Y
Queensland	JMAG, Key Centre for Ethics, Law, Justice and Governance, Griffith University	state co-ordination, steering group rep	Y
Victoria	Melbourne Centre for Criminological Research &	state co-ordination, steering group rep	Y

	Evaluation, University of Melbourne		
South Australia	Office of Crime Statistics and Research, SA Dept of A-G	state co-ordination, steering group rep	TBC*
Northern Territory	Department of Justice	state co-ordination, steering group rep	TBC
National	Australian Institute of Criminology	steering group rep	Y
National	ABS, National Centre for Crime and Justice Statistics	steering group rep	Y

* At this stage, we are having on-going discussions with OCSAR and are hopeful of their support and the support of justice agencies in South Australia.

2. NeAT Characteristics

2.1 eResearch effect

It would be expected that the quantity of CJS research projects using the available data would increase. Some benchmarks to measure this could include (a) cross-jurisdictional applications for funding to the ARC and CRC; (b) counts of lodgements of data and/or meta-data on the web-site; (c) measures of activity on, and through, the NCJRDN website; and d) increasing streams and panel sessions at relevant conferences across Australia.

2.2 Broader adoption

Additional communities that are expected to derive direct benefit from the project are:

(a) research communities outside the core centres involved in the project and with interests overlapping with but not limited to the CJS – eg Justice Health researchers interested in offender morbidity and mortality, offender drug use etc; (b) international agencies interested in collaborative research; (c) agencies with strong interests in CJS system operation but little data – eg domestic violence prevention agencies,

In addition, and through the development of teaching resources, the project expects to improve the research skills of students, allowing them to move into professional roles in the criminal justice (and related) sectors having gained a greater appreciation of, and practical experience in, the use of evidenced based decision-making.

2.3 Value adding

Perhaps the most appealing aspects of project are its integrative aspects – making use of existing data repository infrastructure (such as the capabilities of ASSDA) and previous ABS and AIC initiatives to ensure that the network and its data are ‘bound together’ in a field of study that easily can be scattered. To date, the ABS national role has been confined to data management, while the AIC has been mainly concerned with analysis and research on issues of Commonwealth significance; however, what is being proposed fills a gap by establishing "generic technologies" in the domain of state and territory governments. Moreover, the project’s teaching aspect and development of new researcher opportunities will help to ensure that ‘when it is built, there will be someone to come’.

2.4 Standardisation

The project’s preferred data repository is ASSDA. Its existing (& future) functionalities will eliminate duplication of effort in regards to the development of data browsing, archiving and retrieval mechanisms. In addition, ASSDA has had to address ethical and confidentiality requirements that surround much of the data that researchers would like to access. It has developed access mechanisms that balance the needs of data providers/custodians to

ensure data security, confidentiality of data and control over data release, while at the same time keeping resource impacts at a minimum. Through engagement with ASSDA, it is likely the project's access processes and protocols for researchers would be consistent with those used by other engaging in social science research.

The project will also harness a number of resources which have been developed by the ABS in relation to data collections and standards. These include (but are not limited to)

- key principles, as articulated through the National Statistical Service;
- the National Information Development Plan for Crime and Justice Statistics (ABS Cat. No. 4520.0); and
- various other ABS publications pertaining to data collections and data standards.

The project notes that the ABS has already made significant progress toward data standardisation within the CJS. Through the activities of the National Centre for Crime and Justice Statistics, the ABS has developed counting rules and data standards so as to facilitate the compilation of nationally comparable statistics in relation to reported crime and court finalisations. However, not all CJS data collections have been included in ABS activities and resultant datasets have not been able to be accessed by external researchers. Moreover, efforts so far have centred on issues of national comparability. There is a need to apply data standardisation efforts more broadly so as to facilitate research on other issues and on localised CJS interests. To this end, the project wishes to work with the ABS to apply data standards to other collections, to identify gaps in current standards and develop new standards where none exist.

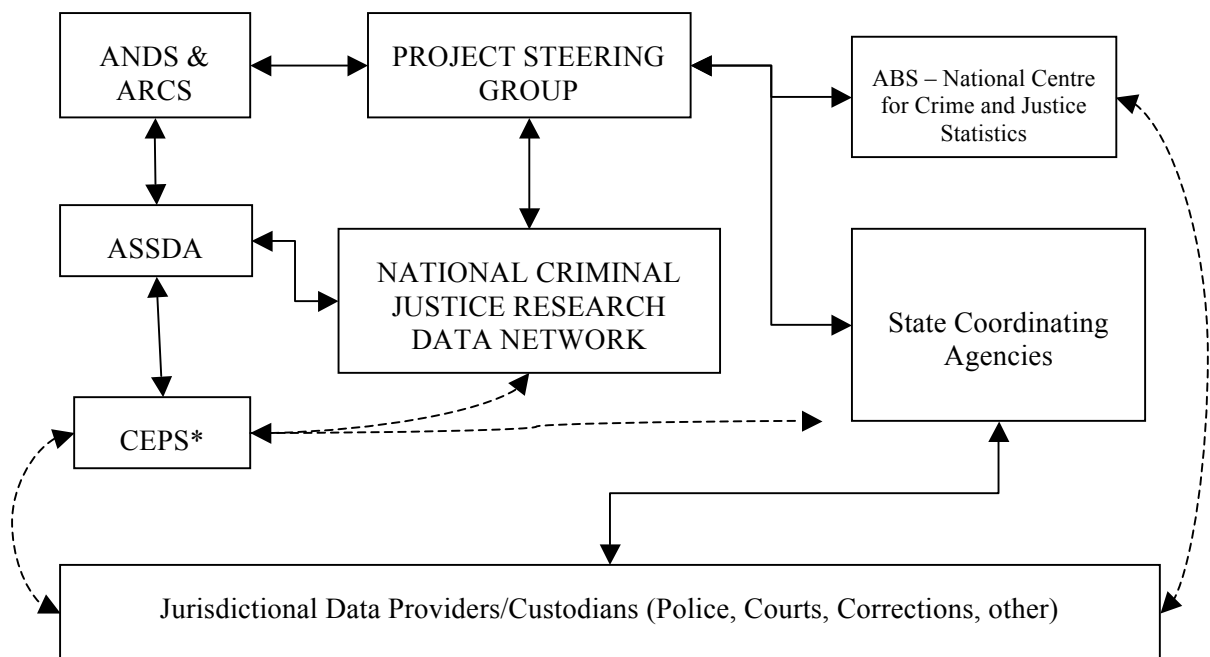
3. Project Scoping

3.1 Key Participants

The establishment of the NCJRDN will involve a number of other institutions and groups (see Figure 2). These include:

- State Coordinating Agencies – these agencies will have a pivotal role in brokering data release/access arrangements with jurisdictional data providers/custodians. Each of these agencies will be represented at Steering Group level.
- ASSDA – given the Project's preference to use ASSDA as its primary data repository/access platform, there will be a need to develop a close relationship between the Project and ASSDA (with central administration at ANU, Canberra and with the University of Queensland Node);
- LIEF-funded research project involving University of Queensland and CEPS – involves the collection and lodgement (into ASSDA) of policing and security data.
- Data providers/custodians – engagement with, and involvement of, these organisations is mission critical. In some jurisdictions, SCAs may have authority to act for/on behalf of data custodians but, more likely, these institutions will be separate and will have individual requirements and issues.

Figure 2: Recognised relationships between the proposed National Criminal Justice Research Data Network and other groups



* As at time of writing, the exact nature of relationships between the Centre of Excellence in Policing and Security, ASSDA and state-based data providers agencies was not known.

3.2 Project Scale

The proposed project would run for 2 years. Costs – as per expenditure table (below):

Table 1: Expenditure

Expenditure	Year 1	Year 2
CASH		
Project Manager (fractional)	50,000	50,000
Programmer(s)	100,000	135,000
Project Officer(s) (fractional)	85,000	40,000
Travel	15,000	5,000
Computer Equipment, Software, etc	10,000	-
IN_KIND		
AIC (0.5 * Research Officer & data contributions)	50,000	50,000
WA CRC (0.2* Principal Research Analyst & data contributions)	30,000	30,000
Qld JMAG (0.2* Research Officer & data contributions)	16,000	16,000
NSW BOCSAR (0.2* Research Officer & data contributions)	20,000	20,000

OCSAR (SCA involvement - TBC)	10,000	10,000
NT (SCA involvement - TBC)	-	10,000
VICTORIA (SCA involvement - TBC)	10,000	10,000
Total	396,000	376,000

As Table 1 shows, there is significant in-kind co-investment. In-kind contributions comprise mostly the supply of existing datasets (subject to relevant agency approval), meta-data and related documentation; classifications and data standards pertaining to state datasets; and liaison/facilitation with state-based data providers. SCAs would also seek to make available a number of research tools that demonstrate the utility of the available data. Subject to resource and IP constraints, this may include data-cubes/data-mining tools and recidivism/risk assessment applications.²

Table 2: Sources of funding

Sources of funding	Year 1	Year 2
Cash contribution		
NeAT	230,000	230,000
BOCSAR	20,000	0
AIC	10,000	0
In-kind contribution		
AIC (0.5 * Research Officer & data contributions)	50,000	50,000
WA CRC (0.2* Principal Research Analyst & data contributions)	30,000	30,000
Qld JMAG (0.2* Research Officer & data contributions)	16,000	16,000
NSW BOCSAR (0.2* Research Officer & data contributions)	20,000	20,000
OCSAR (SCA involvement - TBC)	10,000	10,000
NT (SCA involvement - TBC)	-	10,000
VICTORIA (SCA involvement - TBC)	10,000	10,000
Total	396,000	376,000

Longer term sustainability

The sustainability and maintenance of the network over the longer term will require supplementary infrastructure funding. While none of this funding has been secured, it is likely to be sourced from several alternative funding streams such as through applications to the Criminology Research Council and the ARC. The potential for service sponsorship through other agencies, such as the AIC and state data providers will also be explored. Further development and/or enhancement of research tools (such as “generic” risk assessment instruments) and teaching tools would also likely be funded through other schemes (e.g. ARC LIEF Grants).

² For example, JMAG in Queensland are just completing a project funded by QCIF (Queensland cyber infrastructure fund) which compares data mining to traditional statistical techniques for examining risk. The Crime Research Centre, UWA, has also developed an actuarial risk assessment model that could be adapted for use within the network.

Routine, on-going supply of data to the repository by data custodians is also a requirement for the long term sustainability of the network. Some custodians, such as BOCSAR in NSW and the Crime Research Centre in WA, are already well-placed to support routine data supply over the longer term. This issue will be further explored as part of the project.

3.3 Major Steps

A staged development is envisaged. The number of participating jurisdictions and the number of available research datasets is expected to grow over the 2-year development period. Initial participation is anticipated from NSW and WA, as these jurisdictions have well-placed research centres (SCAs) with i) pre-existing relationships with data owners/custodians (i.e. government agencies); ii) well-defined access arrangements to administrative datasets; and iii) developed data standards and knowledge of data collections. It is envisaged that, acting as SCAs, these centres would spearhead development in the early stages of the project. Queensland SCA will take a lead role in the development of resources to develop researcher skills.

Assuming July 2009 commencement, the project milestones are described in Table 3.

Table 3: Proposed project milestones

Period	Major Milestones
July 2009	Establishment of project steering committee
August 2009	Completion of detailed project implementation plan
September 2009	Completion of project scoping (including the identification & delineation of boundaries between the NCJRDN project , the Qld-based LIEF project & ABS NCCJS roles & responsibilities)
Dec 2009	Formalisation of data lodgement & associated arrangements with ASSDA (or an equivalent data repository) Completion of environmental scan of available datasets – all jurisdictions
July 2010	Completion of “negotiated access” arrangements re: available datasets – WA & NSW Preparation of data &/or meta-data – NSW & WA Completion of lodgement of NSW & WA data into ASSDA (or equiv) Scoping of ‘analytical tools’ sub-component of portal Scoping of ‘teaching tools’ sub-component of portal (QLD) First release of NCJDN portal
Dec 2010	Completion of “negotiated access” arrangement re: available datasets – remaining states Preparation of data &/or meta-data – other states Development of portal sub-components (‘analytical tools’ and ‘teaching tools’) Second release of NCJDN portal
July 2011	Completion of lodgement of remaining jurisdictional data Completion of portal sub-components (‘analytical tools’ and ‘teaching tools’) Third release of NCJDN portal

3.4 Dependencies

One of the critical dependencies of the project is the relationship that each SCAs has with data providers/custodians. Current relationships are strong but need to be developed further. In particular, there is need to develop or strengthen relationships in jurisdictions where the researcher-base is small or under-developed, such as in Victoria, the Northern Territory and Tasmania. There is also need for further clarification of roles and responsibilities.

Other critical dependencies are:

- the relationship with ASSDA
- engagement of data/custodians at jurisdictional level