SUPPORTING STATEMENT

A. JUSTIFICATION

1. Necessity of Information Collection

The last crime mapping survey conducted by the National Institute of Justice (NIJ) was completed over fifteen years ago in 1998. Many technological advances have occurred in the last fifteen years, especially with geospatial tools, techniques, and methodologies. Updated data on the geospatial tools, technologies, and practices used by the nation's law enforcement agencies is needed to understand how computerized crime mapping is aiding in crime prevention, law enforcement operations, and public safety enhancement. In addition, the potential for expanded use of such capabilities to improve law enforcement efficiency and effectiveness needs to be understood by Federal, State, local, and tribal administrations, criminal justice researchers, and legislative bodies to ensure prudent government investments in these technologies.

By federal law, the mission of the NIJ is to "encourage research and development to improve and strengthen law enforcement."[1] To carry out its mission and accomplish the mandated research, NIJ issues solicitations to develop capabilities that the law enforcement community can use to improve policing. In recent years, NIJ has funded the development of a number of geospatial software tools. NIJ needs the updated information from the proposed information collection to carry out its congressionally mandated mission.

The proposed collection will provide the updated data required for the government to make perceptive investments to meet the needs and enhance the effectiveness of geospatial capabilities to improve public safety. The data from the survey will be publicly available to enable a large number of stakeholders such as Federal, State, local, and tribal administration, criminal justice operations, legislative bodies, and criminal justice researchers to use the data to identity and address gaps, barriers, and potentials of geospatial capabilities to prevent crime, improve law enforcement operations, and enhance public safety.

In line with a core mission objective to improve the criminal justice system NIJ proposes this collection of information to provide timely information regarding the type, extent, and potential of geospatial capabilities in law enforcement agencies. The Geospatial Capabilities Survey includes questions that describe the hardware, software, and resource environment under which the law enforcement agencies conduct computerized crime mapping activities as well as inquiries about how the crime maps are used and the training received by those responsible for spatial analysis. While this first set of questions are factual in nature, the questionnaire also contains six questions that ask about the law enforcement agency's needs and interest in expanding the use of geospatial capabilities. The result of the collection of information will provide data to better understand the needs and potential of geospatial capabilities in the law enforcement

1 Omnibus Crime Control and Safe Streets Act of 1968, P.L. 90-351, Part D, Section 402.

community. It will also help shape strategic planning at all levels of government to support research, development, testing, and evaluation of tools and technology; training; and other forms of investment for Federal, State, local, and tribal agencies regarding use of geospatial capabilities. NIJ is authorized to pursue this activity by the Omnibus Crime Control and Safe Street Act of 1968, as amended (42 U.S.C. 3722), which provides for NIJ to improve the functioning of the criminal justice system

As a consequence of this proposed collection of information, NIJ is authorized to make recommendations for action which can be taken by Federal, State, local, and tribal governments and by private persons and organizations to improve and strengthen criminal justice system. NIJ is also authorized to engage in research and evaluation to understand technology used within the criminal justice system that is designed to promote better functioning of the system, which includes critical technology. The results of this proposed collection of information and follow-on analysis will better inform strategies to improve public safety by identifying gaps and challenges to maximizing use of spatial analysis tools and techniques to prevent and solve crimes as well as increase the efficiency of law enforcement operations. The potential benefits associated with the proposed collections of information outweigh the burden given the widespread impact of this study for the nation's law enforcement community.

2. Needs and Uses

The proposed data collection is motivated in response to the identified need for updated data on crime mapping use and potential to increase the effectiveness and efficiency of law enforcement operations. By federal law, NIJ is charged a mission to "encourage research and development to improve and strengthen law enforcement." To carry out its mission and accomplish the mandated research, NIJ issues solicitations to develop capabilities that the law enforcement community can use to improve policing. Without updated data on how spatial analysis tools and techniques are and can be used in the nation's largest police departments, it is difficult for NIJ to design solicitations to meet the spatial analysis needs of law enforcement agencies. Without updated data, NIJ can only base its annual solicitations on conjectures of what the law enforcement community's needs are in this area. With the collected data, NIJ will be able to design solicitations that meet the law enforcement community's needs to expand and fully realize the potential of spatial analysis to prevent and solve crimes. Through cooperative agreement 2010-IJ-CX-K007 with NIJ, the National Law Enforcement and Corrections Technology Center's (NLECTC) Information and Geospatial Technology Center of Excellence at the RAND Corporation will conduct the collection of information and provide the initial research products from the data. The goal of this present study is to gain an understanding of how geospatial tools and techniques are being used in the nation's largest law enforcement agencies and determine what the needs are to expand and achieve the full potential of these techniques to improve public safety.

Users of NIJ Data on Geospatial Capabilities

A wide variety of stakeholders in Federal, State, local, and tribal government administration, criminal justice operations, and legislative bodies will be able to use the

data collected to understand the uses and potential uses of geospatial tools and techniques to guide decision making going forward. The beneficiaries of this information include NIJ, who is supporting this effort, as well as other Federal Executive Branch agencies, U.S. Congress, and State, local, and tribal law enforcement agencies. In addition, geospatial tool developers and researchers in academia will also gain a clearer understanding of the gaps, barriers, and potential of computerized crime mapping capabilities. Examples of users and uses of these data include the following:

U.S. Congress—Congress provides support to NIJ to perform functions related to criminal justice system research, development, and evaluation. Having clear and current understandings of geospatial tool use by the nation's largest law enforcement agencies and the potential of these techniques are directly related to that goal. The proposed survey and analysis of the data can be used to inform Congress to provide a better sense of what sort of Federal support might be required to improve public safety through harvesting the full potential of spatial analysis tools and techniques and migrating the knowledge to all of the nation's law enforcement agencies.

National Institute of Justice—NIJ will be a primary consumer of the information provided by the proposed data collection to help identify research needs and priorities pertaining to law enforcement use of spatial analysis techniques. NIJ maintains a primary emphasis on the needs and requirements of Federal, state, local and tribal criminal justice systems in how it prioritizes a balance between basic and applied research to support improved outcomes for practitioners.

To meet the operational challenges encountered by criminal justice practitioners, NIJ seeks input and information from representative stakeholders across the criminal justice enterprise. This material is used in part to determine technological gaps that can benefit from investment in research, development, test, and evaluation (RDT&E) or other activities. NIJ has funded over a dozen geospatial software tool developments since the last crime mapping data collection and are the primary user that will scrutinize the information provided by the proposed data collection. NIJ regularly releases competitive solicitations that address identified gaps from which Cooperative Agreements are generally awarded after peer review of applications to performers who provide innovative proposals that address the requirements identified in the solicitations.

State and Local Law Enforcement Agencies—While the nation's largest law enforcement agencies—those with one hundred or more sworn officers-- are the respondents of the proposed collection of information, law enforcement agencies of all sizes would benefit from the information provided by the survey. These data will be directly used by all law enforcement agencies to learn how spatial analysis is being carried out by peer organizations and gain an understanding of how such capabilities can make individual agencies more efficient and effective in accomplishing their local public safety mission. Administrators and policymakers will have rigorous data to promote further investments in geospatial capabilities to overcome barriers and fill gaps that prevent full realization of the potential of spatial techniques to enhance public safety.

State legislatures, municipal councils, and city and county managers—Policymakers

and budget planners would also benefit from the information provided by the survey. Geospatial tool use can be influenced by both policy and technology, and any improvements suggested by the survey data will require close assessment by State and local government bodies to coordinate efforts to improve public safety.

Office of Justice Programs (OJP)—Components in OJP other than NIJ could benefit from the information provided by the survey. The Bureau of Justice Assistance (BJA) provides support at the state, local, and tribal levels to improve the criminal justice system. BJA provides national leadership in criminal justice policy, training, and technical assistance to further the administration of justice and coordinates and administers all state and local grant programs. The Bureau of Justice Statistics (BJS) can utilize the data in the context of the statistics it collects to better understand the criminal justice system. The results of this survey will provide updated input for analysis and improvement of public safety through full realization of the potential of geospatial capabilities applied to law enforcement.

Various stakeholders in industry and academia—The proposed collection of information will help geospatial tool developers by providing insight into the needs of the law enforcement community to fully realize the potential of these techniques to improve public safety. The data and resulting analysis will fill also a void in the research literature on current information regarding the use of geospatial capabilities by law enforcement and would be of great use to researchers in the academic and non-profit communities to guide their innovation and investigations.

Recommendations from research stemming from the data collection will be disseminated in two ways. The collected data will be available for public use on the National Archive of Criminal Justice Data (NACJD) website through the Interuniversity Consortium for Political and Social Research (ICPSR) program at the University of Michigan (http://www.icpsr.umich.edu/icpsrweb/NACJD/). NIJ uses NACJD to archive data collected through its grant programs. Researchers, industry, the law enforcement community, and all interested parties will have free access to the collected information to serve any number of purposes from evaluations, to innovations, collaborations, and new applications of geospatial capabilities. In addition, a report on how geospatial tools and techniques are being used in the nation's largest law enforcement agencies and the needs for expanding and achieving the full potential of these techniques to improve public safety will be publicly available. This report will offer the first multi-dimensional view in fifteen years of the geospatial tool use environment in the law enforcement community. The report will document views of current practices to target visions of the potential geospatial capabilities in the law enforcement community. The analysis in the report will identify for administrators and policy makers key geospatial gaps and needs of the nation's largest law enforcement agencies.

3. Proposed Survey Instruments

The *Geospatial Capabilities Survey* is a questionnaire composed of thirty-nine questions. All state and local law enforcement agencies with one hundred or more sworn officers will be invited to participate in the survey. The list of law enforcement agencies with one

hundred or more sworn officers was compiled internally by the BJS at the request of NIJ. BJS used the 2008 Law Enforcement Management and Administrative Statistics (LEMAS) sampling frame to generate the list of nine hundred and seven law enforcement agencies with one hundred or more sworn officers.

The invitation to participate will be addressed to the head of the law enforcement agency (e.g., police chief, sheriff). Participation in the survey is voluntary and the head of the agency can decide the extent the agency will or will not participate and designate who will provide the voluntary responses. The survey is informally divided into three parts: Requests for identification information, questions applicable to all invited participants, and questions applicable to those law enforcement agencies who currently perform computerized crime mapping in-house.

Requests for Law Enforcement Agency Identifying Information

Three requests for identifying information precede the survey questions. These identification requests include the law enforcement agency's Originating Agency Identifier (ORI #), the official name of the law enforcement agency, and the point of contact for clarifications to survey responses.

Questions Applicable to All Participants

The first eight survey questions are applicable to all invited survey participants. The first question asks about the how the law enforcement agency stores crime data. The second question asks how many crime analysts perform in-house crime analysis and how many of those perform spatial analysis.

Six questions then ask about the extent of crime mapping use at the law enforcement agency and the agency's level of interest in a variety of options for enhancing the use of computerized crime mapping at the agency. These questions are followed by a question on whether the agency currently performs in-house computerized crime mapping. If the agency does currently perform computerized crime mapping, then the participant is instructed to continue with survey. If the agency does not currently perform computerized crime mapping in-house, then the participant is directed to skip to the last question of the survey to enter any comments or elaborations on the law enforcement agency's responses or additional thoughts on the use of crime mapping techniques.

Questions Applicable to Law Enforcement Agencies that Currently Perform Computerized Crime Mapping In-house

The next two questions ask how long the law enforcement agency's spatial analysts have been performing in-house spatial analysis for the agency and the academic qualifications of the agency's spatial analysts.

The next four questions ask what the law enforcement agency uses the spatial analysis for, how many units use the spatial analysis, when the agency produced its first computerized crime map, and the methods the agency uses to conduct hot spot analysis.

These questions are followed by three queries on the type of training the spatial analysts received, the types of maps produced and how the agency uses the crime maps. The survey then asks what crime mapping software the agency uses, what types of hardware the agency's crime mapping software is installed on, and the crime mapping data is stored.

Four questions ask about geocoding at the law enforcement agency, followed by a question about internal and external requests for the law enforcement agency's crime maps. The survey then asks how often the law enforcement agency generates crime maps and how long and for what years the agency keeps geocoded data. These questions are followed by queries about the availability of the agency's geocoded crime data to external parties and if the agency uses any external data sources in conjunction with its geocoded data. The survey then asks about any data sharing or collaborative arrangements the law enforcement agency has to work with other groups to conduct crime mapping analysis. The survey participant is also asked to name any agency crime mapping listserv subscriptions.

The next three questions ask about external funding the agency has received to support crime mapping, the level of internal and external support the agency has for crime mapping, and the agency's current annual budget for crime mapping technology.

The agency is invited to submit a typical map used by the agency and the most useful map produced by the agency. Finally, the last question on the survey invites the participant to share any further comments or elaborations pertaining to the survey or the agency's use of computerized crime mapping.

Post Data Collection Analyses

The RAND Corporation will review and compile the collected data. They will follow up on any needed clarifications and build the aggregate database. RAND will also conduct post-data collection analysis and document the analysis in a publicly available report. The collected data from the submitted responses will be made available by Originating Agency Identifier in a publicly available database on the National Archive of Criminal Justice Data (NACJD) website through the Inter-University Consortium for Political and Social Research (ICPSR) program at the University of Michigan (http://www.icpsr.umich.edu/icpsrweb/NACJD/).

Most of the analyses performed by RAND of the proposed data collection will be descriptive and exploratory in nature. The distribution of the data will be examined and descriptive statistics such as frequencies, measures of central tendency, and measures of dispersion will be developed as appropriate. RAND will also synthesize and assess text responses provided either for clarification or as the participants' answers to questions where text responses are a choice. Analysis and coalescing of responses to related questions will be performed to derive insights from the collective set of inputs. In addition, the quantitative measures and insights will be evaluated and integrated into a holistic view of the state of spatial capabilities and use in the nation's largest law enforcement agencies. RAND will extrapolate its findings to generate recommendations

for government actions (e.g., NIJ solicitations) to further the use of spatial capabilities for improved law enforcement operations.

Uses of Information Technology to Reduce Burden

RAND will offer electronic and paper versions of the questionnaire to allow each law enforcement agency to choose the means most convenient for it to participate in the survey. Electronic versions can be returned by e-mail and paper versions can be returned by mail in a self-addressed stamped envelope (SASE) that will be mailed out with each paper questionnaire. It is estimated that completion of the geospatial capabilities questionnaire will take about 50 minutes to complete.

The electronic version of the questionnaire will be in the form of an Excel workbook. Participants will need access to Microsoft Excel 2007 or more recent for Windows computers (PC) or Microsoft Excel 2011 for Apple computers (Mac) to use the electronic version of the survey. Since Excel is included in the Microsoft Office suite commonly in use throughout government and business enterprises, we believe that most, if not all, of the nation's largest law enforcement agencies will have access to Excel. The Excel workbook with the survey questionnaire will have two worksheets. The first worksheet will provide written instructions and contact information for further assistance. The second worksheet will be the electronic form of the questionnaire. The Excel workbook will be posted on a website. For security purposes, invited participants will receive the website address, login name, and password on their invitation letters. Once logged in, the invited participant can download the Excel workbook, request or decline a paper version of the questionnaire, or decline the invitation to participate. Those invited participants who do not decline the paper version will receive a paper version by mail regardless if they have downloaded the Excel version. If an invited law enforcement agency elects to decline the invitation, that agency will not receive a paper version of the questionnaire. If a participant declines the invitation to participate, but later decides to participate, that agency can log in again at the website with the login and password provided in the invitation letter and download the questionnaire or request a paper copy by mail. The option to rescind a declination to participate will be available until the last day of the survey, TBD date here.

The electronic instrument is an important option for respondents. This mode offers cost efficiencies by reducing the need for hardcopy processing. High-quality data are collected through an intuitive design, and a user-friendly interface. No special hardware is necessary to provide information for this data collection.

4. Efforts to Identify Duplication

There will be no duplication of effort based on the nature and scope of this survey. The information sought is not obtainable from any other data source. Our review of the literature has revealed no similar surveys of this detail or scale since 1998.

5. Minimizing Burden on Small Businesses

Not applicable. Information will not be gathered from small businesses.

6. Consequences of Not Conducting Collection

This data collection will be the first and only source of national-level data on the use of geospatial capabilities by the nation's largest law enforcement agencies in more than fifteen years. Similar data has not been collected since 1998. If the proposed data collection is not conducted, the stakeholders will be unable to draw on the data to develop policies and make decisions on government actions aimed at improving public safety through use of geospatial capabilities.

7. Special Circumstances

There are no special circumstances that would require a respondent to report more than once, report in less than 30 days, retain records over three years, or in any other foreseeable way increase the respondent's burden to provide the requested information.

8. Public Comments and Consultations

The research under this clearance is consistent with the guidelines in 5 CFR 1320.8(d). The 60-day and 30-day notices for public comment have been published in the Federal Register (Volume 78, Number 156, Page 49288 on August 13, 2013 and Volume 78, Number 207, Page 64013 on October 25, 2013, respectively). During the development phase, NIJ, BJS, and NRL reviewed the questionnaire and provided feedback to RAND. RAND also selected law enforcement agencies to participate in a pilot study in which the questionnaires and data collection protocol were tested. Respondents from the pilot provided detailed feedback on the survey. Please see the Pilot Test Report in Attachment 3.

RAND's points of contact at involved organizations are as follows:

(1) Joel Hunt
National Institute of Justice
Room 7324
810 7th Street NW
Washington, DC 20531

9. Provision of Payments or Gifts to Respondents

Respondents will not be offered an incentive.

10. Assurance of Confidentiality

The proposed data collection will be performed by RAND under cooperative agreement 2010-IJ-CX-K007 with NIJ. Work performed under this award is subject to 42 USC

3789g and Department of Justice regulations 28 CFR 22 and 28 CFR 46. The data collection plan has been reviewed and approved by an Institutional Review Board (IRB) and accepted by NIJ. Respondents will be informed in the invitation letter that survey participation is voluntary and that responses from submissions will available by Originating Agency Identifier (ORI) on a publicly accessible database. The project has a Privacy Certificate approved by NIJ that includes information about the data collection plan, data security, data access, data retention, and data disposition.

11. Justification for Sensitive Questions

Most of the items on the survey are about geospatial tool use, are factual in nature, and are not of a sensitive nature. Five questions involve a response that indicates the official law enforcement agency position on matters such as interest in possible training opportunities. In the absence of an official agency position on these questions, the participant is asked to provide responses based on the opinion of the manager with authority on the topic. The participant is not asked to indicate whether the response is an official agency position or the opinion of the manager with authority and is not asked to further specify or identify the manager with authority. These questions are necessary to help the government (e.g., NIJ) gauge what factors are preventing full utilization of computerized crime mapping and interest in various forms of training opportunities. Without these questions, the government, and specifically NIJ, will not be able formulate program and solicitation decisions based on crime mapping needs and priority data from the law enforcement community.

One additional question asks how much internal and external support there is for use of computerized crime mapping at the agency. Again, no identification of origin or source of the responses is asked. The government, and specifically NIJ, needs this information to formulate strategies that best complement the support environment within which the nation's largest law enforcement agencies operate with respect to support for use crime mapping techniques.

12. Estimate of Respondent Burden

The level of effort necessary to complete the survey was assessed during a pilot test of the geospatial capabilities survey in 2013. Key elements of the pilot testing and the results are summarized here and also discussed in Section B.4. Please see Attachment 3 which contains the Pilot Test Report. A convenience sample was used for the pilot test based on recommendations from RAND and NIJ. Participants were asked to complete and return the survey and a Pilot Test Evaluation form. Nine participants completed the questionnaire and evaluation form.

Based on the pilot test results, participants completing the questionnaire finished the survey in 49 minutes on average, with a range of 20 to 90 minutes. The median time was 45 minutes and the dual mode times were 20 minutes and 90 minutes. The administration times for the surveys are displayed in Table 1 below.

Table 1. Administration time for the *Geospatial Capabilities Survey*.

Participant	Geospatial Survey Administration Time
Alexandria	90 minutes
Hennepin County	90 minutes
Jefferson County	60 minutes
King County	20 minutes
Maricopa County	28 minutes
Orange County, CA	20 minutes
Orange County, FL	30 minutes
Pierce County	45 minutes
San Diego County	54 minutes

Based on the pilot testing, the following burden statement will be included with the *Geospatial Capabilities Survey*:

Burden Statement

Under the Paperwork Reduction Act, we cannot ask you to respond to a collection of information unless it displays a currently valid OMB control number. The survey will be sent to law enforcement agencies that had one hundred or more sworn officers as determined by the Bureau of Justice Statistics 2008 Law Enforcement Management and Administrative Statistics sampling frame. The average time required to complete the survey is estimated at 50 minutes. Send comments regarding this burden estimate or any aspect of this survey, including suggestions for reducing this burden, to Office Director, Office of Science and Technology, National Institute of Justice, 810 Seventh Street, NW, Washington DC 20531. Do not send your completed form to this address.

13. Estimate of Cost Burden

The geospatial capabilities questionnaire will be sent to all of the 907 state and local law enforcement agencies that the Bureau of Justice Statistics 2008 Law Enforcement Management and Administrative Statistics sampling frame shows had one hundred or more sworn officers. The invitation to participate will be addressed to the head of the law enforcement agency (e.g., chief of police, sheriff). The head of the law enforcement agency can designate whomever he/she chooses to complete the questionnaire. It is anticipated that the questionnaire will take approximately 50 minutes to complete for a total of 755.8 hours.

The anticipated times involved per activity are summarized in Table 2 below.

Table 2. Reporting times for the geospatial capabilities survey is about 50 minutes:

	Number of Participants	Duration (minutes)	Total Hours
Geospatial Capabilities survey	907	50 minutes	755.8
Total			**755.8**

The questionnaire will be filled out by one or more facility administrators or law enforcement agency employees. We estimate the cost as equivalent to a base GS level 13/Step 1 ($71,674 per year or $34.46 per hour). This activity (questionnaire completion and return to RAND) is estimated to take approximately 50 minutes to complete, yielding a cost of $28.72 to the respondent. For all 907 respondents, the total estimated cost would be $26,045.00.

14. Cost to Federal Government

This Paperwork Reduction Act (PRA) clearance request to OMB encompasses a survey collection that accounts for unique costs to the government. RAND was competitively awarded a cooperative agreement (2010-IJ-CX-K007) to host the Information and Geospatial Technologies Center of Excellence. The geospatial capabilities survey is one of four tasks funded by the FY13 supplemental funding for Information and Geospatial Technologies Center of Excellence cooperative agreement. Assuming that the four funded tasks require approximately the same cost, approximately $375,000 was included in the award for RAND to conduct a nationwide survey to identity the nature and maturity of the existing geospatial capabilities used by police. A no-cost extension to the FY13 award allows RAND to continue the geospatial capabilities survey task in FY14. RAND is responsible for all programmatic aspects of the research project and development and administration of the data collection instrument. NIJ staff provides award oversight, project-level feedback on the data collection instrument, guidance and advice on developing materials required for OMB clearance, and coordinate the clearance of the PRA package.

Based upon 2013 and projected 2014 NIJ salaries and expenses along with the award amount to RAND for the survey, the costs to the government is estimated at $381,935. The estimated costs are divided between NIJ costs ($6,935) and RAND costs ($375,000), both of which include salary, fringe, and overhead. Table 3 below shows a cost breakout:

Table 3. Estimated costs for the Geospatial Capabilities Survey.

NIJ costs	
Staff salaries	
GS-13 Physical Scientist (3 weeks FY14)	$5,137
Subtotal salaries	**$5,137**
Fringe benefits (35% of salaries)	$1,798
Subtotal: NIJ costs (salary and fringe)	**$6,935**
RAND costs	
FY13 – FY14 (25% of NIJ Award #2010-IJ-CX-K007)	**$375,000**
Total estimated costs	**$381,935**

15. Reasons for Change in Burden

This is a new data collection, so all burden estimates are original.

16. Publication Plans and Schedule

The projected schedule for the *Geospatial Capabilities Survey* is as follows:

Preparation and pretesting	Completed September 2013
Package development and submission	October 2013
DOJ and OMB review	October 2013 – December 2013
Data collection	January 2014 to March 2014
Data processing/analysis	March 2014 to April 2014
Submit Final Report and Data to NIJ	May 2014
Data release to public	Upon NIJ approval

17. Display of Expiration Date

The expiration date of the OMB approval will be displayed on the web survey and survey forms.

18. Exceptions to the Certification Statement

There are no exceptions identified in Item 19, "Certification for Paperwork Reduction Act Submission," of OMB Form 83-I.