

# Agency Integration Projects

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## SUMMARY

*Agencies' project management practices varied, and CriMNet projects typically took longer and cost more than anticipated. On most projects, but the Integration Backbone in particular, stakeholders underestimated the complexity of criminal justice work requirements, which increased the time needed to complete project tasks. Other obstacles to completing projects as planned included: (1) inability to adequately resolve work practice and legal requirements prior to proceeding with technical development; (2) lack of state staff, expertise, or funding; (3) lack of clear expectations and precise contract language regarding project deliverables; (4) challenges coordinating tasks and activities among various agencies and systems; and (5) changes to project design or scope. On the Integration Backbone project, original schedule and cost estimates were fundamentally flawed, and the cost of some vendor work products was too high given the products' value to the state. However, elements of the Integration Backbone contract were renegotiated in 2003, which will likely result in a better value for the state. In general, state agencies could more actively collaborate and share information about their experiences integrating state systems.*

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In previous chapters, we described the progress of criminal justice information integration and estimated costs for the state. Collectively, these projects have moved Minnesota forward in providing criminal justice professionals with access to timely information about individuals involved in the criminal justice system. In this chapter, we take a closer look at how state agencies managed CriMNet projects, focusing on how their experiences may help future projects proceed more smoothly.

This chapter addresses the following questions:

- **To what extent have state agencies' CriMNet projects met expectations regarding schedule, cost, and scope?**
- **What are the lessons learned from agencies' experiences managing these projects?**

To answer these questions, we reviewed several large and small dollar value projects from among active and recently completed CriMNet projects. We relied in part on Department of Administration guidelines for professional/technical

contracting and project management guidelines developed by the Office of Technology. To a great extent, we used vendor contracts, budget documents, work plans, and interviews with project managers to help us assess the overall progress and management of projects.

We included the following projects in our review: the Integration Backbone, the Statewide Supervision System, the Minnesota Court Information System (MNCIS), the State Sentencing Guidelines Worksheet, the Minnesota Repository of Arrest Photos, the Predatory Offender Registration System, the Suspense File program, and the Cardhandler/Livescan project. Due to time constraints, we evaluated some projects, particularly the Integration Backbone, more comprehensively than others. We did not evaluate the technical performance of these systems nor did we evaluate local jurisdictions' management of city and county integration projects funded by CriMNet grants.

The chapter is divided into two sections. In the first, we discuss the extent to which agencies' CriMNet projects, on the whole, proceeded according to planned timeframes, budgets, and scope. Because of legislators' specific interest in the Integration Backbone project, we discuss it separately. In the second section, we discuss common obstacles and lessons learned from agencies' efforts to meet these challenges.

## MANAGING PROJECT SCHEDULES, COST, AND SCOPE

Standard project management practices encourage project managers to estimate timeframes and costs for a new project, or at least the phases of the project being planned. For our evaluation, we had expected to use these baseline estimates, along with documented statements of the project's scope and products, to assess whether projects proceeded as planned. However, we found that:

- **For some CriMNet projects, planning estimates regarding timeframes, cost, and scope were poorly documented, making it difficult to compare actual outcomes to baseline estimates.**

Agencies' initial projections of long-term costs and milestones for some projects were poorly documented. In some cases, this happened because projects proceeded in phases, with milestones set only for the current phase, not the entire project. This made estimating long-term costs difficult. In some instances, agency officials estimated CriMNet project costs and modified proposals based on guesswork "to get projects going."<sup>1</sup> Also, some project work plans and vendor contracts did not clearly articulate expected vendor products, and few contracts included vendor performance standards. As a result, when we identified project delays or additional vendor costs, we could not always trace them directly to changes in scope or products.

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**CriMNet project work plans and contracts did not always articulate clear performance expectations.**

<sup>1</sup> For example, see Criminal and Juvenile Justice Information Policy Group Meeting Minutes, November 9, 2000.

Although we could not obtain clear project plans for all of the projects we reviewed, we used various contract documents and interviews with project managers to understand and assess how each project proceeded. We concluded that:

- **Although many projects followed sound management practices, the projects we reviewed typically took longer and cost more than anticipated.**

For example, we found several instances in which agencies used good project management tools and practices for identifying objectives, assessing resources, identifying project risks, and establishing realistic work plans. A number of projects managed by the Bureau of Criminal Apprehension (BCA), such as the Suspense File, Predatory Offender Registration System, and Criminal Justice Data Network projects, had well documented project plans. On the whole, BCA project managers also filed status reports, followed state contracting guidelines, and made up-front cost estimates. The BCA also uses a project management software package to help plan and track progress and guide project work.

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**Some CriMNet contracts have been terminated because of performance problems.**

However, agencies' approaches to project planning and implementation varied, and project outcomes did not always conform to initial time and cost projections, as shown in Table 3.1. A variety of factors influenced how projects proceeded.

For example, beginning in 2000, the State Court Administrator's Office spent two years planning for the replacement of its court information system, including assessing user needs and researching market products. Court administrators then solicited and evaluated vendor proposals. The courts contracted with the one vendor that met initial evaluation criteria, Sustain Technologies, for further testing of its product.<sup>2</sup> But, Sustain was not able to comply with contractual performance requirements for a statewide system. Court administrators eliminated Sustain from further consideration in May 2001 and contracted with Deloitte & Touche to complete system requirement and design work.

In the meantime, court administrators continued to monitor the software product market and discovered a new product by Tyler Technologies. When tested, this product met all contractually specified requirements. The courts terminated its contract with Deloitte & Touche and, in July 2002, the State Court Administrator's Office entered into a \$10.9 million contract with Tyler to proceed with developing MNCIS.<sup>3</sup> As of February 2004, MNCIS has been implemented in three counties and, according to court staff, will be installed in all Minnesota counties within the next 28 months. A precise comparison of the project's final

<sup>2</sup> According to court administrators, when the request for information was issued to the national software vending community in June 2000, there were few ready-made products on the market meeting the courts' needs. Because the courts had a critical need to move forward with MNCIS, court administrators selected what they considered to be the best vendors for the project at that time. Later, Tyler Technologies, one of the responding vendors to the initial request for information, used Minnesota's requirements to develop its new Trial Court System product.

<sup>3</sup> The State Court Administrator's Office did not change the terms of or reissue a request for proposals following the release of either Sustain Technologies or Deloitte & Touche, the original vendors on MNCIS. Court administrators advised us that their previous research and vendor selection process led them to believe that Tyler Technologies, Inc. was the only vendor offering a product that would meet their project needs, and elected to contract directly with that vendor. We note that the judicial branch is not required to follow the same contracting processes required for executive branch agencies under Minnesota law.

**Table 3.1: Extent to Which CriMNet Project Timeframes Changed**

| Project                                | Project Schedule Outcomes                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minnesota Court Information System     | Following approximately two years of planning and testing the product initially selected, court administrators found a new vendor with a product that better meets the courts' system requirements. In spite of the product switch, court administrators said the project is on track with the six-year planning, development, and implementation timeline presented to the Legislature in 2001. |
| Statewide Supervision System           | The project was planned and implemented in phases, without an estimated end date for integrating local probation and detention information systems. The core technology and integration with some local systems was completed in 2001. Integration of remaining county systems took longer than expected, occurring over the following two years.                                                |
| Integration Backbone                   | Initial estimates ranged from six to nine months. Actual project duration has approached two years, with intermittent breaks in the vendor's work schedule.                                                                                                                                                                                                                                      |
| Suspense File                          | Although implemented as an ongoing program with no final end date, several components have stalled, primarily due to lack of state staffing.                                                                                                                                                                                                                                                     |
| Cardhandler                            | Phase II of this project is not completed, but state timelines were extended to match slower implementation schedules in a key local jurisdiction.                                                                                                                                                                                                                                               |
| Predatory Offender Registration System | Project exceeded plan estimates by five months, due primarily to lack of state staffing and the need to integrate with national sex offender files. Integration was also delayed waiting for a related system's upgrade to be completed.                                                                                                                                                         |
| Sentencing Guidelines Worksheet        | Project funding was available for the 2000-01 biennium, and the project was substantially completed within this timeframe.                                                                                                                                                                                                                                                                       |
| Minnesota Repository of Arrest Photos  | Project completed on time. Capability for more agencies to submit photos will be added as funding becomes available.                                                                                                                                                                                                                                                                             |

NOTE: Because many projects did not have clear baseline project schedules, we could not precisely measure the extent of project delays.

SOURCE: Office of the Legislative Auditor analysis of project contracts, amendments, and planning documents from the State Court Administrator's Office, Sentencing Guidelines Commission, and departments of Public Safety and Corrections.

**Many CriMNet projects took longer than anticipated.**

development time and costs to original estimates will have to wait until its full implementation in 2006.

Because of the innovative nature of the Statewide Supervision System, the Department of Corrections took a different approach to planning and implementing the project. The department did not start with solid time and cost estimates for completing the entire project. Rather, the department decided to develop the Statewide Supervision System in phases, estimating timeframes and costs for each phase as the project proceeded. Each phase was defined by an incremental goal, and the department assessed work results and modified the project design as needed before proceeding to the next phase.

Integrating local probation and detention information into the Statewide Supervision System took longer than expected. According to Department of Corrections officials, the system's core components and integration of some county information was completed in June 2001, with integration of the remaining county probation and detention systems occurring over the following two years.<sup>4</sup> Although the department did not have an estimated end date for connecting local information systems, project documents indicate that local integration went more slowly than anticipated. In part, longer timeframes reflect the level of effort needed to ensure participation by all counties. According to project managers, the department's goal was to integrate all county probation and detention information systems. But, without the authority to mandate participation, the department was not sure that all counties would agree to be involved. But in the end, all 87 counties decided to join the statewide system. As we discuss later in the chapter, integrating local information systems presented unique challenges, with much of the scheduling in the hands of local governments and their vendors.

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**Costs for some projects increased because agencies underestimated the time and work needed to complete project tasks.**

Projects also typically cost more than expected, although we could not precisely quantify the extent of cost increases because many projects did not have documented baseline cost estimates. Some cost increases occurred because project administrators underestimated the time and work needed to complete tasks and later amended project contracts to extend vendors' services. These extensions resulted in increased payments to vendors. Other circumstances related to the legislative process also influenced the accuracy of initial cost estimates. For example, the BCA prepared a cost estimate for the Predatory Offender Registration project in response to a request from the 2000 Legislature, which initiated action on the project.<sup>5</sup> According to the BCA, bureau staff had two days to estimate project costs, and the resulting estimates turned out to be too low. Spending on two other BCA projects (Minnesota Repository of Arrest Photos and Livescan) exceeded appropriated amounts. For these projects, the BCA had not submitted project proposals to the Legislature; rather, the Legislature initiated appropriations for these projects and required that they be completed within one year. According to BCA officials, the bureau could have stayed within the funding allocated by the Legislature, but the BCA had other funding available for criminal history improvements and chose to use it.<sup>6</sup>

Finally, we also assessed whether the scope of projects changed as they progressed and whether these changes affected overall costs. In this regard, we

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<sup>4</sup> According to Department of Corrections officials, the Statewide Supervision System was completed in June 2001. At that point, the probation and detention components had been designed, prototyped and tested; the department's prison database was connected; and three adult detention facilities and over half of the county adult probation systems were integrated. From June 2001 through June 2003, the department contracted with a vendor (the vendor that did the system development work) to integrate the remaining counties' probation and detention systems into the Statewide Supervision System. However, department officials do not consider integrating the remaining county systems to be part of the Statewide Supervision System project; rather, they consider the additional work to be "system support." We think a 2003 completion date more accurately reflects the time needed to achieve the Statewide Supervision System's intended outcomes. According to project documents and project managers' statements to us, the department's goal for the Statewide Supervision System was to integrate probation and detention information from all counties. This goal was substantially achieved in 2003.

<sup>5</sup> *Laws of Minnesota* (2000), ch. 311, art. 1, sec. 3, subd. 2.

<sup>6</sup> *Laws of Minnesota* (2000), ch. 311, art. 1, sec. 3, subd. 1. In total, the 2000 Legislature appropriated about \$5.2 million for the arrest photo and fingerprint projects, plus some additional funding for implementation costs. The final cost for the two projects was approximately \$8 million.

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**Some agencies expanded vendor work beyond original project descriptions.**

looked for contract amendments signaling new products to be delivered or changes to the nature of work products already in the contract. Based on our evaluation of project documents and contracts, we found:

- **The scope of some projects expanded beyond original funding requests—sometimes for system enhancements not directly linked to criminal justice integration.**

Some agencies expanded vendor work beyond what was specified in the original project descriptions. For example, the Department of Corrections added to the Statewide Supervision System project a new component to enhance the department's systems for local detention facility licensing and reporting. This change increased vendor costs by nearly \$60,000. At a cost of \$14,000, the Sentencing Guidelines Commission added a component under the automated Sentencing Guidelines Worksheet project to extract data for research purposes. While these functions benefit criminal justice processes, the added components were not specified within the initial scope of the criminal justice integration projects. Changes in project scope and increased costs were not isolated to these projects, however, as we discuss below in our review of the Integration Backbone project.<sup>7</sup>

## **The CriMNet Integration Backbone**

Because the Integration Backbone is such a critical component of CriMNet and of particular interest to legislators, we reviewed this project in greater detail. As described earlier, the CriMNet Integration Backbone provides the technical infrastructure, akin to a network, that allows data to be shared among agencies, information systems, and jurisdictions within Minnesota. Linking Minnesota's criminal justice systems through the Integration Backbone is a complex endeavor—one that has not been achieved elsewhere on a statewide scale. This complexity was certainly a factor in planning and managing the project.

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**Linking criminal justice systems through the Integration Backbone is a complex task.**

Unlike the other projects included in our discussion above, the Integration Backbone project is managed directly by the CriMNet Office, under Policy Group oversight. In 2001, the CriMNet Office initiated the project by issuing a request for proposals (RFP) to solicit bids for building the backbone technology.<sup>8</sup> In February 2002, a committee of agency representatives selected a primary vendor, and following approval by the Policy Group, the CriMNet Office negotiated a contract with the firm—Mobiam Solutions, Inc.<sup>9</sup>

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<sup>7</sup> For additional information about agencies' use of professional/technical contract services for CriMNet projects, see Office of the Legislative Auditor, *CriMNet Financial Audit* (St. Paul, 2004).

<sup>8</sup> We did not perform a cost/benefit analysis to assess the wisdom of building a backbone system rather than buying an existing product for integrating multiple systems.

<sup>9</sup> In addition to identifying a vendor that satisfactorily met the CriMNet model requirements, the selection team focused primarily on three (out of many) criteria: (1) developing a non-proprietary product owned entirely by the state, (2) speed to delivery, and (3) the most prudent cost structure workable under state funding. The contract was negotiated by a former CriMNet Executive Director, whose employment contract was later terminated.

Based on our evaluation of how the Integration Backbone project proceeded compared to the proposal and contract terms, we found that:

- **The Integration Backbone project did not proceed according to original estimates for cost, schedule, and scope; however, these original estimates were fundamentally flawed.**

In the discussion that follows, we question various aspects of how this project was planned and managed. But, it is important to remember that, according to various CriMNet officials, the state will have a usable, and potentially very powerful, technology to support statewide sharing of criminal justice information. In addition, the state owns the product and will not be obligated for licensing fees.<sup>10</sup>

The Backbone development work and contracts were organized into two phases.<sup>11</sup> Phase I involved designing the technology structure and demonstrating that the basic technology would work in a test environment. Phase II essentially involved expanding the system to connect select state systems and to implement a search function for those systems. We found problems with the veracity of the original time and cost estimates and with other terms of the Backbone contracts that contributed to changes in schedule, cost, and system functions.

For example, we found great disparities between the vendor's cost proposals and the Phase I and II contracts. As shown in Table 3.2, the vendor's original cost proposal totaled \$2,028,000—\$200,000 for Phase I and \$1,828,000 for Phase II. However, the Phase I and II contracts negotiated after the vendor was chosen were let for \$680,000 and \$2,950,000 respectively, or \$3,630,000 in total.

**The original cost and time estimates for the Backbone contracts were highly questionable.**

**Table 3.2: Estimated and Actual Integration Backbone Costs**

| <u>Project Phase</u> | <u>Vendor Proposed Costs</u> | <u>Original (2002) Contract Costs</u> | <u>Actual Expenditures</u>   |
|----------------------|------------------------------|---------------------------------------|------------------------------|
| Phase I              | \$ 200,000                   | \$ 680,000                            | \$ 680,000                   |
| Phase II             | <u>1,828,000</u>             | <u>2,950,000</u>                      | <u>2,810,000<sup>a</sup></u> |
| Total                | \$2,028,000                  | \$3,630,000                           | \$3,490,000                  |

<sup>a</sup>Includes expenditures reported through October 30, 2003. The Phase II contract was subsequently renegotiated and was signed in October 2003.

SOURCE: Office of the Legislative Auditor analysis of Department of Finance data and Integration Backbone project documents.

<sup>10</sup> Similarly, the state owns the Statewide Supervision System and is not obligated for vendor licensing fees. For MNCIS, the state is obligated for licensing fees for the vendor's original software but owns modifications to the software that the state paid for.

<sup>11</sup> The RFP for the Integration Backbone project divided work into several phases. Interested vendors were asked to submit proposals and cost estimates for the first two phases. Following vendor selection, the state contracted with Mobiam Solutions, Inc. for Phase I work, which included requiring the vendor to submit a preliminary plan for Phase II work. The state then had the option to contract with Mobiam for Phase II or seek other vendors. In July 2002, following completion of Phase I, the CriMNet Office, with the approval of the Policy Group, elected to move forward with Mobiam.

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**The state paid too much for some work under the Backbone contract.**

We did not find evidence that the CriMNet Office in any way validated the vendor's cost proposal to ensure that it was reasonable. The Mobiam bid was significantly lower than the bid from the other final vendor that CriMNet considered, but the integration approaches from the other vendors were fundamentally different, making comparisons difficult. Under the state's preferred practices, the CriMNet Office should have obtained an independent assessment of project costs and timelines in order to evaluate vendor proposals. The CriMNet Office did not do this, so it did not have a point of comparison in evaluating Mobiam's bid. Although the CriMNet Office had compiled and published extensive documentation regarding the desired Integration Backbone capabilities, it did not use this model to set its own rough benchmarks.

Project documents from 2002 offer several reasons for the cost difference between the initial proposal and contract, but in large part, these explanations do not sufficiently account for the discrepancies.<sup>12</sup> According to CriMNet Office documents, the Phase I cost increases were due to deliverables (vendor work products) shifting from Phase II back to Phase I. The Phase I contract did include deliverables shifted from Phase II. However, the original Phase II contract costs did not proportionately decrease as a result of shifting deliverables to Phase I. Instead, Phase II costs increased by \$1.1 million. The current Backbone project manager asserted that the total contract costs increased because the state added work not previously identified in the RFP and because the vendor assumed some work tasks that were the state's responsibility in the RFP.<sup>13</sup> But, when we compared the Phase II work products described in the RFP to the Phase II work products included in the contract, the differences we found were not sufficient to explain the full cost increase. In trying to make this comparison, we found that the RFP did not clearly specify tasks to complete, and the contracts themselves were not clearly written.<sup>14</sup>

In explaining the changes in total project cost, the project manager also added that, in retrospect, the state paid too much for certain work products. We agree. Based on our review of the contract terms and descriptions of the deliverables:

- **The costs of some vendor deliverables were too high given the products' value for the state.**

For example, the CriMNet Office added to the contract that the vendor should (1) produce a multi-media presentation on CD-ROM describing the end-state

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<sup>12</sup> For example, in reporting to the Policy Group, the former Executive Director incorrectly stated that, although the Phase I costs increased, "the overall numbers of the project remain constant." See Criminal and Juvenile Justice Information Policy Group Meeting Minutes, March 22, 2002.

<sup>13</sup> Under Department of Administration guidelines, the contract and work deliverables should substantially conform to the RFP and vendor proposals. The significant increase (79 percent) in total costs from the initial bid proposal to the contract has caused some stakeholders to question whether the project terms had changed substantially. As we describe later, the CriMNet Office added some deliverables that were not related to the original RFP and could have been completed by another vendor, in which case the state should have issued a new RFP as normal state practice would dictate.

<sup>14</sup> That is, the technical requirements, deliverables, and performance standards within the contracts were greatly lacking in detail, making it difficult to identify and map actual technical deliverables in the RFP to the contract provisions and estimated costs.

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**The Backbone vendor was paid \$600,000 for public relations work.**

vision for CriMNet in terms of how the Backbone would be used, and (2) provide training describing the CriMNet vision and proposed functions of the Integration Backbone.<sup>15</sup> Together, the CD-ROM and training session deliverables accounted for 17 percent (\$600,000) of total vendor payments through October 2003. While the CD-ROM may be a useful tool to communicate the integration concept, we question whether its value merits the \$400,000 spent to write the script and make the CD-ROM. For an additional \$200,000, the vendor provided training sessions over a two-day period that were essentially public relations activities to create buy-in to the Integration Backbone project. The choice to invest in these products is particularly questionable given that other critical work directly supporting Backbone development, such as defining user requirements, still needed to be done.

In addition to cost discrepancies, the Integration Backbone project has not proceeded according to proposed timelines or expectations regarding the range of system functions that were expected to be operable. In general, we found that:

- **Initial planning documents and vision statements for the Integration Backbone project grossly underestimated the time and complexity of tasks necessary to implement project goals and objectives.**

The CriMNet Office did not have the benefit of other states' experiences to guide its planning because no other state has implemented an integration model like CriMNet. With such a steep learning curve, we understand that estimating timelines can be difficult.

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**The scope of Integration Backbone capabilities has been scaled back substantially from early vision statements.**

Early CriMNet Office planning documents suggested a range of timeframes for major project milestones, some of which have been met and others that have not. The vendor for the Integration Backbone project initially estimated that Phase I and Phase II tasks could be completed in about 8 weeks and 19 weeks, respectively. The subsequent contracts specify 10-week and 39-week work plans, with work expected to be done by June 2003. Actual project duration has exceeded these combined estimates, with the vendor working intermittently over a two-year period, beginning in April 2002.<sup>16</sup> The current contract, as amended, is expected to close in March 2004. (These amendments, negotiated in mid-2003, are discussed later.) Regardless of the various estimated timelines, CriMNet Office documents reflect conflicting information about the project's progress. For example, vendor status reports indicate that the Integration Backbone project is on schedule, while CriMNet Office documents state that the project is behind schedule.

Development of the Integration Backbone has been scaled back substantially from early vision statements presented to the Legislature, the Policy Group, and others.<sup>17</sup> Several CriMNet Office documents from 2002 say that the search function plus several other capabilities related to the automated flow of

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<sup>15</sup> According to the Integration Backbone project manager, although not explicitly included in the contract, the CriMNet Office agreement with the vendor was for delivery of up to 20,000 CDs. To date, the vendor has provided the CriMNet Office with 10,000 CDs.

<sup>16</sup> The vendor did not work continuously during these time periods.

<sup>17</sup> For example, see CriMNet Office, "CriMNet Implementation Strategy," presentation to the Policy Group, August 29, 2002, pp. 8-13; and Department of Public Safety contract #A41298, Statement of Work and contract amendments.

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**The Integration Backbone search function is scheduled for statewide release in October 2004.**

information would be completed and operational by the end of 2004—goals that are far from being achieved. These documents specified three main outcomes that were to be achieved: (1) search capability for eight state systems by December 2003, (2) subscription capability (the ability for a criminal justice professional to be automatically notified if a specified event occurred anywhere in the system) by June 2003, and (3) delivery of workflow capability (automatic transfer of data from one system to another) for eight state systems by December 2004. In our view, these expectations were unrealistic. To date, the Backbone search function for five systems is being tested statewide and is scheduled to be fully implemented in October 2004. The core framework of the subscription function is complete, but will not be implemented for at least a year, and possibly longer. Further development of the subscription function is on hold until data practice and other issues are resolved. The workflow function is being developed as a “proof-of-concept” to demonstrate the feasibility of electronically transferring prosecution complaint information between a county prosecution office and the courts. The vendor completed the Integration Backbone work needed to transmit the data from one system to the other, but the courts have to complete additional work to bring the transmitted complaint data into MNCIS.

By late 2002, the Policy Group was concerned about how the project was being managed and whether, from a technical perspective, the Backbone was going to provide the expected results. At the Policy Group’s request, a number of technical professionals from various jurisdictions reviewed the project. In general, the technical review identified many of the issues we discussed in this section. The Integration Backbone project has since been redirected. In our judgment:

- **Backbone contract changes negotiated in 2003, which altered the timing and nature of remaining work, will likely yield a better value for the state.**

For example, some of the planned contract deliverables were dropped because the technical specifications supporting these deliverables had not been completed. Some tasks, such as work on the Integration Backbone core functions (the ability of the Backbone itself to store certain information), automated workflow, and the subscription function, were put on hold, to be completed after CriMNet participants make decisions regarding user requirements, data practices, and the types of data that will be stored by the Backbone. Several valuable provisions were also added to the Backbone contract to incorporate better project and system controls, such as (1) discrete tasks and milestones to allow CriMNet officials to make go/no-go decisions, (2) system security enhancements, and (3) training for state staff to build Backbone components and maintain the Integration Backbone system in the future.

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**CriMNet stakeholders believe that the Integration Backbone is a good technical product.**

We did not do a technical review of the Backbone functions as part of our evaluation. However, stakeholders in various agencies believe that the Integration Backbone as developed to date is a good technical product. The CriMNet Office developed a “Search Rollout Plan” that includes testing and external validation to

assess the system's performance. The results of this work will help resolve questions and concerns about the work done to date. The rollout plan also details a more realistic work plan and timeline for releasing the search function to users statewide and recognizes risks and limitations in doing so. The statewide release is expected to be completed by October 2004. The decision to test and release the search function rather than pursuing other capabilities reflects the CriMNet Office's priority on providing some integration benefits to criminal justice stakeholders at the earliest possible date.

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**State agencies experienced similar problems on most criminal justice integration projects.**

## **INTEGRATION OBSTACLES AND LESSONS LEARNED**

Overall, the CriMNet projects we reviewed resulted in direct benefits to Minnesota's criminal justice community, but the projects themselves did not always proceed according to the proposed path. Our evaluation showed that agencies encountered similar obstacles and challenges in integrating criminal justice systems. We identified a number of common challenges that help explain discrepancies between early planning estimates and the progress of CriMNet projects. Although not affecting each project to the same degree, these challenges included: (1) inability to adequately resolve issues pertaining to work practices and legal requirements prior to proceeding with technical development; (2) lack of state staff, expertise, or funding to accomplish the established objectives; (3) lack of clear expectations and precise contract language regarding project deliverables; (4) challenges coordinating tasks and activities among various agencies and systems; and (5) opportunities to benefit from new technology or otherwise improve results that required changes to project scope. These factors contributed to the sometimes erratic and occasionally stalled progress of some projects, particularly the Integration Backbone project.

Given the extent to which Minnesota is breaking new ground, criminal justice agencies are their own best resource for developing guidance on how to manage criminal justice integration projects. With this in mind, we found that:

- **Agencies' experiences managing CriMNet projects demonstrate the importance of making planning decisions up-front, coordinating across jurisdictional lines, and negotiating tighter contracts.**

The Department of Corrections and State Court Administrator's experiences on two statewide integration projects—Statewide Supervision System and MNCIS—in addition to the CriMNet Office's experience on the Integration Backbone project are of particular benefit in identifying lessons learned.

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**Technical development of some CriMNet systems proceeded before legal requirements were adequately resolved.**

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**The state must resolve policy issues pertaining to data practices and technical issues related to system security.**

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## Planning

Several projects ran into difficulties when project team planning did not address longer-term needs for funding and system development. These planning missteps meant the technical development of some systems proceeded even though some prerequisite decisions had not been made. In one instance, system design and development went forward without project stakeholders having made key decisions regarding what they wanted the system to do. On other projects, failure to resolve data practice questions and user needs was a stumbling block.

Several projects were adversely affected by failure to address issues regarding compliance with the Data Practices Act. In March 2003, the CriMNet Office, with the approval of the Policy Group, negotiated a contract with the Minnesota Chiefs of Police Association to integrate, via the Integration Backbone, data from their Multiple Jurisdiction Network Organization—a database containing law enforcement investigation information. Subsequent review revealed that the information system and data structure failed to comply with the Minnesota Data Practices Act. The Policy Group decided to terminate the contract in December 2003 after the state had spent \$72,000, not including programming costs for the Backbone.<sup>18</sup> In addition, another expected feature of the Integration Backbone project, called subscription, that will allow users to be notified if a specified event occurs is ready to be used, but it will not be enabled in the near future. According to the CriMNet Executive Director, unresolved data practice questions, which may take several years to resolve, are a primary reason for the delay. And, as we described in Chapter 2, some local jurisdictions advised us they are hesitant to proceed with integrating into the state's Integration Backbone system until the state resolves policy issues pertaining to data practices and technical issues related to system security.

Assessing the needs of system users is another important aspect of project planning. The Integration Backbone project team focused primarily on technical development and did not clearly document prior to starting the project the work practices and data needs that the project was to address. For example, the CriMNet Office and stakeholders have not yet explicitly defined what data will be housed or “indexed” by the Backbone system itself (rather than being held in the local system) or how that data will be managed. Therefore, they do not know precisely what to program or build to connect additional criminal justice systems. This is particularly important since CriMNet plans include integrating other state systems into the Backbone.<sup>19</sup>

Project teams also faced challenges accurately reconciling project costs with available funding, project needs, and milestones. For some projects, including the Integration Backbone, project estimates or scope were cut to match available funds, sometimes without making clear to project stakeholders that original expectations regarding system capabilities would likely not be met. According to

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<sup>18</sup> CriMNet Office, *MJNO Grant Award and Expenditures, 3/1/03 through 12/31/03*, January 8, 2004.

<sup>19</sup> Two systems that had been slated for connection to the Integration Backbone but are now on hold include the Driver Vehicle Services system and the Automated Pawn System. The first is a system that includes information on driver identification, driving records, and license status. The Automated Pawn System is a database of transactions by pawnshops and is used as a law enforcement investigation tool.

CriMNet officials, the Legislature sometimes places unrealistic funding restrictions on projects. For example, the Legislature set the funding and one-year schedule for the BCA's arrest photo project, and the project proceeded to fit those limits.<sup>20</sup> In other instances, projects required additional funding for such things as technology "refinements" and "enhancements." While modifying a project to better suit users' needs makes sense, better up-front planning may have allowed some of these additions to be built into the project plan from the start.

## Contracts

Writing tightly constructed contracts is a challenge for many state and local agencies, and our review showed it to be true for CriMNet as well. Common issues among some of the projects we reviewed included (1) failure to clearly describe vendor work products and performance criteria and (2) obligating the state to perform work supporting the project without having sufficient resources to provide needed state products on time.



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**It is not clear that all vendor work products met contract specifications.**

To ensure that the state is receiving the best value for its money, state contracting guidelines call for contracts to clearly specify technical requirements, work products, performance standards, and roles and responsibilities of the state and vendor. Project managers are also responsible for critically evaluating and documenting whether products delivered by the vendor satisfactorily perform the required function or provide the desired information.

For several CriMNet projects, vendor contracts proved to be poor indicators of eventual project work products and outcomes. For example, in our review of the Integration Backbone project, it was not clear that all vendor products met the state's intent as specified in the contract. We did not independently confirm the adequacy of the vendor's work products; instead, we requested and reviewed documents related to CriMNet Office quality reviews or "acceptance testing" of vendor products before payment went out. Some of this documentation was vague, though we could not ascertain whether the acceptance testing was not rigorous or whether the documentation of that testing was poor. We found at least one instance in which the vendor product clearly did not meet the intent of the contract. The vendor was required to submit a "Return on Investment" report to the state supporting the vendor's technical approach. This document provided minimal information about recommended system products, and the vendor's calculations did not support the findings as written. In this instance, we do not suggest that the vendor was incapable of producing better products, only that the CriMNet Office accepted a weak one. Similarly, the vendor contracts for the Statewide Supervision System sometimes did not clearly articulate the service or deliverable due under the contracts. Rather, the contracts and their subsequent amendments repeated general language about work products or project phases.

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<sup>20</sup> Currently, 71 law enforcement agencies submit photos to the database. The BCA expects other jurisdictions to add capacity to submit photos as funding becomes available.

Defining roles and responsibilities is also a critical component of effective contracting, as is following through on those responsibilities. On the Integration Backbone project, both the state and the vendor were responsible for various tasks, deliverables, and deadlines. However, the state failed to deliver some work products, which delayed the project or limited the scope of what the vendor could do. In another instance, the state did not provide the vendor with specifications for developing a complaint form in a timely manner. According to Backbone managers, the state did not meet its contract obligations most often because CriMNet officials underestimated the complexity and scope of the work or they did not have enough staff or the right expertise to complete required tasks. In assessing the vendor's performance, the project manager stated that the vendor's technical staff "performed to the extent that the state allowed them to."

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**Coordinating integration project activities among agencies typically took longer than expected.**

## Coordination

In a program as inherently collaborative as CriMNet, good coordination is paramount. We found several examples highlighting the pitfalls of missing collaborative opportunities. These problems point to the benefits of identifying and managing dependencies among projects, joint problem solving, and sharing lessons learned.

Because the criminal justice system itself is highly interdependent, progress on one project is sometimes contingent on completion of tasks for a separate system. On most of the projects we reviewed, tasks were rescheduled to wait for completion of tasks on one or more other systems. As a demonstration of MNCIS capabilities, for example, court staff are developing an "Ecomplaint," a document that allows prosecutors to electronically file a criminal complaint via the Integration Backbone that flows from the prosecutor's information system to MNCIS, saving both county attorney and court staff time processing paperwork. The complaint form also interfaces with the state's electronic Statute Table, which ensures accurate data entry on charging and convictions. Developing this prosecution form requires coordinating complaint filing procedures and programming efforts among all agencies to make this workflow function effective. The collaborative effort necessary to resolve this issue took longer than expected. As a result, the state did not provide the Integration Backbone vendor with Ecomplaint form specifications according to deadlines under the contract.

In 2000, the state had funded a pilot project in Ramsey County to develop a similar complaint form, but the state was not able to capitalize on these efforts in the current Ecomplaint project. According to court officials, the courts used the Ramsey County form as a starting point for its Ecomplaint, but the technology for the Ramsey County form was not compatible with MNCIS. Moving forward, improved coordination of integration efforts among agencies could help reduce duplication of effort and mitigate costs for the state. Coordination among agencies is important for identifying dependencies as soon as possible in order to reconcile differences or make schedule adjustments.<sup>21</sup> The CriMNet Office

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<sup>21</sup> We found several other examples of challenges coordinating project dependencies. One portion of the Statewide Supervision System had to be redone because it was found to be incompatible with another evolving system—the Integration Backbone (see the Department of Corrections Statewide Supervision System contract #A24827). Tasks on the Predatory Offender Registration System were delayed while waiting for adequate completion of tasks on the Department of Public Safety's Standard Interface Project (see Department of Public Safety contract #A16205 Amendment).

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**Law enforcement and courts personnel must work together to obtain offenders' fingerprints.**

intends to take on a greater role in identifying and coordinating dependent activities among integration projects.

Meeting the goals and objectives of the CriMNet program is also highly dependent on joint problem solving among state and local agencies. Improving information sharing requires improving day-to-day practices, determining roles and responsibilities, and active participation in resolving issues pertaining to agencies' work practices. The Suspense File program is a case in point. Local law enforcement staff around the state must consistently follow proper fingerprinting procedures during arrest and booking to ensure that accurate fingerprints are attached to criminal history records, but their efforts only partially resolve the problem. For example, some individuals' initial contact with the criminal justice system is via a warrant to appear in court for a hearing. It is at this point that their fingerprints must be captured, but the state does not have a standard procedure for ensuring that this occurs. Some courts have Livescan machines in their courtrooms, while others will not allow fingerprinting on the premises.<sup>22</sup> This example clearly illustrates the need for reconciling criminal justice processes, agencies' work practices, and legal requirements to meet a basic CriMNet objective—preventing incomplete criminal history records.

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**Most of the CriMNet projects we reviewed experienced some missteps or detours.**

In all of the projects we reviewed, state agencies experienced missteps and unanticipated detours from original plans. Those agencies that tackled statewide integration projects, in particular, could share the benefit of their experience. On the Statewide Supervision System project, for example, integrating local jurisdictions' information systems for 87 counties took much longer than expected. According to Department of Corrections officials, delays occurred for two primary reasons. Some counties were hesitant to allow statewide access to their corrections data because of concerns regarding system security and data practices. Second, once these concerns were alleviated and counties agreed to integrate with the state system, the department had to coordinate tasks, work schedules, and funding with each participating county. In doing so, department officials said that coordinating the work of local jurisdictions' vendors was particularly challenging. Integrating local detention facility data, for example, required coordinating the work of 15 different vendors. Other agencies can learn from the department's experiences—particularly as the state begins bringing local systems on to the Integration Backbone. By documenting and sharing insight into obstacles and their resolution, other local and state agencies can improve their planning and implementation strategies, mitigating costs for the state as a whole.

Similarly, long-term experience with operating an integrated statewide court system and familiarity with court personnel needs undoubtedly facilitated the planning and implementation process for the courts. The large staffing complement assigned to the MNCIS project also likely contributes to effective project outcomes. Court administrators could share these experiences with other

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<sup>22</sup> Some courts personnel would like state law amended to explicitly authorize them to proceed with fingerprinting these individuals immediately following their court appearance. Other court administrators believe that fingerprinting is not the role or responsibility of the court and would prefer to direct law enforcement staff to complete this task. In one jurisdiction, according to a local CriMNet representative, judicial authorities have excluded Livescan machines from the courtrooms. In this instance, the local law enforcement agency has placed a Livescan machine in the skyway connecting the judicial building and sheriff's department to allow them to more easily capture fingerprints outside of the courtrooms.

agencies, such as the CriMNet Office, to help others avoid “reinventing the wheel” and to enlighten stakeholders as to the difficulties associated with implementing a statewide integrated system.

## CONCLUSIONS

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**Missed opportunities for coordinating integration efforts have impeded CriMNet's progress.**

Planning, designing, and estimating costs for such large projects can be challenging under the best of circumstances. In spite of these challenges, the state has achieved significant progress in improving criminal justice professionals' access to timely information, as described in Chapter 2. In the process, however, matching evolving systems with complex criminal justice processes, user needs, and agencies' work practices has proven to be more complex than originally assumed.

Agencies' approaches to planning CriMNet projects vary, and on the whole, they have a poor track record for accurately estimating project timeframes. Failure to identify and resolve critical work practice and legal issues resulted in project delays, with insufficient staffing and funding also being contributing factors. More importantly, future integration of additional state and local systems, such as law enforcement and prosecution systems, will not proceed until CriMNet officials address data practice concerns, state standards, and user requirements.

In the past, state agencies typically approached development and modification of their computer systems and work practices from an individual agency perspective. The goal of CriMNet is to step away from that model and approach criminal justice functions and systems as a unified, statewide service. Missed opportunities for coordinating integration efforts and conflict over agencies' roles and responsibilities are factors impeding CriMNet's progress.

## RECOMMENDATION

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### RECOMMENDATION

*To help facilitate criminal justice integration and mitigate costs for the state, Policy Group members should ensure that CriMNet projects managed by their respective agencies:*

- *Have documented baseline expectations regarding project schedules, budgets, and scope;*
  - *Have adequately identified and addressed prerequisite decisions regarding users' requirements, data practices, and other criminal justice practices; and*
  - *Coordinate and communicate with stakeholders on other CriMNet projects.*
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As we describe in the following chapter, Minnesota has guidelines and manuals for helping agencies plan and manage projects. Using these tools will help CriMNet officials evaluate the progress of CriMNet projects, assess the value of the state's investment, and facilitate progress towards integrating criminal justice information.

Minnesota has invested substantial time and resources to develop and implement two statewide systems, the Statewide Supervision System and MNCIS. Similarly, several counties are working hard to improve their ability to share critical information. Through the CriMNet Office, other state and local agencies could benefit from their expertise to help guide future CriMNet projects.