Development and Implementation of the Criminal Justice Data Warehouse

September 2024

Abstract

This report to the Legislature details the progress of the Integrated Criminal Justice Data Warehouse project through September 15, 2024. A summary of the work of the Montana Board of Crime Control (MBCC) and the Criminal Justice Oversight Council (CJOC) starts off the report, with examples of data sharing and integration projects, recommendations for next steps, and policy and funding priorities for the 2025 legislative session.

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Development And Implementation of the Criminal Justice Data Warehouse (JDW)

OFFICIAL REPORT AS REQUIRED BY SENATE BILL 11 FROM THE 2023 LEGISLATIVE SESSION

This expanded report provides a detailed overview of the project's current status, strategic recommendations, and future priorities, aligning to create a robust and effective Criminal Justice Data Warehouse.

INTRODUCTION

In the 2023 legislative session, Senate Bill 11 was passed, which included the creation of an Integrated Justice Data Warehouse to be housed and managed within the Montana Board of Crime Control (MBCC), with oversight and direction provided by the Criminal Justice Oversight Council (CJOC). This legislation aimed to create a central data repository to address the longstanding issues of fragmented and inconsistent data that have impeded effective policymaking, resource allocation, and overall criminal justice outcomes.

In working with partner agencies and other stakeholders, the objective is to create a system that integrates data collected by criminal justice system partners and agencies—from arrest to incarceration (if applicable) to look at how the system is working across a broad range of topics, from “what efficiencies can be created” and “how can redundant data entry be reduced or eliminated” to “how are policy decisions affecting arrest rates and prison and supervision population and recidivism”, as a few examples. More simply, the goal is to take data from all the disparate data systems and put them in one place so that effective policy, funding, and operational decisions can be made. Implementation should be done in a way that supports and requires as little cost and additional effort as possible from local partners.

SUMMARY OF WORK BY THE MONTANA BOARD OF CRIME CONTROL (MBCC) AND THE CRIMINAL JUSTICE OVERSIGHT COUNCIL (CJOC)

Establishing the Criminal Justice Data Warehouse (JDW) has been a strategic initiative led by the MBCC and the CJOC. Their collaborative efforts have focused on addressing systemic challenges in data management and sharing among the various criminal justice entities. Here are key highlights of their work so far:

JDW WORKING GROUP MEMBERS

MBCC
Natalia Bowser, MBCC Director
Janice Fries, Statistical Analysis Center Director
Brandy Murray, Data Warehouse Architect
Bo Turnbow, IT Systems Administrator

DOA/CDO
Adam Carpenter, Chief Data Officer
Sarah Bartow, Agency Performance Advisor
Therese Simpson, Business Analyst

COLLABORATIVE ENGAGEMENT:

Since March 2023, the working group, which consists of members from MBCC and the Department of Administration's Chief Data Office (DOA/CDO), has engaged with pivotal stakeholders, including the Office of Court Administrator (OCA), Montana Association of Counties (MACO), Montana Sheriffs and Peace Officers Association (MSPOA), Montana County Attorney's Association (MCAA), Office of the State Public Defender (OPD), Montana Association of Clerks of District Courts (MACDC), Department of Corrections (DOC) and the Criminal Justice Oversight Council (CJOC). These engagements have focused on clarifying the project's scope, addressing stakeholders' concerns, and emphasizing the JDW's potential to revolutionize Montana's criminal justice system.

TECHNICAL ADVANCEMENTS:

The technical infrastructure for the JDW has seen significant development. Establishing Snowflake and Fivetran accounts marks a critical step toward effective data migration and management. MBCC has hired a Data Warehouse Architect to manage the Snowflake environment and build out the data structure to grow and be nimble, even while obtaining data from disparate, siloed systems with different data structures and formats. The DOC and the OPD also use Snowflake with their data. Because of this, data sharing from those agencies will be much simpler. Talks with both agencies have begun to start the data-sharing process in the JDW instance of Snowflake. Plans with both agencies it to start sharing data before the end of the 2024 calendar year.

PILOT PROJECTS:

Pilot projects are a focal point at this stage of the project, with counties like Ravalli, Gallatin, and Cascade being the concentration of the effort for the first sites. The work done with the pilot projects will be templatized and rolled out to later adopting counties for the rest of the project. The first task in getting the pilot projects started was to determine if an Automated Programming Interface (API) connection to the local law enforcement agency's data system was possible with the software platform they have and how much would it cost to obtain an API if needed. Negotiations with CentralSquare, the vendor for most Computer Aided Dispatch (CAD), Records Management System (RMS) and Jail Management Systems (JMS) across the state, were successful. The working group and State Information Technology Services Division leadership were able to acquire API services for all local Montana CentralSquare agencies that had not already purchased the API service. This API Integration sets the stage for onboarding more counties more quickly after the initial pilot project counties have completed the onboarding process. Aside from the API part of the project, the working group has also been in talks with the Montana Department of Justice (DOJ). The engagement with the DOJ has been crucial in navigating data-sharing restrictions, particularly concerning FBI guidelines.

RECOMMENDATIONS FOR SPECIFIC NEXT STEPS

As the implementation of the JDW project continues, the following strategic steps are recommended:

SCALE PILOT PROJECTS:

Expand pilot projects to include additional counties using the template developed with Ravalli, Gallatin, and Cascade Counties. This expansion will provide more data points and insights into the JDW's effectiveness.

SCALE STATE AGENCY DATA:

Expand connections to state agencies' data to obtain a comprehensive criminal justice data warehouse data set (OPD, DOC, OCA, DOJ, etc.).

ENHANCE TECHNICAL INFRASTRUCTURE:

Continue to develop the Snowflake environment and fully integrate the Data Warehouse Architect into the project. This role is crucial for optimizing data processes and ensuring a seamless data flow.

DEVELOP ROBUST DATA SHARING, PRIVACY, AND SECURITY POLICIES:

Establish clear data-sharing policies that address privacy, security, and ethical concerns to maintain the integrity of the system, preserve trust among stakeholders, guarantee compliance with federal guidelines (e.g., FBI data-sharing rules), and ensure that agencies feel confident sharing their data.

STAKEHOLDER ENGAGEMENT AND COMMUNICATION:

Maintain ongoing dialogue with stakeholders to address concerns, demonstrate the JDW's benefits, and encourage broader participation. This engagement is vital for the project's success and sustainability.

COMPREHENSIVE RESOURCE PLANNING:

Identify, obtain, and finalize vendor quotes for additional data resources and solutions and clearly outline financial requirements to effectively plan for the project's scaling.

EXAMPLES OF DATA SHARING OR INTEGRATION PROJECTS

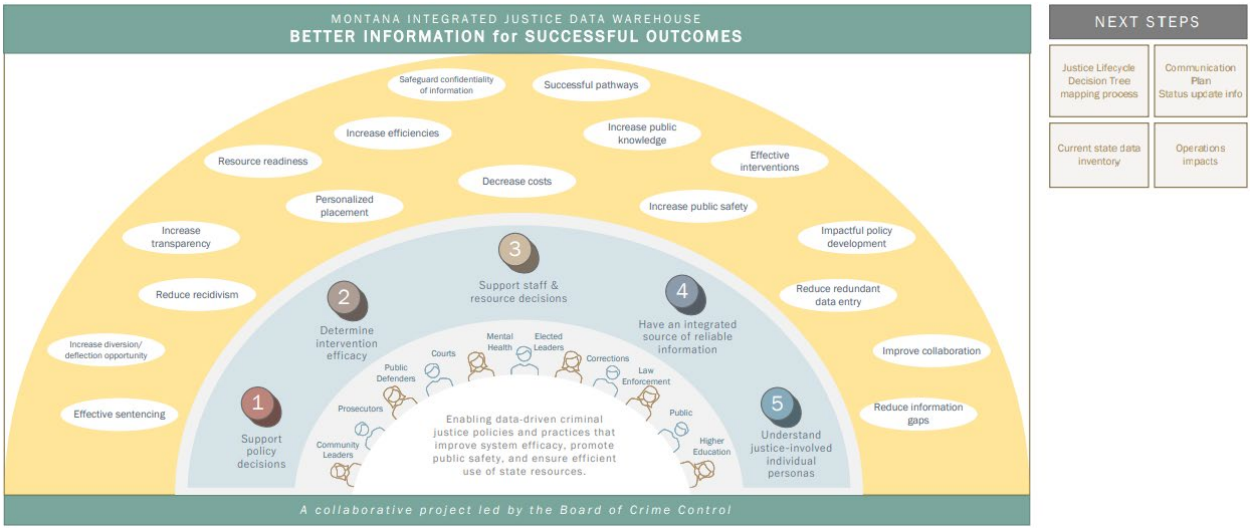
The working group has completed several early-stage data-sharing and integration projects:

PROJECT SCOPE AND COMMUNICATION RESOURCES:

The core objective of the Integrated Justice Data Warehouse is to enable data-driven criminal justice policies and practices that improve system efficacy, promote public safety, and ensure efficient use of state resources. To ensure fluent communication, the CJOC created an infographic showing the core objective and the different levels of collaboration needed to achieve such an ambitious goal. At the core, you will see the objective followed by all the various entities included in this project. The entities associated with this project will play a part in the five operational impacts:

- Supporting policy decisions
- Determining intervention efficacy
- Supporting staff & resource decisions
- Integrating reliable information
- Understanding justice-involved individual personas

While not every entity will contribute equally to the five operational impacts, the goals listed in the outer layer of the infographic will be met only if everyone believes in this project's benefits. A thumbnail version of the created infographic is shown below, with a full-size version attached at the end of this report.



Utilizing the history of the project and content from the CJOC's work, MBCC created a one-page description of the project to highlight the infographic and provide some project context for sharing with new stakeholders and partners who might not yet be as familiar with the project. The one-pager will be used in early-stage communication with local law enforcement agencies to introduce them to the project and is attached at the end of this report.

OFFICE OF STATE PUBLIC DEFENDER (OPD):

The successful implementation of Fivetran and Snowflake by the OPD represents a significant step forward in their data management capabilities, particularly for the broader JDW initiative. The integration allows for seamless data-sharing in several ways.

- Automated Data Flow: Once connected to the JDW, OPD's data will automatically flow into the warehouse without the need for manual uploads. This will enable real-time data sharing, ensuring that the most current information is always available for use by the JDW.
- Interoperability: Since the JDW also uses Snowflake as its data environment, OPD's data will be easily compatible with the JDW's system. This minimizes potential integration challenges and streamlines the process of connecting OPD to the broader data warehouse.

DEPARTMENT OF CORRECTIONS (DOC):

DOC has also established a Snowflake account and migrated a subset of their Offender Management Information System (OMIS) data into that instance, and it is receiving daily updates. Informal conversations about what the initial JDW data share will look like have been had, and the formal MOU process is starting. This process should move quickly, and DOC data should be in the JDW in a couple of months, but no later than the end of the calendar year 2024.

LAW ENFORCEMENT AGENCIES:

The purchase of API capabilities from CentralSquare has enabled the ability for automated data sharing, significantly enhancing law enforcement agencies' ability to participate in the JDW. Once agencies are onboarded, the API will allow them to share data without any additional effort on their part, as the agreed-upon data share will be automatically pulled from their systems and loaded into the JDW on a once-a-day basis. Formal data sharing meetings are being had with Ravalli County and are starting in Gallatin and Cascade counties. The working group intends to have at least one of these counties utilizing the API and submitting data into the JDW in the next two or three months. After this initial work is completed, work will begin to onboard the other CentralSquare served counties, which should move more quickly due to lessons learned with the pilot project counties.

POLICY AND FUNDING PRIORITIES FOR THE 2025 LEGISLATIVE SESSION

The Criminal Justice Data Warehouse is a transformative opportunity for Montana's criminal justice system. This initiative is not just about creating a technical platform but represents a fundamental shift in how data is used to improve the justice system operations, policy-making, and inter-agency collaboration. Several key elements contribute to the transformative nature of the JDW:

DATA-DRIVEN DECISION-MAKING:

The JDW is designed to centralize and integrate data from multiple criminal justice entities, enabling stakeholders to make decisions based on real-time, comprehensive information. With better data access, law enforcement agencies, courts, public defenders, and correctional institutions can analyze trends, identify inefficiencies, and evaluate the outcomes of interventions more effectively.

- Policy Support: By providing policymakers with accurate and up-to-date data, the JDW allows for evidence-based policy development. This will enable more informed legislative

decisions, such as resource allocation, criminal justice reform, and adjustments to public safety measures.

- Operational Efficiency: Agencies will have the ability to quickly assess the effectiveness of their programs and operations, improving everything from case management to resource deployment.

ENHANCED INTER-AGENCY COLLABORATION:

One of the most significant systematic issues within criminal justice systems is the siloing of data across various departments and agencies. The JDW addresses this by creating a shared platform where multiple entities, such as law enforcement agencies, public defenders, and the courts, can share and access data seamlessly.

- Breaking Down Silos: The JDW's infrastructure allows for disparate systems to feed into a single, unified database, breaking down barriers to communication and coordination between agencies. This enables all relevant stakeholders to have access to the same information, fostering better cooperation, transparency and collaboration.
- Real-Time Data Sharing: With automated data-sharing tools like Fivetran and Snowflake, agencies can provide real-time updates to the JDW, ensuring that data is current, accurate, and readily available across the system. This enables more timely responses to emerging issues and enhances the ability to track outcomes, such as recidivism rates or program efficacy.

BETTER OUTCOMES FOR THE JUSTICE SYSTEM:

The JDW's focus on data integration and sharing is directly tied to improving outcomes for the justice system and the broader community. By leveraging data more effectively, the system can:

- Improve Public Safety: With comprehensive, real-time data, agencies can more effectively deploy resources, and respond to emerging trends, thereby improving public safety outcomes.
- Increase Accountability: Transparent access to data allows for more oversight and accountability within the justice system. For instance, performance metrics can be tracked to evaluate whether resources are being used effectively or if reforms are delivering the intended results.
- Support Criminal Justice Reform: The JDW can play a key role in advancing criminal justice reform efforts by providing insights into areas that need improvement, such as sentencing,

disparities, incarceration rates, or community-based alternatives to imprisonment. The data can support reform that promotes fairness and efficiency.

STAKEHOLDER ENGAGEMENT:

The success of the JDW depends heavily on continuous and effective engagement with all stakeholders, including state agencies, local governments, law enforcement, courts, and community organizations. The involvement of stakeholders from the beginning helps build trust and ensures that their needs and concerns are addressed.

- Building Trust: By working collaboratively with stakeholders, the project has been able to secure buy-in and align interests across the board. Engaging agencies like DOC, OPD, law enforcement, Courts, and County Commissioners helps to ensure that the JDW reflects the diverse needs of these entities.
- Sustained Engagement: Ongoing communication with stakeholders will be essential as the project evolves, particularly as new counties and agencies are onboarded, and as more data is integrated into the system.

LEGISLATIVE SUPPORT AND SUSTAINABILITY:

The future success of the JDW depends on strong legislative support, both in terms of policy and funding. The 2025 legislative session will be a critical juncture, as it will involve securing funding for the JDW's ongoing infrastructure and personnel needs. Additionally, the ongoing inclusion of language in policy to encourage stakeholder involvement will continue to support and move the project forward.

- Funding for Infrastructure and Personnel: Continued investment in technical infrastructure, such as expanding Snowflake and Fivetran capabilities, assisting state and local agencies in obtaining and/or developing data-sharing solutions, and other software needs as well as maintaining and hiring essential personnel, is crucial to the JDW's long-term viability.
- Continuing to include language in policy that encourages collaboration and stakeholder engagement and continued advocacy of a "big picture" vision of the criminal justice system for the benefit of all Montana criminal justice partners.

CONCLUSION

In summary, the Criminal Justice Data Warehouse holds the potential to revolutionize Montana's criminal justice system by enhancing data-driven decision-making, fostering inter-agency collaboration, and improving public safety outcomes. The progress made by the MBCC and CJOC is commendable, but continued success will rely on strategic planning, ongoing stakeholder engagement, and robust legislative support. If fully realized, the JDW will not only improve the effectiveness and efficiency of the justice system but also deliver better outcomes for communities across Montana.

CRIMINAL JUSTICE DATA WAREHOUSE RESOURCES

Future and updated reports for this project can be found on the following website:

https://mbcc.mt.gov/Data/Criminal-Justice-Data-Warehouse

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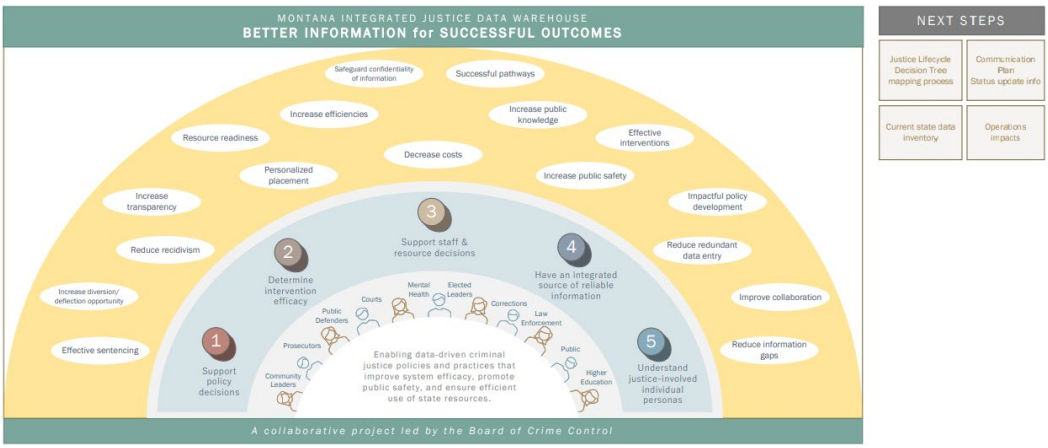
Integrated Justice System Data Project

In the 2023 legislative session, Senate Bill 11 was passed, which included the creation of an Integrated Justice Data Warehouse to be housed and managed within the Montana Board of Crime Control (MBCC), with oversight and direction provided from the Criminal Justice Oversight Council (CJOC). The goal of this legislation was to create a central data repository to address the longstanding issues of fragmented and inconsistent data that have impeded effective policymaking, resource allocation, and overall criminal justice outcomes.

In working with partner agencies and other stakeholders, the objective is to create a system that integrates data collected by criminal justice system partners and agencies—from arrest to incarceration (if applicable) to look at how the system is working across a broad range of topics, from "what efficiencies can be created" and "how can redundant data entry be reduced or eliminated" to "how are policy decisions affecting arrest rates and prison and supervision population and recidivism", as a few examples. More simply put, the goal is to take data from all the various disparate data systems and put them in one place so that effective policy, funding, and operational decisions can be made all while implementing in a way that supports and requires as little cost and additional effort as possible from local partners. The CJOC created and adopted an infographic that helps to broadly explain the intended objectives and outcomes of this project (click **here**, or see infographic below).



Additionally, more information can also be found here: https://mbcc.mt.gov/Data/Criminal-Justice-Data-Warehouse.

In support of this project and our local partners, MBCC has negotiated with CentralSquare and purchased the Application Programming Interface (API) component for agencies statewide that have not already purchased it from CentralSquare. While this component is essential for the Integrated Justice Data Warehouse project, it is a functionality that can also be used for other data share needs your agency may have. We are currently working with our first pilot project county, Ravalli, to work through the data sharing process—from data field selection to the MOU process, and are aiming to start the API onboarding process with them and CentralSquare in the next month or two. We hope to templatize the process as much as possible to make the onboarding of other counties/agencies as quick and efficient as possible.

If you and/or your county are excited to be early participators in this project, or if you just want more information, please let us know. We are more than happy to set up individualized or group calls to share more detailed information and answer any additional questions you may have.

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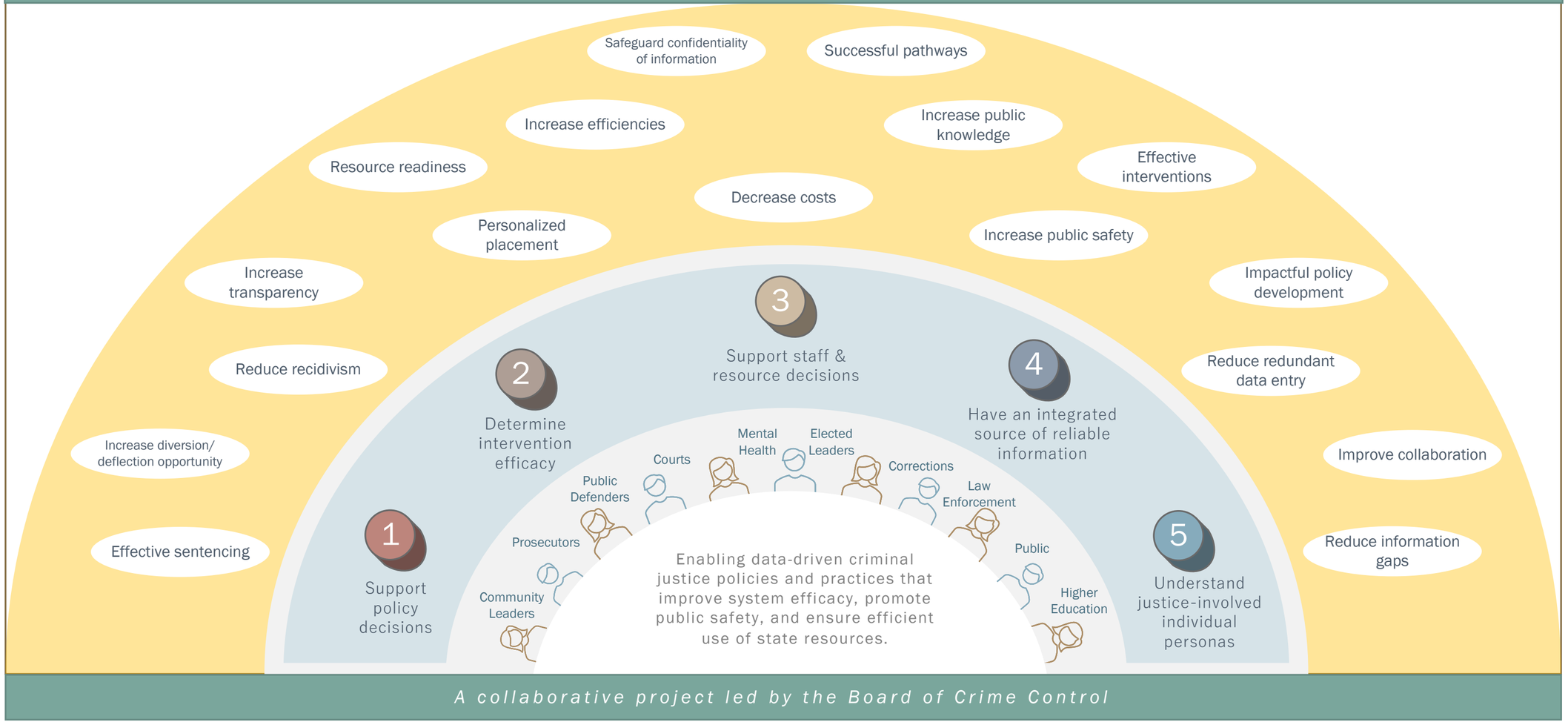
MONTANA INTEGRATED JUSTICE DATA WAREHOUSE

BETTER INFORMATION for SUCCESSFUL OUTCOMES



A collaborative project led by the Board of Crime Control

NEXT STEPS

- Justice Lifecycle Decision Tree mapping process
- Communication Plan Status update info
- Current state data inventory
- Operations impacts