# ORT Prevention Grant Program

## Local Evaluation Plan

San Mateo County Organized Retail Theft Program

Submitted by:

San Mateo County Sheriff's Office

Prepared by:

RTI International: Jacob Cramer, Ph.D. (jcramer@rti.org), Carlee Ruiz (cruiz@rti.org) & Sean Wire (sewire@rti.org)

Date:

5/15/2024

Project Period:

October 1, 2023 – December 31, 2026

## Project Background

**What information can you provide that is essential to understanding the need for the project:**

The San Mateo County Sheriff's Office led a comprehensive and multijurisdictional effort to evaluate the prevalence of and efforts to combat organized retail theft (ORT), motor vehicle theft (MVT), motor vehicle accessory theft (MVAT), and cargo theft (CT) across law enforcement agencies within the county. This includes Atherton, Belmont, Broadmoor, Burlingame, Colma, East Palo Alto, Foster City, Menlo Park, Pacifica, Redwood City, and South San Francisco [County LEAs]. Their analysis, incorporating data from January 2018 through June 2023 highlights key trends in retail theft and the prevalent threat it poses to these communities. Relevant findings include:

- Overall, the County LEAs experienced a 43% increase in retail theft, with five agencies reporting nearly double the amount of shoplifting cases.
- Offenders are known to exploit jurisdictional boundaries and use multiple modes of transportation (stolen vehicles, public transport) within the county to commit crimes across large areas.
- A group of major retailers in a shopping area of Colma reported a loss of $13.4M in 2022. The operational response has been complicated by jurisdictional division of duties, with Colma PD handling reports and Broadmoor PD covers the ingress/egress points near the shopping area. The geographic scattering of the retail targets, police coverage, and the modes of transportation have left geographical gaps in intelligence and hindered the ability to address ORT regionally.
- Annual MVT rates rose 88% from 2018 to 2022, including extreme increases in several cities including Burlingame (73%), Colma (94%), Foster City (94%), Menlo Park (88%), Pacifica (118%), and Redwood City (56%).
- These criminals and networks operating compound to over $1 billion annually in retailer revenue loss for California and there are no observable decreasing trends to MVT, MVAT, and CT in the County LEAs' jurisdictions.

The BSCC ORT grant will allow San Mateo County to implement a targeted and robust strategy to combat ORT, motor vehicle theft, and motor vehicle accessory theft, with a focus on overcoming interjurisdictional gaps in information and data sharing. Specifically, the grant provides resources to:

- Partner with C3 AI to create a standardized law enforcement platform, designed to enhance access to investigative resources, and link RMS access and integrate

other law enforcement data systems into a single program, eliminating data silos and increasing operational efficiency.

- Implement the Regional Automated License Plate Reader (ALPR) Platform, which will integrate and unify the ALPR data points across the county into a single user environment. This will better empower analysts across jurisdictions to connect activity to patterns of repeat offenders, groups, and recover stolen goods. Further, this includes expanding the countywide ALPR capabilities, focusing on intersections and routes to major retail centers.
- Reconfigure the county-wide approach to Laboratory Information Management Systems (LIMS) to better integrate forensic evidence into current investigations.
- Implement a suite of digital forensics and investigative solutions to collect, protect, and analyze the growing volume and variety of mobile device, CCTV and other digital media that often contains the most crucial and convincing evidence during investigations. These systems will be integrated into the C3 AI environment.
- Implement the Organized Retail Crime Incident and Threat Reporting Exchange (ORC ITREx) platform, in conjunction with NCRIC, aimed at improving public safety information sharing, analysis, and strategy development. After the implementation period, this platform will feature near real-time geospatial incident reporting, automated trend analysis, incident spike alerts, and a searchable private sector and public safety partner directory, among other features.

Through the support of the BSCC ORT grant, the technological integration of investigative and evidentiary resources provided to the San Mateo Sheriff's Office and the covered County LEAs will enable the more effective and efficient investigation and redress of ORT, MVT, MVAT, and CT across San Mateo county.

**What is the scope of the project?**

Implementation of this project will be coordinated by the San Mateo Sheriff's Office along with the partnering county LEAs to implement and utilize the broad suite of information software. Each program component will be administered by its relevant entity, including NCRIC, C3 AI, Amazon Web Services and Flock ALPR. This is supplemented by a suite of information and forensic services that can be integrated into the platform including: Babel Street, LeadsOnline CellHawk, Cellebrite Premium, CrimeTracer, GrayKey, SSG Remote, Mission Darkness Digital, Magnet Forensics Evidence, Cubic Digital Intelligence, Hunch.ly, Visualping.io, and StarChase 30.

This project reflects an innovation in LEA capacity to share and leverage data more efficiently and across previously-inaccessible jurisdictions. The program efforts are supported by relatively recent advancements in AI and data management middleware,

meaning there are few comparisons to draw upon. However, this effort is grounded in the assumption that data are useful, so more data are more useful. This effort was pilot tested in coordination with Daly City PD (not represented in this grant) to validate the capabilities of the C3 AI system and confirmed C3 AI's ability to implements the multijurisdictional solution.

**What are the target areas of the project?**

This effort targets the entire operational process of identifying, investigating, and intervening in ORT rather than targeted implementation at a specific site. This process will be organized at the San Mateo County level and involve the full contingent of county LEAs enumerated above. The coordination of efforts across the county and city level jurisdictions is especially important for this project, given its focus on the interoperability of RMS, evidence, and information data systems across these entities.

That said, the development of this intervention paid particular attention to the importance of major retail hubs (e.g. Metro Center), the regional public transit systems (e.g. BART), as well as the major thoroughfares as targets for ALPR placement. The expanded access to cross-jurisdictional information, and improved access to evidence and real-time data about trends across the county should improve the investigative capabilities of all involved agencies. Platform usage statistics and ORT-related crime incident data will provide key outcomes to evaluate the operational success of program rollout and the outcome impacts in the community.

**What are the project's goals and objectives:**

**Goal 1:** *Standardize all County LEAs on a single investigative and reporting platform*

- **Objective 1.** Successfully implement Countywide C3 AI LE platform for all participating agencies
- **Objective 2.** Successfully implement the C3 AI reporting solution for all County LEAs

**Goal 2:** *Implement regional data sharing platforms for the Northern District of California*

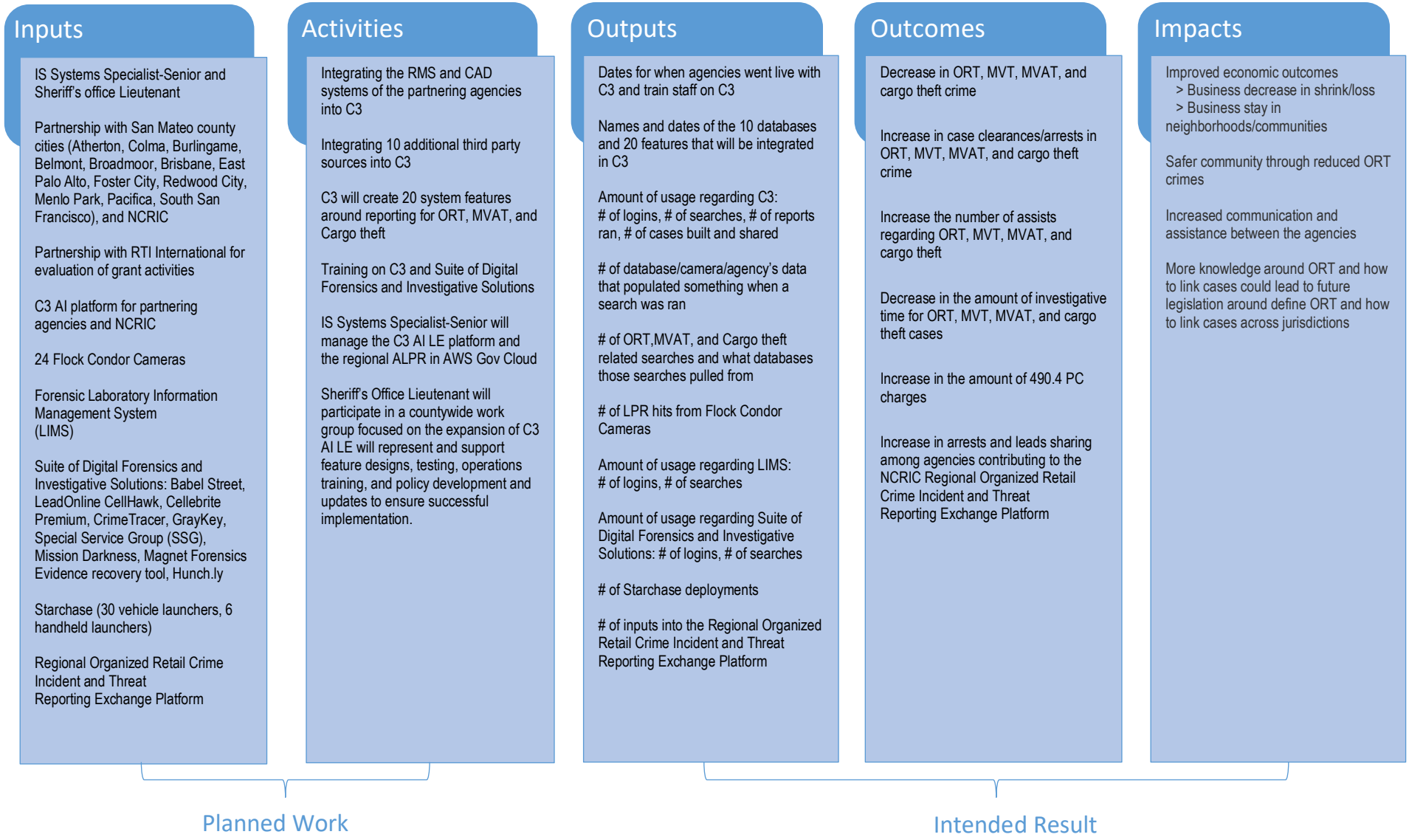
- **Objective 1.** Successfully implement the Organized Retail Crime Incident and Threat Reporting Exchange (ORC ITREx)
- **Objective 2.** Successfully implement the Regional Automated License Plate Reader (ALPR) platform

**Goal 3:** *Reduce occurrences of retail theft, vehicle / accessory theft, and cargo theft in San Mateo County and the Northern District of California*

- **Objective 1.** Successful utilization by all participating agencies of the following systems: ORC ITREx, Regional ALPR, Countywide C3 AI LE, all Digital Forensics and Investigative Solutions for all participating agencies with all source system integrations in place

## San Mateo County Sheriff's Office, ORT Project Logic Model

**Provide a logic model for your project.**



## Process Evaluation Method and Design

The research design for the process evaluation will be primarily focused on descriptive statistics. Most areas of the analysis will be assessing whether an activity was successful completed and how much of each activity took place. For instance, as a part of this process evaluation, we plan to track the frequency of ALPR reads and the number of logins and searches in the C3 AI integrated platform. A process evaluation focused on fidelity to the intended implementation can provide context about the dosage of each project component, improving the interpretation of the subsequent outcome evaluation. This will be supplemented by limited qualitative reports on the usefulness of individual source systems and tools in creating investigative leads and/or arrests.

The United States Department of Homeland Security and the State of California designated the NCRIC as the Northern District of California's law enforcement and public safety "fusion center". The NCRIC has a robust history of developing and implementing data integration solutions and regional intelligence management systems across California, and will serve as oversee all platform training, user vetting and onboarding, and system auditing required by law and this grant. The Sheriff's Office has been working with C3 AI and Amazon Web Services (AWS) since January 2022, successfully implementing the C3 AI LE solution in March 2023. Designated SO staff will procure all digital forensics and investigative solutions, which can be rapidly implemented. Some tools will be evaluated during the first year before the SO commits to ongoing subscriptions, a process facilitated by the process evaluation tasks. RTI International will be responsible for compiling all the data for the quarterly reports, final report, and conducting regular check-ins with SO and relevant County LEAs on the progress of the program.

Throughout the program, interim checkpoints will be established that ensure consistent evaluation fidelity and progress. Where data are incomplete or not collected, RTI will coordinate with the Sheriff's Office to establish additional reporting requirements. The quarterly approach to monitoring data quality and implementation fidelity will allow for regular alignment in activities or in participating LEAs, where implementation has faltered. In coordination with the SO, RTI will develop a project timeline that identifies anticipated data transfers, progress reports, and final reports. The plan will also describe RTI's processes for ensuring that all data can be transferred to our team securely and in a deidentified manner, with specific protocols to be followed when transferring datasets to RTI.

See **Table 1** for the Process Evaluation Methods and Design matrix. There are various types of activities within this program so each process evaluation input is paired with one of the three goals of the program.

*Goal 1: Standardize all County LEAs on a single investigative and reporting platform*
The Sheriff's Office has planned on hiring for two positions to facilitate the transition onto the C3 AI platform and to align the efforts and experiences of the participating County LEAs. This includes one limited-term Information Systems Lead Client Services Specialist to manage the C3 AI LE platform and the regional ALPR in AWS Gov Cloud. This technical resource will support onboarding agencies and connecting data sources to both solutions, ensuring the systems meet all security requirements and best practices. A dedicated Sheriff's Lieutenant will participate in a multi-jurisdictional work group focused on the expansion of C3 AI LE and represent and support feature designs, testing, operations training, and policy development and updates to ensure successful implementation. The status of these two positions and their activities will be continuously monitored over the project period.

One of the primary administrative activities over the course of the grant is the coordination of partnerships with the County LEAs to ensure the agreement to share data and that MOUs are signed as agencies onboard. Administrative and communication records, as well as user onboarding data will be essential to tracking the engagement of partner agencies and monitoring platform use. Because the continuous access and utilization of previously inaccessible data is central to this project, these aspects of participation will be continuously monitored over the course of the grant, with interruptions being quickly flagged and addressed.

The primary objective of this coordination is to align the local agencies on the integrated C3 AI Law Enforcement platform. C3 AI will implement the following features over a 15-month period: agency onboarding inclusive of the County LEAs' records system integration (RIMS Fusion Center move & integration); seven independent data source integrations, 17 system enhancements designed to accelerate organized retail, vehicle/accessory and cargo theft investigations, integration with the regional ALPR platform, role-based access controls and security, end user training and support, and all required system audit logs and reporting. This "one-stop shop" platform will be available to the County LE A's, effectively eliminating data siloes and intelligence gaps and exponentially increasing operational efficiencies and collaboration. Additionally, the SO will implement C3 AI's reporting solution to enhance reporting capabilities within the Ce.ai LE application. This will allow all participating agencies to, for the first time, pull standardized and multi-jurisdictional data in relation to organized retail theft, vehicle/accessory theft, and cargo theft from a single system, as well as other performance metrics and reporting relative to the grant goals and objectives, and daily operations. As the primary mechanism by which ORT and related incidents may be more effectively investigated and cleared, the process evaluation will focus heavily on C3 AI utilization statistics, including the number of daily active users, logins, searches, reports ran, and the number of cases predicated on information from the platform. We

anticipate that as our knowledge of how the platform is most frequently used, additional indicators may become relevant.

Goal 2: *Implement regional data sharing platforms for the Northern District of California*

The C3 AI LE platform will be enhanced by a number of other regional data sharing platforms, including the ORC ITREx and regional ALPR platform. The Organized Retail Crime Incident and Threat Reporting Exchange (ORC ITREx) will be a statewide solution that improves private sector and public safety information sharing, analysis, and strategy development to identify and mitigate the threat from ORC actors and groups. THe regional ALPR platform will centralize access to the local and county LPR data and be supplemented by integration of Flock's advanced API data feed into C3 AI.

Both platforms will be assessed in the same ways, using a descriptive analytic approach to leverage usage statistics to track fidelity. This applies to both contribution of data to the platforms as well as utilization once the data are available. For ORC ITREx, the number of linked agencies contributing data, as well as the number of integrated vendors are important metrics; and for the ALPR platform, the number of LPR devices and jurisdictions reporting to the central service. From an end-user perspective, we plan to monitor access to these systems including the number of active users, logins, and datafiles are accessed by officers.

Goal 3: *Reduce occurrences of retail theft, vehicle / accessory theft, and cargo theft in San Mateo County and the Northern District of California*

To directly support the investigation and reduction of retail theft, the Sheriff's Office has sourced 24 ALPR systems from Flock Safety, the fastest-growing ALPR and digital video capture solution in the county and region. The date of purchase and installation for these cameras will serve as early indicators of success. The number of LPR reads and stolen vehicles/suspect vehicle alerts will be tracked quarterly for each LPR countywide to determine that LPRs are working and contributing as intended. A descriptive analysis such as counts, means for continuous measures and percentages for categorical measures will be conducted to track the fidelity of the LPRs and cameras.

The current Laboratory Information Management System (LIMS) is inadequate to manage and extract the variety of latent, DNA and firearm evidence often collected and generated from retail and vehicle theft investigations, nor can the system integrate with other intelligence software. A new, more robust LIMS solution integrated with C3 AI LE will allow the Crime Lab to share laboratory-generated leads with County LEAs exponentially faster. The date of purchase and installation of this software, integrated with C3 AI will be recorded. Utilization of the FLIMS will be monitored using recorded number of logins and searches within the system. We anticipate that the source of information, and importantly whether that information would have been previously inaccessible will also help to assess the value of this upgrade.

The Sheriff's Office will implement a suite of Digital Forensics and Investigative Solutions to collect, protect, and analyze the catastrophically growing volume and variety of mobile device, CCTV and other digital media ascertained as part of retail vehicle/accessory and cargo theft investigations. The SO will offset countywide resource constraints by deploying a host of technological solutions and training for SO staff to support investigations for all LEAs. This suite will include: Babel Street, LeadsOnline CellHawk, Cellebrite Premium, CrimeTracer, GrayKey, SSG Remote, Mission Darkness Digital, Magnet Forensics Evidence, Cubic Digital Intelligence, Hunch.ly, Visualping.io. While each of these integrations into the C3 platform contributes something unique to the investigative procedure, the process evaluation is focused on mapping the successful addition of each resource and recording how widely they are used during the study period, using the number of unique logins, searches, and specific engagement with each resource.

StarChase Guardian systems will be distributed to all SO jurisdictions, allowing patrol to discharge GPS tracking projectiles to facilitate the safety and success of pursuits as they relate to organized theft incidents. The number of magnetic trackers purchased (30 vehicle mounted, 6 handheld), number of uses related to ORT/MVAT crime, dates, locations, and whether it resulted in an arrest will be tracked. These will be used on a quarterly basis for descriptive analysis about the utilization of this technology.

**Table 1: Process Evaluation Methods and Design**

| Input/Resource/Activity/Output | Data Element(s) | Data Source(s) | Frequency of Data Collection |
|---|---|---|---|
| Staffing Assignments:<br>IS Systems Specialist Supervisor<br>Sheriff's Office Lieutenant | # of staff assigned, their duties | Employment records, interviews | Quarterly |
| Coordination of partnerships with County LEAs & NCRIC | # of MOUs in place with partner agencies; # agencies connected to software platforms | Internal records and communication; user onboarding and training records; recurring status reports | Quarterly |
| Integration of C3 AI Law Enforcement platform and the C3 AI Reporting solution | Amount of usage regarding C3: # of logins, # of searches, # of cased viewed in C3, # of investigations created in c3 | C3 AI management software; development dashboard; recurring status reports | Quarterly |
| Organized Retail Crime Incident and Threat Reporting Exchange (ORC ITREx) | # of contributing agencies; # agencies connected to software platforms; # integrated vendors and data inputs; # of unique users | Internal records and communication; user onboarding and training records; recurring status reports | Quarterly |
| Integration of Automated License Plate Reader (ALPR) platform | Assess if software is successful installed and utilized; # of contributing devices | Internal records & invoicing; ALPR management software | Quarterly |
| Installation of 24 Flock Condor cameras | # of LPR reads and hits; # of equipment installed; Locations of installed cameras/LPR | LPR database (Flock Safety; ALPR; operations tracking sheets | Quarterly |

| | | | |
|---|---|---|---|
| Forensic Laboratory Information Management System | Assess if software is successful installed and utilized; Usage statistics including # of logins and # of searches | Internal records & invoicing; IMS management software | Quarterly |
| Integration of suite of Digital Forensics and Investigative Solutions software | Names and dates of the 7 databases and 17 features that will be integrated in C3 | Internal records & invoicing; C3 AI platform | Quarterly |
| Magnetic Vehicle Trackers (StarChase) | # of magnetic vehicle trackers purchased; # of uses of magnetic vehicle trackers, dates, locations, and whether it resulted in an arrest | Operations tracking sheets | Quarterly |

## Outcome Evaluation Method and Design

The outcome evaluation will be conducted using a mixed methods design with descriptive, quantitative, and qualitative analysis. Much of the descriptive analysis will be taken from the process evaluation such as the number of arrests and LPR reads/alerts. However, beyond the metrics of implementation success, we also plan to measure the outcomes and impacts related to the intervention, such as a reduction in organized retail theft, improvement in investigative time and outcomes, and increased arrests within the San Mateo County. The rigor of the outcome evaluation is complicated by the absence of an untreated control area, and the discontinuity of C3 AI platform data, which did not exist prior to implementation. The lack of a strong counterfactual requires creativity in attributing observed effects to the broader intervention. We plan to leverage inconsistent utilization across cases and over time to form an acceptable comparison group. Understanding how the scope of platform use correlates with changes in investigative effort or clearance rate over time is one such approach. Otherwise, the outcomes will be a largely descriptive exploration of how incident volume and disposition has changed before and after deployment. This will be supplemented by a qualitative approach, incorporating officer and other user perspectives, to disaggregate which parts of the comprehensive intervention are most effective or may be responsible for observed effects.

See **Table 2** for the Outcome Evaluation Method and Design Matrix**.** The below outcomes evaluations are paired with one of three overall goals of the program.

Goal 1. *Standardize all County LEAs on a single investigative and reporting platform*

The primary component of this grant project is the migration of all county LEAs onto a unified data platform, with the intention of making investigative resources and information more easily accessible over the course of the investigation. From a impact perspective, this is expected to facilitate access to more relevant information and reduce the investigative burden and decrease the time an investigation takes, allowing more ORT crimes to be investigated within a given period. Improvements to these investigative processes will be most evident in the duration of time it takes to close an investigation and the number of closed ORT investigations during the observation period. This outcome evaluation is primarily focused on efficiency; however we also anticipate the ability to classify information and evaluate whether the quality of available evidence was also improved. The inputs for this evaluation are sourced from the County LEA RMS and CAD systems, as well as the C3 AI platform to understand how it was used. The efficiency metrics can be compared to similar ORT investigations as they occurred prior to the implementation of the C3 AI platform in a multi-period pre-post design relying on t-tests to evaluate changes in active time, and chi-square tests to understand differences in categorical content usage.

Goal 2. *Implement regional data sharing platforms for the Northern District of California*

One of the most important considerations for this grant project is the realities of implementing the software solutions across 15 entities. The primary benefit of this approach is mitigating the data silos that exist between these agencies and allow new opportunities for data sharing and tracking. Whereas in the past agencies could only access contextual information from their own RMS system, or were limited in their access to LPR pings within a certain jurisdiction, the information exchange platform (ORC INTREx) and regional ALPR will allow all users to access all the shared data across agency lines. This is expected to improve the identification of ORT cases, where additional thefts may be otherwise unknown, and the investigation of these cases, with improved access to evidence and information. Because there is no data pertaining to cross-jurisdictional data sharing prior to the deployment of the C3 AI, ORC INTREx, or regional ALPR systems, this evaluation will be largely descriptive, focusing on how engagement and information sharing has developed over the course of the project compared to baseline at implementation. These descriptive measures include the type and frequency of data points being accessed in one jurisdiction that would have been inaccessible or too burdensome to access prior to the software.

Goal 3. *Reduce occurrences of retail theft, vehicle / accessory theft, and cargo theft in San Mateo County and the Northern District of California*

With the increased regional capability and response of LEAs, the impact of theft related investigations is expected to increase workload in various areas. This includes an anticipated increase in arrests/court filings, search warrants, trial appearances which would also create an increased prosecution effort for the San Mateo County District Attorney's Office (DAO). While enhancing services for LEAs may generate more work in some areas, the expected outcome is to secure successful investigative outcomes leading to prosecution and property recovery while deterring the potential for on-going criminal activity. The outcome measures for ORT, MVT, MVAT, and CT are derived from the relevant agency CAD and RMS systems and supplemented with retail shrinkage reports from participating retail partners. The analytic approach will be largely descriptive trends of crime prevalence over time, with an inferential focus on differences in the pre and post intervention period. Our understanding of the underlying trends in the measures of theft is complicated by the potential for a deterrent effect to lead to a decrease in events, while improved investigation may lead to an increase in awareness. These will have competing effects on the perception of the trend and will be contextualized by the process evaluation as well as the inclusion of generic theft counts to disentangle effects of the program from broader trends in offending.

While it is important to assess the impact of this program to reduce crime, it is also beneficial to assess how well the program handles the crimes that do occur. We plan to use three outcome measures used to assess this: additional arrests, improved case clearance, and the prosecution of qualifying incidents as ORT (§ 490.4). Arrest and 490.4 charging are count values that can be sourced from the agency RMS systems as well as the San Mateo District Attorney records. The prevalence for both can be examined over time, with the start date of the program serving as the intervention point in a time series analysis. The clearance rate information is focused on the percentage of each theft outcome that is cleared with an arrest or by other exceptional means, also derived from the corresponding RMS. As an additional value, we plan to use regression modeling to understand what inputs from the C3 AI platform or otherwise are most responsible for improving prevalence and clearance rates.

**Table 2: Outcome Evaluation Methods and Design**

| Outcome | Definition | Data Source(s) | Frequency of Data Collection |
|---|---|---|---|
| Decrease investigative time required for ORT/MVAT crimes | Faster access to more information should reduce the burden of each ORT investigation and improve investigative speed | SO and County LEA Record Management System (RMS) and Computer-Aided Dispatch (CAD), Operations tracking sheets, C3 AI usage statistics | Quarterly |
| Increase investigative leads shared across agencies using the comprehensive platforms | Increase in inter-jurisdictional investigative data accessed from a C3 AI integrated platform | SO and County LEA Record Management System (RMS) and Computer-Aided Dispatch (CAD), ORC INTREx, C3 AI usage statistics | Quarterly |
| Reduce ORT, MVT, MVAT, and CT crime | Reduction of ORT crime incidents compared to prior to the implementation of the program | SO and County LEA Record Management System (RMS) and Computer-Aided Dispatch (CAD); retail loss reports | Quarterly |
| Increased clearance rate for ORT/MVAT crimes | Increase the successful clearance rate of ORT and MVT cases that do occur, compared to prior to the implementation of the program | SO and County LEA Record Management System (RMS) and Computer-Aided Dispatch (CAD) | Quarterly |
| Increased arrests for ORT/MVAT crimes | Increase the number of arrests related to ORT/MVAT crimes compared to prior to the implementation of the program | SO and County LEA Record Management System (RMS) and Computer-Aided Dispatch (CAD) | Quarterly |
| Increase the amount of 490.4 PC charges | Increase the number of filed ORT charges compared to prior to the implementation of the program | SO and County LEA Record Management System (RMS) and Computer-Aided Dispatch (CAD) | Quarterly |