IMPROVING ACCESS TO U.S. CRIME DATA

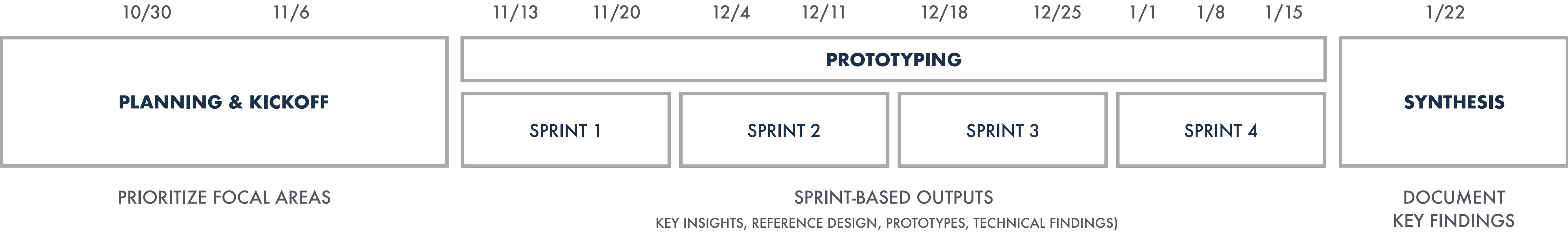## DEVELOPING A STRATEGY FOR EVOLVING THE CRIME DATA EXPLORER

18F

THE GOAL FOR THIS EFFORT IS TO DEVELOP A STRATEGY FOR EVOLVING THE CDE.

18F & the FBI have been working together for the past year to build a website called the Crime Data Explorer (CDE). The CDE makes it easier for law enforcement and the general public to access data collected from nearly 18,000 law enforcement agencies as part of the Uniform Crime Reporting (UCR) program. The team delivered an initial release, or minimum viable product (MVP), of the CDE in the summer of 2017 and is now preparing the FBI's Criminal Justice Information Service (CJIS) to own and evolve the product, while continuing to do so in an interactive and human-centered way.
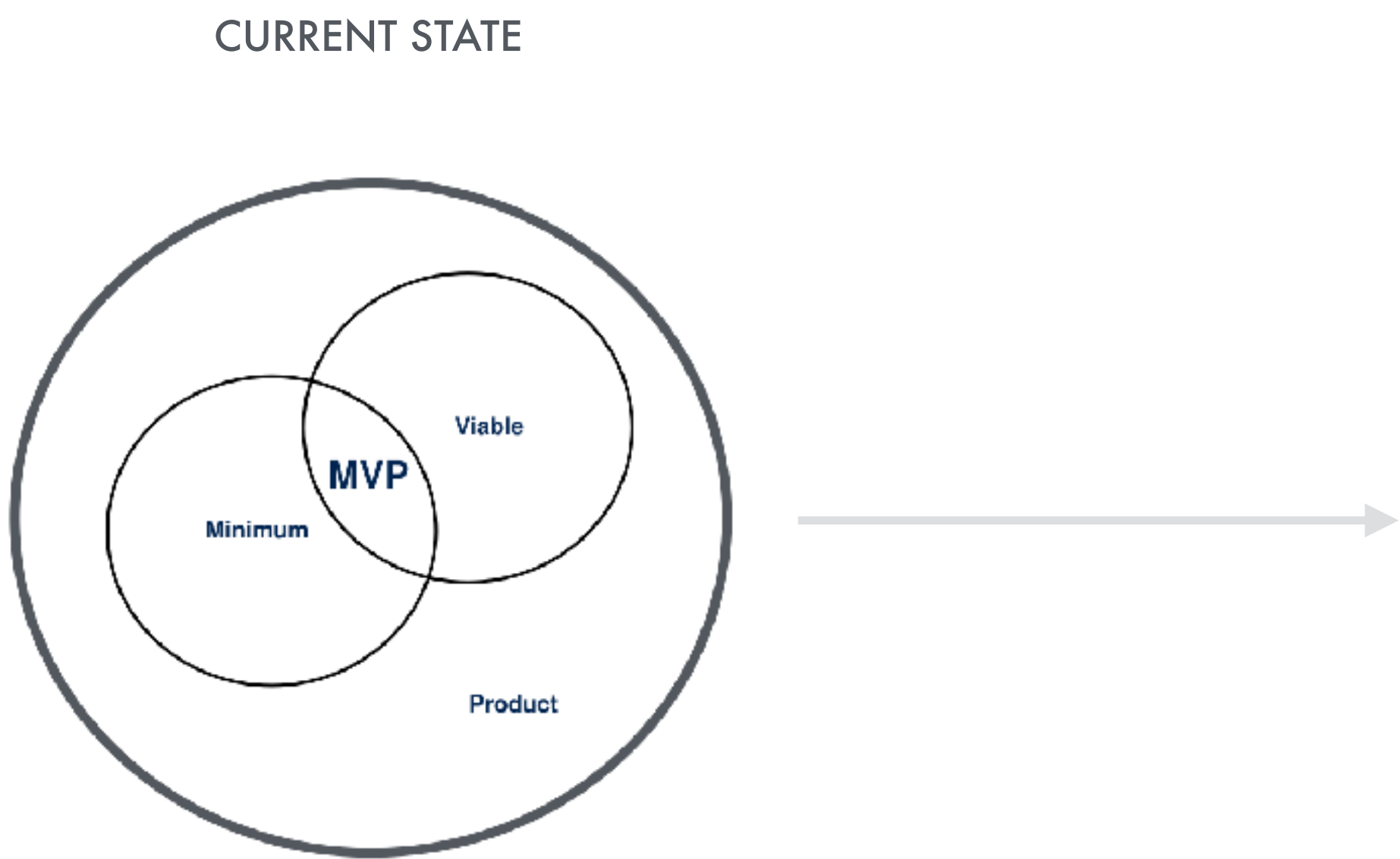
Since its initial release, the vision for the CDE has sharpened. It is now being positioned as the "primary platform for publishing UCR data" and the "digital front door for the UCR program", by offering broader access and more dynamic views of available crime data. This focus raises new questions to explore, such as how the CDE may change how crime statistics are published going forward, as well as how broader access can lead to better, more timely data.

Given these goals CJIS engaged 18F in a 12-week discovery effort that was aimed at setting a trajectory for the CDE. Unlike previous development efforts, 18F was not asked to deliver production-ready code; rather it was tasked with answering key questions that would inform the future of the product, such as how to make NIBRS data easier to work with and how to expand its presence in the CDE.

| 10/30 | 11/6 | | 11/13 | 11/20 | 12/4 | 12/11 | 12/18 | 12/25 | 1/1 | 1/8 | 1/15 | | 1/22 |

PROTOTYPING

PLANNING & KICKOFF

| SPRINT 1 | SPRINT 2 | SPRINT 3 | SPRINT 4 |

SYNTHESIS

PRIORITIZE FOCAL AREAS

SPRINT-BASED OUTPUTS

KEY INSIGHTS, REFERENCE DESIGN, PROTOTYPES, TECHNICAL FINDINGS)

DOCUMENT
KEY FINDINGS

CURRENT STATE

FUTURE STATE

Viable

MVP

Minimum

Product

THE CDE IS THE "DIGITAL FRONT DOOR" FOR THE UCR PROGRAM.

IT PROMOTES PROGRAM MODERNIZATION THROUGH IMPROVED ACCESS TO UCR DATA.

THIS IS WHAT WE ASPIRE THE CDE TO BE. Use this vision statement to align stakeholders and to guide decision making. It is your North Star.

View national, state, and local trends for major SRS & NIBRS offenses

Download bulk incident data by state and year, as well as other selected datasets, like hate crime, as a CSV.

View definitions and related links that provide context for the data

Access UCR data via an open API

DO ONE THING REALLY WELL

A GOOD PRODUCT HAS FOCUS. For the CDE that means providing broad access to UCR data; it is not a dedicated tool for data analysis or visualization.

MEET USERS WHERE THEY ARE

OUR USERS HAVE A RANGE OF NEEDS & PREFERENCES. To serve these different groups we provide multiple pathways to the data, such as a web interface, downloads, and an API, rather than attempt a "one-size fits all" approach.

BE INTERESTING, BUT RESPONSIBLE

ORIENT & GUIDE PEOPLE TO THE DATA, BUT LET THEM DRAW THEIR OWN CONCLUSIONS. A persistent challenge for us was striking a balance between presenting information in a way that was engaging to the public, while staying true to the FBI's reporting standards.

PROVIDE A CONSISTENT EXPERIENCE

USERS DON'T UNDERSTAND THE NUANCES OF THE UCR PROGRAM, LIKE THE DIFFERENCE BETWEEN SRS & NIBRS. We sought to minimize these differences by centering the web experience around a common set of crime types and maintaining a similar look and feel regardless of the data type being displayed.
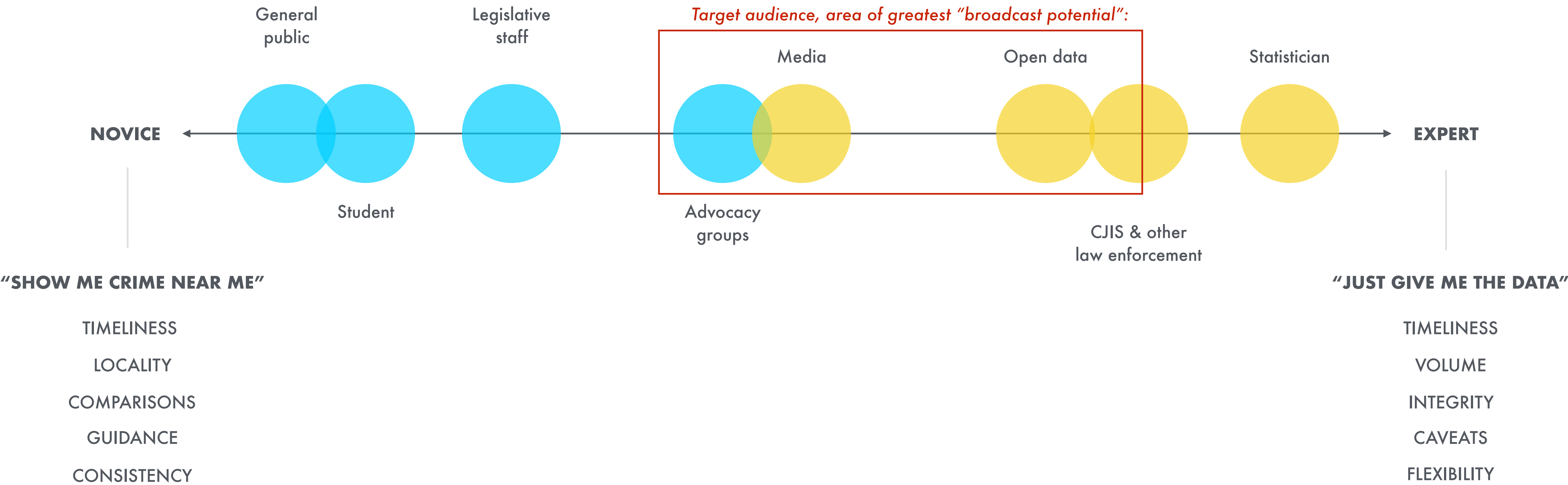
INSPIRE TRUST

THE CDE IS AN EXTENSION OF THE FBI BRAND. We sought to build trust in the CDE by explaining how the data should be used and what its limitations are. Similarly, we prioritized usability, performance, and data integrity over expanded functionality.
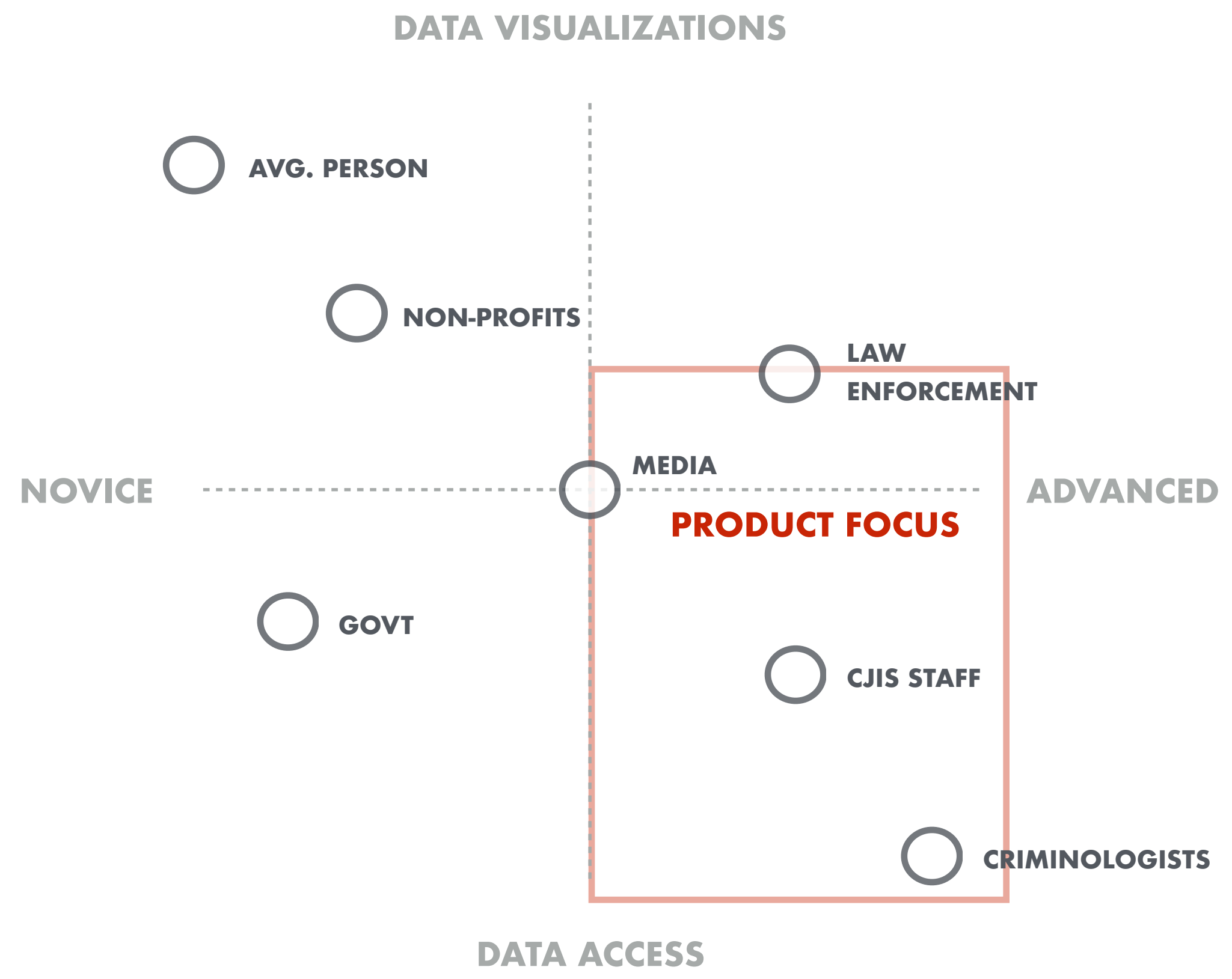
CUSTOMER FOCUS

Research suggests that the typical CDE users is familiar with the UCR program and or working with open data. Similar to the "novice", they value context, but prefer working with the data in it's primary form and favor downloads & the API over the CDE interface.
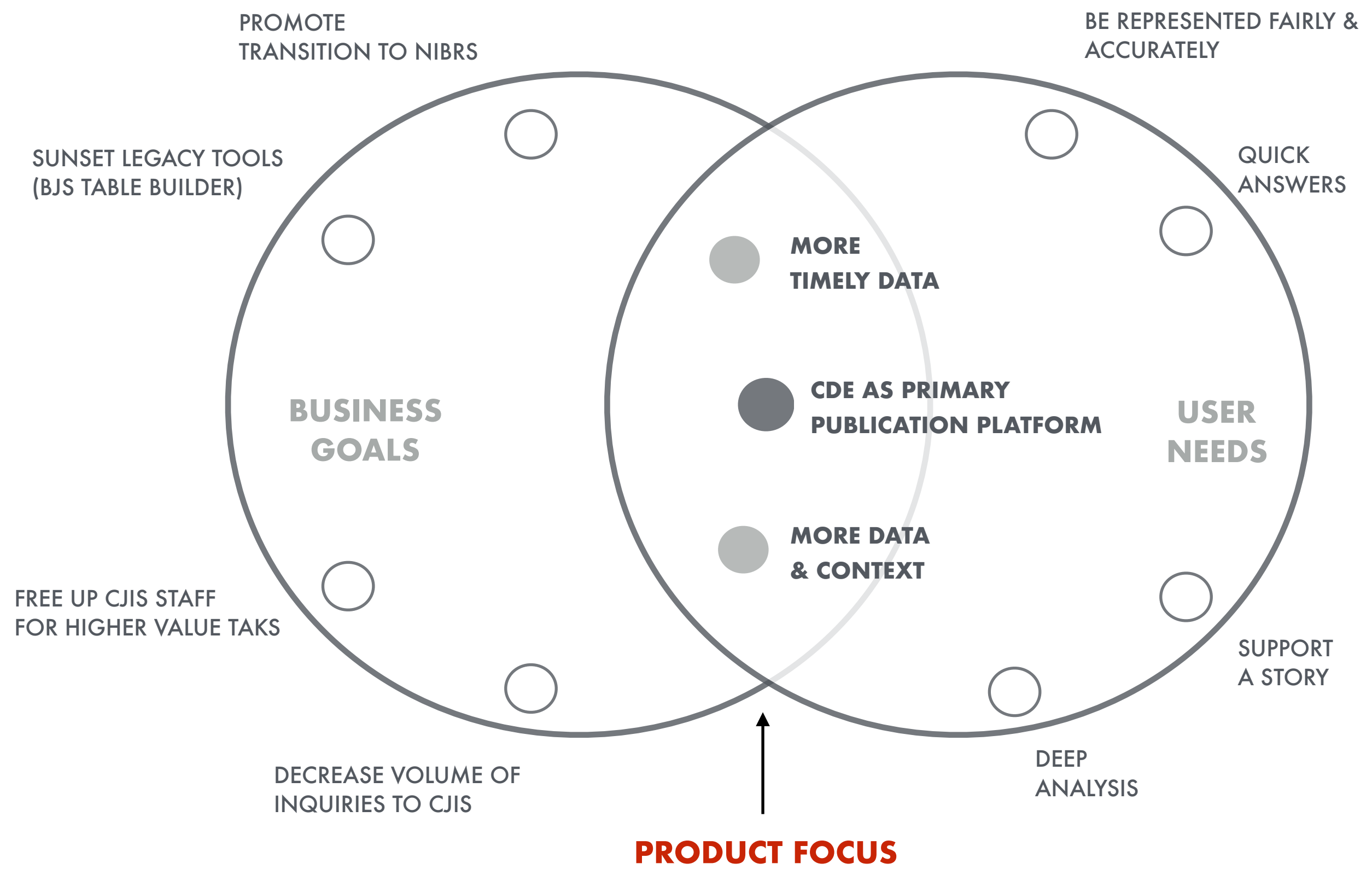
General public

Legislative staff

Target audience, area of greatest "broadcast potential":

Media

Open data

Statistician

NOVICE ←

EXPERT →

Student

Advocacy groups

CJIS & other law enforcement

"SHOW ME CRIME NEAR ME"

TIMELINESS

LOCALITY

COMPARISONS

GUIDANCE

CONSISTENCY

"JUST GIVE ME THE DATA"

TIMELINESS

VOLUME

INTEGRITY

CAVEATS

FLEXIBILITY

TARGET USERS

HOW USERS DIFFER IN BACKGROUND & PREFERENCES

DATA VISUALIZATIONS

AVG. PERSON

NON-PROFITS

LAW ENFORCEMENT

NOVICE   MEDIA   ADVANCED

PRODUCT FOCUS

GOVT

CJIS STAFF

CRIMINOLOGISTS

DATA ACCESS

THEMES & CAPABILITIES

HOW BUSINESS GOALS & USER NEEDS INTERSECT

PROMOTE TRANSITION TO NIBRS

BE REPRESENTED FAIRLY & ACCURATELY

SUNSET LEGACY TOOLS (BJS TABLE BUILDER)

QUICK ANSWERS

MORE TIMELY DATA

BUSINESS GOALS

CDE AS PRIMARY PUBLICATION PLATFORM

USER NEEDS

MORE DATA & CONTEXT

FREE UP CJIS STAFF FOR HIGHER VALUE TAKS

SUPPORT A STORY

DECREASE VOLUME OF INQUIRIES TO CJIS

DEEP ANALYSIS

PRODUCT FOCUS

PRODUCT STRATEGY

This discovery effort was aimed at helping CJIS set a trajectory for the future of the CDE, as it evolves from a minimum viable product (MVP) and into the "preferred platform for publishing UCR data." 18F was not focused on specifying features to be delivered, or defining long-term development plans. Rather, our intent was to surface key opportunity areas and other perspectives to help guide CJIS in its decision-making going forward.

Another important aspect of our work was aimed at preparing the team at CJIS for the "cost of ownership of the CDE," by identifying the processes and capabilities that are necessary for supporting and evolving the product. Part of this requires new ways of thinking, both in terms of how CJIS delivers software and how the CDE can serve as a platform for improving the publication of UCR data.

GO SLOW TO GO FAST

In terms of a product strategy, we recommend a phased approach that starts with building up supporting processes and capabilities, such as defining automated data validation processes, to ensure a strong foundation for maturing the CDE. Next, we recommend a focus on enabling "responsible access to the data," by adding capabilities that allow for more dynamic footnotes and notations and validating the core product offering once the FBI.gov URL is obtained. With these foundational pieces in place CJIS can leverage what its learned to decide on more "growth-oriented" enhancements, such as potential changes to the interface.

THE CDE AS A PLATFORM FOR DEMONSTRATING THE VALUE OF NIBRS

We recognize the pressure to expand the presence of NIBRS in the CDE, given the push to achieve an all NIBRS reporting standard by 2021. However, given the current state of the NIBRS program, which covers only 30-40% of the US population, there are higher value opportunities for CJIS to pursue in the short-term than making costly changes to the interface. Moreover, our research to date suggests that our target users (media and other "advanced consumers of data") prefer to access the data in its raw and unedited form, and tend to bypass the interface for downloads and the API.
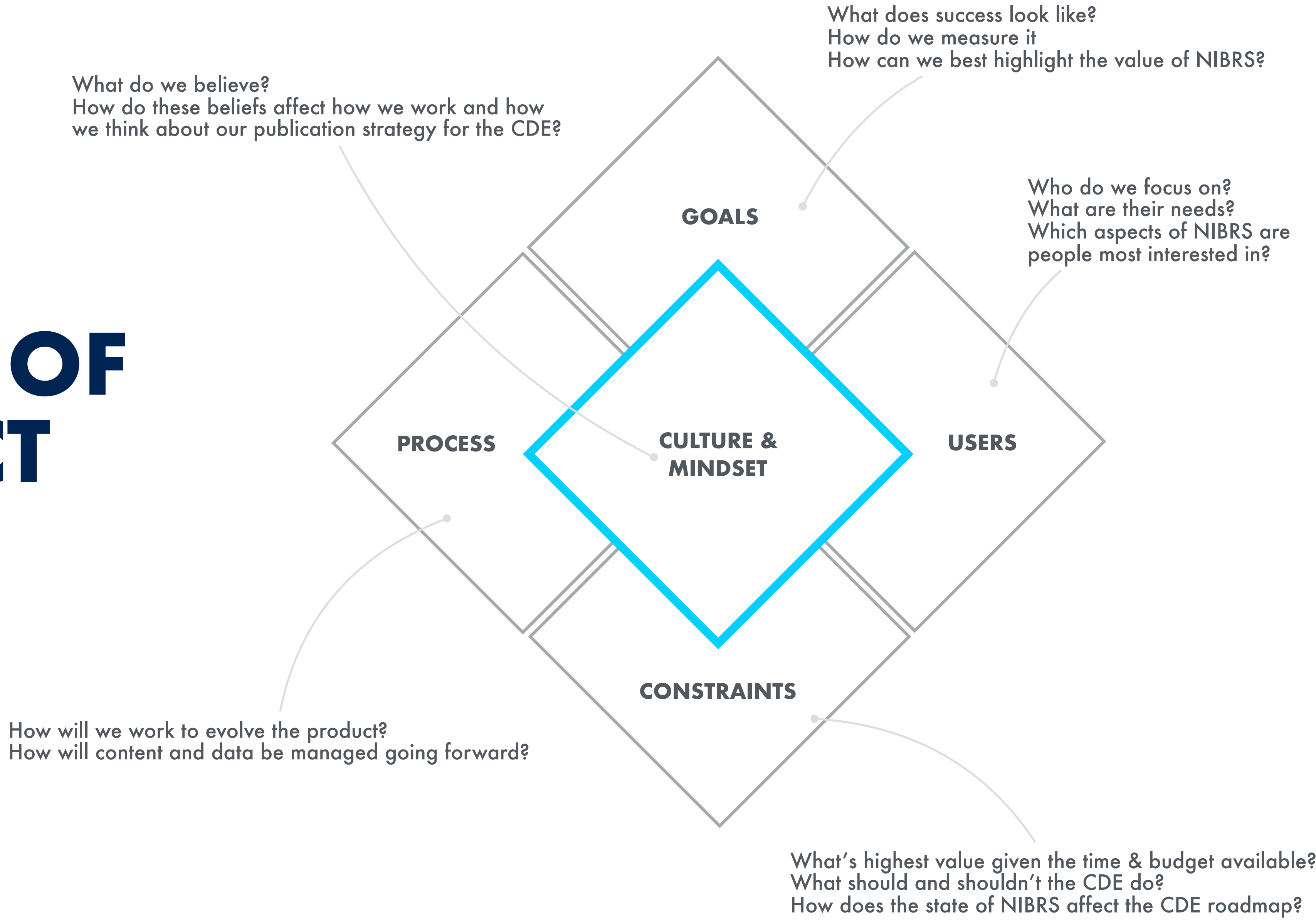
INVEST IN SPECIALIZED DOWNLOADS

However, even though the volume of NIBRS data is limited, the CDE can still help demonstrate the value of NIBRS data while the program matures. On this front we recommend investing in "specialized" downloads, or datasets built around specific topics, to both showcase the value of NIBRS and learn more about which datasets are of interest to users and how they want to interact with them. In this sense, specialized downloads provide a low cost way of expanding the presence of NIBRS in targeted directions, while also setting the stage for more robust enhancements in the future.

JUST START

NIBRS is complex and so there are many potential views of the data that could be offered. Our research suggests that there is no clear consensus among users as to which NIBRS perspectives they would like to see next, but there are a few logical places to start. As such, we recommend starting with a short list of topical areas, such as women against violence and violent crime in large cities, and adding new downloads iteratively based on what is learned from user feedback and website analytics.

THE 5 ELEMENTS OF A PRODUCT STRATEGY

What do we believe?
How do these beliefs affect how we work and how we think about our publication strategy for the CDE?

What does success look like?
How do we measure it
How can we best highlight the value of NIBRS?

Who do we focus on?
What are their needs?
Which aspects of NIBRS are people most interested in?

GOALS

PROCESS

CULTURE & MINDSET

USERS

CONSTRAINTS

How will we work to evolve the product?
How will content and data be managed going forward?

What's highest value given the time & budget available?
What should and shouldn't the CDE do?
How does the state of NIBRS affect the CDE roadmap?

THE CDE IS A **PRODUCT,** NOT A PROJECT

A product is designed to meet a specific user need as part of a larger business strategy.

A product mindset is focused on people, problems, and outcomes and requires a fundamentally different approach than traditional IT project management.

PRODUCTS DELIVER VALUE

CUSTOMERS

BUSINESS

TECHNOLOGY
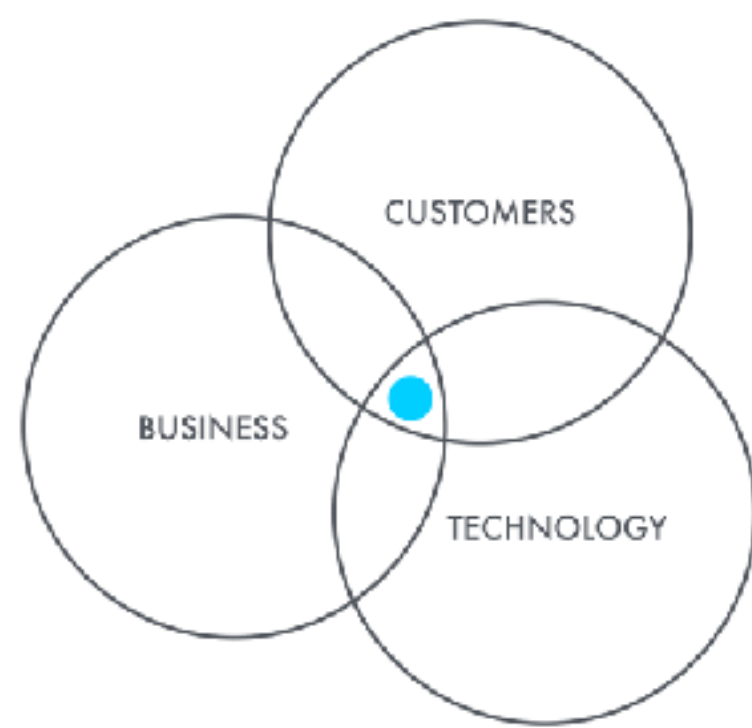
Learning & adapting

Design

Iterative development

Hypothesis-based

Purposeful

Value generation

PROJECTS ARE MANAGED

TIME

BUDGET

SCOPE
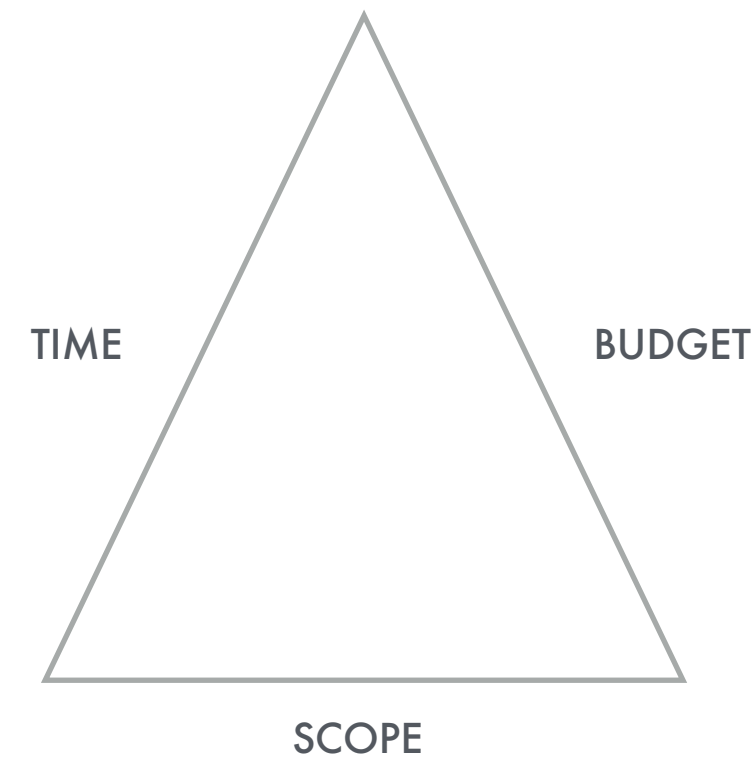
Predictability & efficiency

Execute

Waterfall development

Requirements-based

Reactive

Conformance to a plan

# PRODUCT DEVELOPMENT ISN'T A LINEAR PROCESS - IT'S ABOUT LEARNING

Traditional "command and control" approaches to project management, with its focus on predictability, can distract from what truly matters - people, problems, and outcomes - and increase the risk of building the wrong things.
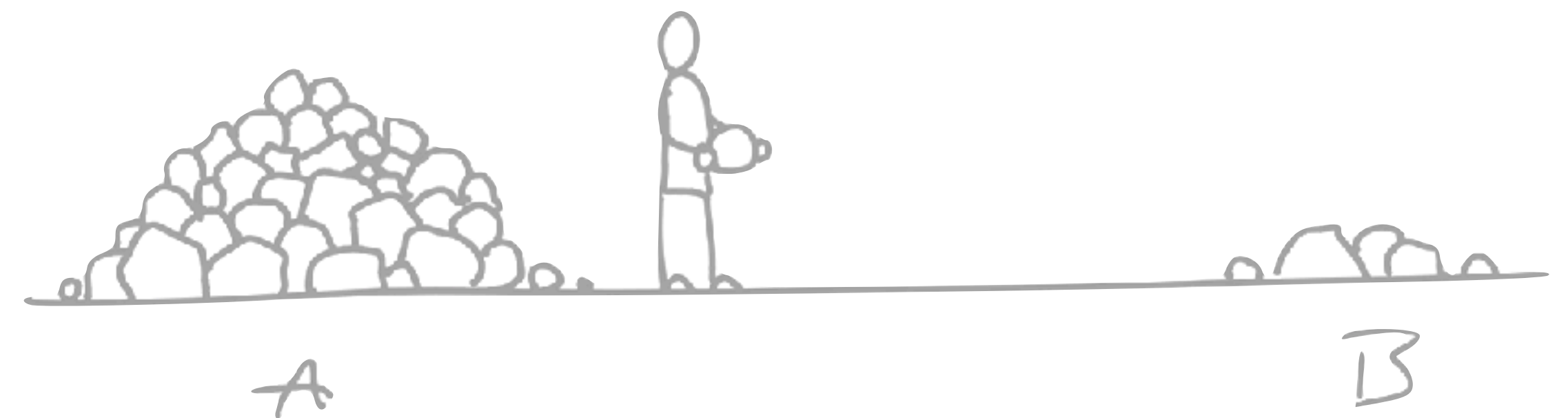
Ryan Singer, Why Agile Isn't Working and What We Can Do Differently

THE CDE IS ONE PART OF A DIGITAL ECOSYSTEM

Do all of these pieces work in isolation, or are they part of a cohesive whole? What goals do they help CJIS work towards and how can we measure them? How do we coordinate teams and efforts across these various work-streams?
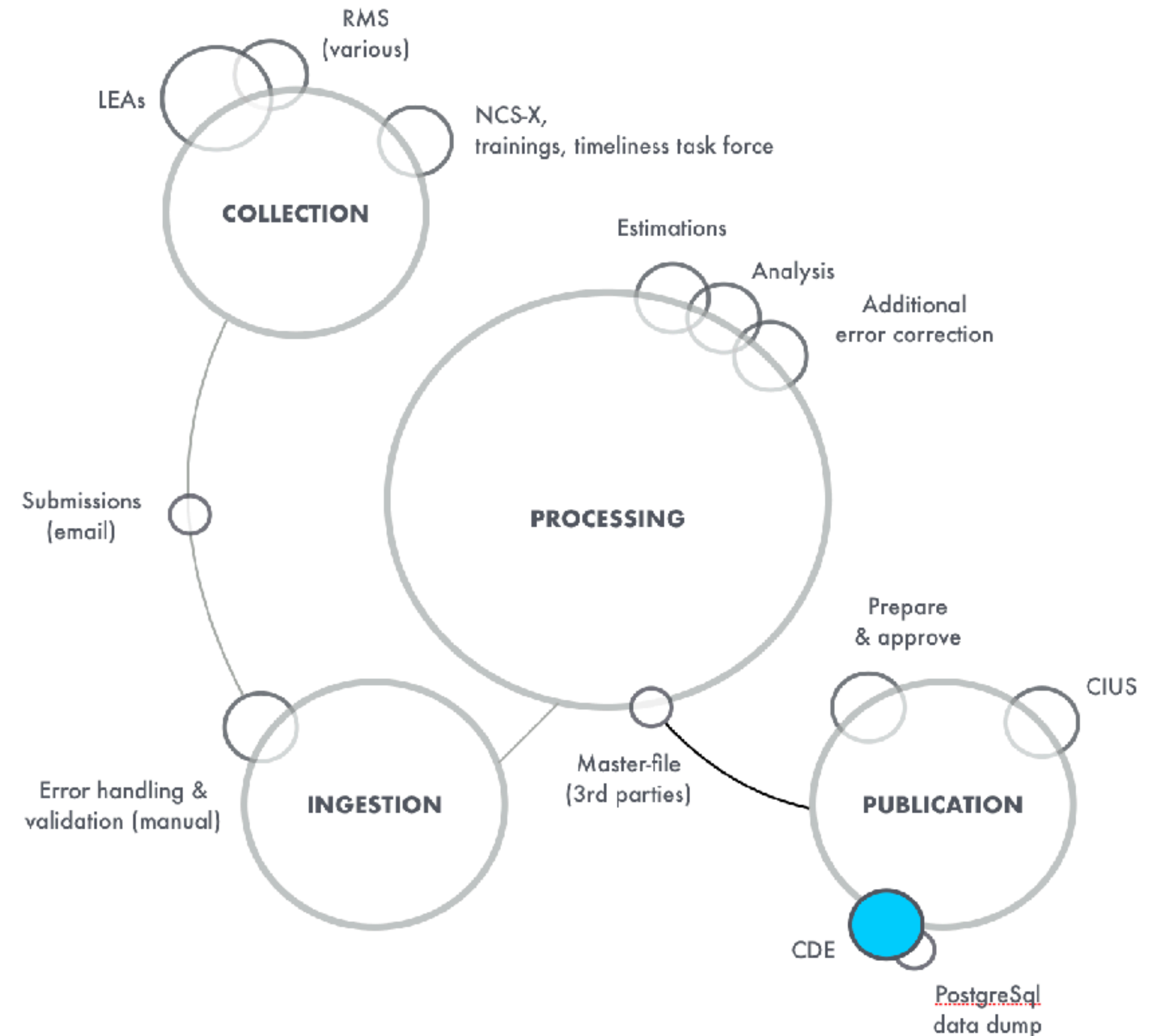
*The UCR digital ecosystem - key systems and workflows*

PHILOSOPHY FOR EVOLVING THE CDE

PRODUCT PHASES

Enhancements that extend the product and further the mission. The growth layer is only worth investing in when there is a solid foundation in place and the core product has been validated.

Core functionality that enables "responsible access to the data", meet user needs, and validates product direction. Requires close contact with users and an iterative, experiment-driven approach.

Processes & people are in place to support the success & sustainability of the product.
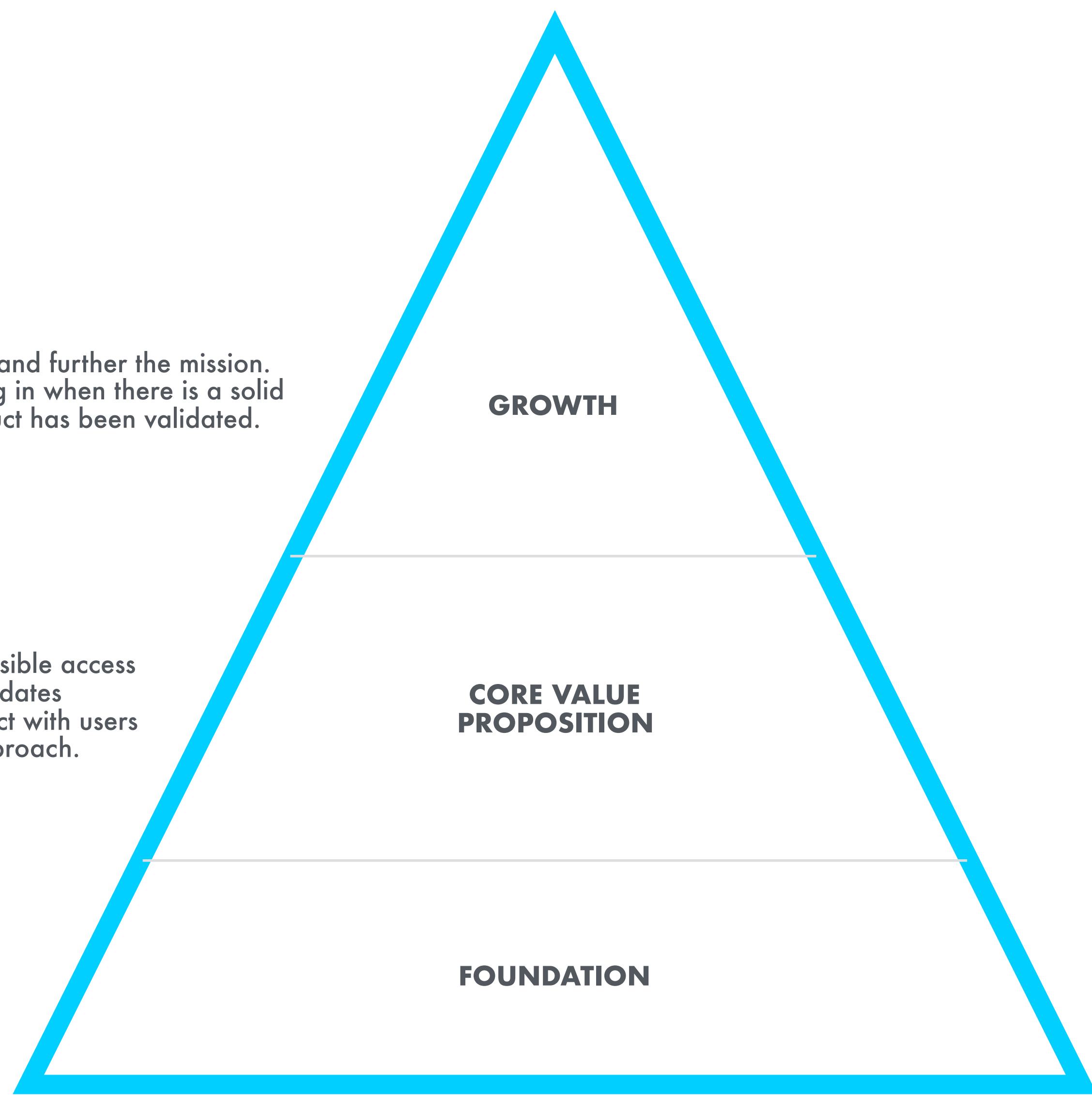
OPPORTUNITY AREAS

Expand the API

Add detail to the interface as NIBRS participation improves

Consider new visualizations based on frequently requested data and what is learned from downloads

Start treating context like data

Meet users where they are by investing in downloads

Use specialized views to highlight the value of NIBRS & as a platform for informing future perspectives

Define qualitative & quantitative success metrics

Develop processes for validating & maintaining the data

Adopt iterative development practices

GROWTH

CORE VALUE PROPOSITION

FOUNDATION

John Vars, "Product Hierarchy of Needs"

PRODUCT ROADMAP - V1

	NOW (2-4 MONTHS)	SOON (3-6 MONTHS)	LATER (6+ MONTHS)
PRODUCT THEMES	● MORE DATA ● ENABLE A DIGITAL ORGANIZATION	● IMPROVED CONTEXT & CAVEATS ● MORE ROBUST ANALYTICAL CAPABILITIES	● IMPROVED GRANULARITY ● MORE TIMELY DATA
STORY CANDIDATES	● Add incident endpoint (expand API) ● Add dimensions for existing NIBRS offenses ● Add new NIBRS offenses to Explorer ● Add SHR dataset for download	● Enable dynamic flagging/footnotes for the data ● Enable trend-based comparisons between states ● Add demographics to complement crime data ● Add a BJS-like table builder for custom queries	● Enable new geographic perspectives of the data, such cities, counties, and regions. ● Allow users to flag potential issues with the data for correction
PROCESS	● Collect feedback on which datasets to add ● Consider prioritizing access to the data via the API & downloads over changes to the interface that require more UI/UX work	● Conduct research to determine if a custom query tool similar to the BJS table-builder is needed, or if pre-generated downloads will suffice	● Decide how to represent non-standard reporting areas, like cities, responsibly ● Explore opportunities for tighter integration between CDE and New UCR to facilitate more regular updates
ORGANIZATION	● Establish a cross-functional digital team that is fully dedicated to the CDE. Hire UI/UX help ● Seek out agile & product owner training ● Start building a culture that embraces more widespread use of agile & open source	● Work with the publication team to develop a mechanism and process for mapping annotations with specific agencies & years	● Consider collecting more GIS information from LEA's to improve the granularity of the data available. ● Explore reforms to the UCR program that improve the volume and quality of the data available to the CDE.