

# FBI CDE

## Key learnings and MVP definition

December 13, 2016

## GOALS FOR TODAY

- Share what we've learned through research and prototyping
- Align on priorities and goals for MVP
- Discuss future considerations & next steps

## Background and goals

**“We need more transparency in law enforcement. We also need better, more informed conversations about crime. To get there, we are improving the way this nation collects, analyzes, and uses crime statistics”** – DIRECTOR COMEY, 2015

- Deliver a first iteration of the CDE (MVP) that can be tested with the public and evolved
- Learn more about user & stakeholder needs
- Demonstrate the value of the UCR program
- Set the stage for broader UCR modernization efforts

POST DISCOVERY

## HYPOTHESIS

**The CDE is a digital solution that enables law enforcement and the general public to more easily access and understand UCR data.**

**Access to data leads to greater awareness**



**Broader participation & improved data quality**

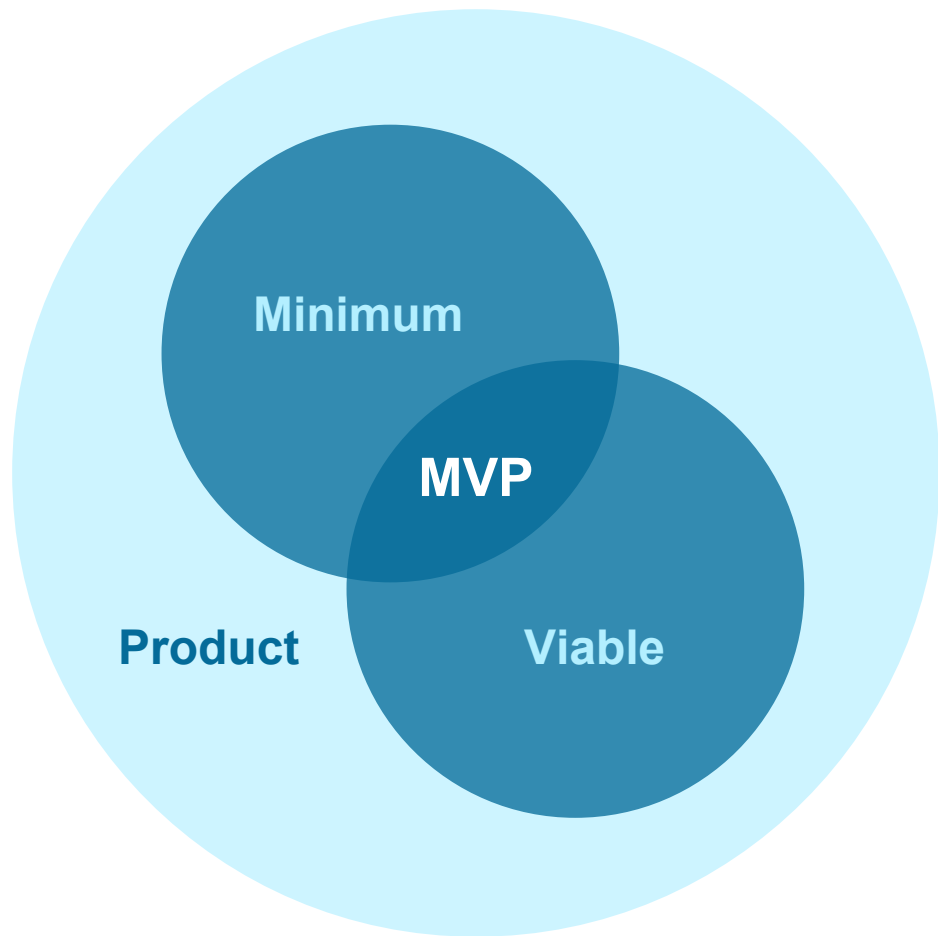


**New value for UCR program & general public**

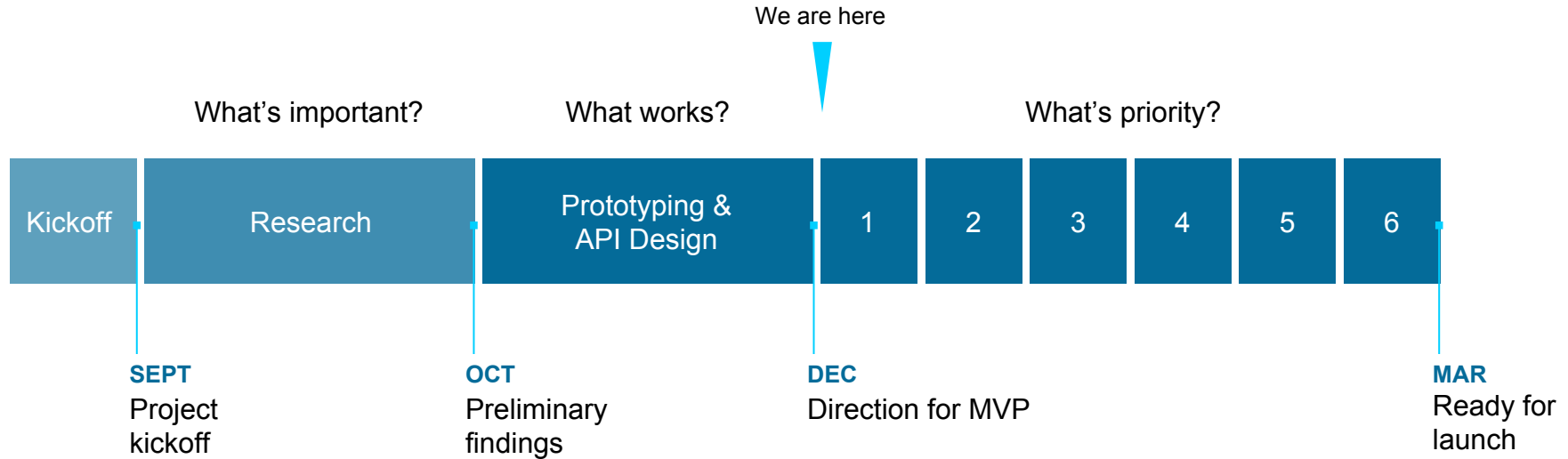
“The charts you showed me earlier were good at **providing the big picture trends**, but I’m having a more visceral reaction to this part...you’re showing me what types of people were affected by these crimes, where, and how. **It’s humanizing the data for me.**” — PARTICIPANT FROM USER TESTING

## THE MVP SHOULD:

1. **Design for core experiences**
2. **Acknowledge and work within our constraints**
3. **Focus on the highest value problems**
4. **Deliver as part of a broader strategy**



# TIMELINE & APPROACH



## OUR PARTNERS



**Samuel Berhanu**, Unit Chief, Product Owner

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**Howard Snyder**, Deputy Director, Bureau of Justice Statistics

**Jim Dufford**, Xcelerate Solutions

**Greg Donewar**, Xcelerate Solutions

**Jonathan Cox**, Unit Chief, Office of Public Affairs

## ACTIVITIES & DELIVERABLES

Crime Data Explorer  
Discovery Workshop

Kickoff /  
Discovery workshop

FBI CDE  
Discovery Workshop  
Synthesis & Playback

Synthesis and  
playback deck



Consumer, staff, and  
stakeholder research



Technical research and API  
development

FBI CDE  
Preliminary Findings &  
Solution Hypothesis

Preliminary findings deck



Prototype iterations and  
user feedback sessions (x3)



Weekly status meetings and  
reports with core team



# Prototyping

## RESEARCH ACTIVITIES

# Who we talked to

25

Subject matter  
experts

Open data experts  
Govt. technologists  
ASUCRP members  
BJS staff

30

FBI  
stakeholders  
and staff

FBI leadership  
CJIS staff

13

Novices

Students  
Non-profit staff  
Advocates

18

Influencers

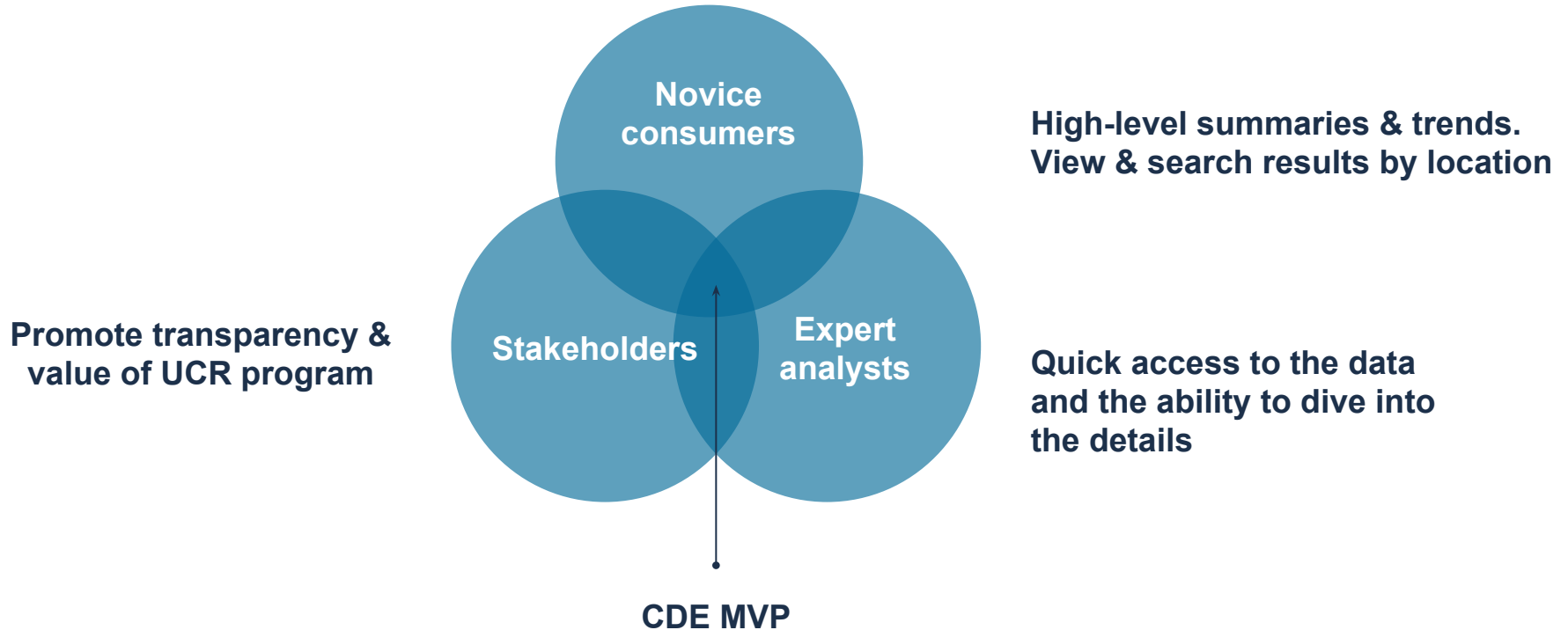
Reporters  
Bloggers  
Data Journalists  
Lobbyist

13

Experts

Criminologists  
Researchers  
Statisticians

# SPECTRUM OF NEEDS & EXPECTATIONS



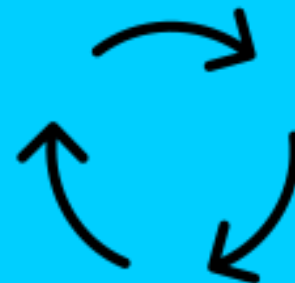
## OUR APPROACH



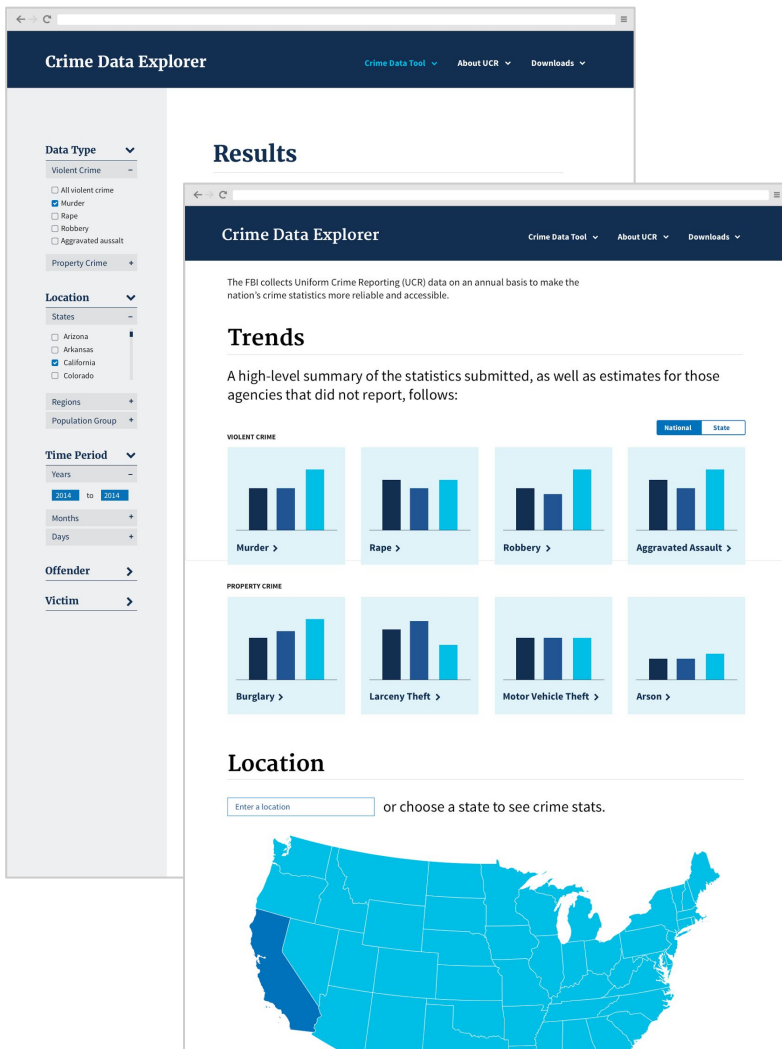
Make



Learn



Repeat



## SPRINT 1 / EXPERT ANALYSTS

Analysts **prefer the data** in its **primary form** so they can dive into the details.

**Charts and graphs** are useful as **guides** to the data they're looking for.

**Maps** are useful for **locating data** and providing context. The more granular the location, the better.

**Context** helps people **interpret and apply the data**, and understand its limitations.

C

# Crime Data Explorer

[Crime Data Tool](#) ▾[About UCR](#) ▾[Downloads](#) ▾

## Crime in the U.S.

The FBI collects Uniform Crime Reporting (UCR) data on an annual basis to make the nation's crime statistics more reliable and accessible.

View national data or choose a state to see crime stats.

A map of the United States where each state is shaded in one of four colors representing different percentages of eligible agencies reporting crime data. The colors range from lightest blue to darkest blue.

### Data Type

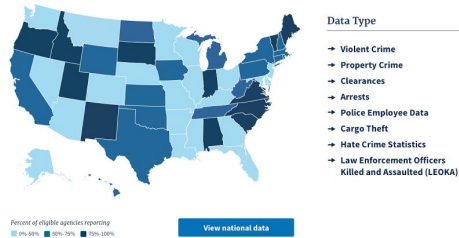
- Violent Crime
- Property Crime
- Clearances
- Arrests
- Police Employee Data
- Cargo Theft
- Hate Crime Statistics
- Law Enforcement Officers Killed and Assaulted (LEOKA)

Percent of eligible agencies reporting

■ 0% - 50% ■ 50% - 75% ■ 75% - 100%

[View national data](#)

View national data or choose a state to see crime stats.



- [Crime Data Tool](#)
- [About UCR](#)
- [Downloads](#)



☐ All violent crime

☐ Robbery

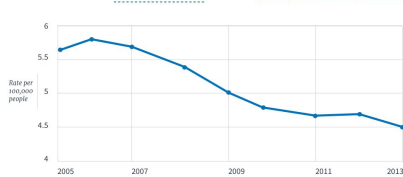
☐ Aggravated assault

**Property Crime**

The number of murders per 100,000 people. FBI defines **murder** and **nonnegligent manslaughter** as the willful killing of one human being by another. This classification is based on the police investigation as opposed to the determination of a court, medical examiner, coroner, jury, or other judicial body. Murder does not include deaths caused by negligence, suicide, or accident; justifiable homicides; or attempts to murder, which are classified as aggravated assaults.

man-slaughter as the willful killing of one human being by another. This classification is based on the police investigation as opposed to the determination of a court, medical examiner, coroner, jury, or other law body. Murders that do not include deaths caused by negligence, suicide, or accident; justifiable homicides; or attempts to murder which are classified as manslaughter.

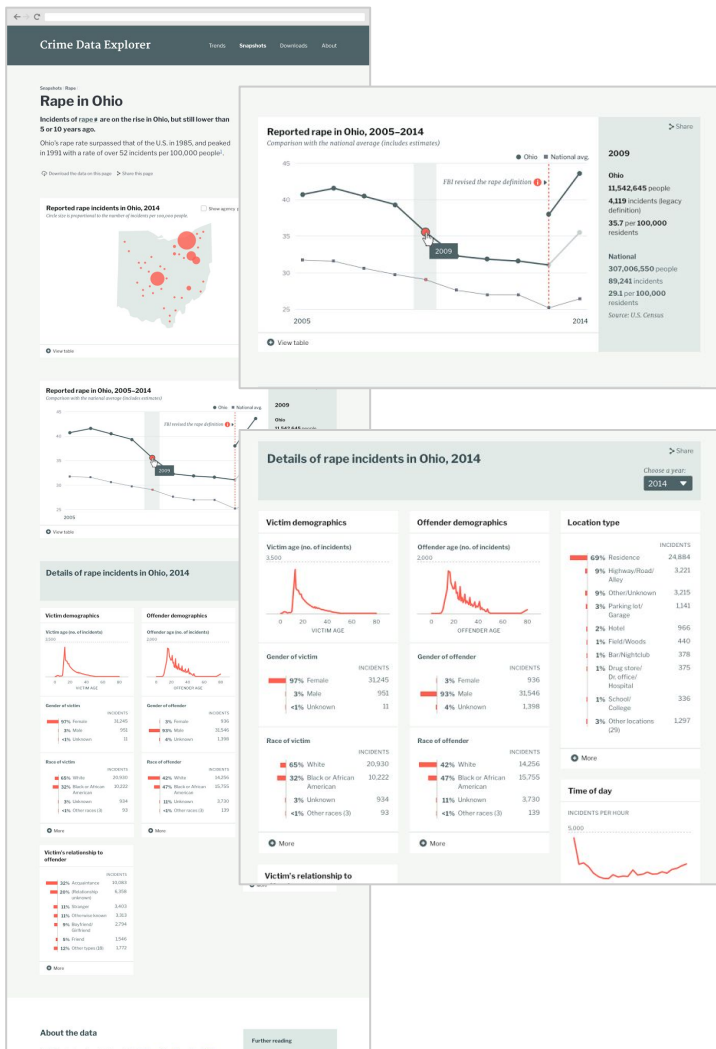
National murder rate



**i** The data is from **National law enforcement agencies** that submitted **crime data** for the years **2005 through 2014**. Totals are aggregates of the totals reported by agencies providing data to the UCR Program within each state.

Provide easy and quick access to data and available data types. **Don't create complex navigational structures** that users must navigate to find details.

**High-level filters provided enough detail**  
about the data for a wide-range of  
participants.



## SPRINT 3 / MIX

Snapshots showcase NIBRS attributes in context with Summary data. Users didn't differentiate between data sets.

Simplifying the design and presentation of data leads to a better understanding and greater accessibility.

Expert consumers expect to manipulate the CSV file in order to analyze it. They want to look at the data first and return to the CDE for additional details if necessary.

# Focus for MVP



## FOCUS FOR MVP

### WHAT?

The first iteration of the CDE is aimed at orienting and guiding users through the data—it's not a dedicated tool for analysis.

### WHO?

Aim for consumers with influence over the public's perception of crime, but make it approachable and accessible for everyone.

### HOW?

Provide multiple pathways to the data—visualization of high-level trends, CSV downloads of SRS and NIBRS, and an open API. \*

*\* The MVP will be limited to a single data transfer from new UCR, but will evolve to support future updates.*

# MVP Experience



Sharon, a journalist for her hometown paper, sees a retweet from a colleague about the FBI's 2016 crime data.

She's working on a story about rape trends in her state and visits the site to see what information is available.

#### KEY MOMENT

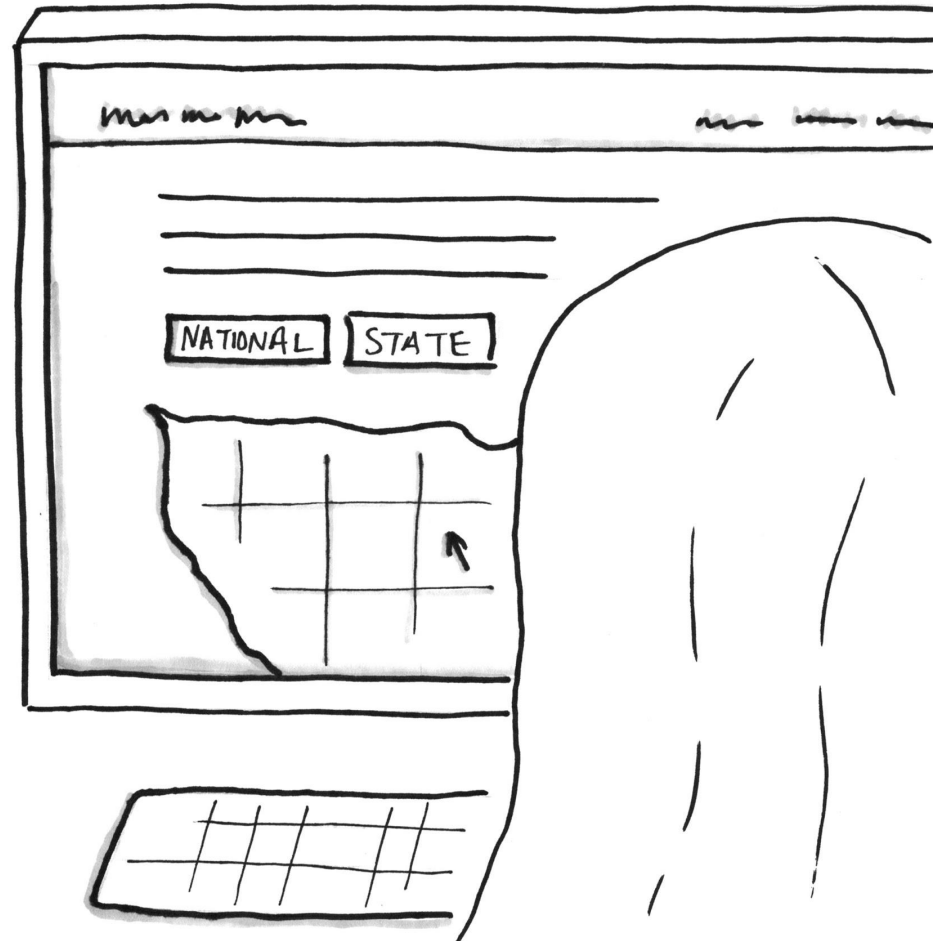
Consumer learns about new data available from FBI

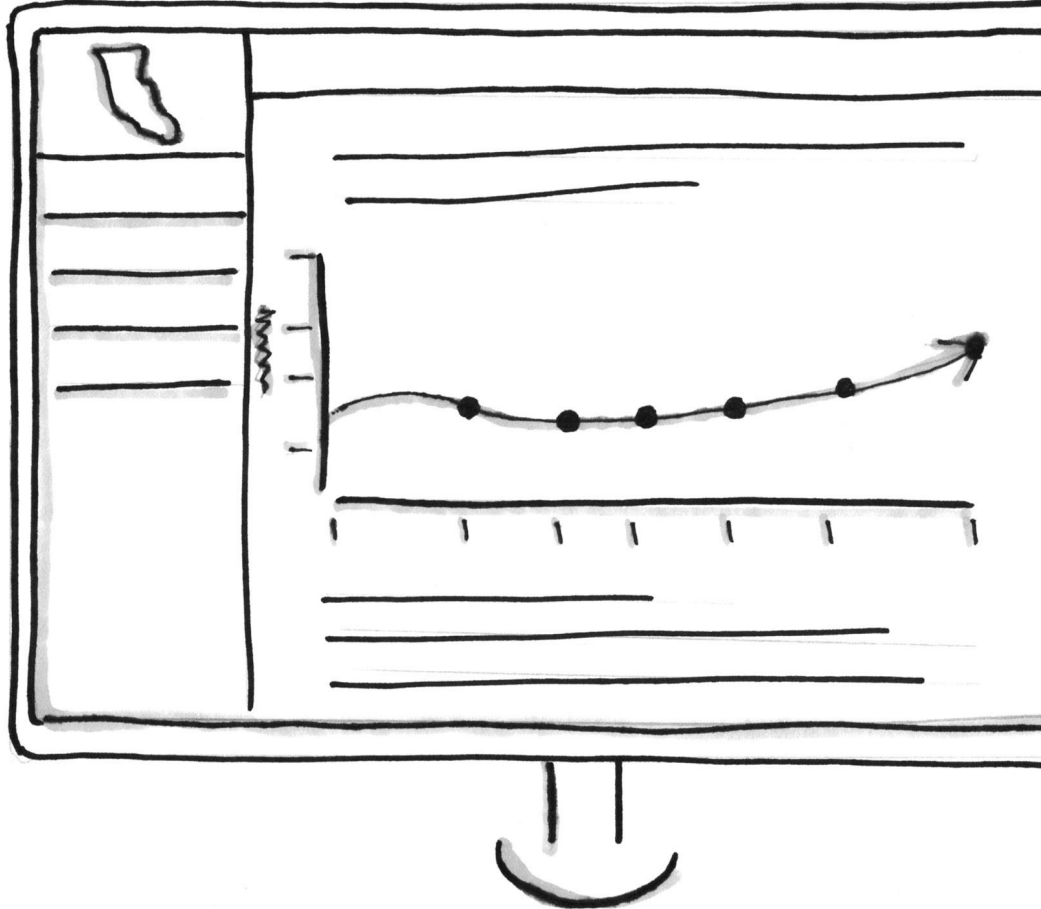
Sharon reads the site to better understand the UCR program.

She chooses to navigate to her state using the interactive map instead of selecting a specific type of crime.

#### KEY MOMENT

Consumer searches for data by location or type of crime





Sharon views the reported rape trends in her state and then filters the data further to answer her own questions.

#### KEY MOMENT

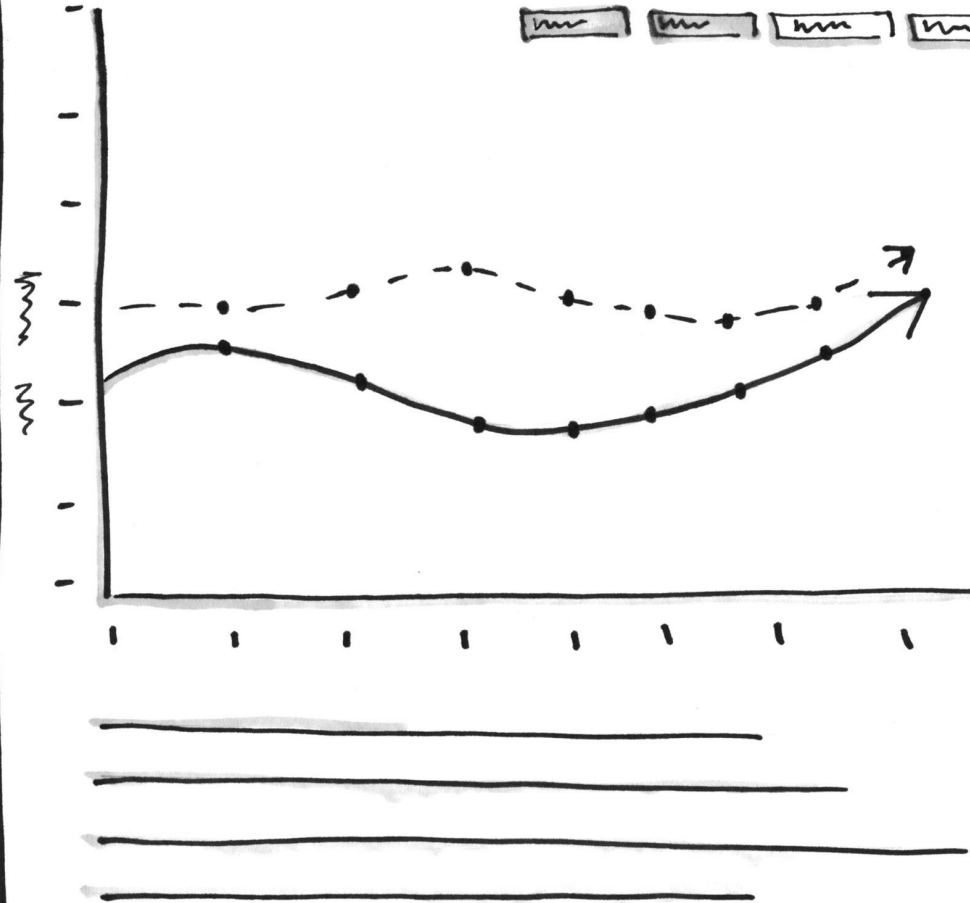
Consumers refines search by sub-category offense

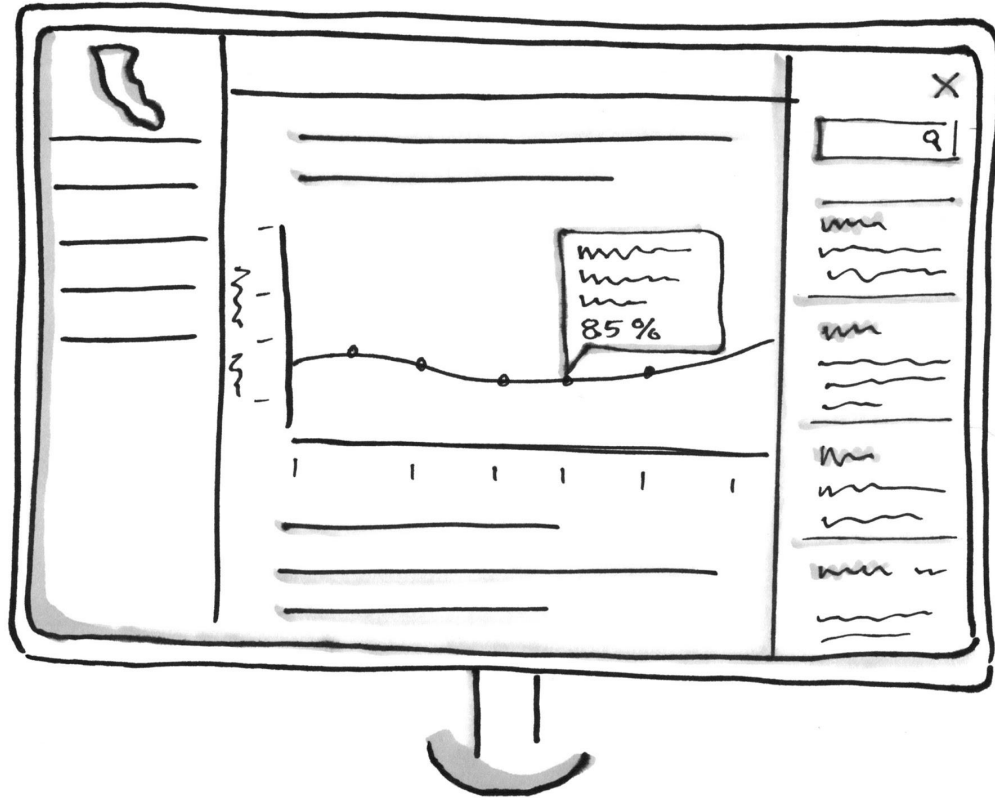
She likes that she can compare state trends with the national average.

The charts provide additional context to help her understand the data.

#### KEY MOMENT

Consumer compares related national, state, and local data.





Sharon finds more details about crime in her local area with incident-level charts, interactive elements, links, and a glossary with definitions in plain language.

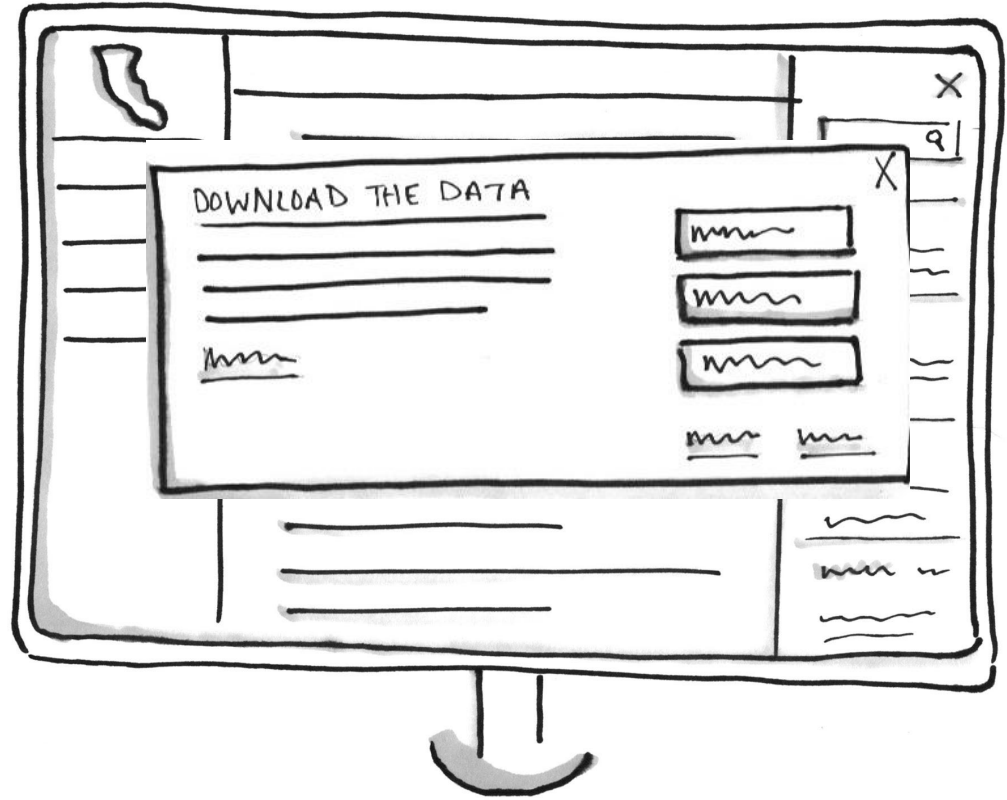
#### KEY MOMENT

Consumer views contextual data, descriptions, and definitions

Since the data and charts are valuable to her project, she decides to download them and chooses a format for the download.

#### KEY MOMENT

Consumer downloads data in their preferred format.





## Explore crime data by location or offense

### Type of Crime

#### Violent Crime

| Homicide

| Rape

| Aggravated Assault

| Robbery

#### Property Crime

| Burglary

| Larceny Theft

| Motor Vehicle Theft

| Arson

#### Hate Crime

#### Human Trafficking

#### Law Enforcement Officers Killed and Assaulted (LEOKA)

Explore by crime or location



Learn more about the data collection [here](#).

[← Back to national trends](#)

## Ohio



Percent of county reporting

0%-50% 50%-75% 75%-100%

☒ Whole state

Start typing location

## Time Period

Years

2005

to

2013

## Data Type

Violent Crime

Explorer / Ohio / Rape

# Ohio

[Download this data](#) [Share this page](#)

Incidents of rape are on the rise in Ohio, but lower than 5 or 10 years ago.

Ohio's rape rate surpassed that of the U.S. in 1985, and peaked in 1991 with a rate of over 52 incidents per 100,000 people<sup>1</sup>.

### Census Overview

**11,613,423** residents

**74%** covered in UCR program

**831** law enforcement agencies

**25,992** peace officers

**447** peace officers per resident

Source: [Census data](#)

## Reported rape in Ohio, 2005-2014

Ohio's rape rate surpasses that of the United States, and in 2014 was at 35.3 incidents per 100,000 people (legacy definition).

[Download chart](#)

[Share chart](#)



Percent of county reporting

0%-50% 50%-75% 75%-100%

Whole state

Start typing location

Time Period

Years

2005 to 2013

Data Type

Violent Crime

- ☐ All violent crime
- ☐ Homicide
- ☒ Rape
- ☐ Aggravated assault
- ☐ Robbery

Property Crime

Hate Crime

Human Trafficking

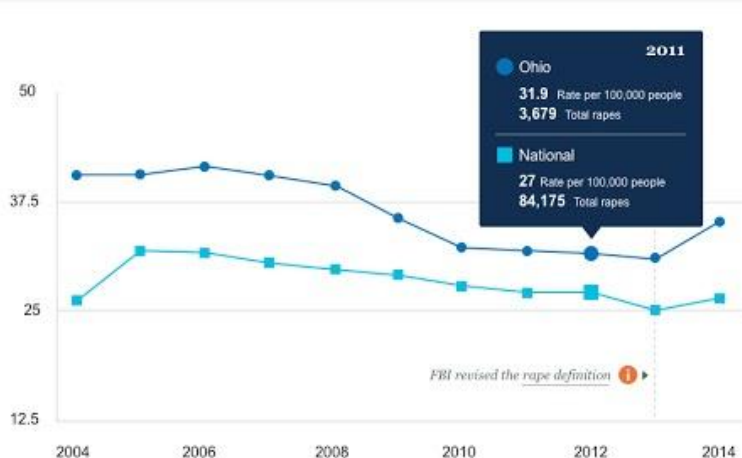
Law Enforcement  
Officers Killed and  
Assaulted

## Reported rape in Ohio, 2005-2014

Ohio's rape rate surpasses that of the United States, and in 2014 was at 35.3 incidents per 100,000 people (legacy definition).

Download chart

Share chart



Y: Rate per 100,000 people

X: years

Ohio trend

National trend

State Only

Add National

The data is from National law enforcement agencies that submitted crime data for the years 2005 through 2014. Totals are aggregates of the totals reported by agencies providing data to the UCR Program within each state.

Skip to [About the data](#)

## Details

Victim demographics

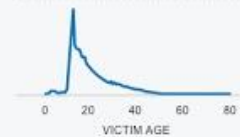
Offender demographics

## Details

### Victim demographics

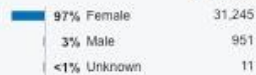
Victim age (no. of incidents)

3,500



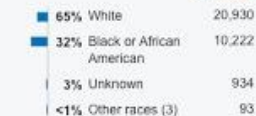
Gender of victim

INCIDENTS



Race of victim

INCIDENTS

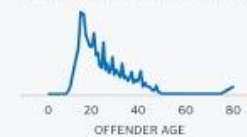


+ More

### Offender demographics

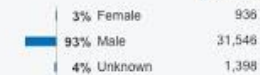
Offender age (no. of incidents)

2,000



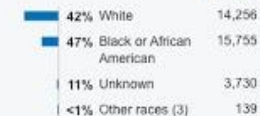
Gender of offender

INCIDENTS



Race of offender

INCIDENTS



+ More

### Victim's relationship to offender

INCIDENTS



### Location type

INCIDENTS



## About the data

The FBI collects crime data through the [Uniform Crime Reporting \(UCR\) Program](#).

### Change in rape definition

In 2013, the FBI started collecting rape data under a revised definition and removed “forcible” from the offense name. All reported rape incidents in Ohio—whether collected under the revised definition or the legacy definition—are presented here.

Since the rape definition changed, some state and local law enforcement agencies have continued to report incidents with the legacy definition, because they haven’t been able to change their records management systems to accommodate the change.

### How these crimes are counted

The Uniform Crime Reporting (UCR) Program counts one offense for each victim of rape, attempted rape, or assault to commit rape, regardless of the victim’s age. Sexual relations involving a family member without consent are counted as rape, not incest. Statutory rape and incest are excluded.

### Estimations

The national and state-level trends include estimates for agencies that submitted less than 12 months of data. The estimation process considers the population size covered by the agency; type of jurisdiction, such as a police department or sheriff’s office; and geographic location.

### Further reading

- | Rape Definition Fact Sheet
- | FAQ About the Change in the UCR Definition of Rape
- | NIBRS Rape vs. Summary Rape
- | Bureau of Justice Statistics: Rape and Sexual Assault

Crime Data Explorer

CJIS  
Logo

FBI  
Logo?

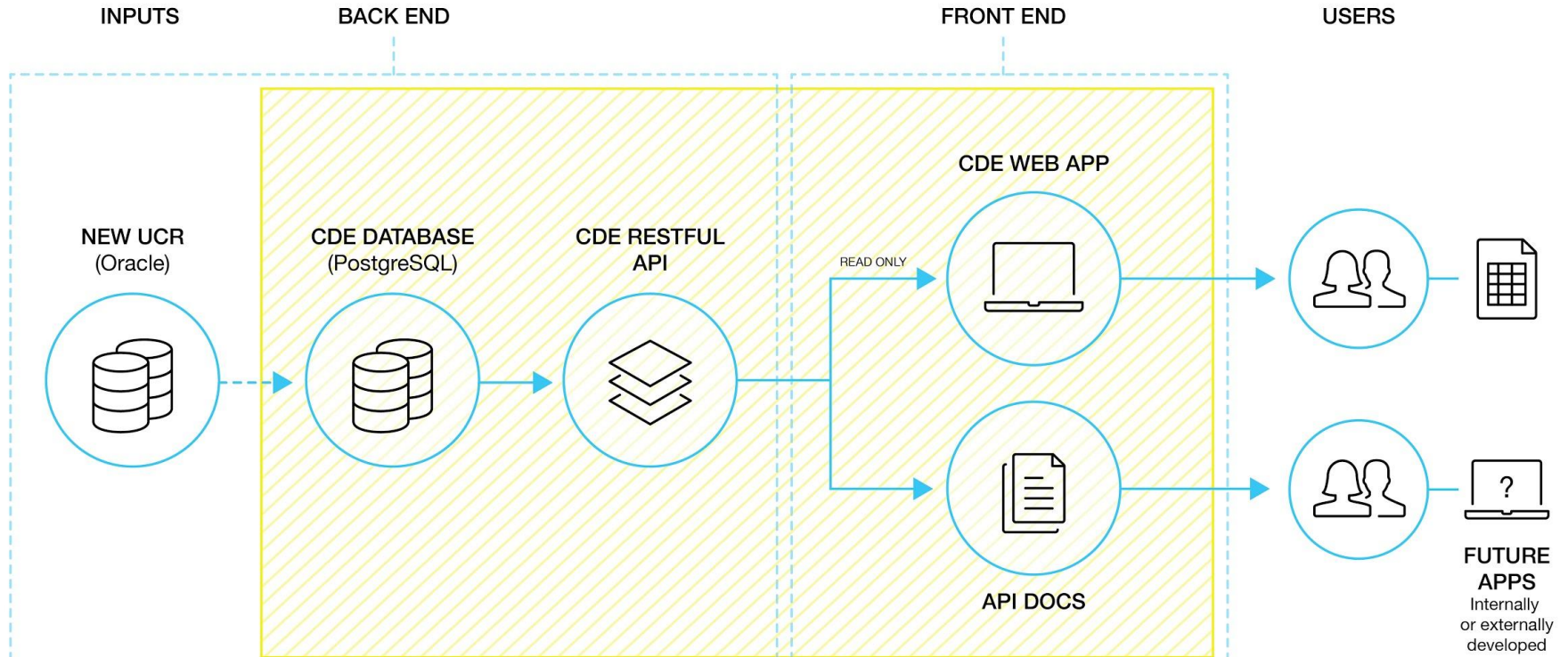
[HOME](#) | [EXPLORER](#) | [DOWNLOADS & DOCUMENTATION](#) | [ABOUT](#)

### Contact us

Criminal Justice Information Services (CJIS) Division

[cjis\\_comm@leo.gov](mailto:cjis_comm@leo.gov) | (304) 625-4995

# TECHNICAL APPROACH





## VALUE OF AN API-FIRST APPROACH

An API-based approach to making this data accessible for a variety of audiences is a game-changer.

Much of the core API functionality is already in place and will continue to evolve as the solution matures.

### Crime Data Explorer

**Crime** ▼

All ▼

**Location** ▼

United States ▼

**Time period** ▼

From

01/01/2014

until

12/31/2014

**About the offender** ▼

Race

☐ Asian

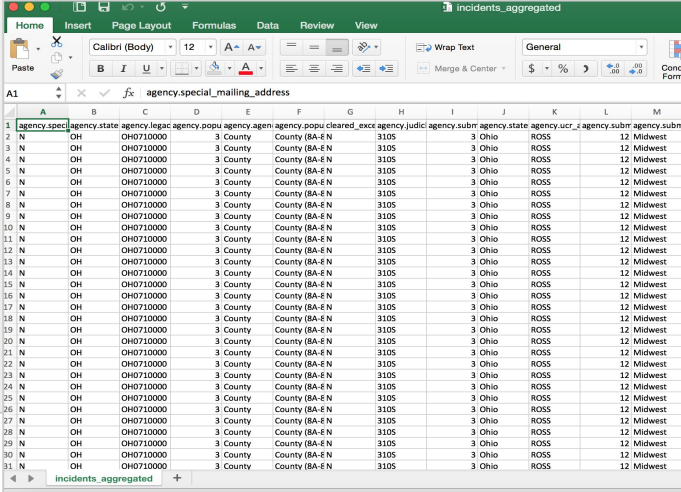
☐ Black

## Results

Show/hide columns >

Incident data (894 rows)

Offenses	Incident date	Location
A drug/narcotic violations offense at	2014-01-02	Detroit



Ready

**Questions?**



# TEAM PRIORITIZATION OF KEY MOMENTS

MUST

5

SHOULD

10

COULD

15

WOULD  
but,  
DON'T

State submits data to  
UCR Program

CJIS collects data  
from state

Submitters agree  
data for public release

CJIS edits and  
publishes content

Consumer understands  
UCR program

Consumer learns about  
new data available from  
FBI

Consumer visits  
FBI.gov

Consumer learns what  
data types are available

Consumer has a  
question that relates to  
crime data

Consumer makes  
comparisons

Consumer views charts  
on a laptop

Consumer downloads  
2008 file

Consumer finds past  
crime in the UCR report

Consumer reads about  
the data

Consumer views  
consumer service data

Consumer searches  
for a location

Consumer searches  
for a date

Consumer searches  
for a crime type

Consumer searches  
for a combination of  
location, date, and crime type

Consumer searches  
for a combination of  
location, date, and crime type

Consumer searches  
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location, date, and crime type

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location, date, and crime type

APPLYING  
"Take my knowledge  
in work and in life."

UNDERSTANDING  
"I dig into the data  
comparing, analyzing,  
and interpreting."

SEARCHING &  
VIEWING  
"I look for crime data  
on FBI.gov and other  
websites and determine  
if it will be useful."

"I have a question that  
involves crime data."

## KEY MOMENTS IN THE USER JOURNEY

Questioning

Searching and viewing

Understanding

Applying

## MVP PRIORITIES



## KEY MOMENTS

Consumer has a question that relates to crime data

Consumer learns about new data available from FBI

Consumer visits FBI.gov

Consumer understands UCR program

**Consumer learns what data types are available**

Consumer navigates site looking for relevant data

**Consumer browses national, state, and local trends**

**Consumer searches for a location**

**Consumer searches for offense or data collection**

**Consumers refines search by sub-category offense**

**Consumers refines search by location**

**Consumers refines search by timeframe**

Consumer views results

Consumer makes comparisons

**Consumer views contextual data, descriptions, and definitions**

Consumer views charts as a tables

**Consumer downloads CSV**

Consumer downloads JSON file

Consumer downloads charts

Consumer finds past Crime in the CIUS report

Consumer reads about the data

Consumer views related links

Consumer views relevant census data

Consumer compares data from Crime Data Explorer with other sources

Consumer reconciles differences in data from other sources

Consumer shapes data in CSV for analysis

Consumer views data and supporting documentation

Consumer learns about the methodology for the data

Consumer discovers errors in data

**Consumer contacts CJIS with question**

CJIS SAs responds to consumer's question

CJIS SAs correct data and / or content

**Consumer shares knowledge with community**

Consumer uses charts from the Crime Data Explorer in presentations

Cites the Crime Data Explorer as a source

Consumer prints charts and tables from the Crime Data Explorer

Consumer shares Crime Data Explorer data on social media

**Consumer leverages API**

Consumer links to the Crime Data Explorer

**Thank you!**