



Community Support
Program

The Community Support Program

*Supporting Cities and Police Departments
to make Cities safer and more enjoyable*

Dr. Ross McNutt – Community Support Program



Community Support Program Overview

- Who are we
- Problem We Are Working To Address
- What is the Community Support Program
- WAMI Capability Overview
- Sample Investigation Briefing
- Legal and Privacy Policy Considerations
- Contract Protections



Who We Aare

Community Support Program

Small Privately Owned Company working to make our cities a better place to live work and play



Who We Aare

Community Support Program

Small Privately Owned Company working to make our cities a better place to live work and play

We are an Evidence Company that generates Useable Surveillance Evidence and Expert Opinions that are used in investigations and at trial:

- 1. To identify and convict the guilty,**
- 2. To vindicate the innocent, and**
- 3. To keep law enforcement accountable.**



The Problem We Are Working To Address

Crime in our Major Cities

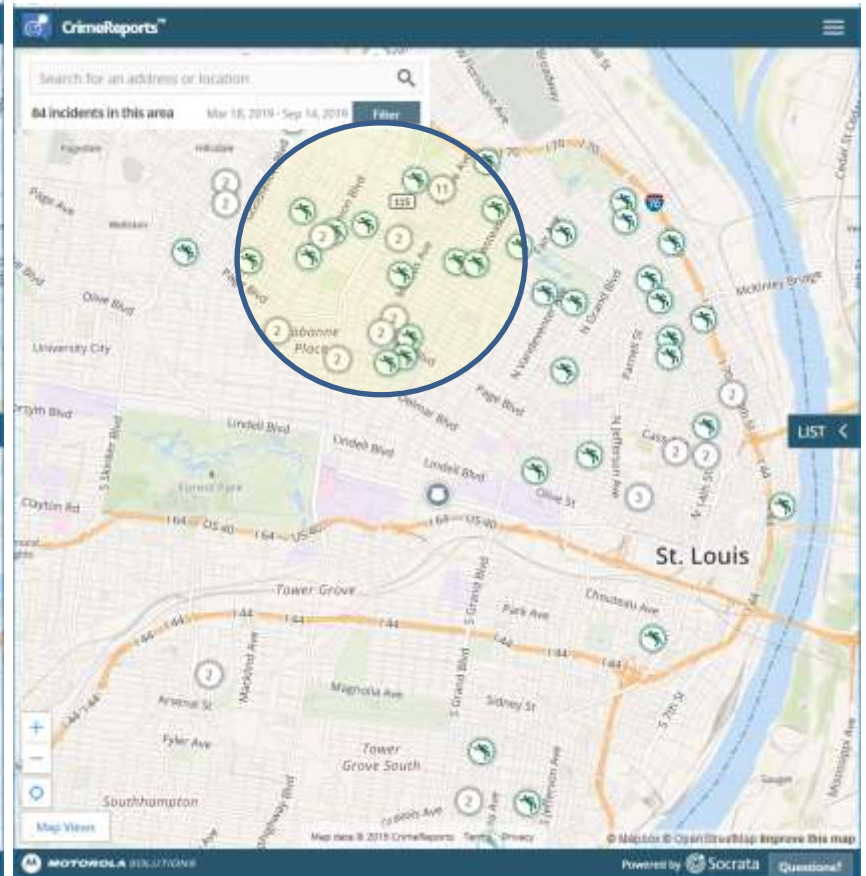
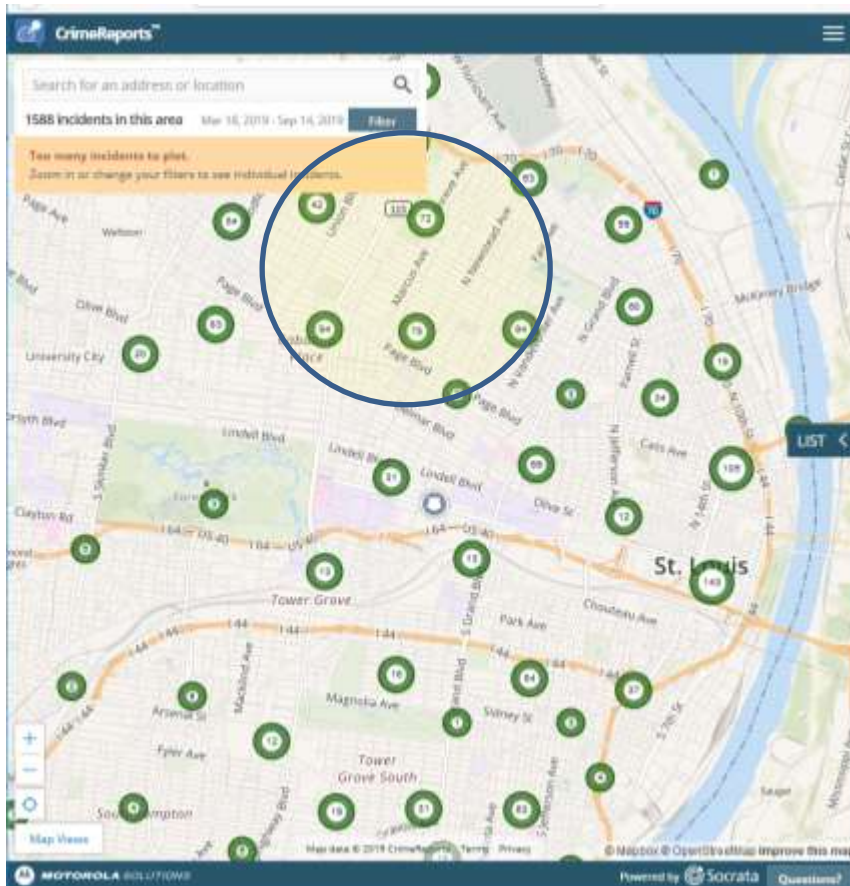
Lack of Trust Between Community and Police

Potential Police Misconduct



A Child Growing Up in North St Louis

has had 39 people Murdered
and 407 Aggravated Assaults
within 1 mile of them within 6 months





St Louis Crime



SLMPD

2020 UCR Homicide Analysis

December 30, 2020

St. Louis Police Department
1915 Olive Street
St. Louis, MO 63103

2020	2019	2018	2017	2016
262	194	186	205	188

Current Year Incident Status

Open Cases	186	Abated by Death	3	Federal Indictment	-
Closed Cases	76	Issued	64	Justifiable	16
		Refused	18	TUA	1
CY Closed Cases	76	LY Closed Cases	19	Total Closed Cases	95

CY = Current Year, LY = Last Year * Homicides determined to be justifiable are not included in the total UCR count.

St Louis leads the nation with
89 murders per 100,000 people

2017	205	66.6
2018	186	61.4
2019	194	64.5
2020	262	89.2

ST. LOUIS CRIME DATA

CRIME INDEX

1

(100 is safest)

Safer than 1% of U.S. Cities

ST. LOUIS ANNUAL CRIMES

	VIOLENT	PROPERTY
Number of Crimes	6,461	18,800
Crime Rate (per 1,000 residents)	20.93	60.92



Cost of Crime – St Louis

<http://www.rand.org/jie/centers/quality-policing/cost-of-crime.html>

The cost of crime is significant. The national Institute of Justice has sponsored many studies on the cost of crime to a community. Using the results of one of these studies conducted by the Rand Center on Quality Policing the cost of crime in Baltimore is calculated to be **\$2.85B per year**. This is calculated by multiplying the number of crimes in a given category by the cost of crime from the study.

Cost of Crime St Louis				
Cost of St Louis Violent Crime				
	Type	Number	Cost per crime	Total Cost
	Murder	262	\$8,649,215	\$2,266,094,330
	Rape	265	\$217,866	\$57,734,490
	Robbery	1,475	\$67,277	\$99,233,575
	Aggravated Assault	3,859	\$87,238	\$336,651,442
	Total Violent Crime			\$2,759,713,837
Cost of St Louis Property Crime				
	Burglary	3,056	\$13,096	\$40,021,376
	Larceny	12,591	\$2,139	\$26,932,149
	Auto Theft	2,998	\$9,079	\$27,218,842
	Total Property Crime			\$94,172,367
				\$2,853,886,204
St Louis 2020 Population	293,792		\$9,713.97 per year per person	

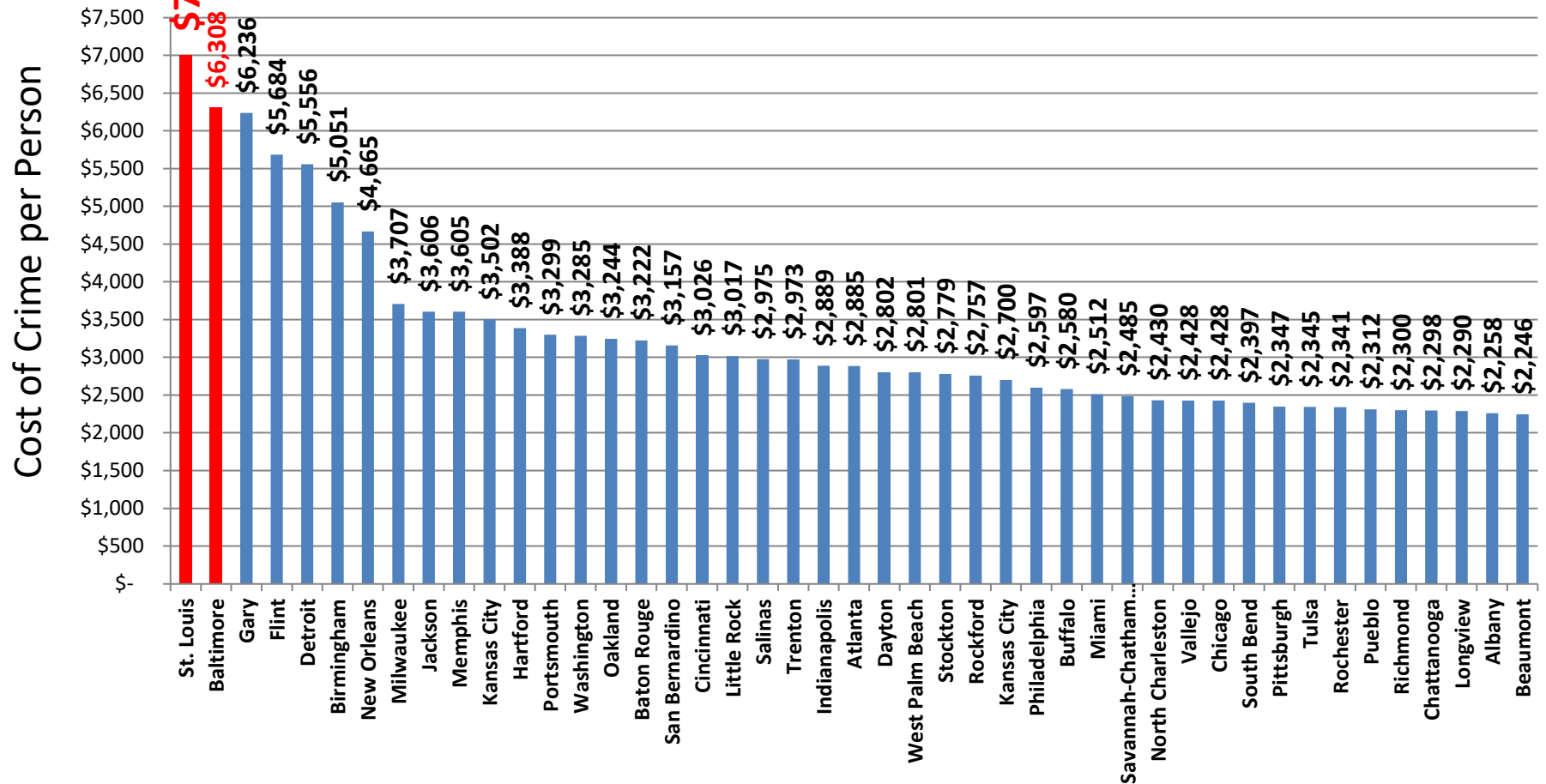
Even a 10% reduction in crime would result in \$290M economic impact on the city.



Cost of Crime Per Person (2015)

St Louis \$7,006 per person

Cost of Crime Per Person
Top 10% of Cities >75K population FBI UCD Data 2015





The Community Support Program

Goals and Objectives

- **Solve and Deter Crime to make communities safer, more enjoyable, and more prosperous**
- **Provide oversight organizations accurate and unbiased information to identify potential police misconduct**



How We Reduce Crime

- **Solve Otherwise Unsolvable Crimes**
 - Increase case closure rate and conviction rates for Shootings and Murders, Armed robberies
 - Solve solvable crimes more quickly and with less resources and more evidence
 - Often results in higher number of guilty pleas with significantly more evidence
- **Remove repeat offenders earlier in their criminal career**
 - Want to stop them after their first shooting not their 12th.
- **Deter Crime from Occurring**
 - 10 times more valuable than solving crime
 - Widely publicize how we solve crime and show it to everyone
 - Show that they will get caught if they do crime in Baltimore
- **Building and Increasing Trust Between Law Enforcement and Community**
 - Unbiased witness of police activity and deterrence of Police Misconduct
 - Police seen as more effective with higher case closure and conviction rates
 - Identify and approach more witnesses away from crime scene and have information to start discussion
 - Brings more witnesses forward if shooters are more likely to get convicted



Remove Repeat Offenders Earlier Saving Additional People

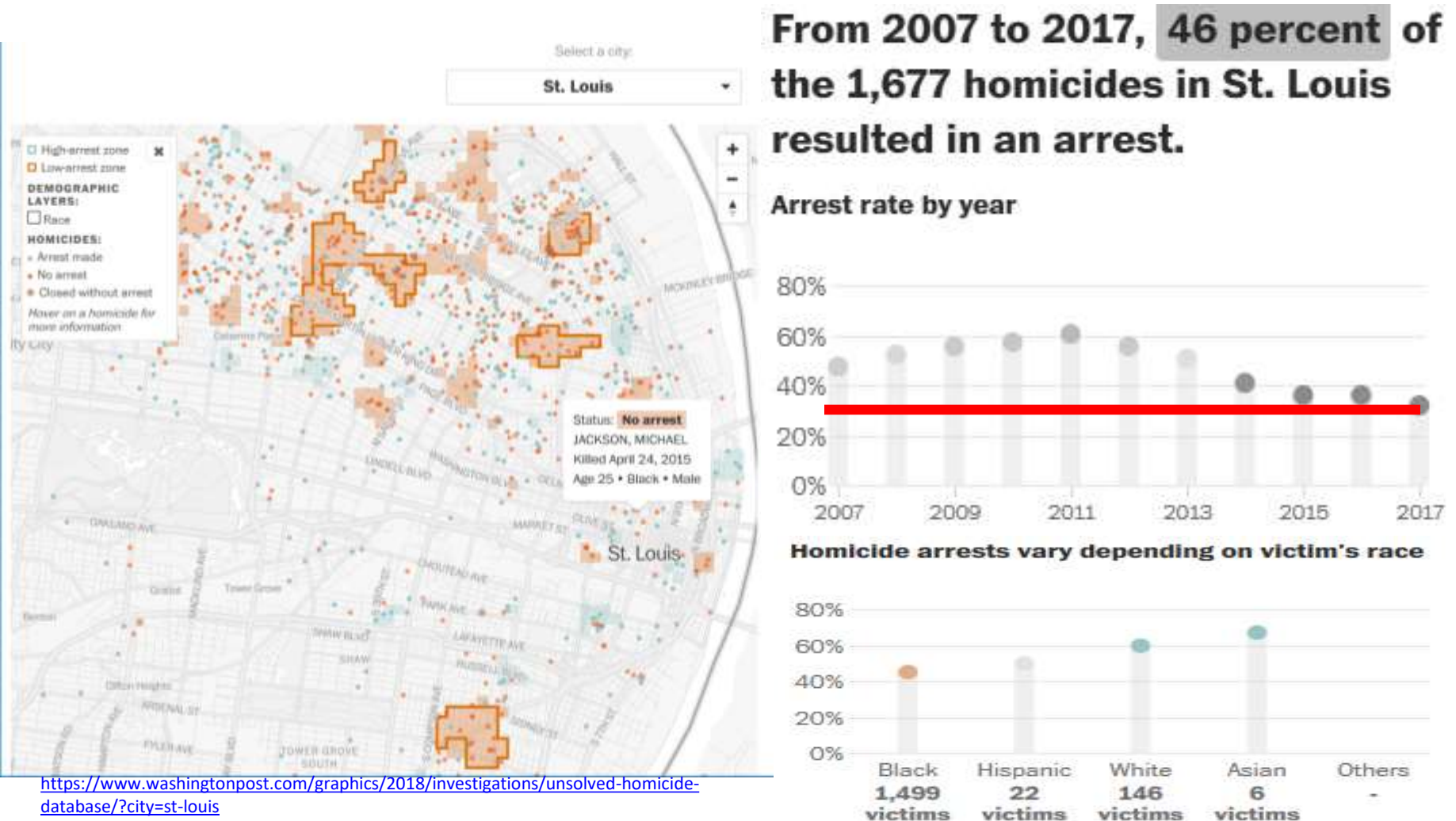
- Very small percentage of people commit large number of the violent crimes
- Want to stop someone after their first shooting not after their eight or ninth
- This saves 7 or 8 people from getting shot and saves 7 or 8 families the grief of having a love one shot



Wanted for 12 Murders

St Louis Murder Arrest Rates

- Only 45 percent of the 1,677 homicides from 2007 to 2017 resulted in an arrest
- 2017 Arrest rates were less than 35%
- Seven zones in the city with a high concentration of homicides and low arrest rates
- Six of those zones are north of Delmar Boulevard
- 15 of 79 Neighborhoods account for 54 percent of our homicides over the last five-plus year





Deter Crime from Occurring

Saves Two People

- **Most Important Aspects of Deterrence**

- 1st – Perceived likelihood of getting caught
 - Current case clearance rate has dropped to 30% for Homicides and lower for shootings
- 2nd – Perceived likelihood of getting convicted
 - Conviction rate much lower than case clearance rate
- 3rd – Amount of Punishment
 - Federal Crimes/County are seen as more significant punishment

- **Best Ways to Increase Deterrence – Convince people they will get caught**

- Increase Case Clearance Rate – Provide critical leads to investigators
- Increase Conviction Rate – Support public trials and convictions of those caught
- Insure people know the systems exists its capabilities and that is operating in the area

- **Ways to Amplify Deterrent Effect**

- Increase the **perceived** impact on case clearance and conviction rates
- Increased public knowledge of capability
 - Brief at risk youth and people of the systems and its capability
- Publicize high profile cases results
- Support in-depth news media stories

A crime deterred is always better than a crime solved



Increased Law Enforcement Accountability

The Community Support Program holds police accountable by

- **Providing Unbiased and Reviewable Information on Police Actions**
- **Detering Police Misbehavior**
- **Supporting Defendants and Public Defenders**

CSP supports community and defense team efforts

Provides Video-based evidence and privileged analysis



Increased Law Enforcement Accountability

The Community Support Program holds police accountable by

- **Provides unbiased and reviewable information on police actions**
 - Acts as an **impartial observer** and recorder of activity associated with law enforcement personnel
 - Provides **neutral video based evidence of the facts** at a crime scene and actions of law enforcement before and after an event
- **Deters Police Misbehavior**
 - Just as it deters potential criminals it deters potential criminal police officers
 - Because it is known it provides a **deterrent effect to improper behavior** by law enforcement
- **Support of Defendants**
 - Defense teams can and have used our data to **analyze the accuracy of an officers statements and testimony such as an officers statements for search warrants**
 - Support of defense efforts is not limited to reported major crimes but require a release agreement and must abide by CSP privacy policies
 - Support to defense efforts use a separate team of analysts are **defense privileged information** and are not shared with law enforcement or the prosecution.

**CSP supports community and defense team efforts and can
Provide Video-based evidence and privileged confidential analysis**



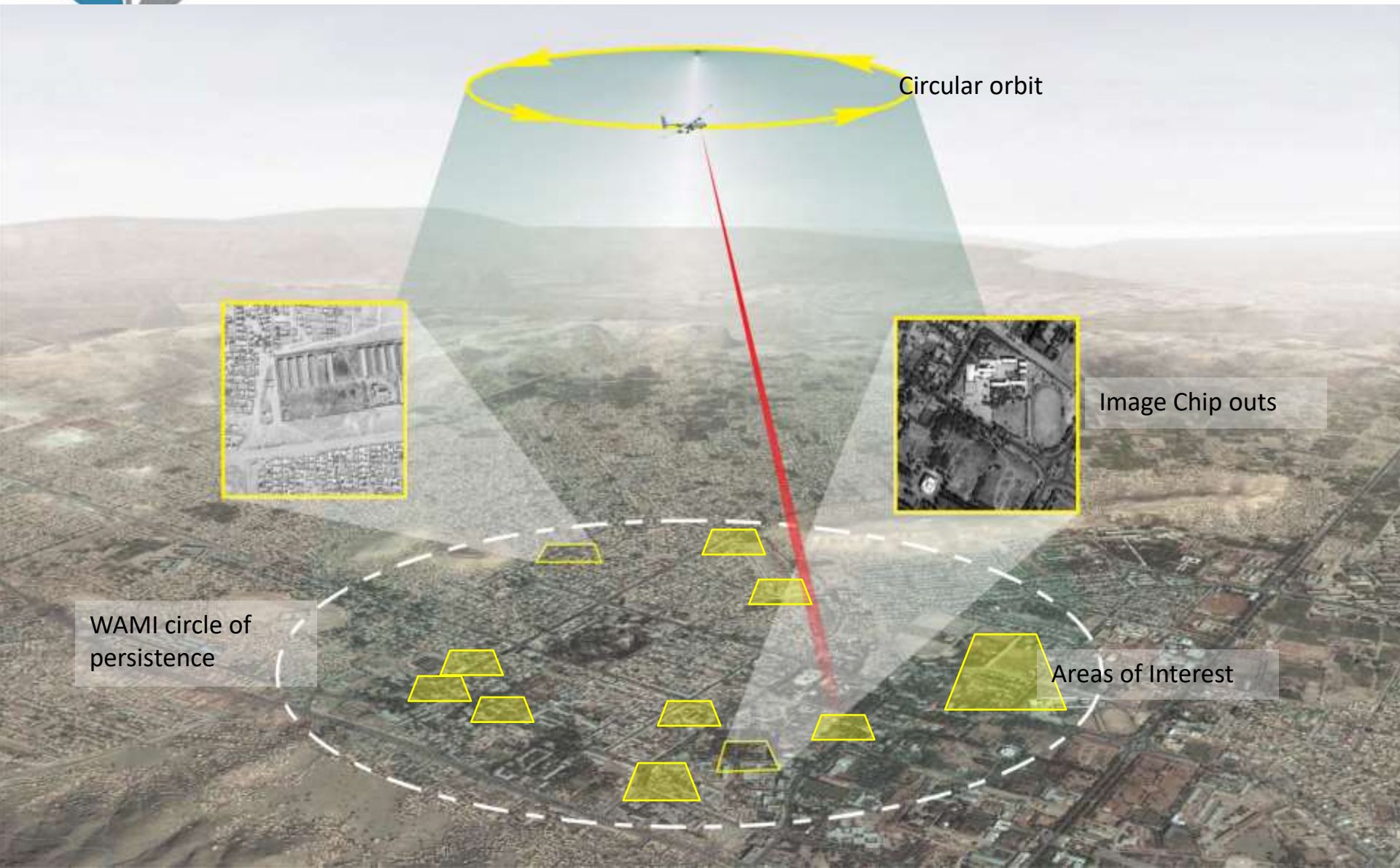
The Technology Behind the Community Support Program

Wide Area Motion Imagery



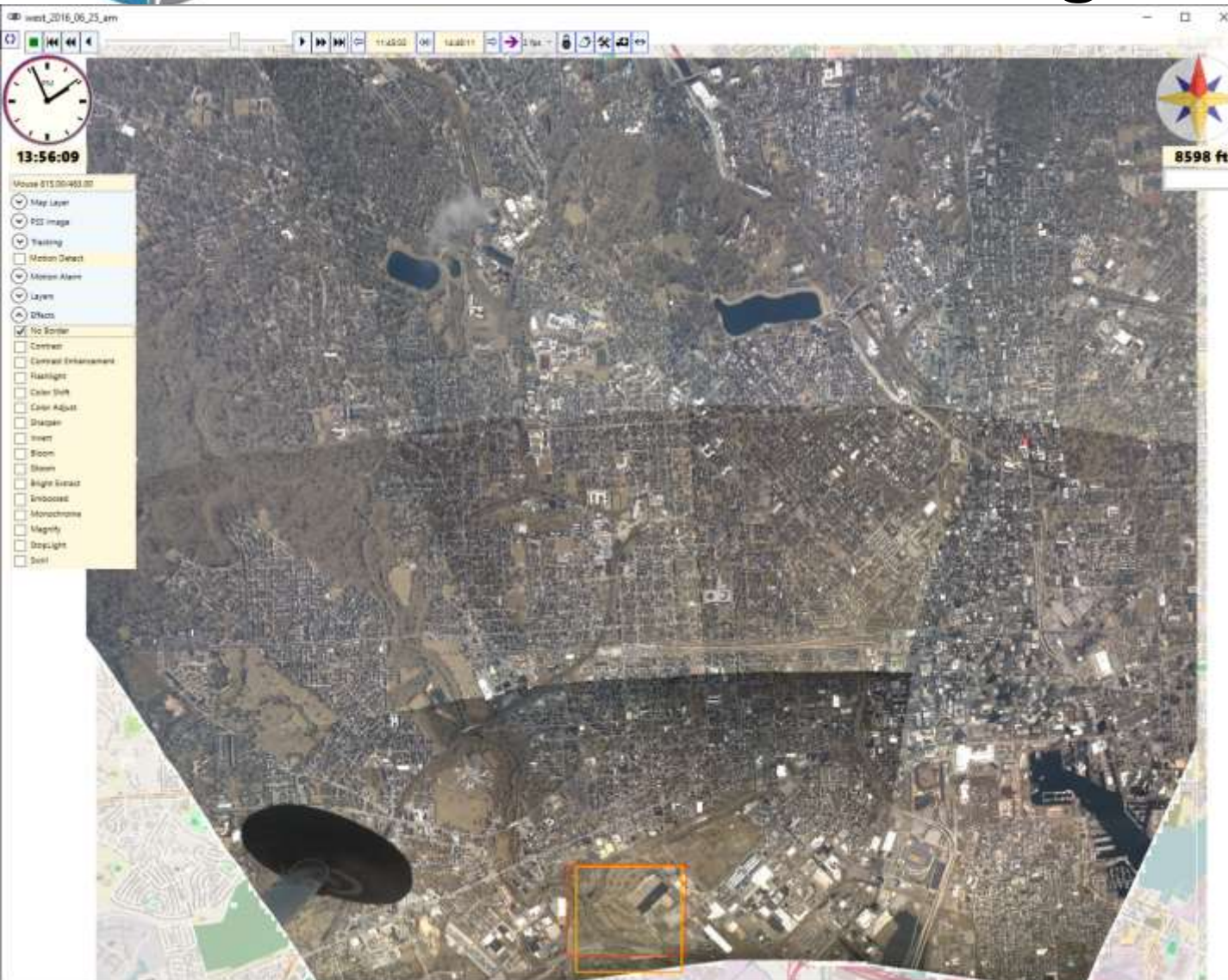
What is Wide Area Motion Imagery?

Continuous Imagery of city-size areas



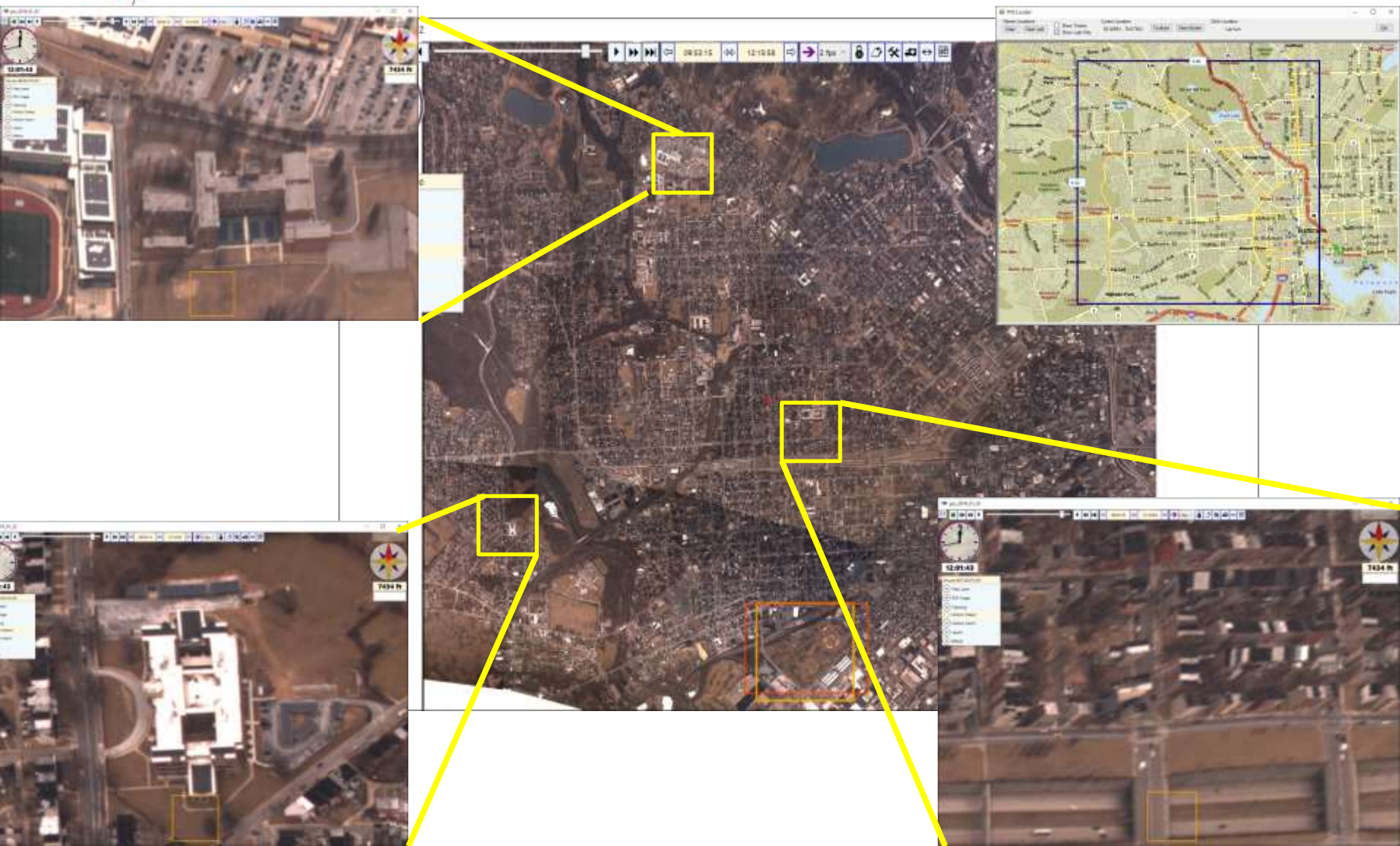


West Baltimore Area of Coverage



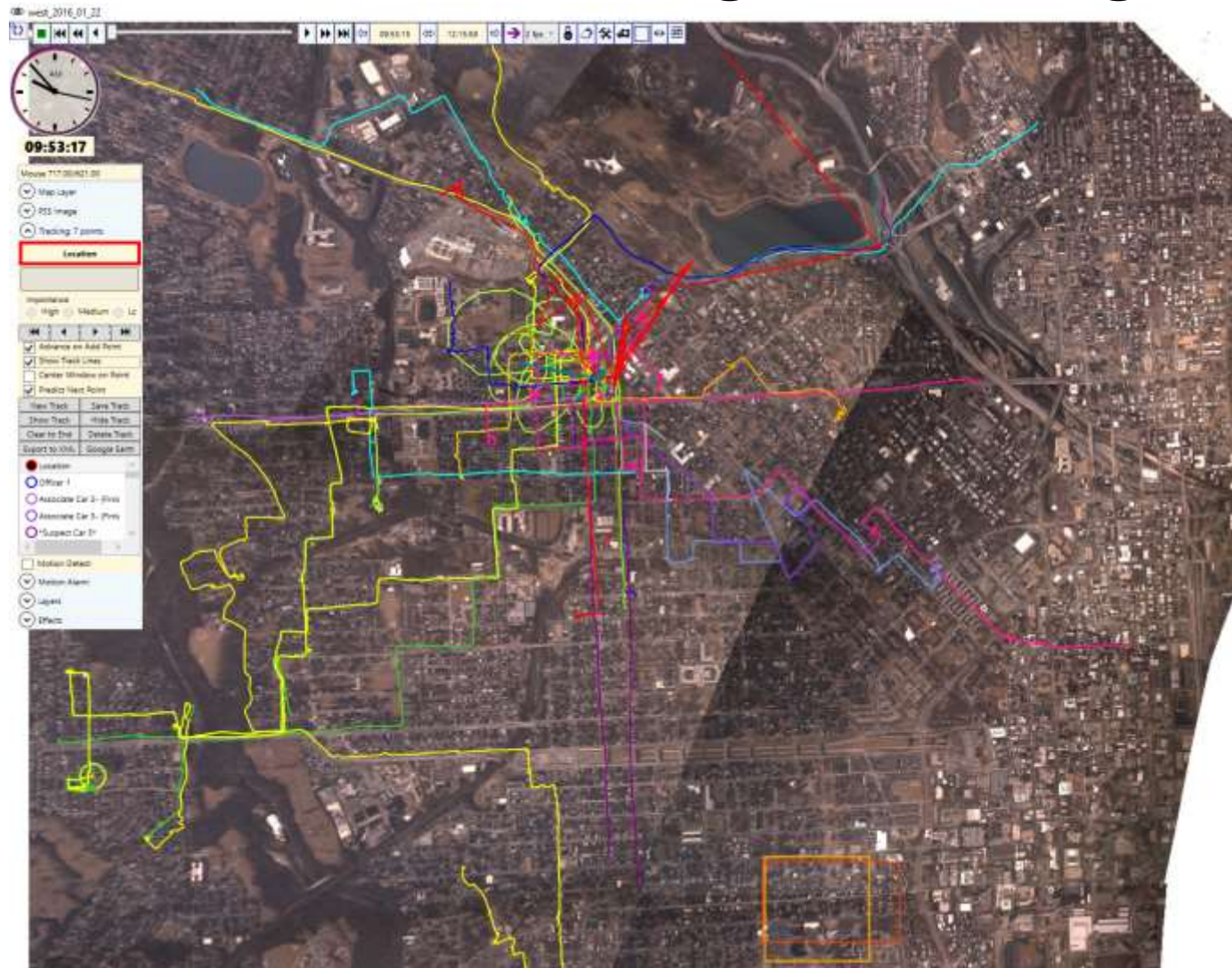


Wide Area Motion Imagery





Observed Event Example: Multiple Vehicles Tracked from a Single Shooting



Uncooperative Victim
found 2 blocks away
Said he “would take
care of it”
No other witnesses

Multiple vehicles
tracked from and
around crime scene

Victim, suspects and
potential witnesses
tracked

Multiple beginning
and end destination
identified

Multiple vehicles
tracked past dozens of
CitiWatch cameras



System Integration

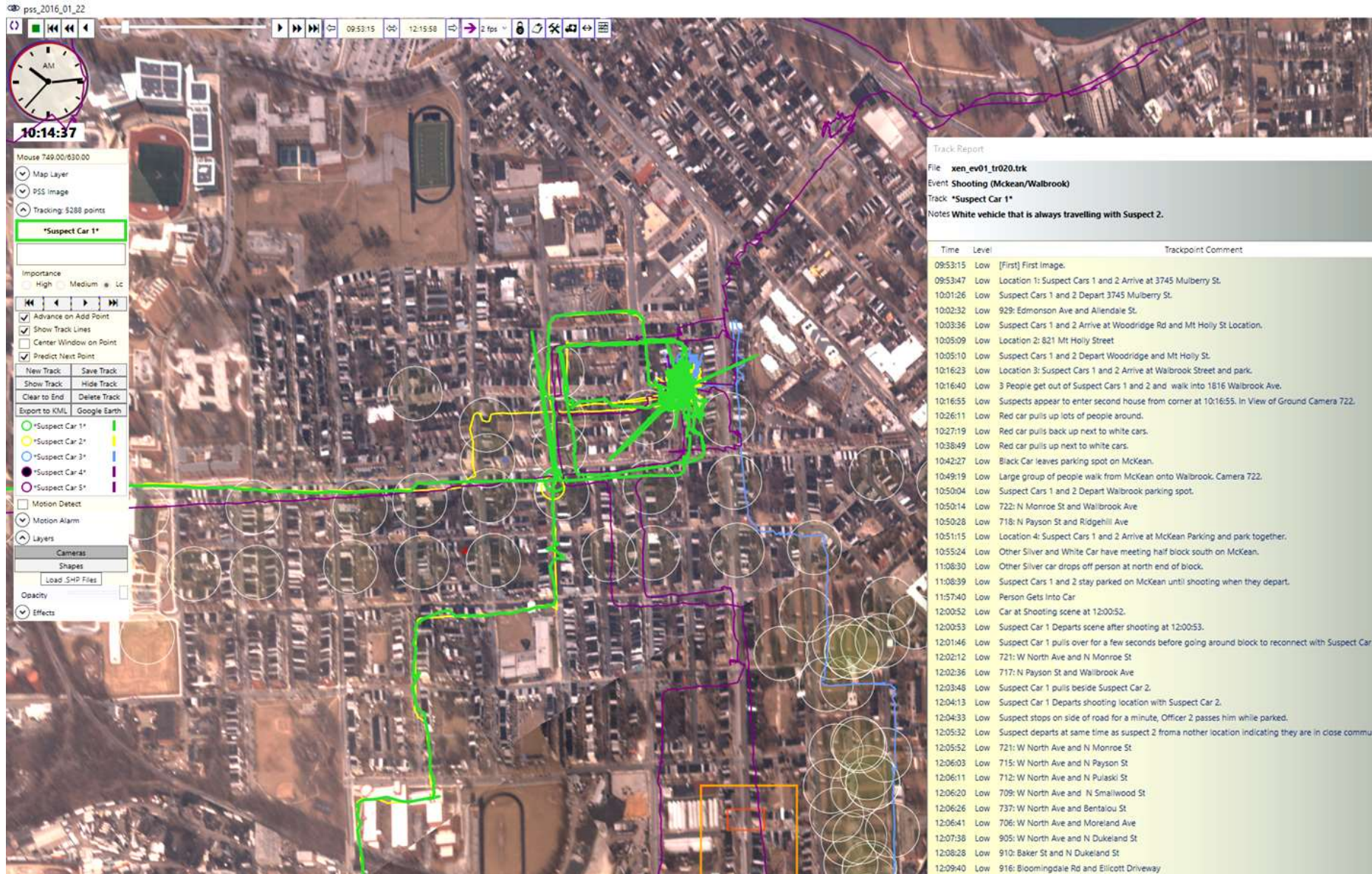
- CSP integrates with existing systems
 - Police Dispatch and 911
 - Ground-Based Cameras
 - Automatic License Plate Readers
 - City Bus Cameras - 4 HD cameras
 - Automatic Gun Shot Detection

CSP dramatically increases the effectiveness of existing systems by tracking cars and people from the crime scenes past these systems.





CitiWatch Camera Integration





CitiWatch Ground Camera Integration

White Infiniti In Camera Views

Camera 715: W North Ave – N Payson St
Suspect 1: White Infiniti 10:14:51



Camera 715 W North Ave – N Payson St
Suspect 1: White Infiniti 12:02:23



CSP Vehicle tracks with CitiWatch In Camera Views

CitiWatch Cameras

Time	Level	Comment
10:02:32	Low	929: Edmonson Ave and Allendale St.
10:05:09	Low	821 Mt Holly Street
10:14:52	Low	715: W North Ave and N Payson St
10:50:14	Low	722: N Monroe St and Wallbrook Ave
10:50:28	Low	718: N Payson St and Ridgehill Ave
12:02:12	Low	721: W North Ave and N Monroe St
12:02:23	Low	715: W North Ave and N Payson St
12:05:52	Low	721: W North Ave and N Monroe St
12:06:11	Low	712: W North Ave and N Pulaski St
12:06:20	Low	709: W North Ave and N Smallwood St
12:06:26	Low	737: W North Ave and Bentalou St
12:06:41	Low	706: W North Ave and Moreland Ave
12:07:38	Low	905: W North Ave and N Dukeland St
12:08:28	Low	910: Baker St and N Dukeland St
12:09:40	Low	916: Bloomingdale Rd and Ellicott Drwy
12:10:39	Low	918: Poplar Grove and Riggs Ave
12:11:07	Low	920: Poplar Grove St and W Lafayette Ave
12:11:34	Low	921: N Franklinton Rd and N Longwood St.



CSP Sample Investigation Report

Dirt Bike Assault

Monroe and Riggs

6/25/2016 13:13

CFS # 161771505

Incident # 16F11543



Incident Reports

Incident Report					
CFS#	161771505	TimeReceived	6/25/2016 1:15:12 PM		
Inv#	16F11543	TimeArrived	6/25/2016 1:52:41 PM		
Incident Type	4E COMMON ASSAULT	Priority	2	<input type="button" value="Make Track"/>	
Disposition	X REPORT WRITTEN				
Address	N MONROE ST & RIGGS AV				
Remarks	DIRT BIKE STRUCK OFFICER AT THE LOCATION //				



Images of Assault

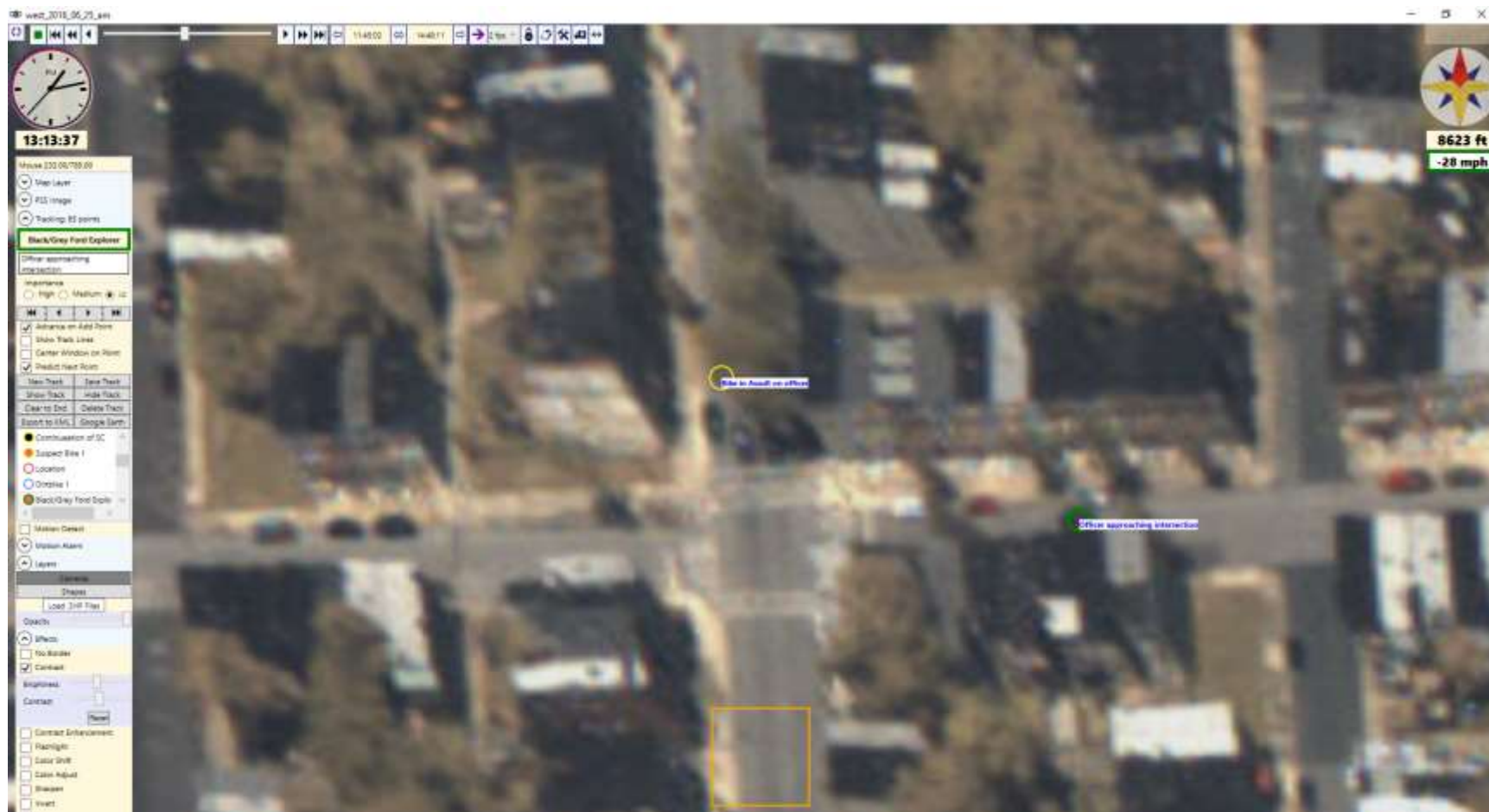
Below are a time series of images that show the officer and bike colliding at the corner of Rigs Ave and Monroe.

- Officer proceeded through Green Light
- Bike goes between stopped cars runs red light and impacts the officer.
- Both stop.
- Bike departs after 46 seconds
- Officer vehicle remains for a long period
- Other officers arrive within 5 minutes.

Many witnesses are observed at the location at the time and could be tracked if desired



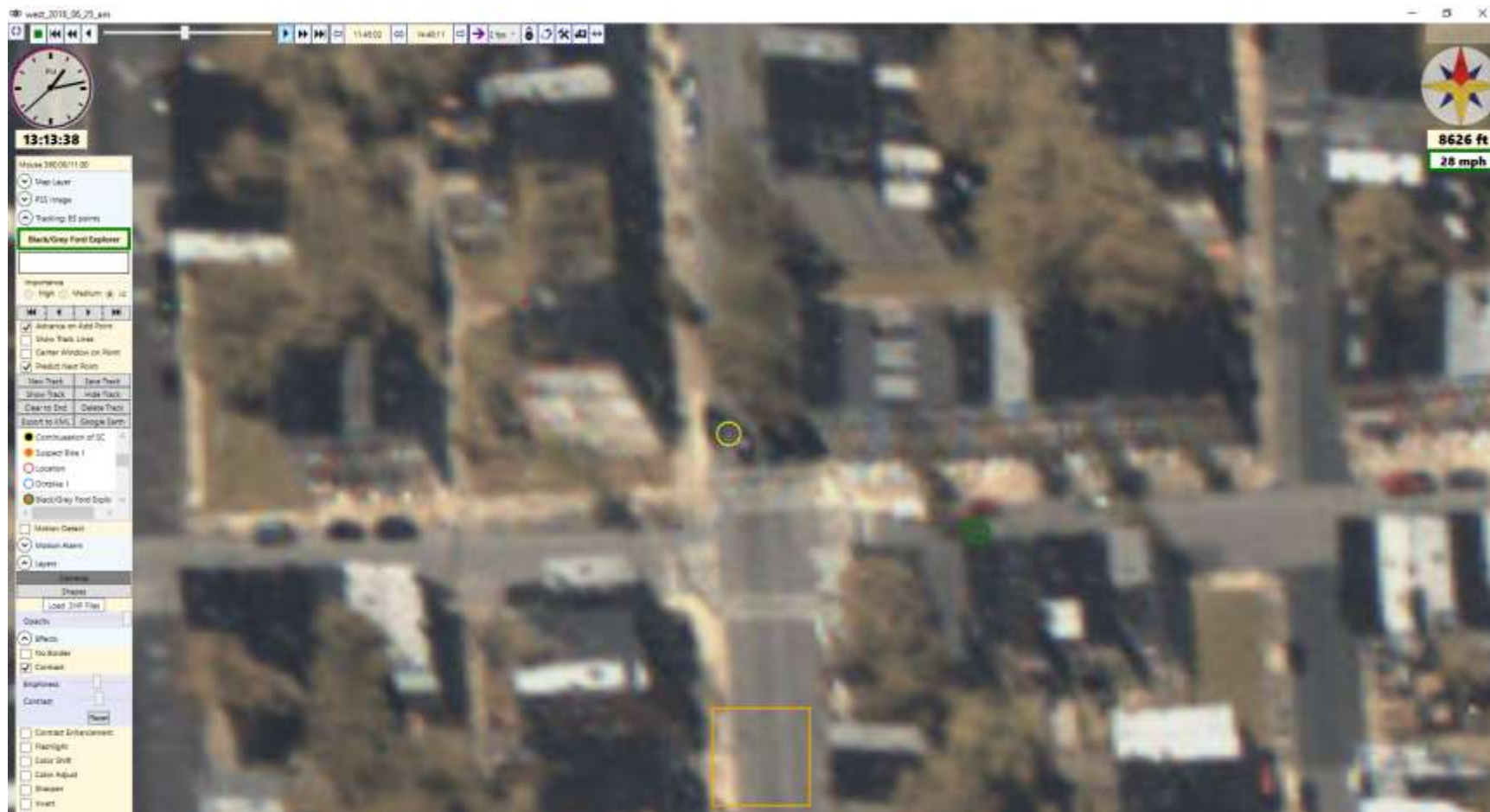
Prior to Impact



FOUO Law Enforcement Sensitive



Prior to Impact



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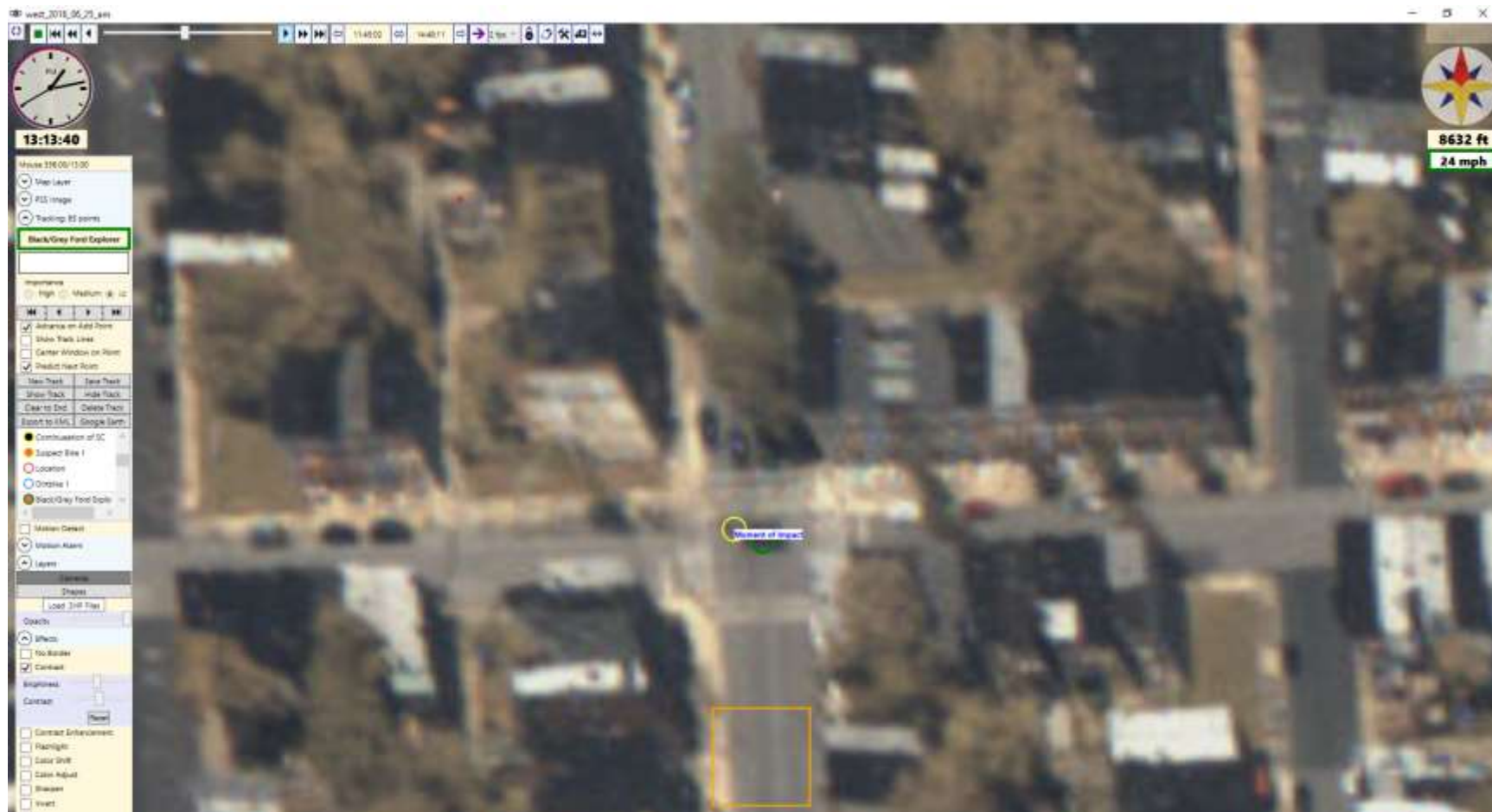
Prior to Impact



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Impact



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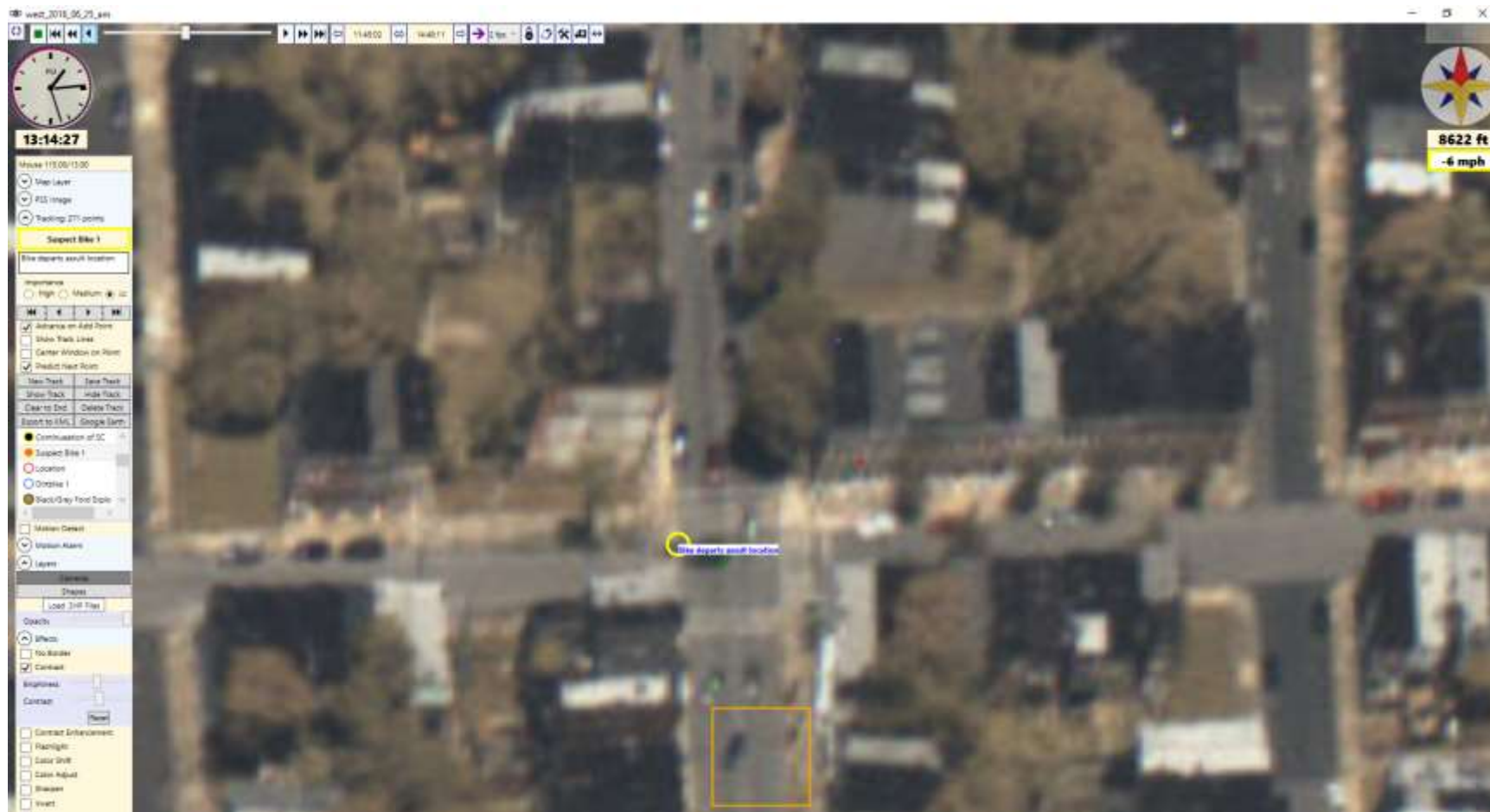
Post-Impact



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Bike Departs from Scene after 46 seconds





Location of Assault

Officer proceeded through Green Light
Bike ran red light between stopped cars from right



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Many Potential Witnesses

west_2016_06_23_am

13:14:26

Unuse 2016-06-23 13:14:26

Map Layer

OSD Image

Tracking: 327 points

Witness 5

Importance: High Medium Low

Address on Add Point

Drive Track Lines

Connect Windows on Point

Project Heat Map

New Track: Drive Track Make Track

Clear to End: Clear to End

Support to VMS: Google Earth

Suspect Tracker

Roadside Sus Car Mark

Witness or Associated

Car making U-turn mark

Continuation of SC

Marker Detail

Location Alarm

Layers

Camera

Photo

Load Still File

Opacity

Effects

File Window

Connect

Importance

Contrast

Contrast Enhancement

Highlights

Color Shift

Color Adjust

Sharpen

Invert

8622 ft

3 mph

Incident Report

CFS# 161771513

TimeReceived 6/25/2016 1:14:49 PM

Inv#

TimeArrived 6/25/2016 1:22:40 PM

Incident Type 79 OTHER

Disposition

Priority 3

Make Track

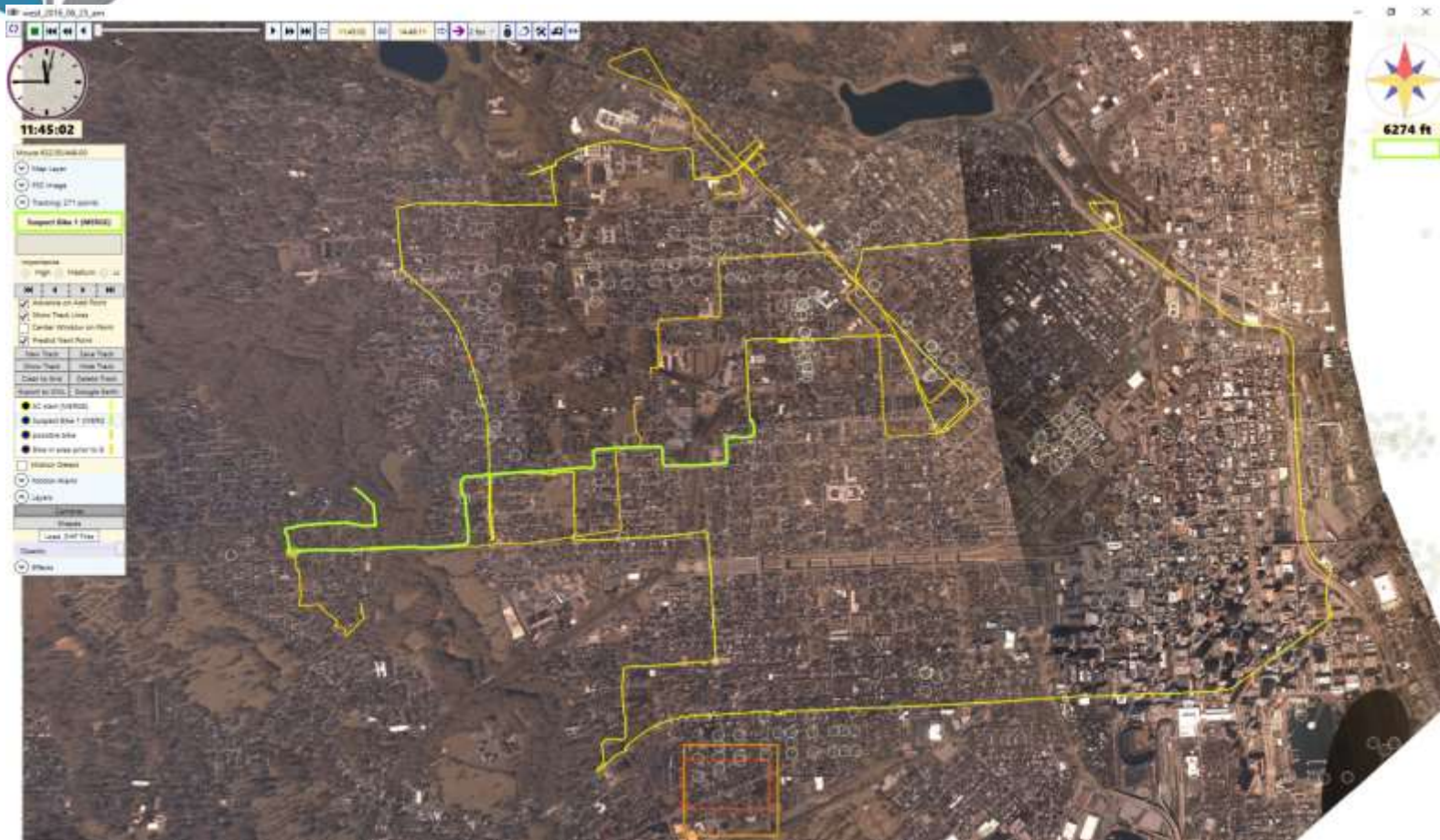
Address N MONROE ST & RIGGS AV




Remarks COMP STATES THERES A FEMALE WITH HER SUV PARKED IN THE MIDDLE OF THE STREET AND SHE WA SCREAMING AT 2 B/M'S ON A BLACK MOTORCYCLE THAT TOOK OFF AND WAS LAST SEEN HEADED UP MOSHER ST

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Suspects in Dirt Bike Track Before and After Assault on Officer



-  Route From xxx Allendale
-  Route to Assault Location
-  Route from Assault to xxx Allendale

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Suspect Track Report iView

<u>Time</u>	<u>Comment</u>
12:10:33	[First]
12:11:43	Person gets on Bike at 12:11:44 from ~336 Gwynn Ave
12:13:51	Verified in Camera 929 two guys on the bike with white tea shirts
12:14:27	In Camera 929 verified at 12:14:32 Same two guys on bike at start of track
12:22:27	Passes on right side of road
12:25:42	Verified it is the same guys at 1116 at 12:25:21.87
12:27:56	ON Side walk
12:43:54	Suspect Exits Gulf Station at 12:43:54 at Gwyn's Falls Parkway. Corner of Evergreen and Gwyn falls Parkway
12:46:43	In view of GC 901: W North Ave and Bloomingdale Rd
12:47:23	In view of GC 911: Bloomingdale Rd and Brighton St
12:47:40	In view of GC 913: Bloomingdale Rd and Belmont Ave
12:47:45	In view of GC 916: Bloomingdale Rd and Ellicott Driveway
12:48:00	In view of GC 918: Poplar Grove St and Riggs Ave
12:48:20	In view of GC 920 Poplar Grove St and W Lafayette Ave
12:48:38	In view of GC 922: Poplar St and Rayner Ave
12:48:57	In view of GC 923: Poplar Grove St and Edmonson Ave
12:49:13	In view of GC 922: Poplar St and Rayner Ave
12:49:27	In view of GC 920 Poplar Grove St and W Lafayette Ave
12:50:58	In view of GC 924: Edmonson Ave and Braddish Ave
12:51:23	In view of GC 925: Edmonson Ave and N Warwick Ave
12:52:21	Ran Red Light
12:55:51	Makes U-turn
12:57:25	In view of GC 1016: W Pratt St and S Monroe St
12:57:26	In view of GC 1016 w Pratt St and S Monroe St
12:57:36	In view of GC 1011 W Pratt St and S Fulton Ave
12:57:43	In view of GC 1008: W Pratt St and S Mount St
12:58:12	verified in GC 1028: W Pratt St and S Carey St
13:00:34	Verified in GC 14: S Howard St and W Pratt St
13:03:29	Verified by Camera 69 13:03:10
13:06:48	Runs Red Light Other cars stopped
13:07:06	Runs Red Light
13:07:21	Weaves in Road
13:07:49	Runs Red Light
13:08:03	In view of GC 742: W North Ave and McCulloh St
13:08:13	Running Red Light Other cars stopped

13:08:49	In view of GC 1102 N Carey St and Baker St
13:09:13	Runs red Light Other cars stopped
13:09:33	In view of GC 1964: Pennsylvania and Laurens
13:09:38	Passes stopped cars on wrong side of road and runs red light
13:10:11	In view of GC 1116: Mosher St and Argyle St
13:10:54	In view of GC: 1965: Fremont and Laurens
13:10:58	Runs Red Light other cars stopped
13:11:15	Cuts corner through parking lot instead of waiting for light
13:12:00	Verified in GC 2120 Mountmor Ct
13:12:40	Verified in GC: 2120 Mountmor Ct meeting with another person
13:13:37	Bike in Assault on officer
13:13:39	Bikers run red light.

13:13:40

Moment of Impact

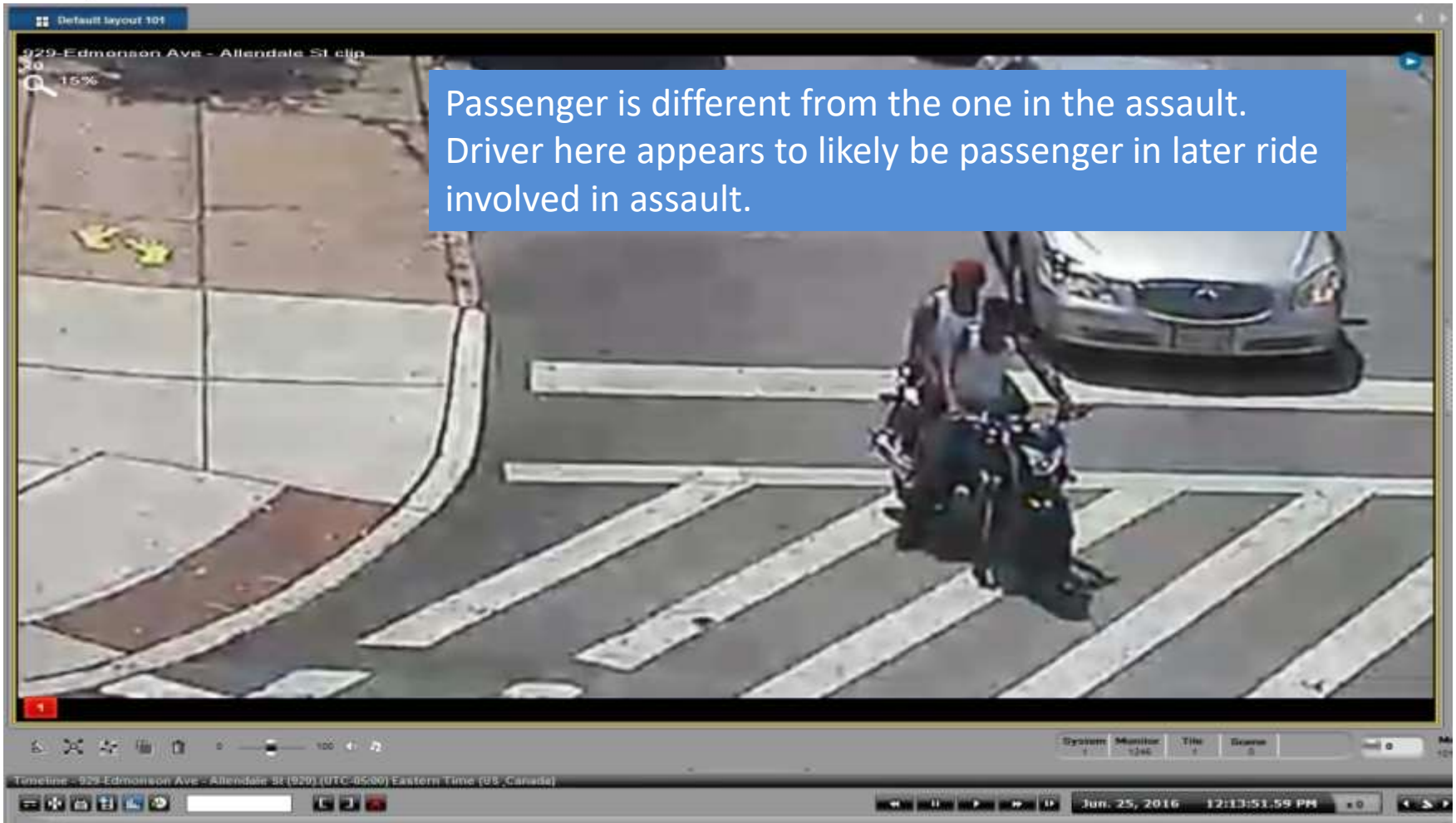
13:14:27	Bike departs assault location
13:14:59	Bike cuts through alleyway
13:18:13	In view of GC 920: Poplar Groove and W Lafayette
13:18:38	In view of GC 921: N Franklinton Rd and N Longwood St
13:19:47	In view of GC 926: Edmonson Ave and Denison St
13:20:10	Verified in GC 929: Edmonson Ave and Allendale St
13:20:23	Appears to pause near 601 Alendale St just after turning on. GC 929 in range, Three cars pass him
13:21:03	Rear suspect exits bike seen in GC 929: Edmonson Ave and Allendale St at 13:20:05.49
13:23:34	[Last] Suspect Bike lost along Gelston Dr, possible entrance into woods or into one of the garages along Grantley at 798 1/2



Edmonson and Allendale

GC 929 12:13:51.59

Passenger is different from the one in the assault.
Driver here appears to likely be passenger in later ride
involved in assault.

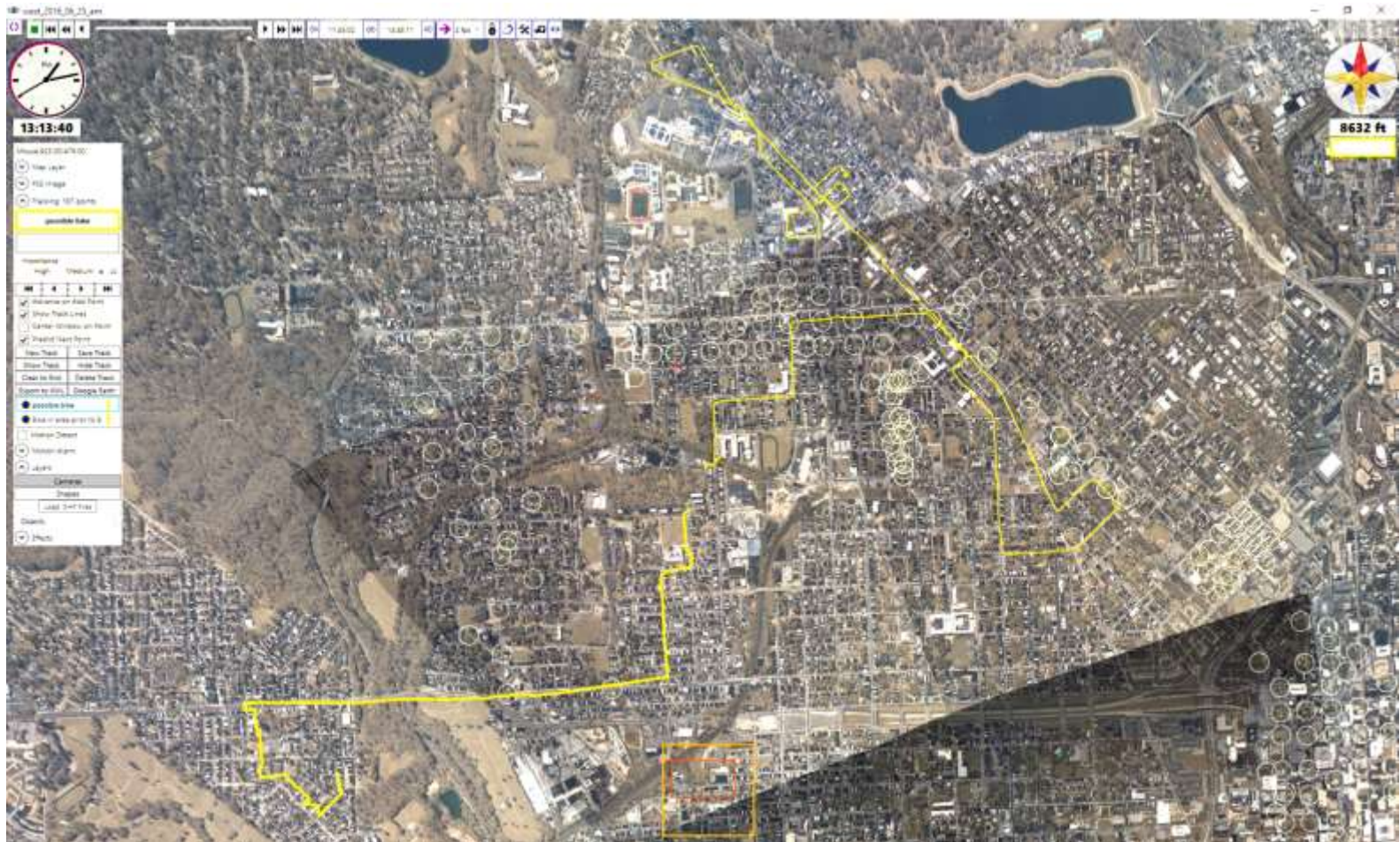


FOUO Law Enforcement Sensitive



Motorcycle Track

From Allendale to Ruskin Ave Location



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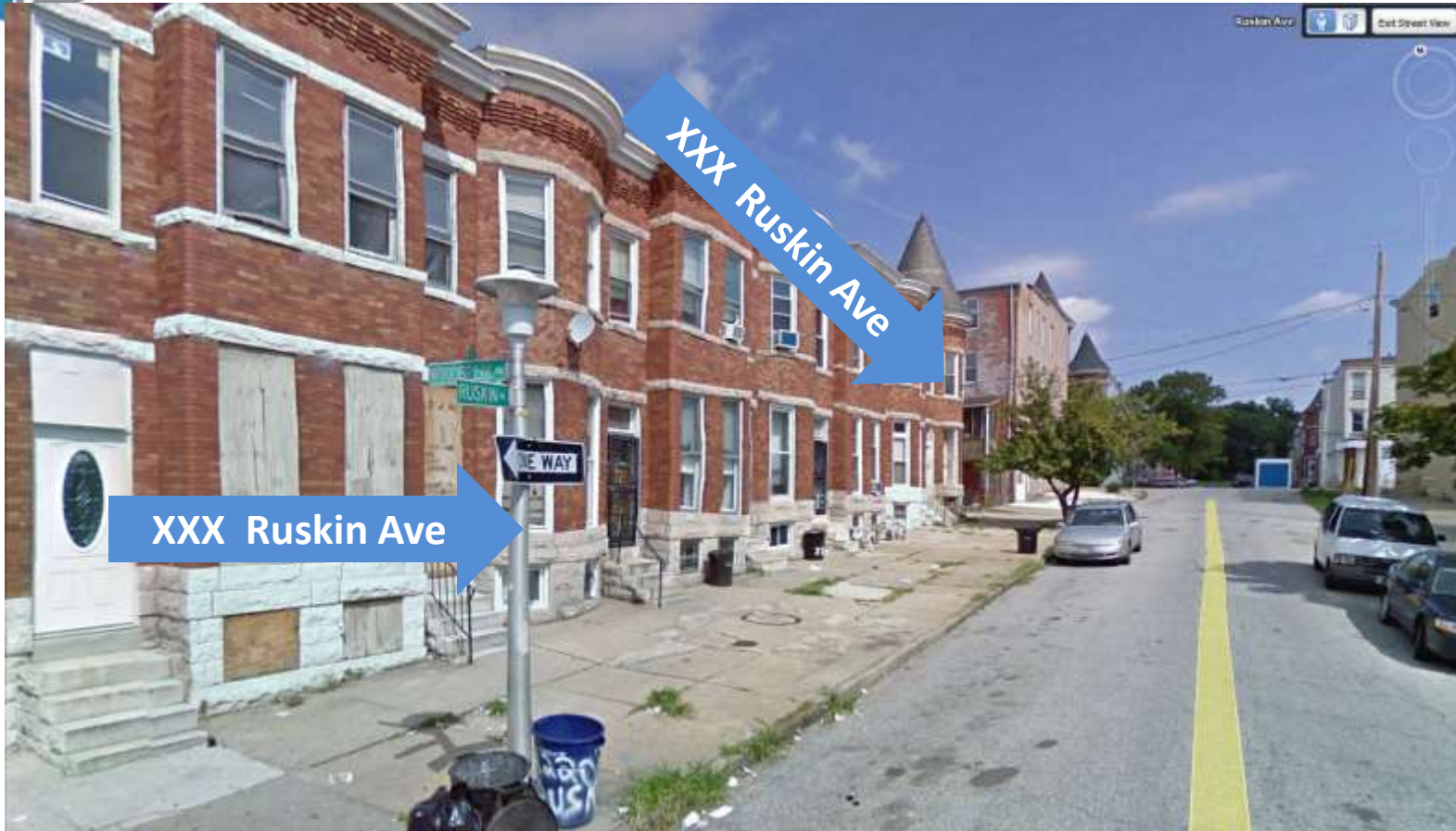
12:14 Group of males with bike meeting near 603 Allendale



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Ruskin Avenue Locations



Stopped at side of **XXX Parkwood Ave** or near **XXXX Ruskin** near alley way on right side behind Parkview – person walks from alley way to bike
Drives around block and stops near or in front of **XXX8 Ruskin Ave**



Parkwood Avenue

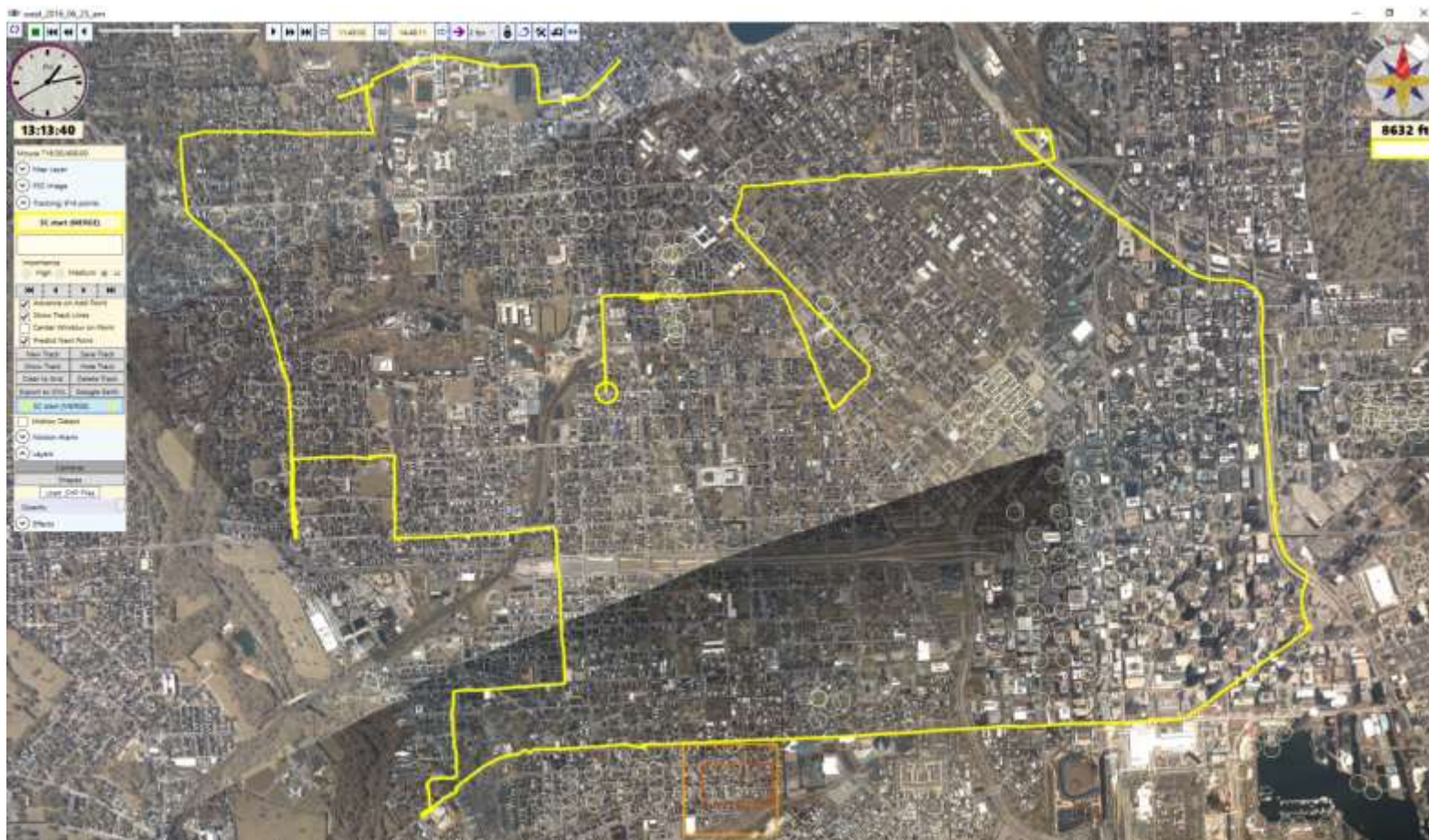
Front of location bike stopped



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Motorcycle Track from Ruskin Ave to Assault on Officer location Riggs and Monroe





Mosher St. and Argyle St.

GC 1116 at 13:09:42



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Mountmor CT

GC 2120 13:12:36



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S. Gay and Water St

GC 69 13:03:09

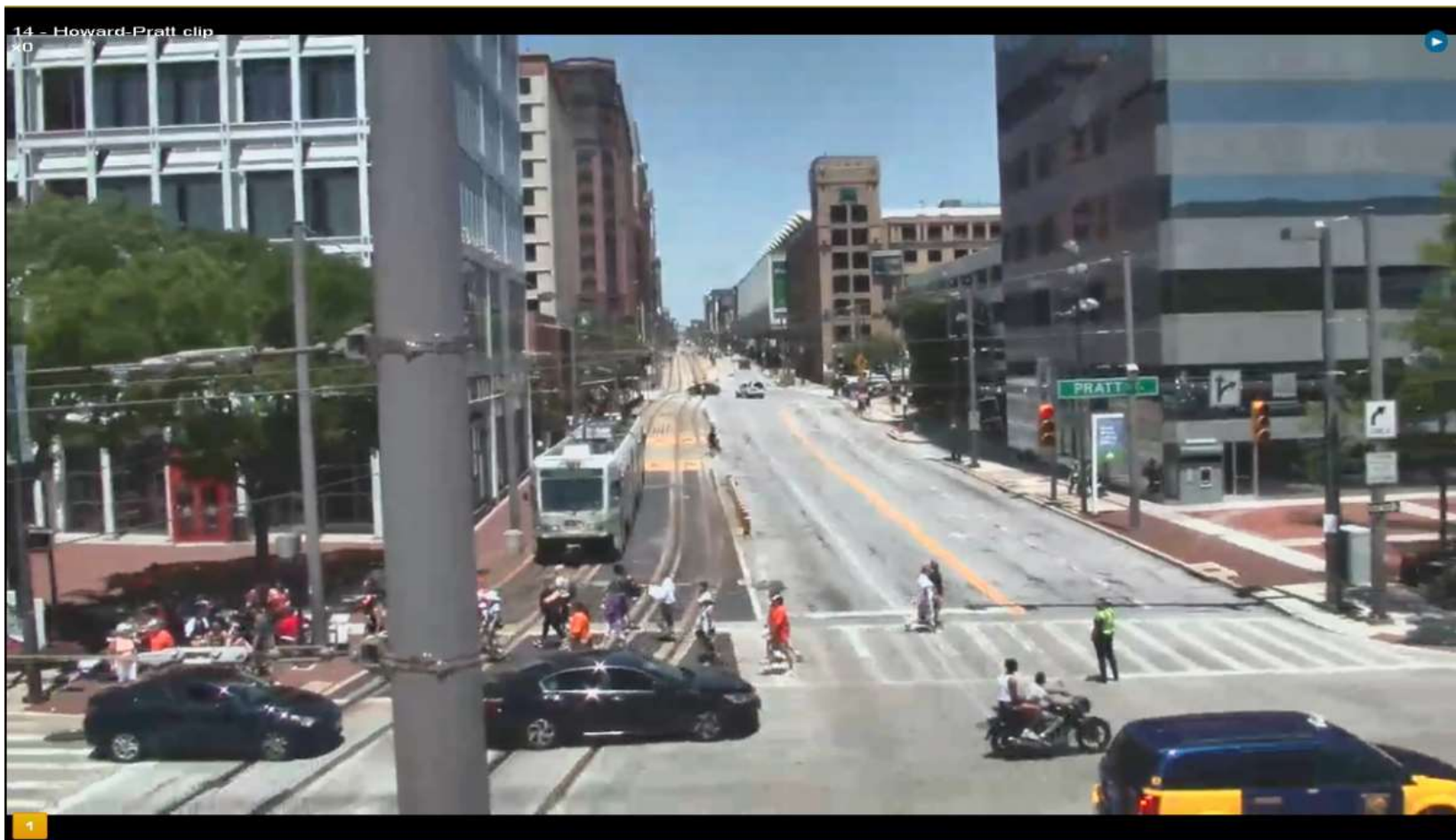


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Pratt St

GC 14 13:02:32



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Freemont St. and Pitcher St.

GC 1115 13:10:12

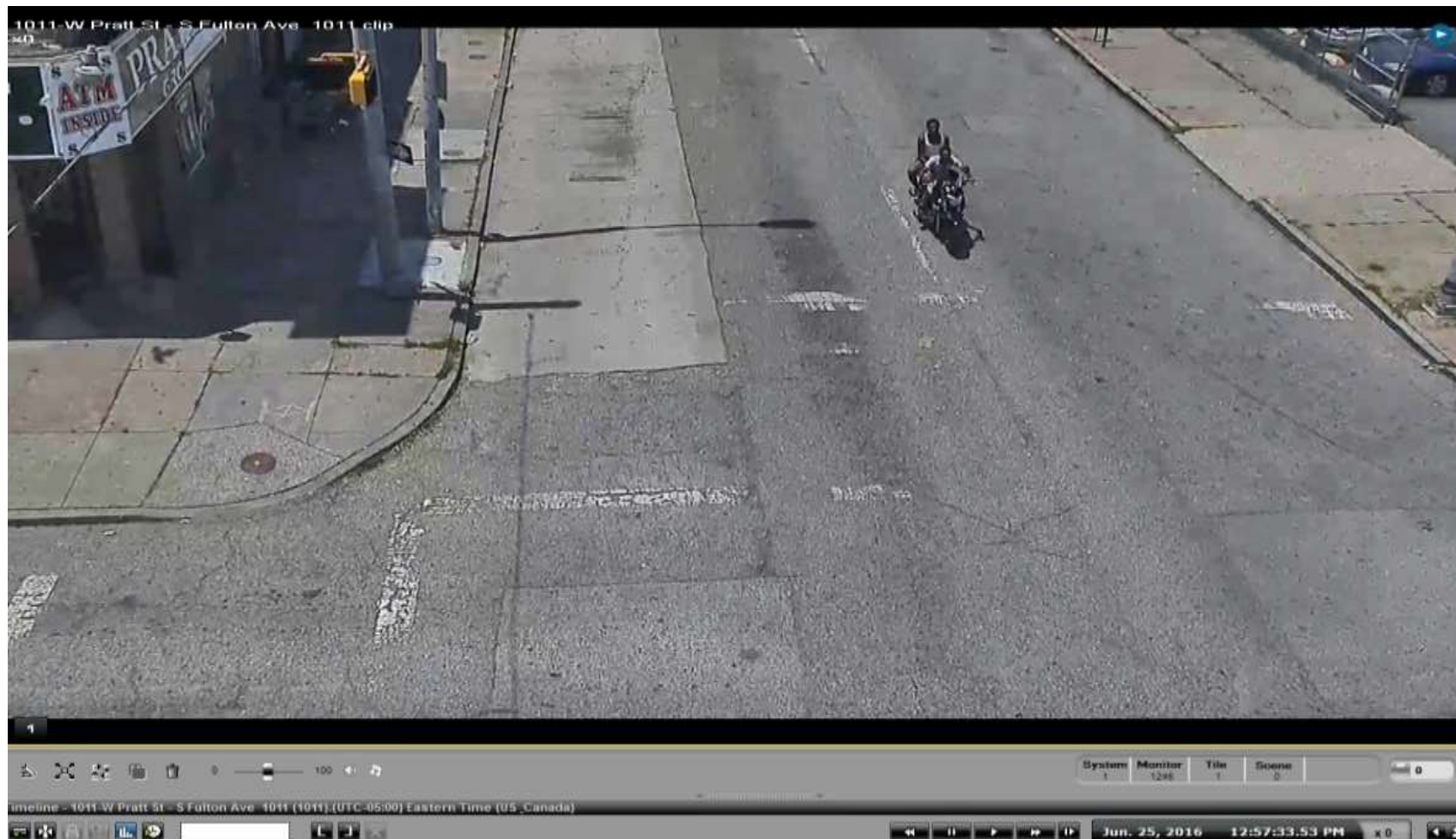


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W. Pratt and S. Fulton

GC 1011 12:57:33



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Pratt and Carey

GC 1028 12:58:04



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East Bound on North Ave from Near Junkyard

GC 727 12:22:43.25

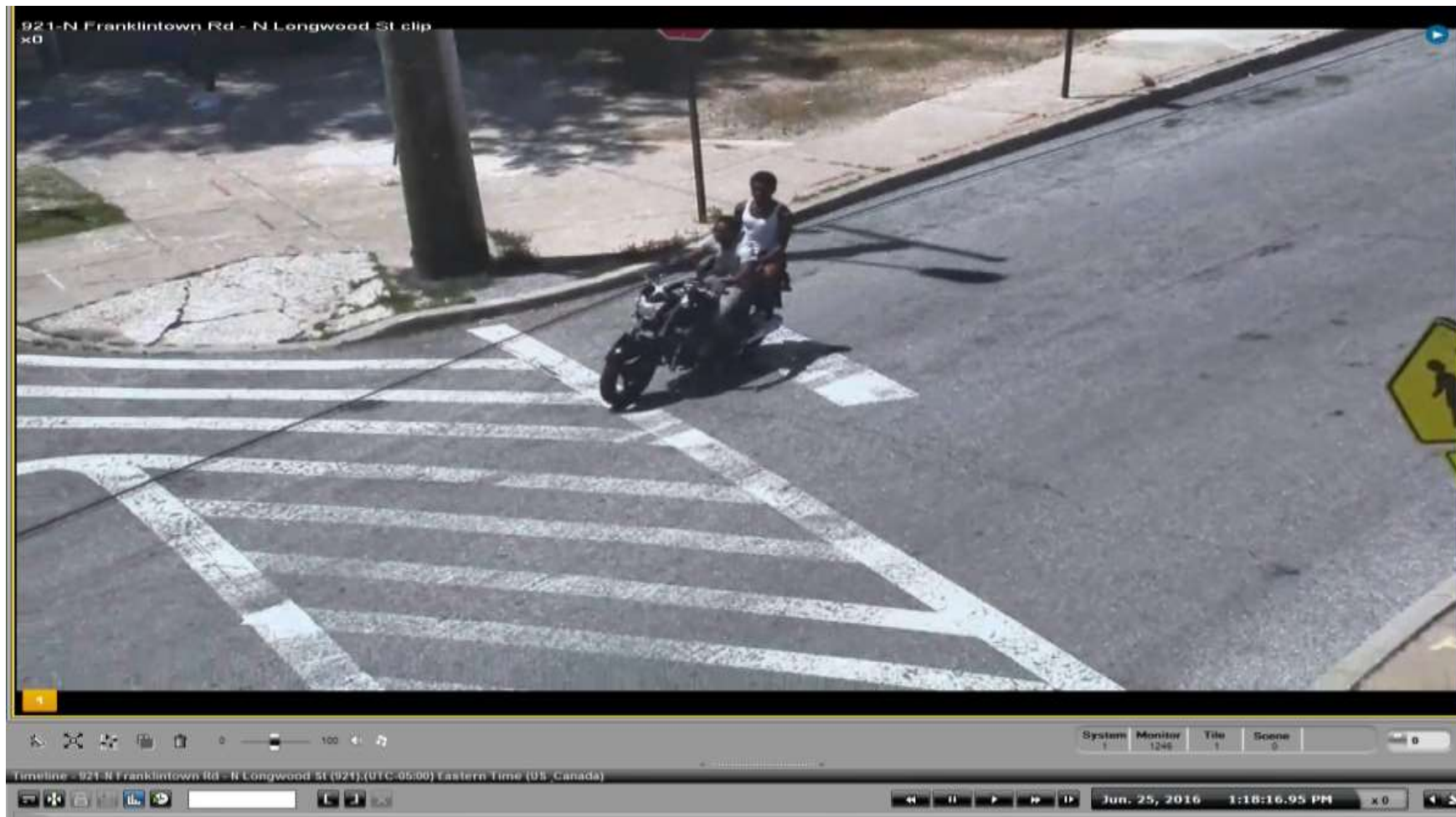


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Suspect Motorcycle Ground Camera Images N. Franklinton Rd and N. Longwood

GC 921 at 13:18:16.95



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Suspect Motorcycle Ground Camera Images

Mountmor Ct.

Police Car 205 at Corner
GC 2120 at 13:12:48.79

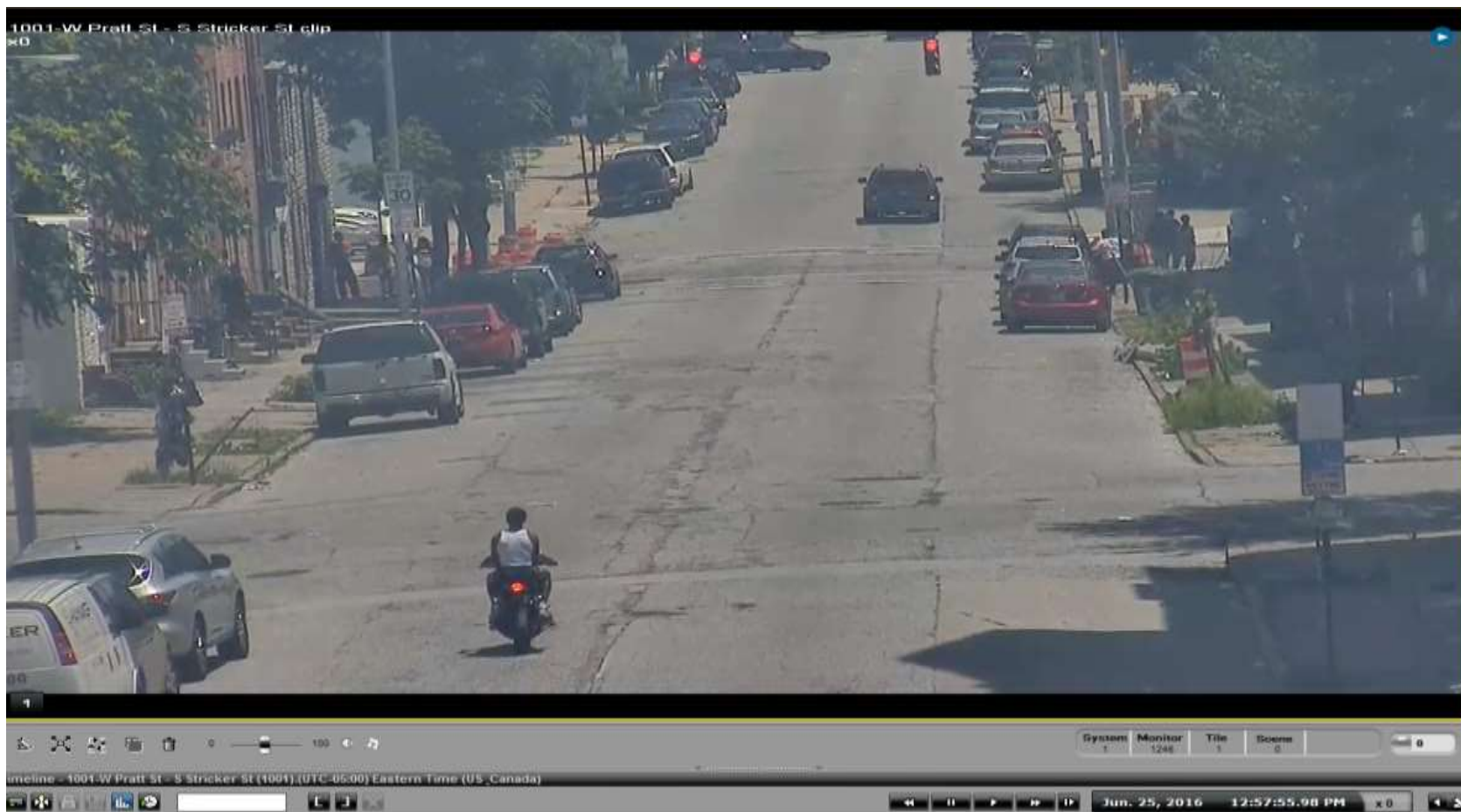


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W. Pratt and S. Stucker St

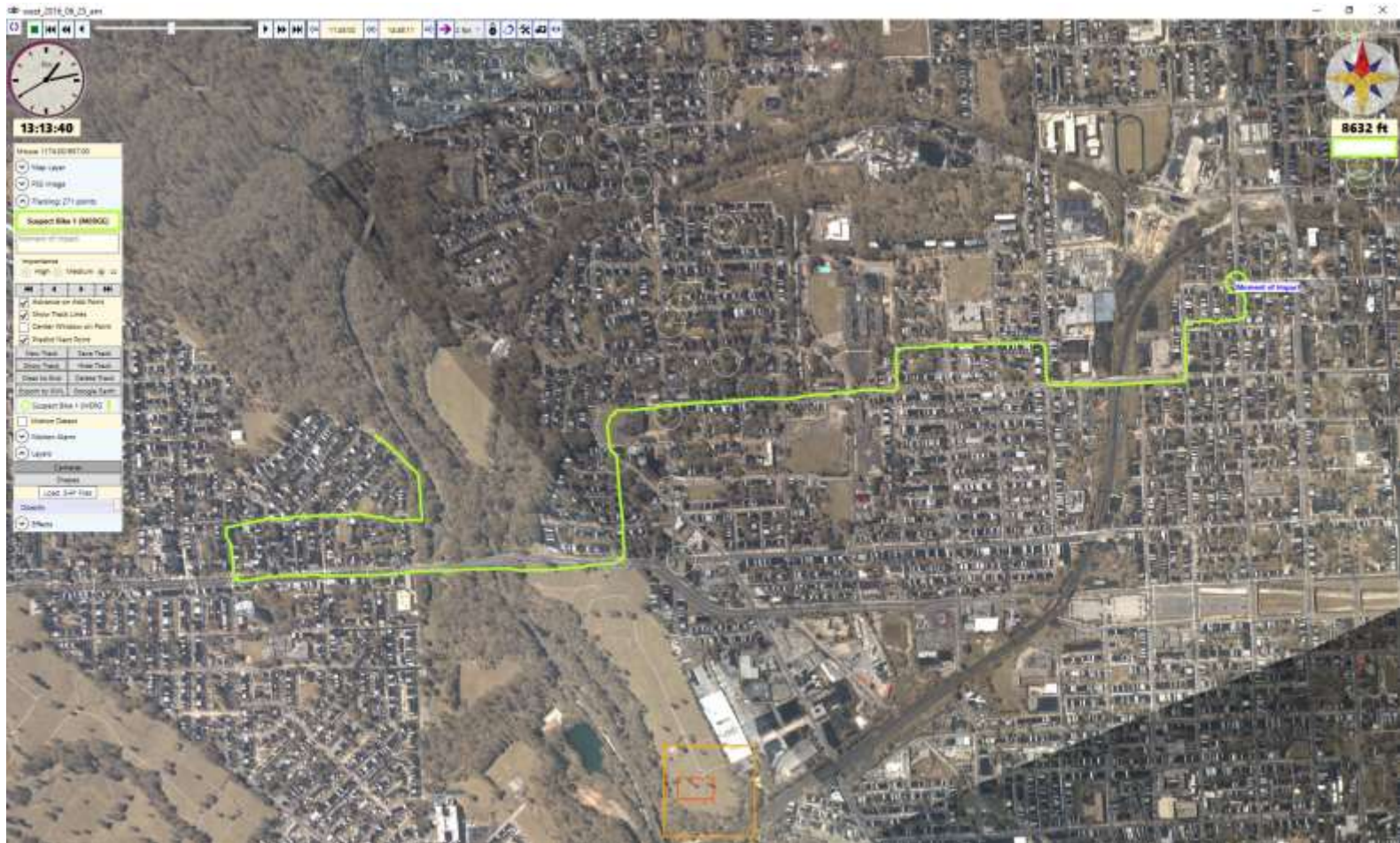
Camera 1001 12:57:55



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Track from Assault Location to XXX Allendale





Edmonson and Allendale

Dirt bike track at 13:20:05
in front of XXX Allendale



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Edmonson Ave-Denison St.

GC 926 13:19:41



FOUO Law Enforcement Sensitive



XXX Edmonson Ave – Witness

Lady looking at bikers from address

GC 929 13:19:51.18

Stripped Shirt Likely could identify rider who gets off three doors down



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FOUO Law Enforcement Sensitive



Subsequent Actions

- Within 2 hours officers responded to XXX Allendale location and found individuals on the motorcycle
- Both suspects pled guilty the day of their trials

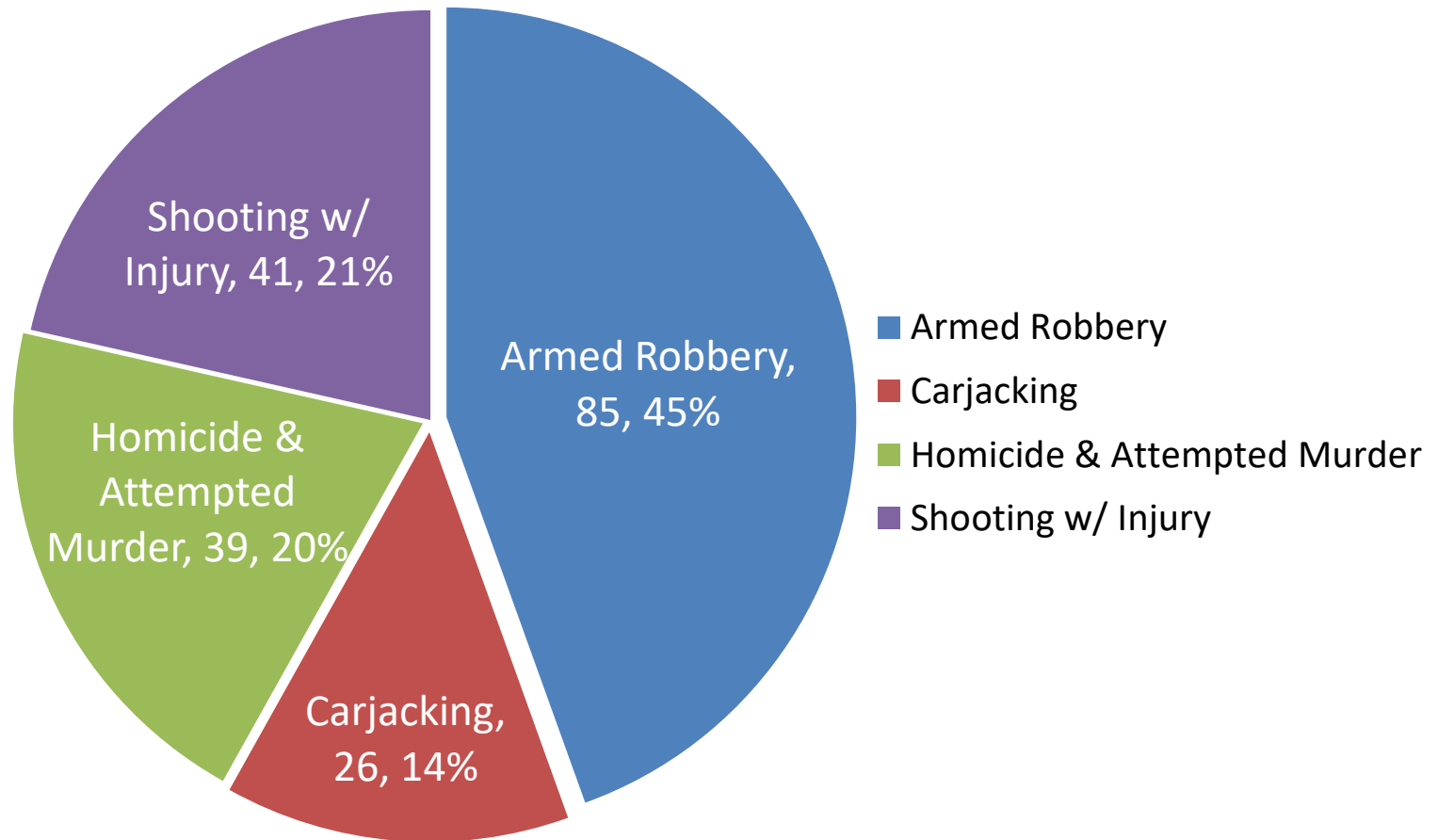


Baltimore Support Operations

Baltimore 6 Month Demonstration

Number of Crimes Supported by Type

Investigations Supported: Crime Types



Releasable Mid-Term Report Data

PROGRESS REPORT

COMPARISON OF SOLVE RATES FOR CASES WITH OR WITHOUT AIR PROGRAM EVIDENCE:

TARGET CRIMES MAY 1 – JULY 31, 2020	HOMICIDE	SHOOTING	ARMED ROBBERIES	CAR- JACKING	TOTAL
CASES <u>WITH</u> AIR EVIDENCE PROVISIONALLY CLOSED	7 of 19 (36.8%)	6 of 21 (28.6%)	8 of 34 (23.5%)	3 of 7 (42.9%)	24 of 81 (29.6%)
CASES <u>WITHOUT</u> AIR EVIDENCE PROVISIONALLY CLOSED	16 of 84 (19.0%)	20 of 146 (13.7%)	82 of 356 (23.0%)	25 of 111 (22.5%)	143 of 697 (20.5%)
Percentage Increase in Case Closure with Air Program	93% Increase	108% Increase	2.2% Increase	91% Increase	44.4% Increase

Based on Data from BPD Lotus Notes Evidence Management System

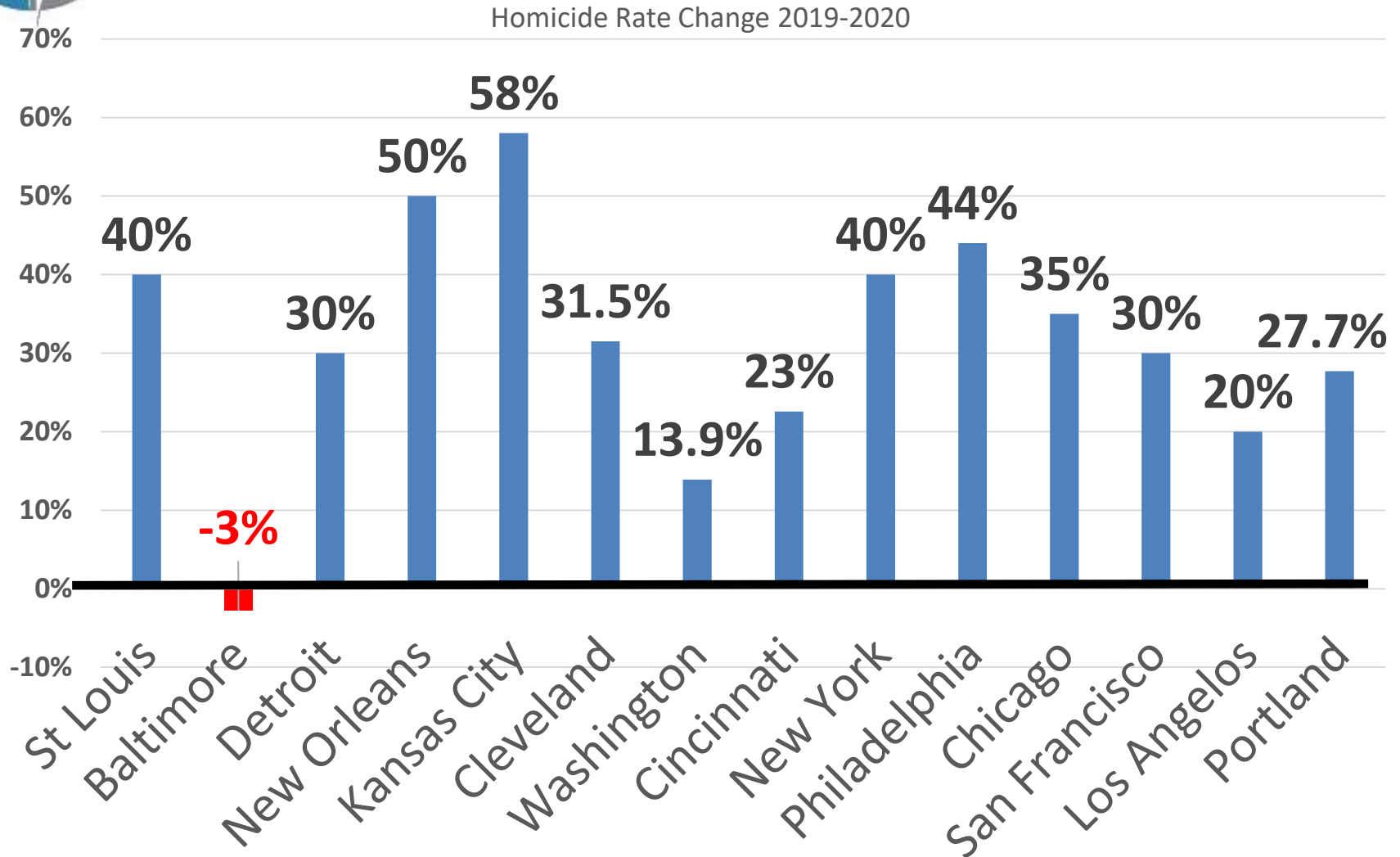
Includes cases that are closed as unfounded .

6 cases that were closed as unfounded (determined to not have occurred) do to AIR evidence 2 Carjacking and 4 Armed Robberies)

Double Case Closure Rate For Homicides and Shootings



Change in Homicide Rate for Major US Cities 2019-2020 - Average 32% Increase



Based on Local Newspaper Data



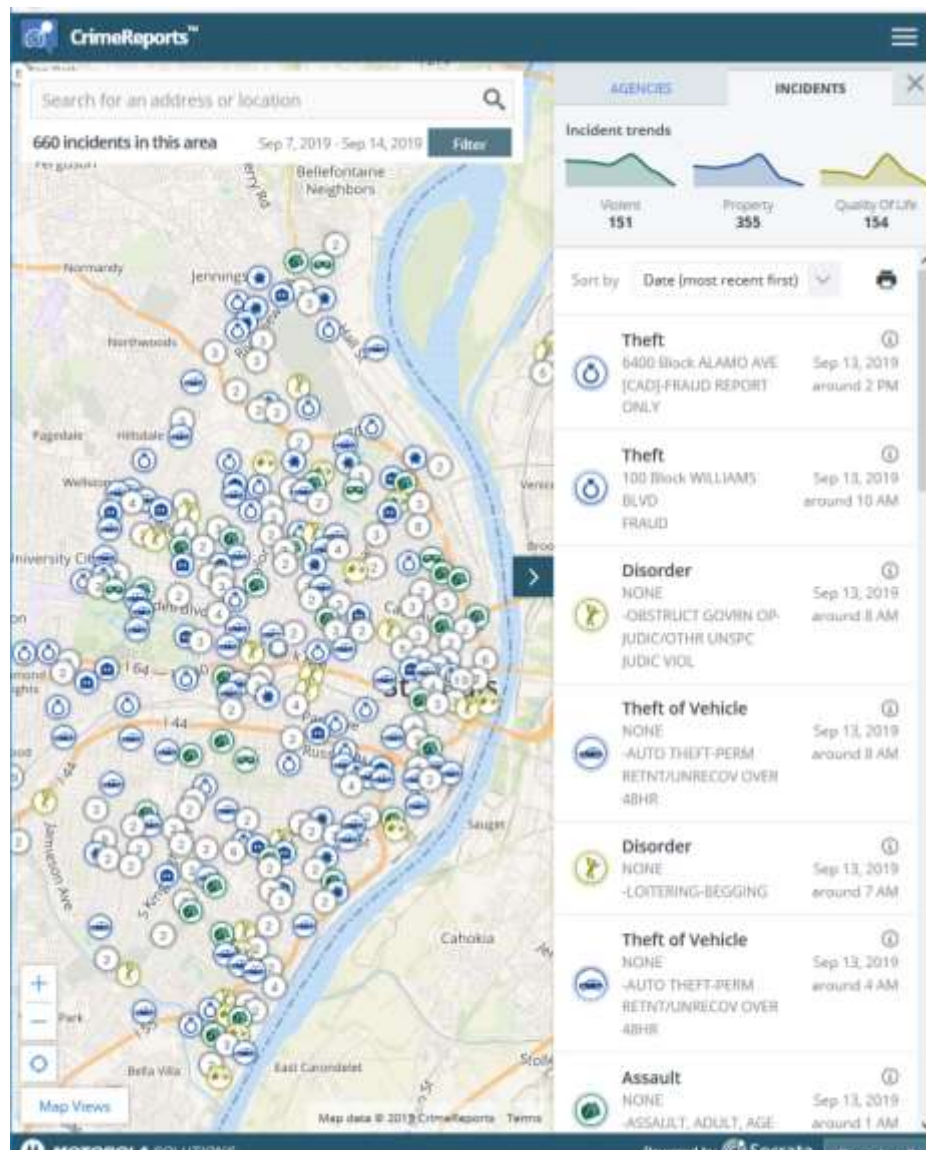
Proposed St Louis Support Operations



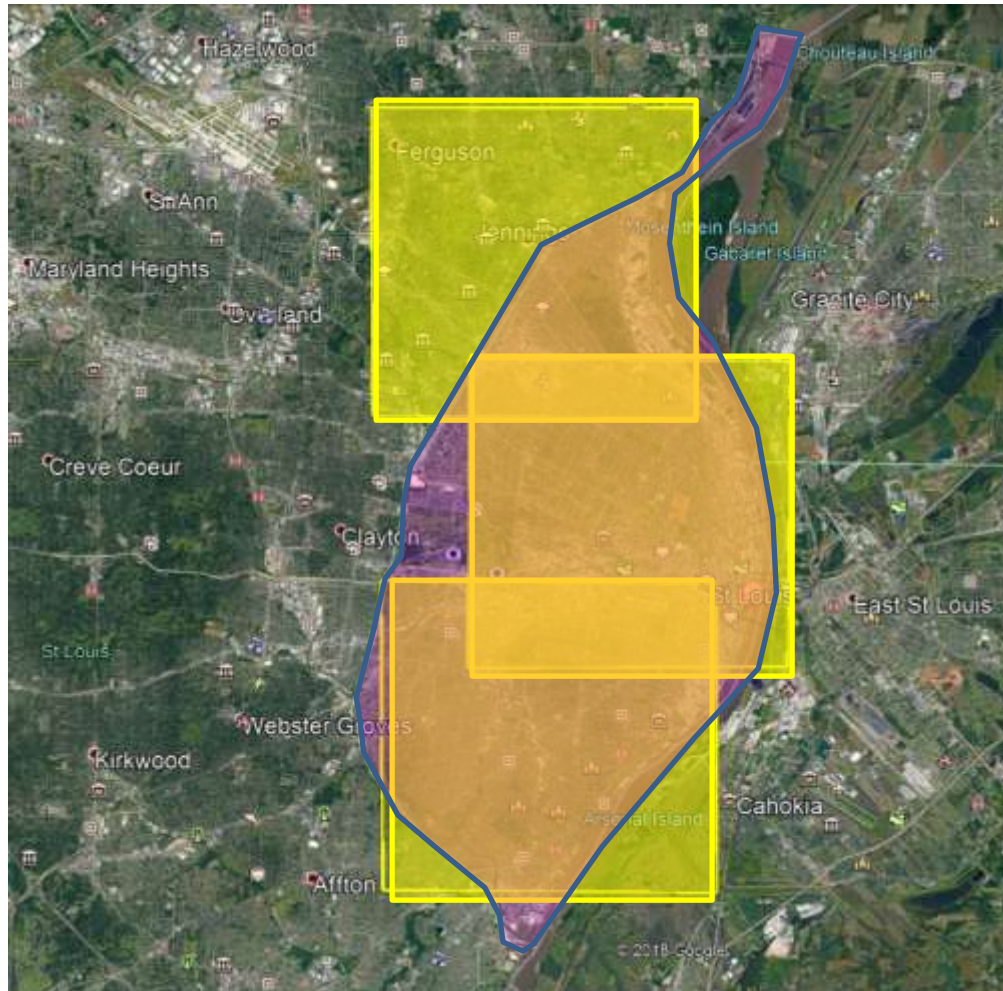
St Louis Metro Crime Map

7 days

151 Violent Crimes
355 Property Crimes
154 Quality of Life



St Louis Proposed Coverage Areas



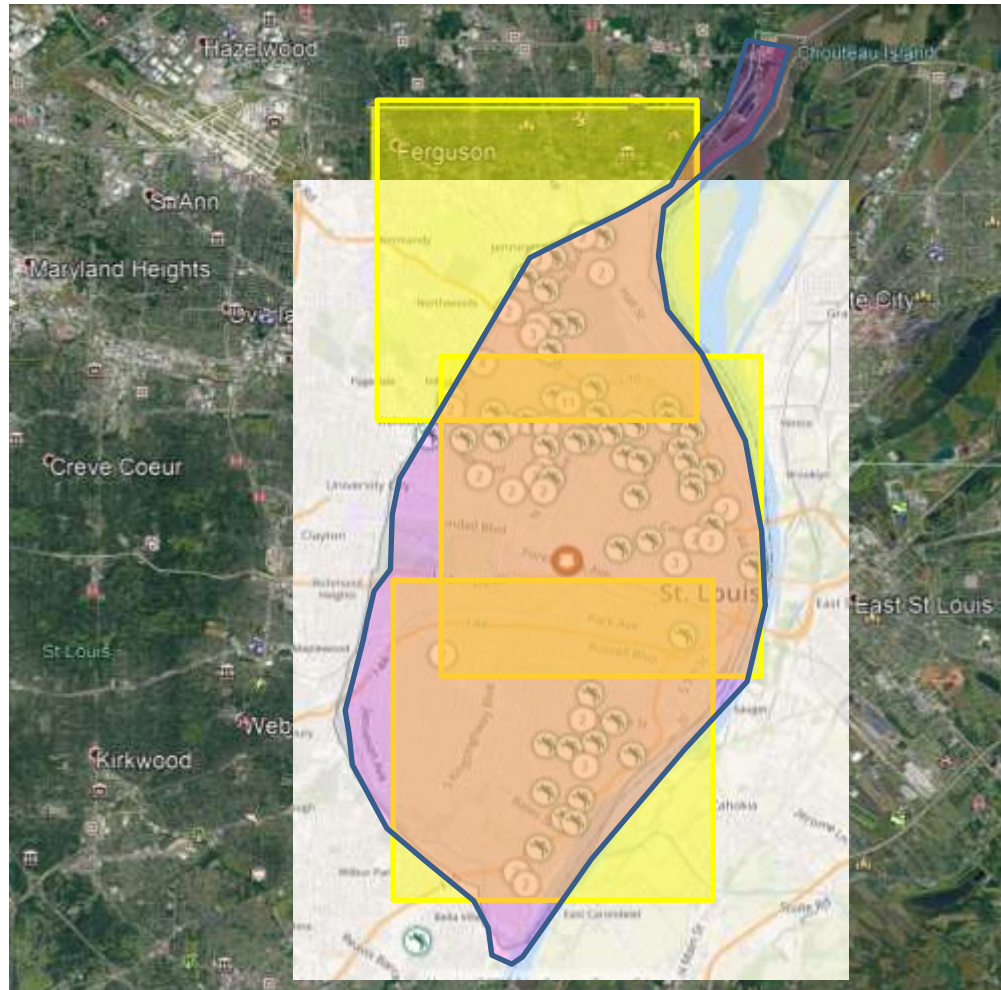
3 Aircraft

Each Plane can cover
32 square miles
(5.8 x 5.8 Miles)

Multiple planes are
offered to support
more of the area with
support

St Louis Proposed Coverage Areas

With 6 months Homicides





Limited Use for Approved Target Crimes

Specific Offenses that may be investigated by BB200:

Homicides,	(Class A and Part 1)
Robbery	(Class A and Part 1)
Shootings and Aggravated Assault	(Class A and Part 1)
Burglary	(Part 1)
Arson	(Part 1)
Motor Vehicle Theft	(Part 1)
Forcible Rape	(Part 1)
Trafficking Drugs Over Statutory Amount	(Class A)
Kidnapping	(Class A)

Added at request of the Board of Aldermen

Any Officer Involved Shooting
Felony Larceny from a Motor Vehicle
Felony Weapons Charge
Discharge of a Firearm Within City Limits
Vehicular Hit and Run with Injury or Death
Missing Persons Investigation Support
Amber Alerts, Juvenile Missing Persons 16 and Under, Endangered Missing Persons
Illegal Dumping

Upon request will also be authorized to assist in non-criminal emergency response efforts relating to floods, tornadoes and similar actions.



Crimes within Coverage Time and Area

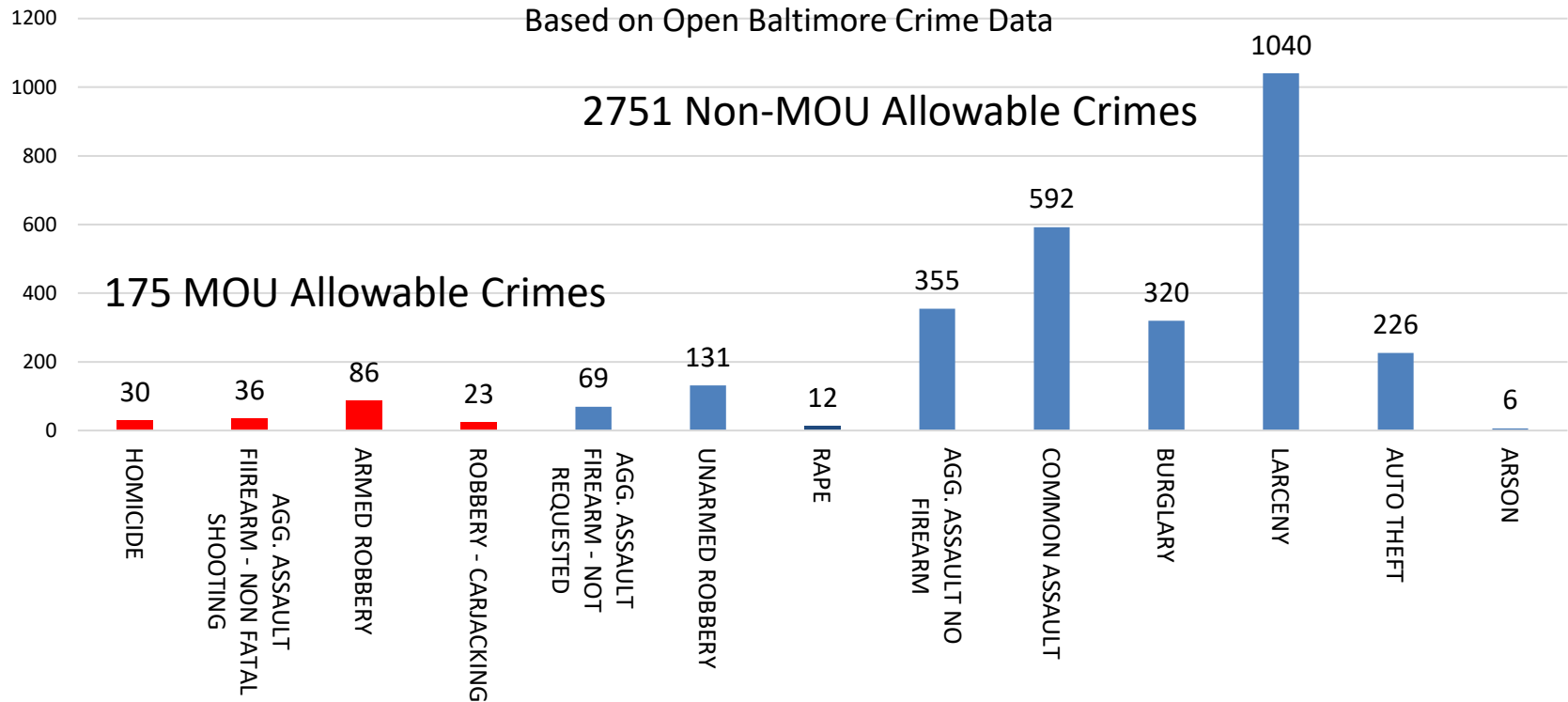
Data Source: Open Baltimore Crime Data (Partial 1 MAY - 10 OCT 2020)

Crimes within Imagery Coverage Time and Area

MOU Crimes - ALLOWABLE to be supported

Non-MOU Crimes - Not allowable to be supported at present time

Based on Open Baltimore Crime Data



Crimes Allowable Within Coverage

175

Crimes Non-Allowable Within Coverage

2751

Percent Crimes within Coverage Investigated

6%



Expanded Hours of Operations To Allow Night Time Operations

BB200 Authorizes Up to 18 Hours Per Day

Homicides by Time of Day

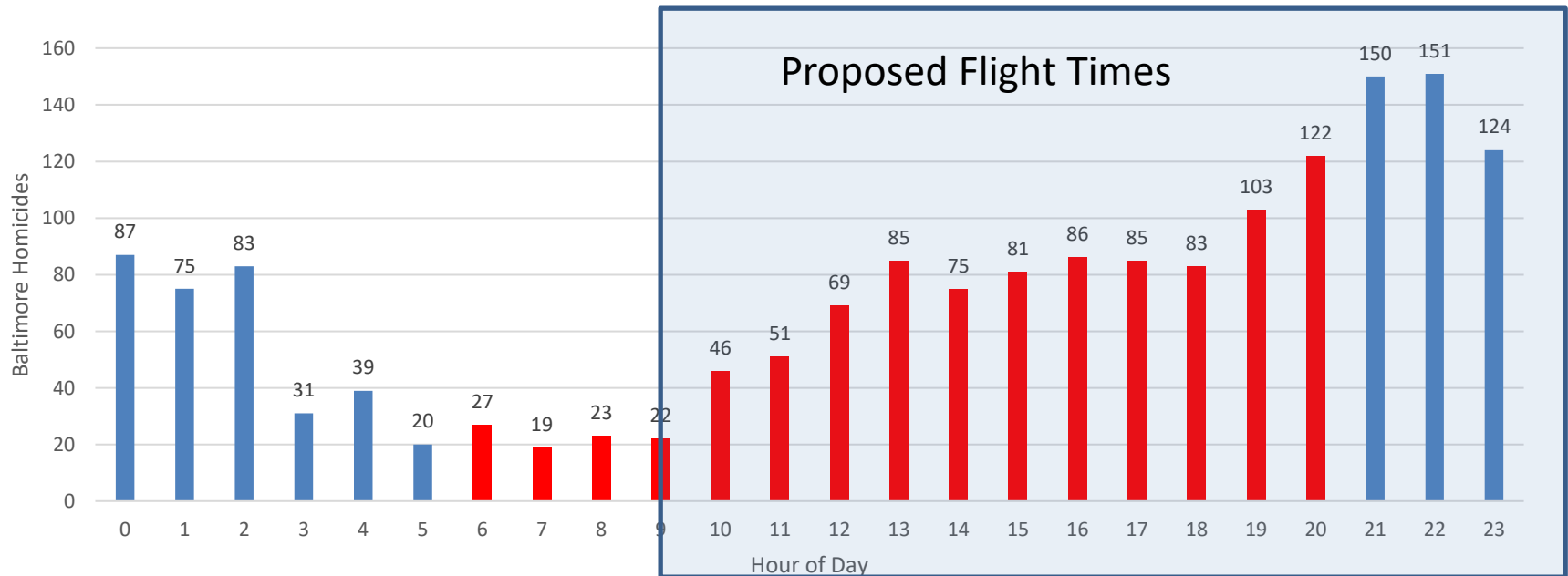
Number of Baltimore Homicides By Hour

1977 Reported Homicides since 2015

1733 with Time of Homicide

977 (56%) Daylight hours 6 am - 9 pm

760 (44%) Night Time Hours 9 pm to 6 am





CSP Privacy Program

Included in BB200

- Privacy Program is Central to all Community Support Program operations
- Image Resolution limited to 1 pixel per person
- Only look at Authorized and Reported Crimes
- Record of All Viewing Locations by Time and Analyst
- All Tracks (vehicle/people) Must Be Directly Assigned to a Specific Approved Investigation
- Limit Use Time of Data/Retention 45 days Police / 180 days Defense
- Extensive External Oversight and Review – Full Access
- Data Securely Maintained and Accessed
- Data is not used for any other purpose
- Privacy Policy is put in Law (BB200), On Contract, and in Memorandum of Agreement with City and Strictly Enforced with Severe Penalties

Baltimore
93 Sq Miles 600K
2-3 story buildings
No Front yards
Stoop Sidewalk Street
Narrow Streets
High Density
Many pedestrians



St Louis
66 sq miles 300K
1-1 Story Houses
Front Yards
Side Walks
Lower Density
More vehicle use
in major crimes





Hire Local Analysts Career Development Program

Air Program Demographics	Gender		Race			Local			Total
	Male	Female	Black	White	Hispanic	City	County	Out of State	
Baltimore									
Local Hires	10	19	18	10	1	19	10	0	29
Total Effort	14	21	18	16	1	19	10	6	35

Hire Local Analysts and Staff

Provides Path to Intel Analyst Jobs

National Geospatial Agency

National Air and Space Intel Center

National Security Agency

Thousands of Intel Jobs in StL Area

Need experience to get them

We provide a pathway to these

Careers for local people





Recent Baltimore Poll

500 Registered Votes in Baltimore 2-6 Oct 2019

9ab. In general, would you support or oppose a program to conduct aerial surveillance over the city of Baltimore to reduce serious crimes like murder

Strongly support 57

Somewhat support.. 17

Somewhat oppose.. 8

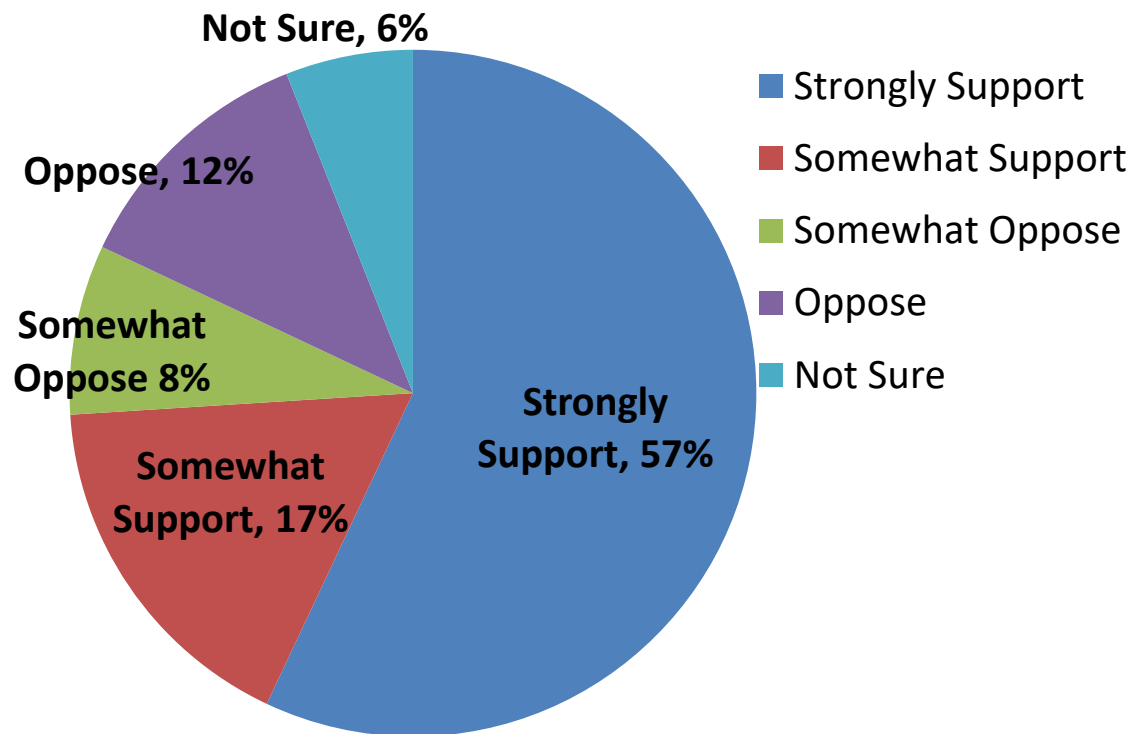
Strongly oppose 12

Not sure 6

Total Support 74%

Total Oppose 20 %

Aerial Surveillance





Public Acceptance

<http://www.bizjournals.com/baltimore/pulse/poll/are-you-comfortable-with-city-polices-surveillance-program/20446022>



Baltimore Business Journal Poll

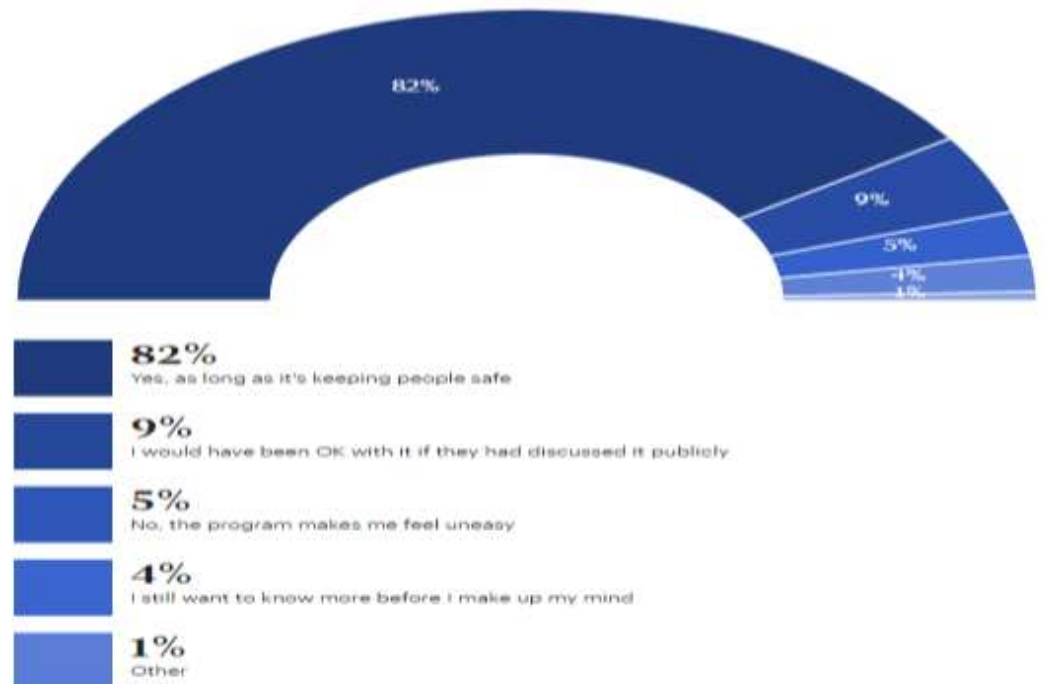
82 % Approve

**9 % “Would have approved
had it been discussed”**

91 % Approve of CSP approach

**5 % Program makes them feel
“uneasy”**

4 % Wanted more information



Total number of responses: **128**

This poll is not a scientific sampling. It offers a quick view of what readers are thinking.



Is It Legal

- Two Federal Courts have said yes it is legal
 - Maryland Federal District Court
 - 4th Circuit Court of Appeals
- ACLU has sued and two federal courts have stated that they were “unlikely to succeed” in their lawsuit and allowed the program to continue
- Federal District Court and 4th Circuit Courts of Appeal have rejected both the ACLU’s 1st and 4th Amendment arguments
 - Links to federal court decisions
 - [4/26/2020 US District Court Decision](#)
 - [11/5/2020 4th District Court Decision](#)
- Up to community to decide – Strong privacy protections – Strong oversight – Pressing need of communities to reduce crime



Use of CSP Information

- Legally reviewed many times by many states and defense attorneys
- Found constitutional and allowable as evidence
 - 2 Recent Federal Court Decisions
 - 4 Supreme Court decisions directly support
 - States Attorneys and Public Defenders were been briefed and agree
- Usable in support of major crime investigations by both defense/prosecution
- Usable as evidence by both defense and prosecution
- Usable by community to investigate incidents with police
- Provides an unbiased record of events at a scene of an incident for use by all sides
- **All analysis done for investigation is provided in full to defense attorneys**
- Additional **confidential/privileged** analysis can be conducted for defense attorneys and is not shared with police or prosecutors



Recent Review By Privacy Organizations

- **NY University Law School Policing Project**
 - Reviewed entire program with full access to everything
 - 13 specific recommendations on how we could further protect privacy and address their remaining concerns
 - All of their recommendations have been incorporated into the proposed bill and contract
 - Primary recommendation is that it should be up to the community to decide and specifically the legislative body such as the Board of Alderman to set specific authorization and guidance

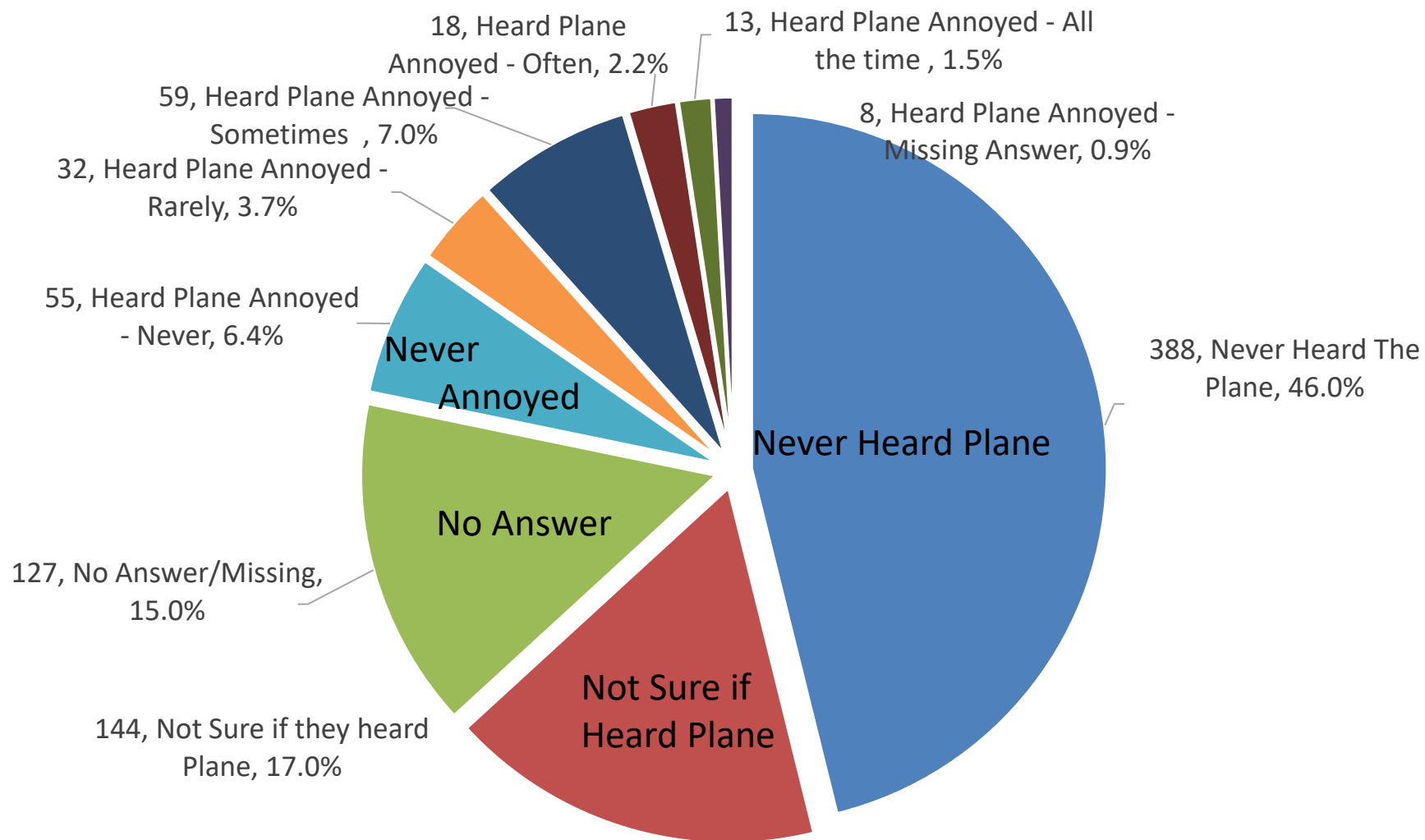


Noise Complaints

CSP is Addressing Noise Issues

Noise Complaints Responses

University of Baltimore Community Survey Noise Question N=844

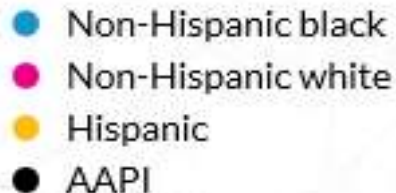


813 of 844 (96.3%) said they were not generally bothered by any Noise of the aircraft
Only 21 of 844 (3.7%) respondents stated that they were annoyed by the plane often

Location of Noise Complaints

Population distribution of residents by race or ethnicity

<u>Location of Complaint</u>	<u>Number</u>	<u>Percent with Known Location</u>
North	43	70.5%
North East	1	1.6%
West	3	4.9%
East	1	1.6%
Fed Hill	5	8.1%
Downtown	7	11.4%
County	1	1.6%
<u>Unspecified</u>	<u>39</u>	
Total	100	

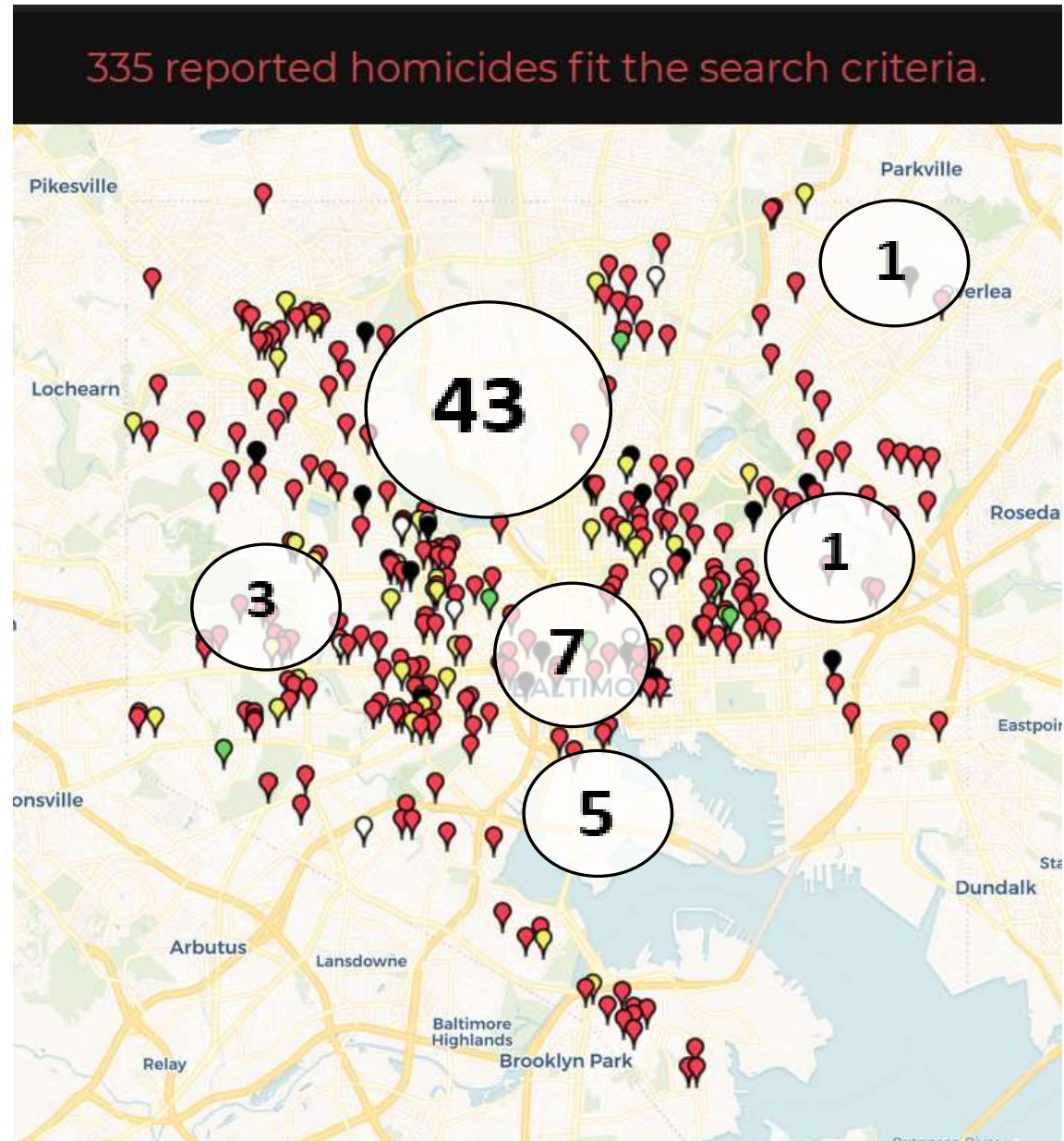


Source: 2012–16 American Community Survey data.

Notes: Each dot represents 200 residents. AAPI = Asian American and Pacific Islander.

Complaint Areas And Crime

A comparison of the complaint locations also corresponds to areas with low rates of homicides and other crimes. Below is the location of the crimes overlayed on the Baltimore Sun's Homicide mapping tool. Most complaints come from areas North of Downtown and from Federal Hill Lotus Point where there are few homicides. Only the Downtown (7) West (3), East (1) and Northeast (1) complaints align with areas of higher levels of homicides and crime.



Measured Noise Levels

Sound Profiles Collected

Area of most Complaints	300 Tuscany Road		Greenway Park	3648 Greenway	
Time	Noise db	Description	Time	Noise db	Description
12:02	55.7	Lawn Mower	12:21	50.6-51.2	Quite Reading
12:03	65.3	Car passing	12:22	55.3-56.3	Single Car
12:04	51.5	Background	12:23	62.3	3 Cars
12:05	52.6	Siren at distance	12:23	63.2	Car
12:06	55.7	Plane 1 flying over	12:23	55.2 – 64.5	Plane Passing Overhead
12:07	67.4	Large Van passing	12:24	65.1	Hammering 1 block
12:08	63.2	FedEx Van driving	12:25	65.3	Bus 1 Block
12:09	49.6	Quietest background	12:27	49.4	Quietest reading
12:10	58. 6	Leaf Blower 6 houses	12:28	58.3	Saw 1 block
12:13	57.1	Plane 2 flying over	12:28	63.2	Cars
12:14	68.0	Neighbor talking 20ft	12:29	58.7	Saw 1 block

Sample of Noise measurements taken during a Noise Study Collection in areas of most of the complaints. Samples were taken with the airplane circling at 3,000 ft altitude – 1,500 feet lower than we usually are allowed to fly – to measure maximum noise levels expected by the plane.

CSP Aircraft Noise Reduction Program

Steps Taken During Operations

Align Orbits with Highways and waterways

Climb Prior to Entering Orbit Limit Lower Altitude to 4500 ft

Limit Flight Times to After 9 AM

Adjusting Aircraft Engine Parameters to Minimize Noise

Addressing Noise Source and Noise Reduction Efforts

Cause of the Noise Adjustment of Aircraft Engine Operating Parameters

New Smaller and Lighter

Aircraft Silencers

Expected Noise Reduction

CSP is Working hard to reduce any residual noise impact of the planes

Sound Profiles Collected

Measured Noise Levels

CSP conducted a noise study with the aircraft at its lowest allowable altitude as defined by the FAA. The study was conducted at the locations of the most complaints. The address 300 Tuscany Road was selected as it is the location near one of the very active complainers. Another location, Greenway Park in was selected as a quiet location directly under the conjunction of the two flight path for the East an West Orbits in an area just north of downtown. The Noise Data Collection was captured using noise pressure monitoring equipment. Two units were used but the results were similar. Measurements of sound levels were monitored for 15-20 minutes at each location and through several orbits of each aircraft. The aircraft was help lower during the sound collection effort as a way to identify the maximum noise levels. After a few orbits at low altitude the aircraft was asked to climb in orbit at full power. Below is a summary of the noise levels detected by the plane and other identifiable noises from the two locations.

Sample of Noise measurements taken during a Noise Study Collection in areas of most of the complaints. Samples were taken with the airplane circling at 3,000 ft altitude – 1,500 feet lower than we usually are allowed to fly – to measure maximum noise levels expected by the plane.

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CSP Aircraft Noise Reduction Program

CSP has looked at several alternatives to reduce the noise signature of its aircraft. We have looked at adjustments of the engine operating parameters on the existing aircraft, new smaller and quieter aircraft, and an advanced aircraft muffler Silencer system developed in Europe. Below is a short discussion of the efforts we are undertaking on the reduction of noise and the noise reduction we expect to achieve.

Steps Taken During Operations

Adjust Orbits to Align with Highways – CSP adjusted the orbit location and radius to align the orbit to coincide with major highways to the maximum extent possible. This aligned the East orbit with portions of I-95, I-83, and I-695 and portions of Baltimore Harbor. The West Orbit was aligned with I-95 and I-83

Climb Prior to Entering Orbit – CSP instructed pilots to climb to altitude prior to entering the orbit area to reduce engine power required and noise over the city at low altitude. In orbit climbs were still required as the lower clouds lifted as the morning clouds lifted allowing the plane to climb while maintaining consistent coverage area to support investigations.

Limit Lower Altitude to 4500 ft Except for Special Circumstances – CSP limited the lower altitude of the plane to 4,500 ft. This limited the coverage times and coverage areas. The 4,500 ft minimum altitude often limited the number of planes that could fly as the FAA required a minimum of 1,000 separation between aircraft to avoid collision avoidance alarms twice an orbit. This then required 5,500 ft minimum ceiling to fly two orbits at once. Due to lower clouds and a cloudier than average summer this had a significant impact on the flight times achieved.

Limit Flight Times to After 9 AM – CSP limited the start time for operations to 9 a.m. This originally was set as the taxi time but later shifted to the on-orbit time to recapture part of the time lost and the occurrence of several homicides just prior to the plane arriving on station.

Adjusting Aircraft Engine Parameters to Minimize Noise – Adjusted engine RPM to 2,300 RPM, the minimum allowed for loiter operations with the type of engine used.

CSP Aircraft Noise Reduction Program

Addressing Noise Source and Noise Reduction Efforts

Cause of the Noise - Aircraft noise has two components on the engine exhaust noise and the propeller noise caused by the high tip speed. Aircraft exhaust noise is lower pitched and travels further than the higher pitched propeller noise. Other than while climbing to altitude, CSP operated its engines at approximately 45% power. This is a function of aircraft weight, drag, and wind.

Adjustment of Aircraft Engine Operating Parameters – CSP looked at adjusting the operating parameters of the engines used on its aircraft. The current manufacturers and FAA limitations on the 6 cylinder Continental aircraft engine used requires the aircraft to be operated in loiter above 2,300 RPM due to engineering limitations of the current engine. This is spelled out in a service bulletin from the engine manufacturer. CSP looked to see if we could operate at lower RPM and conduct a study on the engines to determine if alternative operating parameters would be possible. CSP was turned down by the engine manufacturer who has already conducted such studies with the Forest Service and FBI aircraft and found that long duration low power settings impacted antivibration counter-weights on the crankshaft and increased the risk of engine failure. Short duration test run at lower RPM reduces the noise considerably. As a result, CSP looked at other alternatives aircraft and engines which do not have the low power limitations of the current engine.

New Smaller and Lighter Aircraft CSP is shifting from a Cessna 207 to a Cessna 177 Cardinal – a smaller and lighter aircraft with a quieter engine and propeller. This other aircraft has a different 4 cylinder engine that will allow it to operate at 1,800 RPM without restriction. This will dramatically lower the propeller tip speed which will reduce the noise caused by the aircraft propeller. This other aircraft is also less expensive, more available, and uses a smaller engine that reduces fuel burn and noise. The aircraft also has retractable landing gear which will remove aircraft wheel from imagery. CSP purchased one of these aircraft, redesigned its camera system to fit on the aircraft, and was working to obtain FAA approval for operations with the copilot door removed. Unfortunately this effort was delayed due to COVID restrictions on the FAA approval process. Aircraft has been purchased, the cameras modified, and CSP still awaiting FAA approval of modifications for the camera installation. We expect the approval within the next month or two.

Aircraft Silencers – CSP has located and working to install advance aircraft exhaust systems that are used in Europe to lower the noise level associated with general aviation aircraft. These new exhaust systems are known as silencers. CSP is working with the company to obtain FAA approval of the system for use within the US for its existing aircraft but must first obtain FAA approval. Installation of the system on the current Baltimore deployed aircraft still requires some analysis and engineering prior to submission to the FAA. The FAA approval has been delayed due to COVID related schedules with the company in Europe. The company already has FAA approval for installation on the Cessna 177 Cardinal which will make the new aircraft even more quiet.

Expected Noise Reduction - The engineering data shows that it should reduce the noise level by 10 db from current system which would make it inaudible in a vast majority of the city and much less detectable in the quietest portions of the city.

CSP has been working this as hard as possible since July but the FAA approval takes time and we were not able to complete this effort within the short time of the pilot program.



Potential Time from Approval

Community Engagement and Discussions

Community Engagement Briefings

~ 3 months

Press support briefing and demonstrations

~ 3 months

From Decision to Proceed / Approval

Research Program Development and Approval

1-2 month

Final Funding Decision/ Approval

2 months

Hiring and initial training of local analysts and staff

2 month

Need to identify ~20-25 people from St Louis area

Installation of Additional Equipment at CSP Center

2 month concurrent

Briefing of Community Safety Councils

2 month concurrent

Agreement with Independent Oversight Organization

2 month concurrent

Propose Civilian Review Board - Hiring and training of staff

Agreement with Independent Evaluation Organization

2-3 month concurrent

University Missouri St Louis, Civil Rights Oversight Committee or some appropriate group

Start of Support Operations

~3-4 months



Summary

- The Community Support Program is ready to help St Louis address major crimes
- CSP demonstrated its effectiveness in Baltimore in 2016 and in 2020 capturing data on 34 murders and 58 shootings, 94 Armed Robberies, and 27 Carjackings.
- CSP has a strict privacy program with strong oversight
- CSP has been viewed, vetted, and approved by a large portion of the community
- CSP is offered at no cost to the city for 3 years through an outside donors
- CSP dramatically increases the effectiveness of existing cameras
- If we do not help reduce murders and shootings we will stop and leave.
- CSP can start quickly 3-4 months after approval and quickly show results
- **We hope to help make St Louis a better place to work, live, and play, and raise families**
- **We appreciate you time and consideration**

Thank You