

Electronic Data Collection Activity Log System

User Guide

Vancouver Police Department
2016

Vancouver Police Department

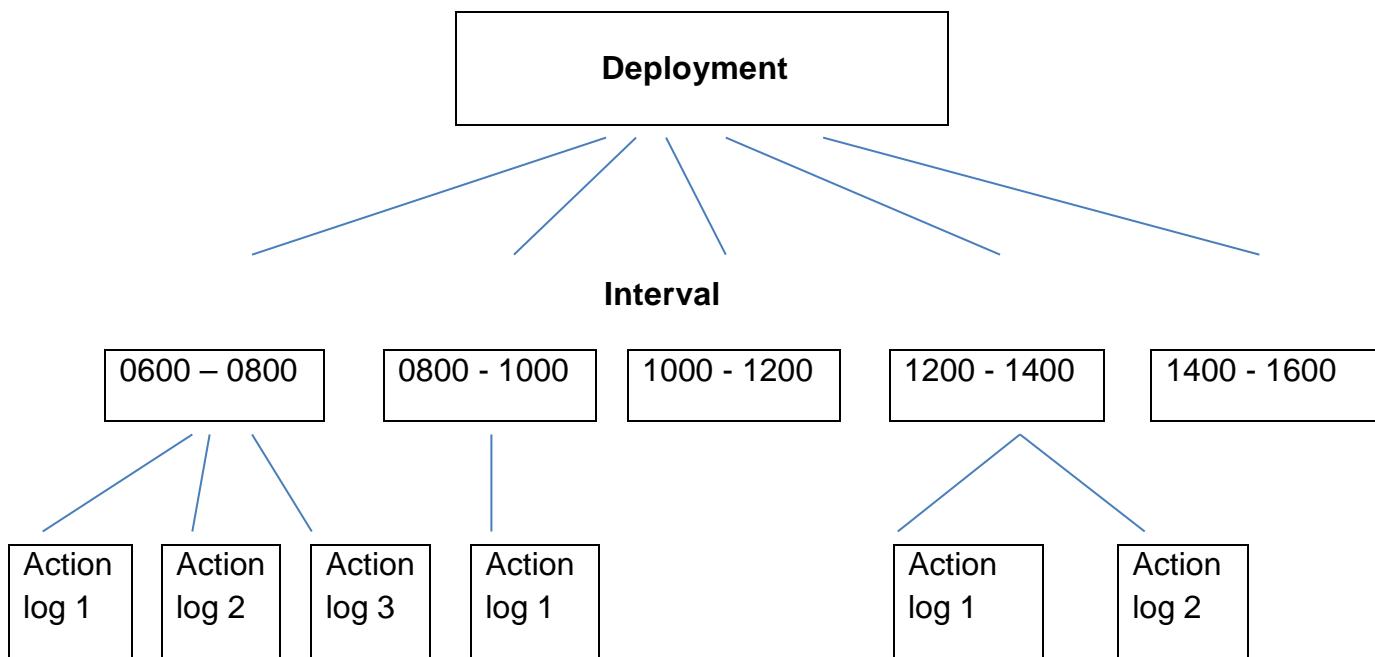
1. Introduction

All members assigned to the Predictive GeoDASH project are required to use the Electronic Data Collection Activity Log system to document *all* their activities for each two hour deployment interval. A log entry should be made when a member initially arrives at a predicted location.

The approximate *center point* of the predicted location should be entered as the location. The exact time the member arrives and departs the location must also be recorded. Any ‘Action’ taken (street check, arrest, breach) at the location should be recorded in the log, including suspect details, time, and the exact address it occurred. If a member prematurely departs the location for any reason, this must also be recorded. Please use PRIME entry conventions when reporting the address, as this data is being feed back into the predictive system to improve accuracy.

The system will capture 3 sets of information:

- **Deployment** – will capture the deployment date, deployment type and the PIN of the members.
- **Interval** – information specific to each interval such as start time, end time and location.
- **Actions** – information on the actions taken by the members during each interval.



2. Access

This system is available on project specific MDTs.

There will be an icon called “**Activity Log**” on the MDTs.

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3. Add a New Deployment record

To add a new deployment record,

- Click the Add New Deployment button.



- Enter the following information:

Officer 1 PIN: *enter your PIN*

Officer 2 PIN: *enter your partner's PIN*

Deployment Type: *click the button to select from the dropdown list.*

Two side-by-side screenshots of a 'Add Deployment' form. The left screenshot shows the initial state with 'Officer 1 PIN' set to '2222', 'Officer 2 PIN' set to '3333', and 'Deployment Type' showing a search bar and a '+' button. The right screenshot shows the form after input, with 'Officer 1 PIN' set to '2222', 'Officer 2 PIN' set to '3333', and 'Deployment Type' showing a dropdown menu with 'Patrol' selected.

- Click the Save button to save the record.

A screenshot of a 'Add Deployment' form. The 'Officer 1 PIN' field contains '1111', the 'Officer 2 PIN' field contains '1234', and the 'Deployment Type' field has 'Patrol' selected. The 'Save' button at the top right is highlighted with a green oval.

- Saving the record instantly creates the record on the system. The database is running live on a server at VPD. Changes are updated on the server via a LTE cellular connection between the MDT and the Graveley police building.

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2. Edit a Deployment Record

To edit a deployment record,

- a. Click on the deployment record.

The screenshot shows a web-based application titled "Deployments". A message at the top says, "Please click \"Add New Deployment\" to create a new deployment, or click on an existing deployment to continue". Below this, a deployment record is listed: "3/2/2016", "Patrol", "Officer 1 PIN: 2222", and "Officer 2 PIN: 3333". A green oval highlights this entire row. At the bottom left of the list area is a button labeled "Add New Deployment".

- b. Click on Edit Deployment details button.

The screenshot shows a deployment details page. It displays "Deployment Type: Patrol" and "Date: 3/2/2016". Underneath, it lists "Officer1: 2222" and "Officer2: 3333". At the bottom, there is a button labeled "Edit Deployment Details" which is circled with a green oval. To the left of the page, the text "C. Enter the new information." is visible.

The screenshot shows an "Add /Edit Deployment" form. It has fields for "Officer 1 PIN" (containing "2222"), "Officer 2 PIN" (containing "3333"), and "Deployment Type" (set to "Patrol"). There are "Save" and "Cancel" buttons at the bottom, each with a blue circular icon containing a white letter "H".

- d. Click the Save button.
- e. Any edits or changes are instantly updated on the system once Save is selected.

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4. Edit Interval Record

Interval records are automatically generated by the system.

To edit an interval record,

- Click the interval you want to edit.

Deployment Type: Patrol		Date: 3/2/2016				
Officer1: 2222						
Officer2: 3333						
Edit Deployment Details						
Intervals - Click on an interval to edit						
Prediction Start Time	Prediction End Time	Start Time	End Time	Interval Location	Interrupted	Remarks
0800	1000				No	
1000	1200				No	
1200	1400				No	
1400	1600				No	
1600	1800				No	
1800	2000				No	
2000	2200				No	
2200	0000				No	

- Click Edit Interval Details.



0800 - 1000

Prediction Start Time 0800	Start Time:	Interrupted: No
Prediction End Time 1000	End Time:	Remarks:
Interval Location:		



- Enter the information.

Start Time – *enter actual start time*

End Time – *enter actual end time*

Interval Location – *enter deployment location*

Interrupted – *default value is No. Slide to ‘Yes’ if you were called away during this deployment interval.*

Remarks – *add your notes here.*

Interval		
Start Time	8	10
End Time	10	20
Interval Location	400 E Hastings	
Interrupted	<input checked="" type="checkbox"/> No	
Remarks	Type your notes/comments here.	

- Click the Save button to save the record.

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5. Add an Action Record

To add an action record,

- Click Add an Action button.

Prediction Start Time 0800	Start Time: 0810	Interrupted: No
Prediction End Time 1000	End Time: 1020	Remarks: Type your notes/comments here.
Interval Location: 400 E Hastings		
Edit Interval Details		

Actions - Click on an action to update the details

Action Type	Incident Location	Incident Time	Suspect Last Name	Suspect First Name	Gender	Suspect DOB	Notes
No items							

[Add an Action](#)

- Enter the information.

Incident Location – *enter location of incident*.

Incident Time – *enter time of the incident*

Action Type – *select from the dropdown list*

Suspect Last Name – *enter suspect's last name*

Suspect First Name – *enter suspect's first name*

Gender – *enter suspect's gender*

Suspect DOB – *enter suspect's DOB*

Notes – *enter comments or notes*

Add an Action



Incident Location	Suspect Last Name	
450 E Hastings	Doe	
Incident Time	Suspect First Name	
8 55	John	
Action Type	Gender	
<input type="text" value="Street Check"/>	<input type="text" value="M"/>	
Suspect DOB		
Jan	01 - Tue	1980
Notes		
blah ... blah .. blah ..		

- Click the Save button to save the record.

Vancouver Police Department

6. Edit an Action Record

To edit an action record,

- a. Click the record you want to edit.

Actions - Click on an action to update the details							
Action Type	Incident Location	Incident Time	Suspect Last Name	Suspect First Name	Gender	Suspect DOB	Notes
Street Check	450 E Hastings	0855	Smith	Jane	F	1/2/1985	blah ...
Street Check	450 E Hastings	0855	Doe	John	M	1/1/1980	blah ... blah .. blah ..

- b. Edit the information.
- c. Click the Save  button to save the record.

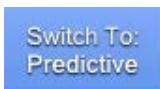


GeoDash Predictive Module User Guide

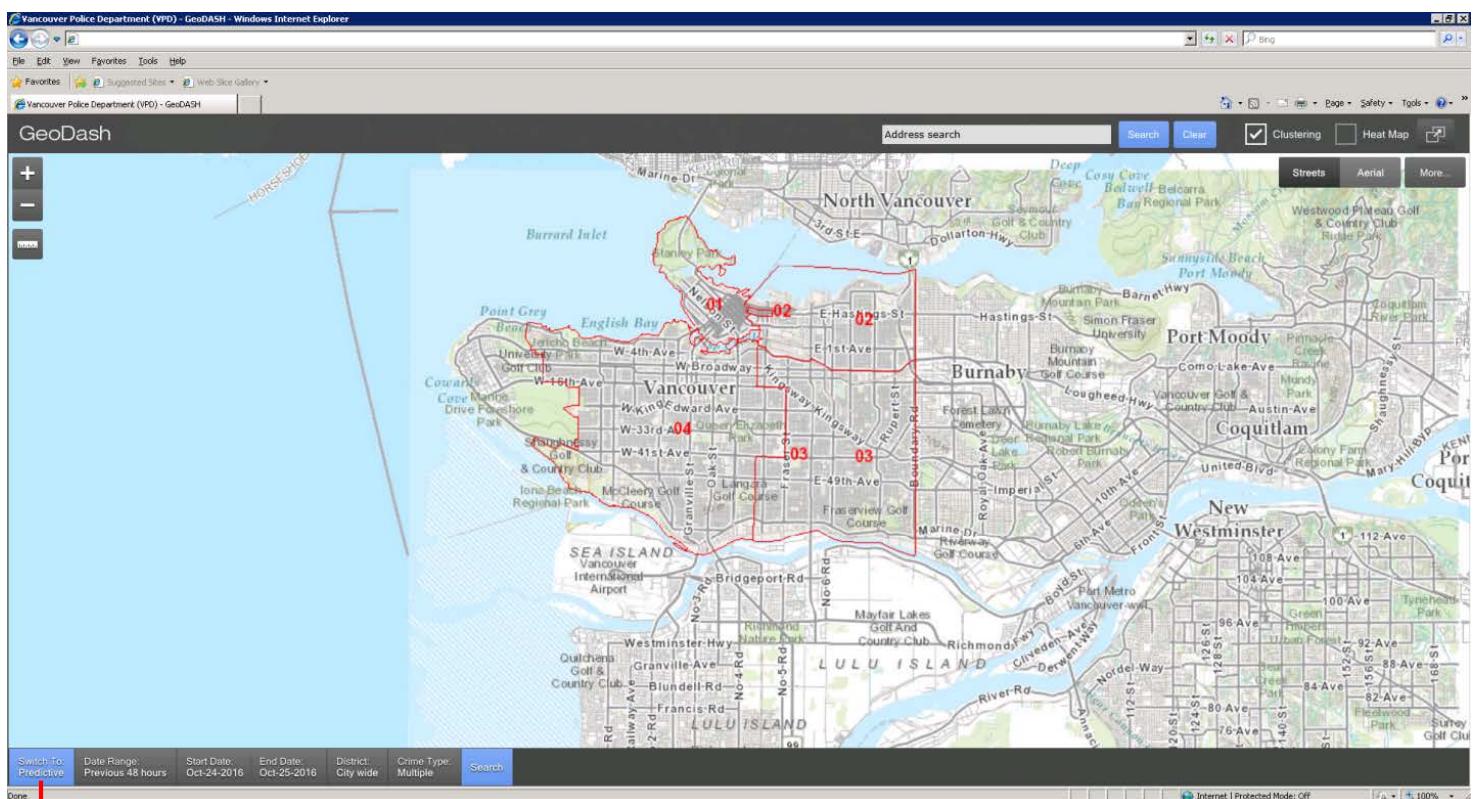
Switching / Toggling between Original and Predictive GeoDash Mapping Module

When users open the GeoDash mapping application, they now have the option to toggle back and forth between the original/historic and the predictive module within the GeoDash mapping application. This can be done by the following:

- 1) To go to the GeoDash Predictive mapping module, click on the “Switch To: Predictive” button



- 2) To go back to the original and/or historic GeoDash mapping module, click on the “Switch To: Historic” button



Switch To: Toggle button

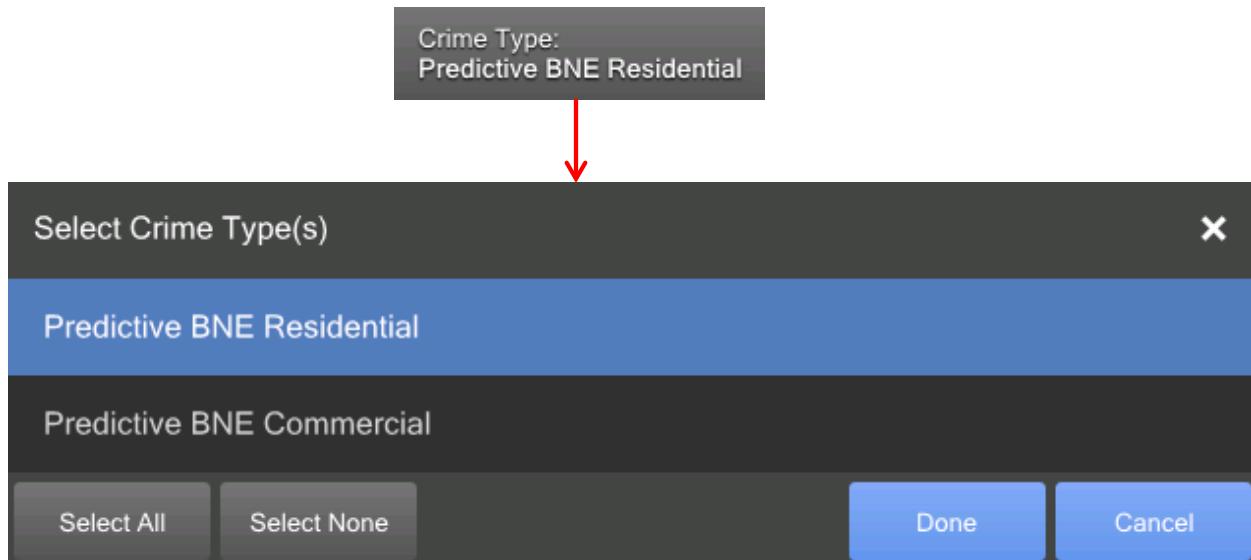
Switches the GeoDash mapping application from Original/Historic GeoDash mapping to GeoDash Predictive mapping and vice versa

**Switch To:
Predictive**

**Switch To:
Historic**

Selecting Crime Type

Users can select which crime type they want display in the predictive module. There are two crime types to select from: Predictive BNE Residential and/or Predictive BNE Commercial.



Please note the following:

- If the 'Predictive BNE Residential' is selected, **red** blocks will be displayed on the map for all days at all time ranges.
- If the 'Predictive BNE Commercial' is selected, **yellow** blocks will be displayed on the map for only the time range between 1800-0600hrs, Monday to Saturday and at all time ranges for Sunday.
- If both 'Predictive BNE Residential' and 'Predictive BNE Commercial' are selected, **red** blocks will be displayed on the map for all days at all time ranges and **yellow** blocks will be displayed on the map Monday to Saturday between 1800-0600hrs and at all time ranges for Sunday.

Note: Predictive blocks are updated daily and are shown in the Predictive mapping module up to 0600hrs the next day (ie. if today is Oct 26, 2016, predictions in the mapping module will have the predictive blocks up to Oct 27, 2016 at 0600hrs).

Ranking of Crime Type

There is ranking of the predictive blocks (500m and 100m blocks). Currently, the ranking goes up to 3 and may be modified. Ranking of the blocks in each of the following 'Predictive BNE Commercial' (500m), 'Predictive BNE Commercial' (100m), 'Predictive BNE Residential' (500m), and 'Predictive BNE Residential' (100m) is determined in the order of decreasing probability.

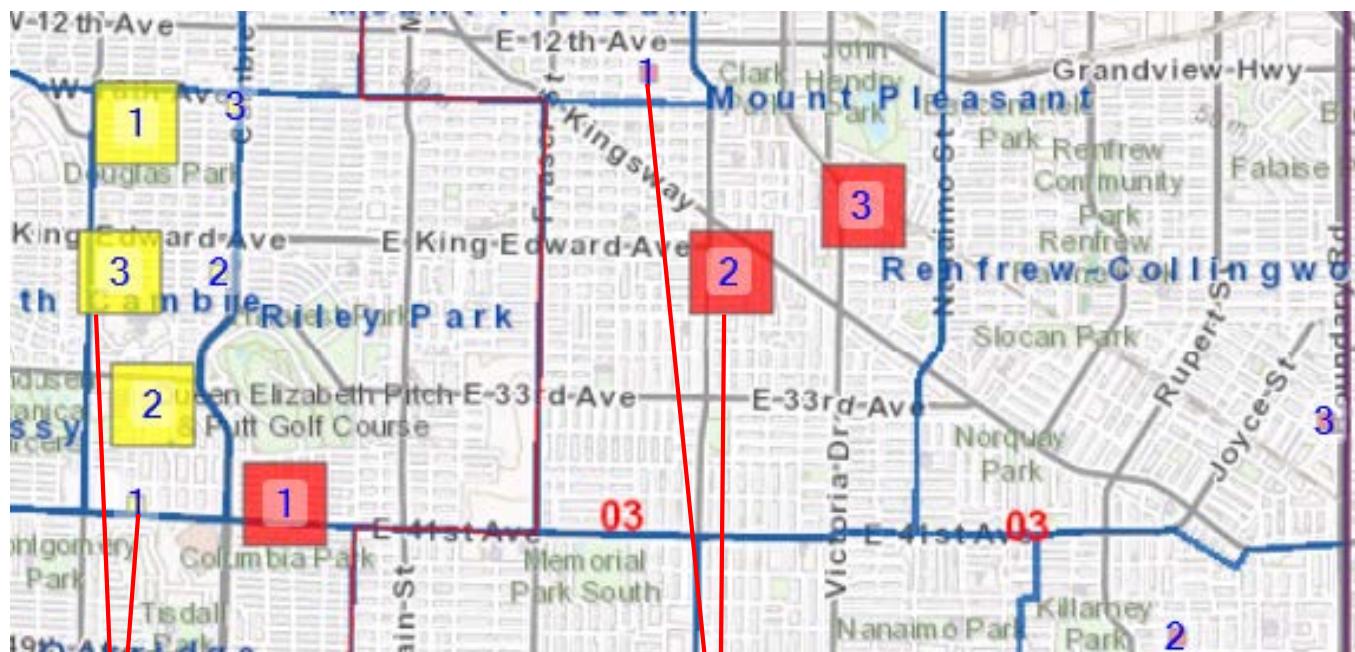
For example, if we only have ranks 1 to 3, the probability is labelled as follows for 500m and 100m blocks:

'Predictive BNE Residential'

- 1 Rank 1 – Highest Probability
- 2 Rank 2
- 3 Rank 3 – Lowest Probablity

'Predictive BNE Commercial'

- 1 Rank 1 – Highest Probability
- 2 Rank 2
- 3 Rank 3 – Lowest Probablity



Predictive BNE Commercial Blocks

Currently, block rankings are labelled from 1 to 3.

Ranking labelled 1 is considered to be the highest probability with decreasing probability as ranking number goes up.

Large block is 500x500m coverage
Small block is 100x100m coverage

Predictive BNE Residential Blocks

Currently, block rankings are labelled from 1 to 3.

Ranking labelled 1 is considered to be the highest probability with decreasing probability as ranking number goes up.

Large block is 500x500m coverage
Small block is 100x100m coverage

Click to Scroll Date / Time Ranges

Users can click the following buttons to scroll to a certain date and 2hr time interval:

The screenshot shows a map of Vancouver, Canada, with various neighborhoods labeled. Three specific crime locations are highlighted with red squares and numbered 1, 2, and 3. A red circle is drawn around the bottom navigation bar, which contains the following information:

Switch History	Previous Range: 06:00 - 08:00	Current Range: Oct-26 08:00 - 10:00	Next Range: 10:00 - 12:00	Crime Type: Predictive BNE Residential
----------------	-------------------------------	-------------------------------------	---------------------------	--

Below this bar, two boxes provide detailed instructions for the 'Previous Range' and 'Next Range' buttons:

Previous Range button
Click on button to go back 2hrs from current 2hr time range

Next Range button
Click on button to go forward 2hrs from current 2hr time range



Fighting crime with *GeoDASH* Predictive Tool



Forecasting Commercial and Residential
Break & Enters within District 3, District
4 and District 2 east of Clark Dr.





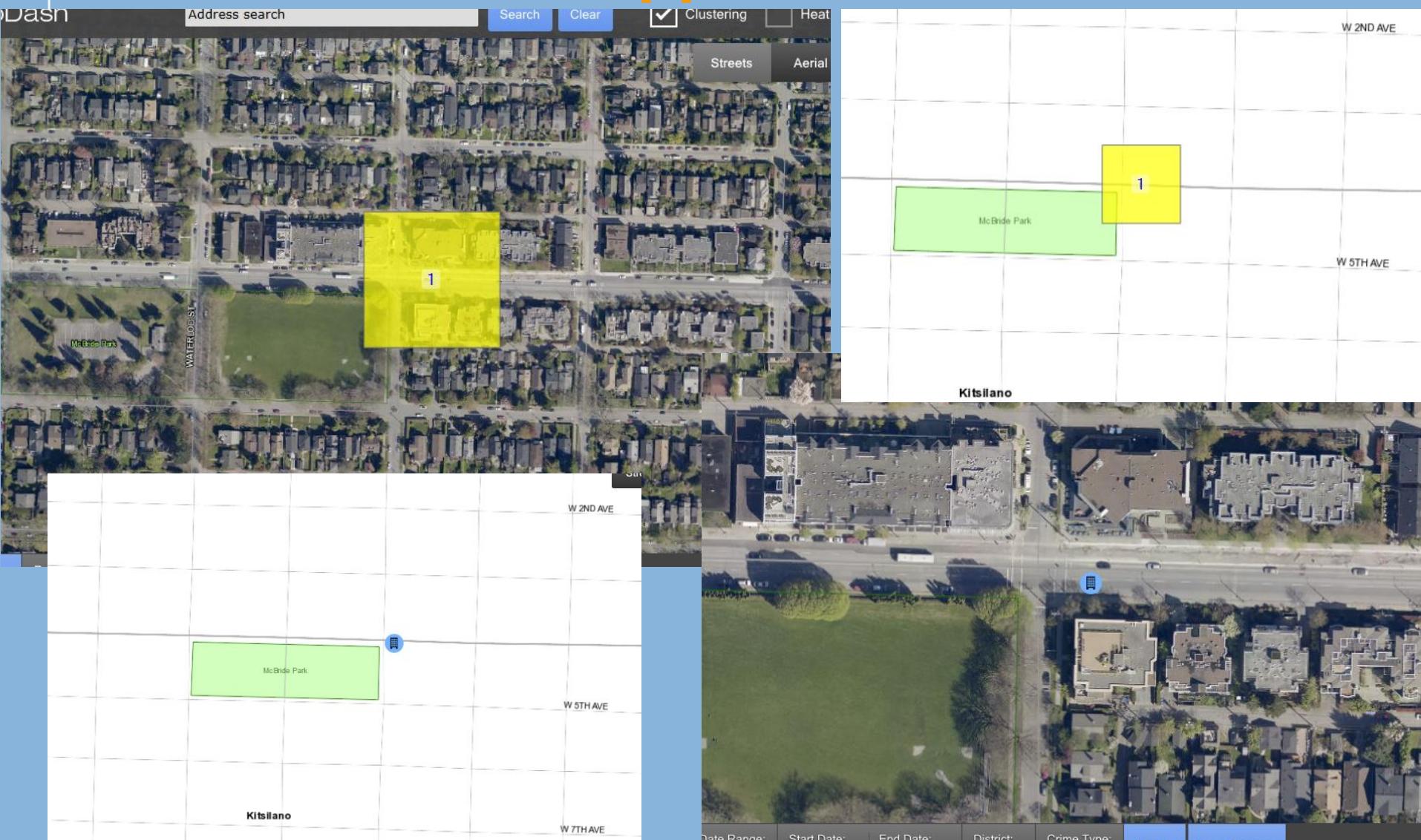
What it Does...



- **Predicts Residential and Commercial Break & Enters displayed on MDTs equipped with test GeoDASH**
- **Displays what will happen in next 18 hours**
 - From 0400 H to 23:59 H at two hour intervals
- **Very accurate with high probability up to 80%**
- **Rank ordered predictions for each 2 hour interval**
 - **1 = Best Probability.... 5 = Lower Probability**



Yesterdays Prediction & What Actually Happened





Predictive Policing Pilot Study

Objectives

- To reduce property crime at predicted locations
- To arrest, breach, street check or disperse offenders
- To train the predictive system through data collection
(online form)





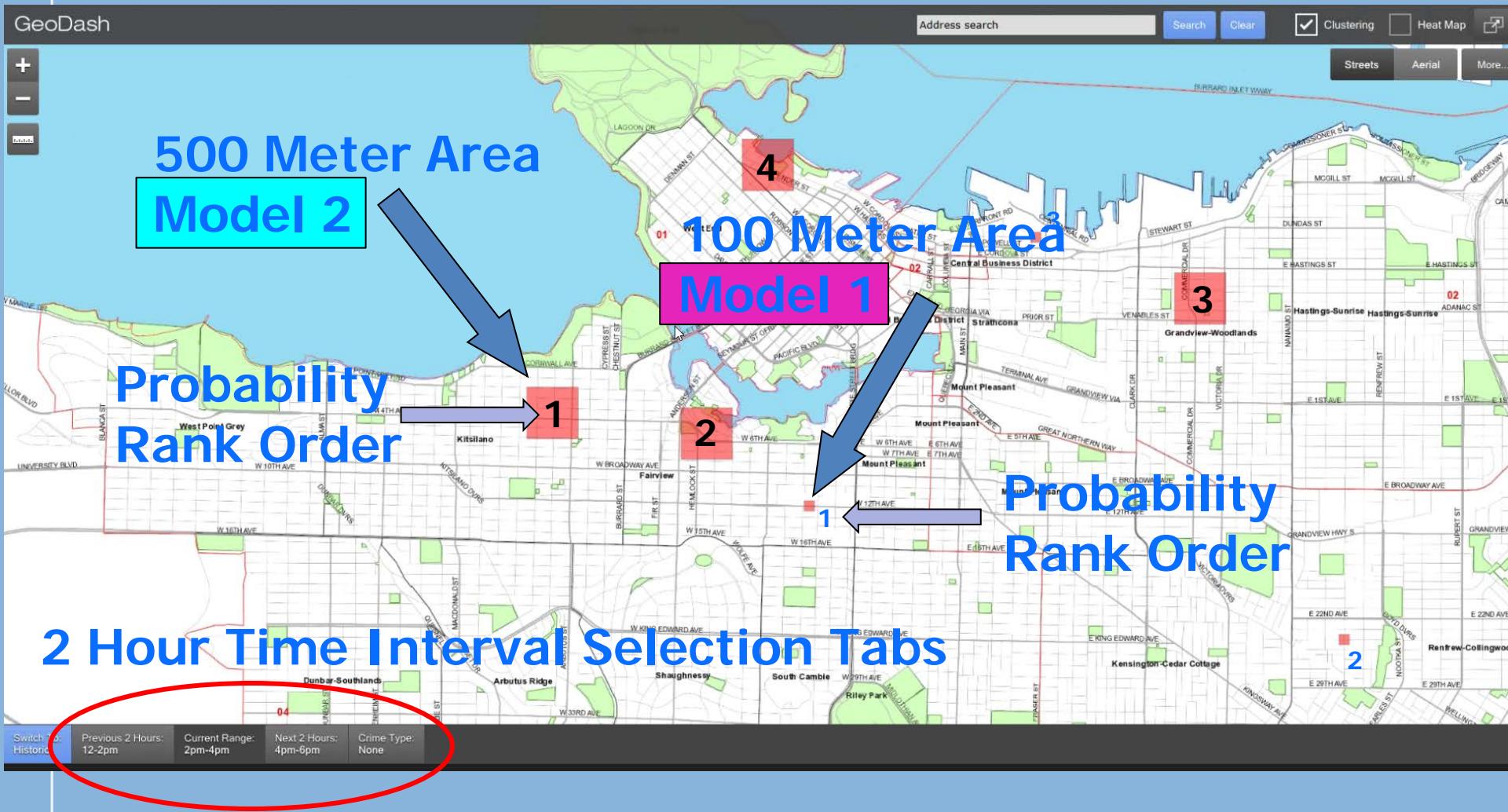
ENGLISH BAY WWAY

Predictive Policing Study Area

Districts 3 and 4 & District 2 East of Clark Dr.



GeoDASH Predictive Display



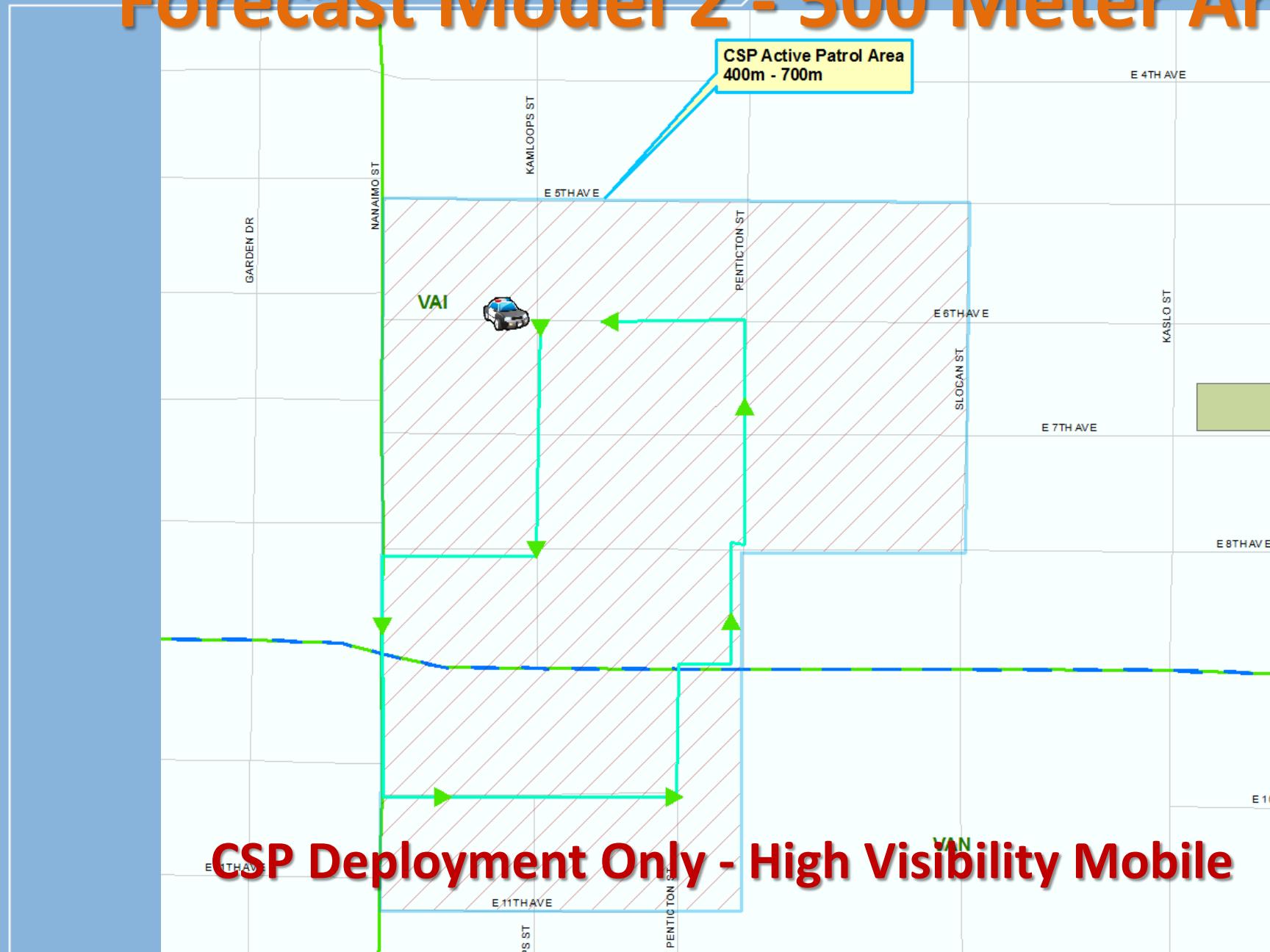


Forecast Model 1 - 100 Meter Area





Forecast Model 2 - 500 Meter Area





Patrol Resources	Forecasting Model Type	Staff Allocation	Supervisor	Patrol Coordination
Patrol Plain Clothes Teams Targeted Enforcement Prototype	Model 1 - 150 m x 150 m Small Prediction Area	D1 , D2, D3, D4 4 Odd / 4 Even Continuous	D3 A/Sgt x 2	D3 S/Sgt x 2 (S/Sgt Colin McEwen & S/Sgt Lee Jensen)
Team 1 / 2 Streets Crime Enforcement Unit - Static Surveillance Prototype	Model 1 – 150 m x 150 m Small Prediction Area	Street Crime Enforcement Unit 4 On out of 8 Days	Team Sgt x 2	
Community Safety Program High Visibility Mobile Deterrence Prototype	Model 2 – Large Prediction Area	CSPs x 12 4 On / 4 Off	CSP Prgm Sgts	

Resource	Purpose	Method	Hours	Objective	Products
Patrol Plain Clothes	Enforcement & Interdiction	Unmarked Patrol Vehicles	0800 to 1700 H	Observe & Approach - Enforcement	MDT Online Data Collection Activity Form (Every 2 hours)
Community Safety Program	Diffusion & Deterrence	Marked Patrol Vehicles	0800 to 1700 H	High Visibility Presence	MDT Online Data Collection Activity Form (Every 2 hours)
Street Crime Enforcement	Static Surveillance	Surveillance Vehicles / OP	Day Shift / Afternoon	Observe & Arrest	MDT Online Data Collection Activity Form (Every 2 hours)
District Analyst	Analysis	Intelligence Products	As Required	Provide Property Offender Information	Crime Series, Chronic / Active Offenders



questions?



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thank you!



Fighting crime with *Geo*DASH Predictive Tool

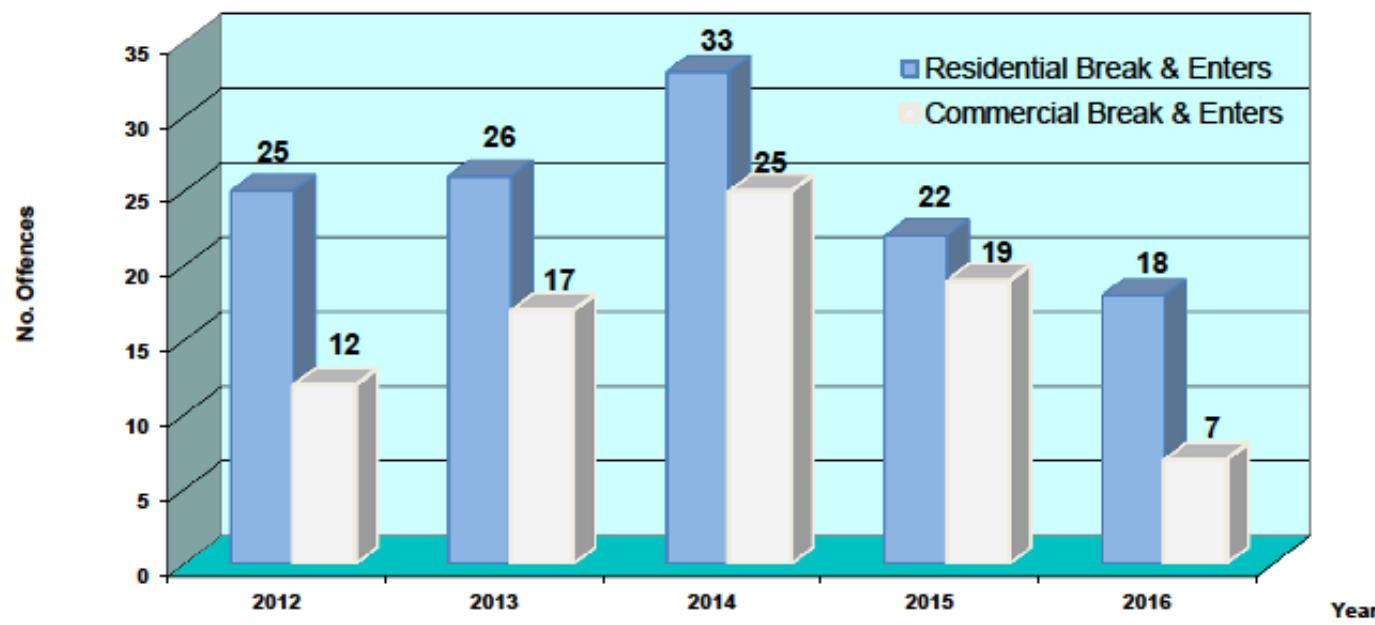




FIVE YEAR COMPARISON PREDICTIVE PILOT SUMMARY

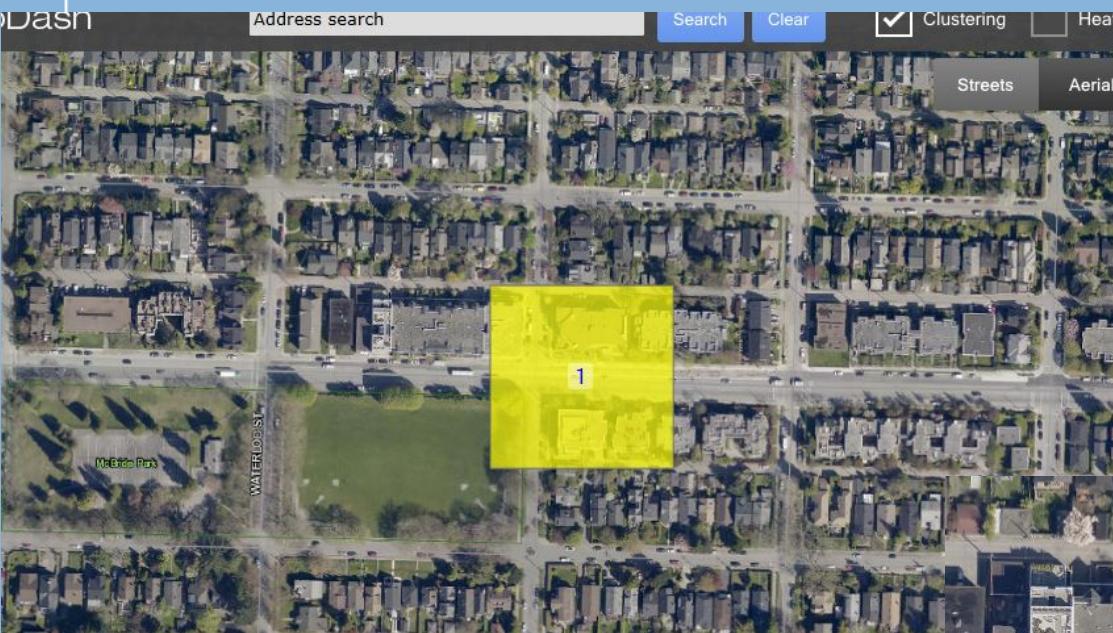
CRIME TYPE	March 31st to April 4th Per Year					% Change in Reported 2015-16 ^a	% Change (current year compared to average of 4 prev years)
	2012 Reported or Known	2013 Reported or Known	2014 Reported or Known	2015 Reported or Known	4 yr Average 2012 - 2015 inclusive		
Residential Break & Enters	25	26	33	22	26.5	18	-18%
Commercial Break & Enters	12	17	25	19	18.25	7	-63%
TOTAL	37	43	58	41	44.75	25	-39%
							-44%

FIVE YEAR PREDICTIVE SUMMARY - March 31st to April 4th Per Year



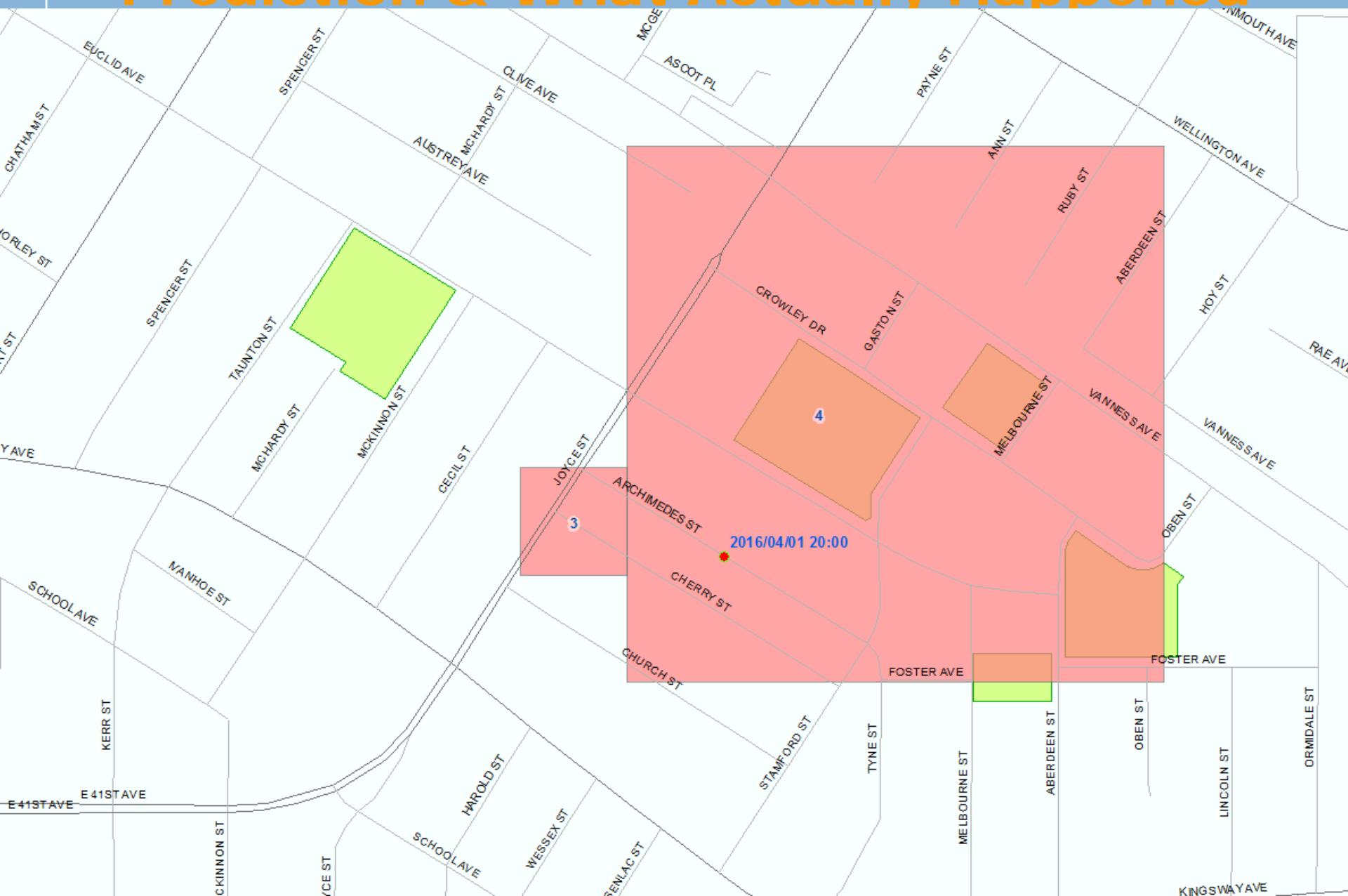


Prediction & What Actually Happened



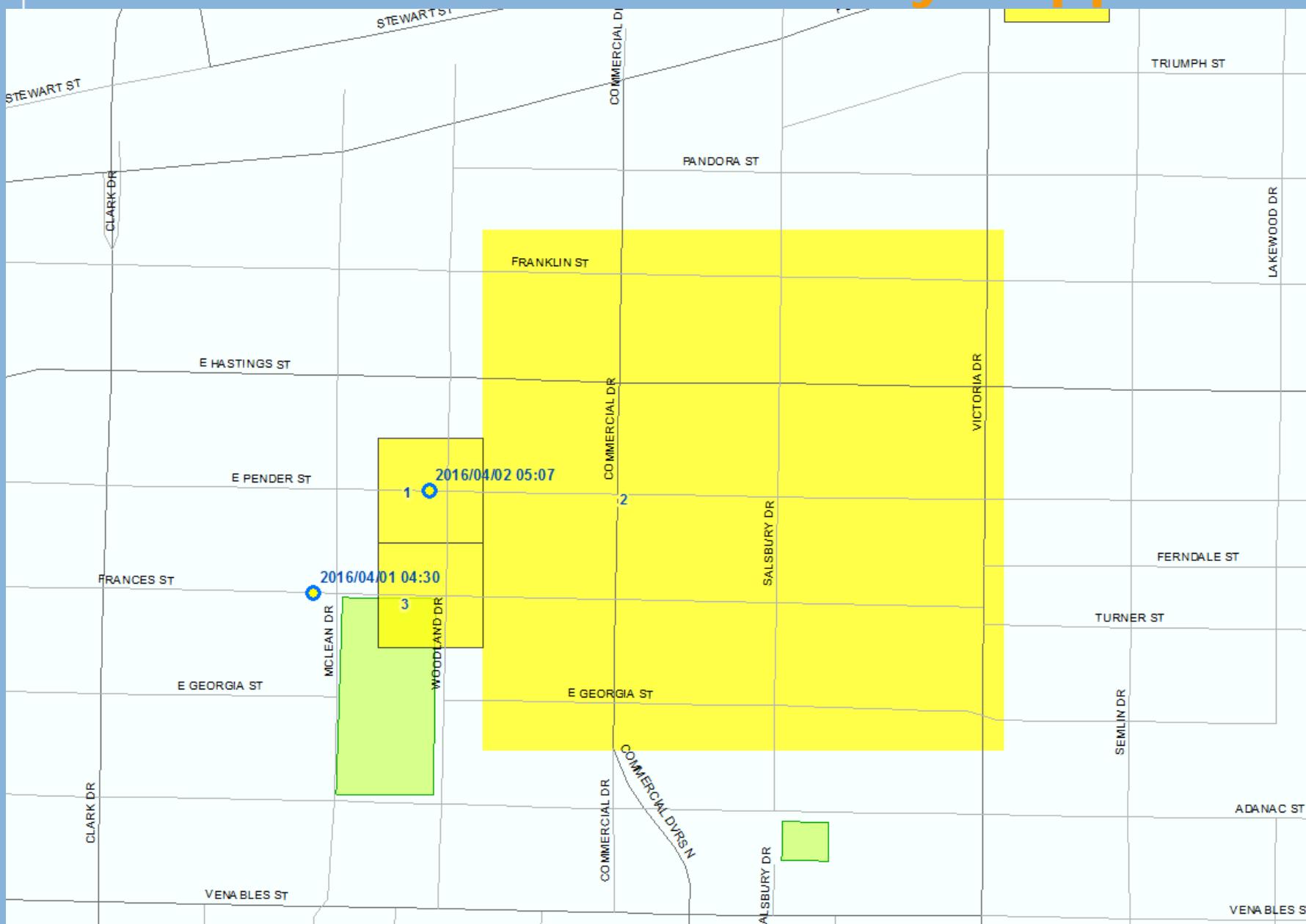


Prediction & What Actually Happened



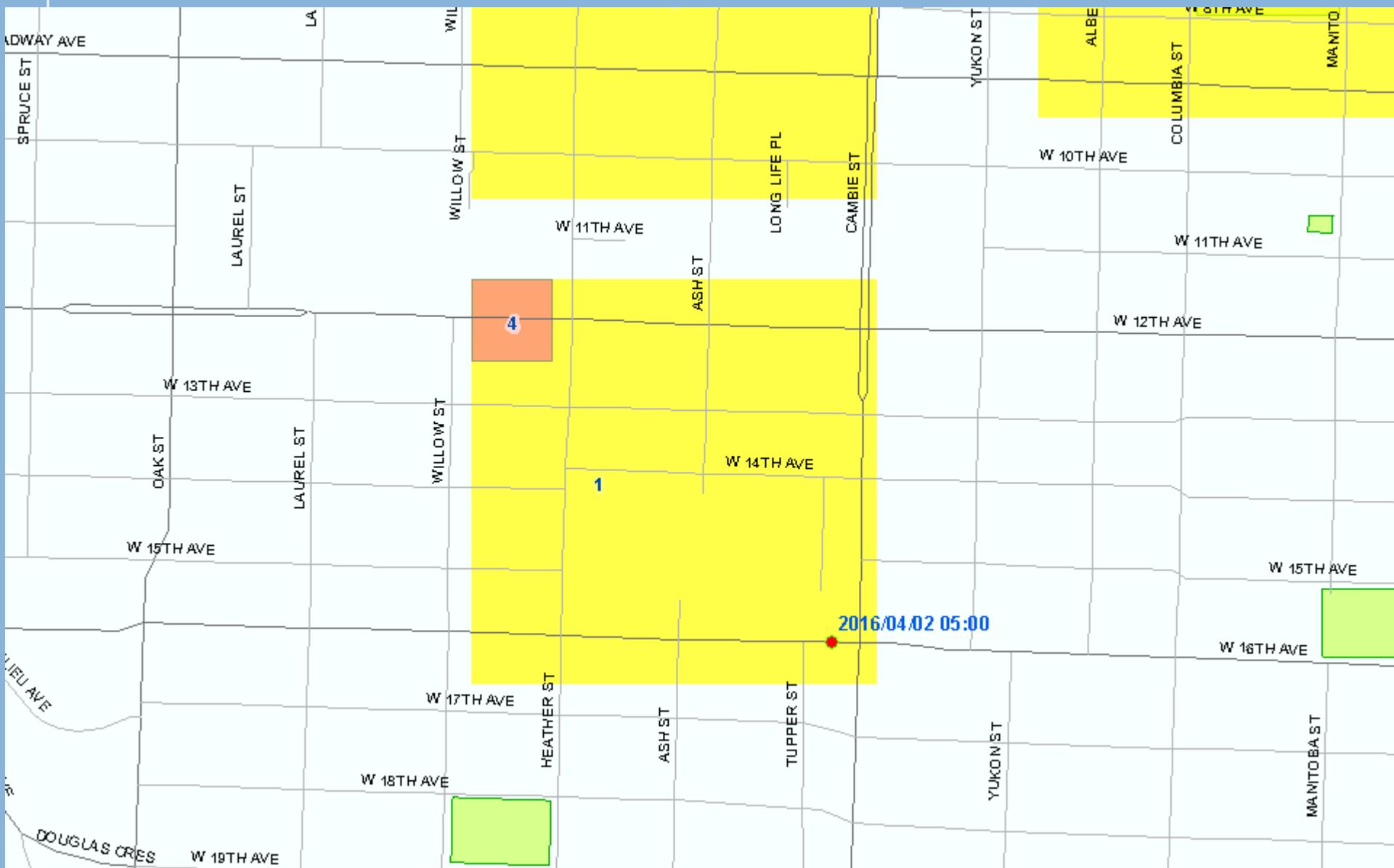


Prediction & What Actually Happened



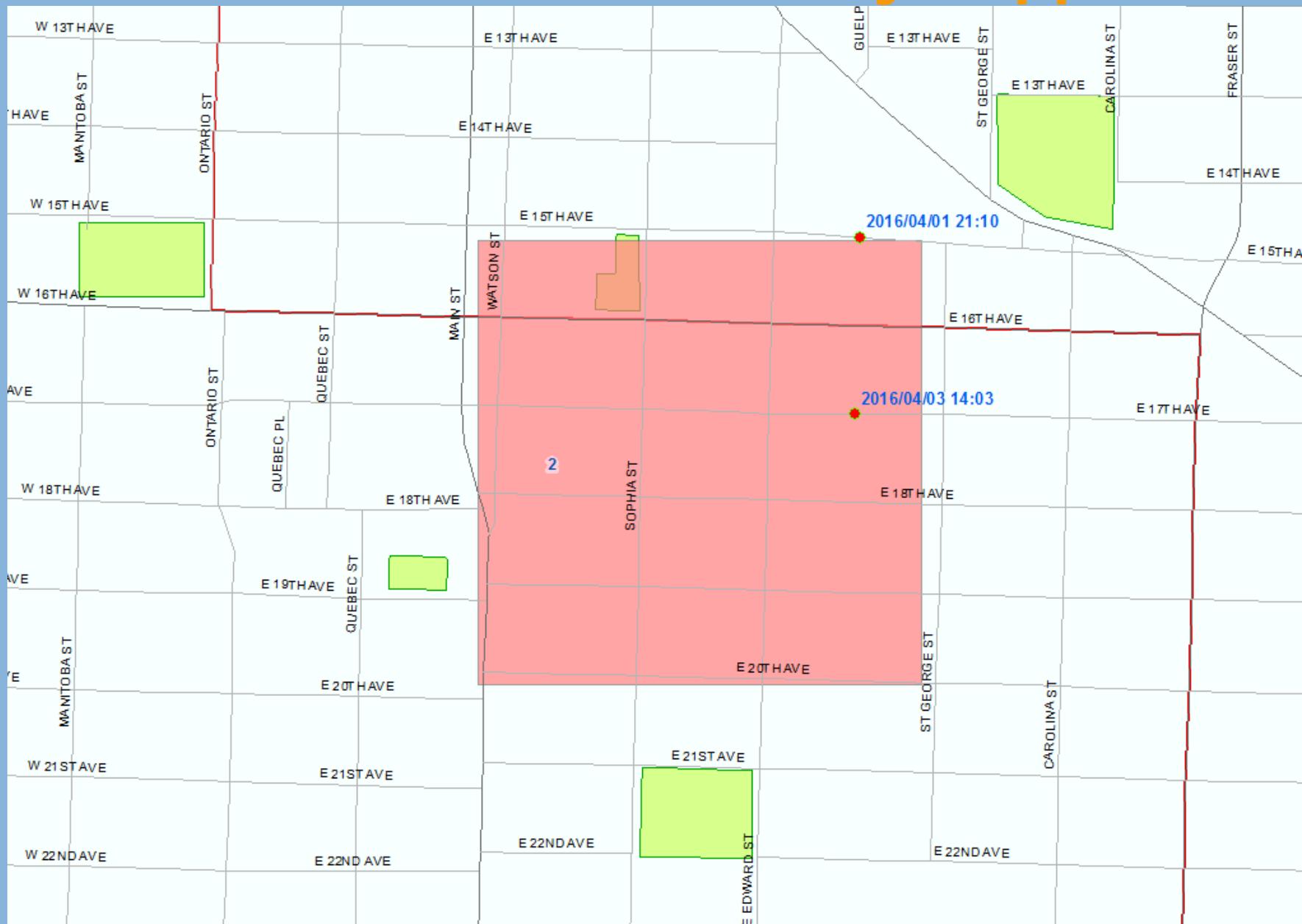


Prediction & What Actually Happened



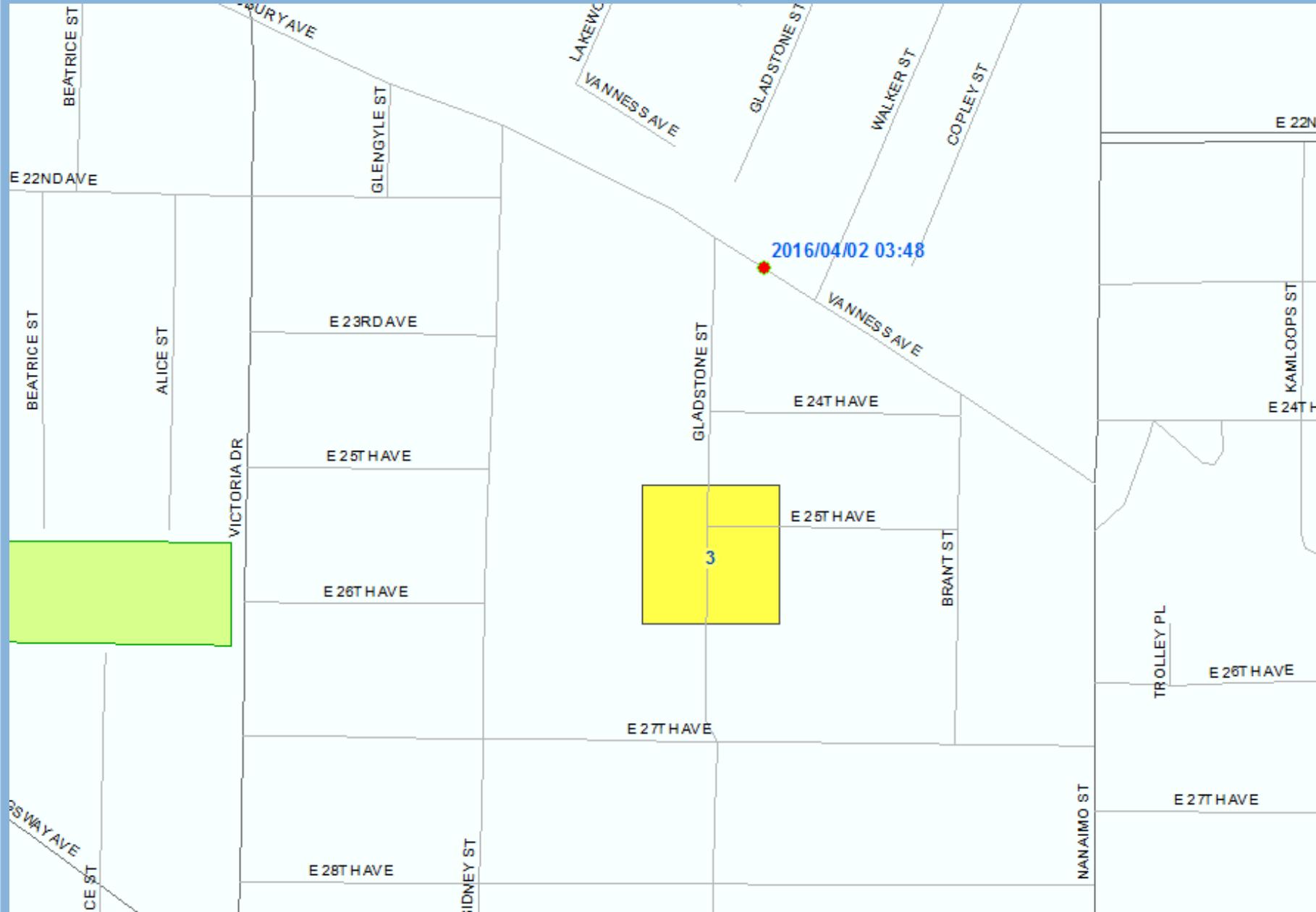


Prediction & What Actually Happened





Prediction & Near Hit





VANCOUVER POLICE DEPARTMENT | *Beyond the Call*

MEMORANDUM OF UNDERSTANDING ("MOU")

Between:

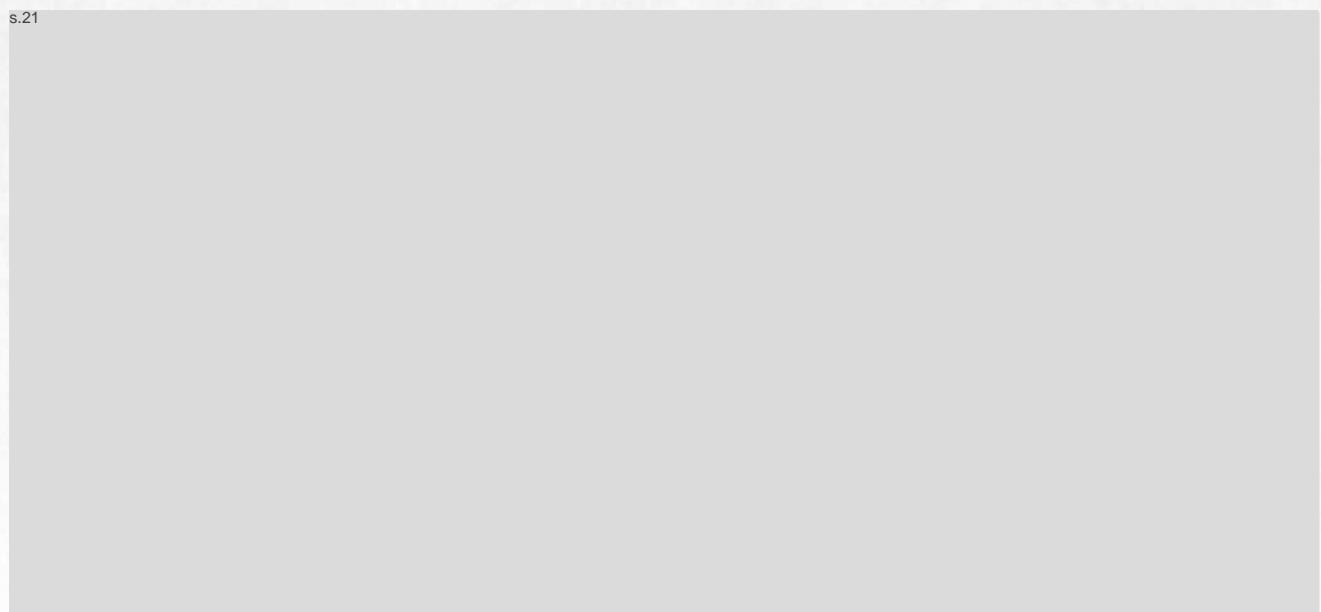
Latitude Geographics Group Ltd.

and

Vancouver Police Board

Latitude Geographics Group Ltd. (LATITUDE) shall deliver to the Vancouver Police Board on or about March 1, 2015, for testing by the Vancouver Police Department (VPD), a beta version of a predictive crime mapping product with the core ability to efficiently generate Esri feature services from scientific models^{s.21}. This approach will allow for the maximum integration points of the generated prediction spatial layer within any area of the ArcGIS and Geocortex platforms.

s.21



by VPD. The scope of integration shall consist entirely of:

- a single button to load and display the most recently generated crime prediction layer;
- the ability to visually toggle on and off the crime prediction layer;
- visualization of the crime data with translucent grids colored by crime type and labelled with the predicted time range;

- a static legend that shows the colors of the crime types; and
- a colour or numerical value that indicates the confidence of the prediction ranging from high, medium to low.

The implementation work shall be managed by LATITUDE's professional services group, shall be considered custom development outside the scope of the product, and shall commence, in relation to the beta product, after the initial product delivery on or about March 1, 2015. LATITUDE shall endeavor to ensure that this integration work is completed within 2-3 weeks of each product delivery (for both the beta produce and the eventual commercial product), based on a schedule mutually agreeable to LATITUDE and VPD.

It is further acknowledged and agreed that:

- VPD will be procuring scientific validation of the beta product (the scope of which shall be determined by the Vancouver Police Board in its sole discretion), and the results of this work will be made available by the Vancouver Police Board to LATITUDE to discuss, demonstrate, and market in ways that are agreeable to both LATITUDE and the Vancouver Police Board.
- LATITUDE shall be able to discuss, demonstrate, and market LATITUDE's eventual product in a way that is agreeable to both LATITUDE and the Vancouver Police Board.

While Version 1.0 (the first commercial version) of the predictive crime mapping product would focus entirely on the publishing of Esri feature service layers,^{s.21}

This will be considered by LATITUDE for a future version of the software.

Notwithstanding any other provision hereof, LATITUDE and its affiliated entities shall not use the name or logo of the Vancouver Police Board or the VPD without the prior written consent of the Vancouver Police Board.

This Memorandum of Understanding is a contract governed by and subject to the laws of British Columbia and the laws of Canada applicable therein, and each party hereby attorns to the jurisdiction of the courts of British Columbia for the purposes of any claim or dispute arising in relation hereto.

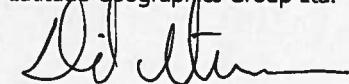
No modification of this Memorandum of Understanding is effective unless it is in writing and signed by each the parties.

This Memorandum of Understanding constitutes the entire agreement between the parties as to the relevant predictive crime mapping product, and replaces and supersedes any other agreements, correspondence or other discussions between the parties, whether or not any of the foregoing have been reduced to writing.

This Memorandum of Understanding shall be binding on LATITUDE's successors and permitted assigns and shall enure to the benefit of any successors and assigns of the Vancouver Police Board.

This Memorandum of Understanding may be executed in one or more counterparts, including by facsimile or other electronic transmission, and each of such counterparts shall be deemed to be taken together to constitute one and the same original document.

Latitude Geographics Group Ltd.



Name

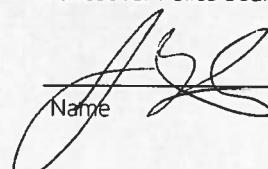
David Stevenson

Printed Name

Nov 25, 2014

Date

Vancouver Police Board



Name

Tim Chu

Printed Name

Dec 2 2014

Date



Predictive Policing Pilot Project

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Aim and Objectives:

- To determine whether police resource deployments, based on a predictive model, have a measureable effect in reducing residential and commercial break and enters
- To evaluate a crime forecasting model that provides two predictive outputs at two hour intervals that is intended to guide the *deployment* of police operational resources:
 - First, it forecasts residential and commercial break & enters within a 150 meter area.
 - Second, it provides predicted areas of up to 700 m x 700 m (greater accuracy).

Pilot Project Overview

As part of a pilot study, an evaluation methodology and deployment strategy has been established to test the effectiveness and validity of a newly developed crime forecasting model. The model has been scientifically evaluated within a laboratory setting and crime has been accurately predicted at specific intervals throughout the day. While the model has been proven to work, it is unknown whether a police service can make use of this information in a way that has a measureable reduction in crime.

The pilot project is proposed to run for six (6) months starting March 15th 2016. The study area will encompass the following boundaries:

- District 3 (center forecast area)
- District 4
- District 2 (Zones VAI & VAH)

Please see [Appendix A](#) for an enhanced map boundary depiction of the study area.



The forecasting model has been adapted to integrate with the VPD's existing MDT GeoDASH system, with some modifications in order to display the new information in an easy to read format.

Forecast Model 1 – 150 m x 150 m Small Prediction Area

Forecast Model 1 generates 100 meter buffers (ranging up to 150 m maximum) and provides predictions for both commercial and residential break & enters at two (2) hour intervals from 08:00H to 2359H for the day of the prediction. High value assessments are highlighted by colour and rank ordered in priority.

By deploying teams to high-value predicted locations, over 70% of the break & enters that would have occurred on any given day will have police present within the immediate area and timeframe.

Forecast Model 2 – Large Prediction Area

Forecast Model 2 also generates predictions for both commercial and residential break & enters at two (2) hour intervals, but the area covered ranges from 400 to 700 meters across. When compared to *Forecast Model 1*, *Forecast Model 2* generates a higher prediction probability, however, because of the larger area covered, it is better adapted for mobile patrol and is not feasible for target specific interdictions.

Resource Deployment Strategy

There are **three** resource **deployment strategies**, with each adapted to best leverage the output from the **two forecast models**.

- a) *Patrol Plain Clothes Teams - Targeted Enforcement Prototype*
- b) *Team 1 or 2 Streets Crime Enforcement Unit - Static Surveillance Prototype*
- c) *Community Safety Program Team - High Visibility Mobile Deterrence Prototype*

Forecast Model 1 provides an area of detail ranging from 100m to 150 m. For the majority of the neighbourhoods within District 2, 3 & 4, this covers approximately four to five blocks. Patrol Plain Clothes Teams and Team 1 /2 Street Crime Enforcement Unit teams will be deployed from 08:00 H to 17:00 H at predicted locations at two hour intervals. *Forecast Model 2* covers a larger geographic area, whereby the deployment approach uses Community Safety Personnel (CSP) employed in two teams of two persons that will mirror the same times as the police officers.

Patrol staff allocation for the pilot project includes:

- Two Staff Sergeants from D3 to coordinate staff allocation, administration, project briefings and to ensure continuity between odd and even rotations and mid-project personnel changes.
- Rotation of four Patrol Officers in two teams of two officers per team, plus one Acting Sergeant to supervise (**4 PCs + 1 A/Sgt**). Patrol Officers deployed four on and four off rotation cycle. Each District will provide one PC for each four-day deployment cycle. District 3 will provide the A/Sgt team supervisor.

- Rotation of team 1 / 2 Street Crime Enforcement Unit (6 PC + 1 Sgt). Two days per eight-day rotation.
- Community Safety Personnel comprised of two teams of two CSPs (2 x 2 CSPs). Deployed on a four-day rotation cycle to mirror patrol.

Patrol Plain Clothes Teams – Targeted Enforcement Prototype

District three will coordinate the resource allocation from within patrol, to ensure continuity over the six-month pilot project, and to assist with the briefings of patrol members. District 3 Staff Sergeants will be supplemented by senior, trained Sergeants who will act in their absence.

Patrol plain clothes teams that form the Targeted Enforcement Prototype will be deployed in unmarked patrol cars at high-value predicted locations.

There will be two teams of two officers each deployed to separate locations (**Team A** x 2 PCs / **Team B** x 2 PCs). These teams, while deployed in unmarked patrol cars and in a plain clothes capacity, have a mandate to actively engage potential persons of interest, such as known offenders and suspicious activity that occurs within their assigned 150 meter predicted location.

The goal for a lower visibility presence is to not displace and deter crime within their area of responsibility, but rather to actively engage and interdict offenders specifically engaged in residential and commercial property offences. Officers in plain clothes have the ability to self-deploy to laneways and observe potential offenders in an inconspicuous manner. This includes the ability to conduct street checks of known property offenders and Chronic Offenders that enter the area, as well as to monitor the area for suspicious activity. Specifically, these teams are to be deployed in an ‘observe and approach’ strategy, where they are expected to actively engage in enforcement action when the situation merits.

Supervision of these teams will be managed by an Acting Sergeant who will assume overall responsibility for the daily administration of the teams including ensuring activity logs are completed and submitted via the online form at the end of each shift. The acting Sergeant and trained alternatives will be assigned from District 3.

At the end of the two-hour interval, both targeted enforcement teams will relocate to the next two locations of high-value predictions for the subsequent interval. While on-scene, the officer teams are expected to exercise judgement and decide upon the best strategy for the location. In some instances, this may involve observation and monitoring for POIs and potentially interdicting break and enter incidents in-progress. Other circumstances may indicate a proactive approach is more appropriate for the location, where the officers may conduct street checks, foot patrol and exercise preventative / preemptive strategies for a known offender identified in the area, such as breaching a bail condition.

Each district will provide one PC per four-day deployment cycle. Officers will be deployed predominantly from 0800-1700 H with staffing be drawn from Bravo Teams in each district. The same four members will be assigned to the project for four-day blocks.

Team 1 / 2 Street Crime Enforcement Unit – Static Surveillance Prototype

In addition to Bravo shift staffing from the districts, static surveillance will be employed at 150-meter high-value predicted locations for two days a week out of the eight-day rotation cycle. Specifically, surveillance will be provided from one odd and one even shift of Street Crime Enforcement Unit on their Day 1, for a total of two days. The static surveillance teams will be deployed to the highest value predicted locations, where they will attempt to identify and interdict in-progress residential and commercial break and enters. Their mandate differs from the plain clothes patrol teams, in that they are not expected to engage in active enforcement unless an in-progress incident is identified. Similar to the Patrol Officers, the surveillance unit are required to complete daily activity log forms available on their MDTs. In terms of selecting deployment areas for each two hour interval, the Street Crime Unit Sgt will coordinate with both the S/Sgts and Patrol Plain Clothes Team A/Sgt to ensure there is no duplication or overlap for predicted locations selected for the day.

Resource Allocation, Prototype & Model Summary

Please see [Appendix “B”](#) for an enhanced depiction of *figure 1*.

Figure 1.

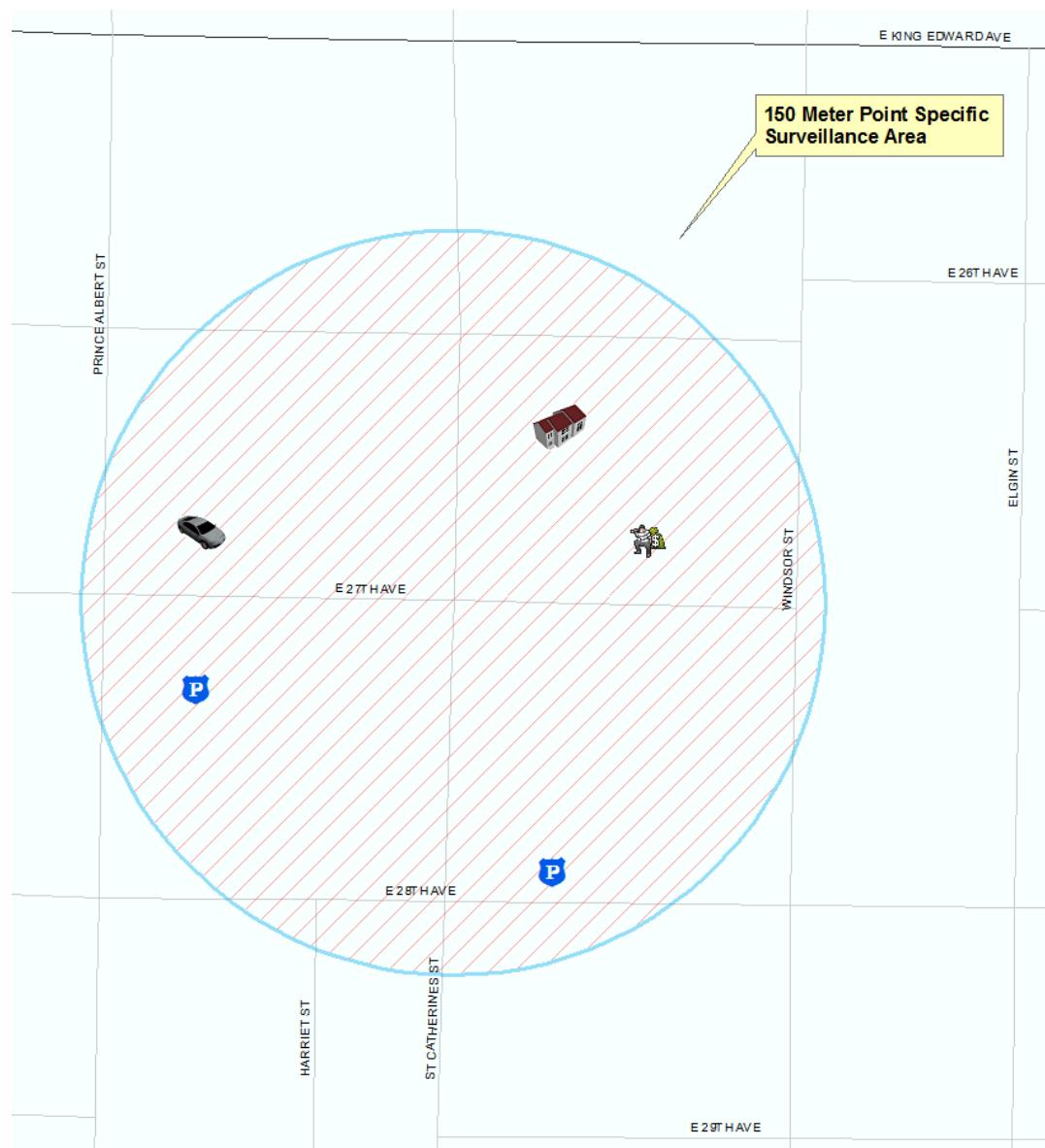
Patrol Resources	Forecasting Model Type	Staff Allocation	Supervisor	Patrol Coordination
Patrol Plain Clothes Teams Targeted Enforcement Prototype	Model 1 - 150 m x 150 m Small Prediction Area	D1 x 1, D2 x 1 D3 x 1, D4 x 1 4 On / 4 Off	D3 A/Sgt x 1	D3 S/Sgt
Team 1 / 2 Streets Crime Enforcement Unit - Static Surveillance Prototype	Model 1 – 150 m x 150 m Small Prediction Area	Street Crime Enforcement Unit 2 On out of 8 Days	Team Sgt x 1	
Community Safety Program High Visibility Mobile Deterrence Prototype	Model 2 – Large Prediction Area	CSPs x 4 4 On / 4 Off	CSP Prgm Sgt	

Public Safety

The priority for patrol and surveillance teams assigned to the project is to adhere to their areas of responsibility for each two-hour interval. However, on a case-per-case basis the project NCO (A/Sgt) in consultation with the District NCO, or Duty Officer, can reassign officers to higher priority calls and critical incidents when warranted.

The following *figure 2* illustrates the typical size of a high-value forecasted crime location and a possible police deployment approach within this four block radius. Please see [Appendix “C”](#) for an enhanced depiction of *figure 2*.

Figure 2.



Community Safety Program Team – **High Visibility Mobile Deterrence Prototype**

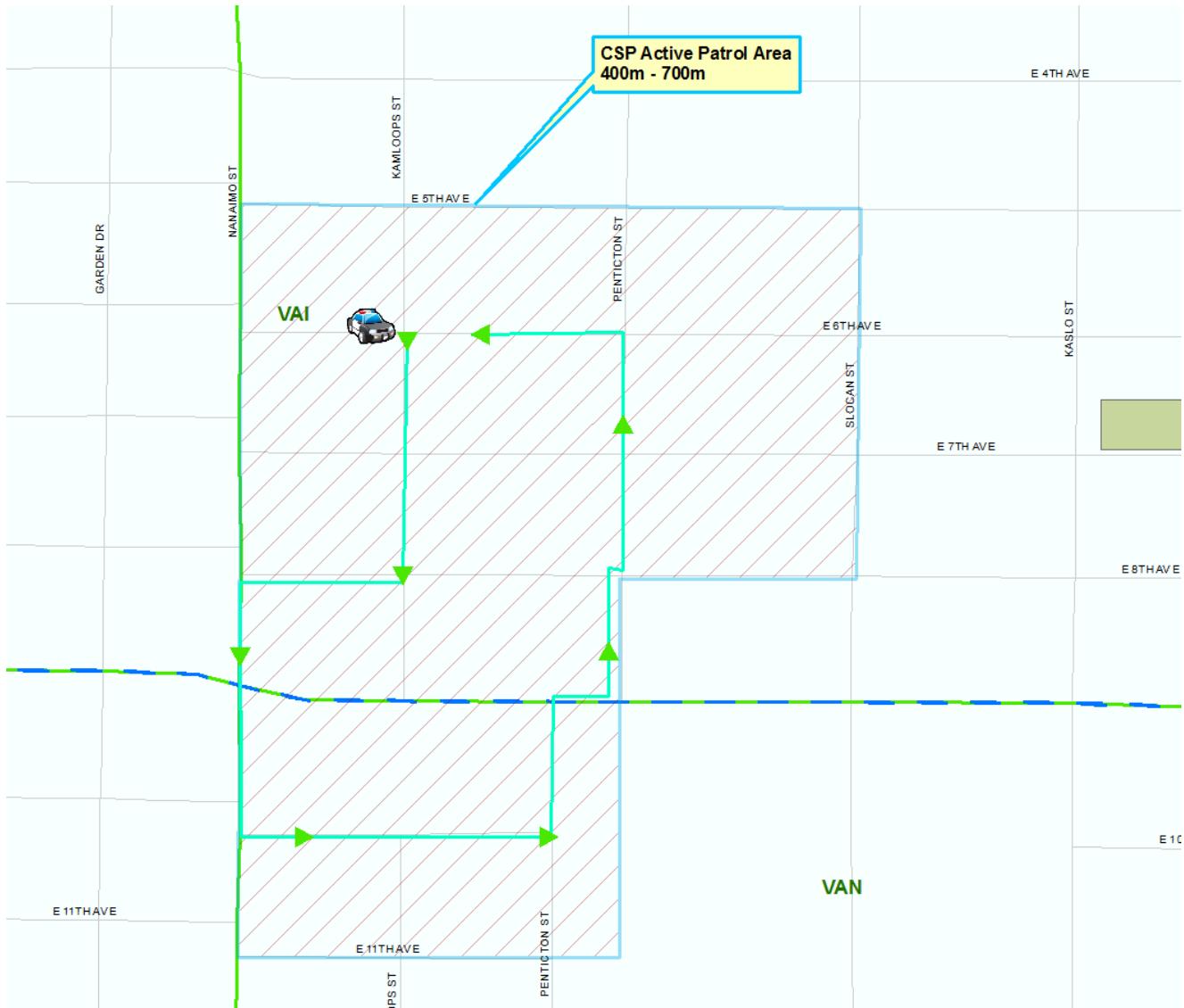
Forecasting Model 2 requires a modified strategy, given the large area covered by each prediction and the primary objective of deterrence and diffusion versus interdiction and enforcement. A forecasted location area spanning up to 700 meters across translates into approximately 12 to 14 blocks. An area covering up to 14 blocks necessitates the use of a vehicle in order to provide sufficient attention to the area for a full two-hour interval. Two teams of two Community Safety Personnel (CSP) members (**Team C x 2 CSP / Team D x 2 CSP**) be deployed on matching shifts to the *Patrol Plain Clothes Teams - Targeted Enforcement Prototype* police officers from 08:00 H to 17:00 H.

The CSP teams will form the *High Visibility Mobile Patrol Deterrence Prototype (CSP Resources)* with an objective of projecting a high-visibility presence within the forecasted area through persistent patrols. These teams will actively look for suspicious activity during their patrols and will engage in proactive activities, such as monitoring laneways and identifying potential POIs / Known Offenders entering into the area. Where appropriate, CSP High Visibility Mobile Patrol Deterrence teams may call on regular district patrol officers for assistance or engage in enforcement activity while operating within their authority and mandate. The CSPs are not to call on other project deployed officers for assistance, as this would necessitate abandoning their high-value predicted locations.

Similar to the police officers, CSPs will be provided a project specific laptop that will also contain a web enabled [Data Collection Activity Log](#) form that is to be completed throughout their shift.

Figure 3 below provides an illustrated example of a typical Forecast Model 2 area assigned to CSP team to patrol. Please see [Appendix "D"](#) for an enhanced depiction of *figure 3*.

Figure 3.



District Analyst Participation

In support of the pilot project, time permitting, the district analysts will provide briefings on active property offenders and their last known whereabouts, which may overlap with the forecasted break and enter locations. Officers assigned to the pilot project are expected to make use of existing intelligence products, including target packages on Chronic Offenders, already being produced for Patrol.

Figure 4 below provides a matrix of the deployment and task of Patrol resources assigned to the project. Please see [Appendix "E"](#) for an enhanced depiction of *figure 4*.

Figure 4.

Resource	Purpose	Method	Hours	Objective	Products
Patrol Plain Clothes	Enforcement & Interdiction	Unmarked Patrol Vehicles	0800 to 1700 H	Observe & Approach - Enforcement	MDT Online Data Collection Activity Form (Every 2 hours)
Community Safety Program	Diffusion & Deterrence	Marked Patrol Vehicles	0800 to 1700 H	High Visibility Presence	MDT Online Data Collection Activity Form (Every 2 hours)
Street Crime Enforcement	Static Surveillance	Surveillance Vehicles / OP	0800 to 1700 H	Observe & Arrest	MDT Online Data Collection Activity Form (Every 2 hours)
District Analyst	Analysis	Intelligence Products	As Required	Provide Property Offender Information	Crime Series, Chronic / Active Offenders

Training & Briefings

At the start of each four-day rotation both patrol teams and CSP teams will receive a morning briefing and basic training on the use of the MDTs with the installed predictive user interface. They will be trained on how to identify forecasts for each two-hour interval and how to differentiate between residential and commercial break and enters, including how to identify the rank ordered predictions according to probability assessments for each time interval. The officers and CSPs will also be provided specifically configured laptops that will contain the forecasted locations on a user accessible GIS display. Each team will be briefed on how to complete a *Data Collection Activity Log* that they will need to document throughout the day. This data collection activity log will be accessible on the project MDTs as an on-line form with mandatory fields and information required for each two-hour deployment interval. Once completed, each form will be electronically downloaded to a data collection database. This data is critically important to the success of the pilot project, as it is required to modify the program to take into account the actions of police. Please see the section titled *Data Collection Objectives* for further details.

Data Collection Objectives

The accurate tracking of police activity within the study area is critically important to adjust and refine the model to adapt to this activity. Without ongoing evaluations, the forecasting model will suffer from ‘probability fade’ and degradation. As police strategies and high-visibility patrol deployments influence crime patterns, the model’s accuracy will be negatively affected. The system requires continuous updates of police resource deployments and outcomes. The information is then provided to the research and development team so that the model can be updated to continue generating valid predictions.

Data Collection Process

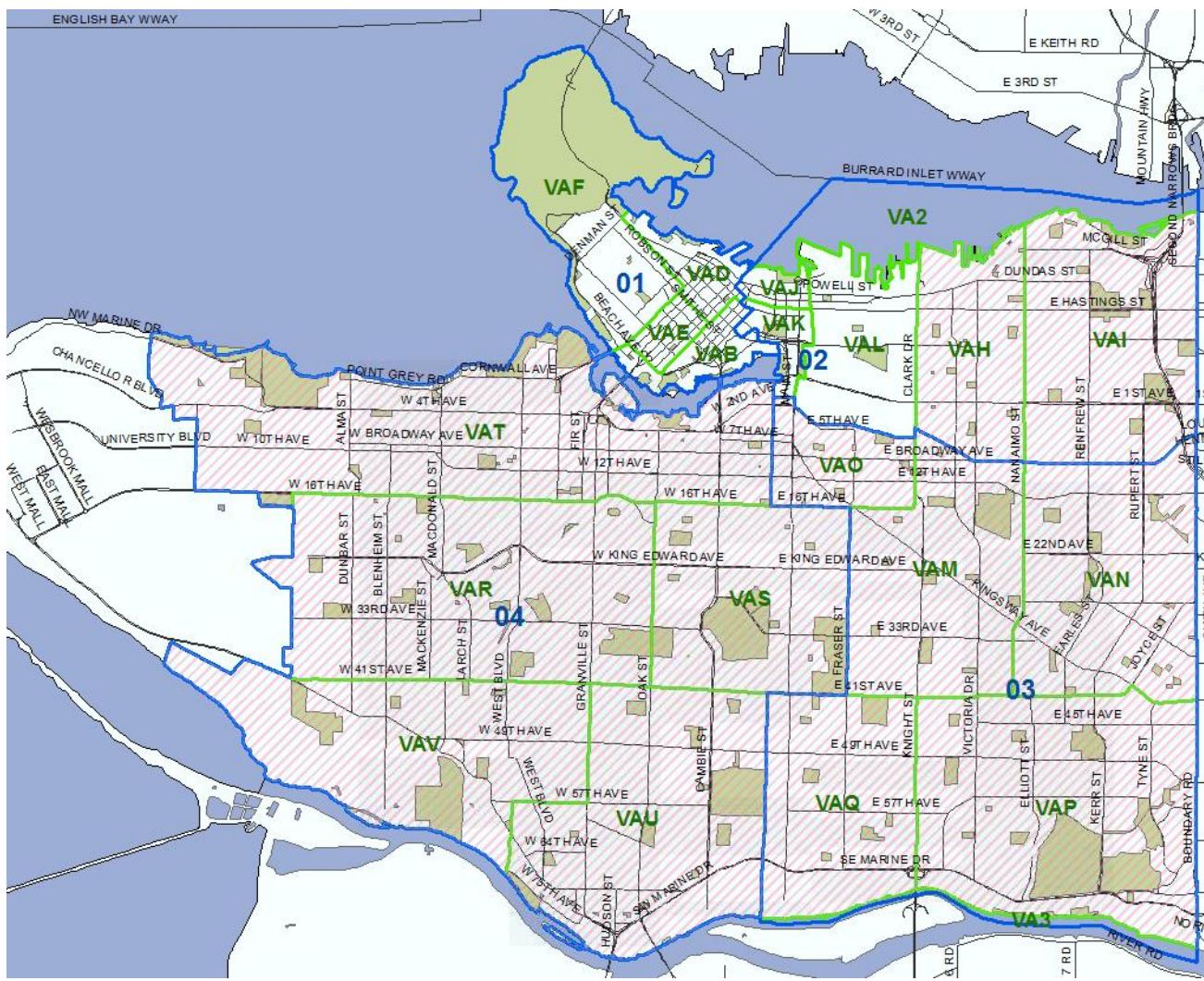
A streamlined procedure for collecting and reporting data has been established. Patrol, Surveillance, and CSP resources involved in the pilot project will need to complete an electronic activity log form that captures the locations that they deployed to, time on scene, any movement or shifting of deployment location, on scene strategies employed, and any outcomes, such as the apprehension of an offender or the street check of a suspicious person. The electronic web-based forms will be available on the pilot study MDTs for members to fill out throughout the day.

Figure 5 below provides a matrix of the deployment and task of Patrol resources assigned to the project. Please see [Appendix “F”](#) for an enhanced depiction of *figure 5*.

Figure 5.

Model	Prediction Area	Model Type	Suited for	Crime	Frequency	Prediction Probability
Forecast Model 1	150m Buffers	#1 Small Prediction Area	Enforcement Surveillance	Commercial / Residential B&E	2 Hour Intervals	Rank Ordered
Forecast Model 2	Ranges from 400m to 700m	#2 Large Prediction Area	Mobile Patrols	Commercial / Residential B&E	2 Hour Intervals	Rank Ordered

Appendix "A" – Study Area



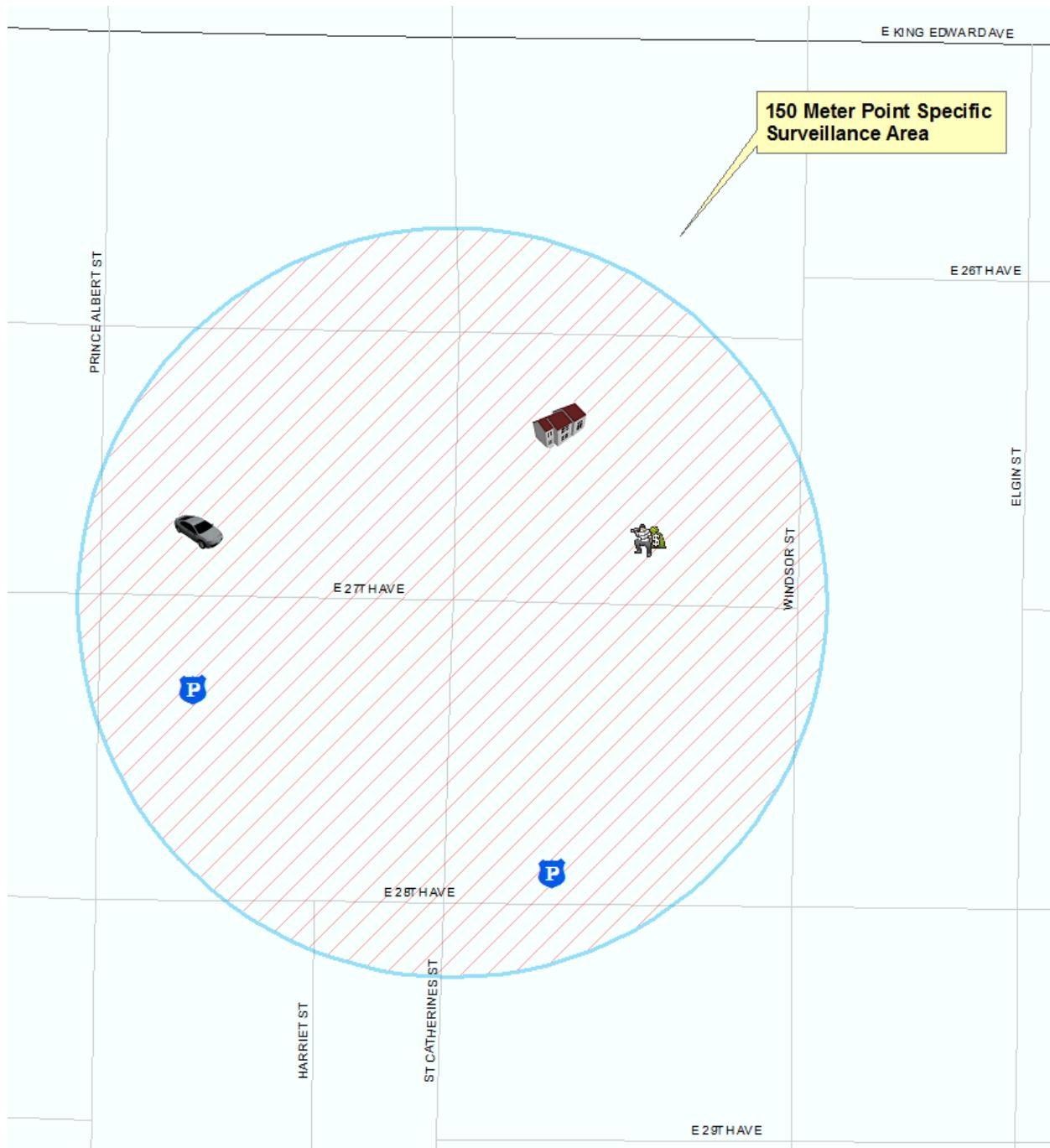
Legend

- Predictive Project Area
 - Districts
 - Zones
 - Major Roads
 - Parks
 - Water

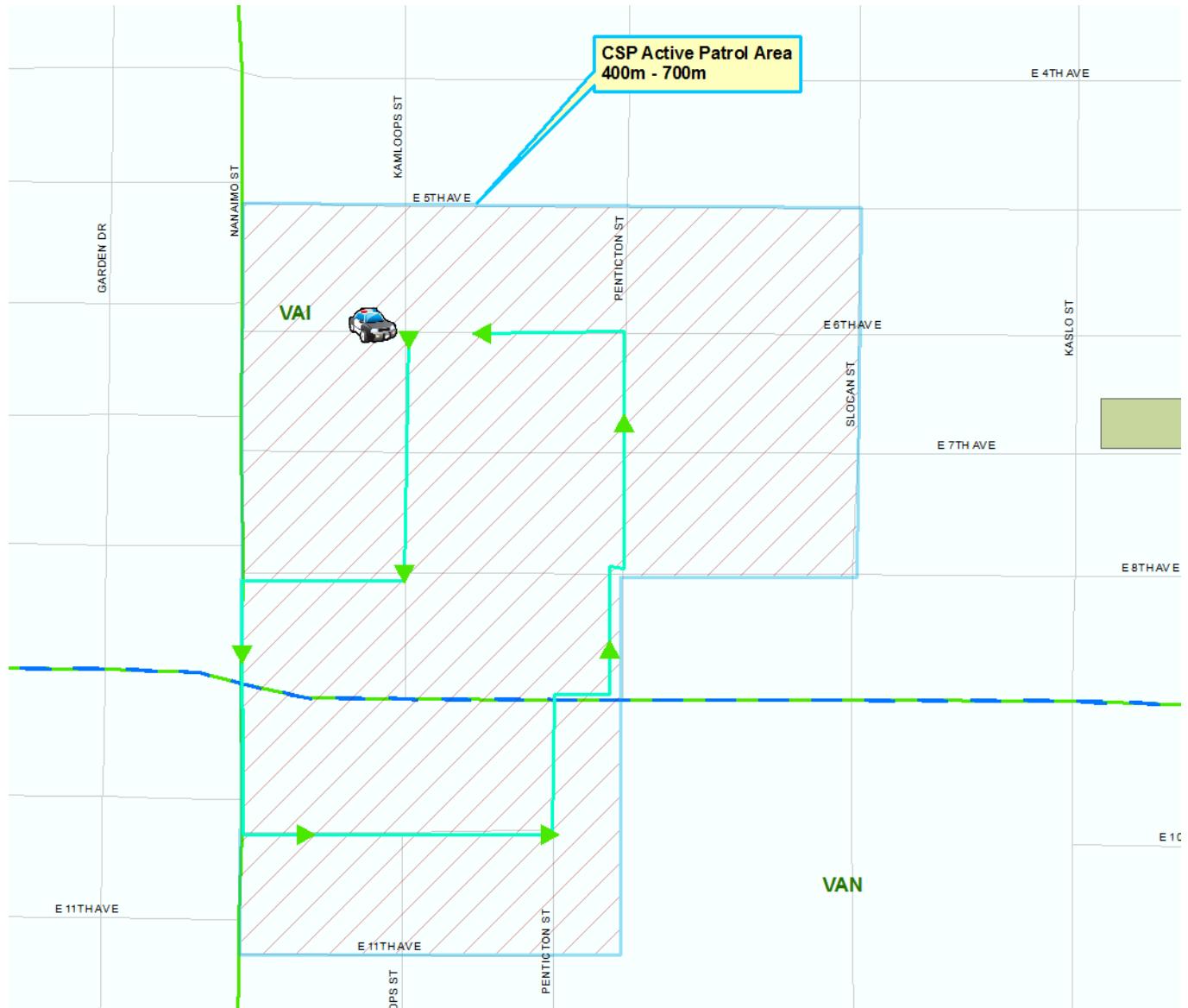
Appendix “B” – Resource Allocation, Prototype & Model Summary

Patrol Resources	Forecasting Model Type	Staff Allocation	Supervisor	Patrol Coordination
Patrol Plain Clothes Teams Targeted Enforcement Prototype	Model 1 - 150 m x 150 m Small Prediction Area	D1 x 1, D2 x 1 D3 x 1, D4 x 1 4 On / 4 Off	D3 A/Sgt x 1	
Team 1 / 2 Streets Crime Enforcement Unit - Static Surveillance Prototype	Model 1 - 150 m x 150 m Small Prediction Area	Street Crime Enforcement Unit 2 On out of 8 Days	Team Sgt x 1	D3 S/Sgt
	Community Safety Program High Visibility Mobile Deterrence Prototype	Model 2 – Large Prediction Area	CSPs x 4 4 On / 4 Off	CSP Prgm Sgt

Appendix "C" – Targeted Enforcement & Surveillance Prototype (Police Resources)



Appendix "D" – High Visibility Mobile Patrol Deterrence Prototype (CSP Resources)



Appendix “E” – Operations Division Project Resources Deployment Strategy

Resource	Purpose	Method	Hours	Objective	Products
Patrol Plain Clothes	Enforcement & Interdiction	Unmarked Patrol Vehicles	0800 to 1700 H	Observe & Approach - Enforcement	MDT Online Data Collection Activity Form (Every 2 hours)
Community Safety Program	Diffusion & Deterrence	Marked Patrol Vehicles	0800 to 1700 H	High Visibility Presence	MDT Online Data Collection Activity Form (Every 2 hours)
Street Crime Enforcement	Static Surveillance	Surveillance Vehicles / OP	0800 to 1700 H	Observe & Arrest	MDT Online Data Collection Activity Form (Every 2 hours)
District Analyst	Analysis	Intelligence Products	As Required	Provide Property Offender Information	Crime Series, Chronic / Active Offenders

Appendix “F” – Forecast Model Details

Model	Prediction Area	Model Type	Suited for	Crime	Frequency	Prediction Probability	
						Commercial / Residential B&E	2 Hour Intervals
Forecast Model 1	150m Buffers	#1 Small Prediction Area	Enforcement Surveillance	Commercial / Residential B&E	2 Hour Intervals	Rank Ordered	Rank Ordered
Forecast Model 2	Ranges from 400m to 700m	#2 Large Prediction Area	Mobile Patrols	Commercial / Residential B&E	2 Hour Intervals	Rank Ordered	Rank Ordered