

Video 2: Identification of Patterns and Crash-Prone Locations

1

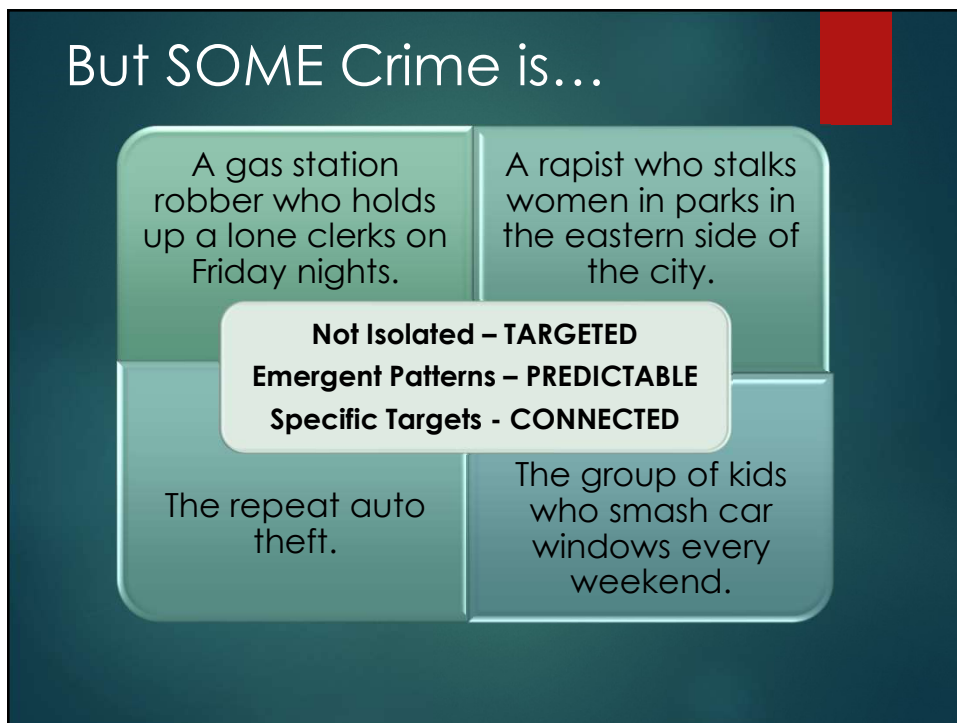
Tactical Analysis

1. Defining a crime pattern and crash-prone locations
2. Tools to identify patterns and crash-prone locations
3. Pattern finalization

2



3



4

Types of Patterns

1. Series
2. Spree
3. Crash-Prone Locations

5

Types of Patterns: Series



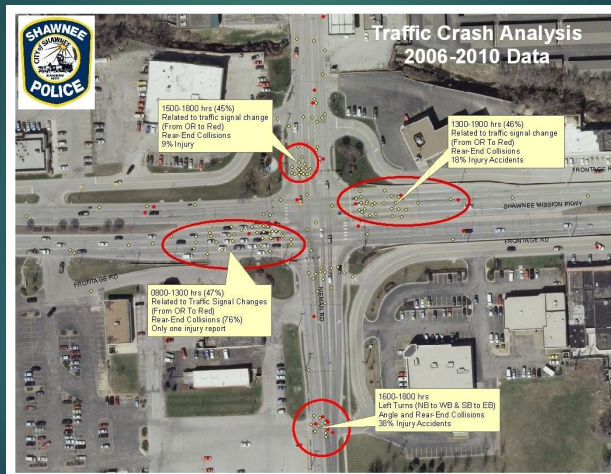
6

Types of Patterns: Spree



7

Types of Patterns: Crash-Prone Locations



8

Tools to Identify Patterns

1. MO Commonalities
2. Exceptional Volume
3. Geographic Proximity
4. Intelligence-Based Patterns

9

Modus Operandi

1. Review reports daily
2. Scan for patterns (pattern identification)
3. Focus in on MO
4. Identify past reports
5. Use experience, knowledge, intuition, & creativity

IncidentType	Date	Time	AddressNum1	StreetName1	Business	Premises Typ
Larceny from MV	6/22/2002	2:19:00 AM	100	Independence Way	LIBERTY TREE MALL	Shopping Mall
Larceny from MV	6/21/2002	2:07:00 AM	199	Newbury St		Amusements &
Larceny from MV	6/23/2002	9:33:00 AM	301	Newbury St	STOP AND SHOP SUPRM	Grocery
Larceny from MV	6/23/2002	10:00:00 PM	7	Hutchinson Dr	HOLLYWOOD HITS	Cinema
Larceny from MV	6/24/2002	11:14:00 AM	139	Endicott St	ENDICOTT PLAZA	Shopping Mall
Larceny from MV	6/24/2002	12:01:00 PM	22	School St	DANVERS AUTO BODY	Auto Service
Larceny from MV	6/24/2002		100	Independence Way	LIBERTY TREE MALL	Shopping Mall
Larceny from MV	6/27/2002	11:05:00 PM	100	Independence Way	LOEWS LIBERTY TREE	Shopping Mall
Larceny from MV	6/29/2002	4:54:00 AM	8	Maple St	CUSTOM CUP CAFE	Street
Larceny from MV	6/28/2002		7	West St		Street
Larceny from MV	7/3/2002	4:00:00 AM	9	River Dr		Street
Larceny from MV	7/6/2002	9:15:00 PM	161	Elliott St	DANVERSPORT YACHT C	Marina
Larceny from MV	7/7/2002		181	Newbury St	HONDA NORTH	Auto Sales
Larceny from MV	7/8/2002	9:18:00 AM	80	Andover St	DANVERS MITSUBISHI	Auto Sales
Larceny from MV	7/8/2002	3:17:00 PM	11	Newbury St	COSTCO WHOLESALE	Department Sto
Larceny from MV	7/9/2002	8:13:00 PM	100	Independence Way	LIBERTY TREE MALL	Shopping Mall
Larceny from MV	7/11/2002	9:30:00 PM	95	Liberty St	RIVERSIDE SCHOOL	School

10

Exceptional Volume

1. Threshold Analysis
2. Repeat Locations
3. Escalating Activities

11

Exceptional Volume

Threshold

- Crimes
- Crash
- Engagement

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	IncidentType	2015	2016	2017	2018	2019	2020	Avg	Wtd. Avg.	St Dev	Normal Range	Change	Z Score
2	Rape	2	1	2	1	2	1	1.6	1.60	0.4899	1-2	-38%	-1.22
3	Indecent Assault	6	1	1	4	5	1	3.4	3.47	2.05913	1-5	-71%	-1.17
4	Peeping & Spying	0	0	1	0	0	2	0.2	0.20	0.4	0-1	900%	4.50
5	Aggravated Assault	11	14	6	5	8	11	8.8	7.80	3.31059	5-12	25%	0.66
6	Simple Assault	44	41	40	33	33	49	38.2	36.20	4.44522	34-43	28%	2.43
7	Robbery	5	0	3	2	3	2	2.6	2.47	1.62481	1-4	-23%	-0.37
8	Threats	32	23	26	12	16	31	21.8	18.93	7.11056	15-29	42%	1.29
9	Violation of RO	15	14	9	14	9	4	12.2	11.40	2.63818	10-15	-67%	-3.11
10	Housebreak	11	12	16	16	18	18	14.6	15.80	2.6533	12-17	23%	1.28
11	Commercial Break	15	11	12	14	12	8	12.8	12.60	1.46969	11-14	-38%	-3.27

12

Exceptional Volume

Threshold of Patterns

Pattern Name:	Pattern Description:	This Week:	Year to Date:	Crs	Por	Uni
Beauty Products	Theft of razors/beauty products from a store.	1	1			1
Catalytic Converter	Theft by removal or cutting of the catalytic converter from a vehicle.	2	92	28	39	25
Construction Site	Burglary of a construction site.	2	31	1	24	6
Copper Theft	Theft of copper piping or wiring.	3	30	1	17	12
Doorstep Package Theft	Theft of package from the doorstep of a residence after it's been delivered by a delivery company.	2	42	9	25	8
Fitness Center Vehicle Burgs	Burglary of a vehicle parked at a fitness center, usually of items left in plain view.	3	43	23	18	2
Garage Burglary	Burglary of a garage, generally within an apartment complex.	2	83	22	37	24
Locker Theft	Burglary or theft of items from a fitness center locker.	1	44	20	13	11
Motorcycle	Stolen motorcycle.	1	21	2	10	9
Office Building Computer Burglary	Burglary of an office building with loss of computers or laptops.	2	36	1	13	22
Roll up door	459 commercial where entry was made via a roll up door to the business.	1	15	1	8	6
Storage Bin Theft	Burglary of items from a storage bin, usually a Conex box type bin that is at a construction site.	1	23	3	10	10

13

Exceptional Volume

Repeat Locations







PORT ST. LUCIE POLICE DEPARTMENT
TOP CALLS FOR SERVICE ADDRESSES
AUGUST 1, 2009 - JANUARY 31, 2020. TOTAL CALLS: 7,308. TOTAL CUMULATIVE %: 13.2

RANK	ADDRESS	DISTRICT	FREQUENCY	%
1	800 SW DARWIN BLVD <small>DARWIN SQUARE</small>	3	29	0.4% Cumulative % 0.4%
2	1449 SE MORROW ST. <small>RESIDENTIAL</small>	2	25	0.3% Cumulative % 0.7%
3	10655 S U.S HIGHWAY 1 <small>WALMART</small>	1	23	0.3% Cumulative % 1.1%
4	1675 NW ST LUCIE WEST BLVD <small>WALMART</small>	4	23	0.3% Cumulative % 1.4%
5	1850 SW GATLIN BLVD <small>WALMART</small>	3	22	0.3% Cumulative % 1.7%
6	1655 SE WALTON RD <small>EMERALD HEALTHCARE</small>	1	17	0.2% Cumulative % 1.9%
7	166 SW PEACOCK BLVD <small>BELMONT APTS</small>	4	14	0.2% Cumulative % 2.1%
8	873 SW DEL RIO BLVD	4	14	0.2%

14

Exceptional Volume

Escalating Activities

Offender by Year Escalation		2012	2013	2014	2015
LastName	FirstName				
 STEFANCZAK 5/6/88	SAMANTHA 25 Main St	1	3	4	14
 COUTU 12/25/77	DEVIN 5 Main Dunstable	1	4	10	9
 SIMMONS 11/22/78	JONATHAN 12 Sally Drive	4	15	30	9
 OLIVARES 5/5/65	NICOLE 888 Sara Dr	1	5	10	8
 PENO 6/8/88	ROBERT 125 S Main St	3	5	6	7
 HART 6/8/88	DEVON	3	5	7	6

15

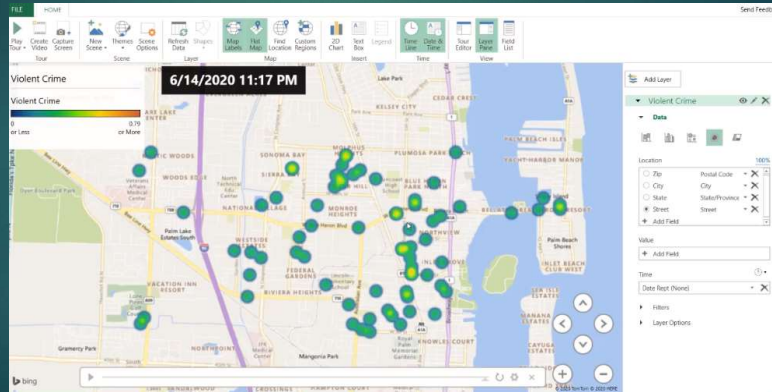
Geographic Proximity

1. Hot Spots
2. Clusters
3. Geographic Progression
4. Cross-Jurisdictional Activity

16

Geographic Proximity

Hot Spots

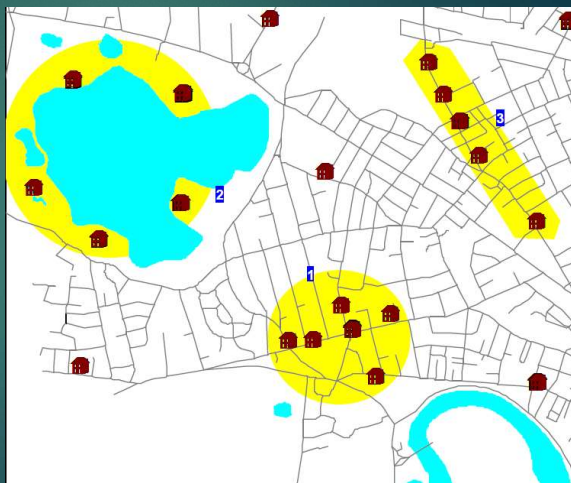


17

Geographic Proximity

Clusters

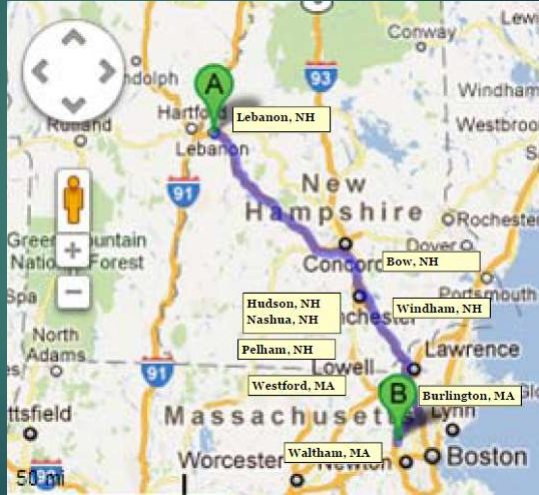
- Identify spatial clustering using size-graduated point markers
- Use the Average Nearest Neighbor tool
- Manually identify hot spots using ellipses
- Identify hot streets & intersections
- Look for crash/crime spatial movement
- Identify high risk crash times (i.e. at the end of the school day; top 3 schools)



18

Geographic Proximity

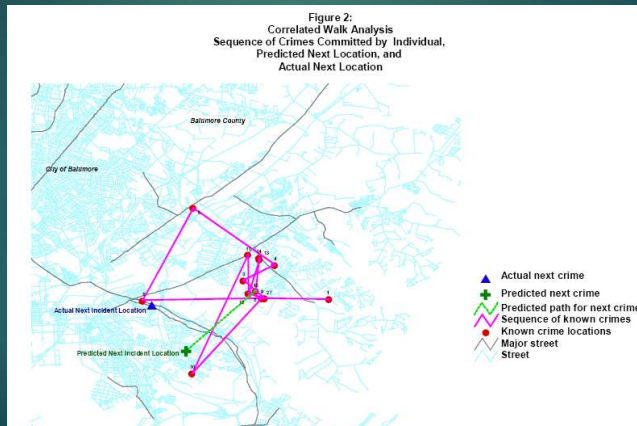
Cross-Jurisdictional Activity



19

Geographic Proximity

Geographic Progression



20

Geographic Proximity

Intelligence-Based Pattern ID

Serious Offender Prioritization and Tracking

Filter by Name, Address, or Notes: Filter See All

PersonID: 1881 DOB: 07/26/1969
Last: MENTUS JR. SSN: 897-40-58
First: JARION Middle: ODALIS

City: DANBURY State: CT
Address: WINDSOR ST. Unit: 1
Add. History In: Cambridge Everett Somerville

General Notes: Street person accused numerous times of physically accosting passers-by and demanding cash. Considered "obnoxious" by fellow homeless people, frequent victim of assaults himself. Suspected schizophrenic, stays at the YMCA with panhandled money.

Related Incidents

Incident #	Incident Type	Date	Agency	Location	Role	Offense
13843	Incident	11/07/2013	CAM-PD	MYSTIC & FLAGG ST, Cambridge	Suspect	Other Theft
12188	Incident	09/17/2013	CAM-PD	983 DUNSTER RD, Cambridge	Suspect	Vandalism
12188	Incident	09/17/2013	CAM-PD	983 DUNSTER RD, Cambridge	Suspect	Vandalism
11885	Incident	08/15/2013	CAM-PD	983 DUNSTER RD, Cambridge	Defendant	Other
11885	Incident	08/15/2013	CAM-PD	983 DUNSTER RD, Cambridge	Defendant	Other
11507	Incident	07/05/2013	CAM-PD	379-A GARLAND ST, Cambridge	Suspect	Other Theft
11507	Incident	07/05/2013	CAM-PD	379-A GARLAND ST, Cambridge	Suspect	Other Theft
11309	Incident	06/14/2013	CAM-PD	983 DUNSTER RD, Cambridge	Involved	Simple Assault
11309	Incident	06/14/2013	CAM-PD	983 DUNSTER RD, Cambridge	Involved	Simple Assault
11096	Incident	05/24/2013	CAM-PD	277 ATHENAEUM ST, Cambridge	Victim	Simple Assault
11096	Incident	05/24/2013	CAM-PD	277 ATHENAEUM ST, Cambridge	Victim	Simple Assault
10790	Incident	04/26/2013	CAM-PD	BROADWAY ST & EASTERN FLOWERS, Cambridge	Defendant	Simple Assault

21

Pattern Finalization

1. Identify the Principal Case
2. Identify 3 characteristics of the pattern
3. Identify other cases in the pattern
4. Identify investigative leads
5. Summary of pattern

22

Pattern Finalization: Identify Principal Case

Select 1-2 cases from the initial list of cases that best represents the pattern.

Case	Date	Day	Time	Beat	Location Type	Object of Attack	Weapon Type	Suspect's Actions Against Person	Method of Departure	Property Taken	Property Value	Race/Sex	Hair	Speech	Build	Facial Hair	
1	3/7/2010	Mon	1700	769	Street	Simulated weapon	Handgun	Asked for change/directions	Followed victim	Foot	Cash/notes	\$200.00	Link	Male			
2	3/2/2010	Tue	1720	918	Alley	Handgun	Handgun	Asked for change/directions	Hit victim	Foot	Jewelry	\$300.00	Link	Male			
3	3/4/2010	Thu	1800	668	Street	Handgun	Handgun	Asked for change/directions	Hit victim	Foot	Purse/wallet	\$150.00	Link	Male			
4	3/4/2010	Thu	2843	668	Conv. Store	Owner/Employee	Hands/feet	Hit victim		Car	Consumable	\$300.00	Hispanic	Male	Brown	Short	
5	3/6/2010	Fri	0005	718	Grocery	Handgun	Hands/feet	Hit victim	Made threats	Car	Purse/wallet	\$100.00	Hispanic	Male	Bald		Fey/heavy
6	3/15/2010	Mon	1919	615	Conv. Store	Owner/Employee	Handgun	Demanded money		Foot	Cash/notes	\$200.00	White	Male	Brown		Thip
7	3/16/2010	Tue	1730	918	Street	M/Pls Handicap	Simulated weapon	Asked for change/directions	Followed victim	Foot	Purse/wallet	\$300.00	Link	Male			
8	3/19/2010	Fri	1700	769	Residence	Handgun	Handgun	Threatens w/weapon	Demanded money	Car	Cash/notes	\$500.00	Hispanic	Male	Black		Accent
9	4/7/2010	Thu	1700	918	Alley	Handgun	Handgun	Followed victim	Demanded money	Foot	Purse/wallet	\$250.00	Hispanic	Male	Black		Accent
10	4/2/2010	Fri	1100	769	Residence	Handgun	Handgun	Took clothing/personal items	Demanded money	Car	Cash/notes	\$200.00	Hispanic	Male	Black		Crew cut
11	4/4/2010	Sun	1700	668	Parking lot	Customer(s)	Handgun	Followed victim	Demanded money	Foot	Purse/wallet	\$300.00	White	Male			Average
12	5/5/2010	Mon	2384	1015	Parking lot	Handgun	Chemical weapon	Fixed weapon	Used stolen auto	Car	Other	\$300.00	Hispanic	Male			Crew cut
13	4/15/2010	Thu	1800	668	Street	Handgun	Handgun	Asked for change/directions	Demanded money	Foot	Cash/notes	\$700.00	Link	Male			
14	4/15/2010	Thu	1850	918	Fast food	Owner/Employee	Handgun	Threatens w/weapon	Weapon showing	Car	Cash/notes	\$1000.00	Hispanic	Male			
15	4/16/2010	Fri	0114	615	Parking lot	Handgun	Handgun	Hit victim	Pushed victim down	Foot	Cash/notes	\$500.00	White	Male			Fat/heavy
16	4/18/2010	Sun	2005	918	Alley	Handgun	Handgun	Asked for change/directions	Deceptive practices	Foot	Purse/wallet	\$100.00	Hispanic	Male	Short	Accent	Muscular/stokey
17	4/18/2010	Sun	2030	639	Apartment	Resident	Handgun	Demanded money	Made threats	Foot	Cash/notes	\$200.00	Hispanic	Male	Black		Crew cut
18	4/19/2010	Mon	2100	668	Alley	Customer(s)	Handgun	Followed victim	Hit victim	Foot	Cash/notes	\$100.00	Hispanic	Male			Muscular/stokey
19	4/19/2010	Mon	2044	615	Restaurant	Customer(s)	Handgun	Demanded Money	Threatens w/weapon	Foot	None	\$200.00	Hispanic	Male			Short
20	5/7/2010	Sat	0647	918	Restaurant	Owner/Employee	Handgun	Demanded money	Threatens w/weapon	Foot	Cash/notes	\$100.00	Hispanic	Male			Accent
21	5/2/2010	Sun	2120	721	Street	Handgun	Handgun	Hit victim		Foot	Consumable	\$200.00	White	Male	Brown	Short	Accent
22	5/4/2010	Tue	1800	918	Alley	Handgun	Handgun	Asked for change/directions	Followed victim	Foot	Purse/wallet	\$80.00	Hispanic	Male	Black	Short	Accent

23

Pattern Finalization: Identify 3 Characteristics

The characteristics most indicative of the pattern are used to select additional cases related to the principle case.

1. Suspect's actions against person (e.g., followed, asked for change, demanded money)
2. Type of victim and location (e.g., pedestrian on the street)
3. Type of weapon (e.g., handgun or simulated weapon)

24

Pattern Finalization: Identify Other Cases

Query database

The screenshot shows a database query interface with three tables: IBRCodes, MasterCrimesTable, and Zone_Sector_Codes. Arrows indicate relationships between fields in these tables. Below the tables is a query grid with columns for various fields and their source tables. The 'Criteria' section shows a filter: '> = "20150101"'. The 'Field:' row lists CallNum, ArrestNum, WarrantNum, IncidentNum, TypeOfArrest, ReportedDate, and ArrestDate. The 'Table:' row lists Master_Arrest_Table for each field. The 'Sort:' row is empty. The 'Show:' row has checkboxes for each field. The 'Criteria:' row has a checkbox for the filter condition.

25

Pattern Finalization: Identify Other Cases

Include other cases that appear related.

Case	Date	Day	Time	Beat	Location Type	Object of Attack	Weapon Type	Suspect's Actions Against Person	Method of Departure	Property Taken	Property Value	Race/Sex	Hair	Speech	Build	
1	3/7/2010	Mon	1700	793	Street	Pedestrian	Simulated weapon	Asked for change/directions	Followed victim	Foot	Cash/notes \$200.00	Lat. Male				
2	3/2/2010	Tue	1720	918	Alley	Pedestrian	Handgun	Asked for change/directions	Hit victim	Foot	Jewelry \$300.00	Lat. Male				
3	3/2/2010	Thu	1800	668	Street	Pedestrian	Handgun	Asked for change/directions	Hit victim	Foot	Purse/wallet \$150.00	Lat. Male				
4	3/4/2010	Thu	2043	668	Conv. Store	Owner/Employee	Hands/feet	Hit victim	Car	Consumable	\$300.00	Hispanic Male	Brown	Short		
5	3/5/2010	Fri	0005	718	Grocery	Pedestrian	Hands/feet	Hit victim	Car	Purse/wallet	\$100.00	Hispanic Male	Bald		Fat/heavy	
6	3/15/2010	Mon	1919	615	Conv. Store	Owner/Employee	Handgun	Demanded money	Followed victim	Foot	Cash/notes \$200.00	White Male	Brown	Lisp		
7	3/15/2010	Tue	1729	919	Street	Hit/This Hit/This	Simulated weapon	Asked for change/directions	Followed victim	Foot	Purse/wallet \$200.00	Lat. Male				
8	3/19/2010	Fri	1100	769	Residence	Resident	Handgun	Threatens w/weapon	Demanded money	Car	Cash/notes \$500.00	Hispanic Male	Black	Accent	Muscular/tall	
9	3/17/2010	Thu	1700	918	Alley	Pedestrian	Simulated weapon	Followed victim	Demanded money	Foot	Purse/wallet \$250.00	Hispanic Male	Black	Accent		
10	4/2/2010	Fri	1100	769	Residence	Resident	Handgun	Took clothing/personal items	Demanded money	Car	Cash/notes \$200.00	Hispanic Male	Black	Crew cut		
11	4/4/2010	Sun	1700	668	Parking lot	Customer(s)	Handgun	Took clothing/personal items	Demanded money	Car	Purse/wallet \$300.00	White Male			Average	
12	4/5/2010	Mon	2304	1015	Parking lot	Pedestrian	Chemical weapon	Fired weapon	Used stolen auto	Car	Other \$300.00	Hispanic Male		Crew cut		
13	4/15/2010	Thu	1900	668	Street	Pedestrian	Hands/feet	Asked for change/directions	Demanded money	Foot	Cash/notes \$700.00	Lat. Male				
14	4/15/2010	Thu	2150	919	Fast food	Owner/Employee	Handgun	Threatens w/weapon	Weapon showing	Car	Cash/notes \$1,000.00	Hispanic Male	Short		Fat/heavy	
15	4/15/2010	Fri	0114	615	Parking lot	Pedestrian	Handgun	Hit victim	Pushed victim down	Foot	Cash/notes \$500.00	White Male			Thin	
16	4/15/2010	Fri	0114	615	Parking lot	Pedestrian	Handgun	Hit victim	Pushed victim down	Foot	Cash/notes \$500.00	White Male			Thin	
17	4/15/2010	Sun	2030	888	Apartment	Resident	Handgun	Asked for change/directions	Followed victim	Foot	Purse/wallet \$100.00	Hispanic Male	Short	Accent	Muscular/tall	
18	4/15/2010	Mon	2100	668	Alley	Customer(s)	Handgun	Demanded money	Made threats	Foot	Cash/notes \$200.00	Hispanic Male	Black	Crew cut	Muscular/tall	
19	4/15/2010	Mon	2044	615	Restaurant	Customer(s)	Handgun	Demanded Money	Threatens w/weapon	Foot	None \$200.00	Hispanic Male	Short	Accent		
20	5/1/2010	Sat	0647	918	Restaurant	Owner/Employee	Handgun	Demanded money	Threatens w/weapon	Foot	Cash/notes \$100.00	Hispanic Male				
21	5/2/2010	Sun	2120	721	Street	Pedestrian	Hands/feet	Hit victim	Followed victim	Foot	Consumable \$220.00	White Male	Brown	Short	Accent	Muscular/tall
22	5/4/2010	Tue	1600	918	Alley	Pedestrian	Simulated weapon	Asked for change/directions	Followed victim	Foot	Purse/wallet \$80.00	Hispanic Male	Black	Short	Accent	Muscular/tall
23	5/5/2010	Wed	2000	918	Street	Pedestrian	Handgun	Asked for change/directions	Demanded money	Foot	Purse/wallet \$800.00	Lat. Male				

26

Pattern Finalization: Identify Investigative Leads

1. Identify potential suspects
2. Search databases

Harold Jones	Burglary, robbery	668	M	H	5/10/1989	Parole
Barry Webner	Robbery, burglary	918	M	H	6/19/1995	Probation
Samuel Adens	Burglary, robbery	769	M	H	1/7/1987	Parole
John James	Shoplifting, robbery	615	M	H	10/8/1993	NA
Frank Casella	Robbery, burglary	668	M	H	9/14/1993	Parole
George Mason	Burglary, robbery	769	M	H	2/8/1991	NA
Jesus Gonzolaz	Robbery, burglary	918	M	H	6/17/1988	Probation