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Problem-Solving Tools Series
Problem-Oriented Guides for Police

No. 12

Understanding Theft of 'Hot Products'

Kate J. Bowers and Shane D. Johnson

Center for
Problem-Oriented Policing

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The Internet references cited in this publication were valid as of the date of this publication. Given that URLs and websites are in constant flux, neither the author(s) nor the COPS Office can vouch for their current validity.

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About the Problem-Solving Tools Series

The *Problem-Solving Tools* are one of three series of the *Problem-Oriented Guides for Police*. The other two are the *Problem-Specific Guides* and *Response Guides*.

The *Problem-Oriented Guides for Police* summarize knowledge about how police can reduce the harm caused by specific crime and disorder problems. They are guides to preventing problems and improving overall incident response, not to investigating offenses or handling specific incidents. Neither do they cover all of the technical details about how to implement specific responses. The guides are written for police—of whatever rank or assignment—who must address the specific problems the guides cover. The guides will be most useful to officers who:

- Understand basic problem-oriented policing principles and methods
- Can look at problems in depth
- Are willing to consider new ways of doing police business
- Understand the value and the limits of research knowledge
- Are willing to work with other community agencies to find effective solutions to Problems

The *Problem-Solving Tools* summarize knowledge about information gathering and analysis techniques that might assist police at any of the four main stages of a problem-oriented project: scanning, analysis, response, and assessment. Each guide:

- Describes the kind of information produced by each technique
- Discusses how the information could be useful in problem-solving
- Gives examples of previous uses of the technique
- Provides practical guidance about adapting the technique to specific problems
- Provides templates of data collection instruments (where appropriate)
- Suggests how to analyze data gathered by using the technique
- Shows how to interpret the information correctly and present it effectively
- Warns about any ethical problems in using the technique
- Discusses the limitations of the technique when used by police in a problem-oriented project
- Provides reference sources of more detailed information about the technique
- Indicates when police should seek expert help in using the technique

Extensive technical and scientific literature covers each technique addressed in the *Problem-Solving Tools*. The guides aim to provide only enough information about each technique to enable police and others to use it in the course of problem-solving. In most cases, the information gathered during a problem-solving project does not have to withstand rigorous scientific scrutiny. Where police need greater confidence in the data, they might need expert help in using the technique. This can often be found in local university departments of sociology, psychology, and criminal justice.

The information needs for any single project can be quite diverse, and it will often be necessary to use a variety of data collection techniques to meet those needs. Similarly, a variety of different analytic techniques may be needed to analyze the data. Police and crime analysts may be unfamiliar with some of the techniques, but the effort invested in learning to use them can make all the difference to the success of a project.

The COPS Office defines community policing as "a philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime." These guides emphasize *problem-solving* and *police-community partnerships* in the context of addressing specific public safety problems. For the most part, the organizational strategies that can facilitate problem-solving and police-community partnerships vary considerably and discussion of them is beyond the scope of these guides.

These guides have drawn on research findings and police practices in the United States, the United Kingdom, Canada, Australia, New Zealand, the Netherlands, and Scandinavia. Even though laws, customs and police practices vary from country to country, it is apparent that the police everywhere experience common problems. In a world that is becoming increasingly interconnected, it is important that police be aware of research and successful practices beyond the borders of their own countries.

Each guide is informed by a thorough review of the research literature and reported police practice, and each guide is anonymously peer-reviewed by a line police officer, a police executive and a researcher prior to publication. The review process is independently managed by the COPS Office, which solicits the reviews.

For more information about problem-oriented policing, visit the Center for Problem-Oriented Policing online at www.popcenter.org. This website offers free online access to:

- The *Problem-Specific Guides* series
- The companion *Response Guides* and *Problem-Solving Tools* series
- Special publications on crime analysis and on policing terrorism
- Instructional information about problem-oriented policing and related topics
- An interactive problem-oriented policing training exercise
- An interactive *Problem Analysis Module*
- Online access to important police research and practices
- Information about problem-oriented policing conferences and award programs

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Kimberly Nath oversaw the project for the COPS Office. Phyllis Schultze conducted research for the guide at Rutgers University's Criminal Justice Library. Nancy Leach coordinated the Center for Problem-Oriented Policing's production process. Marian Haggard edited this guide.

Introduction

This *Problem-Solving Tools* guide describes what makes particular products attractive to thieves (hot), gives pointers on securing them, and discusses the methods by which hot products can be identified and monitored in your local area. It also summarizes the relevant research on hot products and identifies some useful concepts in understanding theft problems. The guide does not review in any detail research concerned with other types of crimes that might involve 'hot' products such as fraud, hacking, tampering, counterfeiting, or vandalism. Due to limitations in what is specifically known about hot products in the United States at this time, the guide draws on literature from around the world.

Since World War II, there has been a huge increase in valuable everyday products that people own—for example, cell phones, credit cards, cameras, and laptop and tablet computers.[1] Many of these are hot products that are targeted by thieves, and their widespread availability contributes to, or can even generate, a crime problem. When faced with a mini-crime wave, whether of burglary, shoplifting, street robbery, or any other theft problem, you should analyze what products are stolen. This can be critical to addressing acquisitive crime as it can help you discover the most likely groups of thieves and identify responses to the problem that would otherwise be overlooked. Accordingly, you should use this guide as a companion to the following theft-related POP Guides:

- Bank Robbery
- Bicycle Theft
- Burglary at Single-Family House Construction Sites
- Burglary of Retail Establishments
- Burglary of Single-family Houses
- Check and Card Fraud
- Crimes Against Tourists
- Drug Dealing in Open-Air Markets
- Export of Stolen Vehicles Across Land Borders
- Financial Crimes Against the Elderly
- Gasoline Drive-offs
- Identity Theft
- Robbery at Automated Teller Machines
- Robbery of Convenience Stores
- Robbery of Taxi Drivers
- School Vandalism and Break-ins
- Shoplifting
- Stolen Goods Markets
- Street Robbery
- Theft of Customers' Personal Property in Cafés and Bars
- Theft of Scrap Metal
- Thefts of and from Cars in Parking Facilities
- Thefts of and from Cars on Residential Streets and Driveways

Three factors need to be present for a crime to occur: the *desire* to commit the crime, the *ability* to commit the crime, and the *opportunity* to commit the crime. Analyzing hot products speaks to two of these elements—it considers both desirability and opportunity.

What Are Hot Products?

Frequently stolen (or hot) products have the qualities captured by the acronym 'CRAVED.'[2]

The Elements of 'CRAVED'

Concealable	Things that are small enough to quickly hide or those that may be taken without attracting attention
Removable	Things that are easy to carry or are themselves mobile
Available	Things that are more likely to be abundant and accessible in one way or another
Valuable	Things that are valuable, particularly when thieves intend to sell the stolen items
Enjoyable	Things that are enjoyable (e.g., laptops) more so than those that are more functional (e.g., refrigerators)
Disposable	Things that are easy to trade, sell for cash, or that can be used immediately without risk

Hot products have one or more of these qualities and, as a rule of thumb, the more an item has the more likely it will be coveted by thieves. Examples of highly CRAVED items include cash, mobile phones, multimedia devices, and jewelry. Still CRAVED, but perhaps with some difficulties to overcome are bicycles (which can be difficult to conceal but, once taken are highly removable); disposable razors (which are more functional than enjoyable, and not particularly valuable, although they are expensive for a disposable product); and larger household goods, such as televisions, microwaves, and desktop computers (which are harder to conceal and remove).

The lists of commonly stolen products focused upon in this guide are not exhaustive and there are many other items that are stolen worldwide every day, including the following (readers are referred to other publications where applicable):

- Products and information stolen via on-line theft†
- Scrap and precious metals‡
- Handguns
- Business devices[3] (e.g., service delivery devices such as ATMs or parking meters, furnishing and fixtures such as park furniture or hotel room equipment, or cash containers such as vending machines or cash registers§)
- Livestock
- Rare and endangered species

Product Life Cycles

Products have life cycles that are related to crime patterns[4] as follows:

- When a product is launched (consider a phone with novel functionality), it is likely to be expensive and desirable, but limited availability reduces the opportunity for theft. This is referred to as the *product innovation stage*. Stolen products at this stage can be difficult to dispose of as they are easier to identify (as stolen) than more commonly available products.
- In the *growth stage*, prices are lowered, and through increased consumption, the product becomes more widely available.
- Products that sell well reach the *mass-market stage* and become more affordable. These last two stages are when products may be stolen in large volumes, resulting in what has often been referred to as a "crime harvest."[5]
- If sales of a product continue, the value of the product will typically decline as *market saturation* occurs. At this point, those who want a product probably own one, and the reduction in price means that purchasing one legitimately becomes affordable. As a result, levels of theft of the product are likely to decline.

† See Problem-Specific Guide No. 21, *Check and Card Fraud* for further information.

‡ See Problem-Specific Guide No. 58, *Theft of Scrap Metal* for further information.

§ In many of these cases it is the contents of the product (cash) rather than the product itself which is targeted.

Example 1:
A Variation in Theft in Product Life Cycles

In one U.K. county at the beginning of the period between 1997 and 2003, video cassette recorders (VCR) were frequently stolen during burglaries, but later, DVD players were a much more common target. This switch occurred as legitimate VCR ownership was at its peak and prices were decreasing: VCRs had reached the market saturation phase. In contrast, at the same time, DVD players were at the innovation and growth stages and became the new hot product.[6]

Often there is a predictable crime-change cycle when new products are introduced to the market.[7] This cycle has three stages:

1. The change is introduced (e.g., the product is manufactured and launched) with little thought of potential consequences for criminal opportunity
2. These consequences become evident if there is a high volume of theft associated with the product
3. The change is revoked or a partial solution is retrofitted in response to the problem

In such cases crime control is nearly always reactive rather than proactive. However, this does not have to be the case and, given what is known about hot products, it is hardly a socially responsible approach to business.

From a prevention perspective, it is useful to monitor theft levels for particular items so that proactive steps can be taken if a crime epidemic is a possibility. Even better would be to consider the security features of products at the point of design and manufacture (see www.designagainstcrime.com for inspiration).

Who Are the Stakeholders?

One particular challenge concerning hot products is that the roles and responsibilities of all the players involved—individuals, police, other crime prevention practitioners, government, and industry and commerce—are unclear and it is difficult to resolve who should be doing what. Some proposals have been made to encourage manufacturers to consider prevention in their designs. One recommendation was the introduction of a traffic-light system clearly marking products (as red, yellow, or green) according to both their risk of theft and built-in security levels.[8] There have also been calls for the use of other "levers"† to motivate manufacturers to consider crime prevention during the product-design phase, and for the government to support this idea.[9] In this context, the term "crime pollution" has been used to describe crimes that occur as an unanticipated side effect of a new product entering the market.[10] According to this view, if manufacturers are considered the polluters, they should be pursued to take preventative action.

Yet it is unfair to suggest that manufacturers *always* neglect the crime implications of their products. An encouraging trend is that more modern CRAVED items, such as smart phones and tablet computers, have corresponding anti-theft applications or recovery programs. The iPad, for example, has had no known cases of remote attack, so physically losing it is the major security threat. iPads also have built-in security functions, which means that owners can enable high-security encryption, enhance passcodes, and set their device for remote data wiping.‡ The degree to which these affect the desirability of an item to thieves will depend on how they influence offender decision making, which will in turn depend upon offender awareness of these deterrents. Manufacturers are more likely to be incentivized to take action where they can see the potential cost of crime in terms of lost products, lost sales, and loss of reputation.

However, relying on the motivations of manufacturers alone is unlikely to be an effective strategy. As is demonstrated repeatedly below, hot products often drive common theft problems and the police can play a critical role in identifying and suppressing such trends. What follows should convince skeptics of the benefits that can be reaped in analyzing theft problems in this way, and while this guide is aimed at a police audience, it is acknowledged that others parties—including manufacturers, the public, and crime or intelligence analysts for instance—have roles to play.

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† For example, through legal sanctions, information programs to get the public to 'vote with their feet' or government subsidy removal (see, for example, Stavins 2000).

‡ See www.macworld.com/article/1160313/iPad_security.html.

The other parties who have a stake will vary depending upon the particular product or context. As an example, when dealing with crime against retailers, partnerships should be developed with the loss prevention personnel at all the major retailers in the local community.† In this case, such partnership is necessary because police will need to get data from loss prevention and possibly work with them on product placement and the type of theft deterrent devices used on certain products.

† See Problem-Solving Tools No. 5, *Partnering With Businesses to Address Public Safety Problems,* for further information.

What Products Are Hot?

Even though trends vary over time, the product classes described below have been especially appealing to thieves.

Personal Electronic Products

These are products that are often carried on the person, such as:

- Mobile phones
- Portable media devices (e.g., iPod, iPads, Mp3, or Mp4 players)
- Electronic book readers
- Laptop computers and tablets

U.S. offending patterns have been linked to changes in the availability of such devices.[11] Mobile phone ownership is now a rule rather than an exception with a recent report estimating that 88 percent of U.S. adults are now cell phone owners and that 46 percent of all American adults are smartphone users.[12] Mobile phone theft has boomed as ownership has increased. For example, in the two-year period from 1998 to 2000, mobile phone theft doubled in New South Wales, Australia.

In the United Kingdom a mobile phone theft index compiled for 2005[13] examined the volume with which handsets made by particular manufacturers were stolen, and provided a method of estimating relative risks. For example, the U.K. data indicated that a Nokia phone had a risk that was 1.25 times higher than that for a Sony Ericsson, 1.36 times higher than that for Samsung, and 1.87 times that for Motorola. The types of *models* of phone most frequently stolen were also examined, and in 2004 the most frequently stolen phone was the Nokia 6230. As the most frequently stolen mobile phones will vary each year, it would be useful to compile such trends annually, perhaps in the form of a government-recognized index.

The average value of a lost laptop—including the cost of replacement, data breach, lost intellectual property costs, etc.—has been estimated at just under $50,000, demonstrating the serious nature of such losses. Furthermore, the number of laptops that go missing is staggering: over 86,000 laptops were reported as having been lost in the United States in 2010.[14] The chance that a laptop will go missing during a one-year period is estimated at one in ten.[15] Portability (or "removability" in CRAVED terms) appears to be a significant factor: an estimated 25 percent of laptops go missing from the office or an owner's car and 14 percent are lost in airports or on airplanes.[16]

Few studies have compared the theft risk for different types of personal electronic products, but in one survey, mobile phones were perceived as slightly more vulnerable to theft than digital cameras, laptops, and personal digital assistants (PDA).[17] Given the rapid emergence of new electronic devices and changes in product functionality, anticipating the next wave of theft is important. For example, the theft of mobile phone smart wallets (enabled with a technology which allows direct purchasing of goods on contact) is a potential future crime problem.[18]

Valuable Assets

These are products that people routinely carry with them, including the following:

- Cash
- Credit cards
- Identification
- Jewelry and watches

Certain items are particularly likely to go missing in bag thefts† where an entire bag is taken, the top five being the following:

- Credit cards/cash
- Passports/visas
- Driving licenses
- Purses/wallets
- Cell phones

The first four of these items are also specifically targeted by thieves who steal items out of bags.

With on-line shopping's increase in popularity, credit card fraud is likely to continue to be a major issue.‡ In 2005, there was a 22 percent increase in Internet shopping and in the same year, credit card fraud cost $1 billion in the United States. About 40 percent of these offenses were committed by offenders using lost or stolen cards and about 15 percent by those using cards that were never received by the rightful owner. Over the course of the 1990s, increases in the use of more sophisticated forms of credit card fraud have been charted,[19] but the number of offenses that involve a lost or stolen card has not declined to insignificant numbers, indicating that it is still important to deal with cards stolen through simple theft from the person.

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† See Problem-Specific Guide No. 60, *Thefts of Customers' Personal Property in Cafés and Bars,* for further information.

‡ See Problem-Specific Guide No. 21, *Check and Card Fraud,* for further information.

Vehicles and Vehicle Parts

Vehicle and vehicle parts commonly stolen include the following:

- Cars
- Bicycles
- Motorbikes
- Vans/trucks/trailers
- Vehicle parts such as wheels, wheel rims, headlights, catalytic converters

Worldwide, vehicles and their parts represent a significant share of the hot products that go missing annually. In 2002, 1.25 million motor vehicles—with an estimated value of $8.4 billion—were stolen in the United States.[20] Vehicle theft is a global issue, but there is substantial geographic variation. Victimization survey data indicates that auto theft represents a much higher proportion of all crime in the United Kingdom than in the United States. Similarly, car theft levels in Austria, Japan, Belgium, and Finland are much lower than those in the United Kingdom, Denmark, Sweden, and Spain.[21]

Following a peak in the early to mid-1990s,[22] the car theft rate has declined fairly consistently. This is generally attributed to improvements in car security, in particular the use of steering-wheel column locks and electronic immobilizers, and associated legislation which has set security requirements for car manufacturers.[23] However, there is some suggestion this has led to crime displacement, with thieves targeting older, more vulnerable cars, manufactured before the new measures were in place.

Table 1. Most at risk cars, 2008–2010

Highest Theft Claim Frequencies, 2008–2010		Claim Frequency
Cadillac Escalade	Large luxury SUV	10.8
Ford F-250 crew 4WD	Very large pickup	9.7
Chevrolet Silverado 100 crew	Large pickup	9.2
Ford F-450 crew 4WD	Very large pickup	7.9
GMC Sierra 1500 crew	Large pickup	7.3

Source: Highway Loss Data Institute News Release (August 25, 2011). www.iihs.org/news/rss/pr082511.html (accessed June 19, 2013).

Of course, not all cars are equally attractive to thieves, which is apparent from Highway Loss Data Institute data. Table 1 shows the five car models that had the highest claim frequencies for theft (per 1,000 vehicles) during 2008–2010. The top car had a claim rate that was around 15 times more than the model with the lowest number of claims, demonstrating how much risk varies across models.[24] The average loss payment per claim also varies, with the cars in Table 1 (on page 18) accounting for claims that were between $1,800 less and $5,000 greater than the average.[25]

Publicizing variability in car model risk was one motivation behind the production of the Home Office Car Theft Index (CTI). The most recently available version of this is the U.K. Car Theft Index for 2006. The Index lists the car theft risk by car category and registration year. According to the CTI, the theft rate for the most at-risk models was more than 13 in every 1,000 registered vehicles, and these models were at more than four times the theft risk than those in the lowest risk category. Data for 2003–2005 and 2000–2002 cars are shown in Table 2.

Table 2. Most at risk cars, 2000–2005

Cars Registered 2003–2005	Cars Registered 2000–2002
Subaru Impreza Vauxhall Astra Mk4 SRi 16v Audi S (S3 Quattro, S4 Quattro) MG TF	MG ZR Audi S (S3 Quattro, S4 Quattro) Audi TT Honda NSX, Prelude MG TF Isuzu Trooper Toyota Landcruiser (Other)

Source: U.K. Car Theft Index 2006. Home Office: London. http://avcis.police.uk/wp-content/uploads/2011/03/CarTheft_Index_2006.pdf (accessed June 19, 2013).

The CTI data suggests that older vehicles tend to be at a greater risk than newer ones, and that while there is some overlap in the high-risk models each year, these are not always the same. The U.S. National Insurance Crime Bureau "Hotwheels" data—which is updated annually and details the most frequently stolen vehicles (but not those most at *risk* after accounting for the number in circulation)—suggest similar patterns and that for older cars the cumulative value of vehicle parts may exceed that of the vehicle if sold intact.[26]

Table 3. Car models at greatest risk for theft in the United States, 1983–1985.

Top-ranked cars for stripping	Top-ranked cars for temporary use	Top-ranked cars for permanent retention
Volkswagen Cabriolet	Buick Riviera	Mercedes 380SEL/500SEL
Volkswagen Scirocco	Toyota Celica Supra	Porsche 911 Coupe
Saab 900	Pontiac Firebird	Porsche 944 Coupe
Volkswagen Jetta	Mazda RX-7	Mercedes 190D/E
Mercedes 190D/E	Cadillac Eldorado	Nissan 300 ZX

Source: Clarke and Harris 1992

As indicated in Table 3,[27] car model theft rates differ across three different types of theft: 1) those that are stolen for stripping, 2) temporary use, and 3) permanent retention. There were different motivations for these thefts: cars stolen for stripping had good quality radios; those stolen for temporary use had sporty acceleration, making them attractive to joyriders; and those permanently retained were particularly high-value, desirable cars. Recent trends in stolen parts include theft of catalytic convertors and metal theft related to motor vehicles.†

† See www.theaa.com/motoring_advice/security/catalytic-converter-theft.html.

Household Items

Hot household products include the following:

- Televisions, DVD players, and multi-media players
- Desktop computers, game consoles
- Stereos and sound systems
- Antiques and art
- Major household appliances/kitchen items

There is a substantial variation over time in items stolen during residential burglaries. For example, of the 20 items most commonly stolen in residential burglaries in New South Wales, Australia, between 2000 and 2010, other than cash, the two most common categories were electronic goods and jewelry. In 2000 particularly vulnerable items were video and DVD players, watches, still cameras, and stereo equipment. Among those items slightly less at risk were CDs, luggage, and clothing. In 2010 laptop computers were the second most stolen item, personal media devices replaced the theft of CDs, and clothes did not feature in the top 20. There was also a decline in the theft of DVD players and stereo equipment. Some items were less targeted because they were less CRAVED (e.g., microwaves) whereas others were not as universally available for theft at the time.[28] Generally there were increases in cases where more disposable items such as cash, handbags, and keys went missing over time.

Consumable Goods

Consumable goods commonly targeted for theft include the following products:

- Alcohol
- Tobacco
- Food items
- Personal care products such as razors and shampoo
- Medicines
- Gasoline
- Batteries
- Entertainment media† such as compact discs, videos/DVDs, and electronic games/software

According to the 2010 Global Retail Theft Barometer study, the global cost of retail crime is estimated to be a staggering $115.9 billion,[29] and shrinkage—whereby stock is unaccounted for and presumably stolen—costs retailers an average of 1.36 percent of global sales. The study also found that shrinkage rates vary widely. For example, in India shrinkage rates (2.72 percent) were triple those in Taiwan (0.87 percent). Similarly, shrinkage rates or theft are perceived to vary for different kinds of products. For example, shoppers believe that razor blades/shaving products, cosmetics/face creams, and perfumes (expensive branded items) are most likely to be stolen. Also believed to be commonly stolen were electrical gadgets, alcohol, fresh meat, infant formula, coffee, DVDs/games, and fashion items. Other studies cite tobacco products and analgesics as high-risk items.[30]

† Cloud-based and other methods of storing digital media may soon reduce the theft of such physical media, but these methods of storing data may provide opportunities for alternative types of crime.

Table 4. Relative risk ratings for most stolen items in the ECR Europe Top 50 Hot Products study

Beers, wines, and spirits		Health and beauty	
Product	*Risk Rating*	*Product*	*Risk Rating*
Smirnoff Red Label Vodka (1 liter)	7.4	Gillette Fusion Power (8 Pack)	3.5
Jack Daniels (70cl)	6.7	Gillette Fusion Blades Manual (8 Pack)	3.4
Jack Daniels (1 liter)	4.6	Dulcolax (40)	3.3
Bell's Whisky (1 liter)	3.1	Max Factor False Lash Effect Mascara	2.5
Moët and Chandon Brut Imperial NV (75cl)	3.0	Lynx Bodyspray Africa (150ml)	2.1
Courvoisier VS Cognac (1 liter)	2.7	Anadin Extra (16)	2.0
Barcardi Superior Rum (1 liter)	2.5	Gillette Fusion Power (4 Pack)	2.0
Carling Lager (15 x 440cl)	2.4	Gillette Mach 3 Blades (8 Pack)	1.9
Stella Artois (18 x 284cl)	2.2	Nurofen Express Liquid Capsules (16)	1.8
Carling Lager (24 x 440cl)	1.9	Rimmel Volume Flash Mascara	1.7

One of the issues with research on theft of retail goods is that systematic information on what actually goes missing is rare. One good study of losses for three categories of merchandise—food; health and beauty products; and beers, wines, and spirits—at three large U.K. supermarkets revealed the following: In the case of food, relative to other types, fresh meat is far more likely to go missing (particularly beef and chicken), and even milk and strawberries are at a high risk of shrinkage when compared to drinks or sandwiches. For alcohol, spirits go missing with a higher frequency than wine and liqueur, and overwhelmingly it is name-brand products that go missing. For health and beauty products, commonly stolen items include pain relief, baby products, cosmetics, face creams, oral health products, and perfume. What was most telling was thieves' preference for particular brands, and even within brands, particular products. Table 4 shows the relative risk ratings for the most stolen items for health and beauty products and alcohol (larger numbers indicate greater risk).[31]

Analyzing Hot Products Problems

Factors Affecting Which Products Are Hot

Once you have detected a theft-related problem, think about theft from the perspective of what is stolen rather than from simply where it is taken. Consider the variation in risk for particular types of products and think about your particular local context and how that is likely to affect what is available, what is hot, and what is not. Within general product types, there is considerable variation across the following factors, which are discussed below:

- Product life-cycles
- Specific product types and models
- Types of crime committed
- Theft methods
- Historical time periods
- Countries or regions

Product Life-Cycles

Considering the life-cycle stage of a product and the theft volume of it will help you anticipate whether there is likely to be a surge or a decline in the theft of that item (and indeed, more generally). For example, if an item that is currently frequently stolen is entering the market-saturation phase of the product life-cycle then it is likely that the theft of this item will soon decrease, regardless of efforts to reduce the theft of this type of item. In contrast, if a frequently stolen product is at an early stage of the product life-cycle, then you should consider what might be done to prevent the theft of this type of item.

Note that it is dangerous to assume that product life-cycles will follow the same trend at the same time in different places. For example, 1990s car models in the United States were being stolen to be resold in Mexico in the 2000s where they were still desirable. There might also be a delay between a peak in sales of a new product and a peak in levels of theft.† Moreover, life-cycle time scales vary across products. For example, while changes to "white" goods may be slow, updates to the specifications of tablet computers and mobile phones occur on an annual basis, which rejuvenates the legitimate (and stolen-goods) market.

† Unfortunately, a lack of freely available systematic sales data makes detailed analysis of this delay difficult to undertake. However, there is evidence of a delay between increases in the market price of copper and subsequent levels of theft which confirms that such delays are highly possible (see Sidebottom et al. 2011).

Specific Product Types and Models

Not all mobile phones, for example, will carry the same risk of being stolen. Similarly, there will be large variation in the types of cars that are commonly stolen. Certain makes or models of a particular product might be more or less appealing to a thief in a variety of ways. For example, newer high-value cars might be particularly valuable and enjoyable. However, such vehicles may be less available (both in terms of sheer numbers and levels of security) and less concealable (a high-value new vehicle model will be more likely to be noticed) than older, ordinary vehicles.

Types of Crime Committed

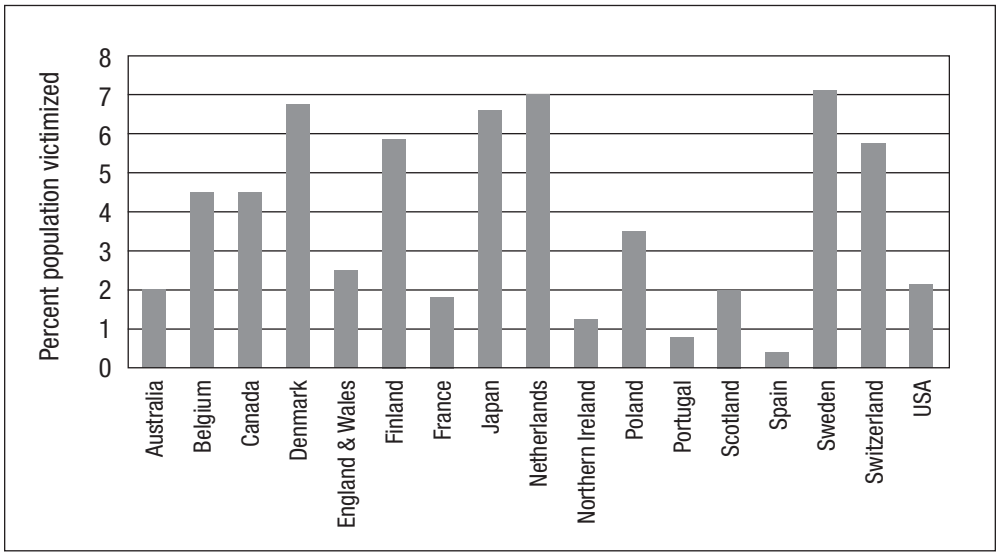
Different crime types tend to have different associated hot products. Consider the following examples:

- For thefts from residences, such as burglary, household items are most at risk, but patterns can vary. As an illustration, in two bordering areas of Northampton, United Kingdom, different items were targeted, with cash and jewelry taken downtown and electrical goods targeted in the suburbs.[32] Furthermore, in the downtown area, burglars tended to be on foot and burgled older homes, whereas in the suburban area they travelled by car and targeted newer homes.
- For theft from retailers such as shoplifting, the most targeted items are consumable goods. Analysis can identify which stores are driving the problem and where within the store problem items are located.
- For thefts from person such as street robbery, thieves tend to target the contents of handbags and wallets. The time of day can also affect what products are targeted in street robberies: for example, laptop computers might be targeted in the early evening as people leave work, while handbags and wallets may be targeted at later hours when people are out for the evening.
- For theft from vehicle, both personal items and car parts can go missing. One local crime wave targeted headlights from Nissan cars: the headlights were of high quality, easily removable, and easily installed in older Nissans. Also for this crime, laptops and handbags left in view, and satellite navigation systems are common targets.

Theft Methods

Compared to thefts in which numerous items are stolen, certain models of phone appear to be targeted when stolen in isolation.[33] Additionally, for thefts in bars, different items have been found to be stolen when an entire bag is taken compared to when single items are stolen out of the bag.[34]

Figure 1. Prevalence of bicycle theft across selected countries



Source: Van Kesteren, Mayhew, and Nieuwbeerta 2000

Historical Time Periods

Trends also vary over time. For example, it is unlikely that theft of domestic animals and timber, particularly rife in 19th century England, will feature in the list of the top ten items stolen in the United States in 2012.[35] What is CRAVED in one time period may well not be in another. The Australian study discussed above provides an example of specific changes in hot products, but to illustrate just how quickly things can change consider that the first iPad was only introduced in 2010.

Countries or Regions

Trends vary by country or region too. For example, as shown in Figure 1 bicycle theft varies greatly by country, being particularly rife in Japan, Sweden, Denmark, and Holland. These are countries where the availability of bikes is very high and there are cultural reasons for high bike usage and, therefore, greater exposure to theft.[36]

When you understand the complex nature of the problem you can better develop tailored preventive actions. Example 2 on page 26 illustrates how understanding what is hot can be a powerful prevention tool.

Example 2:
Using Hot Products Analysis to Tailor Prevention Efforts

During the analysis phase of a U.K. burglary reduction project (conducted in 1998) researchers established that two items were predominantly stolen: cash (49 percent of offenses) taken from the cash-operated electricity meters popular at that time, and audio-visual equipment (33 percent of offenses). As a result of this insight, the removal of pre-pay electricity meters was a significant component of the prevention strategy. The researchers estimated that, with the opportunity to steal cash reduced, burglary volume declined by more than 50 percent in the treatment area relative to the rest of the police division.[37]

Example 3 shows the value of examining hot products in the context of a particular theft problem, in this case theft of items from construction sites.[38] Here, undertaking careful crime analysis of hot products was the key to working out the best response strategy.

Example 3:
Hot Products Taken in Construction Site Thefts in Charlotte, North Carolina

A building boom in Charlotte, North Carolina, led to sharp increases in the number of kitchen appliances stolen from houses under construction. A long-term POP project was undertaken by the Charlotte-Mecklenburg Police Department to address this. A detailed analysis of security practices and risks of theft was made for 25 builders operating in one of the police service districts north of the city. This led to the recommendation that the installation of appliances should be delayed until home owners took up residence, effectively removing the theft targets.

Of the larger building firms, only 12 agreed to experiment with this approach for six months, though. Systematic checks by the police indicated that builder compliance varied but findings indicated that delayed installation was an effective policy. Appliance theft declined in the district and there was no evidence of displacement of thefts to surrounding districts.

Source: Clarke and Goldstein 2003 (text adapted from original source)

In some instances it might not be readily apparent why targeted products are CRAVED. To illustrate, in one study low-value items such as incense, analgesics, decongestants, baby milk, bath salts, and drinking straws were found to be frequently stolen from U.S. supermarkets. None of these are conventionally CRAVED items on their own, but it turns out that in combination they can either be used to produce a drug high, were useful in a drug production process (particularly methamphetamine), or helped users recuperate after drug use.[39] When seemingly mysterious hot products appear, try searching the Internet, government databases, or consumer indexes for news accounts and further information that might explain how the product is used in some type of criminal activity.

Further, it should be recognized that it might not be the products themselves that are the only driver of crime patterns. This is why exploring the local context is important. As an example, in one community CDs and DVDs were going missing from a retailer. Further analysis revealed that this occurred between 3:30 PM and 6:00 PM, when the local school children visited the shop to play video games. The solution was to deny access to the games between these hours rather than to focus exclusively on securing the hot products themselves.

Assessing the Risk Potential of Products

A useful starting point is a scoring system that scores the risk associated with products prior to their launch, or indeed at any point during the product's lifespan. Tools to do this were developed as part of a project for the U.K. Department of Trade and Industry.[40] These checklists (see Appendix A) help analyze how hot or secure a product is likely to be. Checklist 1 uses the CRAVED framework and provides a simple scoring system to assess how hot a product is likely to be. Checklist 2 flips the analysis and can be used to assess the strengths of the product's security features. Bearing in mind that most products have at least one element which is CRAVED, the advantage of this numeric scoring component is that it can help distinguish those that are particularly at risk from those that are moderately so.

Measuring the Theft Risk of Hot Products

It is important to consider whether a product should be considered as hot if it has a high *volume* of theft, a high *rate* of theft, or both. For example, it should not be surprising that mobile phones are stolen in high volumes given their general availability. However, a high theft *volume* does not necessarily indicate a high *rate* per item at risk. The theft rate of a particular product may be low even if that product is frequently stolen. For example, the theft risk per items in circulation may be lower for mobile phones than for 3D televisions.

It would be ideal to calculate theft rates routinely for every product considered, but in reality this is difficult as data on product sales are commercially sensitive and hence difficult to obtain.

Determining the number of products available (the denominator in the theft rate) is therefore often difficult and may require some creativity in assessing product theft rates. For example, to estimate the potential numbers of opportunities for bag theft in bars, the number of seats in an establishment has previously been used to estimate capacity.[41] To properly assess mobile phone theft risk, you should treat thefts for which multiple items are stolen as special cases because for these crimes the phone may just have been an incidental theft target rather than a deliberate one.[42]

Some additional methods for assessing the risk associated with particular products suggested include the following:

- Determine whether some products are more likely to be stolen on their own than with other products. Products stolen on their own are hotter products.
- Approximate denominators using national or regional product data (e.g., aggregated data on car sales or vehicle registrations may exist for the state).
- Use survey or observation data that you have collected yourself or that has been collected for other purposes (e.g., a bicycle user survey to estimate the number of different bicycle types).
- For analyses that examine patterns for specific crimes at particular places, use proxy denominators such as the number of people passing through an area for thefts from persons, or the percentage of all burglaries in which a certain type of item was taken.
- Determine the contribution of hot products to the percentage of total thefts. This can be done on a product-by-product basis. This will give an idea of the impact of that product on theft in the community.

Using Police Data

There are two basic approaches to analyzing hot products: 1) *product-led analysis* involves searching the data for occurrences of a particular product believed to be targeted; and 2) *data-led analysis* where no assumptions are made about which products are hot and the aim of the analysis is to establish which ones are.

Police crime records include what was stolen during an offense either in a fixed-field (multiple-choice) format or as free text. How difficult, precise, and reliable your data analysis will be is affected by a number of factors, including the following:

- Whether the data is computerized
- Whether the relevant data can be searched by computer
- The level of detail required in the police report (e.g., product type, make, model, serial number, value, quantity, and/or description) (see Figure 2)
- Whether victims know detailed product information
- Whether reporting officers record product data completely and accurately

Figure 2. Sample police incident report property section

*TYPE PROPERTY LOSS/ETC. (enter codes below)	1 NONE 2 BURNED	3 COUNTERFEITED/FORGED 4 DESTROYED/DAMAGED/VANDALIZED	5 STOLEN/ETC. 6 SEIZED	7 RECOVERED U UNKNOWN	P PHOTO E EVIDENCE	TOTAL VALUE 1

PROPERTY

*LOSS CODE 2	QUANTITY 3	DESCRIPTION 4	*PROP CODE 5	*VALUE 6
VICT. NO. 7	VEH NO. 8	MAKE/BRAND 9	MODEL 10	DATE RECOVERED 11
	SERIAL NUMBER 12	NCIC NUMBER 13	OTHER NUMBER 14	
*LOSS CODE	QUANTITY	DESCRIPTION	*PROP CODE	*VALUE
VICT. NO.	VEH NO.	MAKE/BRAND	MODEL	DATE RECOVERED
	SERIAL NUMBER	NCIC NUMBER	OTHER NUMBER	
*LOSS CODE	QUANTITY	DESCRIPTION	*PROP CODE	*VALUE
VICT. NO.	VEH NO.	MAKE/BRAND	MODEL	DATE RECOVERED
	SERIAL NUMBER	NCIC NUMBER	OTHER NUMBER	
*LOSS CODE	QUANTITY	DESCRIPTION	*PROP CODE	*VALUE
VICT. NO.	VEH NO.	MAKE/BRAND	MODEL	DATE RECOVERED
	SERIAL NUMBER	NCIC NUMBER	OTHER NUMBER	

PROPERTY CODES:

EXCHANGE MEDIUMS
- 01 Money
- 02 Credit/Debit Card
- 03 Negotiable Instruments
- 04 Other Exchange Mediums

DOCUMENTS
- 05 Non-Negotiable Instruments
- 06 Personal (Identity) Papers
- 62 Documents/Personal or Business
- 07 Other Documents

VALUABLES
- 08 Jewelry/Precious Metals
- 09 Art Objects, Antiques
- 10 Other Valuables

PERSONAL EFFECTS
- 11 Clothing/Furs
- 12 Purses/Handbags/Wallets
- 13 Other Personal Effects

HOUSEHOLD ITEMS
- 14 Household Items

EQUIPMENT
- 15 Drug/Narcotic Equip.
- 16 Gambling Equipment
- 17 Computer Hardware/Soft.
- 18 Office Equipment
- 19 Stereo TV Equip.
- 20 Recordings-Audio Visual
- 21 Sports Equipment
- 22 Photographic Equipment
- 23 Farm Equipment
- 24 Heavy Construction/Industrial
- 25 Building Supplies-Const.
- 26 Tools
- 27 Vehicle Parts/Accessories
- 57 Aircraft Parts/Accessories
- 28 School Supplies
- 58 Artistic Supplies/Accessories
- 59 Camping/Hunting/Fishing Equipment/Supplies
- 67 Law Enforcement Equip.
- 68 Lawn/Yard/Garden Equip.
- 69 Logging Equipment
- 70 Medical/Medical Lab Equip.
- 72 Musical Instruments
- 73 Portable Electronic Equip.
- 74 Watercraft Equip./Parts/Acc.
- 29 Other Equipment

CONSUMABLE ITEMS
- 30 Alcohol
- 31 Drugs/Narcotics
- 32 Consumable Goods
- 60 Chemicals
- 61 Crops
- 63 Explosives
- 65 Fuel

ANIMALS
- 33 Livestock
- 34 Household Pets

VEHICLES
- 35 Aircraft
- 36 Automobiles
- 37 Bicycles
- 38 Buses
- 39 Trucks
- 40 Trailers
- 41 Watercraft
- 42 Recreational Vehicle
- 43 Other Motor Vehicle

WEAPONS
- 44 Firearms
- 45 Other Weapons
- 64 Firearm Accessories

STRUCTURES
- 46 Single Occupancy
- 47 Other Dwellings
- 48 Commercial/Business
- 49 Industrial/Manufacturing
- 50 Public/Community
- 51 Storage
- 52 Other Structure

OTHER
- 53 Merchandise
- 54 Other Property
- 55 Pending Inventory
- 66 Identity-Intangible
- 71 Metals, Non-Precious

Source: Ohio Department of Public Safety 2011

Fixed-Field Analysis

The analysis of fixed-field data is easier to undertake than for free-text data, although it still requires some effort to produce a useful analysis.

When recorded crime data are collated into a single file for the purposes of analysis, each crime incident is often stored in a single row of the file. This means that the items stolen will be listed across multiple columns, which may not make the analysis easy. The reason for this is simply that the units of interest—for which descriptive statistics are sought—will be the *items stolen* rather than crimes.

In order to do the analysis where the data are stored in this way, consider reorganizing them as shown in Figure 3.† Once transformed, simple frequency commands or pivot tables can be used to summarize the number of times that different products have been reported as stolen (see Table 5). For a data-led analysis, it is now clear which products are stolen in the highest volumes and for a product-led analysis, where the product of interest lies within the range of products stolen.

Figure 3. Transforming the data for hot product analysis

Crime Ref No	Date	Time	Item stolen (1)	Item stolen (2)	Item stolen (3)
123THFT	12/01/12	14:01	Wallet	Keys	Handbag
124THFT	14/01/12	06:56	Mobile phone	Bag	
125THFT	15/01/12	17:50	Handbag		
126THFT	17/01/12	12:00	Mobile phone	Wallet	

Crime Ref No	Date	Time	Item Key	Item stolen
123THFT	12/01/12	14:01	Item stolen (1)	Wallet
123THFT	12/01/12	14:01	Item stolen (2)	Keys
123THFT	12/01/12	14:01	Item stolen (3)	Handbag
124THFT	14/01/12	06:56	Item stolen (1)	Mobile phone
124THFT	14/01/12	06:56	Item stolen (2)	Handbag
125THFT	15/01/12	17:50	Item stolen (1)	Handbag
126THFT	17/01/12	12:00	Item stolen (1)	Mobile phone
126THFT	17/01/12	12:00	Item stolen (2)	Wallet

† The 'transform' command in SPSS, or the 'transpose' command in Excel® can help you do this.

Table 5. Frequency distribution of stolen items

Item type	Number of times stolen
Handbag	3
Wallet	2
Mobile phone	2
Keys	1

Table 5 represents a very basic level of analysis, but provides a good idea of what is stolen. One problem with fixed-field data is that only those types of products that are included in the classification will be included in the analysis. This is problematic if a new hot product is not included in the categories available. Additionally, data recorded in a fixed format may not include information beyond a basic indication of the product type: the make, model, or other pertinent information may not be recorded.

Free-Text Analysis

You may need to conduct a more detailed analysis of what is stolen by analyzing free text, including that found in narrative reports. Even here, existing computer software can make the process more efficient. For example, there are procedures that can be used to search for the occurrence of a particular character string (e.g., a product name) within your data. In the case of car theft, you might be interested in identifying both the *make* (the manufacturer such as Nissan) and the *model* (such as Pathfinder) of vehicles taken. To do this, for each crime record that includes the loss of a car, you will probably need to create extra fixed fields of information for the make and model of vehicles stolen. It is helpful to begin this process by generating a list of the major manufacturers, makes, and models. An Internet search should facilitate this.

Table 6. Producing a 'car make' variable from free-text field data

Crime Ref No	Free-text field	'Ford'	'VW'	Car make
221CTHFT	Two offenders made off with a 2010 Ford focus	1	—	Ford
222CTHFT	FDORD fiesta was taken from a petrol forecourt	1	—	Ford
223CTHFT	Stolen keys were used to remove a FORD FOCUS from the premise	1	—	Ford
224CTHFT	A VW Touran was stolen from the hotel car park	—	1	VW
225CTHFT	Two suspects were seen prizing open the door to a Volkswagen Golf	—	1	VW
226CTHFT	Volkswagen was taken from owner's driveway	—	1	VW
227CTHFT	VW Golf	—	1	VW

Next, you can use software searching functions to identify those records in which the names of these makes and models occur. Keep in mind that names may be misspelled (e.g., 'FORD,' 'ford,' or 'Frod') and that some vehicle names might actually refer to something other than the vehicle (e.g., "Ford" is a common last name; and names such as "Dispatch," "Modus," "Partner," and "Cruiser" also commonly appear in police reports with no reference to the cars). Table 6 is one example of how you might go about the process. The first two new variables flag the presence of a particular make of car and the final column shows a combined "car make" variable.

The first two columns can be created using software searching functions.† For instance, we may search for the word 'Ford' in our free-text fields and return a '1' in a new variable labeled 'Ford' if that word is found. The final 'car make' column can be produced using 'if' statements. So, we add the word 'Ford' in our new 'car make' variable if there is a '1' in the individual 'Ford' variable, and 'VW' if there is a '1' in the 'VW' variable. At this point, we might sort the cases according to our new 'car make' variable. Scrolling to the end of the file is likely to reveal cases where the car manufacturer has not been identified using these search procedures. Often the best way to deal with these is to code them manually and then re-sort the data.

† For example, the 'CHAR.INDEX' command in SPSS.

Other Data Sets

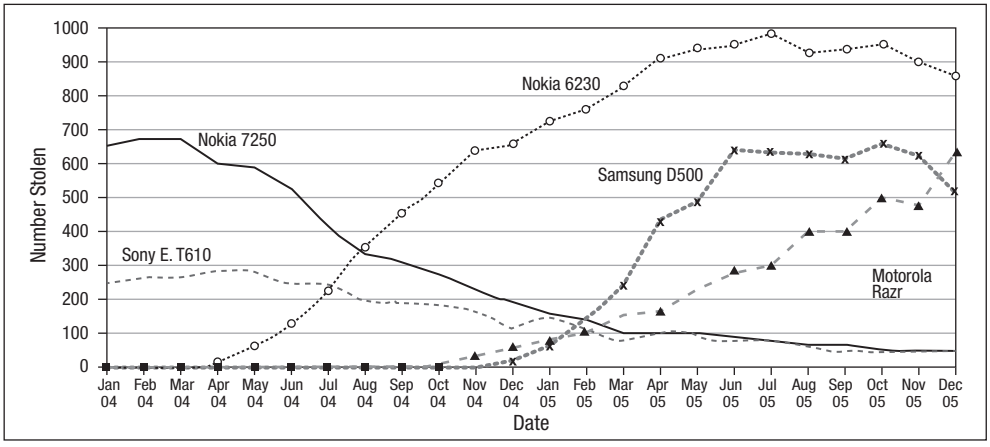
In lieu of or in addition to using your own police data, existing research studies can provide information on which products are hot. These include the car theft index† and the mobile phone theft index which identifies the makes and models most frequently stolen. While useful, they are updated sporadically, which means that they can become out of date, are only available for certain intervals of time, and typically reflect national level trends that might not match local ones.

If addressing theft from retailers, loss-prevention data is a useful information source. Many retailers do not report theft under a certain dollar amount to police because they just consider it shrinkage. Therefore, if using reported crime data alone, take care because numbers may be very skewed.

Analyzing Variations in Theft of Hot Products

Once data have been coded, you can examine how the theft of particular products varies over time, space, by type of offense, or *modus operandi*. Useful analyses would perhaps begin by examining variations over time. For example, you might examine monthly variation in the theft of a particular product over the last few years, and see how such variation compares to other similar products. Figure 4 illustrates the value of such analysis for the theft of mobile phones.[43] The figure illustrates how this can help identify at which product life-cycle stage a particular product is.

Figure 4. Theft careers of mobile phones

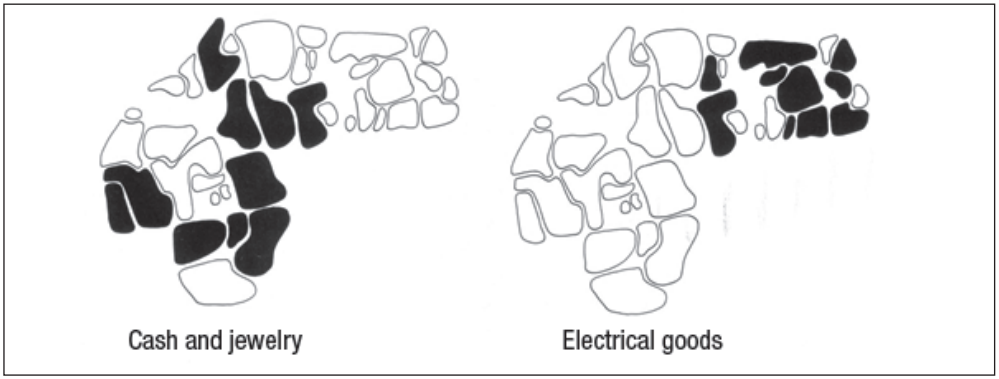


Source: Mailley et al. 2008

† The most up-to-date published versions of the U.K. car theft index can be found at the U.K. Home Office website (www.homeoffice.gov.uk). The Highway Loss Data Institute website is a useful source of data on car theft in the United States.

Figure 5. Using hot products to tailor preventive efforts

The maps below depict the neighborhoods in Northampton, United Kingdom, that were particularly affected by thefts of different product types in burglaries: cash and jewelry were targeted in one area; electrical goods in the other.[44]



Source: Poyner 2006

There will also be value in examining spatial patterns. Particular products may be stolen in some neighborhoods more than others. For example, one testable hypothesis is whether the theft of certain products is more common around second-hand goods markets. Figure 5 provides an example of how patterns may vary geographically. Profiling spatial patterns by time of day or year may also be useful. Understanding such patterns will help you distinguish between theft problems that might appear on the surface to be related, but which in fact are not. Usually, different problems call for different responses.

Measuring the Effectiveness of Responses to Hot Products Theft Problems

Hot-products data can also be used to measure the effectiveness of responses to theft problems. For example, if tamper-proof bicycle stands are placed in an area to control bicycle theft, then relative to another area without them, bicycle theft in this area should decline, even if other theft types in the area are unaffected. If cafés or bars provide secure storage facilities for customers' personal property, this should lead to a reduction in snatch thefts, thefts out of bags, and thefts of bags from under tables. Measuring product-specific theft reductions, as opposed to overall theft reductions, increases confidence in understanding and demonstrating what it was that caused the reduction.

Responses to Hot Products Problems

Although this is not a Response Guide, it is useful to review some general prevention strategies. One strategy is to identify the features of other similar products that appear to be more difficult to steal and use that information to promote an anti-theft design. These anti-theft characteristics can be represented in the acronym IN SAFE HANDS. Safer products are Identifiable, Neutral, Seen, Attached, Findable, Executable, Hidden, Automatic, Necessary, Detectable, and Secure—all of which reduce their theft risk.[45]

Although you may well find it difficult (though not impossible) to persuade a manufacturer to redesign their products, identifying vulnerabilities will be useful knowledge in the event that an opportunity does arise. Manufacturers might lack access to crime data and therefore might actually not understand the vulnerabilities of their products, so educate them. Without an informed dialogue between stakeholders it seems unlikely that significant progress will be made.

You may want to share your findings directly with manufacturers or, given the power of consumer spending patterns, publicize them (with appropriate cautions to explain any limitations of your findings). As an illustration, prior to the first publication of the car-theft index in 1992, car-theft levels in the United Kingdom had been rising steadily for the previous 30 years. After its publication, they declined at a similar rate. This is not saying that its publication *caused* the reduction observed, but the publication, along with action from consumer groups, placed pressure on manufacturers to enhance vehicle-security measures—pressure to which they eventually responded.[46] There is an obvious balance to be struck between singling out high-risk models or manufacturers, and encouraging cooperation. This highlights the need for more structured regulation. A national consumer protection program involving the government and consumer groups could perhaps champion such efforts, but there would be legal and cost implications associated with forming such an organization.

Another general strategy for dealing with hot products is the market-disruption approach. The turnover associated with stolen goods markets (in terms of their financial success) is known to affect levels of acquisitive crime (successful markets encourage crime)[47] and therefore targeting these markets should help reduce theft.† Additionally, it is evident that there are strong links between the legitimate second-hand goods market/pawn shop business and theft levels.[48] Thus, depending upon your local problem, adopting and enforcing stricter second-hand goods sales practices and disrupting stolen goods markets may be worthwhile strategies.[49]

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† See Problem-Specific Guide No. 57, *Stolen Goods Markets,* for further information.

Stolen goods markets are more likely to be located in less affluent areas and within a fairly short distance from where thefts occur. You can learn about stolen goods markets by interviewing offenders and informants.† Other useful information sources include sales records and pawn shop or second-hand dealer records. Many jurisdictions require that dealers maintain and share these records with police. Locally, many agencies use pawn shop reporting programs.‡ Effective control of stolen goods markets can entail regulating pawn shops, seizing assets, conducting sting operations, closing down fencing operations, and conducting publicity campaigns. Disrupting stolen goods markets is likely to have a positive impact on your theft problem.

Internet sites such as eBay, Craigslist, and Amazon are less regulated environments in which to sell products, including stolen ones, online. For instance, these sites do not require proof of lawful ownership in order to sell products via the website. You might investigate hot products being sold on these sites locally to seek intelligence on potential stolen goods markets. To help combat theft, eBay has formed partnerships with police agencies to search for stolen goods up for auction and report any suspicious activity to police. Social networking sites such as Facebook and Twitter are also good intelligence sources on shoplifting activity. Retailers have successfully used these sites to gather information on perpetrators, their networks, and where stolen goods are stored or sold.§

For those seeking more advice, Appendix B provides details of the general types of responses that might be used, organized by the likely initial cause of the problem. This should be seen as illustrative, but demonstrates that thinking about a problem in this way can help to identify or shape a suitable type of response. You should base your particular responses on your local problem analysis; the appendix suggests that under certain conditions, particular actions or combinations of these are likely to be more effective than others.

† See Problem-Solving Tools Guide No. 3, *Using Offender Interviews to Inform Police Problem Solving,* for further information.

‡ Leads Online is one good example; details can be found at www.leadsonline.com.

§ See Problem-Specific Guide No. 11, *Shoplifting,* for further information.

Appendix A: Security Checklists

Checklist One: How "Hot" is the Product?

	Items	*Item Score*
CONCEALABLE	*Check one* ❑ on person (score 2) ❑ in bag (score 1)	
REMOVABLE	*Check one* ❑ can be carried in one hand (score 2) ❑ can be carried with two hands (score 1)	
AVAILABLE	*Score 1 for each* ❑ used outside the home ❑ commonly left in parked cars ❑ marketed to young males ❑ minimal search time for thief to locate product	
VALUABLE	*Score 1 for each* ❑ costs at least one day's wages ❑ provides access to phone service ❑ provides access to internet ❑ provides access to credit	
ENJOYABLE	*Score 1 for each* ❑ addictive ❑ fashionable ❑ luxury item ❑ status item ❑ aggressive advertising emphasizing these themes	
DISPOSABLE	*Score 1 for each* ❑ widely in demand ❑ value easily assessed ❑ street price less than 50% of one day's wages	
	TOTAL SCORE	

Checklist Two: Product Security Features

Security Feature	*Score*
❑ Customer education designed into marketing (e.g., security instructions included in package) (Score 1)	
Replacement guarantee to consumer if product stolen. Check one: ❑ Within 90 days (Score 1) ❑ Within 1 year (Score 2) ❑ Life of product (Score 3)	
❑ Customer education to minimize risk of theft of product included in retailer training (Score 1)	
❑ Valid means of unique identification of product (e.g., source tagging) (Score 3)	
❑ Technology designed to delay or defeat attempted theft of item (e.g., chipping) (Score 3)	
❑ Technology to negate the financial value of the item if stolen (e.g., PIN) (Score 3)	
Cost of inclusion of security features has been: ❑ 10% or more production cost (Score 2) ❑ Up to 10% of the production cost (Score 1) ❑ Zero cost (Score 0)	
Cost of inclusion of security features has been: ❑ Absorbed by manufacturer (Score 2) ❑ Shared with retailer (Score 1) ❑ Shared with customer (Score 0) ❑ Passed on to customer (Subtract 1)	
Product has been field-tested for theft* ❑ Yes (Score 1) ❑ No (Score 0)	
TOTAL SCORE	

Source: Clarke and Newman 2002

Appendix B: General Response Strategies in Reducing Theft of Hot Products

Cause	Description	Analytic steps	Possible Responses
Product design	When manufacturers do not address security concerns at the design stage and introduce a highly risky product	Having identified your hot products, assess them in design terms	• Inform companies of product vulnerabilities and encourage them to make safer designs in the future • Identify the weak elements and retro-fit a solution • Inform the public about trends in hot products
Highly desirable products	When, independent of the level of security, an item is highly fashionable or in demand, offenders are likely to work harder to overcome obstacles that make the theft of the items harder because the rewards will be greater	Calculate product theft rates, such as computing the ratio of the frequency with which a product is stolen on its own and with other items	• Register products • Tag products • Aim crime prevention education at product owners • Aim crime prevention information at product retailers
Highly available or accessible products	When things are easy to steal because there are so many of them; this is true of many things that people carry around with them on a daily basis and which are far more available when on the person than when secured at home	Examine the frequency with which items are stolen, analyze common offender MOs to see if such products are stolen because of their accessibility (e.g., bags left on tables in cafes)	• Inform victims of theft risks and of product anti-theft features, where appropriate • Harden targets to make them physically more difficult to steal • Identify and disrupt markets for resale/ trade of stolen goods

Cause	Description	Analytic steps	Possible Responses
Highly removable or mobile products	Items with wheels are easier to steal, as are small mobile items, particularly those that are light-weight	Identify if particular vehicle or product types are targeted; assess whether these lack adequate physical security measures	• Encourage the use of vehicle immobilizers or tracking devices for targeted high-value vehicles • Encourage the use of good security practices for items that are left unattended (e.g., bicycles) • Promote the use of product features that disable or make it difficult to use (e.g., removal of wheels from parked bicycles, or remote locking/ tracking of mobile electronic devices)
Easily concealable products	Small items are easier to conceal, as are less conspicuous items; some products are difficult to trace to the rightful owner (e.g., it is difficult to prove where a stolen bottle of whiskey has come from)	Identify "hot products" and assess their characteristics	• Encourage store owners (or others) to use tracking devices such as radio frequency identification (RFID, which is inexpensive), microchips, or security tags • Encourage the use of unique product identifiers for valuable items • Product registration

Cause	Description	Analytic steps	Possible Responses
Highly consumable products	Products that are easy to sell are in greater demand; consumable items (such as batteries, razors, and shampoo) are in constant demand	Identify "hot products" and assess their characteristics	• Advise store owners about the careful placement of products within stores to reduce the opportunity for theft • Promote the use of RFID/security tags • Disrupt stolen goods markets (where stolen on mass for resale)

Note: This table could be amended by considering other factors that make certain product types vulnerable. For example, according to the AT CUT PRICES[50] model, the fast-moving consumer goods most likely to be stolen in shoplifting incidents are those which are: Affordable, Transportable, Concealable, Untraceable, Tradable, Profitable, Reputable, Imperishable, Consumable, Evaluable, and Shiftable. As with the CRAVED model, it is likely that the more of these characteristics a given item has the greater the risk that it will be stolen.

Endnotes

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