

# Map It Out

CSP Exclusive: Heat-map study shows fresh c-store opportunities and frustrations

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Everyone suspected the time consumers shop in a c-store was small, but now we have a number: 1.68 minutes.

“People making a purchase in c-stores are extremely mission-oriented,” says Priya Baboo, executive vice president of shopper insights and strategy for VideoMining Corp., State College, Pa. “You have to think out of the box to capture their attention.”

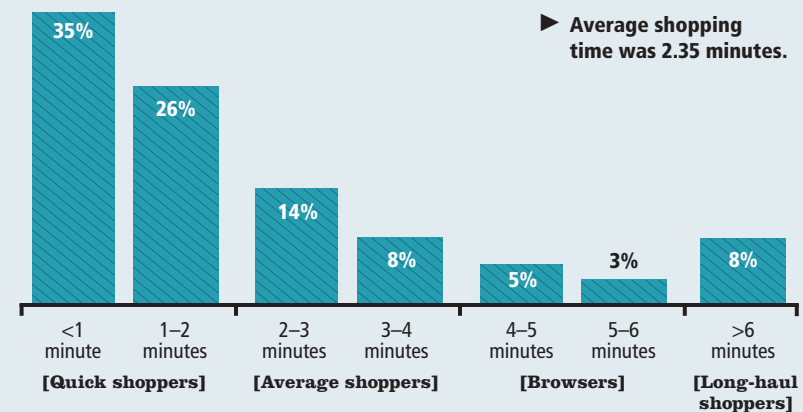
Baboo has a powerful perspective to support her point. During six weeks in August and September 2010, VideoMining conducted the second in a series of heat-map studies designed to quantify and analyze c-store shopper interactions. The purpose? To reveal new opportunities for retailers to grow incremental sales.

As part of this heat-map study—a method of linking foot traffic to actual transactions across all day-parts—five of the channel’s largest chains agreed to participate: 7-Eleven, Circle K, Sheetz, Cumberland Farms and BP’s ampm. In all, 48 stores were included in the study, with 12 outfitted with ceiling-mounted video sensors to track customers’ movement in the store. Wall-mounted servers in the stores’ back rooms processed the video in real time with VideoMining’s proprietary software. Analysts then reviewed the data to develop shopper insights. All of the retail locations provided point-of-sale (POS) data, with some undergoing manual audits and customer intercepts.

## C-Store Customer Shopping Time Distribution

With 61% of c-store customers spending less than 2 minutes shopping in the store—which VideoMining defines as the act of looking at a product or category, regardless of the time spent doing so—“the challenge for retailers and manufacturers to influence someone walking into a store is extremely high,” says Baboo.

**! Action item:** Product placement, promotions and messaging all become critical decision points.



Michael Burkenbine, marketing programs specialist for BP’s ampm brand, had seen the results of heat-map studies before yet hadn’t felt compelled to participate. But in this situation, BP was intrigued by the study’s ability to cross-index the heat maps with actual transaction data from stores. “That was motivation for us to say this could be really interesting,” he says. “A heat map is interesting if people pause, but if they don’t buy, what’s the point?”

In the space of an afternoon, VideoMining installed more than 30 cameras into the dropped ceiling of three

franchised ampm sites: a traditional West Coast location; a renovated site in the Midwest; and a new, larger store on the East Coast. Meanwhile, BP supplied approximately 5.4 terabytes of transaction data to the company.

For Burkenbine’s team, the heat map showed parts of his stores where foot traffic was high but sales remained stubbornly low. For example, in the gum section, video confirmed many customers stopping to review a variety of offerings. Yet a disappointing percentage actually made a purchase. Across all the chains, gum was one of the categories where the

## Study Stats

**Retail chains:** 7-Eleven, Circle K, Sheetz, BP ampm, Cumberland Farms

**Markets:** Seattle, Los Angeles, Phoenix, Dallas, Miami, Atlanta, Boston, Pittsburgh, Chicago, Denver and Richmond, Va.

- ▶ **No. of stores:** 48
- ▶ **Total store traffic:** 643,724
- ▶ **Total buyers:** 456,075
- ▶ **Conversion rate:** 71%
- ▶ **Average total time in store:** 2.35 minutes
- ▶ **Average shopping time in store:** 1.68 minutes
- ▶ **Average in-store units purchased:** 2.4
- ▶ **Average in-store \$ basket:** \$5.70
- ▶ **\$ contribution per in-store customer:** \$4.00

conversion from “shopper” to “buyer” was low—or only 18%, according to VideoMining.

Based on the video footage, Burkenbine suspects ampm’s gum assortment does not sufficiently reflect the store’s demographic.

All of the retail chains have kept the cameras inside their sites so that they can continue to study customer behavior longitudinally, while vendors are homing in to their particular categories.

“Heat maps help us target ... the key locations for certain categories,” says Mark Krull, a former manager of c-store category development for The Hershey Co., Hershey, Pa., who now oversees the grocery channel, citing in particular the best adjacencies for candy. “It’s all about ... understanding what the destination

and impulse categories are, and making sure the store is laid out in a way to capitalize on different aspects of each category.”

For Hershey, the research confirmed that candy needs to be at the counter, with its home location on the path to the cooler doors. Real estate in the foodservice section—which the study reaffirms as a destination area—is just as valuable.

“Only a handful of categories are really popular in a c-store,” says Baboo of VideoMining. “If that’s the case, it’s all about making categories more productive through understanding what would be the best location, and how can we really make the category more appealing for the shopper?”

Following are key highlights of the 2010 heat-map study.

## ► Gas Customers' Behavior

While signage on top of the fuel pump has become ubiquitous, results of VideoMining's 2010 heat-map study suggest that the industry is not maximizing the promotional medium. For example, only 8% of shoppers videotaped as part of the research looked at the pumptop signage.

Interpreting this figure—and how to react—is not clear-cut. For Baboo, it suggests that fuel consumers are tuning out the advertisements because they are designed to appeal to mission-oriented store shoppers. "People who are pumping gas should be treated as a separate population," she says. "They are completely different from people walking into the store to make a purchase."

Explore the needs and triggers of this particular consumer segment, Baboo advises: "What will appeal to this segment? What do they expect from c-stores? What are their reasons for not walking into the store? If we can find that out, we can customize ads on the pumptops to influence people to at least walk in the store."

For Burkenbine of ampm, the pumptoppers' low viewing rate simply confirmed his chain's plan to pursue TV screens at the pump to make the marketing experience more interactive.

"We have a lot of pumps, and were doing tons of different configurations of the exact same sign," says Burkenbine. "We suspected that the answer was that pumptop advertising was not impactful—there was too much activity going on."

On the supplier side, Hershey participates in pumptop advertising. "They raise brand awareness, especially on new items and in-store promotions," says Krull. Hershey also encourages suggestive selling at the counter, and signage on the store windows and within the store near complementary categories such as beverages and foodservice.

**! Action item:** When designing promotions targeting customers at the pump or those destined for the store, consider their different motivations and needs.

### Behavior of Shoppers Pumping Gas

Looked at the pump but not signage	48%
Looked toward the store	15%
Looked at signage on pumptops	8%
Other behavior	44%

Source: VideoMining Corp.

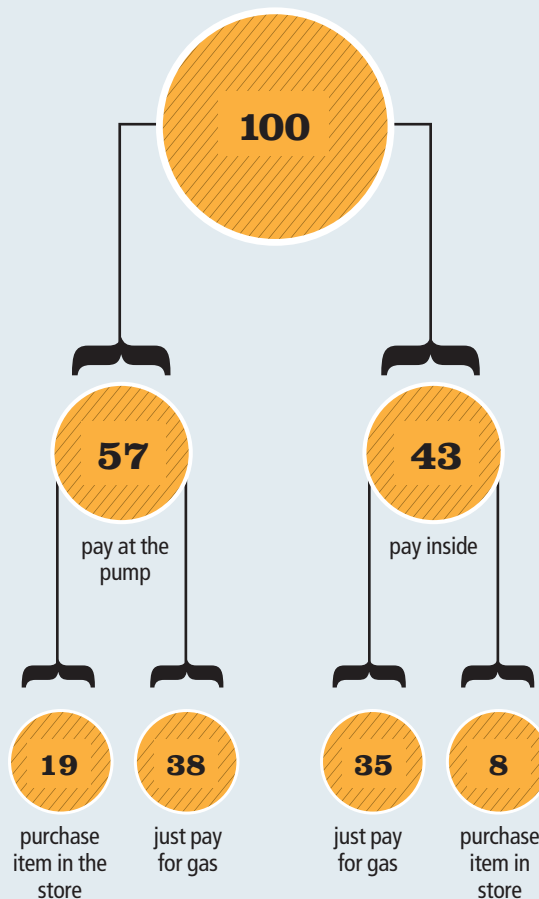


## ► Capturing the Fuel Consumer

According to VideoMining's 2010 heat-map study, 73% of customers paid only for gas, without making an in-store purchase. (The firm plans to track this figure as it repeats the study in coming years.) For retailers and suppliers, the question is always: What can you do to increase the percentage of customers who enter the store and make a purchase?

**! Action item:** Focus promotions on high-impulse categories such as candy, carbonated soft drinks and fountain beverages. To further break down the results:

### C-Store Visit: Are Motorists Coming into Your Store?



Source: VideoMining Corp.

**[destination and day-part]**



**First-Destination Shoppers**

More than 50% of c-store shoppers in the VideoMining heat-map study visited beverage and foodservice categories as soon as they entered the store. Beverages in particular drew traffic, making up one-half of the top 10 “first destination” categories.

**! Action item:** As a good first step, tie other complementary categories such as snacks and candy to destination categories through adjacencies or cross-promotions.

Category	Percent of c-store traffic visiting category as a first stop
Fountain drinks	12%
Salty snacks	12%
Foodservice	11%
CSDs	10%
Hot beverages	10%
Candy	6%
Sports drinks	5%
Water	5%
Sweet snacks	5%

Source: VideoMining Corp.

**Day-Part Breakdown**

As a second step, consider day-part-specific strategies that tie into customers’ natural shopping behavior. For example, the heat-map research reveals a bump in c-store traffic and buyer conversion for candy during lunch, mid-evening and after work.

Suggestive selling and merchandising targeted at particular day-parts—such as fixtures offering up pastries in the morning and switched out to candy in the afternoon—could take advantage of this dynamic. “There is a lot of store execution and operations in this,” says Krull, “but I think there’s an opportunity to be merchandising and moving the store around to meet the needs of shoppers as they come in.”

In this vein, Baboo suggests a breakfast station next to the coffee and hot-beverage bar, populated by complementary categories such as sweet snacks, granola bars and orange juice. “You will have incrementality vs. placing the cereal bars in a separate place all together,” she says.

**! Action item:** Tailor suggestive selling and merchandising to each day-part.

	Traffic to buyer conversion	Average shopping time (minutes)	Average # of stops	Average basket (\$)	Average basket units
All hours	71%	2.40	3.2	\$5.70	2.4
Breakfast (6–9 a.m.)	78%	2.57	3.1	\$4.90	2.4
Lunch (11 a.m.–2 p.m.)	71%	2.35	3.1	\$5.60	2.5
After work (4–7 p.m.)	69%	2.50	3.4	\$6.20	2.4
Mid-evening (7–10 p.m.)	68%	2.33	3.2	\$6.50	2.4

Source: VideoMining Corp.

## ► Home Base vs. Secondary Locations

Primary locations had vastly higher traffic-to-shopper and shopper-to-buyer conversion rates than the various secondary locations documented in the heat-map study. Counter displays showed the lowest shopper-to-buyer conversion rates, while endcaps and secondary aisles had the lowest traffic-to-shopper conversion.

“Endcaps are so valuable, and there are some things we’re just not going to put on them anymore,” says Burkenbine of the results. “Now we saw it was actually very inefficient. Something can be more efficient.”

In its own research, Hershey finds that two-thirds of candy purchases are made from the primary or home location, with one-third from a secondary location. That said, “Does that secondary location trigger a purchase thought within the shopper’s mind?” Krull says. “Then they go to the home location to look at the variety of brands they’re looking for. So it’s all about point of interruption.”

Baboo of VideoMining says assortment may be key to boosting conversion rates for secondary displays. “For candy, sales counter displays capture a lot of attention from shoppers,” she says. “But conversion for candy on the sales counter display was extremely low. . . . The candy category lost me as a buyer because they did not have enough SKUs and a good enough assortment on the counter.”



**!** **Action item:** Assortment and placement are key to the success of secondary locations. Experiment with proven high-volume products over high-margin items, and test them live in a store before deciding on an approach.

Location	Traffic-to-shopper conversion rate	Shopper-to-buyer conversion rate
Primary aisles	79%	74%
Secondary aisles	25%	27%
Endcaps	25%	23%
Freestanding displays	41%	19%
Sales counter displays	52%	9%

Source: VideoMining Corp.

## ► Conversion Rates

Two categories with among the lowest conversion rate of shopper to buyer in the heat-map study were gums/mints and cookies/crackers—18% and 17%, respectively. Baboo of VideoMining says it reflects a defective assortment or placement of the secondary displays.

“Don’t assume you’ll get incremental sales just because you have multiple product locations,” she says. “You have so many secondary locations that everybody is shopping at least one or two of them, but they’re not making a purchase because the category is influencing them to shop but not make a purchase. I’m not saying all secondary locations are ineffective . . . but we need to think more about which display is more effective and what are best locations for the display.”

Nearly one-half of shoppers in the heat-map study traveled by gum and mints at some point in their shopping trip; only 5% actually sprung for a purchase. Heat mapping at ampm stores showed that customers were looking at the gum but walking away without picking anything. After reviewing the data, the company decided assortment was the issue.

“We suspect it wasn’t necessarily that we didn’t have what people wanted,” says Burkenbine. “We didn’t have what these particular people wanted.” In particular, ampm is reexamining its plan-o-gramming for stores that index high for particular ethnicities, such as Hispanics and Asians.

**!** **Action item:** For categories seeing high foot traffic but low sales, consider whether faulty assortment or high prices are turning away customers.

## Low-Conversion Categories

### Cookies and crackers

**Store traffic:** 643,724

**Cookies & crackers traffic:** 158,953 (25%)

**Shoppers:** 39,255 (25%)

**Buyers:** 6,725 (17%)

**Units:** 8,215 (1.2 units per trip)

**Dollars spent:** \$1.20 per trip

### Gums and mints

**Store traffic:** 643,724

**Gums & mints traffic:** 317,009 (49%)

**Shoppers:** 88,927 (28%)

**Buyers:** 15,892 (18%)

**Units:** 17,807 (1.2 units per trip)

**Dollars:** \$1.70 per trip

*Source: VideoMining Corp.*

## ► Feel the Heat

Mapping out traffic—areas customers are drawn to—vs. areas where they actually picked out a product for purchase reveals which areas of the store might see a lot of footfalls but trigger few buys, and vice versa. Regardless of a store's layout, fountain drinks, the beverage cooler and foodservice areas saw a great deal of traffic and shopping activity.

For amp, the heat-map study highlighted the sizable impact shelving positioning had on shopper traffic. For example, if an aisle runs parallel to the store's entry, customers might choose either side of an aisle. Most customers head to the cold vault at the West Coast site, while they check out the cigarettes first on the East Coast.

If the aisles are perpendicular to the entry, the heat map revealed "hot spots" where customers encounter facings of products. Behind the aisle, however, the trail grows cold. The company is examining what effect perpendicular might have on particular categories.

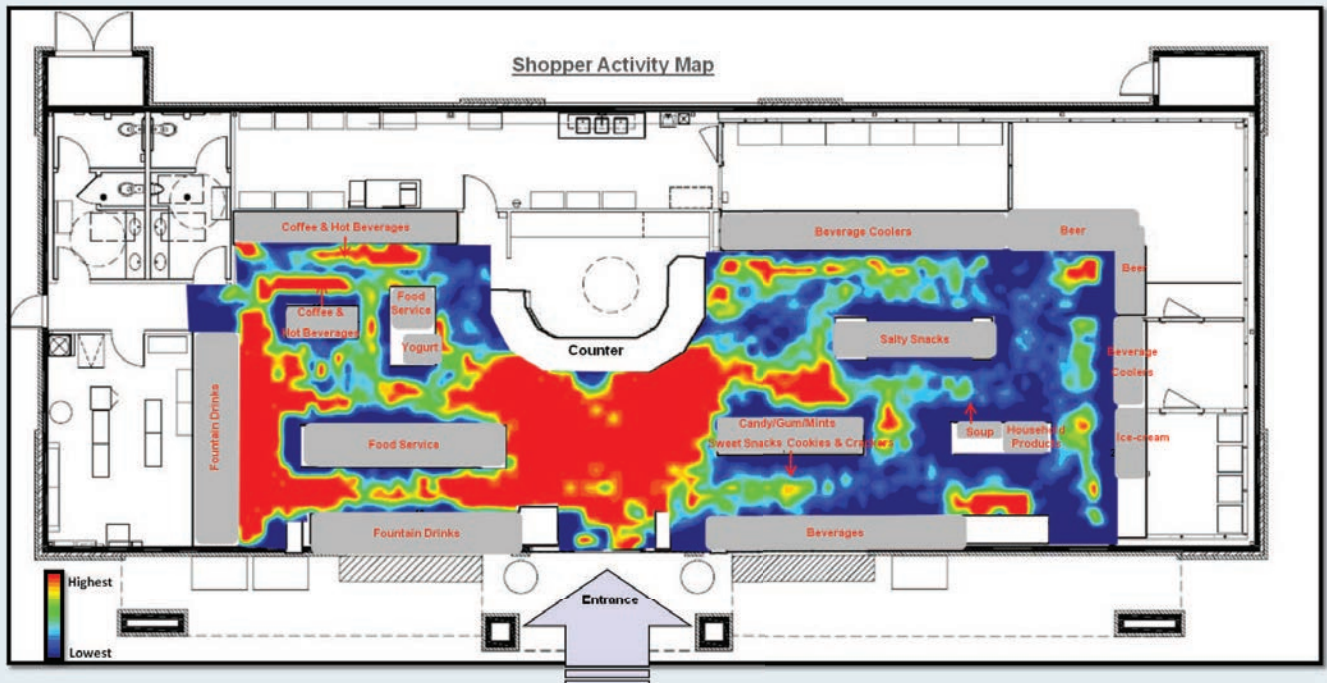
"Do you want to encourage what's already natural, or push for something else?" Burkenbine says. At amp sites, the item most commonly purchased with a packaged beverage is chips. "If you put chips out there, it increases chip sales, but if you flip it around and put sweet rather than salty there, then would you get an additional sale?" he asks. "That's what we'll have to play with to see how that works."



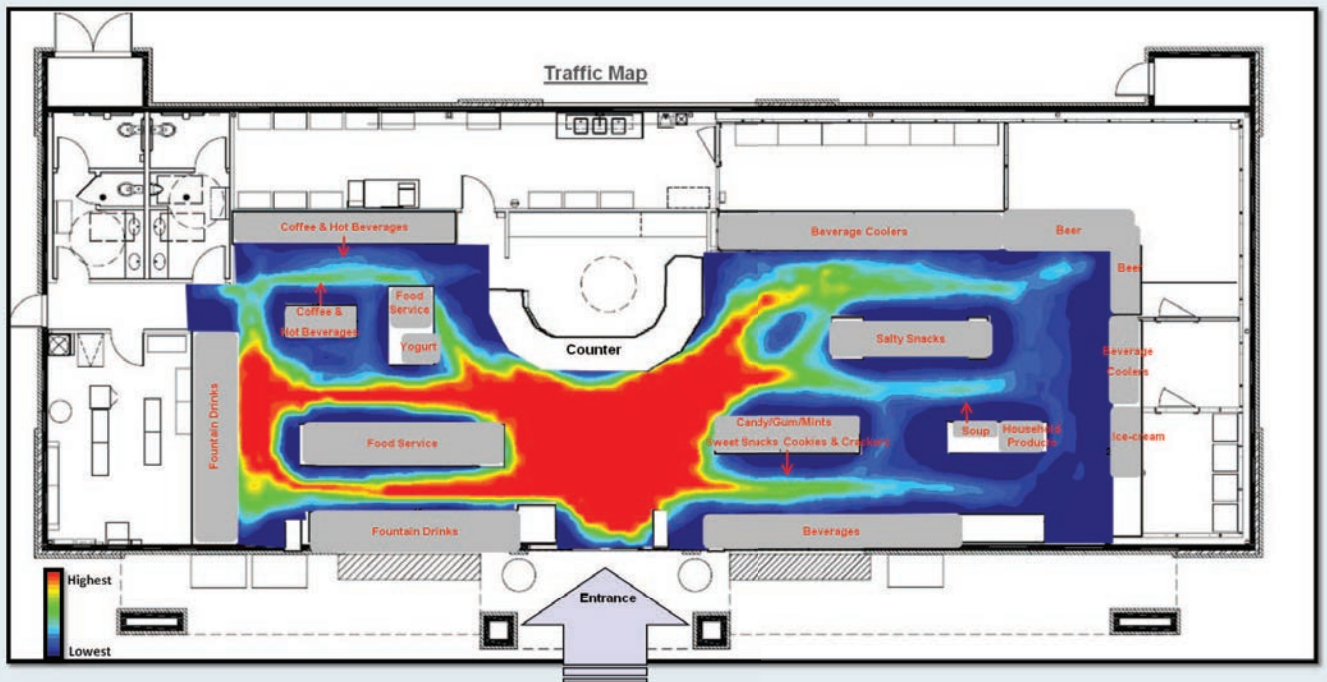
**Action item:** Experiment with shelving configuration and category positioning to find the mix that best resonates with customers.



## [heat maps]



The shopper activity map overlays a store's transactional data with foot traffic to show areas where customers not only walked but also chose a purchase. In this instance, it illustrates the primacy of the fountain, foodservice and cooler area of the store. It also reveals areas that may have minimal foot traffic but high shopper conversion, such as beer.



As part of its research in c-stores, VideoMining installed 30 to 40 cameras in the ceiling of stores to track shopper behavior. The videos were processed in real time with proprietary software loaded on a server in each store's back room, quantifying shopper behavior without bias. From this data, VideoMining developed heat maps that create a visual footprint of shopper behavior broken down by store, day-part and even consumer gender.

This generic traffic map shows the actual footpath of consumers throughout the store, with red areas citing areas of high foot traffic (fountain and foodservice) and blue areas of little to no foot traffic (household goods and dry grocery).