

## BACKGROUND

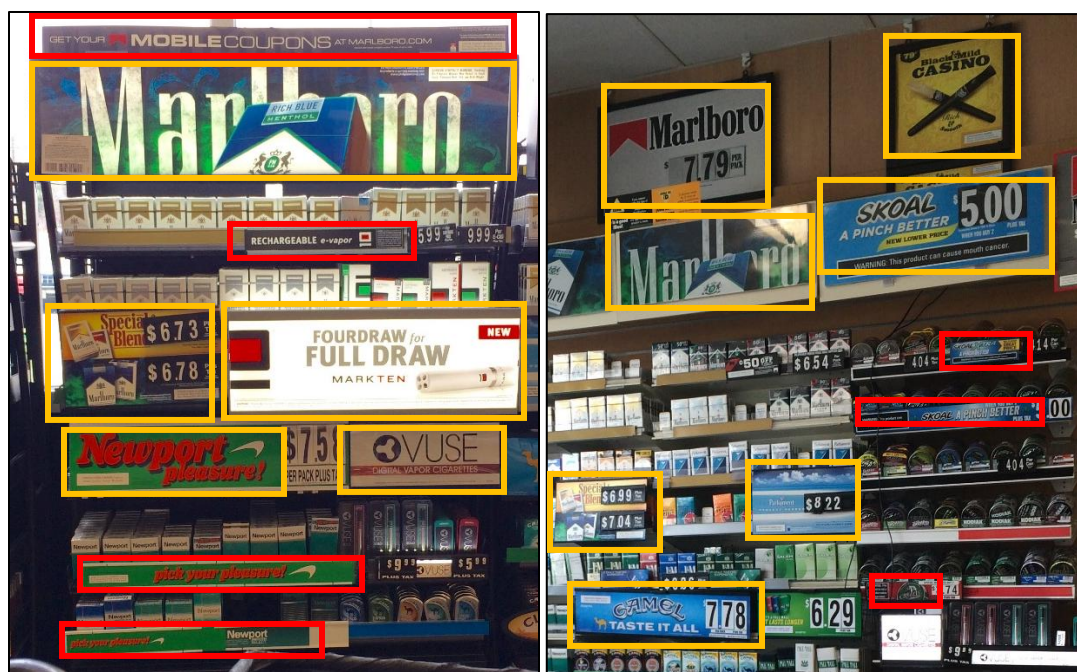
The tobacco retail environment near schools has been shown to influence youth uptake of cigarettes. In New Jersey, the link between tobacco product exposure at the point of sale (i.e., product availability, advertising) and youth tobacco use has not been explored. Furthermore, use of non-cigarette tobacco products like cigars and electronic cigarettes are on the rise among youth, but little is known about the extent to which they are available and marketed near New Jersey schools. This project will collect detailed point of sale data around a representative sample of New Jersey high schools. Future analyses will link the point of sale data with survey data from the 2014 New Jersey Youth Tobacco Survey (NJYTS) to examine associations between the tobacco retail environment and youth tobacco use.

## METHODS

The 41 high schools participating in the 2014 NJYTS were geocoded, and a half-mile buffer was drawn around each school. All licensed tobacco retailers falling within this buffer zone were visited by project staff between March-June 2016. Using Qualtrics survey software on iOS and Android smartphone devices, staff collected detailed information about interior and exterior advertisements, product availability, and pricing for cigarettes, cigars, smokeless tobacco, and e-cigarettes.

For this project, an “advertisement” was defined as an industry-made sign featuring a company’s logo and/or an image of the product. Since retailers often display small stickers on their doors and windows, or thin strips with company logos on the cigarette shelves, any advertisements that were smaller than the size of an average human hand were excluded. Although this size criterion is not methodologically ideal, it would be impractical to use precise measurements (e.g., inches) during store visits. Furthermore, the primary interest of this project is advertising that would likely be visible to people walking past a storefront or standing at the cash register. Figure 1 identifies signs that would count as an advertisement (in gold) and those that would not (in red).

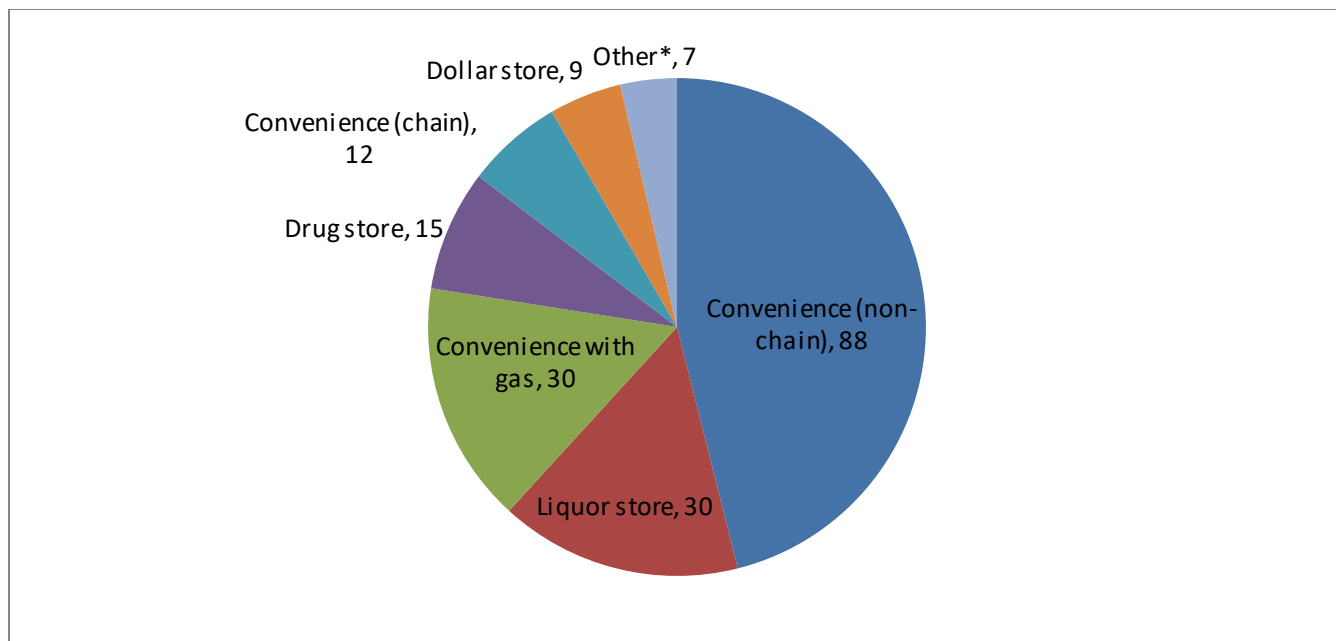
Figure 1. Examples of advertisements (in gold) and non-advertisements (in red)



## RESULTS

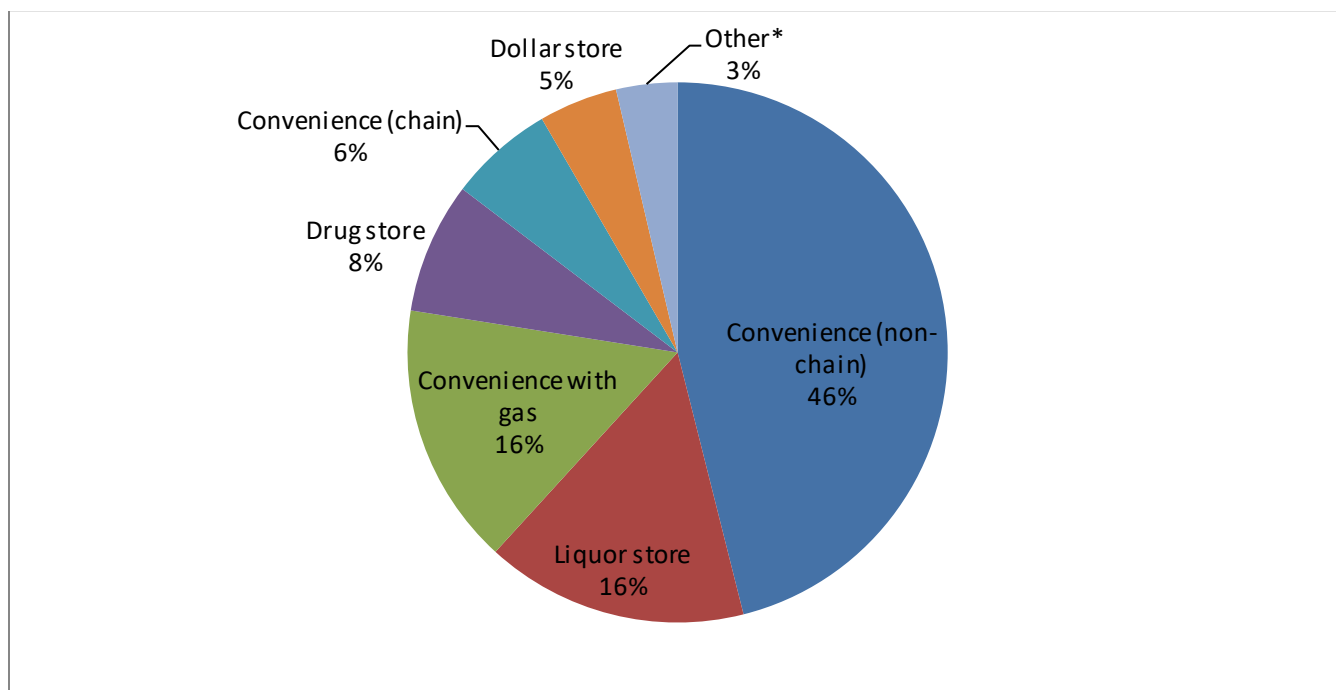
In total, 213 retailers fell within a half-mile of the high schools in the sample. Data were collected from 191 of these retailers (22 stores were either closed, unable to be located, or went out of business). Schools were divided into either urban or non-urban in order to investigate any differences in prevalence of advertisements and product availability. Urban was defined as schools with over 50% minority enrollment (NJ DOE) and located in communities with greater than 10,000 residents/square mile (US Census 2010). A breakdown of the store types is shown below:

Figure 2. Store type, count (n=191).



\*Supermarket (3), Tobacco store (2), Deli (1), Hookah/mobile-phone store (1)

Figure 2. Store type, % (n=191).



\*Supermarket (3), Tobacco store (2), Deli (1), Hookah/mobile-phone store (1)

- 68% of all stores audited were a convenient store (chain, non-chain, gas station attached).
- One half of the schools had less than three tobacco retailers within a half mile radius.

Table 1. Store type by urban (n=118) and non-urban (n=73) schools (n=26), %.

Store type	Urban (6 schools)	Non-urban (20 schools)
Convenience (non-chain)	74 (62.7%)	14 (19.2%)
Liquor store	18 (15.3%)	12 (16.4%)
Convenience with gas	6 (5.1%)	24 (32.9%)
Drug store	6 (5.1%)	9 (12.3%)
Convenience (chain)	2 (1.7%)	10 (13.7%)
Dollar store	7 (5.9%)	2 (2.7%)
Other	5 (4.2%)	2 (2.7%)
Total	118 (100%)	73 (100%)

- 84.1% of non-chain convenience stores were located in urban communities.
- 83.3% of chain convenience stores were located in non-urban communities.
- 80% of convenience stores with gas stores were located in non-urban communities.

## **Cigarettes**

Table 2. Presence of cigarette advertising (ads) and availability by store type, % (n=191).

Store type	Exterior ads	Exterior menthol ads	Interior ads	Interior menthol ads	Availability
Convenience (non-chain) (n=88)	59.1	48.8	62.5	50.0	97.7
Liquor store (n=30)	33.3	33.3	63.3	53.3	100
Convenience with gas (n=30)	66.7	63.3	53.3	50.0	100
Drug store (n=15)	0.0	0.0	80.0	73.3	100
Convenience (chain) (n=12)	83.3	50.0	83.3	83.3	100
Dollar store (n=9)	66.7	44.4	88.9	77.8	100
Other* (n=7)	14.3	14.3	42.8	14.3	85.7
Total	51.8	43.5	64.4	54.5	98.4

- Cigarettes were available in all but three stores (98.4%).
- The average price for Marlboro reds was \$8.41, 16 cents higher than 2015.
- The average price for Newport menthols was \$8.45, 19 cents higher than 2015.
- Of the 99 stores that advertised cigarettes on the store's exterior, 83 included ads for Menthol cigarettes (83.8%). Similarly, of the 123 stores that advertised cigarettes on the store's interior, 104 included ads for menthol cigarettes (84.6%).
- Drug stores had no exterior cigarette advertising.

Table 3. Number of exterior cigarette ads by store type, % (n=191).

Store type	0 ads	1 to 4 ads	5 or more ads
Convenience (non-chain) (n=88)	40.9	42.0	17.0
Liquor store (n=30)	66.7	26.7	6.7

Convenience with gas (n=30)	33.3	30.0	36.7
Drug store (n=15)	100	0.0	0.0
Convenience (chain) (n=12)	16.7	66.7	16.7
Dollar store (n=9)	33.3	55.6	11.1
Other* (n=7)	85.7	14.3	0.0
Totals (n=191)	48.2	35.6	16.2

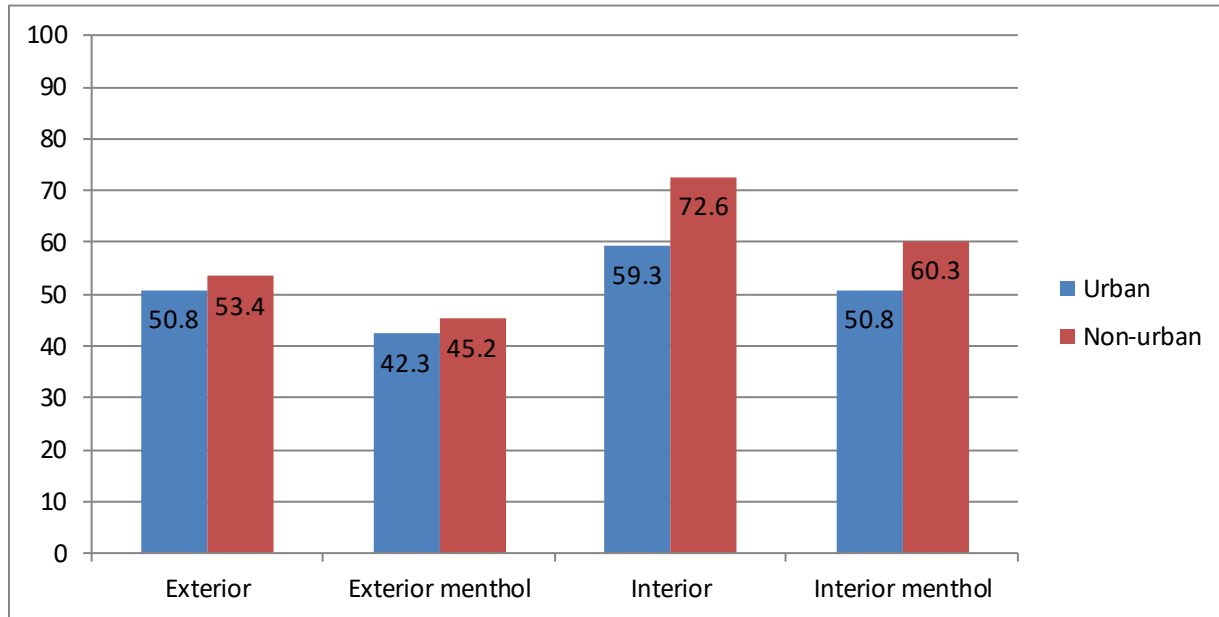
- Almost half of all stores audited had no exterior cigarette advertising.
- 43% of the stores with exterior cigarette advertising had one or two ads.
- 23.3% of convenience stores with gas had 11 or more exterior cigarette advertisements.
- One convenience store with gas had 24 exterior cigarette advertisements.

Table 4. Number of interior cigarette ads by store type, % (n=191)

Store type	0 ads	1 to 4 ads	5 or more ads
Convenience (non-chain) (n=88)	37.5	23.9	38.6
Liquor store (n=30)	36.7	36.7	26.7
Convenience with gas (n=30)	46.7	13.3	40.0
Drug store (n=15)	20.0	40.0	40.0
Convenience (chain) (n=12)	16.7	8.3	75.0
Dollar store (n=9)	11.1	44.4	44.4
Other* (n=7)	57.1	28.6	14.3
Totals (n=191)	35.6	25.7	38.7

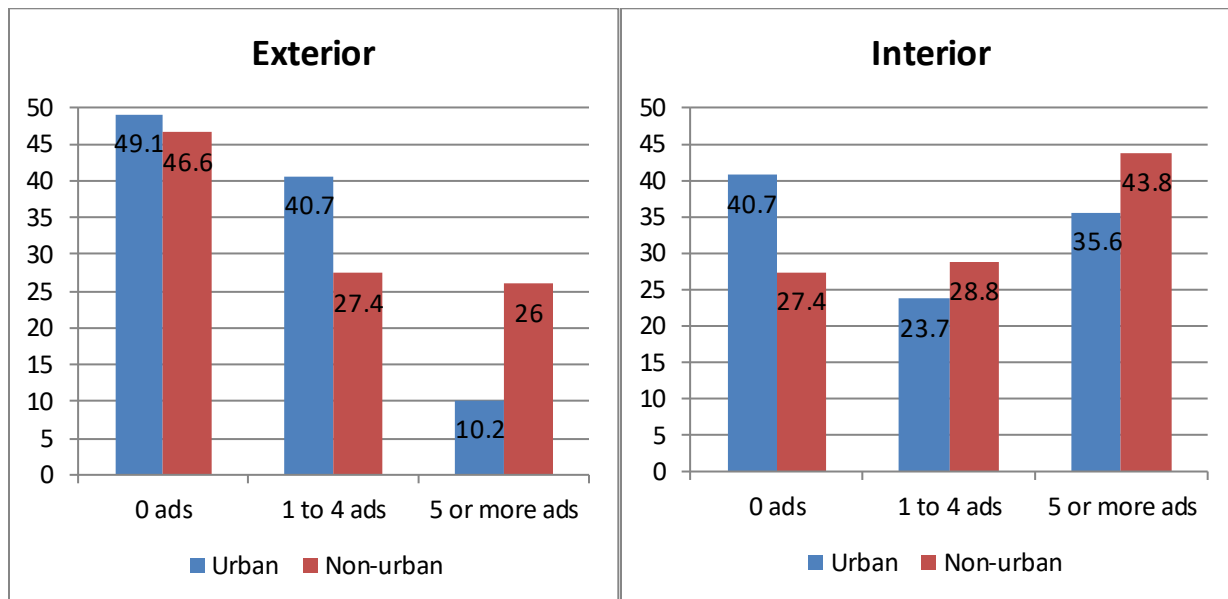
- 35.6% of all stores audited had no interior cigarette advertising.
- 25.6% of all stores audited had one to four interior cigarette ads.
- 38.8% of all stores audited had five or more interior cigarette ads.
- 11.5% of all types of convenience stores had over 11 interior cigarette advertisements.
- Two non-chain convenience stores had over 20 interior cigarette ads.
- 66.7% of drug stores had three or more interior cigarette ads.

Figure 3. Presence of cigarette advertising in urban (n=118) and non-urban (n=73) stores, %.



- Non-chain convenient stores in urban communities had less exterior and interior advertising than non-urban communities.
- Liquor store cigarette advertising rates were the most similar between urban and non-urban stores.
- The percentage of stores with exterior menthol advertisements was similar between urban and non-urban stores.

Figure 4. Number of exterior and interior cigarette ads in urban (n=118) non-urban (n=73) stores, %.



- The percentage of stores with no exterior cigarette advertising was similar between urban and non-urban communities.
  - 26.3% of urban stores had 3 or more exterior advertisements compared to 35.6% of non-urban stores.
  - Almost one out of 10 non-urban stores had 11 or more exterior cigarette advertisements.
  - The percentage of urban non-chain convenience (44.6%) with no exterior cigarette advertisements was more than double the percentage non-urban non-chain convenient (21.4%) stores.
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- A higher percentage of urban stores (40.1%) had no interior cigarette advertising compared to non-urban stores (27.4%).
  - 33.8% of non-chain convenience stores had more than five interior cigarette ads compared to 64.3% of non-urban non-chain convenience stores.
  - 85.7% of urban dollar stores had between three and 10 interior cigarette advertisements.

## Cigars

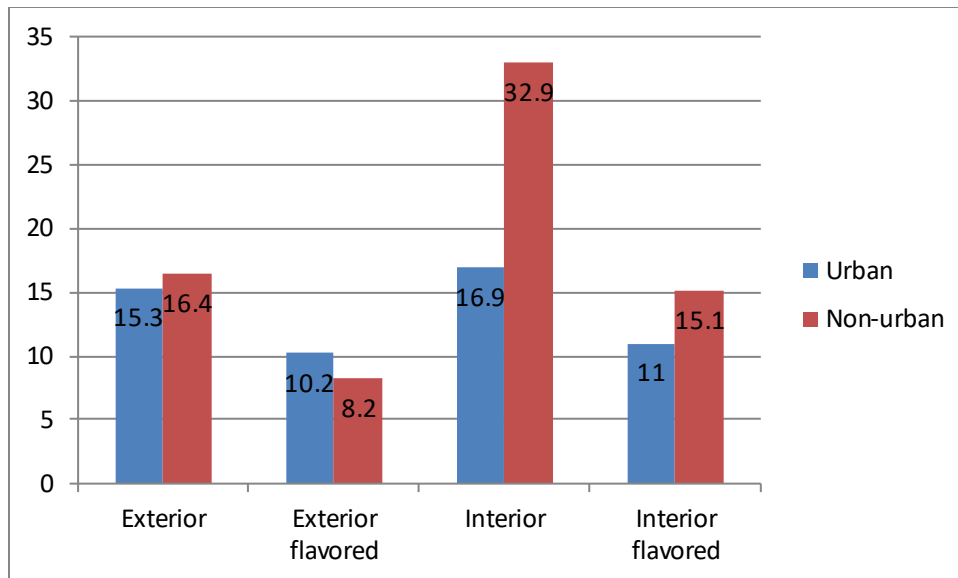
Table 5. Presence of cigar advertising (ads) and availability by store type, % (n=191).

Store type	Exterior ads	Exterior menthol ads	Interior ads	Interior menthol ads	Availability	Flavored availability
Convenience (non-chain) (n=88)	18.2	8.0	22.7	11.4	94.3	92.0
Liquor store (n=30)	16.7	13.3	16.7	13.3	93.3	90.0
Convenience with gas (n=30)	26.7	23.3	30.0	20.0	90.0	83.3
Drug store (n=15)	0.0	0.0	0.0	0.0	73.3	73.3
Convenience (chain) (n=12)	8.3	0.0	66.7	33.3	91.7	91.7
Dollar store (n=9)	0.0	0.0	11.1	0.0	77.8	66.7
Other* (n=7)	0.0	0.0	14.3	0.0	42.9	42.9
Total	15.7	9.4	23.0	12.6	89.0	85.9

- Cigars were available in 89% of all stores.
- 96.5% of stores who sold cigars sold a flavored variety.
- Only one store (2.3%) out of all drug, chain convenience, dollar and other stores had exterior cigar ads.
- Chain-convenience stores had the highest percentages of interior advertising for both regular and flavored cigars.
- 84% of all stores had no exterior cigar advertising.
- The majority (76.7%) of stores with exterior cigar advertising had one or two ads.
- Only one store (.05%) had more than five exterior cigar advertisements.
- Drug stores had no exterior or interior cigar advertising.
- 77% of all stores had no interior cigar advertising.
- The majority (81.8%) of stores with interior cigar advertising had one or two ads.
- Only one store (.05%) had more than five interior cigar advertisements.

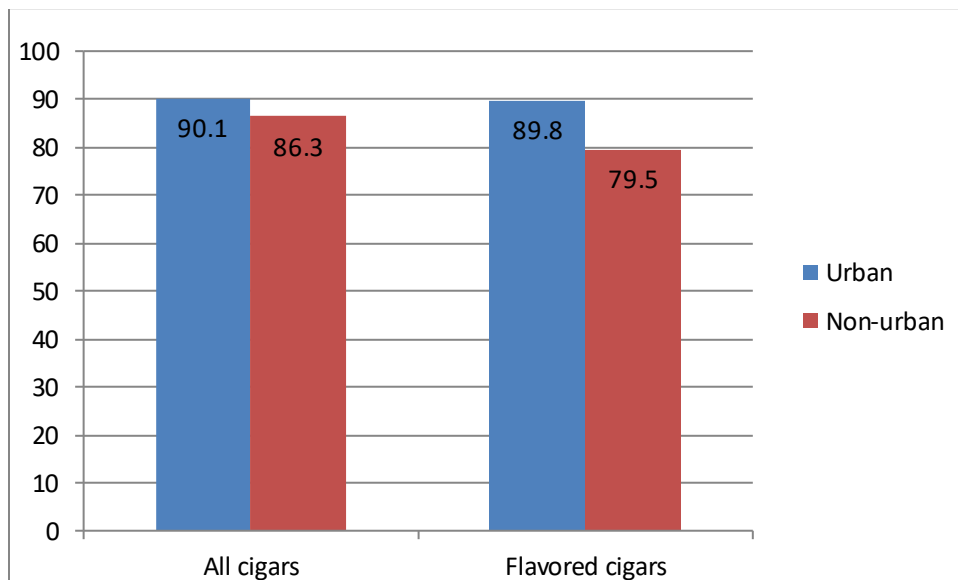
Figure 5. Presence of cigar in urban (n=118) non-urban (n=73) store, %.





- A higher percentage of non-urban stores had regular and flavored interior cigar advertising.
- Urban liquor stores had more exterior cigar advertising (22%) than non-urban liquor stores (8.3%)

Figure 6. Cigar and flavored cigar availability in urban (n=118) and non-urban (n=73) stores %.



- Regular and flavored cigars were available in 100% of urban drug, chain-convenience and convenience with gas stores, yet not 100% of non-urban similar type stores.
- Flavored cigars were available in 89.8% of all urban stores compared to 79.5% of all non-urban stores.

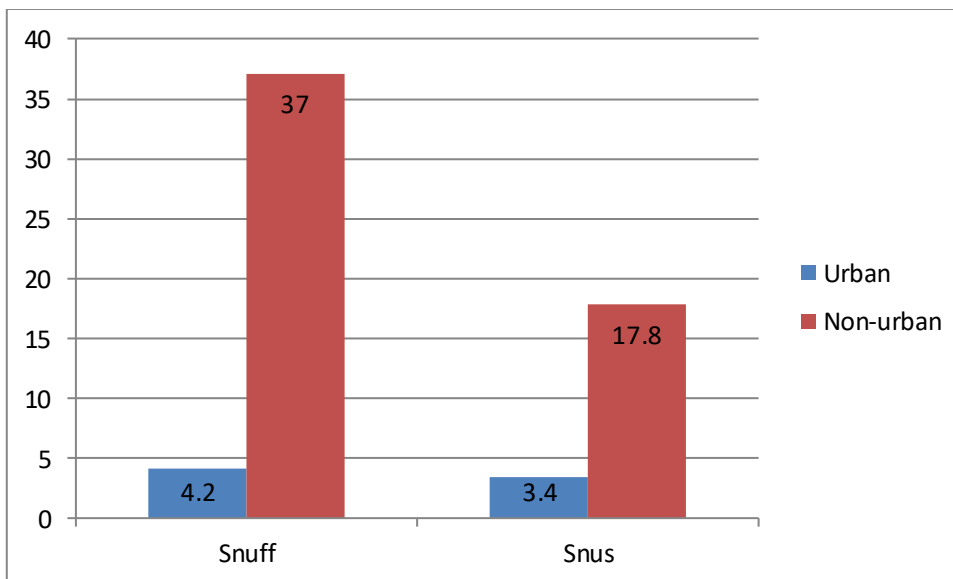
## **Smokeless Tobacco (Snuff and Snus)**

Table 6. Presence of smokeless tobacco ads and availability by store type, % (n=191).

Store type	Exterior ads	Exterior flavored ads	Interior ads	Interior flavored ads	Availability snuff	Availability snus
Convenience (non-chain) (n=88)	1.1	1.1	5.7	2.3	9.1	2.3
Liquor store (n=30)	0.0	0.0	3.3	0.0	6.7	0.0
Convenience with gas (n=30)	16.7	10.0	30.0	26.7	33.3	20.0
Drug store (n=15)	0.0	0.0	0.0	0.0	13.3	0.0
Convenience (chain) (n=12)	8.3	8.3	75.0	75.0	83.3	75.0
Dollar store (n=9)	0.0	0.0	0.0	0.0	0.0	0.0
Other* (n=7)	0.0	0.0	0.0	0.0	0.0	0.0
Total	3.7	2.6	13.0	9.9	16.8	8.9

- Only 3.7% of all stores had exterior smokeless tobacco advertising.
- 13% of all stores had interior smokeless tobacco advertising.
- Snuff was available in 16.8% of all stores.
- Only 8.9% of all stores carried snus.
- Chain-convenience and convenience with gas stores had the most advertising and availability of smokeless tobacco.
- 75% of chain convenience stores had interior smokeless tobacco advertising.
- Dollar and other stores had no smokeless tobacco advertising nor did they sell snuff or snus.

Figure 7. Availability of smokeless tobacco in urban (n=118) and non-urban (n=73) stores, %.



- Only 3.7% of all stores had exterior smokeless tobacco advertising.
- Convenience stores were the only stores with exterior smokeless tobacco advertising.

- Only one store (.05%) had 3 or 4 exterior tobacco ads.
- 87.4% of all stores had no interior smokeless tobacco advertising.
- Only one store (.05%) had 5 to 10 interior tobacco ads.
- Convenience and liquor stores were the only stores with interior smokeless tobacco advertising.
- 25% of chain convenience stores had 3 or more smokeless tobacco ads.

#### URBAN vs. Non-URBAN SLT

- Only one urban store (0.8%) had exterior smokeless tobacco advertising.
- Only four urban stores (3.4%) had interior smokeless tobacco advertising.
- Five (4.4%) urban convenience (2 chain, 2 non-chain, 1 with gas) stores carried both snuff and snus.

## **E-cigarettes**

Table 7. Availability of e-cigarettes by store type, (n=191) %.

Store type	Availability	Flavored availability	Open tank availability	Counter display
Convenience (non-chain) (n=88)	35.2	22.7	10.2	17.0
Liquor store (n=30)	43.3	20.0	3.3	20.0
Convenience with gas (n=30)	50.0	46.7	26.7	20.0
Drug store (n=15)	80.0	66.7	73.3	0.0
Convenience (chain) (n=12)	91.7	83.3	75.0	33.3
Dollar store (n=9)	55.6	33.3	33.3	11.1
Other* (n=7)	42.9	28.6	14.3	0.0
Totals (n=191)	47.1	34.0	22.0	16.8

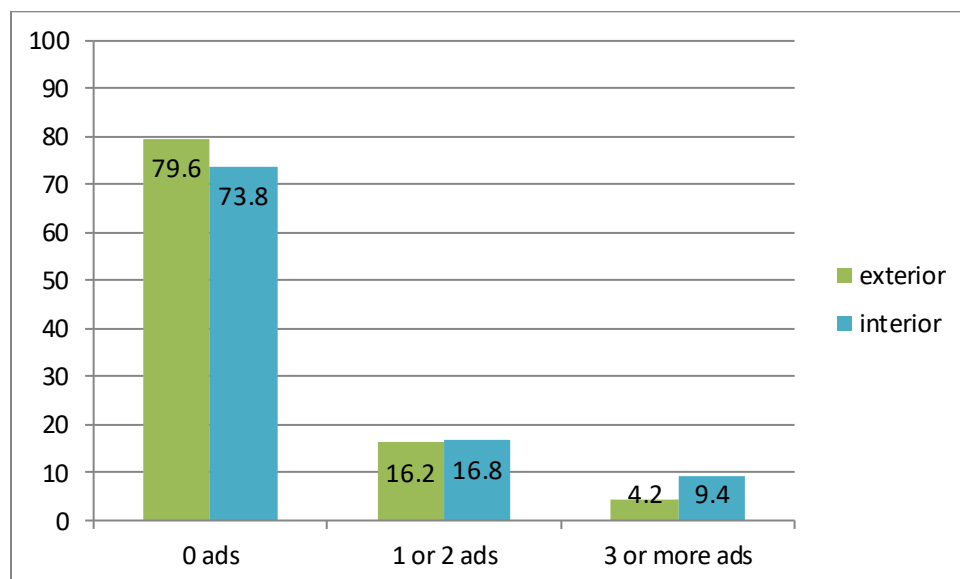
Table 8. Presence of e-cigarette advertising by store type, (n=191) %.

Store type	Exterior ads	Exterior flavored ads	Interior ads	Interior flavored ads
Convenience (non-chain) (n=88)	20.5	5.7	18.2	8.0
Liquor store (n=30)	6.7	3.3	10.0	3.3
Convenience with gas (n=30)	43.3	10.0	40.0	16.7
Drug store (n=15)	0.0	0.0	20.0	6.7
Convenience (chain) (n=12)	41.7	0.0	83.3	25.0
Dollar store (n=9)	11.1	11.1	66.7	22.2
Other* (n=7)	0.0	0.0	14.3	0.0
Total	20.4	5.2	26.7	9.9

- E-cigarettes were available in 47.1% of all stores.

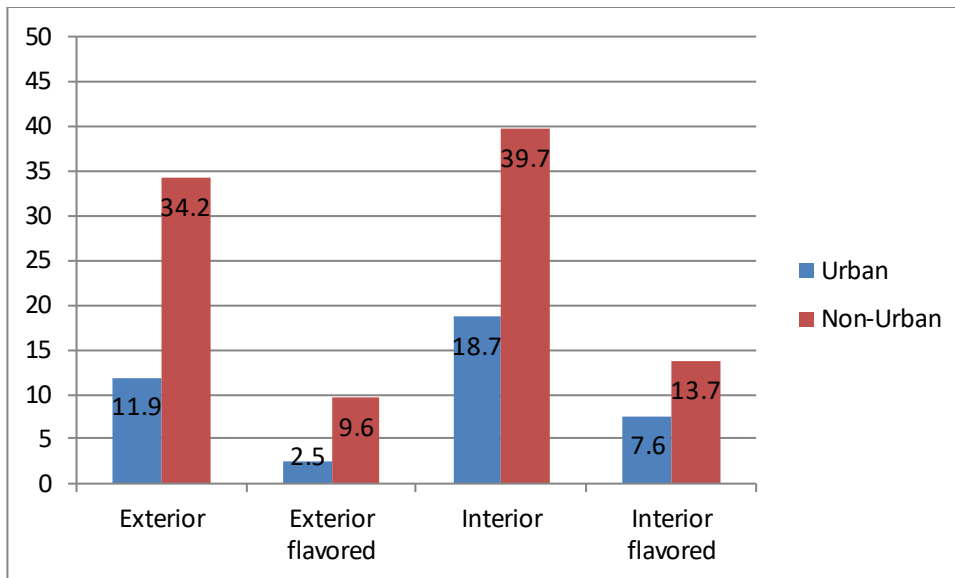
- Flavored e-cigarettes were available in 34% of all stores.
- 72.2% of stores that sold e-cigarettes sold flavored options.
- Exterior e-cigarette advertisements were present at 42.8% of chain and gas convenience stores compared to 20.4% of all stores.
- Interior e-cigarette advertisements were present in 83.3% of chain convenience stores.
- 35.5% of stores that sold e-cigarettes also had a counter display of e-cigarettes.
- Open tank e-cigarettes and/or e-liquid bottles were available in 74.1% of drug and chain convenience stores compared to 22% of all stores.

Figure 8. Number of exterior and interior e-cigarette ads in stores, (n=191) %.



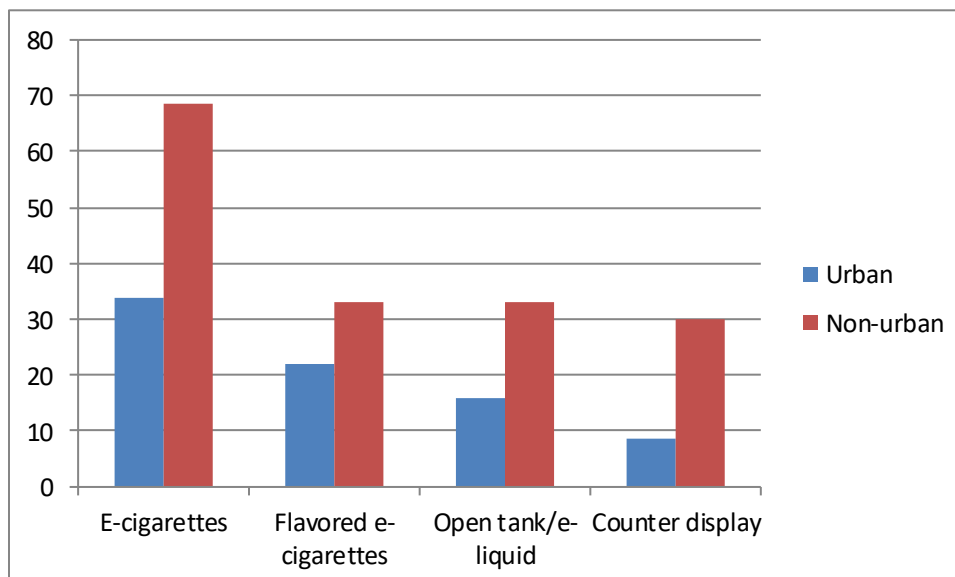
- 73.8% of all stores had no interior e-cigarette advertisements.
- 64% of stores with interior e-cigarette advertising had one or two ads.
- 79.6% of all stores had no exterior e-cigarette advertising.
- 79.5% of stores with exterior e-cigarette advertising had one or two ads.

Figure 9. Presence of e-cigarette ads in urban (n=118) vs. non-urban (n=73) stores, %.



- Non-urban stores' percentage of exterior advertising (34.2%) was nearly three times that of urban stores (11.9%).
- Non-urban stores' percentage of interior advertising (39.7%) was over two times that of urban stores (18.7%).
- Non-urban stores had a larger percentage of both exterior and interior flavored e-cigarette advertising than urban stores.

Figure 10. E-cigarette availability in urban (n=118) and non-urban (n=73) stores, %.



- The percentage of non-urban stores (68.5%) that sold e-cigarettes was over two times that of urban stores (33.9%).

- The percentage of non-urban stores (33.1%) that sold flavored e-cigarettes was higher than urban stores (22.1%).
- The percentage of non-urban stores (32.9%) that sold e-cigarettes open tank/e-liquids was over two times that of urban stores (15.9%).
- The percentage of non-urban stores (30.1%) that had an e-cigarette counter display was nearly four times that of urban stores (8.5%).
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## Summary

No drug stores had exterior tobacco advertising.

- Almost half of chain and non-chain convenience stores displayed one or two exterior cigarette ads, while a majority of convenience stores with gas displayed five or more ads.
- Potential harm reduction products like e-cigarettes and snus were less available in urban stores.
- The majority of stores that carry these products were drug and convenience (chain and gas), more prevalent in non-urban areas.

## LIMITATIONS

- Convenience stores with gas category included gas stations with outdoor kiosks only thus the interior advertising in this category may be underreported, especially in non-urban areas. In the future this should be a different category.