Testimony before the Tempe City Council
Regarding Banning the Sale of Flavored Vapor Products
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Mayor Woods and Members of the Tempe City Council,

Thank you for your time today to discuss the issue of banning flavored sales of vapor products. My name is Lindsey Stroud, and I am Director of The Taxpayers Protection Alliance’s (TPA) Consumer Center. TPA is a non-profit, non-partisan organization dedicated to educating the public through the research, analysis and dissemination of information on the government’s effects on the economy. TPA’s Consumer Center focuses on providing up-to-date information on adult access to goods including alcohol, tobacco and vapor products, as well as regulatory policies that affect adult access to other consumer products, including harm reduction, technology, innovation, antitrust and privacy.

I am also a Visiting Fellow at the Independent Women’s Forum and a board member with the American Vapor Manufacturers Association.

Many city, state, and federal lawmakers have sought to address youth use of vapor products through prohibitionist policies such as flavor bans. While such efforts are laudable, policymakers should refrain from outright prohibition when addressing such issues. Rather than punish adult former smokers, Tempe (and Arizona) lawmakers ought to seek ways to use existing tobacco monies on robust education and prevention campaigns.

Youth Use of Tobacco and Vapor Products is Declining

Lawmakers should be aware that targeting flavored vapor products disregards emerging evidence that youth vaping is declining and continues to decline.

The most recent data on youth vaping in Arizona comes from the 2020 Arizona Youth Survey.1 In 2020, in Maricopa County (where Tempe is located), 4.6 percent of 8th graders, 14.6 percent of 10th graders and 20.4 percent of 12th graders reported current use of e-cigarettes, defined as having used an e-cigarette on at least one occasion in the 30 days prior to the survey.

Since 2018, vaping has decreased by 49.3 percent among 8th graders, by 30.1 percent among 10th graders, and by 22.7 percent among 12th graders.

(See Supplemental Graph 1)

National youth surveys also indicate youth e-cigarette use is declining.
In 2021, according to the National Youth Tobacco Survey (NYTS), only 11.3 percent of American high schoolers and 2.8 percent of middle schoolers reported current use of e-cigarettes.²

Among high school students, current vaping use has declined by 42.3 percent from 2020 when 19.6 percent were currently vaping, and by 58.9 percent from 2019 when 27.5 percent reported current vaping. To put it in further perspective, in 2019, an estimated 4.13 million high school students were current e-cigarette users. In 2021, only 1.74 million were currently vaping. This represents 2.39 million fewer vapers between 2019 and 2021.

Among middle schoolers, current vaping has declined by 40.2 percent, from 4.7 percent in 2021, and by 73.3 percent from 10.5 percent in 2019. Again, in 2019, an estimated 1.25 million middle school students were current e-cigarette users. In 2021, only 335,160 were currently vaping. This represents nearly 1 million fewer vapers between 2019 and 2021.

(See Supplemental Graph 2)

**Effects of Local Tobacco/Vapor Regulation on Youth Use**

Many proponents of localized authority over the regulation of both tobacco and vapor products claim that localities such as cities and counties are better equipped to reduce youth use of tobacco and vapor products. Despite this claim, in states with local flavor bans and taxes, youth use of vapor products increased.

As of November 30, 2018, six states including California, Illinois, Massachusetts, Minnesota, New York, and Rhode Island had localities which had restricted sales of flavored tobacco and/or vapor products.³

Notably, Massachusetts was home to 136 localities that had passed flavor bans and despite these local regulations, statewide use of vapor products increased. According to data from the Centers for Disease Control and Prevention’s (CDC) Youth Risk Behavior Surveillance Survey (YRBSS), in 2017, among high school students, 41.1 percent had ever tried e-cigarettes and 20.1 percent were current e-cigarette users. In 2019, despite the fact that nearly half of Massachusetts’ localities had restricted flavored tobacco and vapor sales, ever e-cigarette use had increased by 23.4 percent, to 50.7 percent of high school students and current use increased by 60.2 percent to 32.2 percent of high school students being current e-cigarette users.

Localities have also seen an increase in youth vapor product use despite local restrictions in place. Contra Cost County, California had banned the sale of flavor tobacco and vapor products in certain localities in the county and also experienced an increased in youth vaping rates. While the 2015-16 California Youth Tobacco Survey (CYTS) included other localities including Marin, San Francisco, San Mateo and Solana, the 2017-2018 CYTS survey reported only on Contra Costa. In 2015-16, 8.3 percent of high school students in the various localities reported current use of electronic cigarettes and vaping devices.⁴ In the 2017-18 CYTS survey of solely Contra Costa County high school students, this number increased to 17.2 percent reporting current e-cigarette use.⁵
Localized Flavor Bans Led to More Cases in Vaping-Related Lung Injuries

In the late summer and fall of 2019, the CDC and state health departments began to track a mysterious spate of vaping-related lung injuries. As suddenly as the outbreak began, it faded away, and the CDC quit monitoring cases in February 2020.

According to national data, there was a “sharp rise in symptoms or cases … in August 2019, a peak in September 2019, and a gradual, but persistent decline since then.” As of February 18, 2020, the CDC had identified 2,807 cases of vaping-related lung injuries and 68 deaths.

Of the cases, CDC had data on 2,022 hospitalizations and found that 82 percent had used vapor products containing tetrahydrocannabinol (THC), with 33 percent reporting exclusive use of THC-vapor products. Of the patients who reported using THC and provided information on the source of their vapor product, 78 percent “reported acquiring products only from informal sources” these included family and/or friends, dealers, online resources and other sources.

The spate of vaping-related lung injuries offers unique insight in how state and local regulations can impact public health outbreaks related to illicit products.

For example, prior to the outbreak, seven states had localities that had restricted the sale of flavored vaping products including California, Colorado, Illinois, Massachusetts, Minnesota, New York and Rhode Island.

According to data from the CDC, 11 states reported 100 or more cases of vaping-related lung injuries; five of these states (Massachusetts, Minnesota, California, New York, and Illinois) were states with local flavor bans in effect. Of the 11 states reporting 1 to 9 cases of vaping-related lung injuries, only two had local flavor bans in effect (Colorado and Rhode Island).

Interestingly, localized flavor bans were also associated with a greater chance of a vaping-related death. Six of the seven states reported vaping-related deaths including three deaths in Minnesota, four in California and New York, and five deaths each in Illinois and Massachusetts.

(See Supplemental Graph 3)

Flavors Are Not Main Reason for Youth E-Cigarette Use

Many policymakers purport that banning flavors in e-cigarettes will thwart youth use of these products, yet data from national and state surveys indicate that youth overwhelmingly cite peer pressure and/or other reasons for e-cigarette use.

In 2019, according to the NYTS, among middle and high school students that had reported using current e-cigarette use, 56.1 percent cited using e-cigarettes because they were “curious about them,” 23.9 percent cited they had used them because a “friend or family member used them,” and only 22.3 percent (the third-cited reason) reported using e-cigarettes because they were “available in flavors such as mint, candy, fruit, or chocolate.”

In 2021, researchers went further into social and mental health reasoning for e-cigarette and use and offered even more options in the NYTS survey. In 2021, among middle school and high school students who reported current e-cigarette use, 56.1 percent cited using e-cigarettes because they were “curious about them,” 23.9 percent cited they had used them because a “friend or family member used them,” and only 22.3 percent (the third-cited reason) reported using e-cigarettes because they were “available in flavors such as mint, candy, fruit, or chocolate.”

school students that were current e-cigarette users, 43.4 percent reported using them because they were “feeling anxious, stressed, or depressed,” and 42.8 percent cited using them to get a “buzz from nicotine.” Only 13.2 percent of current e-cigarette users cited “flavors” as a reason for use.

Among ever e-cigarette users, 57.8 percent cited using them because a friend had used them, 47.6 percent reported using them because of curiosity, 25.1 percent cited anxiousness and/or feelings of depression, 23.3 percent cited to get a buzz from nicotine and only 13.5 percent had tried e-cigarettes because of flavors.

(See Supplemental Graph 4)

Analyses of state surveys find similar results.

In 2017, among Hawaiian high school students that had ever used e-cigarettes, 26.4 percent cited flavors as a reason for e-cigarette use, compared to 38.9 percent that reported “other.”

In 2019, among all Connecticut high school students, 5.2 percent reported using e-cigarettes because of “flavors,” 18.2 percent cited “other,” and 12.9 percent reported using e-cigarettes because of friends and/or family.

In 2017, among Hawaiian high school students that had ever used e-cigarettes, 26.4 percent cited flavors as a reason for e-cigarette use, compared to 38.9 percent that reported “other.”

Among highschoolers in Maryland that used e-cigarettes, when asked about the “main reason” for using e-cigarettes only 3.2 percent responded “flavors.” Conversely, 13 percent reported because “friend/family used them,” 11.7 percent reported “other,” and 3.8 percent reported using e-cigarettes because they were less harmful than other tobacco products.

In 2019, among all Montana high school students, only 7 percent reported using vapor products because of flavors, compared to 13.5 percent that reported using e-cigarettes because of “friend or family member used them.” Further, 25.9 percent of Montana high school students reported using vapor products for “some other reason.”

In 2019, among all students, only 4.5 percent of Rhode Island high school students claimed to have used e-cigarettes because they were available in flavors, while 12.5 cited the influence of a friend and/or family member who used them and 15.9 percent reported using e-cigarettes “for some other reason.”

In 2017, among current e-cigarette users, only 17 percent of Vermont high school students reported flavors as a reason to use e-cigarettes. Comparatively, 35 percent cited friends and/or family members and 33 percent cited “other.”

In 2019, among high school students that were current e-cigarette users, only 10 percent of Vermont youth that used e-cigarettes cited flavors as a primary reason for using e-cigarettes, while 17 percent of Vermont high school students reported using e-cigarettes because their family and/or friends used them.
In 2019, among all Virginia high school students, only 3.9 percent reported using e-cigarettes because of flavors, 12.1 used for some other reason, and 9.6 used them because of friends and/or family members.  

*(See Supplemental Graph 5)*

**Flavor Bans Lead to Increased Combustible Cigarette Use**

Flavor bans have had little effect on reducing youth e-cigarette use and may lead to increased combustible cigarette rates, as evidenced in San Francisco, California.  

In April 2018, a ban on the sale of flavored e-cigarettes and vapor products went into effect in San Francisco and in January, 2020, the city implemented a full ban on any electronic vapor product. Unfortunately, these measures have failed to lower youth tobacco and vapor product use.  

Data from an analysis of the 2019 Youth Risk Behavior Survey show that 16 percent of San Francisco high school students had used a vapor product on at least one occasion in 2019 – a 125 percent increase from 2017 when 7.1 percent of San Francisco high school students reported using an e-cigarette.  

Daily use more than doubled, from 0.7 percent of high school students in 2017, to 1.9 percent of San Francisco high school students reporting using an e-cigarette or vapor product every day in 2019.  

Worse, despite nearly a decade of significant declines, youth use of combustible cigarettes seems to be on the rise in Frisco. In 2009, 35.6 percent of San Francisco high school students reported ever trying combustible cigarettes. This figure continued to decline to 16.7 percent in 2017. In 2019, the declining trend reversed and 18.6 percent of high school students reported ever trying a combustible cigarette. Similarly, current cigarette use increased from 4.7 percent of San Francisco high school students in 2017 to 6.5 percent in 2019.  

*(See Supplemental Graph 6)*

An April 2020 study in Addictive Behavior Reports examined the impact of San Francisco’s flavor ban on young adults by surveying a sample of San Francisco residents aged 18 to 34 years.  

Although the ban did have an effect in decreasing vaping rates, the authors noted “a significant increase in cigarette smoking” among participants aged 18 to 24 years old.  

Other municipal flavor bans have also had no effect on youth e-cigarette use. For example, Santa Clara County, California, banned flavored tobacco products to age-restricted stores in 2014. Despite this, youth e-cigarette use increased. In the 2015-16 California Youth Tobacco Survey (CYTS), 7.5 percent of Santa Clara high school students reported current use of e-cigarettes. In the 2017-18 CYTS, this increased to 10.7 percent.  

Further, studies have found that banning flavors in e-cigarettes leads to subsequent combustible cigarette use. A 2018 study published in Tobacco Control found that banning flavored “e-cigarettes alone would likely increase the choice of cigarettes in smokers.”  

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in *Nicotine & Tobacco Research* found that one-third (33.2 percent) of survey respondents would “likely switch to [combustible] cigarettes” if flavors were banned in e-cigarettes.\(^{20}\)

In August 2021, an article in *American Journal of Public Health (AJPH)* co-authored by 15 past presidents of the Society for Research on Nicotine and Tobacco (SRNT). This prime academic global organization involved with nicotine and tobacco evidence-based research warned that: "Because both youth and adult smokers find e-cigarette flavors attractive, banning all (or most) flavors risks reducing smokers’ use of e-cigarettes to quit smoking at the same time that it reduces youth vaping."\(^{21}\)

### E-Cigarette Product Emergence Associated with Significant Decline in Young Adult Smoking Rates

Electronic cigarettes and vapor products were first introduced to the U.S. in 2007 “and between 2009 and 2012, retail sales of e-cigarettes expanded to all major markets in the United States.”\(^{22}\)

Moreover, between September 2014 and May 2020, e-cigarette sales in the U.S. increased by 122.2 percent.\(^{23}\)

Examining data from the CDC’s Behavioral Risk Factor Surveillance System Survey (BRFSS) finds that e-cigarettes’ market emergence has coincided with a significant reduction in smoking rates among young adults.

In 1998, among current adult smokers, 10.7 percent were 18 to 24 years old. In 2008, this had increased by 25.2 percent to 13.4 percent of adult smokers in Arizona being between 18 to 24 years old.

In the years after e-cigarette’s market emergence in the early 2010s, smoking rates among current smokers aged 18 to 24 years decreased by 54 percent. Indeed, in 2011, among current smokers in Arizona, 19.3 percent were between 18 to 24 years old. In 2020, only 6.9 percent of current smokers were 18 to 24 years old.

Interestingly, e-cigarettes’ market emergence was associated with a larger decline in average annual percent decreases. Between 1998 and 2008, the percentage of current smokers aged 18 to 24 years old increased on average by 10.6 percent each year. Between 2011 and 2020, annual percentage decreases average at 3.7 percent.

Further, since 2016, when the U.S. surgeon general issued an alarm about youth e-cigarette use, smoking rates among adults aged 18 to 24 years in the Grand Canyon State have decreased by 23.3 percent, with an average annual decrease of 3.8 percent.

*(See Supplemental Graph 7)*

### Adult Vaping Rates
Despite providing annual data on cigarette and smokeless tobacco use, the CDC’s BRFSS only reports on adult e-cigarette use for 2016 and 2017.

In 2017, according to the BRFSS, 5.3 percent of Arizona adults were current e-cigarette users. Similar to income status among smokers, lower income persons are more likely to use vapor products. In 2017, among current adult e-cigarette users, 12.5 percent reported household incomes of $25,000 or less per year. Conversely, only 4.4 percent reported earning $50,000 a year or more.

**Economic Impact of Vaping in Arizona**

In 2021, according to the analysis by the Vapor Technology Association, the industry created 1,516 direct vaping-related jobs. These jobs generated more than $59.7 million in wages. Moreover, the industry has created hundreds of secondary jobs in the Grand Canyon State, bringing the total economic impact in 2021 to $463 million. In the same year, Arizona received more than $27 million in state taxes attributable to the vaping industry.

Unlike other states, Arizona’s vaping industry has not been as severely impacted by the efforts of anti-vaping organizations and policymakers, but it has not had tremendous growth. The number of employees has increased by only 5.8 percent, from 1,433 employees in 2018 to 1,516 in 2021. The overall economic impact of the vaping industry has increased by 11.5 percent from $415.1 million in 2018 to $463 million in 2021.

(See Supplemental Graph 8)

**Tempe Retailers Do Good Job Not Selling to Minors**

The U.S. Food and Drug Administration (FDA) regularly performs tobacco compliance checks in which the agency uses a minor to attempt to purchase tobacco products including cigars, cigarettes, e-cigarettes, and smokeless tobacco.

From January 2012 to July 2022, FDA conducted 512 inspections in tobacco retailers located in the Grand Canyon State. Only 98, or 19 percent, resulted in the sales of tobacco products to minors.

Of the sales to minors, 46 (46.9 percent of violations and nine percent of inspections) were sales of cigarettes, 33 (33.7 percent of violations and 6.4 percent of inspections) were sales of cigars, 14 (14.3 percent of violations and 2.7 percent of inspections) were sales of e-cigarettes and vape products and five (5.1 percent of violations and one percent of inspections) were sales of smokeless tobacco products.

(See Supplemental Graph 9)

**Health Effects of Electronic Cigarettes and Vapor Products**

Despite recent media reports, e-cigarettes are significantly less harmful than combustible cigarettes. Public health statements on the harms of e-cigarettes include:

**Public Health England (PHE):** In 2015, a landmark report relying on 185 studies and produced by PHE (a leading health agency in the United Kingdom), found “that using [e-cigarettes are] around 95% safer than smoking,” and that their use “could help in reducing smoking related disease, death and health inequalities.”\(^27\) In 2018, the agency reiterated their findings, finding vaping to be “at least 95% less harmful than smoking.”\(^28\)

As recent as February 2021, PHE provided the latest update to their ongoing report on the effects of vapor products in adults in the UK. The authors found that in the UK, e-cigarettes were the “most popular aid used by people to quit smoking [and] … vaping is positively associated with quitting smoking successfully.”\(^29\)

**The Royal College of Physicians (RCP):** In 2016, RCP found the use of e-cigarettes and vaping devices “unlikely to exceed 5% of the risk of harm from smoking tobacco.”\(^30\) RCP is another United Kingdom-based public health organization, and the same group which was the first to highlight the link between smoking and lung cancer, and other tobacco related diseases, in 1962.

**The National Academies of Sciences, Engineering, and Medicine:** In January 2018, the academy noted “using current generation e-cigarettes is less harmful than smoking.”\(^31\)

**Cochrane Review:** Researchers at the Tobacco Addiction Group analyzed studies that examined the effects of e-cigarettes in helping smokers quit. The researchers found 61 studies that had over 16,700 adults that had smoked. The studies compared the instances of quitting smoking using e-cigarettes to other nicotine replacements including nicotine replacement therapy, nicotine-free e-cigarettes, behavioral support and others. Of the available evidence, the authors found that more people “probably stop smoking for at least six months using nicotine e-cigarettes than using nicotine replacement therapy … or nicotine-free e-cigarettes.” The authors also found that e-cigarette “may help more people to stop smoking than no support or [behavioral] support only.”\(^32\)

**Society for Research on Nicotine and Tobacco (SRNT):** An article in August 2021 co-authored by 15 past presidents of the SRNT reported that “Many scientists have concluded that vaping is likely substantially less dangerous than smoking”. Furthermore, they found that “A growing body of evidence indicates that vaping can foster smoking cessation” and warned “Studies have found that policies intended to restrict e-cigarette use may have unintentionally increased cigarette smoking”.\(^33\)

**Conclusion & Summary Points**

Despite alarmism, electronic cigarettes are effective tobacco cessation products that have helped thousands of Arizonan adults quit combustible cigarettes and flavors are essential in this use. Although youth use of vapor products is concerning, lawmakers must refrain from alarmist efforts that would restrict access to flavors. Rather than prohibition, lawmakers ought to invest
already-existing tobacco monies to fund robust tobacco control programs including cessation efforts, education, and youth prevention campaigns.

- E-cigarette use among Maricopa youth is at historic lows.
- In 2020, 4.6 percent of 8th graders, 14.6 percent of 10th graders, and 20.4 percent of 12th graders reported current use of e-cigarettes.
- Since 2018, current vaping has decreased by 49.3 percent among 8th graders, by 30.1 percent among 10th graders and by 22.7 percent among 12th graders.
- Nationally, current vapor product use among high school students has declined by 42.3 percent since 2020 and by 58.9 percent since 2019, when 27.5 percent reported using e-cigarettes on at least one occasion in the 30 days prior to the survey.
- In 2021, only 1.74 million of high schoolers were currently vaping. This represents 2.39 million fewer vapers between 2019 and 2021.
- Localized flavor bans have not reduced youth tobacco use. Despite several states implementing local flavored tobacco and vapor bans, youth vaping increased between 2017 and 2019.
- Localized restrictions on consumer goods create incentives for black market actors to profit from illicit unregulated products.
- Unregulated products were overwhelmingly linked to the 2019 spate of vaping-related lung injuries. Interestingly, states with local flavor bans prior to the outbreak reported more cases of lung injuries.
- Youth are not using e-cigarettes because of flavors.
- In 2021, among middle schoolers and high schoolers that were current e-cigarette users, 43.4 percent reported using them because they were “feeling anxious, stressed, or depressed,” compared to only 13.2 percent which cited flavors.
- Other national and state surveys find that, overwhelmingly, high school students cite “friends/family” and “curiosity” as reasons for e-cigarette use.
- Local flavor bans in San Francisco and Santa Clara County, California have failed to reduce youth e-cigarette use and have led to increases in youth combustible cigarette use.
- E-cigarettes’ market emergence is associated with low young adult smoking rates. In 2020, among current smokers in Arizona, only 6.9 percent current smokers were 18 to 24 years old – a 54 percent decrease from 2011. Further, since 2016, smoking rates among young adults have decreased by 23.3 percent.
- The vapor industry has been an economic boon to Arizona, generating $463 million in economic activity in 2021 while creating 1,516 direct vaping-related jobs. Further, the industry has contributed more than $27 million in state taxes.
- Tempe tobacco and vapor product retailers do a good job in not selling to minors. Between 2012 and 2021, only 98 tobacco and vape product retailers were issued orders from the FDA for selling to minors, accounting for 19 percent of all FDA inspections during the same period. Of these, 46 were sales of cigarettes, 33 were sales of cigars, 14 were sales of e-cigarettes and five were sales of smokeless tobacco products.
Supplemental Graphs

1. Maricopa County, Arizona Youth Survey
2. National Youth Tobacco Survey
3. Vaping Lung Injuries by State and Localized Flavor Bans
4. Reasons for E-Cigarette Use, National Youth Tobacco Survey
5. Reasons for E-Cigarette Use, State Youth Risk Behavior Surveys
REASONS FOR E-CIG USE

What is the main reason you have used electronic vapor products?

- I used them for some other reason
- They are available in flavors, such as mint, candy, fruit, or chocolate
- They are less harmful than other forms of tobacco
- They are easier to get than other tobacco products
- They cost less than other tobacco products
- To try to quit using other tobacco products
- Friend or family member used them
- I have never tried an electronic vapor product

Reasons for e-cigarette use (among ever e-cigarette users, choose all that apply):

- They can be used in areas where other tobacco products, such as cigarettes, are not allowed
- They are available in flavors, such as mint, candy, fruit, or chocolate
- They are less harmful than other forms of tobacco, such as cigarettes

Source: World Health Organization

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REASONS FOR E-CIG USE

What is the main reason you have used electronic vapor products? (Select only one response.)

- I used them for some other reason
- They are available in flavors, such as mint, candy, fruit, or chocolate
- They are less harmful than other forms of tobacco
- They are easier to get than other tobacco products
- They cost less than other tobacco products
- To try to quit using other tobacco products
- A friend or family member used them
- I have never used an electronic vapor product

2019 MONTANA
Youth Risk Behavior Survey
(Percentage of High School Students)

2019 RHODE ISLAND
Youth Risk Behavior Survey
(Percentage of High School Students)

Primary Reason for Using Electronic Vapor Products (Among Current Users)

- Cost less
- Easier to get
- Trying to quit using other tobacco products
- Less harmful
- Available in many flavors
- A friend or family member used them
- Some other reason

2019 VERMONT
Youth Risk Behavior Survey
(Percentage of High School Students)
6. Effects of San Francisco’s Flavor Ban
San Francisco HS Student Tobacco & Vapor Use
(Percent of students)

Sources: Centers for Disease Control and Prevention’s Youth Risk Behavior Surveillance Survey

7. E-Cigarettes and Young Adult Smoking Rates
8. Economic Impact of Vaping in Arizona
Vape Shop Economics
(Dollars, in millions)

Source: Vapor Technology Association, The Economic Impact of the Vapor Industry

9. FDA Tobacco Product Retailer Inspections
References:


