

The Commonwealth of Massachusetts
Executive Office of Public Safety and
Security
Department of Fire Services



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JON M. DAVINE
STATE FIRE MARSHAL

June 30, 2025

Secretary Terrence Reidy
Executive Office of Public Safety and Security
One Ashburton Place, Room 2133
Boston, MA 02108

Re: 2024 Annual Report of the State Fire Marshal regarding the effectiveness of the Massachusetts Fire Standard Compliant Cigarette Law (M.G.L. c. 64C, s. 2A-2F)

Dear Secretary Reidy:

Pursuant to the reporting requirements of M.G.L. c. 64C, s. 2B(f), please accept this as the ***2024 Annual Report of the State Fire Marshal regarding the effectiveness of the Massachusetts Fire Standard Compliant Cigarette law (M.G.L. c. 64C, s. 2A-2F).***

The Fire Standard Compliant Cigarette (FSC) law was enacted pursuant to Chapter 140 of the Acts of 2006, "*An Act Relative to the Loss of Life Due to Fires Caused by Cigarettes*" and became effective on January 1, 2008. At that time, Massachusetts was the sixth state in the nation to adopt fire standard compliant cigarette legislation, and by 2011, all 50 states had passed and implemented similar legislation. The manufacturing standard outlined in the law is designed to reduce the incidence of accidental fires caused by careless disposal of cigarettes by prompting cigarettes to self-extinguish when not being actively smoked.

The law requires that all cigarettes sold in the Commonwealth be manufactured with at least two bands of a less-permeable material in the cigarette paper which when reached by the combustion process, will restrict airflow and extinguish the burn if the smoker is not actively pulling air through the cigarette. The standard was designed specifically to prevent ignition of upholstered furniture and bedding in interior environments with static air. To certify any individual style of cigarette for sale in Massachusetts, the manufacturer must test the product in accordance with an internationally accepted standard to verify that

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these bands effectively cause the cigarette to self-extinguish, and attest in their application for certification that the test results met the performance criteria specified by law.

We are pleased to report that since the FSC law went into effect, Massachusetts has seen a substantial decrease in the number of cigarette fires that occur. From 2001-2007, an average of 252.4 residential cigarette fires per year caused 8.1 civilian deaths and 21.7 civilian injuries annually. Since the law went into effect, those averages have fallen to 205.2 residential cigarette fires per year, causing 6.1 civilian deaths and 14.1 civilian injuries annually.

While the data discussed above accounts for all types of cigarette fires, the law was most specifically intended to reduce interior structure fires where bedding and upholstered furniture are the material first ignited. These fires often involve individuals with limited mobility or those who are sleeping or have an otherwise altered level of alertness, rendering them unable to escape in time. From 2001-2007, an average of 70 cigarette fires per year originated on bedding or upholstered furniture. Since the inception of the FSC law in 2008, that average has fallen to 26 per year (Figure 1). Similarly, the average number of fatalities per year resulting from cigarette fires originating on bedding or upholstered furniture dropped from 5.3 in 2001-2007 to 2.8 from 2008-2024 (Figure 2). Further, data shows that the law is preventing nearly \$1.7 million a year in property losses associated with bedding/upholstered furniture cigarette fires (Figure 3) and reducing the number of firefighter injuries by over 60% (Figure 4). This is the strongest evidence available that the law is working as intended.

While the total number of cigarette fires per year that originate indoors has decreased since 2008, the number of cigarette fires that originate outdoors has increased. In each year from 2001 to 2008, more cigarette fires began indoors than outdoors. In each year since, more cigarette fires have started outside (Figure 5). The primary driver of this trend is likely public health efforts which have effectively reduced the tolerance to indoor smoking across the population. As previously mentioned, the FSC cigarette standard was designed to prevent fires from igniting on upholstered furniture and bedding in environments with motionless air, but not on porches, decks, mulch, and brush with moving air. While outdoor cigarette fires are uniquely dangerous because smoke alarms are not present to alert residents and they may burn longer before they are discovered, they have proven to be substantially less deadly than indoor cigarette fires since 2008 (one civilian death per every 167 outdoor cigarette fires as compared to one civilian death per every 14 indoor cigarette fires).

To ensure compliance with the FSC law, the Department of Fire Services (DFS) purchases cigarettes from retailers around the Commonwealth and sends them to an independent laboratory (MSR Laboratories in Rehoboth) for testing to the ASTM standard for ignition propensity and the required placement of the lower permeability bands on the paper. The ignition testing process involves lighting a cigarette that is placed on 10 layers of filter paper in a controlled chamber, and letting it burn until it either self-extinguishes or reaches the end of the tobacco column. If an individual cigarette self-extinguishes before the entire length of the tobacco column burns, it is considered passing. If it burns the entire length of the tobacco column, it fails. The FSC law considers 40 replicate tests to be a single test trial and dictates that no more than 25% (10 cigarettes) in a test trial may fail. Cigarettes are also tested to confirm that the

two lowered-permeability bands that are placed in accordance with the law (at least one of the bands must be greater than 15mm from the lighting end).

To date, DFS has conducted over 245,000 ignition tests and over 22,000 band placement/measurement tests. The overall passing rate for individual cigarettes that have undergone ignition testing is 91.5%, and the passing rate for band placement/measurement is 98.9%. Each style of cigarette is sent to the lab for testing when it is first certified and then sent back for re-testing on a rolling basis in future years to ensure ongoing compliance. Cigarettes that do not perform within the confines of the FSC law are immediately re-tested. If results show consistent failure rates of greater than 25% in test trials of 40 cigarettes, administrative hearings are held with the manufacturer. In the past, these hearings have resulted in fines, testing cost reimbursement to DFS, and non-compliant products being removed from retail locations. Additionally, whenever there is a fatal fire caused by cigarettes, State Troopers assigned to the Fire and Explosion Investigation Unit determine what brand style of cigarettes caused the fire, and 20 packs of that exact product are purchased immediately by DFS staff to be sent out for testing.

Over 10,000 ignition tests were conducted in 2024 with an overall pass rate of 97.6%, while over 2,000 band measurement tests were conducted with a passing rate of 99.3%. With all 50 states requiring cigarettes to meet the same testing standard, compliance with this law is high. Figure 6 in the appendix shows the consistently high passing rates per year since the program's inception.

The FSC Program collects certification fees (\$3,000 per brand style of cigarette every three years) to fund this robust testing program. When the ban on the retail sale of menthol flavored tobacco products was enacted, we projected a significant drop in program revenue, as approximately 1/3 of the products certified at the time were menthol flavored. Surprisingly, many manufacturers have continued to pay to certify new menthol brand styles and recertify existing styles to this point. When the ban became effective on June 1, 2020, there were 352 menthol brand styles certified. As of December 31, 2024, there were still 166 actively certified menthol products (with 30 recertifications and 2 new certifications having been processed in 2024), despite the fact that they can no longer be sold in a retail setting. Regardless of this surprising pattern, we have planned for the likelihood that revenue from menthol flavored brand styles will eventually cease entirely and will still be able to run a comprehensive testing program supported entirely by certification fees for non-flavored products for the foreseeable future.

The Executive Office of Administration and Finance did transfer \$769,451.00 out of the FSC Trust Fund in November of 2024 under the authority of M.G.L. c. 29, s. 13A. We have assessed the impact of this transfer on our existing ten-year budget projections and have no concerns about our ability to achieve the objectives of the program while maintaining a sufficient operating balance over that period.

While the last time that DFS conducted an enforcement action against a manufacturer for the sale of products that did not meet the required ignition standard was in 2017, the agency did address administrative non-compliance issues with two manufacturers in 2024. The first case, involving R.J. Reynolds Tobacco Company, began in 2023 after DFS denied a recertification request for a significant number of cigarettes because they

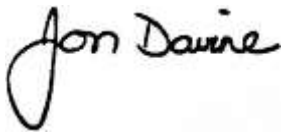
had not been tested in accordance with the ignition standard within 365 days of the renewal date. Limited efforts were made by R.J. Reynolds to correct this issue, and an abnormally high number of products were allowed to expire. DFS contacted R.J. Reynolds in early 2024 to confirm that those products were no longer being sold in the Commonwealth, and R.J. Reynolds acknowledged that they had in fact continued offering 45 of the 142 products in question for sale in Massachusetts. After this exchange, R.J. Reynolds took prompt action to test and recertify the expired products, and also removed 20,000 packs of cigarettes that had entered the commerce chain in Massachusetts while expired from wholesale and retail locations.

Later in 2024, as part of its standard practices, DFS sent a letter to U.S. Flue-Cured Tobacco memorializing the expiration of seven cigarette styles that they had not requested to be renewed. The manufacturer immediately responded to inform DFS that the failure to request renewal was an oversight and that the products were still being offered for sale in Massachusetts. Per direction from DFS, they removed all products that had entered the marketplace during the lapse period from retail locations (primarily Cumberland Farms stores) until a completed renewal request was submitted to DFS approximately three weeks later. While these two issues were administrative in nature and did not involve the introduction of any unsafe cigarettes into the retail environment, they demonstrate to the manufacturers the diligence with which the Commonwealth oversees the FSC law.

Overall, compliance with the Fire Standard Compliant Cigarette Law remains high, and it continues to have a positive impact on the lives of the citizens of Massachusetts by preventing unnecessary loss of life and property as it was initially intended to.

As always, I thank you for your attention to this program and for all the work you do to advance fire safety for the citizens and firefighters of the Commonwealth.

Sincerely,

A handwritten signature in black ink that reads "Jon Davine". The signature is written in a cursive, flowing style with a large initial "J".

Jon M. Davine
State Fire Marshal

Appendix

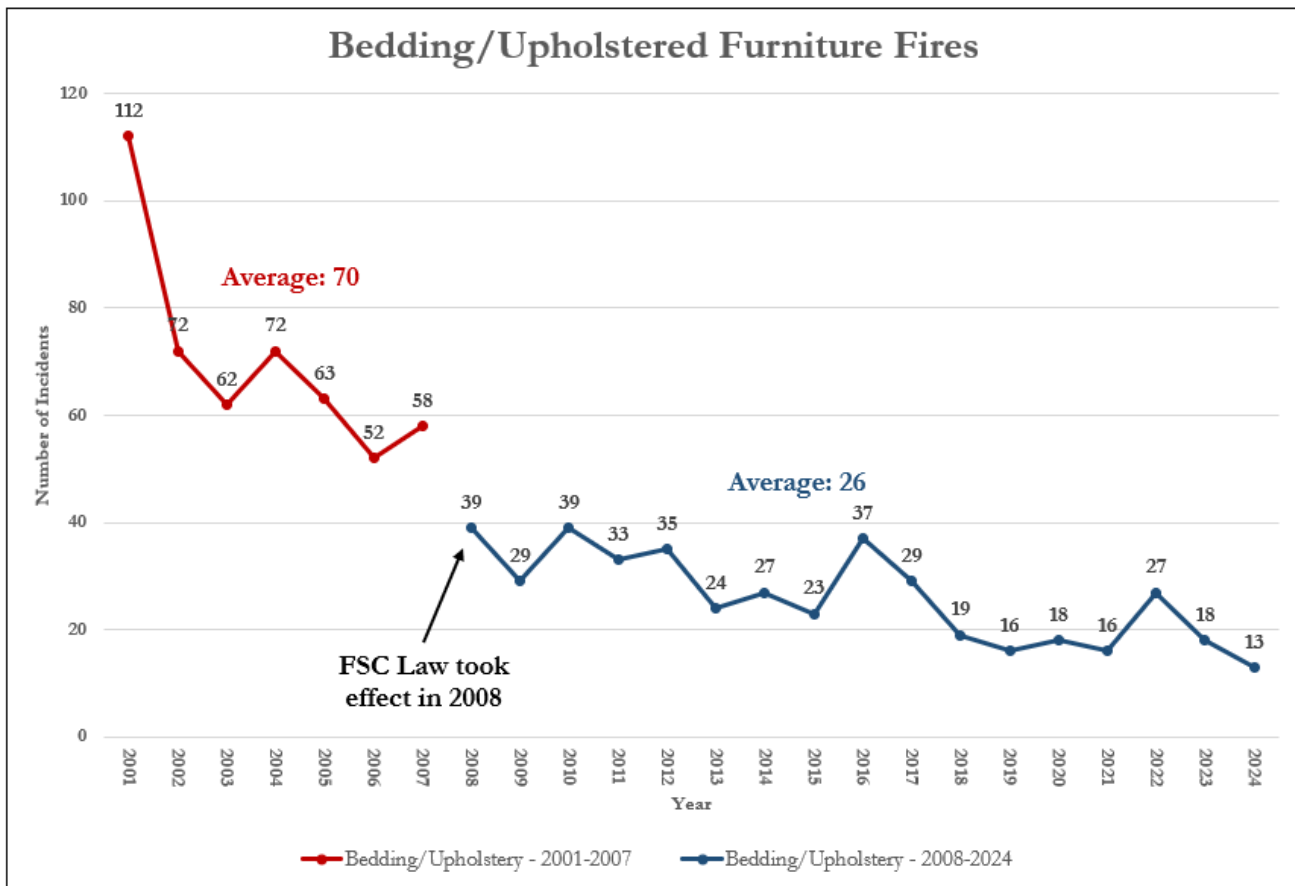


Figure 1

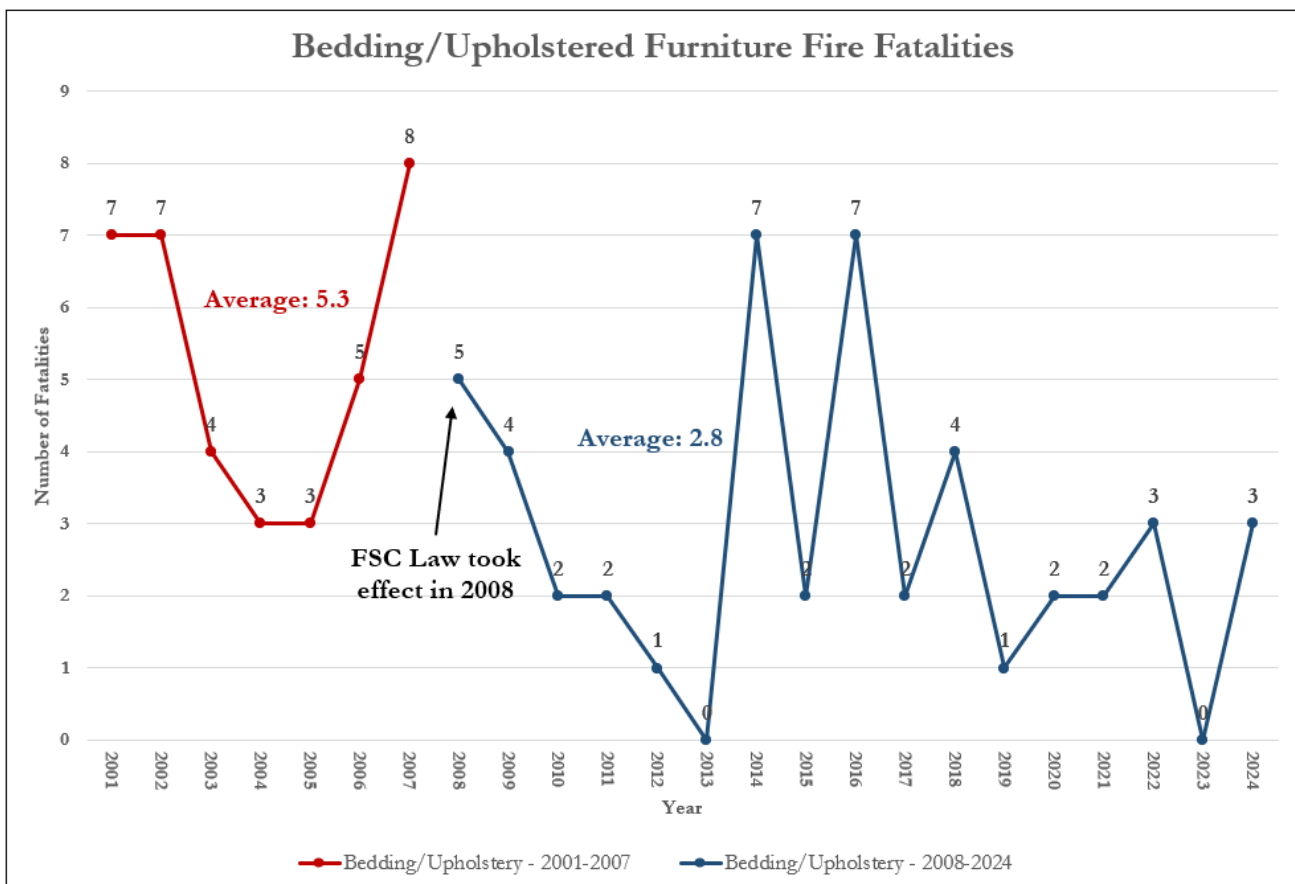


Figure 2

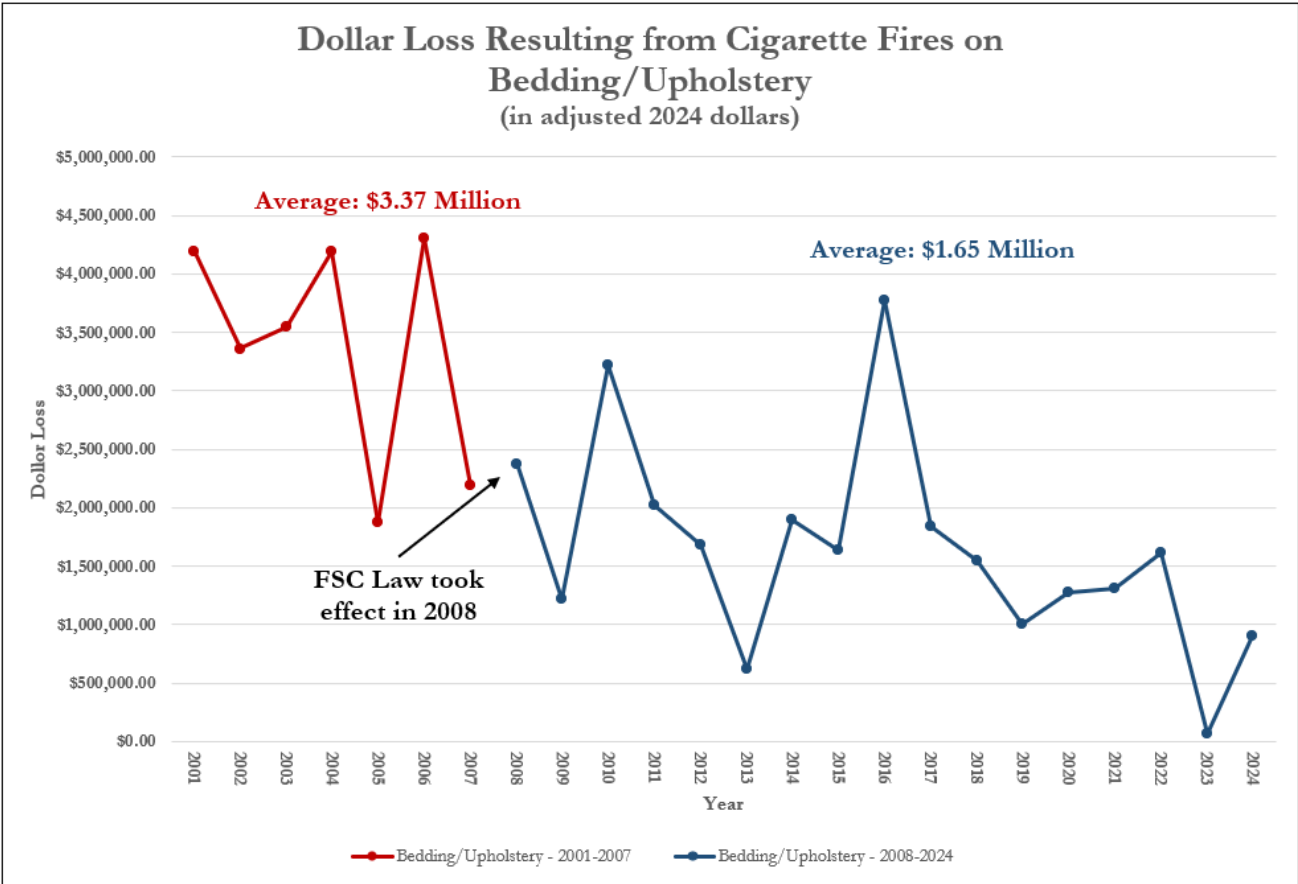


Figure 3

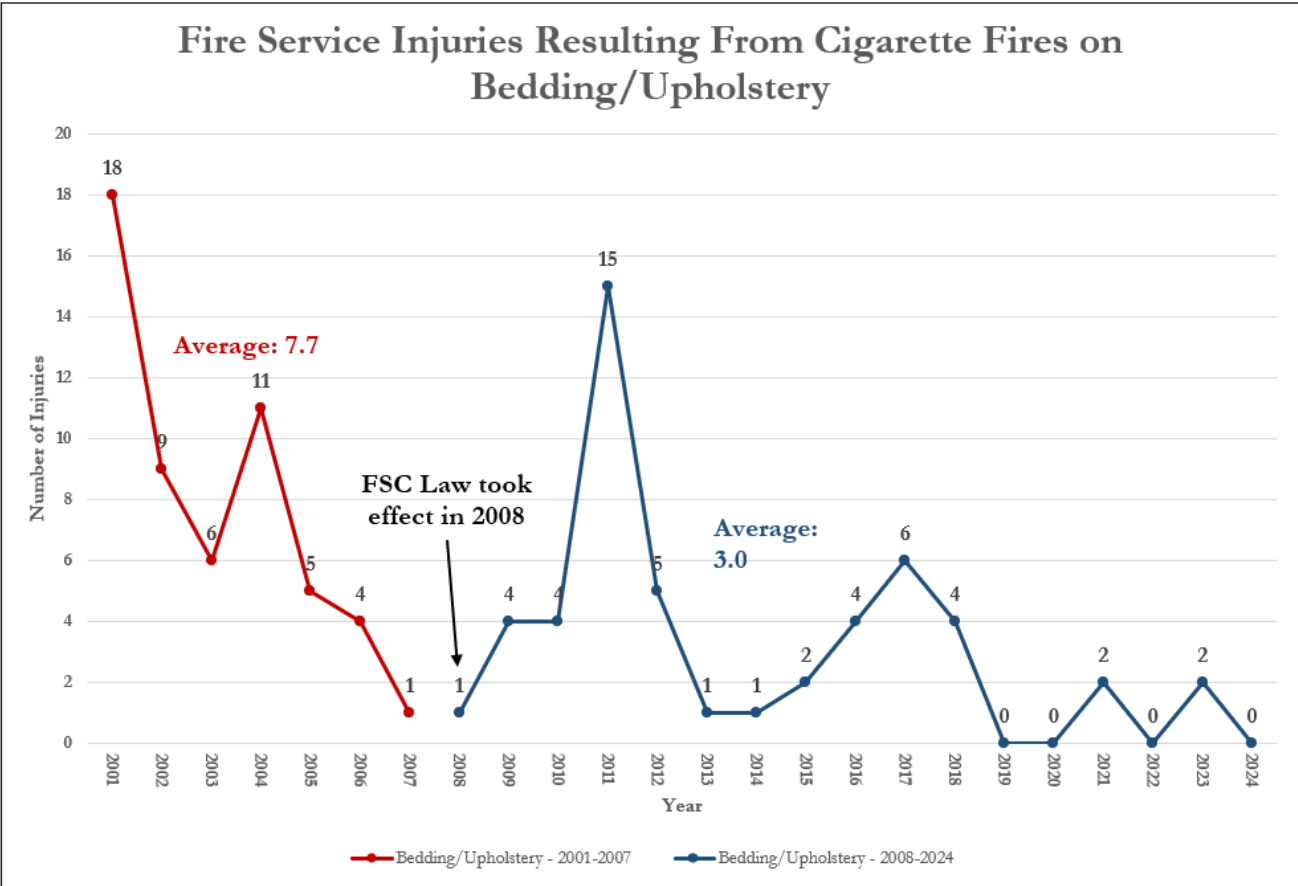


Figure 4

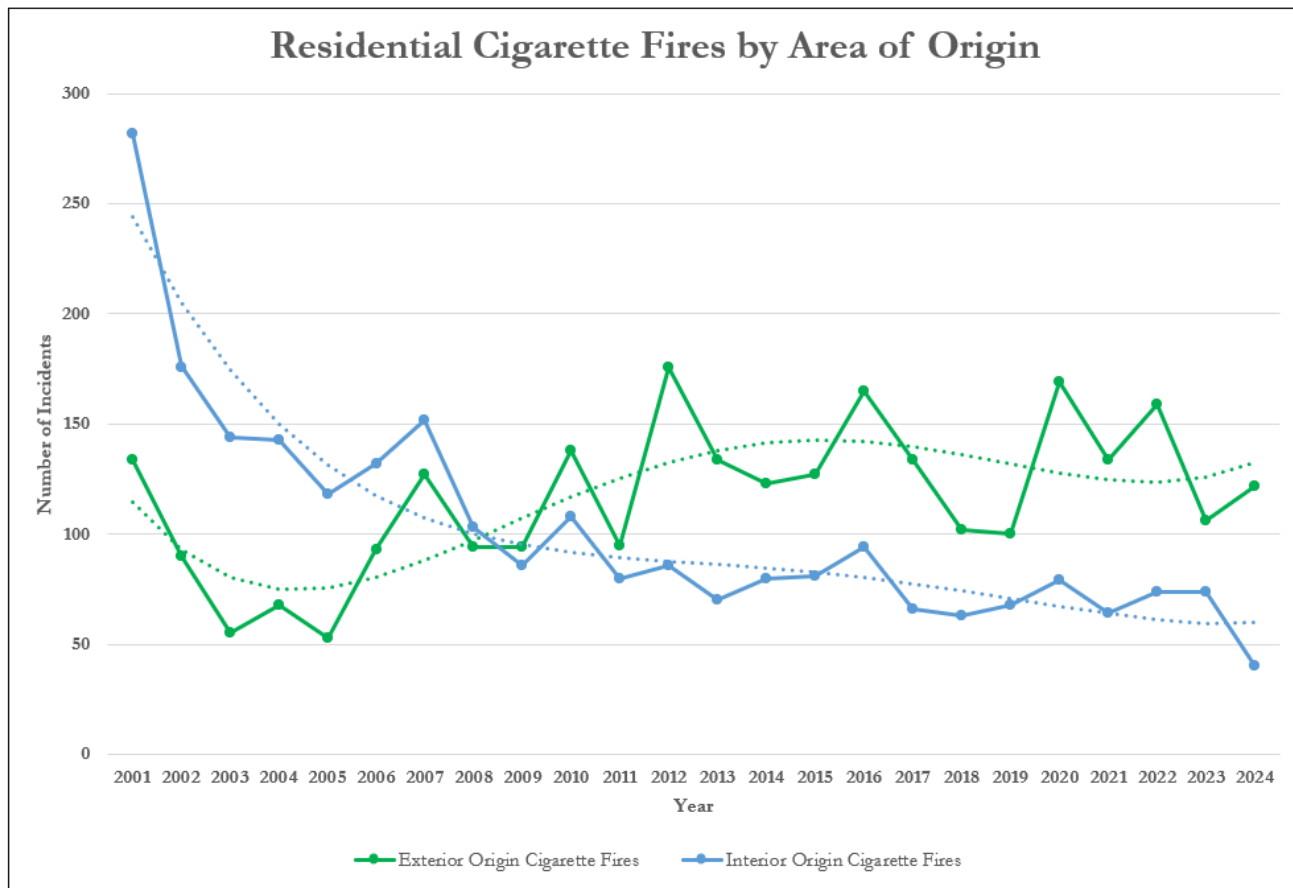


Figure 5

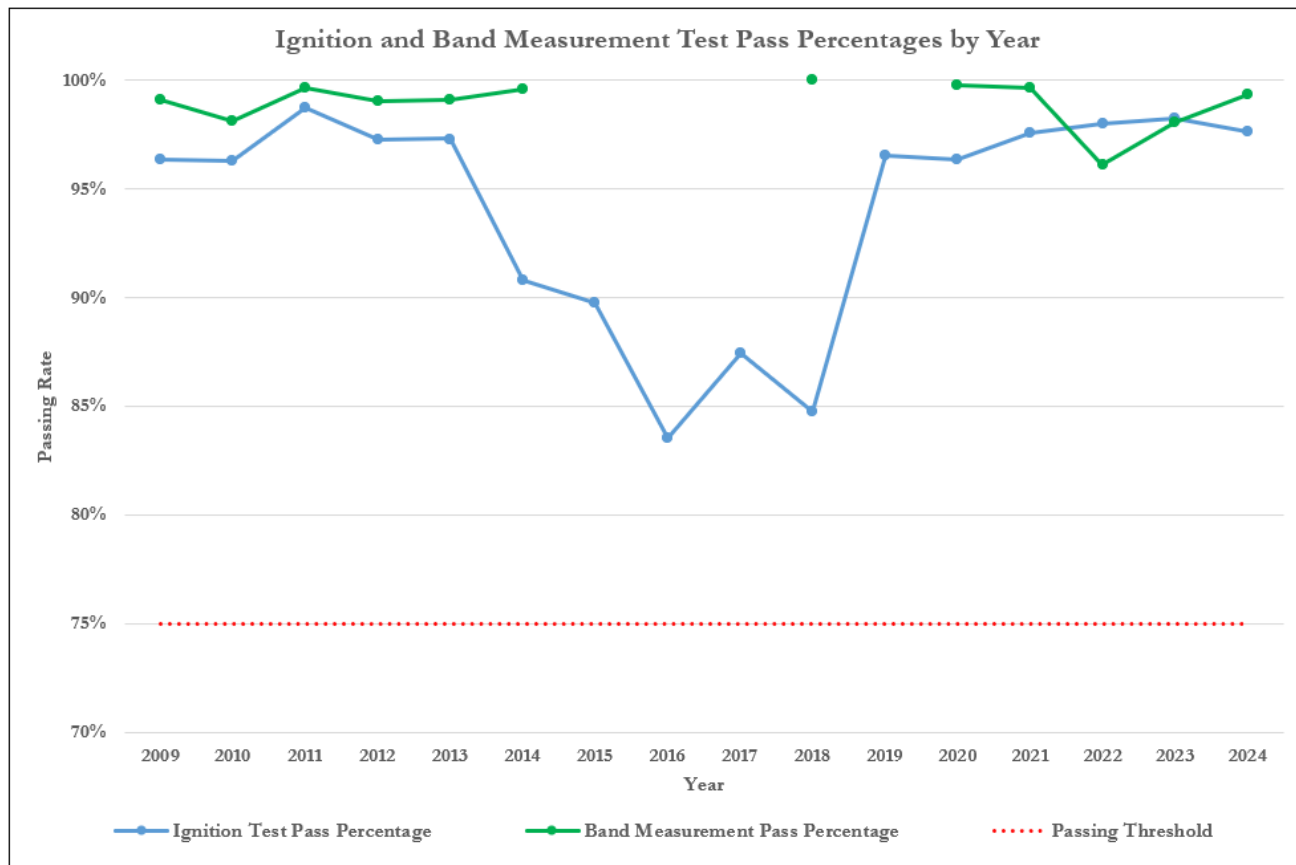


Figure 6

Note: No band measurement testing was conducted in 2015, 2016, 2017, or 2019.