STREET EATS, SAFE EATS:

HOW FOOD TRUCKS AND CARTS STACK UP TO RESTAURANTS ON SANITATION

BY ANGELA C. ERICKSON

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EXECUTIVE SUMMARY

Street food, long a part of American life, has boomed in popularity in recent years. Yet an idea persists that food from trucks and sidewalk carts is unclean and unsafe. This report tests that common, but unsubstantiated claim by reviewing more than 260,000 food-safety inspection reports from seven large American cities. In each of those cities, mobile vendors are covered by the same health codes and inspection regimes as restaurants and other brick-and-mortar businesses, allowing an apples-to-apples comparison. The report finds:

- In every city examined—Boston, Las Vegas, Los Angeles, Louisville, Miami, Seattle and Washington, D.C.—food trucks and carts did as well as or better than restaurants.
- In six out of seven cities—Boston, Las Vegas, Los Angeles, Louisville, Miami

and Washington, D.C.—food trucks and carts averaged fewer sanitation violations than restaurants, and the differences were statistically significant.

- In Seattle, mobile vendors also averaged fewer violations, but the difference was not statistically significant, meaning mobile vendors and restaurants performed about the same.

The results suggest that the notion that street food is unsafe is a myth. They also suggest that the recipe for clean and safe food trucks is simple—inspections. Just as sanitation inspections help assure the public that restaurants are clean and safe, they can do the same for mobile vendors. More burdensome regulations proposed in the name of food safety, such as outright bans and limits on when and where mobile vendors may work, do not make street food safer—they just make it harder to get.

THE INSTITUTE FOR JUSTICE ANALYZED THOUSANDS OF INSPECTION REPORTS COVERING MOBILE VENDORS, RESTAURANTS AND OTHER PURVEYORS OF FOOD FROM SEVEN OF AMERICA'S LARGEST CITIES—BOSTON, LAS VEGAS, LOS ANGELES, LOUISVILLE, MIAMI, SEATTLE AND WASHINGTON, D.C.

INTRODUCTION

America loves food trucks. These new mobile vendors are creating jobs, satisfying hunger and making downtowns cool again. But they are not an entirely new concept. Street vending has long been an entry point for entrepreneurship in America. During the Great Depression, Americans pushed carts in the street to sell five cent apples.[1] Waves of immigrants sold oysters, pickles, kabobs, halal and more.

Despite this country's deeply rooted history with street food and America's growing love for food trucks, some people have claimed that food trucks and food carts are unsanitary and nothing more than "roach coaches." Take, for example, a recent news story by Eric Flack, a reporter for Louisville's WAVE3, who asked if food trucks are "really all that clean?" In an apparent "gotcha" moment, Flack asked Connie Mendel—head of the local office in charge of food inspections—if she ate at food trucks. Mendel chortled at such an idea and said, "That's funny."[2]

But "all that clean" compared to what? How do food trucks stack up to restaurants? Flack does not ask these questions or compare food trucks to any other food source except for this opinion from Mendel: "We feel you can operate safer from an actual building."[3]

Unfortunately, city officials often rely on such claims that brick-and-mortar restaurants are safer to justify restrictions on both food trucks and carts, including outright bans on mobile vending as well as limits on when and where vendors may sell. These laws not only push food trucks and carts out of cities, they also stifle entrepreneurship, destroy jobs and hurt consumers.[4]

As American culture shifts towards re-embracing street food, this report tests the claim—common but unsubstantiated—that food trucks and carts are unsafe. The Institute analyzed thousands of inspection reports covering mobile vendors, restaurants and other purveyors of food from seven of America's largest cities—Boston, Las Vegas, Los Angeles, Louisville, Miami, Seattle and Washington, D.C.[5] In each city, mobile vendors are covered by the same health codes and inspection regimes as restaurants, allowing an apples-to-apples comparison of sanitation practices.[6] The results show that mobile food vendors, including food trucks and carts, are just as safe and sanitary as restaurants—often more so.

METHODS

To examine differences between food trucks, carts and other types of food establishments—particularly restaurants—this report relies on inspection data collected from government agencies in Boston, Las Vegas, Los Angeles, Louisville, Miami, Seattle and Washington, D.C. The Institute requested data going back to 2008 or the first year with accessible data that included mobile vendors. Data were collected through part or all of 2012 or, in the cases of Boston and Louisville, through July 2013. In all, the Institute reviewed 263,395 inspection reports across the seven cities. During the inspections, officials count the number of food-safety violations they observe.[7] For example, inspectors look for minor things like clean counters and proper labeling, bigger concerns like proper food storage and hand-washing facilities, and serious issues such as sick employees and spoiled foods.

For each city, the Institute calculated the average number of violations per establishment for each category of

food service—food trucks, restaurants and so on. These raw numbers are useful, but not sufficient for determining how mobile vendors compare to brick-and-mortar establishments. Other factors, such as variations in traffic or greater frequency of inspections, could be driving any differences. Additionally, any differences in the raw numbers could be simple random chance—it just so happens that during a given period of time when a random group of establishments was inspected, one category of food service received fewer violations—instead of a genuine distinction.

To control for factors that could muddy comparisons and to determine whether the differences between mobile vendors and brick-and-mortar restaurants are genuine or mere random chance, this report relies on two types of statistical analyses. The first, fixed-effects OLS regression, provides the average number of violations for each food-service category compared to mobile vendors. In other words, the first type of analysis estimates how many more or fewer violations restaurants would receive, on average, than mobile vendors, after controlling for various factors.[8] The second type of analysis, Poisson regression, provides a rate estimating how many times more or fewer violations each food-service category would receive, on average, compared to mobile vendors.[9]

When looking at the rate of violations, keep in mind that the average numbers of violations were low for all types of food service in all cities. Thus, some eye-popping comparisons are not as dramatic as they may appear. For example, it may be startling to see the Boston results below (Table 2) suggesting that restaurants received 385 percent more violations than food carts, but food carts averaged just one violation per cart, so 385 percent more is only about four violations per restaurant.

In some cities, the data did not make it possible to distinguish between food trucks and food carts, so they were lumped together in one "mobile vendor" category. In others, trucks and carts are separate categories, so separate analyses compared each of them to restaurants, grocery stores and so on.

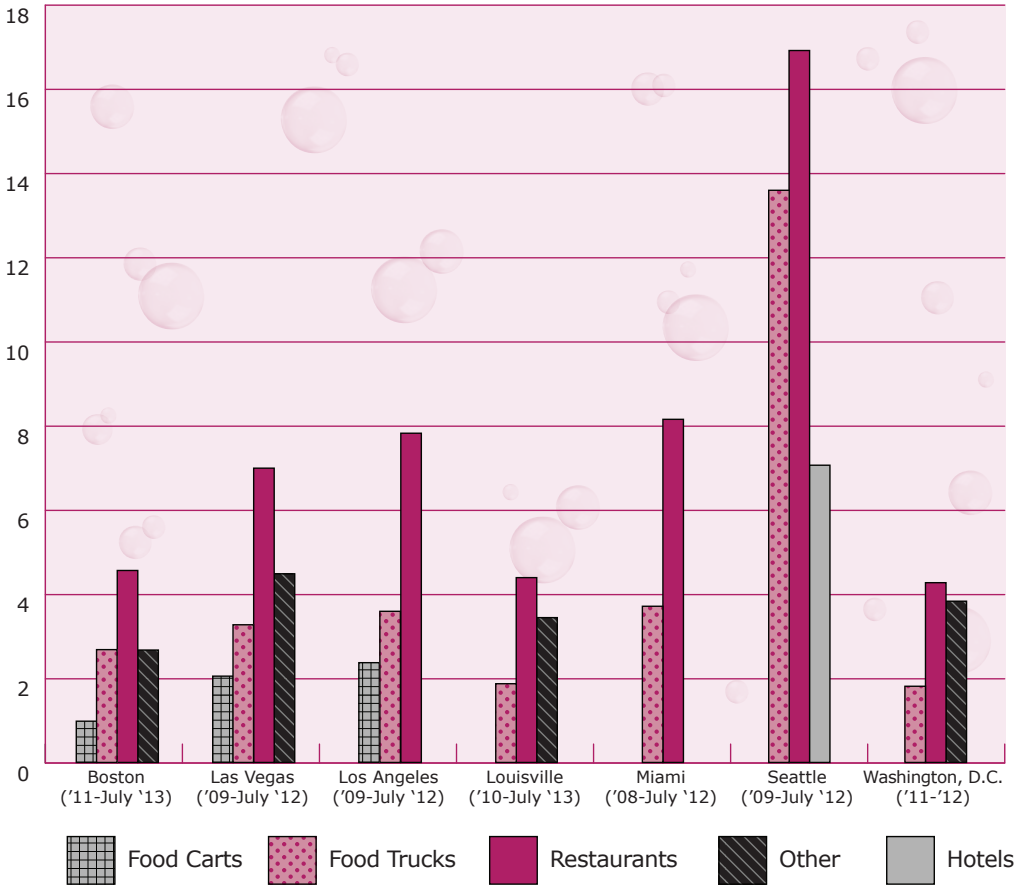
Further details about the analysis can be found in Appendix A, and Appendix B provides full regression results.[10]

RESULTS

Across the seven cities, findings were consistent: Food trucks and carts are every bit as clean and safe as restaurants and other types of brick-and-mortar food establishments. As Figure 1 shows, in recent years, violations per establishment were few, regardless of the category of food service. In six of the seven cities, violations by food trucks and carts ranged from just one to four violations per truck or cart, while restaurants averaged just four to eight. The exception, Seattle, appears to have had more frequent violations for both mobile vendors (nearly 14 per vendor) and restaurants (almost 17 per restaurant), because the city's inspection regime weights each violation more than the other cities.

ACROSS THE SEVEN CITIES, FINDINGS WERE CONSISTENT: FOOD TRUCKS AND CARTS ARE EVERY BIT AS CLEAN AND SAFE AS RESTAURANTS AND OTHER TYPES OF BRICK-AND-MORTAR FOOD ESTABLISHMENTS.

Figure 1: Average Food-safety Violations by Category of Food Service



Notes: In Louisville, Miami, Seattle and Washington, D.C., the "food truck" category includes both trucks and carts. Due to differing inspection regimes, comparisons across cities are not valid.

Not only were violations infrequent, but mobile vendors compared well to their brick-and-mortar counterparts, as shown in Figure 1, and this was confirmed by statistical analysis. In analyses for six of seven cities, food trucks and carts had fewer violations than restaurants, and the differences were statistically significant. In Seattle, even though mobile vendors had fewer violations on average than restaurants, upon statistical analysis, the difference was not statistically significant. This means mobile vendors and restaurants in Seattle performed about the same.

BOSTON

The Boston Inspectional Services Department, which inspects all food establishments for potential violations, provided inspection data for 2011 through July 2013. In that time, the department conducted 29,898 inspections of food establishments, including trucks, carts, restaurants and other establishments such as grocery stores, cafeterias and caterers. Table 1 provides the average number of violations by establishment type. It also breaks out different types of violations as classified by Boston—critical foodborne, critical, non-critical and total.

A critical foodborne violation refers to activities that are the most prevalent contributing factors to foodborne illness as identified by the Center for Disease Control—such as not posting consumer advisories and improper labeling of ingredients. A critical violation is one that is more likely than other violations to affect the public health—such as unclean food contact surfaces and improper sewage and waste water disposal. Non-critical violations will not seriously affect the public health; these are things such as adequate lighting and hair restraints.

As Table 1 shows, violations were uncommon across all categories of food service, and both Boston's food trucks and carts outperformed restaurants, as trucks averaged 2.7 total violations, mobile food carts—hot dog stands and other sidewalk carts—just one, and restaurants 4.6.

The story is similar when looking at different types of violations. Trucks and carts received fewer critical and non-critical violations than restaurants. For critical foodborne violations, trucks and restaurants were comparable and carts received fewer violations, but all averaged less than one violation per establishment.

These differences held up under statistical analysis, as shown in Table 2. Results show that Boston's food trucks averaged fewer total violations, critical violations and non-critical violations than its restaurants, and the differences were statistically significant. On critical foodborne violations, the difference between trucks and restaurants was not statistically significant, meaning they were essentially the same. Boston's food carts averaged fewer total violations, critical foodborne violations, critical violations and non-critical violations than its restaurants, and the differences all were statistically significant.

Table 1: Boston Food-safety Violations, 2011-July 2013*

	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Total Violations				
Food Trucks	2.68	2.90	0	18
Restaurants	4.56	4.46	0	41
Carts	0.98	1.53	0	10
Other	2.67	3.36	0	30
Critical Foodborne Violations				
Food Trucks	0.87	1.25	0	6
Restaurants	0.84	1.33	0	12
Carts	0.36	0.75	0	6
Other	0.47	0.93	0	9
Critical Violations				
Food Trucks	0.11	0.32	0	2
Restaurants	0.30	0.55	0	4
Carts	0.04	0.21	0	2
Other	0.17	0.43	0	4
Non-critical Violations				
Food Trucks	1.70	1.94	0	11
Restaurants	3.42	3.37	0	30
Carts	0.57	1.08	0	8
Other	2.03	2.60	0	23

*Data provided by Boston Inspectional Services Department and based on 296 inspections of 76 food trucks, 17,634 inspections of 2,813 restaurants, 1,447 inspections of 497 carts and 10,521 inspections of other food establishments.

Table 2: Estimated Differences in Food-safety Violations, Boston, 2011-July 2013 (Statistically Significant Results in Italics)*

	Average Violations Compared to Food Trucks	Rate of Violations Compared to Food Trucks	Average Violations Compared to Food Carts	Rate of Violations Compared to Food Carts
Total Violations				
Restaurants	*1.87 more*	*69% more*	*3.39 more*	*386% more*
Other	0.19 fewer	2% fewer	*1.33 more*	*181% more*
Critical Foodborne Violations				
Restaurants	0.03 more	4% fewer	*0.45 more*	*136% more*
Other	*0.37 fewer*	*48% fewer*	0.06 more	*28% more*
Critical Violations				
Restaurants	*0.18 more*	*156% more*	*0.25 more*	*568% more*
Other	0.03 more	37% more	*0.10 more*	*258% more*
Non-critical Violations				
Restaurants	*1.65 more*	*101% more*	*2.70 more*	*535% more*
Other	0.14 more	19% more	*1.19 more*	*275% more*

*Results listed derived from OLS and Poisson regressions. Because of the use of two different statistical analyses, the direction and significance for average violations and rate of violations may differ where the differences between trucks or carts and restaurants are small. Full regression results for total violations can be found in Appendix B. [11]

LAS VEGAS

The Southern Nevada Health District, which inspects all food establishments in Las Vegas, provided inspection data from 2009 through July 2012. In that time, the agency conducted 84,816 inspections of food establishments in Las Vegas, including trucks, carts, restaurants and other establishments such as grocery stores, cafeterias and food processors.

Table 3 provides the average number of violations by establishment type.[12] As the table shows, all categories of food service had few violations, and both Las Vegas' food trucks and carts outperformed restaurants, as trucks averaged 3.3 violations, mobile food carts—hot dog stands and other sidewalk carts—two, and restaurants seven.

Statistical analysis confirms these differences, as shown in Table 4. Results show that Las Vegas' food trucks and carts averaged fewer violations than its restaurants, and the differences were statistically significant.

Table 3: Las Vegas Food-safety Violations, 2009-July 2012*

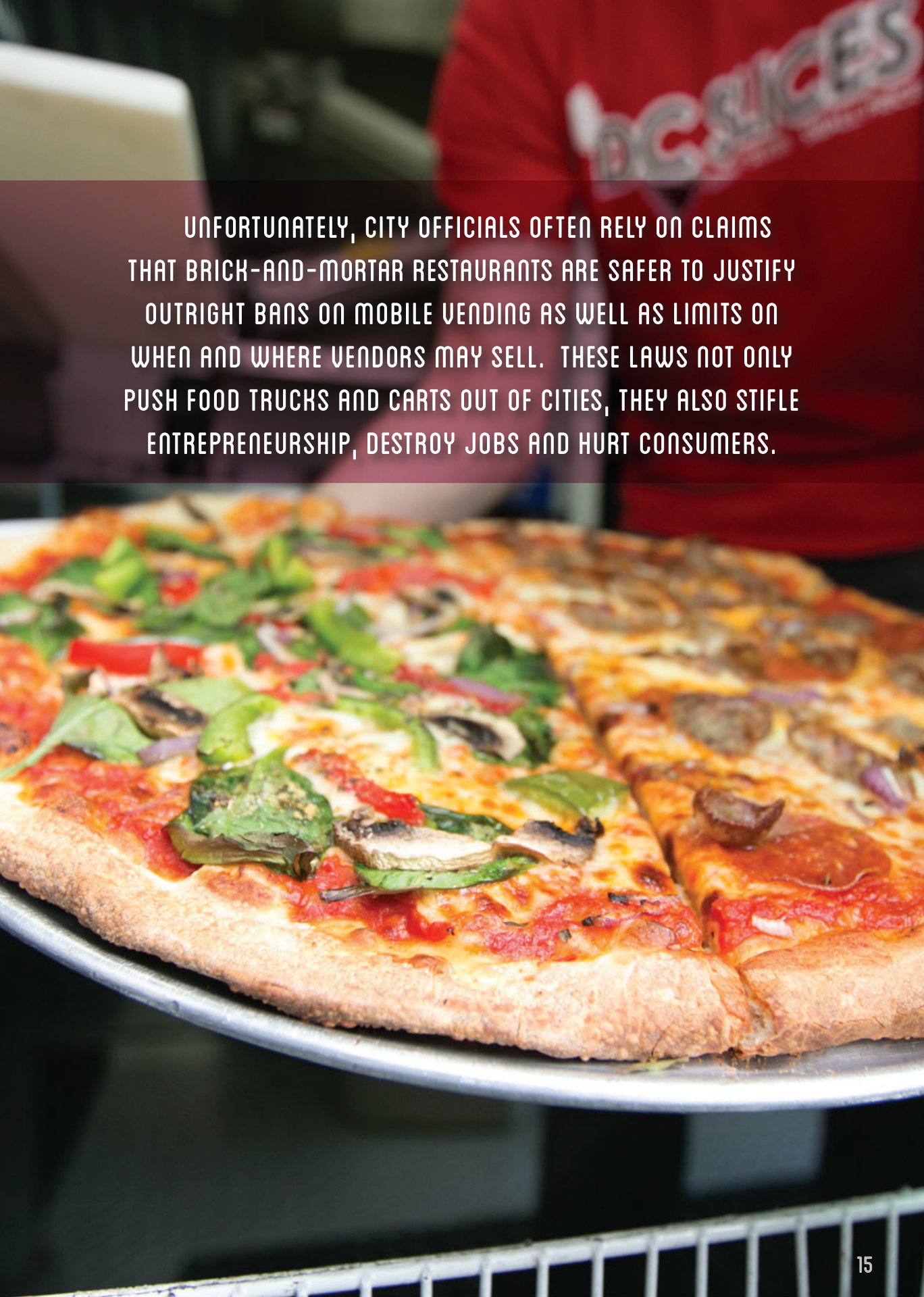
	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Food Trucks	3.27	4.88	0	31
Restaurants	6.99	6.78	0	89
Carts	2.05	3.62	0	46
Other	4.39	5.08	0	100

*Data provided by the Southern Nevada Health District and based on 494 inspections of 163 food trucks, 42,611 inspections of 8,670 restaurants, 1,993 inspections of 602 carts and 39,718 inspections of other food establishments.

Table 4: Estimated Differences in Food-safety Violations, Las Vegas, 2009-July 2012 (Statistically Significant Results in Italics)*

	Average Violations Compared to Food Trucks	Rate of Violations Compared to Food Trucks	Average Violations Compared to Food Carts	Rate of Violations Compared to Food Carts
Restaurants	*3.58 more*	*108% more*	*4.71 more*	*237% more*
Other	*1.09 more*	*31% more*	*2.22 more*	*111% more*

*Results listed derived from OLS and Poisson regressions. Full regression results can be found in Appendix B.



UNFORTUNATELY, CITY OFFICIALS OFTEN RELY ON CLAIMS THAT BRICK-AND-MORTAR RESTAURANTS ARE SAFER TO JUSTIFY OUTRIGHT BANS ON MOBILE VENDING AS WELL AS LIMITS ON WHEN AND WHERE VENDORS MAY SELL. THESE LAWS NOT ONLY PUSH FOOD TRUCKS AND CARTS OUT OF CITIES, THEY ALSO STIFLE ENTREPRENEURSHIP, DESTROY JOBS AND HURT CONSUMERS.

FOR THOSE POLICYMAKERS CONCERNED ABOUT HEALTH AND SAFETY, THEY SHOULD ENSURE—THROUGH INSPECTIONS—THAT MOBILE FOOD VENDORS ARE HELD TO THE SAME SANITATION STANDARDS AS RESTAURANTS. IN THIS WAY, THE PUBLIC CAN ENJOY FOOD FROM VENDORS THAT IS BOTH DELICIOUS AND SAFE WHILE ALLOWING ENTREPRENEURSHIP AND ECONOMIC GROWTH TO THRIVE.

LOS ANGELES

The Los Angeles County Department of Public Health, which inspects all food establishments for potential violations, provided inspection data for 2009 through July 2012. In that time, the department conducted 45,611 inspections of Los Angeles' food establishments, including trucks, carts and restaurants.

Table 5 provides the average number of violations, showing that violations were uncommon across all categories of food service.[13] Both Los Angeles' trucks and carts outperformed restaurants, as trucks averaged 3.6 violations, mobile food carts—hot dog stands and other sidewalk carts—2.4, and restaurants 7.8.

These differences held up under statistical analysis, as shown in Table 6. Results show that both Los Angeles' food trucks and food carts had fewer violations than its restaurants, and the differences were statistically significant.

Table 5: Los Angeles Food-safety Violations, 2009-July 2012*

	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Food Trucks	3.59	6.40	0	100
Restaurants	7.82	5.25	0	100
Carts	2.37	5.74	0	36

*Data provided by Los Angeles County Department of Public Health and based on 2,928 inspections of 601 food trucks, 42,089 inspections of 7,542 restaurants and 594 inspections of 236 carts.

Table 6: Estimated Differences in Food-safety Violations, Los Angeles, 2009-July 2012 (Statistically Significant Results in Italics)*

Average Restaurant Violations Compared to Food Trucks	Rate of Restaurant Violations Compared to Food Trucks	Average Restaurant Violations Compared to Food Carts	Rate of Restaurant Violations Compared to Food Carts
4.48 more	*120% more*	*5.65 more*	*237% more*

*Results listed derived from OLS and Poisson regressions. Full regression results can be found in Appendix B.

LOUISVILLE

The Metro Health and Wellness Department in Louisville, which inspects all food establishments for potential violations, provided inspection data for 2010 through July 2013. In that time, the department conducted 34,500 inspections of food establishments, including mobile food vendors, restaurants and other establishments such as grocery stores, caterers and cafeterias. The department does not distinguish between food trucks and mobile carts, so they were analyzed together as mobile vendors.

Table 7 provides the average number of violations by establishment type.[14] As the table shows, violations were rare across all categories of food service, and Louisville's mobile vendors outperformed restaurants, as vendors averaged 1.9 total violations and restaurants 4.4.

Statistical analysis confirms the difference, as shown in Table 8. Results show that Louisville's mobile vendors averaged fewer violations than its restaurants, and the differences were statistically significant.

Table 7: Louisville Food-safety Violations, 2010-July 2013*

	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Mobile Vendors	1.87	3.11	0	35
Restaurants	4.39	4.51	0	42
Other	3.44	4.08	0	40

*Data provided by Metro Health and Wellness Department and based on 648 inspections of 117 mobile vendors, 16,958 inspections of 2,540 restaurants and 16,894 inspections of other food establishments.

Table 8: Estimated Differences in Food-safety Violations, Louisville, 2010-July 2013 (Statistically Significant Results in Italics)*

	Average Violations Compared to Mobile Vendors	Rate of Violations Compared to Mobile Vendors
Restaurants	*2.44 more*	*128% more*
Other	*1.35 more*	*82% more*

*Results listed derived from OLS and Poisson regressions. Full regression results can be found in Appendix B.

MIAMI

The Florida Department of Business and Professional Regulation, which inspects Miami food establishments for potential critical and non-critical violations of the food code, provided inspection data covering 2008 through July 2012. In that time, the department conducted 25,463 inspections of food establishments in Miami, including mobile vendors (the department groups together food trucks and carts) and restaurants.

Table 9 provides the average number of violations by establishment type. It also breaks out different types of violations as classified by the department—critical, non-critical and total. Critical violations refer to both foodborne illness risk factors (such as foods improperly cooked and toxic substances stored improperly) and violations pertaining to safety and good business practices (such as an unsafe water source and not displaying a current license). Non-critical violations, such as poor maintenance of surface areas and improper storage of cleaning equipment, are generally targeting preventive measures.

As Table 9 shows, both categories of food service saw few violations and Miami's mobile vendors outperformed restaurants, as vendors averaged 3.7 total violations and restaurants 8.2. The story is similar when looking at different types of violations. Food trucks and carts received fewer critical and non-critical violations than restaurants.

These differences held up under statistical analysis, as shown in Table 10. Results show that Miami's mobile vendors averaged fewer total violations, critical violations and non-critical violations than its restaurants, and the differences were statistically significant.

Table 9: Miami Food-safety Violations, 2008-July 2012*

	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Total Violations				
Mobile Vendors	3.71	3.62	0	31
Restaurants	8.15	7.97	0	69
Critical Violations				
Mobile Vendors	3.31	3.15	0	26
Restaurants	5.43	5.39	0	47
Non-Critical Violations				
Mobile Vendors	.40	.94	0	10
Restaurants	2.72	3.25	0	36

*Data provided by Florida Department of Business and Professional Regulation and based on 1,627 inspections of 730 mobile vendors and 23,836 inspections of 3,959 restaurants.

Table 10: Estimated Differences in Food-safety Violations, Miami, 2008-July 2012 (Statistically Significant Results in Italics)*

	Average Restaurant Violations Compared to Mobile Vendors	Rate of Restaurant Violations Compared to Mobile Vendors
Total Violations	*4.19 more*	*117% more*
Critical Violations	*1.96 more*	*61% more*
Non-critical Violations	*2.24 more*	*597% more*

*Results listed derived from OLS and Poisson regressions. Full regression results for total violations can be found in Appendix B. [15]

SEATTLE

The King County Board of Health, which inspects all food establishments in Seattle for potential violations, provided inspection data for 2009 through July 2012. In that time, the board conducted 34,122 inspections of Seattle food establishments, including mobile vendors, restaurants and hotels. The board uses mobile food service as a classification and does not separate trucks from carts, so they were analyzed together.

Table 11 displays the average number of violations by establishment type.[16] As the table shows, Seattle's mobile vendors outperformed restaurants, as vendors averaged 13.6 total violations and restaurants 16.9.

However, these differences disappeared under statistical analysis, as shown in Table 12. Results show that the difference between Seattle's mobile vendors and restaurants was not statistically significant, meaning that mobile vendors and restaurants performed essentially the same.

It is worth noting that Seattle's higher levels of violations, compared to other cities, likely result from an inspection regime that counts each violation based on the severity. For example a non-critical violation may count as two, whereas a critical violation may count as 15.

Table 11: Seattle Food-safety Violations by Establishment Type, 2009-July 2012*

	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Mobile Vendors	13.59	21.05	0	95
Restaurants	16.91	20.37	0	155
Hotels	7.06	11.47	0	65

*Data provided by King County Board of Health and based on 1,143 inspections of 139 mobile vendors, 32,230 inspections of 2,762 restaurants and 749 inspections of 63 hotels.

Table 12: Estimated Differences in Food-safety Violations, Seattle, 2009-July 2012 (Statistically Significant Results in Italics)*

	Average Violations Compared to Mobile Vendors	Rate of Violations Compared to Mobile Vendors
Restaurants	1.51 fewer	9% fewer
Hotels	*6.89 fewer*	*60% fewer*

*Results listed derived from OLS and Poisson regressions. Full regression results can be found in Appendix B.

WASHINGTON, D.C.

The Washington, D.C., Department of Health, which inspects all food establishments for potential violations, provided inspection reports for 2011 and 2012. In that time, the department conducted 8,985 inspections of food establishments, including mobile vendors, restaurants and other establishments such as grocery stores and wholesalers. The Department does distinguish between food trucks and carts; however, the populations were too small to analyze separately and so were combined into one category.

Table 13 provides the average number of violations by establishment type. It also breaks out different types of violations as classified by D.C.—critical, non-critical and total. Critical violations refer to both foodborne illness risk factors and public health interventions, such as foods cooked improperly and failure to display consumer advisories. Non-critical violations refer to good retail practices, such as the presence of insects and rodents and improper disposal of sewage and waste water.

As Table 13 shows, violations were uncommon across all categories of food service, and D.C. mobile food vendors outperformed restaurants, as vendors averaged 1.8 total violations and restaurants 4.3. The story is similar when looking at different types of violations. Mobile vendors received fewer critical and non-critical violations than restaurants.

Statistical analysis confirms these differences, as shown in Table 14. Results show that D.C.'s mobile vendors averaged fewer total violations, critical violations and non-critical violations than its restaurants, and the differences were statistically significant. Note that while restaurants and other brick-and-mortar establishments received an estimated 10 times as many critical violations as vendors, this difference is not as large in reality as it may appear. Mobile vendors received a tiny fraction of a violation per vendor, and the other categories received fewer than two per establishment.

Table 13: Washington, D.C., Food-safety Violations, 2011-2012*

	Average (Mean) Violations	Standard Deviation	Minimum	Maximum
Total Violations				
Mobile Vendors	1.81	1.31	0	7
Restaurants	4.27	4.74	0	40
Other	3.83	3.84	0	22
Critical Violations				
Mobile Vendors	0.12	0.41	0	2
Restaurants	1.80	1.97	0	14
Other	1.45	1.63	0	10
Non-Critical Violations				
Mobile Vendors	1.69	1.14	0	6
Restaurants	2.47	3.26	0	26
Other	2.38	2.75	0	16

*Data provided by Washington, D.C., Department of Health and based on 133 inspections of 102 mobile vendors, 7,749 inspections of 2,762 restaurants and 1,103 inspections of other food establishments.

Table 14: Estimated Differences in Food-safety Violations, Washington, D.C., 2011-2012 (Statistically Significant Results in Italics)*

	Average Violations Compared to Mobile Vendors	Rate of Violations Compared to Mobile Vendors
Total Violations		
Restaurants	*1.63 more*	*94% more*
Other	*1.55 more*	*89% more*
Critical Violations		
Restaurants	*1.30 more*	*1,066% more*
Other	*1.12 more*	*934% more*
Non-critical Violations		
Restaurants	*.34 more*	*23% more*
Other	*.44 more*	*28% more*

*Results listed derived from OLS and Poisson regressions. Full regression results for total violations can be found in Appendix B. [17]

CONCLUSION

Thanks to low start-up costs, street vending is an ideal opportunity for entrepreneurs with big ideas but little capital. Not surprisingly, following the recession, the number of food trucks on the streets exploded, with vendors selling everything from ice cream and hot dogs to crème brûlée and sushi. Consumers appreciate the diverse menus, low prices and convenience of mobile vendors.

In the seven cities studied here, street food is every bit as safe as food from a restaurant. In each of these cities, food trucks, carts and restaurants are held to the same sanitation standards, and trucks and carts did just as well if not slightly better during sanitation inspections than restaurants—and violations by all types of food businesses were rare. The notion that food trucks and carts are unsafe is simply a myth.

Sensationalist news reports like the WAVE3 story misinform both the public and policymakers. The WAVE3 report caused an uproar, with customers who bought tickets to an upcoming food-truck festival asking for refunds and some vendors saying new customers are now more reticent to try their products.[18] Such misinformation has also been offered to justify laws that unfairly restrict mobile vendors' ability to compete. But this report shows that it makes no more sense to shut down or burden food trucks or carts with anti-competitive regulations under the guise of food safety than it would to shut down or burden restaurants, hotels or grocery stores.

It shouldn't be surprising that food trucks and carts are just as clean and sanitary as restaurants. Both business models rely on repeat customers, and few people are going to eat twice at a place that made them ill. With the rise of social media like Yelp, word of mouth about a business—whether good or bad—spreads further and more quickly than ever before. And one advantage of food trucks and carts is that it is easier to watch as your food is being prepared—something you simply cannot do at most restaurants. So consumers can rest assured that food trucks and carts are as clean as restaurants, and in fact are often more so.

For those policymakers concerned about health and safety, they should ensure—through inspections—that mobile food vendors are held to the same sanitation standards as restaurants.[19] In this way, the public can enjoy food from vendors that is both delicious and safe while allowing entrepreneurship and economic growth to thrive.

IN THE SEVEN CITIES STUDIED HERE, STREET FOOD IS EVERY BIT AS SAFE AS FOOD FROM A RESTAURANT. THE NOTION THAT FOOD TRUCKS AND CARTS ARE UNSAFE IS SIMPLY A MYTH.

APPENDIX A: METHODS

To isolate the influence of establishment types (β) on the inspection scores (Y) received, these analyses measured differences using OLS regression with fixed-effects. Inspection scores were regressed on establishment types and dummy variables representing day of the week (Θ), month (X) and year (Ω). Weekday, month and year reveal variability of inspections across time.

Seattle and Washington, D.C., include a risk variable (Ψ), which those cities use to identify the potential risk associated with an establishment dependent on the manner in which it prepares and serves food. For example, high-risk categories include establishments that handle raw ingredients extensively, like most sit-down restaurants; moderate-risk categories include establishments that have limited preparation, like a deli or coffee shop; and low-risk categories include establishments such as hot dog stands and convenience stores that primarily serve prepackaged or limited preparation foods.

An establishment can be inspected once or multiple times in one year with little consistency across establishments. Additionally, the type of food served at or from an establishment determines the level of detail required during a health inspection, which means not all the inspection categories apply to every establishment. The establishment fixed effect (Φ) isolates and eliminates the individual specific differences.[20]

Because sanitation scores are a count of the number of violations during an inspection and most inspections have few violations, a Poisson regression was also used. As with the OLS, inspection scores were regressed on establishment types and the time dummy variables. Standard errors were clustered by establishment to account for multiple inspections per business.

The following is the OLS model for Boston:

$$\mathbf{Y=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega+\Phi+\epsilon}$$

The Poisson model is:

$$\mathbf{ln\ (Y)=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega}$$

"Y" represents inspection demerits with zero or no demerits being the best score. The

reference year is 2011 with the analysis covering 2011 through July 2013. β_1 represents the coefficient for restaurants, and β_2 represents the coefficient for grocery stores, cafeterias, caterers, etc. The models were run separately for food trucks and carts.

The OLS model for Las Vegas is:

$$\mathbf{Y=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega+\Phi+\epsilon}$$

The Poisson model is:

$$\mathbf{ln\ (Y)=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega}$$

"Y" represents inspection demerits with zero or no demerits being the best score and up to 100 demerits being the worst score. The reference year is 2009 with the analysis covering 2009 through July 2012. β_1 represents the coefficient for restaurants, and β_2 represents the coefficient for grocery stores, processors, cafeterias, etc. The models were run separately for food trucks and carts.

The OLS model for Los Angeles is:

$$\mathbf{Y=\beta_0+\beta_1\ (restaurants)+\Theta+X+\Omega+\Phi+\epsilon}$$

The Poisson model is:

$$\mathbf{ln\ (Y)=\beta_0+\beta_1\ (restaurants)+\Theta+X+\Omega}$$

"Y" represents inspection demerits where zero is the best possible score.[21] The analysis is from 2009 (the reference year) through July 2012. β_1 represents the coefficient for restaurants. The models were run separately for food trucks and carts.

The following is the OLS model for Louisville:

$$\mathbf{Y=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega+\Phi+\epsilon}$$

The Poisson model is:

$$\mathbf{ln\ (Y)=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega}$$

"Y" represents inspection demerits.[22] The reference year is 2010 with the analysis covering 2010 through July 2013. β_1 represents the coefficient for restaurants, and β_2

represents the coefficient for grocery stores, cafeterias, caterers, etc.

The OLS model for Miami is:

$$Y=\beta_0+\beta_1\ (\text{restaurants})+\Theta+X+\Omega+\Phi+\epsilon$$

The Poisson model is:

$$\ln\ (Y)=\beta_0+\beta_1\ (\text{restaurants})+\Theta+X+\Omega$$

"Y" is the number of violations coded consistent with the other cities above, and β_1 represents the coefficient for restaurants. The analysis is from 2008 (the reference year) through July 2012.

The OLS model for Seattle is:

$$Y=\beta_0+\beta_1\ (\text{restaurants})+\beta_2\ (\text{hotels})+\Theta+X+\Omega+\Psi+\Phi+\epsilon$$

The Poisson model is:

$$\ln\ (Y)=\beta_0+\beta_1\ (\text{restaurants})+\beta_2\ (\text{hotels})+\Theta+X+\Omega+\Psi$$

"Y" is the number of inspection demerits with zero being the best possible score. The reference year is 2009 with the analysis covering 2009 through July 2012. β_1 represents the coefficient for restaurants, and β_2 represents the coefficient for hotels. Seattle also has a risk rank fixed effect (Ψ). Seattle ranks establishments that sell pre-packaged food with limited preparation as the lowest, one, and establishments with complex food preparation and storage as the highest, three.

The OLS model for Washington, D.C. is:

$$\mathbf{Y=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega+\Psi+\Phi+\epsilon}$$

The Poisson model is:

$$\mathbf{ln\ (Y)=\beta_0+\beta_1\ (restaurants)+\beta_2\ (other)+\Theta+X+\Omega+\Psi}$$

"Y" is the number of violations. The analysis was run for 2011 and 2012. β_1 represents the coefficient for restaurants, caterers, cafeterias and hotels, and β_2 represents the coefficient for grocery stores, corner stores and wholesalers. Like Seattle, Washington, D.C. has a risk rank fixed effect (Ψ) based on the District's ranking of establishments, where one is the least risky and five is the riskiest.

APPENDIX B: REGRESSION OUTPUT

Table 15.
Boston Food Trucks

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	1.872	0.253	0.00	0.527	0.107	0.00
Other	-0.187	0.251	0.46	-0.020	0.109	0.86
Weekday						
Tuesday	-1.399	0.909	0.12	-0.261	0.287	0.36
Wednesday	-1.514	0.906	0.10	-0.284	0.287	0.32
Thursday	-1.523	0.907	0.09	-0.298	0.287	0.30
Friday	-1.413	0.908	0.12	-0.240	0.287	0.40
Saturday	-1.447	0.907	0.11	-0.253	0.287	0.38
Sunday	-2.507	0.944	0.01	-0.867	0.324	0.01
Month						
February	-0.046	0.117	0.69	-0.094	0.040	0.02
March	0.329	0.126	0.01	0.095	0.039	0.02
April	0.088	0.135	0.51	0.058	0.041	0.16
May	0.284	0.126	0.02	0.138	0.037	0.00
June	-0.077	0.133	0.57	0.006	0.040	0.89
July	-0.517	0.130	0.00	-0.111	0.042	0.01
August	-0.140	0.132	0.29	-0.021	0.042	0.62
September	-0.402	0.123	0.00	-0.151	0.043	0.00
October	-0.153	0.128	0.23	-0.027	0.041	0.51
November	-0.341	0.141	0.02	-0.027	0.044	0.54
December	-0.273	0.152	0.07	0.009	0.048	0.85
Year						
2012	0.461	0.095	0.00	0.148	0.028	0.00
2013	0.335	0.116	0.00	0.129	0.034	0.00
Intercept	3.529	0.978	0.00	1.178	0.315	0.00
sigma_u	2.471					
sigma_e	3.012					
rho	0.402					

Table 16.
Boston Carts

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	3.391	0.092	0.00	1.580	0.079	0.00
Other	1.334	0.087	0.00	1.033	0.082	0.00
Weekday						
Tuesday	0.231	0.149	0.12	0.438	0.171	0.01
Wednesday	0.123	0.147	0.40	0.415	0.171	0.02
Thursday	0.118	0.147	0.42	0.404	0.171	0.02
Friday	0.226	0.147	0.13	0.462	0.171	0.01
Saturday	0.181	0.148	0.22	0.447	0.171	0.01
Sunday	-0.353	0.222	0.11	-0.099	0.235	0.67
Month						
February	-0.032	0.115	0.78	-0.090	0.040	0.03
March	0.358	0.126	0.00	0.101	0.039	0.01
April	0.102	0.131	0.44	0.058	0.041	0.16
May	0.269	0.122	0.03	0.135	0.037	0.00
June	-0.058	0.129	0.65	0.012	0.040	0.76
July	-0.492	0.126	0.00	-0.111	0.042	0.01
August	-0.145	0.127	0.25	-0.031	0.042	0.47
September	-0.393	0.122	0.00	-0.150	0.043	0.00
October	-0.160	0.127	0.21	-0.027	0.041	0.50
November	-0.330	0.138	0.02	-0.033	0.044	0.45
December	-0.231	0.150	0.12	0.017	0.048	0.73
Year						
2012	0.450	0.092	0.00	0.145	0.028	0.00
2013	0.318	0.113	0.01	0.124	0.034	0.00
Intercept	0.387	0.182	0.03	-0.573	0.165	0.00
sigma_u	2.324					
sigma_e	2.970					
rho	0.380					

Table 17.
Las Vegas Food Trucks

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	3.575	0.287	0.00	0.732	0.096	0.00
Other	1.085	0.286	0.00	0.267	0.096	0.01
Weekday						
Tuesday	0.375	0.291	0.20	0.113	0.055	0.04
Wednesday	0.191	0.291	0.51	0.078	0.055	0.15
Thursday	0.123	0.290	0.67	0.064	0.055	0.24
Friday	0.048	0.290	0.87	0.051	0.055	0.35
Saturday	-0.371	0.289	0.20	-0.026	0.055	0.63
Sunday	-0.239	0.310	0.44	-0.051	0.060	0.39
Month						
February	-0.064	0.079	0.42	-0.006	0.015	0.68
March	-0.161	0.079	0.04	-0.022	0.015	0.15
April	-0.105	0.085	0.22	-0.015	0.016	0.37
May	0.030	0.088	0.74	0.015	0.016	0.36
June	-0.055	0.082	0.50	0.003	0.016	0.83
July	0.166	0.087	0.06	0.040	0.016	0.01
August	0.322	0.095	0.00	0.076	0.018	0.00
September	0.028	0.086	0.74	0.013	0.017	0.44
October	-0.176	0.087	0.04	-0.020	0.017	0.25
November	0.100	0.102	0.33	0.035	0.019	0.07
December	-0.124	0.104	0.23	-0.007	0.020	0.72
Year						
2010	0.107	0.039	0.01	0.021	0.008	0.01
2011	0.544	0.045	0.00	0.100	0.009	0.00
2012	1.306	0.060	0.00	0.231	0.011	0.00
Intercept	2.758	0.409	0.00	1.073	0.111	0.00
sigma_u	1.578					
sigma_e	5.558					
rho	0.075					

Table 18.
Las Vegas Carts

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	4.711	0.112	0.00	1.214	0.054	0.00
Other	2.221	0.110	0.00	0.748	0.055	0.00
Weekday						
Tuesday	0.359	0.276	0.19	0.110	0.054	0.04
Wednesday	0.181	0.275	0.51	0.076	0.054	0.16
Thursday	0.118	0.275	0.67	0.063	0.054	0.24
Friday	0.038	0.275	0.89	0.049	0.054	0.36
Saturday	-0.362	0.274	0.19	-0.026	0.054	0.62
Sunday	-0.204	0.295	0.49	-0.044	0.059	0.46
Month						
February	-0.061	0.078	0.43	-0.005	0.015	0.71
March	-0.160	0.078	0.04	-0.022	0.015	0.14
April	-0.106	0.084	0.20	-0.015	0.016	0.34
May	0.038	0.087	0.67	0.016	0.016	0.32
June	-0.049	0.081	0.54	0.004	0.015	0.82
July	0.176	0.086	0.04	0.042	0.016	0.01
August	0.340	0.094	0.00	0.080	0.018	0.00
September	0.059	0.085	0.49	0.019	0.017	0.25
October	-0.170	0.087	0.05	-0.019	0.017	0.26
November	0.130	0.100	0.19	0.041	0.019	0.03
December	-0.107	0.103	0.30	-0.003	0.020	0.88
Year						
2010	0.107	0.038	0.01	0.021	0.008	0.01
2011	0.549	0.044	0.00	0.103	0.009	0.00
2012	1.300	0.059	0.00	0.233	0.011	0.00
Intercept	1.618	0.294	0.00	0.591	0.076	0.00
sigma_u	1.569					
sigma_e	5.524					
rho	0.075					

Table 19.
Los Angeles Food Trucks

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	4.484	0.143	0.00	0.786	0.049	0.00
Weekday						
Tuesday	-0.313	0.424	0.46	0.145	0.074	0.05
Wednesday	-0.233	0.421	0.58	0.145	0.074	0.05
Thursday	-0.187	0.420	0.66	0.144	0.074	0.05
Friday	-0.242	0.421	0.57	0.133	0.074	0.07
Saturday	-0.206	0.426	0.63	0.122	0.074	0.10
Sunday	1.110	0.516	0.03	0.248	0.089	0.01
Month						
February	0.124	0.115	0.28	0.012	0.017	0.45
March	0.101	0.097	0.30	0.018	0.015	0.23
April	0.041	0.102	0.69	0.006	0.015	0.71
May	-0.021	0.097	0.83	-0.006	0.014	0.70
June	0.081	0.110	0.46	0.018	0.016	0.26
July	0.251	0.128	0.05	0.030	0.018	0.10
August	0.326	0.123	0.01	0.033	0.018	0.06
September	0.533	0.121	0.00	0.069	0.017	0.00
October	0.282	0.135	0.04	0.025	0.019	0.19
November	0.104	0.132	0.43	0.011	0.019	0.55
December	-0.141	0.120	0.24	-0.004	0.018	0.81
Year						
2010	-0.402	0.067	0.00	-0.056	0.009	0.00
2011	-0.701	0.070	0.00	-0.094	0.010	0.00
2012	-0.829	0.090	0.00	-0.102	0.013	0.00
Intercept	3.721	0.450	0.00	1.178	0.091	0.00
sigma_u	2.430					
sigma_e	4.633					
rho	0.216					

Table 20.
Los Angeles Carts

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	5.648	0.237	0.00	1.214	0.105	0.00
Weekday						
Tuesday	0.254	0.393	0.52	0.264	0.074	0.00
Wednesday	0.440	0.391	0.26	0.275	0.073	0.00
Thursday	0.436	0.391	0.26	0.268	0.073	0.00
Friday	0.443	0.390	0.26	0.265	0.073	0.00
Saturday	0.402	0.394	0.31	0.245	0.074	0.00
Sunday	0.843	0.492	0.09	0.265	0.091	0.00
Month						
February	0.130	0.116	0.26	0.013	0.016	0.43
March	0.131	0.097	0.18	0.020	0.015	0.16
April	0.040	0.101	0.69	0.005	0.015	0.74
May	0.024	0.097	0.80	0.000	0.014	0.98
June	0.232	0.111	0.04	0.037	0.016	0.02
July	0.321	0.132	0.02	0.036	0.018	0.05
August	0.342	0.126	0.01	0.032	0.018	0.07
September	0.452	0.119	0.00	0.058	0.017	0.00
October	0.289	0.138	0.04	0.025	0.019	0.20
November	0.034	0.123	0.79	0.003	0.017	0.85
December	-0.155	0.121	0.20	-0.004	0.018	0.84
Year						
2010	-0.468	0.069	0.00	-0.064	0.009	0.00
2011	-0.849	0.070	0.00	-0.113	0.010	0.00
2012	-0.958	0.091	0.00	-0.118	0.012	0.00
Intercept	1.996	0.458	0.00	0.635	0.127	0.00
sigma_u	2.454					
sigma_e	4.520					
rho	0.228					

Table 21.
Louisville Mobile Vendors (Trucks and Carts)

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	2.441	0.164	0.00	0.826	0.076	0.00
Other	1.354	0.166	0.00	0.596	0.077	0.00
Weekday						
Tuesday	0.200	0.243	0.41	0.030	0.112	0.79
Wednesday	0.177	0.247	0.47	0.024	0.113	0.83
Thursday	0.102	0.246	0.68	0.016	0.112	0.89
Friday	0.095	0.256	0.71	-0.017	0.114	0.88
Saturday	-0.019	0.273	0.94	-0.051	0.117	0.67
Sunday	-0.044	0.215	0.84	-0.101	0.116	0.39
Month						
February	0.000	0.101	1.00	0.023	0.032	0.46
March	-0.158	0.095	0.10	-0.058	0.032	0.07
April	0.151	0.141	0.28	0.069	0.035	0.05
May	0.208	0.188	0.27	0.067	0.043	0.12
June	0.060	0.113	0.60	0.027	0.030	0.37
July	0.009	0.097	0.93	0.009	0.029	0.75
August	-0.356	0.222	0.11	-0.090	0.079	0.26
September	0.201	0.117	0.09	0.107	0.033	0.00
October	0.070	0.112	0.53	-0.009	0.034	0.80
November	-0.099	0.103	0.34	-0.040	0.032	0.21
December	-0.060	0.106	0.58	0.005	0.033	0.88
Year						
2010	0.719	0.073	0.00	0.201	0.026	0.00
2011	0.606	0.113	0.00	0.160	0.037	0.00
2012	0.282	0.068	0.00	0.062	0.025	0.01
Intercept	1.352	0.346	0.00	0.523	0.137	0.00
sigma_u	1.913					
sigma_e	3.729					
rho	0.208					

Table 22.
Miami Mobile Vendors (Trucks and Carts)

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	4.191	0.126	0.00	0.773	0.032	0.00
Weekday						
Tuesday	2.922	0.378	0.00	0.868	0.105	0.00
Wednesday	2.524	0.371	0.00	0.826	0.105	0.00
Thursday	2.606	0.372	0.00	0.841	0.105	0.00
Friday	2.529	0.377	0.00	0.826	0.105	0.00
Saturday	2.205	0.374	0.00	0.775	0.105	0.00
Sunday	0.732	0.515	0.16	0.354	0.136	0.01
Month						
February	0.308	0.211	0.15	0.060	0.029	0.04
March	0.228	0.218	0.29	0.052	0.029	0.07
April	-0.482	0.212	0.02	-0.042	0.031	0.18
May	-1.080	0.213	0.00	-0.106	0.031	0.00
June	-1.730	0.201	0.00	-0.255	0.031	0.00
July	-0.215	0.231	0.35	-0.011	0.030	0.72
August	-0.391	0.241	0.11	-0.023	0.032	0.47
September	-0.565	0.239	0.02	-0.054	0.032	0.09
October	-0.522	0.242	0.03	-0.053	0.032	0.10
November	-0.598	0.272	0.03	-0.049	0.036	0.17
December	-0.852	0.257	0.00	-0.107	0.035	0.00
Year						
2009	-1.368	0.151	0.00	-0.154	0.017	0.00
2010	-1.487	0.225	0.00	-0.175	0.027	0.00
2011	-3.323	0.150	0.00	-0.435	0.019	0.00
2012	-3.495	0.213	0.00	-0.466	0.027	0.00
Intercept	3.533	0.438	0.00	0.761	0.112	0.00
sigma_u	2.877					
sigma_e	6.570					
rho	0.161					

Table 23.
Seattle Mobile Vendors (Trucks and Carts)

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	-1.505	1.368	0.27	-0.094	0.111	0.40
Hotels	-6.893	1.589	0.00	-0.915	0.191	0.00
Weekday						
Tuesday	0.103	2.951	0.97	0.292	0.256	0.25
Wednesday	-0.849	2.963	0.77	0.264	0.256	0.30
Thursday	-0.251	2.980	0.93	0.270	0.257	0.29
Friday	0.741	2.964	0.80	0.387	0.257	0.13
Saturday	-0.596	3.003	0.84	0.279	0.257	0.28
Sunday	-0.315	3.358	0.93	0.120	0.283	0.67
Month						
February	-1.626	0.934	0.08	-0.085	0.070	0.22
March	0.898	0.932	0.34	0.102	0.078	0.19
April	-2.009	0.894	0.03	-0.113	0.067	0.09
May	-3.274	0.893	0.00	-0.286	0.072	0.00
June	-2.652	1.026	0.01	-0.158	0.073	0.03
July	-0.298	1.232	0.81	0.011	0.099	0.92
August	-1.090	1.257	0.39	-0.028	0.090	0.76
September	-5.733	1.042	0.00	-0.400	0.083	0.00
October	-6.436	1.009	0.00	-0.522	0.093	0.00
November	-5.098	0.976	0.00	-0.428	0.083	0.00
December	-5.743	0.982	0.00	-0.409	0.084	0.00
Year						
2010	-0.135	0.621	0.83	0.007	0.056	0.90
2011	-0.801	0.585	0.17	-0.006	0.054	0.91
2012	-0.318	0.745	0.67	0.061	0.060	0.31
Risk Rank						
2	-3.243	0.822	0.00	-0.567	0.140	0.00
2/3	-8.459	1.727	0.00	-1.243	0.347	0.00
3	5.419	0.760	0.00	0.506	0.104	0.00
Intercept	12.828	3.140	0.00	2.313	0.267	0.00
sigma_u	8.730					
sigma_e	15.340					
rho	0.245					

Table 24.
Washington, D.C., Mobile Vendors (Trucks and Carts)

	OLS			Poisson		
	Coefficient	**Robust SE**	***p***	**Coefficient**	**Robust SE**	***p***
Restaurants	1.630	0.151	0.00	0.661	0.088	0.00
Other	1.550	0.169	0.00	0.636	0.092	0.00
Weekday						
Tuesday	0.732	0.918	0.43	0.224	0.305	0.46
Wednesday	0.837	0.913	0.36	0.325	0.148	0.03
Thursday	0.641	0.912	0.48	0.370	0.148	0.01
Friday	0.945	0.917	0.30	0.329	0.148	0.03
Saturday	0.739	0.919	0.42	0.399	0.148	0.01
Sunday	0.859	1.575	0.59	0.327	0.148	0.03
Month						
February	0.113	0.258	0.66	0.248	0.182	0.17
March	-0.024	0.248	0.92	-0.006	0.059	0.93
April	0.021	0.255	0.94	0.025	0.034	0.45
May	0.061	0.233	0.79	-0.013	0.032	0.67
June	-0.142	0.241	0.56	-0.017	0.033	0.60
July	0.337	0.263	0.20	-0.006	0.032	0.85
August	0.396	0.246	0.11	-0.021	0.034	0.53
September	-0.287	0.243	0.24	0.069	0.033	0.04
October	-0.349	0.230	0.13	0.065	0.031	0.04
November	-0.418	0.230	0.07	-0.089	0.033	0.01
December	-0.524	0.252	0.04	-0.104	0.032	0.00
Year						
2012	-0.586	0.088	0.00	-0.147	0.033	0.00
Risk Rank						
2	0.489	0.192	0.01	-0.174	0.035	0.00
3	1.344	0.193	0.00	0.374	0.063	0.00
4	2.051	0.273	0.00	-0.164	0.012	0.00
5	-0.162	0.472	0.73	-0.046	0.168	0.78
Intercept	1.110	0.934	0.23	0.168	0.055	0.00
sigma_u	0.000					
sigma_e	4.719					
rho	0.000					

ENDNOTES

1 Public Broadcasting Service. "Timeline of the Great Depression." http://www.pbs.org/wgbh/americanexperience/features/timeline/rails-timeline/.

2 http://www.wave3.com/story/22818583/health-department-worried-about-food-truck-saniation-safety.

3 http://www.wave3.com/story/22818583/health-department-worried-about-food-truck-saniation-safety.

4 Norman, E., Frommer, R., Gall, B., & Knepper, L. (July 2011) "Streets of dreams: How cities can create economic opportunity by knocking down protectionist barriers to street vending." Institute for Justice: Arlington, VA.

5 Initially Las Vegas, Los Angeles, Miami, Seattle and Washington D.C. were chosen from the 50 largest cities in the U.S. because their sanitation records were accessible and included ways to distinguish by establishment type. Later both Boston and Louisville were added after news reports suggested that food trucks performed worse than restaurants during inspections.

6 Local codes are governed by state sanitation laws, which are mainly concerned with cleanliness, food sourcing and storage, food temperatures and employee health and knowledge. They also address vermin, refuse, consumer protection, utensils and equipment. Additionally, the seven municipalities studied all require food-truck and cart owners to work out of a commissary—shared commercial kitchen—where they must store food, containers and supplies as well as prepare food, clean utensils and dispose of liquid and solid waste. The commissaries, like restaurants and mobile vendors, must pass periodic health inspections to remain open.

7 In Las Vegas, Los Angeles, Louisville and Seattle, violations are given demerit values depending on the severity of the violation. For example, a foodborne violation may have a demerit of five whereas a business practice violation may have a demerit of one. In these cities, the sum of the demerits is the number provided by the agencies and is reported here as number of violations.

8 Analyses controlled for when an establishment was inspected—day of

the week, month and year—because variations may occur with higher traffic and lower traffic days and with seasonal and yearly fluctuations in demand, weather, foods, pests and other factors. The analyses also controlled for each individual establishment because some businesses may be inspected more often or have consistent issues based on something other than the type of food establishment they are. The analyses for Seattle and Washington, D.C., also controlled for risk categories assigned by the cities. These categories are assigned based on establishments' methods of food preparation and delivery—pre-packaged versus fresh food, ice cream versus warm lunch entrees and so forth. Analyses controlled for these categories so that an abundance of high-risk, and therefore potentially high-violation, establishments in one category would not skew results.

9 The Poisson regression is commonly used for analyzing count data, which we have here (i.e., counts of violations). However, the results of OLS regression tend to be easier to understand and are included here for ease of interpretation.

10 The full regression output for models in Boston, Miami and Washington, D.C., using the numbers of critical and non-critical violations can be supplied upon request.

11 The full regression output for the models using the number of critical foodborne, critical and non-critical violations separately can be supplied upon request.

12 The number of violations here is actually the number of reported demerits, where more severe violations receive more demerits.

13 The number of violations here is actually the number of reported demerits, where more severe violations receive more demerits.

14 The number of violations here is actually the number of reported demerits, where more severe violations receive more demerits.

15 The full regression output for the models using the number of critical and non-critical violations separately can be supplied upon request.

16 The number of violations here is actually the number of reported demerits, where more severe violations receive more demerits.

17 The full regression output for the models using the number of critical and non-critical violations separately can be supplied upon request.

18 http://fatlip.leoweekly.com/2013/07/26/inspection-scores-suggest-louisville-food-trucks-arent-as-scary-as-wave3-thinks/.

19 For more information on good food-truck laws see: Frommer, R. & Gall, B. (November 2012) "Food-truck freedom: How to build better food-truck laws in your city." Institute for Justice: Arlington, VA; http://ij.org/vending.

20 The OLS models were also run without the establishment fixed effects and the Poisson models were run with establishment fixed effects. The results of these models were not appreciably different from the ones used in this report. These results can be provided upon request.

21 These values were transformed from the original grade that removes demerits from 100.

22 These values were transformed from the original grade that removes demerits from 100.

ANGELA C. ERICKSON

Angela C. Erickson is a research analyst at the Institute for Justice, where she works with the strategic research team conducting original social science research.

Before joining IJ, Erickson was a research assistant at the Cato Institute. She holds a Master's in Public Policy from the University of Chicago and received a Bachelor's degree in economics and political science from Beloit College.

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Institute for Justice
901 N. Glebe Road
Suite 900
Arlington, VA 22203

www.ij.org

p 703.682.9320
f 703.682.9321