OFFICE OF INSPECTOR GENERAL
UNITED STATES POSTAL SERVICE

# Billions Served: Foot Traffic at the Post Office

## RARC Report

**Report Number**
**RARC-WP-17-012**

**September 11, 2017**

OFFICE OF INSPECTOR GENERAL
UNITED STATES POSTAL SERVICE

# Executive Summary

The U.S. Postal Service has more than 30,000 post offices — about as many nationwide outlets as McDonald's, Starbucks, and Walmart combined. How many people visit those locations each year? The Postal Service officially lists 877 million customer visits in fiscal year (FY) 2016, though this is based only on the volume of transactions. In reality, most visits do not include a transaction. Instead, customers may check a PO Box, pick up shipping materials, or deposit a letter in the slot. These actions are key elements of the Postal Service's value chain, and omitting them dramatically underestimates customers' use of post offices. A more complete foot traffic estimate could help USPS better manage its network for the benefit of the American people.

The U.S. Postal Service Office of Inspector General (OIG) used a variety of proven methods to measure foot traffic, which we defined as any time a person physically goes inside a USPS-run post office. We estimate annual foot traffic was 2.7 billion visits in FY 2016 — about triple the Postal Service's official statistic. This figure is based on an OIG model that combines Postal Service data on transactions and occupied PO Boxes, survey-based estimates of actions taken in post offices, and assumptions about how those figures translate into foot traffic. To test the model, we installed people-counting devices in 32 large post offices in the Northern Virginia District. The counts from the devices generally aligned with the model's predictions, with overall foot traffic coming within 2 percent of predicted visits.

## Highlights

**There are more customer visits to the post office than official statistics indicate. The OIG estimates 2.7 billion visits in FY 2016 — triple the stated figure of 877 million.**

**The official number refers to transactions only. In reality, most people visit post offices to do other things like check a PO Box, pick up shipping materials, or deposit mail in a collection slot.**

**Post office foot traffic varies widely. The 450 largest locations have on average about as much foot traffic as Best Buy stores, while the next 7,000 largest have about as much traffic as CVS locations.**

**An OIG survey shows that Millennials visit post offices more often than older generations, but for different purposes.**

**Following private sector best practices, USPS could use foot traffic information to make better retail decisions and improve customer service, sales, and efficiency.**

The OIG also examined various ways USPS could use retail foot traffic data, including:

- **Segmenting post offices by foot traffic.** The post office network is so varied that the overall average foot traffic per location is not meaningful. The 450 busiest post offices are “Mega” locations with about as much foot traffic as Best Buy stores. The next 7,000 are “Large” offices with about as much traffic as CVS stores. The next 8,000 are “Small/Medium” locations and are on par with an average bank branch. Half of post offices are “Micro” locations with significantly less traffic than that of other national retailers. Segmenting offices in this way could be useful in assessing potential retail initiatives. For example, a retail partnership that might be hugely successful at Mega and Large locations may not work as well at Micro offices.

- **Gathering data on in-store flows.** Retailers track and analyze customer movements inside a store, which helps maximize store value, improve service, and boost sales. Some also partner with smartphone location analysis companies to gain further insights. USPS could benefit from many of these strategies.

- **Analyzing who visits post offices and why.** The Postal Service could use smartphone location analysis and surveys to study the ways different groups of Americans use post offices and cater its customer service efforts accordingly. The OIG’s nationally-representative sample survey showed that:

  - **Younger Americans visit post offices more frequently than older ones.** While Millennials overall visit more often than older generations, their relationship with post offices is complicated. One fifth of Millennials are power users, visiting post offices at least once a week. But another fifth of Millennials rarely, if ever go. In this way, younger Americans are much more polarized than older generations on post office use.

  - **The young and old do different things at the post office.** Millennials are less likely than older generations to have completed a counter transaction on their last post office visit, but are more likely to have used a kiosk, checked a PO Box, or picked up free shipping materials. Young people could drive broad shifts in the types of actions completed at post offices.

  - **Self-employed Americans and USPS Mobile app users are key post office customers.** While the Postal Service’s mobile app has been billed as a way to “skip the trip to the post office,” users of the app visit post offices almost twice as much as the population overall. The same is true of business owners. Both groups also completed a wider variety of actions on their most recent visit, showing that they are key retail customers for the Postal Service.

Following private sector best practices, the Postal Service could track retail visits using the OIG’s model, inexpensive people-counter devices, or by using anonymized smartphone tracking location data. USPS could use the information to make more informed decisions about its retail network, improve sales and customer service, and better assess potential opportunities for retail partnerships. Armed with a broader understanding of its retail customers, the Postal Service could better quantify post offices’ value to the communities they serve and to USPS itself.

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# Observations

***Post offices get much more foot traffic than is generally understood.***

## Introduction

The U.S. Postal Service has the largest brick-and-mortar retail network in the country, with more than 30,000 USPS-run post offices.[1] That is about as many nationwide locations as McDonald's, Starbucks, and Walmart combined. How many customers visit those post offices each year? The Postal Service officially lists 877 million customer visits in fiscal year (FY) 2016.[2] However, that figure only includes transactions.[3] It turns out that most people who walk into a post office do not complete a transaction. Instead, they may check their PO Box, stick a letter into the mail slot, or pick up free shipping materials. These interactions are key components of the Postal Service's value chain and demonstrate how valuable physical post offices are to postal customers.

A more comprehensive foot traffic estimate could have significant public policy and strategic value, allowing policymakers and postal management to better assess and manage the network of post offices for the benefit of the American people. In this report, the U.S. Postal Service Office of Inspector General (OIG) uses various proven approaches to estimate retail foot traffic and lays out a model that USPS could use on an ongoing basis to estimate its customer visits down to the individual post office.

In addition, this report analyzes how foot traffic differs across various types of post offices, examines the characteristics of people who visit post offices most (and least) often, and explores best practices from the private sector. Finally, it suggests possible ways for the Postal Service to use foot traffic information as a tool to improve sales and the customer experience and to evaluate potential retail partnership opportunities — many of which may only make sense if post offices have sufficient foot traffic.

## Post Offices Still Drive Retail Sales

Historically, buying stamps or mailing a package required a trip to the neighborhood post office. These days, Americans have a plethora of other options. They can order stamps on usps.com or buy them at more than 62,000 retailers and ATMs.[4] They also can print shipping labels for their packages and arrange to have them picked up through Click-N-Ship. While these alternative channels have grown significantly over the past decade, the vast majority of people still go to the post office to conduct their postal business. USPS-run post offices and the self-service kiosks in their lobbies comprised 79 percent of retail revenue in FY 2016, down from 88 percent in 2004.[5] The largest alternative retail channel by far is the Stamps-to-Go program, through which brick-and-mortar retailers sell Forever Stamps.[6]

Furthermore, a significant amount of non-retail revenue is still reliant on post offices to fulfill its value proposition. Ecommerce returns, for example, typically involve a customer bringing a box into a post office with a prepaid shipping label on it. Even though the customer did not make a purchase at the window, the post office was an integral part of that shipment. In other words, you cannot measure the value of post offices through their walk-in revenue alone.

## Estimating Annual Post Office Foot Traffic

There is no definitive accounting of total retail foot traffic across the post office network, though it is clear that foot traffic is considerably higher than the Postal Service's official figure. We examine several approaches for measuring foot traffic, which we summarize in Figure 1.

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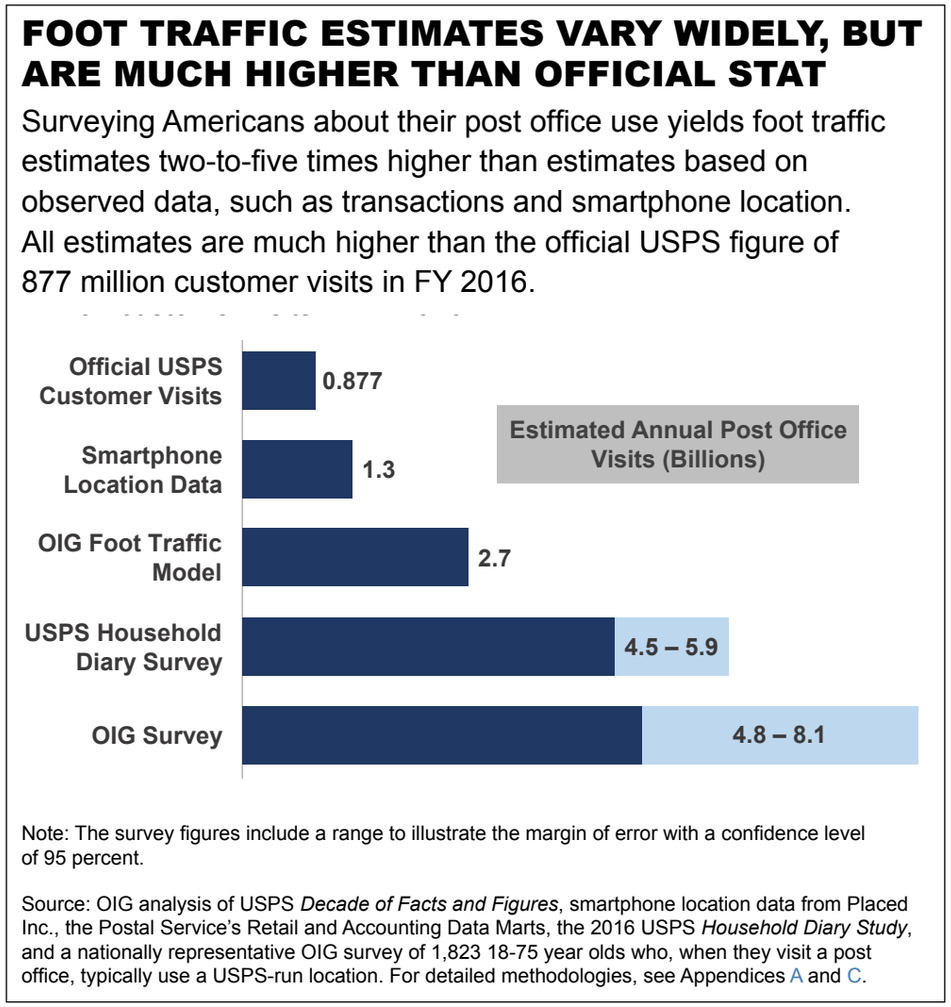
1 U.S. Postal Service, *Postal Facts 2017*, May 9, 2017, https://about.usps.com/who-we-are/postal-facts/postalfacts2017.pdf, p. 2.
2 Ibid. Fiscal year (FY) 2016 ended Sept. 30, 2016.
3 This includes transactions completed at the retail counter, through self-service kiosks, and through mobile point-of-sale devices.
4 USPS, *Approved Postal Provider Programs*, https://about.usps.com/suppliers/becoming/approved-postal-provider-programs.htm.
5 OIG analysis of USPS Alternate Access Revenue report. Retail revenue includes contract postal units, approved shippers, Stamps-to-Go, Click-N-Ship, and other usps.com sales. It does not include commercial PC postage.
6 Ibid.

**Figure 1: Summary of Foot Traffic Estimates**




### Defining Retail Foot Traffic

For the purposes of this report, we are defining retail foot traffic as the number of total visits to USPS-run retail units. This includes post offices, branches, and stations that serve retail customers. It does not include contract postal units, which are post offices that are inside other businesses and staffed by non-postal employees. It also does not include visits to bulk mail entry units, plants, and other facilities that do not serve retail customers. There were 30,828 USPS-run retail units with foot traffic in FY 2016.[7] According to the Postal Service, most have a 24-hour lobby with PO Boxes in addition to a retail window with more limited hours. Our definition of foot traffic includes visits to the lobby or the window, but excludes visits to the mail collection points outside of the building.

### Smartphone Location Data-Based Estimate

Placed Inc. is a national location data company that measures visits to major retailers (including post offices) using the location data from 2.5 million smartphone users who agree to be monitored. Placed applies statistical weights to its data to project visitation behaviors for the broader U.S. population.[8] Based on seasonally-adjusted visits to post offices during the first five months of 2017, the Placed data suggests annual foot traffic of about 1.3 billion visits.[9] It should be noted that, for a variety of reasons, it may be very difficult for smartphone location analysis to accurately track visits to smaller post office locations that are immediately next to other businesses.[10]

### Household Diary Survey-Based Estimate

The Postal Service commissions a large, nationally-representative survey of American households each year in an effort to gain insights on how people interact with the Postal Service and its products. That survey, included as part of the Household Diary Study, asks two questions related to post office foot traffic:

- *How many times in an average month do household members go inside a U.S. Post Office to the service counter?*
- *How many times in an average month do household members go to a U.S. Post Office but not to the service counter?*[11]

7 OIG analysis of USPS Retail Data Mart data.
8 "Placed 100: This Month's Round-Up of Most Popular Businesses in November," *Placed.com*, December 22, 2016, https://blog.placed.com/ and Placed Inc., How it Works, https://www.placed.com/how-it-works.
9 OIG analysis of Placed Inc. visits data, which were seasonally-adjusted based on USPS average monthly counter transaction volume in FY 2016.
10 Many post office visits last less than a minute, which may also make them difficult to track using smartphone location.
11 USPS, *The Household Diary Study: Mail Use & Attitudes in FY 2015*, May 2016, https://www.prc.gov/docs/96/96795/household%20diary%202015_2.pdf, p. 286.

***The OIG foot traffic model relies on internal data. It estimates there were 2.7 billion visits to post offices in FY 2016.***

This survey differs in some key ways from the OIG study discussed below. The Household Diary Study survey does not distinguish between USPS-managed post offices and contract postal units. It also includes visits to the drop off collection boxes outside of post offices. The responses suggest annual foot traffic of 4.5 to 5.9 billion visits, as shown in Figure 2.[12]

### OIG Survey-Based Estimate

The OIG conducted a nationally-representative sample survey of 1,823 adults aged 18-75 who, when they visit a post office, typically go to a USPS-run location.[13] We asked respondents: *Generally speaking, about how often do you visit a post office and go inside, even if you do not make a purchase or complete any other business while there?* Seventeen percent said they visit a post office at least once a week. All told, the survey estimates annual foot traffic to be between 4.8 billion and 8.1 billion visits.[14] Other key insights from the survey are in the *Who Uses Post Offices and Why* section of this report.

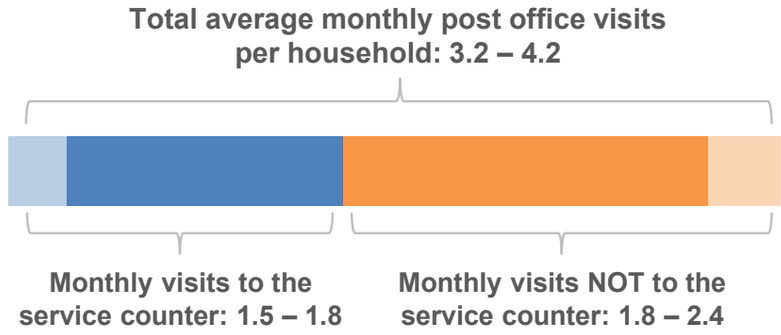
### An OIG Foot Traffic Model Using Post Office Data

The OIG model takes a "bottom up" approach that relies on internal data at the post office level and various assumptions about how those figures translate into actual foot traffic. This approach is particularly useful because it estimates foot traffic down to the individual post office. It also relies heavily on data that is already being collected, so traffic can be evaluated on an ongoing basis with minimal cost.

**Figure 2: Household Diary Study Estimate**

**HOUSEHOLD DIARY SURVEY RESULTS SUGGEST ANNUAL FOOT TRAFFIC OF 4.5 – 5.9 BILLION VISITS**

The Postal Service's 2016 Household Diary Study asked how many times members of the household go to the post office each month. The responses equate to annual foot traffic of 4.5 – 5.9 billion annual visits when accounting for the margin of error.




Note: Total foot traffic based on 116.9 million U.S. households. Individual range components do not sum to the total due to rounding. The above ranges have a 95 percent confidence level based on a sample size of 7,763 for counter visits and 7,215 for non-counter visits. Non-counter visits include visits to mail collection boxes outside of post offices.

Source: OIG analysis of U.S. Postal Service data.

The full methodology is in Appendix A. At a high level, the model looked at the number of occupied PO Boxes at each post office and the number of transactions completed at the retail window, through self-service kiosks, and via mobile checkout tablets clerks use to complete purchases.[15] We then used insights from our survey to translate the internal data into foot traffic. In particular, we used survey results about the type and frequency of actions people complete when they visit the post office, including completing transactions, checking PO Boxes, picking up free materials, and dropping letters or packages into collection boxes. All told, the model estimates annual foot traffic in FY 2016 of 2.7 billion visits.

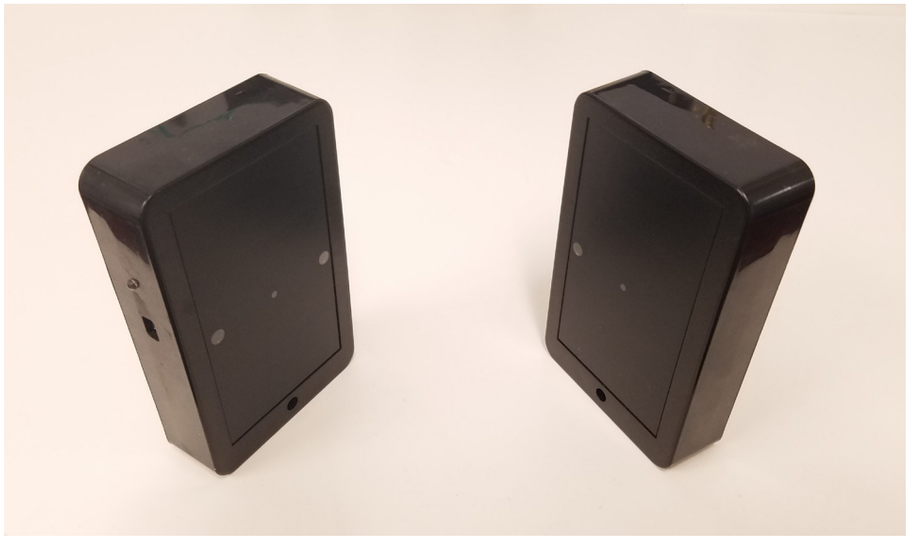
12 Data from the unpublished 2016 Household Diary Study were shared with the OIG. This range reflects a confidence level of 95 percent. Those ranges are up 2 to 3 percent from the survey's results in 2015, though the increase is well within the margin of error.
13 The survey was conducted online between May 23 and June 2, 2017. More details are in Appendix C.
14 With a 95 percent confidence level.
15 The term "transaction" has a specific meaning in the context of USPS retail data. For the purposes of this report, we are using a layman's definition of "transaction" as a customer interaction at the retail counter, self-service kiosk, or mobile point-of-sale terminal. A single transaction could include the purchase of multiple products or services and/or non-revenue services, such as package pickups or prepaid ecommerce returns.

***At 32 Northern Virginia post offices, total foot traffic was within 2 percent of the OIG model's prediction.***

## Assessing the Different Estimates: People Counter Devices Provide Insights

Post office foot traffic is not abstract. It can be measured fairly accurately with people-counting devices installed at public entrances. As a way to gain more granular insights, the OIG did this at 32 high-traffic post offices in the Northern Virginia District.[16] The devices, as pictured in Figure 3, measured actual foot traffic hour-by-hour for two weeks at each office in the spring of 2017.[17] A key objective was to test the OIG foot traffic model by pitting its predictions against direct observations for visits. Since this was *not* a nationally-representative sample, the OIG did not attempt to extrapolate the foot traffic from these locations to nationwide foot traffic. The results were used simply to validate the reasonableness of some of the key assumptions underlying the OIG model.

**Figure 3: Devices Used in OIG Foot Traffic Study**



Dimensions: 4.5 x 2.75 x 1 inches

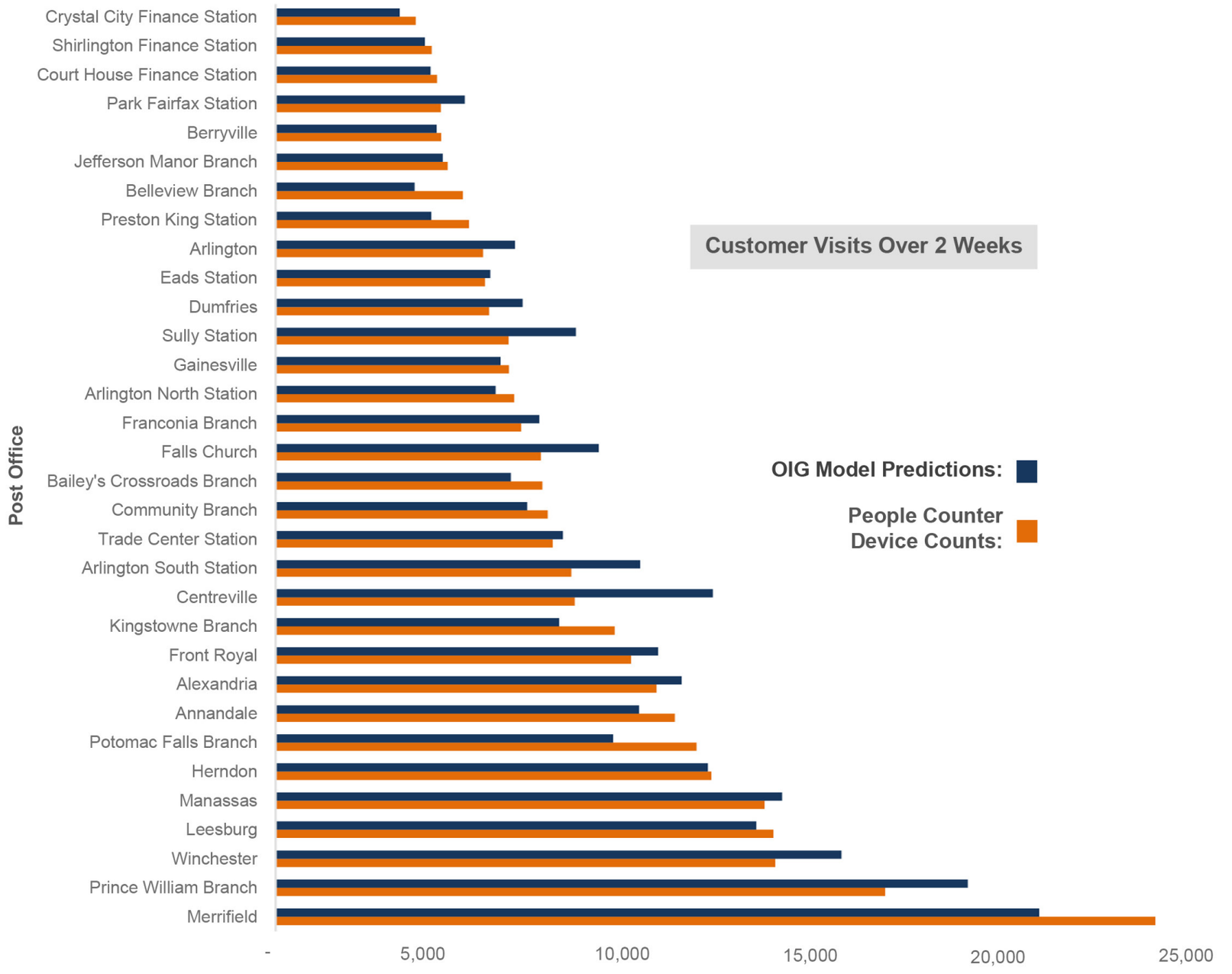
The OIG randomly selected the post offices in the study from among the 64 retail units in the Northern Virginia District that had estimated foot traffic of at least 100,000 visits in FY 2016.[18] These locations are all within about 90 minutes of Washington, DC, and vary considerably in size, with the largest post office having about six times more traffic than the smallest. In addition, some locations are in dense, walkable urban areas while others are in suburban strip malls and others are in rural small towns. While these post offices are all considered "large," they represent a fairly broad cross section of locations. For the full methodology behind the people counter study, please see Appendix B.[19] As shown in Figure 4, the observed foot traffic as collected by the people counters generally tracked the model's predicted foot traffic during the same period. Some post offices saw higher-than-predicted visits, and some lower. About three-quarters of locations were within 15 percent of predicted visits. Total foot traffic across all 32 locations was within 2 percent of the model's prediction.[20] This suggests that the OIG foot traffic model is a reasonable way to estimate visits at the post office level, though it is not perfect. It does not account for circumstantial factors such as parking lot layout, walkability, presence of a drive-up collection box, and congestion of the immediate intersection where the post office is located.

16 The OIG limited the study to large post offices because they comprise the vast majority of foot traffic across the network. Also, larger post offices have advanced point-of-sale terminals that allowed the OIG to make more precise comparisons between the number of transactions and foot traffic during the period of study.
17 See the *Best Practices in Retail Foot Traffic Measurement* section of this paper for more details on people-counting devices and their uses.
18 The preliminary estimate looked at the number of transactions, then added to it the number of occupied PO Boxes times three visits per week.
19 The OIG would like to thank the many USPS employees whose assistance made this study possible.
20 The people counter devices used in the study are up to 97 percent accurate under optimal conditions. Actual accuracy will vary based on door width, mounting height, infrared disturbance, and crowd flow, according to the manufacturer.

**Figure 4: Observed vs. Predicted Foot Traffic**

## PEOPLE COUNTERS VS. OIG FOOT TRAFFIC MODEL

The OIG installed infrared people-counting devices at the public entrances of 32 high-traffic Northern Virginia post offices in the spring of 2017. Based on the occupied PO Boxes and number of transactions during the period of study, the OIG model predicted 276,332 total customer visits — within 2 percent of the device count of 272,004. The breakdowns of predicted vs. observed foot traffic by post office are shown below.




These post offices were randomly selected from among the 64 retail units in the Northern Virginia District with preliminary estimated foot traffic of at least 100,000 visits in FY 2016. The devices, which are up to 97 percent accurate, were installed in two groups, the first from April 19 – May 2 and the second from May 7 – May 20, 2017. The full people-counter methodology is in Appendix B. The predicted foot traffic was based on internal post office data and used various assumptions about how those data translate into foot traffic. The full OIG model methodology is in Appendix A.

## Comparing Post Office Foot Traffic to That of Other Retailers

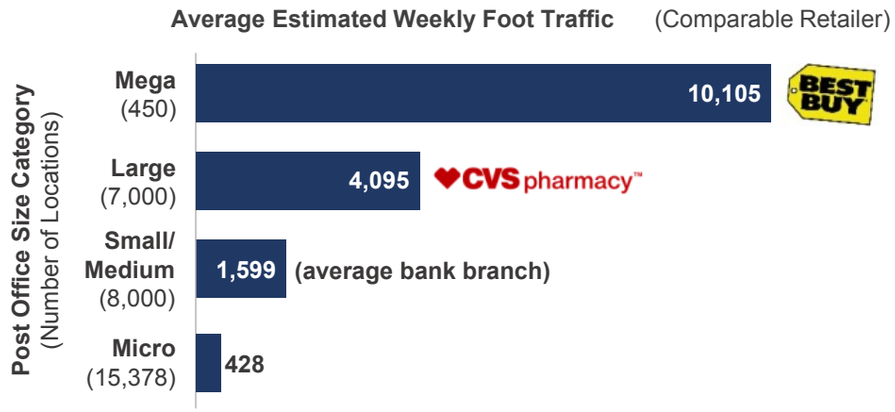
When you visit a Starbucks or a Target anywhere in the country, you have a pretty good idea of what to expect. While both retailers have multiple concepts for their stores, the stores within each concept generally have a similar size, look, and feel. The same is not true of the Postal Service's retail network, which comes in a wide variety of shapes and sizes from massive, historic buildings to suburban strip mall storefronts to country shacks with lobbies the size of large closets. If you look at the overall estimated weekly foot traffic for an average post office, it comes to 1,706 in FY 2016 — about on par with an average bank branch.[21] In the past, average transaction visit figures have been used to argue that post offices have a fraction of the foot traffic of other national retailers, creating a serious roadblock to any retail initiative.[22] However, if you segment post offices by size, a very different picture emerges, as shown in Figure 5. It demonstrates that, when it comes to foot traffic, an overall average for all post offices is misleading.

***A quarter of post offices are Mega or Large locations, yet they account for 63 percent of estimated foot traffic.***

### Figure 5: Post Office Segmentation

**FROM MEGA TO MICRO, POST OFFICES RUN THE GAMUT**

Not all post offices are alike. The 450 largest post offices are "Mega" locations with about as much weekly foot traffic as a Best Buy store. The next 7,000 are "Large" post offices with about as much traffic as a typical CVS store, while "Small/Medium" locations are on par with bank branches. About half of post offices are "Micro" locations with very little foot traffic compared to other national retailers.




Source: Estimates of other retailers' visits were calculated from public disclosures and press accounts about the total customer visits and the number of stores. Bank branches refer to teller transactions as reported by Financial Management Solutions Inc., a banking technology and research firm. Post office visits are estimated using the OIG foot traffic model.

The largest 450 post offices, which we are calling "Mega" locations, have average weekly visits of 10,105, which is roughly akin to a Best Buy store.[23] The next 7,000 we are calling "Large." They have average visits of 4,095 per week, which is on par with a typical CVS store.[24] The next 8,000 post offices are "Small/Medium" and have 1,599 average weekly visits, similar to an average bank branch. We are calling the remaining 15,378 locations "Micro" post offices with 428 average weekly visits. While Micro locations comprise half of all post offices, they account for just 13 percent of estimated visits and 8 percent of post office walk-in revenue. At the same time, a quarter of post offices are Mega or Large locations, yet they account for 63 percent of estimated foot traffic and 68 percent of post office walk-in revenue.[25]

Foot traffic is fundamental to the evaluation of potential retail business opportunities. Analysis that looks at visits averaged over all locations sells post offices short. The post office network is so vast and varied that basing strategic retail decisions on the overall average is akin to assessing a potential real estate opportunity based on the average home price across an entire state. The overall average is too blunt a measurement for something so diverse.

21 Figures reflect foot traffic as estimated by the OIG model. Bank branch figures taken from W. Michael Scott, "No Universal Roll-Out for Universal Associates," FMSI, accessed June 30, 2017, http://www.fmsi.com/no-universal-roll-out-for-universal-associates and FMSI, *Top 10 Part-Time Teller Tactics*, http://www.fmsi.com/fullpanel/uploads/files/fmsi-part-time-teller-power-point.pdf, slide 6.

22 Based on information provided to the OIG by Postal Service officials.

23 Based on Best Buy's 2012 figures of 600 million customer visits at 1,103 stores. Best Buy, *Renew Blue: Best Buy Analyst and Investor Day*, November 13, 2012, p. 31 and *2012 Annual Report*, https://www.sec.gov/Archives/edgar/data/764478/000076447812000035/bby-201210k.htm, p. 9.

24 CVS foot traffic based on 5 million customer visits per day at 9,600 stores. "Navigation Guide to Megatrends in Eyecare Practice," *Review of Optometric Business*, March 2016, http://reviewob.com/data/sites/1/paa_visionsource_0216.pdf, p. 12.

25 OIG analysis of data from the USPS Retail and Accounting Data Marts.

***The Merrifield Post Office in Northern Virginia is one of USPS' busiest retail locations with some 575,000 customer visits per year.***

## A Closer Look at a Mega Location: The Merrifield Post Office

The Merrifield Post Office is the Postal Service's busiest retail location in the Northern Virginia District. The post office's lobby features more than 1,600 occupied PO Boxes and four self-service kiosks. Customers completed more than 300,000 transactions at Merrifield in FY 2016, including buying some 27,000 money orders and submitting about 16,000 passport applications, making it the 14th busiest post office in the country, based on transactions.[26]

**Figure 6: The Merrifield Post Office in Northern Virginia**

Source: OIG photo

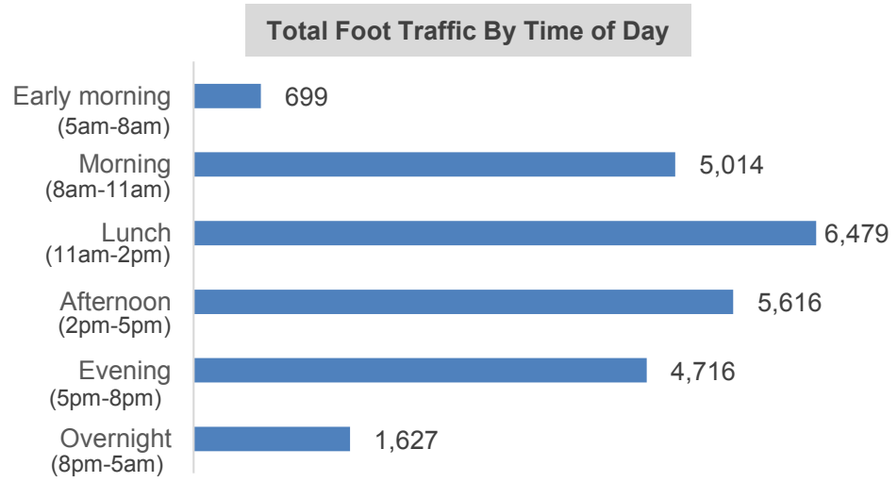
The OIG used people counter devices at the facility's public entrances to measure actual foot traffic from April 19 through May 2, 2017. During that time, 24,151 customers came through the doors and completed 11,806 transactions at the retail window, through clerks' roaming checkout tablets, or via self-service kiosks.[27] Note that the number of transactions completed — including non-revenue transactions such as package pickups and pre-paid ecommerce returns — is less than half of total foot traffic. This shows that most visitors did not complete a transaction, but instead did something else, such as check a PO Box, deposit a letter in the mail slot, or pick up a free Priority Mail box. If you extrapolate Merrifield's two weeks of foot traffic out over a year, accounting for seasonality, it would have about 575,000 customer visits.[28] That would make it about the 79th busiest post office nationwide for overall foot traffic vs., as indicated above, the 14th busiest for transactions. Merrifield has fewer PO Boxes than many other Mega post offices, which could explain the difference.

Like most post offices, Merrifield's lobby is open 24 hours a day, seven days a week. Its retail window hours are more expansive than most. It is open Monday-Friday from 9 am to 8 pm and Saturday and Sunday from 9 am to 5 pm. Its hourly breakdown, as shown in Figure 7, shows that the middle of the day is the busiest time, followed by the afternoon. About 10 percent of foot traffic came between 8 pm and 8 am.

**Figure 7: Merrifield Foot Traffic by Time of Day**

**LUNCH IS BUSIEST TIME AT MERRIFIELD POST OFFICE**

During a two-week foot traffic study, the Merrifield Post Office in Northern Virginia had 24,151 customer visits – most of which were not tied to transactions. The busiest time of day was from 11 am to 2 pm, followed by 2 pm to 5 pm. Note that Merrifield's retail window is open until 8 pm weekdays.




Source: People-counting devices installed at public entrances from April 19 – May 2, 2017.

26 Transaction counts are from the USPS Vital Statistics Reporting by Sales Channel Report and include assumptions from the OIG foot traffic model. The count of money orders is from the USPS Transaction Activity Report. The count of passports processed is from the USPS Passports Revenue and Transactions Report.

27 USPS Vital Statistics Reporting by Sales Channel Report for April 19-May 2, 2017. The OIG discounted self-service kiosk visits by 10 percent to account for internal controls that artificially inflate the number of visits and increased counter transactions by 5 percent to account for underreported non-revenue transactions.

28 To calculate the annual estimate and account for seasonality, the OIG looked at the two weeks following the Internal Revenue Service tax filing deadline in 2016 (April 23-May 6), during which the Merrifield Post Office had 8.12 percent more retail window transactions than average for the year. We discounted the foot traffic count from the two-week 2017 study by 8.12 percent, then multiplied by 26 to get estimated annual foot traffic of 576,926. Weekly transactions data came from the USPS Retail Transactions by Post Office report.

Post offices like Merrifield could represent a significant opportunity for the Postal Service to leverage its customer visits for other retail opportunities, such as partnering with businesses or government entities to provide valuable services.[29] At Merrifield, the passport office lobby is frequently filled with families waiting for their appointments. It could be a readymade opening to meet customers' needs while generating a new revenue stream.

## Who Uses Post Offices and Why?

As mentioned earlier, the OIG conducted a nationally-representative sample survey on post office use among 18-75 year olds who, when they visit a post office, typically go to a USPS-managed location.[30] The survey asked respondents about their frequency of visits, the services used, and their demographic and occupational characteristics. Some of the most noteworthy findings are below. The full methodology is in Appendix C.

### Frequency of Visits: Location, Age, and Occupation Matter

We first looked into the number of in-person visits to post offices per month, as shown in Figure 8. The results provide new insights on who uses post offices. Intuitively, PO Box users are by far the most frequent visitors to post offices at 8 to 10 visits per month. That is about four times as often as respondents overall. The self employed and those who use the USPS Mobile app also visit much more than most. This is despite the fact that the app, as positioned by the Postal Service, helps users "skip the trip to the post office," for example, by scheduling parcel pickups or downloading postage.[31] In practice, USPS Mobile users still conduct many in-store transactions.

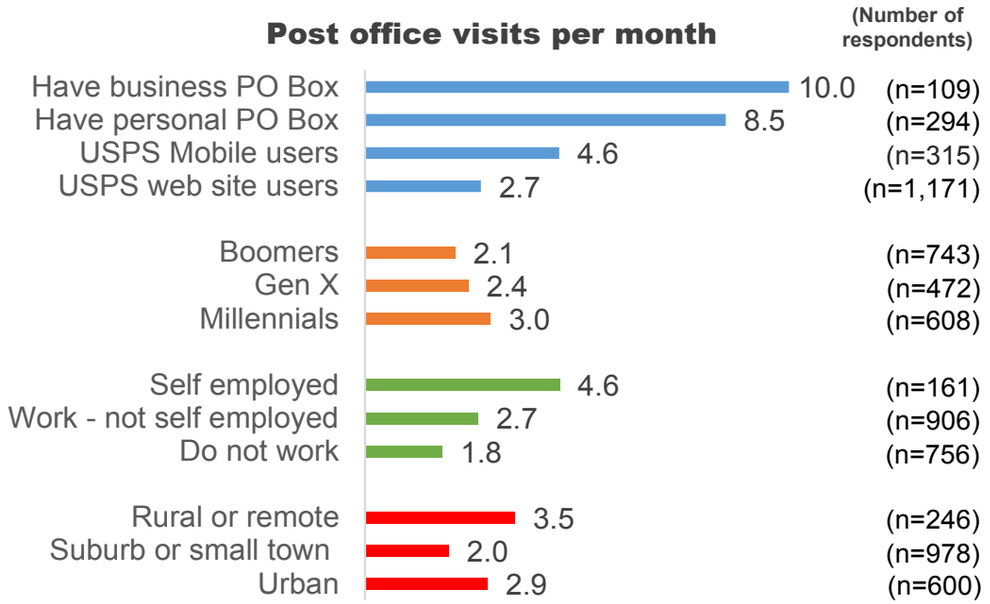
More counterintuitive is that on average, the younger the customer, the more frequent their visits to post offices. Baby Boomers make 13 percent fewer in-person visits on average than Gen Xers and 28 percent fewer than Millennials.[32] When it comes to Millennials, however, averages do not tell the whole story.

**Figure 8: Average Number of Monthly Post Office Visits**

**PO BOX USERS VISIT POST OFFICES THE MOST**

PO Box holders visit post offices far more than others, as do users of the Postal Service's mobile app and the self employed, according to an OIG survey. Respondents overall visited an average of 2.5 times per month.

*Question: Generally speaking, about how often do you visit a post office and go inside, even if you do not make a purchase or complete any other business while there?*




Source: OIG survey of 1,823 18-75 year olds who, when they visit a post office, typically go to a USPS-managed location. The survey was conducted online between May 23 and June 2, 2017. More details are in Appendix C.

29 In addition to commercial retail partnerships for services that existing post office customers may want, pending legislation also would allow USPS to provide noncommercial products or services on behalf of agencies of state, local, or tribal governments for a fee. Postal Service Reform Act of 2017, H.R. 756, 115th Cong. (2017), § 204, https://www.congress.gov/bill/115th-congress/house-bill/756/text.

30 USPS-managed post offices are staffed by postal employees. The survey excluded respondents who said they usually use a contract postal unit that is housed inside another business.

31 USPS, *Postal Blue Goes Green*, https://about.usps.com/who-we-are/postal-facts/postal-blue-goes-green.htm.

32 For the purposes of this analysis, Millennials were defined as being aged 18-34, Generation X as being aged 35-49, Baby Boomers as being aged 50-75.

***Younger Americans visit post offices more frequently than older people.***

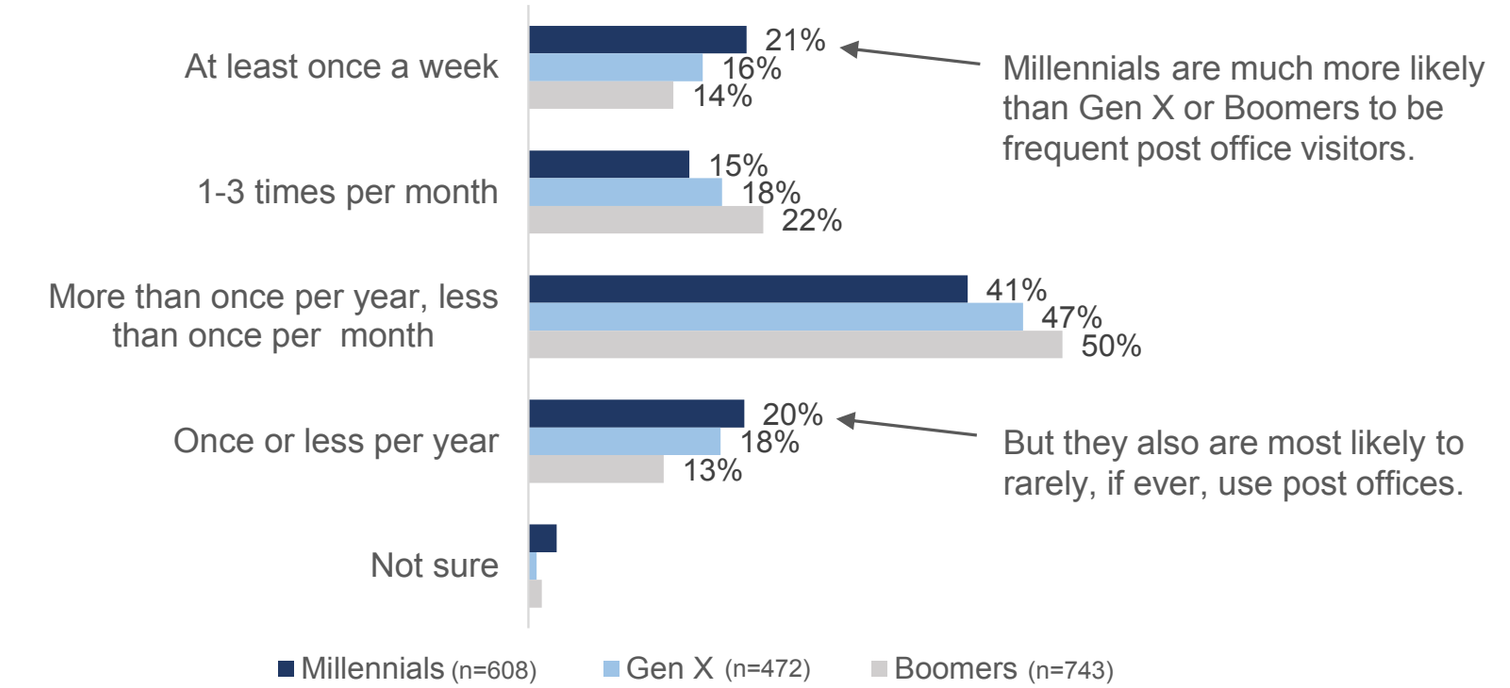
Millennials top older generations as both the heaviest (more than once a week), and lightest (once a year or less) users of post offices, as shown in Figure 9. Understanding what is behind these differences could be of tremendous value to the Postal Service as it seeks ways to remain essential to younger customers. Why are Millennials more divided than older Americans on post office use? What could the Postal Service do to better serve Millennials? These are important questions that warrant further research.

**Figure 9: Frequency of Visits to Post Offices by Generation**

**MILLENNIALS ARE THE MOST AND LEAST FREQUENT POST OFFICE VISITORS**

When it comes to post office visits, Millennials are divided. While 21 percent go at least once a week, another 20 percent almost never do — making Millennials both the most and least frequent visitors.

*Question: Generally speaking, about how often do you visit a post office and go inside, even if you do not make a purchase or complete any other business while there?*




Source: OIG survey of 18-75 year olds who, when they visit a post office, typically go to a USPS-run location. The survey was conducted online between May 23 and June 2, 2017. Millennials were defined as being aged 18-34, Gen X as being aged 35-49, and Boomers as being aged 50-75. More details are in Appendix C.

## Purposes of Visits to the Post Office

The OIG survey asked respondents whether they completed a variety of actions on their last visit to the post office, including a counter transaction, using a self-service kiosk, checking a PO Box, picking up free shipping materials, dropping off mail or packages in the collection box, or something else. The results reveal that various groups of customers use post offices differently.

Millennials are more likely to have picked up free materials on their most recent visit, which may relate to a higher use of the Postal Service's parcel products. On the other hand, more than older generations, they eschew the post office as a point of access

***Millennials may be driving broad changes in the way post offices are used.***

to the postal network (for example, counter transactions and dropping mail pieces), as shown in Figure 10. This could have significant ramifications in the future as the mix of actions that happen at post offices changes.

The self employed and USPS Mobile users not only visit post offices more frequently than most, they also complete a wider variety of actions while there. They conduct an average of 2.1 and 2.0 actions, respectively, compared to the overall average of 1.7 actions. Business owners and USPS Mobile users also are significantly more likely than others to have used kiosks, visited a PO Box, or picked up free shipping materials on their last post office visit. As noted earlier, the visit behavior of USPS Mobile users seems to indicate that the development of the online access channel still heavily complements access to the "physical" post office. Self-employed individuals' dual status — as residential and small business customers — translates into higher incoming and outgoing mail volumes, and, in the end, more touch points with the Postal Service's network.

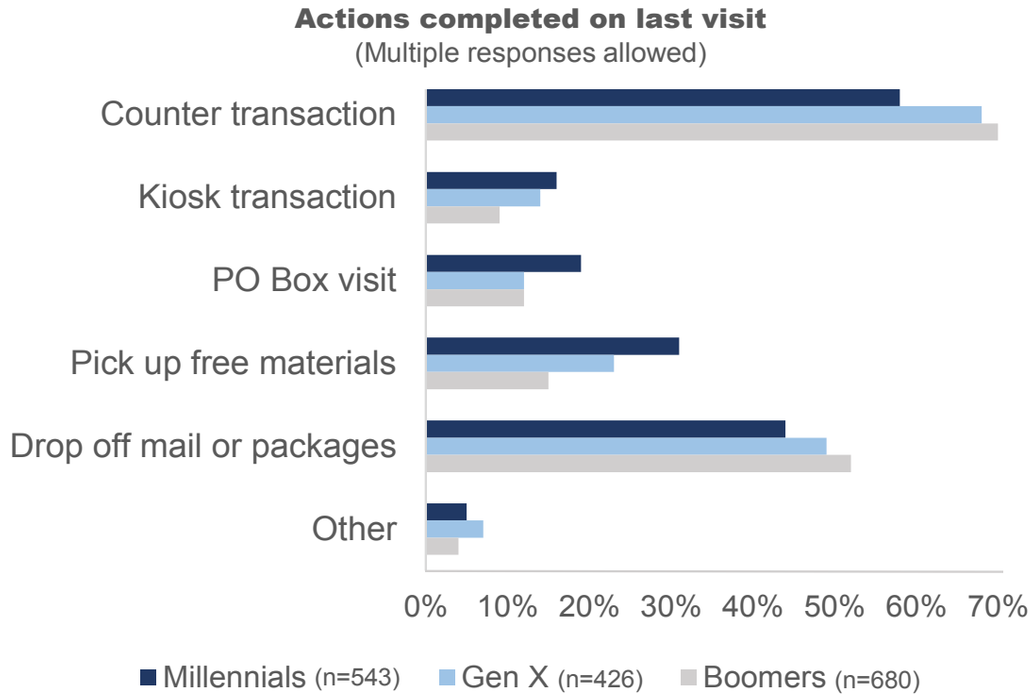
While the Postal Service compiles and publishes data on post office visits in its annual Household Diary Study, our results suggest the need for a more detailed segmentation of retail customers. Such a segmentation could be a sound basis for identifying new services or processes that would allow the Postal Service to better meet the needs of a wide variety of customers.

**Figure 10: Purpose of Last Visit to the Post Office**

**YOUNG AND OLD USE POST OFFICES DIFFERENTLY**

Millennials are less likely than older generations to have completed a counter transaction during their last post office visit. They are more likely to have used a kiosk, checked a PO Box, or picked up free shipping materials.

*Question: Which, if any, of the following did you do on your last visit to a post office?*




Source: OIG survey of 18-75 year olds who, when they visit a post office, typically go to a USPS-run location. Millennials were defined as 18-34, Gen X as 35-49, and Boomers as 50-75 years old. The survey was conducted online between May 23 and June 2, 2017. The above question was asked of those who had visited a post office in the past year. More details are in Appendix C.

## Best Practices in Retail Foot Traffic Measurement

Foot traffic data provides insights into customer behavior that raw transactions data cannot capture. For example, a single purchase such as a PO Box rental or a book of 20 stamps can lead to many deliberate business interactions as customers come back again and again to check their PO Box and mail letters. Retailers have long recognized this and used handheld manual clickers to count walk-in customers. Today, people counters are becoming more sophisticated and automated.

**Figure 11: The Value of Measuring Foot Traffic**


Source: Shoppertrak.

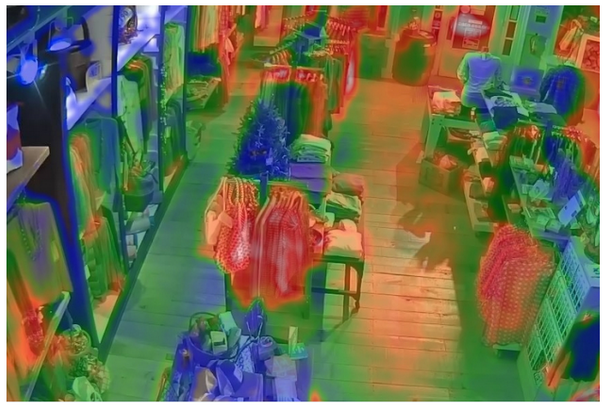
### Counting Walk-Ins: Basic Counter Devices

These devices count the number of people walking through a retailer's doors.[33] Many are infrared sensors that can be hard-wired or battery operated. Some require users to manually download the data from the device with a USB drive, while others connect to a Wi-Fi network, providing retailers with a time-stamped count of "ins" and "outs." Some counters use thermal imaging sensors, which combine infrared light with depth-sensing technologies.[34] These devices are often easily moveable and their costs can range from as little as a few hundred dollars per door to many thousands of dollars, depending largely on the analytics that come with it. Retailers use these devices to compare traffic across their stores, assess the portion of shoppers who make a purchase (known as the "conversion rate"), and adjust staffing to account for intra-day foot traffic variations, as is illustrated in an explanatory video in Figure 11. More details on this are in Appendix D.

### Tracking In-Store Flows: Advanced Sensing Technologies

While basic sensors measure walk-ins, they do not track where people go once they are inside the store. To do this, retailers rely on more advanced measuring tools, such as pressure-sensitive foot mats that can track how long customers linger in certain areas or digital cameras that track individual customers' movements throughout the store.[35] For example, this data can be turned into a map of the store's hot and cold spots, as is shown in Figure 12. These foot traffic tools allow retailers to fine-tune their merchandising strategies, improve store layout, reduce wait time, and optimize customers' exposure to different products.

**Figure 12: Heat Maps Show In-Store Traffic Flows**



Colors show the zones where customers spend the most and least time. Retailers can use this to optimize merchandising.

Source: tickto.com

### Measuring the Impact of Advertising Campaigns: Geo-Located Foot Traffic Data

"Attribution" is a fairly new measurement tool that aims to track how often consumers who viewed an advertisement wind up visiting the store featured in the ad. The rate of visitation is then compared to a similar group of consumers who did not view the ad. For example, the results could be that 10 percent of all clicks on Retailer X's search ads resulted in an in-store visit within 30 days vs. 5 percent among customers not exposed to these ads.

33 For a description of the main types of people counter devices, see Traf-Sys, "What are People Counters?," http://www.trafsys.com/people-counting/.
34 "Density raises $4 million to track crowds at the DMV, theme parks and corporate campuses," *TechCrunch*, July 27, 2016, https://techcrunch.com/2016/07/27/density-series-a/.
35 "Telecom Company Saves Millions in Floor Plan Decision Through Floor Sensor Testing," *Scananalytics*, http://www.scanalyticsinc.com/case-study-telecom-company-saves-millions?submissionGuid=3b9eca59-feb5-49e2-a0b3-6c288fea7bde and Stephanie Miles, "Platforms That Gather In-Store Analytics from Surveillance Footage," *Street Fight Magazine,* May 13, 2014, http://streetfightmag.com/2014/05/13/5-platforms-that-gather-in-store-analytics-from-surveillance-footage/.

***"Attribution" platforms track smartphones to see when digital ads lead to store visits.***

The attribution tools available today from the likes of Google (AdWords Store Visit Conversion), FourSquare, Snap Inc., and Placed share common characteristics:[36]

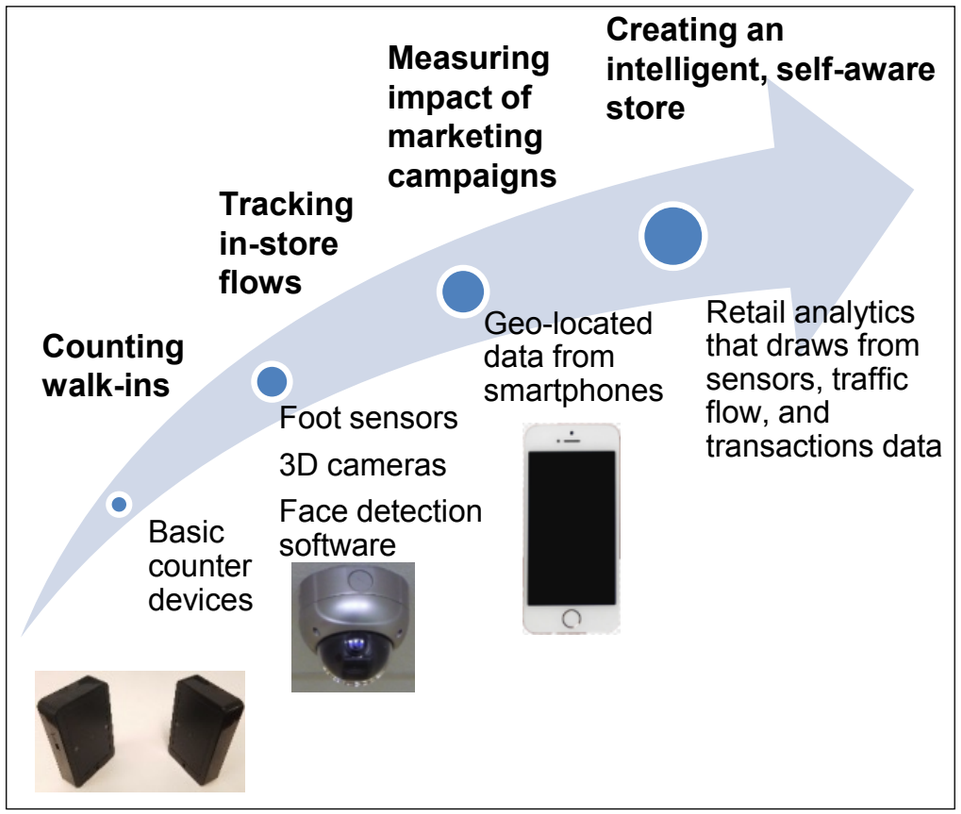
- They are based on a large panel of opt-in smartphone users who have agreed to keep their location history / location-sharing feature on — that is to say, to have their visits to physical stores tracked.
- Data from panelists' smartphones are weighted and extrapolated to represent the broader United States population.
- A platform maps out the exact coordinates and shape of stores.
- The provider has access not only to panelists' location data but also to their smartphones' Wi-Fi signal strengths.[37]

Attribution tools are of direct interest to advertisers, ad agencies, and large retailers with multiple locations.[38] In addition to measuring the effectiveness of advertising campaigns, customers' geo-located data can serve other goals, such as measuring the extent to which a retailer's customers also visit competitors' locations. Developers and retail planners also use geo-located foot traffic data on the number and demographics (gender, age, and ZIP Codes) of passersby in a given street, neighborhood, or shopping area to select a new store's highest-potential location.[39]

## Outlining a Potential Foot Traffic Measurement Roadmap

The current practice of other retailers and conclusions of the OIG's small experiment with people counters suggest that more comprehensive foot traffic data could help the Postal Service. However, there is no such thing as a single measurement tool serving all purposes. We describe below how different tools could help USPS meet a variety of objectives in support of its retail strategy.

**Figure 13: Foot Traffic Measurement Tools and Purposes**




Source: OIG analysis.

36 Placed is owned by Snap Inc.
37 This helps determine with more precision whether a customer is in a given store, the store next door, or on a different level of a multi-story building.
38 Attribution tools work best for tracking visits to a retailer's entire network (or to stores in a given region) rather than visits to a single store.
39 Jeremy Marsan, ''How To Determine Foot Traffic & Use Data To Pick A Business Location'', *FitSmallBusiness*, November 14, 2016, http://fitsmallbusiness.com/how-to-determine-foot-traffic/.

***Measuring and tracking foot traffic could help the Postal Service manage its retail network more effectively.***

***A significant portion of USPS revenue depends on post offices — even if the revenue is not collected at the post office.***

### A Modest First Step: Begin Measuring Foot Traffic at Post Offices

The Postal Service could begin by using a model similar to the one developed by the OIG to estimate customer visits. This would give the Postal Service insights about customer uses of the retail network that cannot be captured through transaction count and revenue alone. This would come at little-to-no cost, as the model relies largely on data the agency is already collecting. In select offices — such as those with more than 10,000 estimated visits per week or those management is considering closing — the Postal Service could install basic people counters at post office entrances to get richer, more precise information. This would be relatively inexpensive, and the Postal Service could even periodically rotate devices amongst offices within a district. Having this information would allow USPS to:

- ***Better quantify a post office's value.*** As the Postal Service considers making changes to its retail network, foot traffic complements revenue or transaction count as a measure of a particular location's value — both to the community where it sits and to the Postal Service. Even though most customers are not making a purchase during their visit, their visit is likely part of the value proposition for a separate purchase. This is the case, for example, when customers return an ecommerce package or pick up free materials. In short, a significant portion of the revenue the postal service collects depends on post offices — even if the revenue was not collected at the post office.

- ***Better quantify the economic and social value of its retail network.*** Policy changes that allow the Postal Service to invest in and improve its retail network would bring genuine benefits to the people who use it — and a whole lot of people use it. The Postal Service could use aggregated foot traffic data as a key indicator for why such reforms matter.

- ***Better allow individual post offices to improve sales and customer service.*** To its credit, the Postal Service has prioritized reducing wait time in line at post offices, which it measures through mystery shoppers who complete certain types of transactions and record how long they take. This has incentivized post office managers to expedite the types of transactions that are measured in an effort to keep official wait times down to five minutes or less. They have been largely successful, with wait times averaging two minutes 48 seconds in FY 2016.[40] A potential unintended consequence is that a significant portion of customer service efforts may be directed toward a fairly small portion of all visits.

  Armed with foot traffic information, postal managers would gain a fuller picture of the range of retail customers and could take steps to better meet their needs. This could include such things as using more lobby assistants during peak foot traffic times, which may not coincide with peak *window transaction* times.[41] Lobby assistants are clerks who walk the floor helping customers with such things as using self-service kiosks and preparing forms to expedite transactions at the window.[42] Lobby assistants can even complete basic transactions through mobile checkout tablets. Not only does this help reduce wait times, it also provides superior customer service that reaches a much broader portion of a post office's retail customers — most of whom do not complete a transaction at the window.

### Potential Future Uses: Leveraging Advanced Foot Traffic Analytics

Beyond basic foot traffic counts, the Postal Service could one day use more advanced retail analytics. This could include in-store flow measurement tools and geo-located information, combined as needed with existing transactions data. This could allow USPS to:

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40 USPS, *Delivering an Excellent Retail Experience*, https://about.usps.com/who-we-are/financials/annual-reports/fy2016/annual_report2016_tech_027.htm.
41 There may, for example, be certain times of the day or week when a surge of people typically come in to check PO Boxes or use kiosks.
42 "USPS Continues Use of Lobby Assistants to Serve Customers Faster," *Postal Reporter*, August 6, 2015, http://www.postal-reporter.com/blog/usps-continues-use-of-lobby-assistants-to-serve-customers-faster/.

- ***Monitor in-store movements to improve traffic flow and merchandising.*** At select offices, the Postal Service could install more sophisticated foot traffic measurement tools that track customer flow within the lobby. With a heat map showing where customers spend the most time, post office managers could identify bottlenecks and reconfigure their lobbies to eliminate them. They also could identify optimum places for merchandise displays for gift cards, greeting cards, and shipping materials — increasing sales of those items.

- ***Assess the potential for additional retail services.*** As the Postal Service considers the market potential for additional services at post offices, foot traffic is a critical element of that analysis. If, for example, USPS wanted to partner with a third party to install ATMs or non-postal vending machines, its partner would need accurate foot traffic figures to determine which post offices have enough customer visits to warrant a machine. If the Postal Service worked with an "attribution" platform company that uses smartphone location data, like those previously discussed, the Postal Service would have aggregated, anonymized information on the age, income, and occupation of visitors to the post offices of a particular city or district, allowing a better targeting of third-party services. Customers may welcome various types of convenient products and services, which would also generate revenue for USPS and its partners. Everybody wins. To be clear, "attribution" companies are already collecting data from smartphone users who voluntarily agree to be tracked and have their movements shared with retailers in an anonymized way.[43] USPS would merely be paying for access to the data.

- ***Measure the results of the Postal Service's advertising campaigns.*** If the Postal Service worked with an attribution platform company, USPS could measure the success of its own marketing initiatives for services such as PO Box rentals. It also could identify cross-selling or promotional opportunities based on the retail chains where post office visitors frequently shop or eat. In addition, it could gain access to detailed analytics about the demographics of its retail customers and could test the success of its efforts to appeal to younger generations of Americans who may be less familiar with postal products.

Over time, the collection and analysis of foot traffic data could become a key enabler of a renewed retail strategy for the Postal Service. Akin to the current practice of other large retailers, foot traffic data could become an integral part of the dashboards and decision-making tools that retail managers use to better serve customers and monitor, protect, and grow the business.

## Conclusion

Americans visit post offices billions of times per year, though most visits do not include a purchase. Instead, customers may check a PO Box, stick a letter into the slot, pick up a parcel, or get a Priority Mail box. While these actions do not generate revenue directly, they are important elements of the service USPS provides to the American people. As it stands, the Postal Service's official foot traffic figure does not include non-transaction visits. The OIG created a model that USPS could use to gain a more realistic picture of how many people use post offices. The Postal Service also could install people-counting devices at post office entrances and/or partner with an attribution company that uses smartphone data to estimate foot traffic. These tools could help USPS make more informed decisions about its retail network, optimize post offices to improve sales and customer service, and better assess potential opportunities for retail partnerships. It also could give the Postal Service a way to analyze the changing demographics of its retail customers. As an OIG survey shows, young people are using post offices, though they are doing so differently than older generations. The Postal Service can use new tools, such as improved foot traffic data, to monitor and adapt to the changing mix of customers and activities at post offices, enabling it to better serve the American people.

43 Placed Inc., *Our Privacy Pledge*, https://www.placed.com/privacy-pledge.

# Appendices

***Click on the appendix title to the right to navigate to the section content***

# Appendix A: OIG Foot Traffic Model

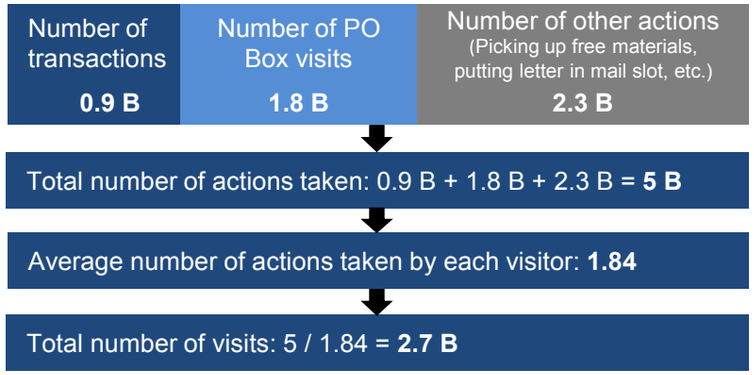
The OIG foot traffic model relies as much as possible on aggregated internal data collected by the Postal Service at the post office level. Where such data are not available, it uses assumptions based on the results of a nationally-representative sample survey on post office use (see Appendix C).

At a high level, the model first estimates the number of *customer actions* completed at post offices, breaking them into three categories: transactions, PO Boxes, and "other" — which includes everything else. This gives us an estimate for the total number of customer actions. Our survey shows that many customers complete multiple actions on a single visit. To account for this, we divide the total number of actions by the average number of actions completed per customer. This gives us the number of *customer visits* — the number of people who walked through post offices' doors. We explain each individual component of this in more detail below.

**Figure 14: The OIG Foot Traffic Model**

**BREAKING DOWN THE OIG MODEL**

The OIG foot traffic model breaks customer actions into three categories: transactions, PO Boxes, and other. Since customers complete an average 1.84 actions per visit, total foot traffic during FY 2016 was an estimated 2.7 billion visits.




Source: OIG analysis of USPS data, and OIG survey.

## Estimating the Number of Customer Actions

### Transactions

This category includes all transactions recorded in the Postal Service's systems. We begin with data from the approximately 17,900 post offices with advanced point-of-sale (POS) terminals, looking at the number of transactions completed through three methods: the POS unit at the retail window, via mobile point-of-sale (mPOS) units that clerks can use while walking the post office lobby, and through self-service kiosks (SSKs).[44]

- **Revenue and non-revenue transactions at the window.** Any time a customer goes to the clerk's window for something, that interaction is supposed to be entered in the POS as a transaction — even if no payment of money occurs.[45] Transactions include the purchase of products but also non-revenue transactions such as picking up a package, shipping a prepaid ecommerce return, or inquiring about shipping rates. All told, 27 percent of transactions completed at the counter in FY 2016 were non-revenue transactions.[46]

  However, when there is a line of customers at the counter, clerks will frequently begin fulfilling many non-revenue transactions, such as package pickups, separately from the line — often by passing packages to customers through a door near the counter, according to current and former postmasters interviewed by the OIG.[47] Clerks are supposed to keep track of those transactions

44 These data are taken from the Vital Statistics Reporting by Sales Channel Report. We are using this source over other USPS reports because it contains transaction and revenue data from all three transaction streams: POS, mPOS, and SSK. This provides more consistent data than could have been derived by pulling the information from separate reports. Transaction figures for SSKs, which make up about 5 percent of transactions, are discounted by 10 percent to account for internal controls that artificially inflate the number of transactions.

45 As was mentioned earlier, we are using the layman's definition of the word "transaction," not the technical definition used in the postal retail data system.

46 This is for the approximately 17,900 post offices with advanced POS terminals. Source: Vital Statistics Reporting by Sales channel report.

47 Post offices regularly have mystery shoppers who measure wait time in line. Those mystery shoppers do not do package pickups. By removing package pickups from the line, clerks score better on wait times.

and enter them into the POS system later, but they frequently do not. As a result, non-revenue transactions are often undercounted. To account for this, our model adds 5 percent to the number of window transactions.

- **Calculating transactions at manual post offices.** Roughly 13,000 smaller post offices have manual point-of-sale terminals that do not directly track the number of transactions.[48] In these cases, we divided their retail revenue by the average transaction amount to estimate the number of transactions.[49]

All told, this adds up to 947 million total transaction visits in FY 2016. Here is the formula:

((POS window txns + Manual office txns) * 1.05) + mPOS txns + (SSK txns * .9) = total txns

### Checking a PO Box

There are 12 million occupied PO Boxes across the post office network, the vast majority of which are rented for a fee.[50] In our survey, PO Box users said they check their box an average of 2.8 times per week.[51] We multiplied the number of occupied PO Boxes at each post office by that amount, resulting in 1.8 billion PO Box visits in FY 2016. Here is the formula:

Count of occupied PO Boxes * 2.8 * 52 = total annual PO Box visits

### Other Actions

People go to post offices for many reasons other than completing a transaction or checking a PO Box. The OIG survey asked:

*Which, if any, of the following did you do on your last visit to a post office?* (multiple selections allowed)

a. Completed a purchase at the counter (purchased stamps, paid to mail a letter or package, purchased money orders, etc.)
b. *Completed a purchase at a self-service kiosk*
c. *Checked a Post Office Box*
d. *Picked up shipping or mailing materials (complimentary/not paid for at the time you picked them up)*
e. *Put mail or packages into a collection box*
f. *Other*[52]

The result: options d, e, and f, which together comprise “other” in our model, accounted for 46 percent of all actions completed.[53] Based on that, we estimate there were 2.3 billion other actions completed in FY 2016. Here is the formula:

(Transaction visits + PO Box visits) * 46% / (1 - 46%) = Other visits

---

48 Post offices with manual point-of-sale terminals account for about 4 percent of transactions.
49 Average transaction amount was calculated using data from post offices with more advanced POS systems.
50 As of September 30, 2016 per the USPS PO Box Report Builder report.
51 A separate telephone survey commissioned by the OIG asked a virtually identical question, finding that PO Box users visit an average of 3.5 times per week. See Appendix C for more details.
52 Those who selected “other” were asked to specify what action they took. Some respondents specified actions such as “picked up a package” or “got a passport” — which are actually counter transactions. In those cases, the OIG moved the responses to the “completed a purchase at the counter” option.
53 All statistics in the model involving actions completed during the last visit are weighted based on the timing of respondent’s last visit to the post office. For example, the actions of respondents who had been to the post office in the past day were weighted higher than those who had not been to a post office in six months.

## Putting It All Together: From Actions to Visits

The three categories of actions add up to about 5 billion. Here is the formula:

0.9 billion txns + 1.8 billion PO Box visits + 2.3 billion “other” actions = 5 billion actions

However, we know from our survey that many people did multiple things on their last visit. They may have checked their PO Box, completed a transaction at the window, and picked up free shipping materials. All told, respondents completed an average of 1.84 actions during their last visit. We divided 5 billion by 1.84 to get 2.7 billion estimated visits in FY 2016. Here is the formula:

5 billion actions / 1.84 actions per visit = 2.7 billion customer visits

# Appendix B: People Counter Methodology

As a way to gain more granular insights and test its foot traffic model (described in Appendix A), the OIG installed people-counting devices at post offices.

## The Selection of Post Offices for the Study

While the OIG would like to have used a nationally-representative sample of post offices for this study, it was determined that doing so would be logistically unworkable within the budgetary and time constraints of this project. As such, we focused on the Northern Virginia District, which is where the OIG headquarters is located. These results were derived through a restricted sample and the OIG is not using these data to extrapolate nationwide foot traffic. The results were used only to test the reasonableness of our model, which we developed using various sources and our professional judgment.

We randomly selected post offices for inclusion in the study from among the 64 highest traffic locations in the Northern Virginia District.[54] The OIG limited the study to large post offices because they comprise the vast majority of foot traffic across the network. In addition, larger post offices have advanced point-of-sale terminals that allow for more precise comparisons between the number of transactions and foot traffic during the period of study.

## The Types of Devices Used

The OIG used pairs of battery-operated infrared people counters that were installed on either side of public entrances. The devices, which use similar technology to garage door safety sensors, are up to 97 percent accurate under optimal conditions. Actual accuracy will vary based on door width, mounting height, infrared disturbance, and crowd flow, according to the manufacturer. The units are bi-directional, giving a count of ins and a separate count of outs, broken down by hour. Post offices with multiple entrances got multiple sets of counters. The OIG purchased in all 25 sets of basic counters, costing about $400 each.

## The Timing of the Study

We collected data from the first 15 post offices from April 19 to May 2, 2017. We then removed the devices and installed them at a second round of 17 post offices, collecting data from May 7 to May 20.[55] The number of post offices included in each phase was limited by the number of devices. As it happened, the post offices in phase 2 had fewer public entrances, allowing us to include a greater number of locations in that phase.

## Using Data from the Devices

To test the device count reliability, the OIG compared the count of customers coming in to the count of customers coming out, finding they were within 1.3 percent of each other overall. All of the figures from the devices reported in this white paper are an average of the “ins” and “outs.” For post offices with multiple entrances, we summed the counts from each set of devices.

## Cooperation and Assistance from USPS

While the OIG was fully responsible for the installation and removal of the people-counting devices, this study required significant buy in, cooperation, and assistance from Postal Service employees at all levels of the retail business. This includes the vice president of retail and customer service operations, the Capital Metro Area vice president, the district and marketing managers for the Northern Virginia District, postal union representatives, and the postmasters, supervisors, station managers, and clerks at the post offices included in the study. The OIG greatly appreciates their help. This people counter study would not have been possible without their consent and cooperation.

54 The 64 locations included all post offices with preliminary estimated foot traffic of at least 100,000 visits in FY 2016. Preliminary foot traffic was determined using the total transaction count plus the number of occupied PO Boxes, with the assumption that customers visited PO Boxes 3 times per week.
55 Phase 2 initially included 18 post offices, but a device failed at one location. As such, that location’s data were removed from the study.

**Figure 15: Post Offices in the OIG Study**

## POST OFFICES INCLUDED IN THE FOOT TRAFFIC STUDY

The OIG placed infrared people-counting devices at the public entrances of 32 high-traffic Northern Virginia post offices in the spring of 2017. The devices showed that, on average, foot traffic was more than double the number of transactions over the two-week period of study.

| Post Office | ZIP Code | Number of Transactions (2 weeks) | Occupied PO Boxes | Device Counts (2 weeks) |
|---|---|---|---|---|
| Merrifield | 22116 | 11,806 | 1,607 | 24,151 |
| Prince William Branch | 22195 | 8,245 | 1,895 | 16,733 |
| Winchester | 22601 | 5,911 | 1,697 | 13,717 |
| Leesburg | 20175 | 6,498 | 1,178 | 13,670 |
| Manassas | 20110 | 5,420 | 1,496 | 13,428 |
| Herndon | 20170 | 5,863 | 1,055 | 11,968 |
| Potomac Falls Branch | 20165 | 5,743 | 616 | 11,561 |
| Annandale | 22003 | 5,444 | 795 | 10,967 |
| Alexandria | 22313 | 5,416 | 1,007 | 10,465 |
| Front Royal | 22630 | 4,224 | 1,106 | 9,759 |
| Kingstowne Branch | 22315 | 5,030 | 480 | 9,316 |
| Centreville | 20120 | 4,935 | 1,245 | 8,216 |
| Arlington South Station | 22204 | 3,631 | 1,125 | 8,124 |
| Trade Center Station | 22304 | 3,816 | 716 | 7,611 |
| Community Branch | 22306 | 3,170 | 657 | 7,474 |
| Bailey's Crossroads Branch | 22041 | 3,212 | 571 | 7,330 |
| Falls Church | 22046 | 3,235 | 994 | 7,287 |
| Franconia Branch | 22310 | 3,855 | 594 | 6,743 |
| Arlington North Station | 22207 | 3,349 | 472 | 6,552 |
| Gainesville | 20155 | 3,009 | 557 | 6,406 |
| Sully Station | 20120 | 3,190 | 891 | 6,397 |
| Dumfries | 22026 | 3,211 | 628 | 5,863 |
| Eads Station | 22206 | 2,957 | 516 | 5,748 |
| Arlington | 22201 | 2,660 | 689 | 5,696 |
| Preston King Station | 22205 | 2,249 | 356 | 5,308 |
| Belleview Branch | 22307 | 2,396 | 249 | 5,143 |
| Jefferson Manor Branch | 22303 | 2,101 | 437 | 4,725 |
| Berryville | 22611 | 1,680 | 483 | 4,551 |
| Park Fairfax Station | 22302 | 2,912 | 401 | 4,533 |
| Court House Finance Station | 22201 | 2,582 | 293 | 4,431 |
| Shirlington Finance Station | 22206 | 2,162 | 340 | 4,292 |
| Crystal City Finance Station | 22202 | 1,666 | 307 | 3,847 |

These post offices were randomly selected among the 64 retail units in the Northern Virginia District with preliminary estimated foot traffic of at least 100,000 visits in FY 2016. Their actual foot traffic was measured in two groups, the first from April 19 – May 2 and the second from May 7 – May 20, 2017. The above transaction counts include the total visits at the retail window, at clerks' mobile check-out tablets, and at self-service kiosks as reported in the USPS Vital Statistics Reporting by Sales Channel Report for the same period in which the people-counting devices were installed. The full transaction count methodology is in Appendix A. The number of occupied PO Boxes is as of May 1, 2017.

# Appendix C: OIG Survey Methodology

The OIG fielded a confidential online survey targeting a nationally-representative sample of 18-75 year-old residents of the 50 states and the District of Columbia. Respondents were selected by Sampling Services International (SSI) from an opt-in internet panel, solicited by email, and incentivized to complete the survey on the OIG's online survey platform, per SSI's standard sampling procedures. The survey was conducted in English and was designed and overseen by an OIG expert with an advanced degree in survey research.

Quota sampling procedures were employed during the survey field period in order to improve the representativeness of the data collected. Quotas were employed on age, gender, nativity within ethnicity, race, education, geographic subregion, and ecommerce participation.

With the exception of ecommerce participation, data were weighted prior to analysis according to U.S. Bureau of the Census population estimates on all quota variables, as well as on income and employment status. Ecommerce participation was weighted to reflect a national telephone survey's results regarding the proportion of Americans who had purchased something online in the previous month. All data and base sizes in this report are weighted.

**Field Dates:** May 23 — June 2, 2017

**Total Respondents (National Sample):** 1,970[56]

**Median Interview Length**: 9 minutes 58 seconds

**95% confidence interval (National Sample):** +/ — 2.21%[57]

## Data Validation

To help ensure that the data collected by the OIG through its survey was not overly biased by its non-probability online methodology, the OIG concurrently fielded its question regarding access to a USPS PO Box in SSRS' national random sample telephone omnibus survey of 1,010 respondents.[58] The results were very similar across the two methods of administration, as shown in Table 1 below.

### Table 1: Telephone vs. Online Survey Results on PO Box Access

| Type of USPS PO Box Access | Telephone vs Online | Yes | No | Don't know | Refused | Not asked |
|---|---|---|---|---|---|---|
| Your own personal PO Box | Phone | 12% | 87% | — | 1% | — |
| | Online | 10% | 85% | 2% | | 2% |
| Personal PO Box registered to someone else in your household | Phone | 8% | 90% | 1% | — | — |
| | Online | 6% | 90% | 2% | | 2% |
| Personal PO Box registered to someone who does not live in your household | Phone | 3% | 96% | 1% | 1% | — |
| | Online | 4% | 91% | 3% | | 2% |
| PO Box registered to your employer | Phone | 3% | 95% | 2% | — | — |
| | Online | 3% | 91% | 4% | | 2% |
| PO Box registered to a business that you own/run | Phone | 2% | 98% | — | — | — |
| | Online | 4% | 92% | 2% | | 2% |

Note: Results are weighted per each project's prospective weights.

56 Respondents who had not been to a USPS-managed post office in the past year, as well as USPS employees, were removed prior to analysis. The final size of the sample used for this analysis was n=1,823.

57 This interval is being provided as a benchmark. +/ - 2.21% is the size of the confidence interval that would be calculated from a probability sample of n=1,970. Like most online research, this study uses a non-probability sample. The actual interval is likely to be somewhat larger, as other sources of error may also impact findings.

58 Over the telephone, this survey question was asked in a national omnibus survey unrelated to postal activities, while online the question was a part of a survey entirely focused on postal activities. Consequently, the introduction text to the question differed slightly across modes in order to ensure that both sets of respondents had similar context when answering the question, and in the online survey the question was only asked of those who had ever visited a U.S. Post Office.

## Research Methodology Point of Contact

For any additional information regarding this project's methodology, including access to the full text of the questionnaires employed for this research, please contact:

**Email**: SurveyResearch@uspsoig.gov

**Phone**: 703-248-7833

**Mail**: United States Postal Service Office of Inspector General (OIG)
Risk Analysis Research Center
1735 N. Lynn St.
Arlington, VA 22209-2020

# Appendix D: Retail Conversion Rate Case Study: Best Buy

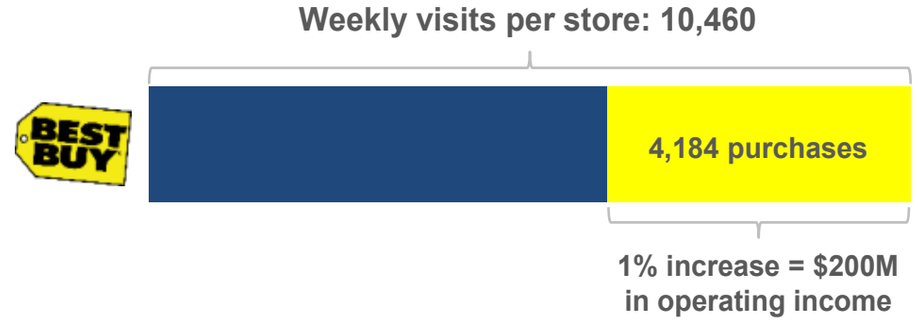
The conversion rate is the number of customers who actually make purchases divided by the total number of people who enter the store. It is a powerful indicator of a merchant's ability to convert foot traffic into sales. Because customers and the staff to serve them are already in the store, small improvements in the conversion rate can make a big impact on the bottom line. To illustrate this, imagine a retailer with 1,000 paying customers spending $10 each, giving it $10,000 in revenue. The retailer's operating costs are $8,000, leaving it with $2,000 in operating profits. Now imagine that the retailer measured its foot traffic and discovered that it actually had 2,000 people coming through the store, but that only half of them made a purchase, giving it a conversion rate of 50 percent. If it converted just 1 percentage point more of its visitors into buyers (20 more customers spending $10 each), those additional sales would push its revenue to $10,200. With its operating costs remaining unchanged, its operating profits would grow to $2,200 — a 10 percent increase.

Best Buy illustrated what this analysis can look like when applied to a large retailer. Back in 2012, new management took over with plans to turn the then-struggling company around. In its "Renew Blue" plan, management explained that only 40 percent of in-store visitors made a purchase, as shown in Figure 16. Each percentage point increase in that conversion rate would equal $200 million in incremental operating income.[59]

**Figure 16: Best Buy's Use of Conversion Rate**

**BEST BUY USED FOOT TRAFFIC ANALYSIS FOR TURNAROUND**

When new management took over struggling Best Buy in 2012, they used foot traffic analysis to learn that only 40 percent of in-store customer visits included a transaction. Increasing this conversion rate was a pillar of management's "Renew Blue" turnaround strategy, as each percentage point improvement would lead to $200 million in incremental operating profits. Since then, same-store sales have stabilized, profits have increased, and the stock price has quadrupled.




Per store figures based on 1,103 Best Buy stores (excluding smaller Best Buy Mobile stores) at the end of FY 2012. Adjusted stock prices were $12.87 November 1, 2012 and $59.94 June 1, 2017.

Sources: Best Buy Analyst and Investor Day, November 2012; Annual Reports FY 2012 and 2016; and OIG analysis.

Four-and-a-half years later, the company's same store sales have stabilized, profits have improved, and Best Buy's stock price has more than quadrupled.[60] To be clear, the nature of post office foot traffic is very different from that of an electronics retailer, and the Postal Service would likely use an entirely different strategy for converting visitors into buyers. Whatever strategy it takes, the financial benefits of getting more of the people who visit post offices to make a purchase while there could be significant.

59 Best Buy, *Renew Blue: Best Buy Analyst and Investor Day*, p. 31.
60 Best Buy, 2017 *Annual Report*, https://www.sec.gov/Archives/edgar/data/764478/000076447817000008/bby-2017x10k.htm, p. 27. Stock price, adjusted for splits and dividends, grew from $12.87 on November 1, 2012, to $59.94 on June 1, 2017, according to Yahoo Finance. The company has not disclosed how its foot traffic or conversion rate have changed since 2012.

# Appendix E: Management's Comments

KELLY M. SIGMON
VICE PRESIDENT, RETAIL AND CUSTOMER SERVICE OPERATIONS

UNITED STATES POSTAL SERVICE

September 5, 2017

CHRISTOPHER BACKLEY
ACTING DIRECTOR RISK ANALYSIS RESEARCH CENTER
U.S.POSTAL SERVICE OFFICE OF INSPECTOR GENERAL

SUBJECT: Billions Served: Foot Traffic at the Post Office (Final Review Draft)

Thank you for the opportunity to respond to the August 15, Final Review Draft of the White Paper "Billions Served: Foot Traffic at the Post Office".

Management found the report to have relevant data. We will further review the methodology outlined to determine the feasibility of incorporating into our foot traffic analysis in the future, to better assess potential opportunities for retail partnerships and to make the most informed decisions about its retail network.

Sincerely,

Kelly M. Sigmon

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