Helping New York City Drivers Avoid Getting Booted

ideas42

Behaviorally informed warning emails to reduce unpaid parking ticket debt that leads to vehicle booting

A behavioral redesign of an email lowered the number of drivers subject to vehicle booting and towing in New York City. Inexpensive to implement, the redesigned "boot warning" email helped drivers avoid a significant and unanticipated financial cost that is particularly burdensome for low-income households.

Summary

About 8,700 NYC drivers become at risk for booting or towing every month due to unpaid parking ticket debt. If booted or towed, drivers must often pay over $700 to regain access to their car—an unanticipated financial cost that can be particularly burdensome for those living in low-to-moderate income households. Outside of the financial burden, losing access to one's vehicle for any period of time can be disruptive—hindering those who rely on their vehicles to work and impacting drivers' lives.

To prevent this situation for drivers, the Department of Finance (DOF) sends a warning email to drivers approaching $350 in combined ticket fees and fines—the threshold that triggers booting and towing. The email urges drivers to address their tickets by paying, disputing or joining a payment plan. To improve the efficacy of the warning email and lower the number of drivers eligible for booting, the DOF reached out to the New York City Behavioral Design Team (NYC BDT), a partnership between ideas42 and the NYC Mayor's Office of Operations, to redesign the email.

For our redesign, we made changes to the email's sender address, subject line, and text to increase the number of drivers who open the email, read the email in enough detail to understand how to address their tickets and ultimately take action to avoid booting or towing. A randomized controlled trial found that the two versions of the redesigned email lowered the number of drivers who became eligible for booting by an average of 10.4%.[1] As a result of this encouraging finding, the City decided to scale our most successful behavioral email design to all drivers approaching the booting or towing limit. While NYC has temporarily ceased the booting of vehicles as a result of the pandemic, the redesigned email will help an estimated 2,500-2,600 New Yorkers avoid booting or towing (and associated costs and disruption of their lives) every year once booting resumes.

Highlights

- Parking tickets that go unpaid lead to risk of car booting or towing.
- NYC sends warning emails to drivers to pay their tickets before being booted, but a redesign improved recipients' follow through.
- The goals of the email redesign are: 1) increase open rates, 2) encourage recipients to act promptly, and 3) make it easier for drivers to act.

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[1] This result is statistically significant at the 1% level (p<0.01)

Why do parking tickets go unaddressed?

Before we could design a better email, we first needed to understand why tickets go unaddressed. We reviewed the communications ticketholders received prior to being booted (the tickets themselves and the existing warning email). We went through each step required to pay or dispute a ticket or to request a payment plan ourselves. Finally, we reviewed administrative data on ticketholders at-risk for booting or towing to better understand the population of drivers approaching boot eligibility.

Our review identified two key insights about why drivers may not open the boot warning email—the first step to ultimately addressing their tickets:

▸ Since people have **limited attention**, drivers may not notice the boot warning email in their inbox or may ignore it because it does not appear urgent compared to their other emails.

▸ Because thinking you owe money can be painful, especially if you know you cannot repay, drivers may **ostrich** and avoid opening the email about their impending booting.

To address their tickets, drivers need to read the warning email closely enough to understand their options and then act to address their ticket. Our review of the email itself and the dispute and repayment processes revealed that drivers may not address their tickets for the following reasons:

▸ The boot warning email is **cognitively taxing** to read with unclear **choice framing**—using overly complex language with no clear prioritization of information. Drivers, confronted with this confusing email, may stop reading before they learn how to address their ticket.

▸ Drivers may experience **present bias** and **procrastinate** paying off their ticket, because the costs of paying a ticket now (both to their finances and time) seem concrete compared to the more abstract risk of booting or towing at some unspecified time in the future.

▸ **Administrative hassles** in disputing or paying tickets, including figuring out where to go online and what information to provide, may place an additional cognitive cost on ticketholders, causing them to give up or delay action until their vehicles are eligible to be booted.

Simple design elements to boost efficacy

To boost the number of drivers who pay, dispute, or join a payment plan, the BDT designed email prototypes with three main goals in mind: 1) increase open rates, 2) encourage recipients to act promptly, and 3) make it easier for drivers to act.

Increasing Open Rates

Before drivers open the email, they are exposed to two key pieces of information—the sender and the email subject line. To boost email open rates, the BDT adjusted both. The BDT changed the sender, previously EnforcementWarning@finance.nyc.gov, to NYCparking@finance.nyc.gov for two reasons. First, the old address "EnforcementWarning" could appear fraudulent to those quickly skimming their email, so a switch to the less "spammy" sounding "NYCparking" might increase open rates. Second, switching from

"EnforcementWarning" to the more neutral sounding "NYCparking" address may lower drivers' aversion to opening what previously sounded like a harsh email. Indeed, a previous parking ticket experiment, run by the BDT, with a similar population of NYC ticketholders found that a softer, non-blaming tone on parking ticket envelopes motivated drivers with expensive tickets to address their parking debt.

To improve upon the original email subject line, "Take Action Now To Avoid Booting or Towing," we developed three other subject lines—one of which was action-based, "Pay now to avoid towing," another which highlighted risk, "Your vehicle is at risk for towing," and a final one, which both highlighted risk and was personalized with drivers' plate number—"Action Needed: Plate CJK876 at risk for towing." To gain insight into which subject line might produce the best email open rate, the BDT performed an online test using Amazon's Mechanical Turk (MTurk), a crowdsourcing platform that allowed us test the effectiveness of our prototypes online with 6,000 remotely located people. The results did not clearly show one subject line to be more effective at increasing open rates. After discussion with the DOF, we decided to use the subject line "Your vehicle is at risk for booting" for our pilot with NYC drivers because it succinctly highlighted the most likely initial outcome for drivers—booting (not towing)—if drivers did not address their tickets. The piloted subject line also reduced the ambiguity of the original subject line, which suggested drivers could be booted or towed.

Encouraging Recipients to Act Promptly

Because drivers need to understand the boot warning email before they can act, the redesign sought to limit the complexity of the language and cut out extraneous information. For example, rather than beginning the email with "This is a courtesy notice to let you know that at least one vehicle associated with your email address has accrued nearly $350 in unpaid parking or camera summons judgement debt," the redesign cut the jargon and simply stated "A vehicle associated with this email has unpaid parking fines."

Drivers need to act promptly to ensure their vehicles do not get booted or towed. Procrastinating for just a few weeks can mean hundreds of dollars of additional costs in booting, towing, and execution fees. To reduce procrastination around addressing these fines, we included a bolded deadline in the body of the email, by which drivers needed to act. Directly following this deadline, we included three succinct bullets explaining how drivers could address their tickets, so drivers could easily understand all their options.

Personalization may increase the perceived authenticity and relevance of automated messages. Indeed, our pre-pilot MTurk test suggested personalization might be effective at increasing the likelihood a driver attempts to address their tickets. When compared to the email the DOF previously sent drivers, a higher percentage of MTurk users attempted to address their ticket (by clicking a link in the email) when they reviewed our behaviorally redesigned email, which included personalized elements like the driver's plate number.[2] To explore whether additional personalized elements would ultimately increase the number of drivers who act promptly in the real world, we created one version of the design that featured the driver's

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[2] The email included other behavioral elements described in this brief, like simplified language and deadlines, so we are not able to isolate the impact of personalization alone in our MTurk testing.

vehicle make and model—like "Toyota Highlander"—and plate number in the first sentence of the email. We piloted this email with NYC drivers against an identical version with these personalized elements removed.

Making it Easier to Address Tickets

Since seemingly small hassles can derail individuals from following through on their intentions, the redesign sought to streamline the repayment and disputation process to increase follow through. One hassle inherent in the previous email was that it hyperlinked to one general page for those who wanted to dispute or pay. From that page, drivers had to find and navigate to the specific payment or disputation pages—which were not easy to locate. To cut steps, the redesign provided separate links, which sent drivers directly to either the payment or dispute screen.

Once drivers navigated to the payment or dispute page, they were prompted to enter their summons number. The redesigned emails included the summons number next to the payment link in the email to reduce the hassles of finding it, which could have prevented some drivers from following through on their intention to address their tickets.

Immediate positive impact for drivers

Over 12 weeks in the spring and summer of 2019, more than 26,000 drivers approaching boot eligibility participated in our randomized controlled trial. These drivers were split randomly into three groups. One group received the control "business-as-usual" email the DOF previously sent to all drivers approaching the booting limit. The other two groups received our behaviorally redesigned emails, which were identical to each other except for the first sentence. The "personalized" behaviorally redesigned email included the driver's vehicle type and plate number in the first sentence— reading "A [vehicle type] with plate [plate #] associated with this email has unpaid parking fines." The "generic" behaviorally redesigned email simply read, "A vehicle associated with this email has unpaid parking fines."

Boot eligibility

Business as usual	23.1%
Generic Redesign	21.4%***
Personalized Redesign	20.8%***

This result is statistically significant at the 1% level (p<0.01)

To understand if our designs were successful, we examined whether drivers in the control or treatment groups were no longer eligible for booting. Drivers become ineligible for booting if they successfully dispute their ticket, join a payment plan or pay enough money that they owe less than $350 in combined fees and fines. We found that both redesigned emails outperformed the business-as-usual email—on
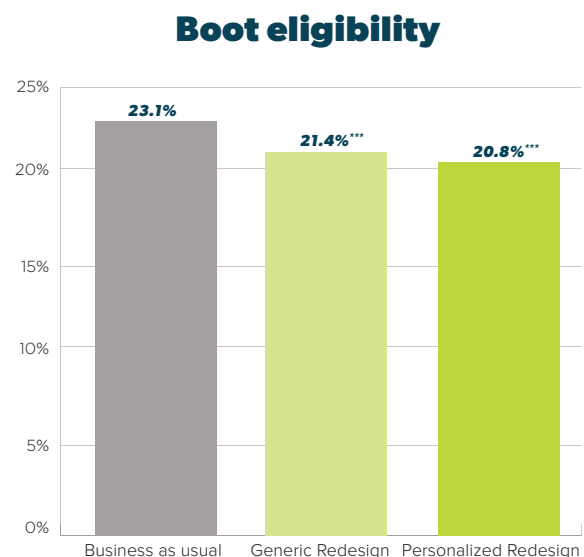
average reducing boot eligibility by 2.4 percentage points from the baseline of 23.1%, a 10.4% change.[3] The personalized email showed a slightly larger reduction in eligibility than the generic email.[4]

Relatedly, we found the redesigned emails increased the percentage of drivers who made any dollar payment on their tickets (whether or not it was sufficient to end their boot eligibility) by 2.9 percentage points from our baseline of 68.3%, a 4.2% change.[5] We also observed an advantage to personalization, with the personalized email showing a slightly larger increase in the percentage of drivers making payment compared to the generic email.[6]

Made Payment
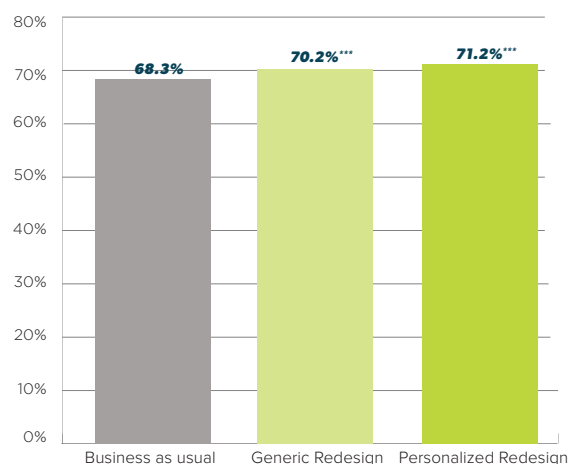
This result is statistically significant at the 1% level (p<0.01)

Takeaway

The findings from our intervention show that a simple email redesign can be a cost-effective way to prevent an unnecessary financial burden for drivers. Since the redesigned email was inexpensive to implement and effective in reducing boot eligibility, the DOF scaled the personalized redesign to all New York City drivers approaching the parking ticket fines and fees limit. Based on evidence from the pilot, scaled emails will help an estimated 2,500-2,600 additional vehicle owners avoid eligibility for booting every year.

The guiding principles of our redesign—limiting complexity to boost comprehension, softening language to reduce drivers' aversion to the email, providing a deadline with concrete steps to inspire action, and reducing hassles—are broadly applicable across NYC government communications with residents. Where possible, government practitioners should look for opportunities to revise communications to maximize their impact for the people they serve.

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[4] This result is not statistically significant

[5] This result is statistically significant at the 1% level (p<0.01)

[6] This result is not statistically significant

Appendix

Redesigned email with personalization

From: NYCparking@finance.nyc.gov

A

Subject: Your vehicle is at risk of being booted

Dear NYC Driver,

A [vehicle type] with plate [plate #] associated with this email has unpaid parking fines. **If you or the vehicle owner do not pay or dispute by [DATE]*, this vehicle will be booted or towed**.

- **To pay tickets, click Pay my parking ticket and use this violation number: [oldest summons #]**
- If you think this is a mistake and want to dispute a ticket, click Dispute a ticket
- If you are interested in a payment plan, click Learn about payment options

Need some help? We answer questions at Contact Finance or you can come by in person to one of our Business Centers.

Remember, you or the vehicle owner must take action by **[DATE]*** or this vehicle and any other associated vehicle(s) will be at risk of being booted or towed.

Thank you in advance,

NYC Department of Finance

P.S. This email address was previously used to pay a parking ticket for the vehicle(s) listed below. All vehicles registered to the owner are at risk of being booted or towed.

*Booting or towing may occur before listed date

Plate	State	Type
CJK 876	NY	PAS

NYC
Department of Finance

Generic redesigned email

From: NYCparking@finance.nyc.gov   **B**

Subject: Your vehicle is at risk of being booted

Dear NYC Driver,

A vehicle associated with this email has unpaid parking fines. **If you or the vehicle owner do not pay or dispute by [DATE]*, this vehicle will be booted or towed**.

- **To pay tickets, click Pay my parking ticket and use this violation number: [oldest summons #]**

- If you think this is a mistake and want to dispute a ticket, click Dispute a ticket

- If you are interested in a payment plan, click Learn about payment options

Need some help? We answer questions at Contact Finance or you can come by in person to one of our Business Centers.

Remember, you or the vehicle owner must take action by **[DATE]*** or this vehicle and any other associated vehicle(s) will be at risk of being booted or towed.

Thank you in advance,

NYC Department of Finance

P.S. This email address was previously used to pay a parking ticket for the vehicle(s) listed below. All vehicles registered to the owner are at risk of being booted or towed.

*Booting or towing may occur before listed date

Plate	State	Type
CJK 876	NY	PAS

NYC
Department of Finance

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Control email

From: EnforcementWarning@finance.nyc.gov   **C = control**

Subject: Take Action Now to Avoid Booting or Towing

NYC
Department of Finance

Dear Customer,

This is a courtesy notice to let you know that at least one
vehicle associated with your email address has accrued nearly $350
in unpaid parking or camera summons judgment debt. A vehicle with
more than $350 in judgment debt may be booted or towed to recover
the outstanding amount due - and if the owner of these plates owns
other vehicles, those vehicles may also be subject to booting or
towing.

We urge you to visit www.nyc.gov/citypay to pay or dispute the
out- standing summonses associated with the vehicles or vehicles
shown below. Please note that you may have other vehicles at risk
of booting. You can search all of the plates you own at
www.nyc.gov/citypay.

For more information about disputing a ticket, including who is
eligible to request a hearing, you may visit
www.nyc.gov/disputeticket.

This is the only email you will receive on this matter. If you
have questions, you may contact us at 311. This mailbox is
unattended. To contact the NYC Department of Finance, visit
www.nyc.gov/contactfinance. Contacting us without payment will not
prevent your vehicle from being booted. Please visit a DOF
business center if you need immediate assistance or to establish a
payment plan if you qualify.

Sincerely,

The New York City Department of Finance

Plate	State	Type
ABC6789	NY	PAS