The Independent Monitor of Takata and the Coordinated Remedy Program

Update on the State of the Takata Airbag Recalls

January 23, 2020

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I, John D. Buretta, as Independent Monitor of Joyson Safety Systems, TK Global LLC ("Takata") and the Coordinated Remedy Program (the "Monitor"), submit this report to describe the current state of the Takata recalls, pursuant to Paragraph 42 of the Consent Order, dated November 3, 2015, issued pursuant to the authority of the National Highway Traffic Safety Administration ("NHTSA") and agreed to by Takata, and as amended as of May 4, 2016, and pursuant to the Coordinated Remedy Order, dated November 3, 2015, as amended by the Third Amended Coordinated Remedy Order, dated December 9, 2016 (the "ACRO").

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I. INTRODUCTION

This report provides an update on the present state of the Takata recalls. Over the past year, most affected vehicle manufacturers continued to make substantial progress in repairing vehicles. In 2019, an additional seven and a half million defective inflators were repaired, bringing the total number of repairs to more than 36 million, a total far above any previous automotive recall. Over the last year, completion percentages have increased approximately seven percentage points for the oldest and generally the highest risk vehicles in Priority Groups[1] 1-3 and 13 percentage points for Priority Groups 4-10 vehicles. Eleven affected vehicle manufacturers are reporting total completion percentages of at least 70%, four are reporting completion percentages above 80% and one is reporting above 90% for Priority Groups 1-9. These impressive results have been achieved through innovation by individual vehicle manufacturers, collaboration within the automotive industry, and formation of new partnerships with third-party stakeholders such as state DMVs.

However, the Takata recalls, now in their fourth year, continue to pose new and unprecedented challenges. As of January 2020, approximately 15.9 million recalled Takata inflators remain unrepaired, including those recently recalled as a result of the final phase of planned expansion of the recall. Many of the remaining vehicles in the field are older and inherently more difficult to reach. Affected vehicle manufacturers have learned that, at this stage in the Takata recalls when repairs have exceeded 60%, over half of remaining vehicle owner contact information based on registration data can be incorrect. This report focuses on strategies that have been, and are being, developed to successfully complete repairs on these harder-to-reach vehicles.

[1] NHTSA categorizes vehicles under recall into "Priority Groups" corresponding to the risk to vehicle occupants based on an inflator's age, exposure to heat and humidity, whether the inflator is a driver- or passenger-side airbag and other factors. Additional inflator testing has identified certain inflators, within specified manufacturing ranges, that show increased risk of rupture irrespective of priority group classification.

II. DEVELOPMENT OF COMPREHENSIVE RECALL STRATEGIES

As I discussed in my last report, the most effective recall strategies include a mix of finding new sources of owner data and refreshing old sources; segmenting unrepaired vehicle populations to develop targeted outreach strategies for different segments; sending clear, high-impact communications frequently and through multiple channels; addressing the perceived inconvenience of repairs; coordinating with third-party stakeholders; and canvassing owners at their residences. As discussed in detail below, overcoming the challenges in repairing the remaining, more aged and more difficult-to-find Takata recall population is aided by advanced use of data sources, escalated outreach, mobile repair, personal interaction with vehicle owners, enhanced coordination with franchised dealers, engagement with various third-party stakeholders and collaboration among affected vehicle manufacturers.

Data Analytics

Data quality and data analytics are critical ingredients in identifying the correct vehicle owner and location information. One of the biggest challenges of recall efforts in mature recall campaigns is identifying which owners are actually receiving outreach notifications. Several manufacturers have innovated new methods for verifying the accuracy of owner information. For example, in August 2018, one affected vehicle manufacturer began sending recall notifications through certified mail. The results of the certified mail delivery showed that approximately 45% of the manufacturer's remaining unrepaired population may not have received the recall communications because the addressee did not reside at the address to which the mail was sent. The affected vehicle manufacturer sent a follow-up email to vehicle owners that signed for certified mail and asked these vehicle owners to complete a survey. Survey respondents indicated that they no longer own or use the vehicle 56% of the time. These survey results are consistent with analysis of vehicle turnover, which has shown that approximately one-quarter to one-third of older vehicles (between eight and 16 years old) in recall populations change owners, or their address, in the course of a year.

In an effort to locate remaining affected vehicle owners, other affected vehicle manufacturers are beginning to create the architecture for a rules-based protocol to score unrepaired Takata vehicles based on the available vehicle information from multiple data sources with varying dates and data elements. This data includes registration attributes, such as date of last registration or title, type of last owner (*e.g.*, individual, insurer, finance company, reseller or other business), distance of registration address to dealer and number of registered owner changes. This data may also include information from the affected vehicle manufacturer/dealer customer relationship management (CRM) system, such as date of last dealer service and dealer appointments made but

Example Data Source Categories for Vehicle Identification and Outreach

- DMV registration data
- Non-DMV vehicle owner contact data
- Dealer service records
- Independent Repair Facility (IRF) service records
- Used vehicle listings
- Auction processing records
- Individual and household attributes
- License plate recognition / vehicle sightings
- Results from all prior outreach attempts
- Salvage facility data

missed with related owner contact information. It may also include additional external data sources such as vehicle service history reports, law enforcement databases, auction processing data, salvage inflator data, used car listings and vehicle sightings through license plate recognition ("LPR"), which provide additional affirmative data points that a vehicle is in-transit and indications of its whereabouts.

Tools to Locate In-Transit Vehicles

- Recent registration
- Recent vehicle service
- Recent license plate recognition sightings
- Toll-road / transit authority account
- Recent used vehicle listing
- Recent wholesale auction record
- Current vehicle lien
- Current insurance information
- Positive confirmation from outreach

Developing this type of analysis will help to confirm that vehicles are still in transit. Indicators of whether a vehicle is in transit can include registration, service, LPR sighting or use of a toll road. A recent purchase or transfer of title from an independent car dealer or wholesale auction can provide information related to vehicle condition, which, when combined with the recent purchase, can allow for a transit status determination. Other information, such as a lien recorded against a vehicle or an active insurance coverage are other in-transit indicators.

While these new techniques will help confirm that a vehicle is in-transit, and determine whether owner contact information from registration data is accurate, vehicles that have been identified as having incorrect owner information will merit use of additional non-DMV data sources.

One affected vehicle manufacturer, after failing to identify correct owner information through certified mail, began supplementing its DMV-based data sources with DMV secondary address information, non-USPS-based third-party change of address and address hygiene services, owner return mail addresses from public-facing websites and insurance data. Three affected vehicle manufacturers are developing a data pilot where a data aggregator secures permission from automobile insurance carriers to use insurance owner data for vehicle outreach. High insurance outreach completion percentages are attributed to better data quality of insurance owner data as compared to owner data sourced from state registration and title records at this stage of the recall. For example, one of these manufacturers has conducted three outreach campaigns with three different insurers which has resulted in completion percentages between 13% and 20%.

Affected vehicle manufacturers are also beginning to incorporate LPR data into their data processes to help confirm both that a particular vehicle is on the road and the vehicle's general whereabouts. For example, in the fourth quarter of 2018, one affected vehicle manufacturer used LPR data to confirm whether some of its "Do Not Drive" vehicles remained on the road. Another affected vehicle manufacturer has developed its own propriety use of LPR data that scans a license plate and displays whether the vehicle has an open recall. This technology is used at parking lots during large events in order to place recall notifications and repair instructions on the vehicles that are identified as having open recalls. Another affected vehicle manufacturer is currently in discussion with a provider of LPR data to inform its canvassing

activities by only canvassing high-quality addresses near where a particular vehicle has been sighted.

Vehicle service records from IRFs can also provide a basis for the whereabouts of a vehicle. One affected vehicle manufacturer is conducting a pilot where it expects to receive 750,000 service records that will contain the date of last service and the zip code of the service for its unrepaired Takata population. This information will be used to identify markets to further engage IRFs and test the quality of its owner information used in outreach.

Other data elements will provide indicators that a vehicle is potentially not in transit. These indicators include evidence that a vehicle has been sent to salvage, the registration is expired, identification of branded titles for inoperability or damage, airbag deployment, impounded vehicles and confirmations from vehicle owners through prior phone outreach and canvassing attempts. While each of these indicators provides relevant information related to vehicle status, affected vehicle manufacturers may want to carefully consider each data element available, and combinations thereof, to determine whether the available information tends to demonstrate that a vehicle is no longer in, and will not reenter, transit.

Example Preliminary Indicators of Vehicle Potentially Not Being in Transit
• Record of vehicle salvage collection or auction • Insurance titles and salvage disposal • Expired registration • Certain branded titles • Collision center records indication deployment or salvage disposal • Impounded vehicles • Vehicle owner assertion from outreach

The use of supplemental data sources can provide additional insight that may inform the transit status. Some examples are provided in the accompanying table.

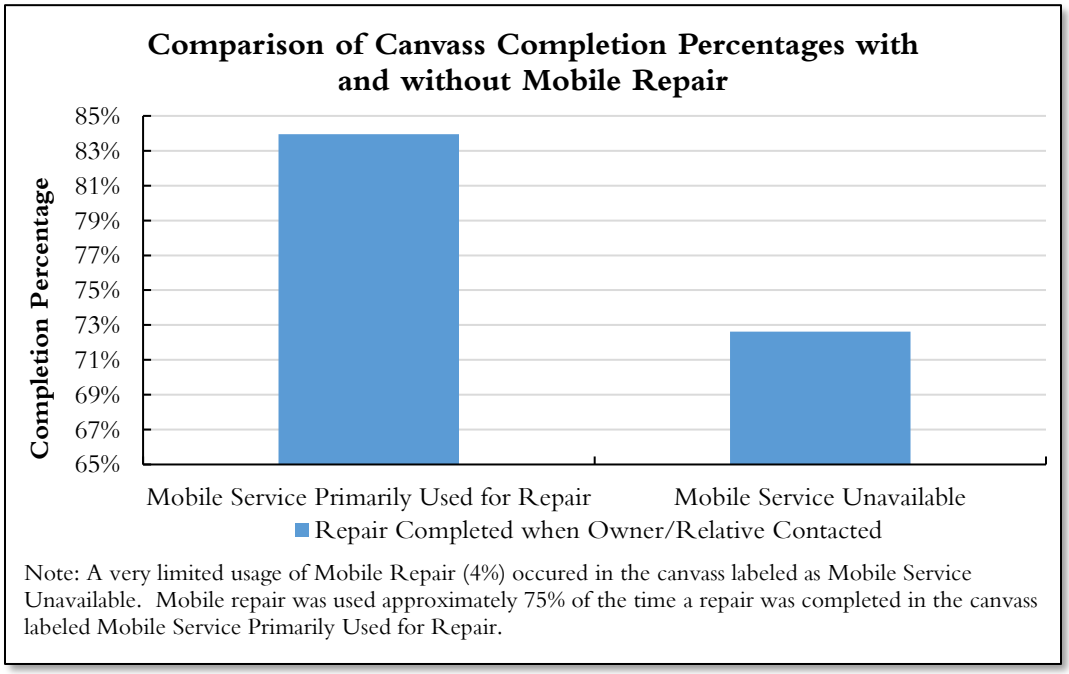
Supplemental Data, Research and Analysis for Vehicle Transit Status
• Monitor for updated registration/title • Test data integrity of supplemental data sources • Identify transient populations from analyses of address types (*e.g.* apartment/P.O. Box) • Identify and compare locations of last vehicle service to vehicle address data points • Contact last IRF that serviced vehicle • Identify change of owner transactions from wholesale auction records • Foreign vehicle registrations • Identify vehicles titled but not registered • VIN recall check on manufacturer and other websites • Check branded titles against National Motor Vehicle Title Information Services (NMVTIS) records

Owner Accommodations

Affected vehicle manufacturers have long recognized that addressing the inconveniences associated with completing a repair is critical to encouraging many of the remaining affected vehicle owners to replace their Takata airbag. Affected vehicle manufacturers have launched a wide array of accommodations to encourage repairs, including extended dealer hours, free loaner vehicles and mobile repair.

For example, most affected vehicle manufacturers have launched a mobile repair program, in which a recall repair truck is sent to a vehicle owner's location (home, work, etc.) to complete the Takata recall repair. Vehicle owners unsurprisingly favor mobile repair, as it eliminates most of the inconvenience associated with completing the repair. Figure 1 below compares completion percentages, when an owner or relative was contacted, in two different Monitor-led vehicle owner canvassing pilots, one in which canvassers were able to offer mobile repair and the other in which they were not. When mobile repair was available in Monitor-led canvassing, 75% of affected vehicle owners who scheduled a repair used the mobile repair service. Figure 1 demonstrates that when mobile repair is available, completion percentages are 11 percentage points higher. Another affected vehicle manufacturer that advertised the availability of mobile repair in markets where mobile repair was available saw a nine-fold increase in repair activity over the course of six months. Likewise, an affected vehicle manufacturer that has canvassed both with and without mobile repair service has found that mobile repair is essential to a canvassing program.

Figure 1



Note: A very limited usage of Mobile Repair (4%) occured in the canvass labeled as Mobile Service Unavailable. Mobile repair was used approximately 75% of the time a repair was completed in the canvass labeled Mobile Service Primarily Used for Repair.

Below are examples of communications used by one affected vehicle manufacturer that prominently advertise the availability of its mobile repair service. The outreach materials clearly explain that "We'll Come to You," with supporting images to suggest a Takata recall repair can be completed at the owner's home, or at any convenient location. These communications have resulted in completion percentages approximately three times that of other communication used by this manufacturer.

Figure 2

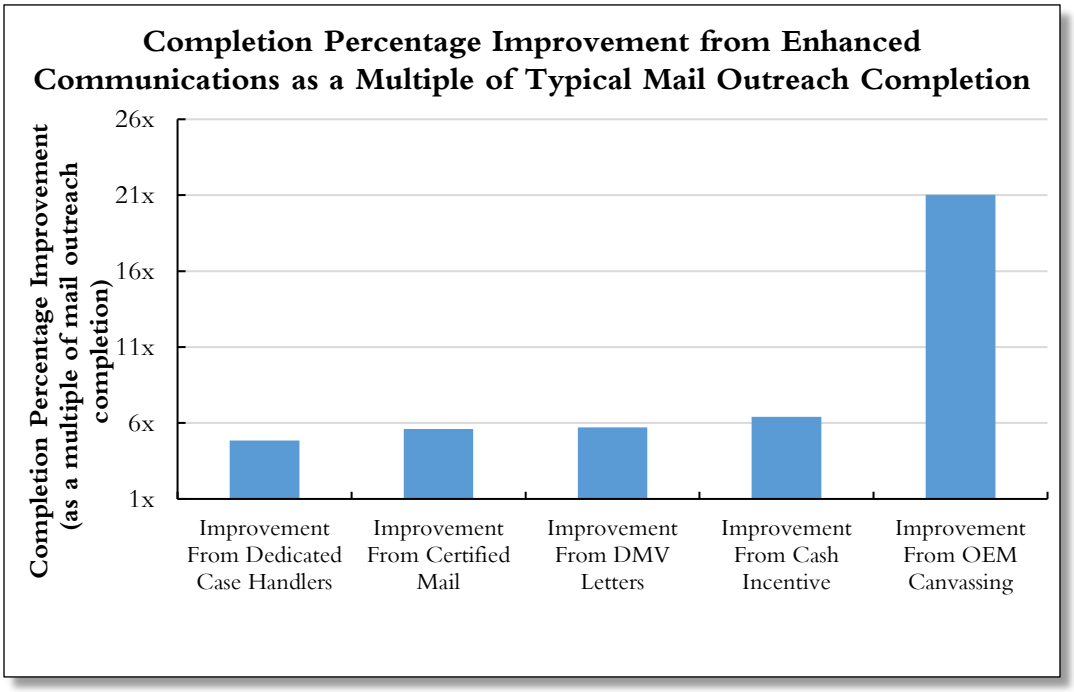
Greater use of mobile repair is possible. To date, mobile repair accounts for less than 0.4% of all completed Takata repairs, despite its popularity among affected vehicle owners. Mobile repair is currently only available in limited markets, with the capability to reach at most 20% of the remaining unrepaired affected vehicle owners. In these markets, demand for mobile service outstrips supply. Greater success is achievable by scaling these programs.

Many other vehicle owner accommodation programs, such as extended dealer-service hours, vehicle pick-up and drop-off services, ride-sharing services and dealer shuttles are also available at some, but not all, franchised dealers. Generally speaking, affected vehicle manufacturers do not track which dealers offer which of these programs, and, thus, are not able to proactively communicate to affected vehicle owners regarding the availability of accommodations. If accommodations are included in outreach materials at all, affected vehicle manufacturers often use generic and qualifying language, such as "alternative transportation may be available." Other accommodations, such as the provision of loaner vehicles, might be available nationally, but franchised dealers often have a limited number of vehicles available, which results in a backlog in scheduling for vehicle owners that require a loaner vehicle. As many affected vehicle manufacturers enter the fourth year of the Takata recalls, these escalated techniques are most effective when pursued in combination with one another and scaled to reach the entirety of the remaining affected vehicle population.

Escalated Outreach

Escalating outreach communications—both in type and in frequency—has proven successful to engage previously unresponsive affected vehicle owners. Figure 3 below demonstrates the completion percentages of various escalated owner communications used in the past year. Standard letter campaigns used in the past year have generated, on average, less than 2% completion percentages. By contrast, enhanced communications, such as certified mail and DMV letters, resulted in completion percentages that were approximately five times better than completion percentages from typical letter outreach. One affected vehicle manufacturer has seen a completion percentage following certified mail outreach that was six times better than typical letter outreach. Another vehicle manufacturer saw nearly the same completion percentage improvement after offering a cash incentive to drivers who completed their Takata recall repair.

Figure 3

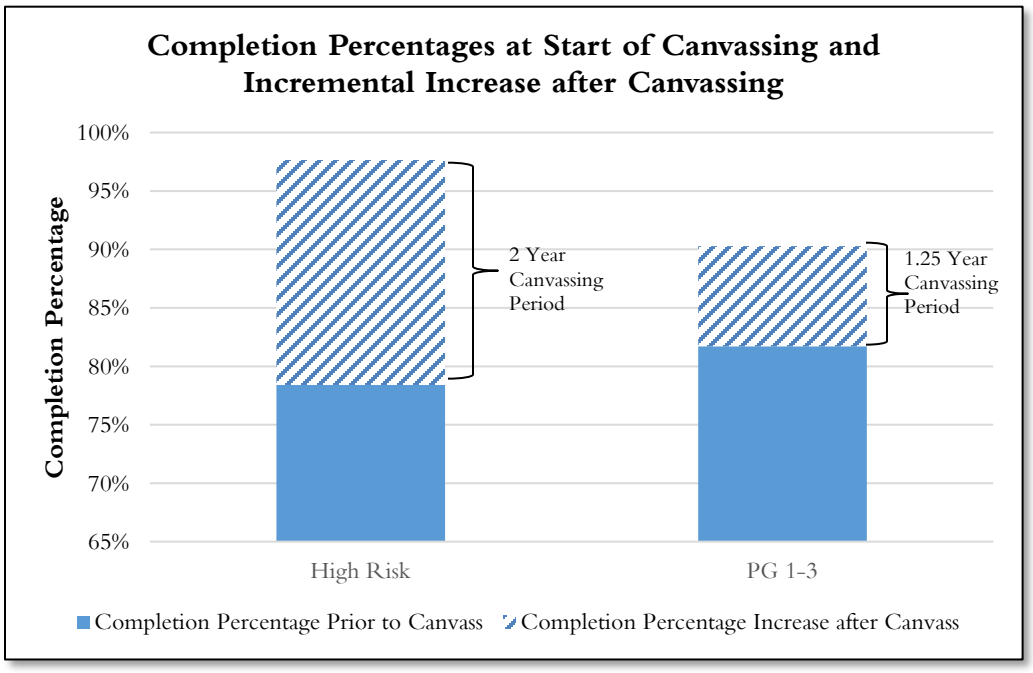


Personal Interaction

The remaining vehicle owner population that is aware of the Takata recalls might still not understand the urgency of completing the recall repair. Personal interaction with these owners has proven an effective tool to convey urgency. The act of visiting a vehicle owner's residence demonstrates the urgency of the recall and allows the canvasser to identify and document the barriers that have prevented the vehicle owner from receiving a free recall repair. Figure 4 below shows how one affected vehicle manufacturer used canvassing in its older vehicle population to boost completion rates from 78% to 98% for its High Risk population. This same manufacturer also used canvassing and additional outreach initiatives, boosting completion percentages from 82% to 90% for its Priority Groups 1-3 vehicles. Canvassing also provides valuable insight on the quality of vehicle owner contact information used to conduct outreach.

Vehicle owner canvassing is increasingly being adopted by individual affected vehicle manufacturers, especially to target the highest risk vehicles.

Figure 4



Recognizing the impact of personal interaction, affected vehicle manufacturers have also launched other, higher volume methods of personalized outreach. Five affected vehicle manufacturers have created dedicated case handler programs. Techniques vary across manufacturers, but generally a case handler is provided with contact information for an individual owner and makes numerous personalized calls encouraging the owner to complete the repair. Case handlers are also often encouraged to conduct research to identify new vehicle owner contact information. Once connected with a vehicle owner, the case handler maintains consistent communication, ensures the proper accommodations are made to overcome inconveniences, and prepares local dealers to receive and repair the vehicle. Case handlers, responsible for making sure the repair is completed for each vehicle assigned to them, will also conduct follow-up calls to affected vehicle owners before repair appointments or after if repair appointments are missed. One manufacturer saw a six-fold increase in call volume after it removed pre-screening automated call prompts to make it easier for a vehicle owner to connect directly with an agent.

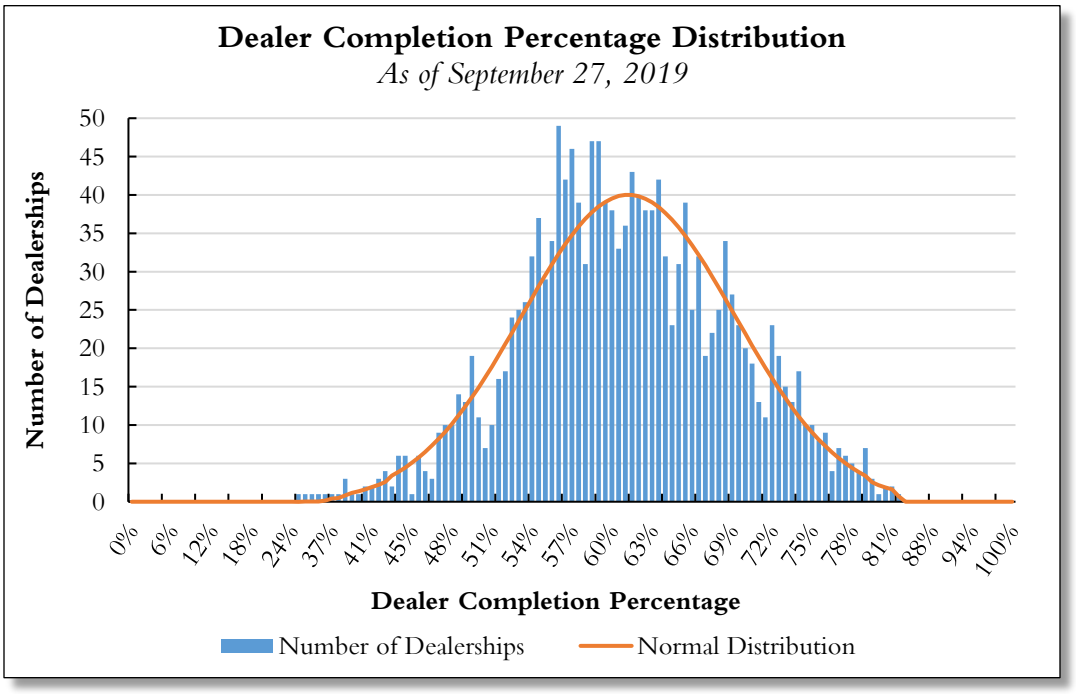
Franchised Dealer Engagement

As I discussed in my last report, engaging franchised dealers is essential. Affected vehicle manufacturers have expended considerable resources over the past year to engage franchised dealers and ensure affected vehicle owners have a simple and convenient repair experience. Despite this effort, however, there have been instances in which franchised dealers have turned away affected vehicle owners seeking a repair or failed to repair a defective Takata airbag while an affected vehicle owner had an unrelated repair completed at the dealership. This disconnect is largely the result of dealers who are unaware of pertinent Takata related information,

who do not have available capacity, or do not appropriately prioritize capacity, to complete a Takata repair.

Figure 5 shows dealer completion percentages for one affected vehicle manufacturer compared to a normal distribution curve.[2] Dealers within three standard deviations from the mean of 60% have achieved completion percentages between 40% and 80%. Such a large variation suggests that dealers may be encountering a wide range of experiences in conducting outreach and completing repairs for vehicles with Takata recalls. It is important for affected vehicle manufacturers in the Takata recalls to develop both broad and individual dealer engagement strategies to help dealers of different sizes and types, operating in different locations with different local populations to navigate these challenges.

Figure 5



The variation in dealer completion percentages across dealers may be attributable to both internal and external factors. Internal factors include dealer capacity, quality of customer service and availability of owner repair accommodations. External factors include higher or lower concentrations of vehicles with incorrect owner information in a dealer's service area, language barriers or the ability of owners to schedule a repair during standard dealer service hours.

[2] A normal distribution curve has half of the observed data points on one side of an average (or mean) and half on the other side of the average. The slope or curvature of the distribution is derived from the percentage of observations closest to either side of the average. Narrow distribution curves demonstrate little variation in a sample population and wider curves demonstrate larger variations.

Manufacturers could provide support to their franchised dealers by persistently and consistently relaying pertinent information and ensuring that dealers fully understand the information being relayed. Affected vehicle manufacturers may also monitor how their franchised dealers communicate with vehicle owners and handle Takata recall repairs. For example, one affected vehicle manufacturer has developed a dealer-facing website to host all Takata recalls information relevant to dealers in a single convenient location. As of May 2019, the site had been visited over 26,000 times by over 2,800 dealerships. Another affected vehicle manufacturer has developed a nine-module dealer training course with content tailored to individual employment functions. The manufacturer requires dealers to complete the training every six months, with compliance monitored by the manufacturer's local field team.

Perhaps one of the places affected vehicle manufacturers could effect the most impactful change in their franchised dealerships is to identify vehicles that go to a dealer for service but do not have their open Takata recall repaired. Vehicle manufacturers have learned that dealers sometimes fail to check for a recall or to notify the vehicle owner about a recall. While many affected vehicle manufacturers are providing feedback and coaching dealers that are failing to complete Takata repairs during service visits, others have begun taking corrective measures. For example, one affected vehicle manufacturer has developed dealer consequences such as reductions in part benefits, warranty restrictions, disqualification from incentives and disqualification for franchise or majority ownership at additional retailers.

Multiple affected vehicle manufacturers have also seen success from mystery shopper programs. These programs typically involve a member of the affected vehicle manufacturer field team personnel, or dealers in other regions, calling a dealer to schedule a Takata recall repair where information related to part availability, number of days until an appointment can be scheduled and the availability of owner accommodations is graded according to the manufacturer's policies. One affected vehicle manufacturer began mystery shopping its dealers in May 2019 and learned that 80% of its dealers offered a recall repair appointment within two weeks and told affected vehicle owners that replacement parts would be available within seven days. After expressing that this response was unacceptable, by August 2019, appointments available within two weeks increased to 90% and parts available within seven days increased to 96%. Another affected vehicle manufacturer found through mystery shopping that some dealers were quoting unacceptably long wait times for owners to schedule an appointment and placing vehicle owners on hold for extended periods of time or transferring calls to voicemail. This manufacturer corrected these unsatisfactory practices.

Ultimately, to ensure franchised dealers prioritize the Takata recalls, dedicated personnel can be assigned specific recall responsibilities, such as coordinating outreach, scheduling appointments, managing parts inventory, website management and ensuring available owner accommodations are offered to vehicle owners. One affected vehicle manufacturer has assisted its dealers—both financially and through ongoing support—to establish dedicated recall departments at franchised dealers. As of July 2019, over two-thirds of its franchised dealers had enrolled in the program. This affected vehicle manufacturer has attributed over 16,000 repairs to this program thus far.

Collaboration

Collaboration among affected vehicle manufacturers has continued to help identify, inform and implement successful programs to increase recall completion percentages. NHTSA and the Monitor have continued to host regular Summits for affected manufacturers to share new programs and discuss outreach methods and ideas. Following these Summits, many affected vehicle manufacturers have implemented programs that were explained and discussed at the events and launched ongoing collaborative efforts with one another. The Monitor has also created and facilitated affected vehicle manufacturer working groups that focus on engagement of third-party stakeholders, identification of unique populations and the development of best practices. Based on the success of these groups, affected vehicle manufacturers have created their own working groups to better understand available owner data and identify vehicles in recalled populations that are no longer in transit.

The importance of collaboration is perhaps no better evidenced than in building relationships with third-party stakeholders. Stakeholders often prefer to engage with all manufacturers at a single time, rather than speaking with each affected manufacturer separately. This type of collaboration has led to successful engagement with 23 state DMVs in letter notification campaigns, with related outreach efforts increasing incremental repair rates in these states approximately 201%, discussed in more detail in Section III. An additional 13 states have assisted in spreading awareness of Takata recalls through advertising on social media and DMV webpages and including Takata related information at local branch offices. Similar collaboration among affected vehicle manufacturers is occurring with automobile insurance carriers. Affected vehicle manufacturers are conducting pilots with different insurers, communicating results with other manufacturers and identifying opportunities for multiple manufacturers to enable the insurer to conduct outreach on behalf of the affected vehicle manufacturers. Other third-party collaboration has included canvassing, awareness and repair events in Puerto Rico and other communities, at large employers, and on military bases.

Combination of Successful Strategies

Over the last four years, affected vehicle manufacturers have developed enhanced recall engagement strategies which have proven effective at increasing recall repair rates and accelerating recall completion. Many of these strategies were developed by manufacturers as pilot programs, which allowed manufacturers to test the efficacy of different tactics.

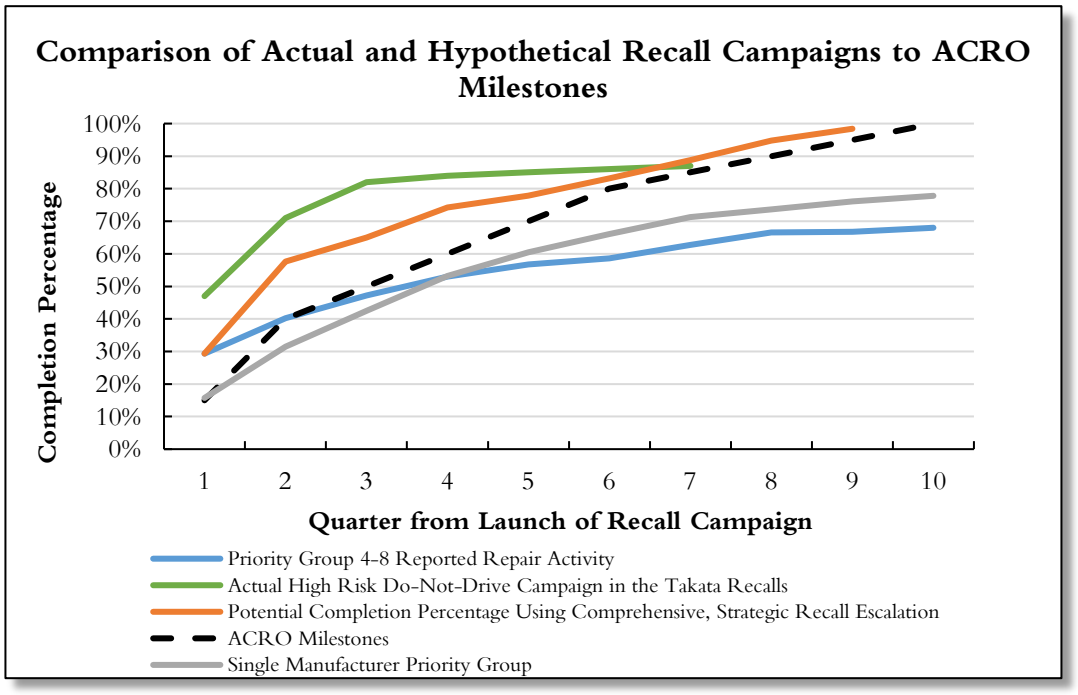
To reach 100% completion of the Takata recalls, affected vehicle manufacturers may find it useful to combine the learnings and insights related to effective escalated recall strategies (data strategy, outreach and communication, dealer engagement and third-party engagement) into a single comprehensive and sustained recall repair strategy.

To test the effect of combining the most successful recall enhancements to date, a hypothetical recall campaign of older vehicles was developed. This hypothetical uses completion percentages generated from actual pilot programs, as well completion percentages from successfully scaled programs, to model estimated repairs for a recall campaign of one million older vehicles with an active recall.

Figure 6 compares actual and hypothetical completion percentages to ACRO milestones. The orange line reflects hypothetical recall completion percentages if the successful

Takata recall engagement strategies used by affected vehicle manufacturers were strategically used in a single recall campaign of older vehicles. Figure 6 demonstrates that if such successful strategies were combined in a single campaign, a 98% completion percentage could be reached after nine quarters. While the blue line presents the aggregate completion percentage of all affected manufacturers in Priority Groups 4-8, many affected vehicle manufacturers have reported higher completion percentages over the same time period for select vehicle groups; for example, the grey line represents one affected vehicle manufacturer that reported a 78% completion percentage after ten quarters for its Priority Group 4 vehicles.

Figure 6



Recognizing the success of programs like the comprehensive recall campaign of Do-Not-Drive vehicles, the orange line in Figure 6 was created by combining the following recall strategies:

- Core outreach: includes repairs from monthly recall notifications through multi-channel outreach strategy, such as messages sent through phone calls, text messages, letters, post cards, social media and email;

- Dealer engagement: consists of assigning affected vehicles to individual dealers to create accountability and providing resources for dealers to communicate with vehicle owners affected by the Takata recalls;

- Escalated owner communications: includes the use of dedicated case handlers, owner incentives, certified mail, high-intensity imagery and prominent and persistent communication regarding the availability of mobile repair, all of which have been shown

to increase incremental repair rates later in the recall when more basic outreach has lost its effect;

- Vehicle turnover: considers the effects of completing Takata recall repairs while the vehicle is in transition between ownership (through an auction or used car facility) or after a new owner has registered the vehicle;

- Third-party engagement: considers the use of alternative messengers such as DMVs, IRFs, community partners or others to spread awareness and motivate vehicle owners to complete Takata recall repairs;

- Vehicle owner canvassing: has been implemented by affected vehicle manufacturers after higher completion percentages have been reached, typically over 85%, and the remaining unrepaired population is not responding to other methods of engagement, and in circumstances where vehicle owner data integrity may need to be confirmed through this outreach;

- Mobile repair: an essential component of many of the aforementioned activities. The availability of mobile repair maximizes the effectiveness of canvassing and improves the results from mailers advertising its availability; and

- Accounting for out-of-transit vehicles: identifies vehicles that have been scrapped, stolen, exported or otherwise rendered unreachable.

Inherent in all of the aforementioned activities is the use of vehicle owner data enhancement in outreach escalation strategies. Prior to deploying these activities, affected vehicle manufacturers refreshed vehicle owner data sources frequently and identified alternate sources of owner information for their unrepaired vehicle populations. In some instances, this was an iterative process where new sources of owner information were identified and used as existing sources were proven to be inaccurate. More intensive outreach techniques, such as canvassing, certified mail and outbound calling can serve to validate vehicle owner contact information, identify new sources of information and identify vehicles that require further research. As discussed previously, comprehensive data strategies increase the chance that escalated Takata recall outreach is delivered to the correct vehicle owner, which results in higher completion percentages, particularly at later stages in the recall.

Combining the successful escalation elements of different affected vehicle manufacturers into one hypothetical campaign demonstrates what might be possible if any affected vehicle manufacturer were to put all of the enhanced recall elements together into a single, strategically deployed recall campaign.

The Takata recalls have generated lower completion percentages thus far in part because innovative recall completion techniques and strategies have largely been deployed in pilots and not scaled and implemented nationwide. Many affected vehicle manufacturers are also still learning from the innovations of their peers, including those manufacturers creating innovative strategies to reach the highest risk vehicles. Shown in Figure 6 is a Do-Not-Drive population that achieved an 87% completion percentage after seven quarters, which outpaced

both the hypothetical campaign (orange line) and actual ACRO milestones (black line). The orange line demonstrates the potential cumulative effect of the enhanced recall strategies developed by affected vehicle manufacturers in the Takata recalls.

III. THIRD PARTY STAKEHOLDERS

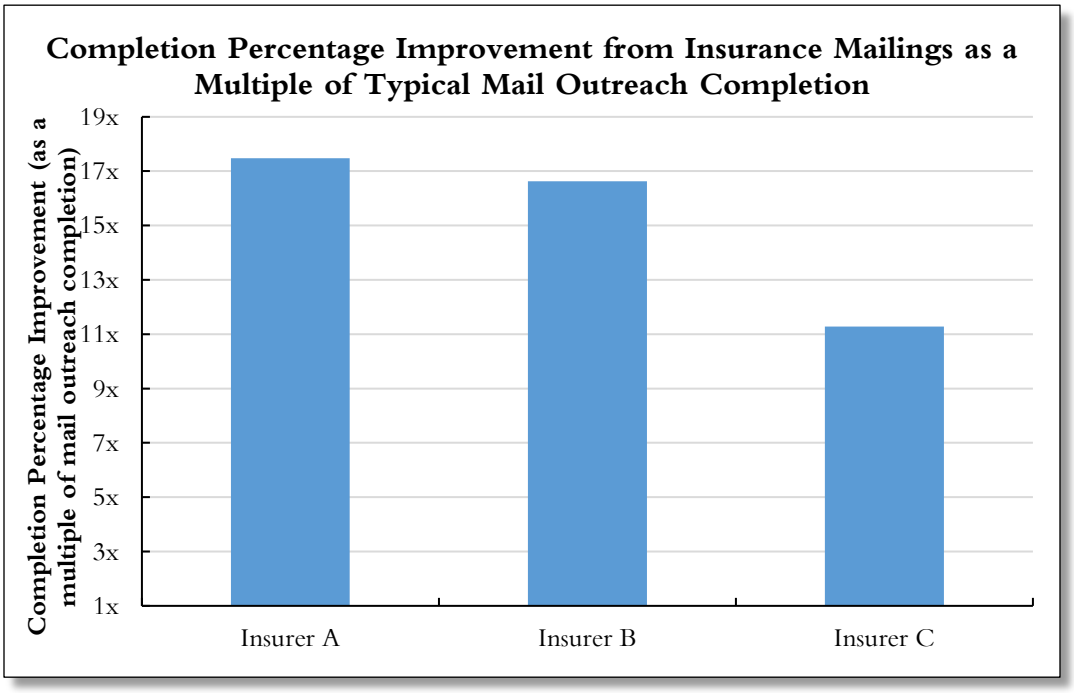
Historically, a vehicle owner was only informed of an open recall by the affected vehicle manufacturer, but was not informed about a recall from any of the various other businesses and agencies with which vehicle owners frequently interact, including state agencies for registration and title of their vehicle, automobile insurers, auctions, independent repair facilities (IRF), mechanics and collision facilities. Reinforcement from these third-parties of the need to repair a Takata airbag amplifies the message being sent by affected vehicle manufacturers, creating multiple communication channels of Takata-recall outreach. Engaging with these third parties can be difficult, due to industry fragmentation, liability and data privacy concerns and resource constraints. Affected vehicle manufacturers are overcoming these challenges, expanding programs that create awareness and repair opportunities with relevant third-party stakeholders.

Insurance Industry

Automobile insurers have the potential to serve as valuable partners in the Takata recalls. Because of the billing relationship between insurance companies and their insureds, and the location of vehicles as a component of underwriting, insurers often have accurate, up-to-date vehicle owner contact information and can be trusted messengers for recall outreach. The Monitor, NHTSA and affected vehicle manufacturers have made significant effort over the past year to continue to work to build a productive insurance partnership.

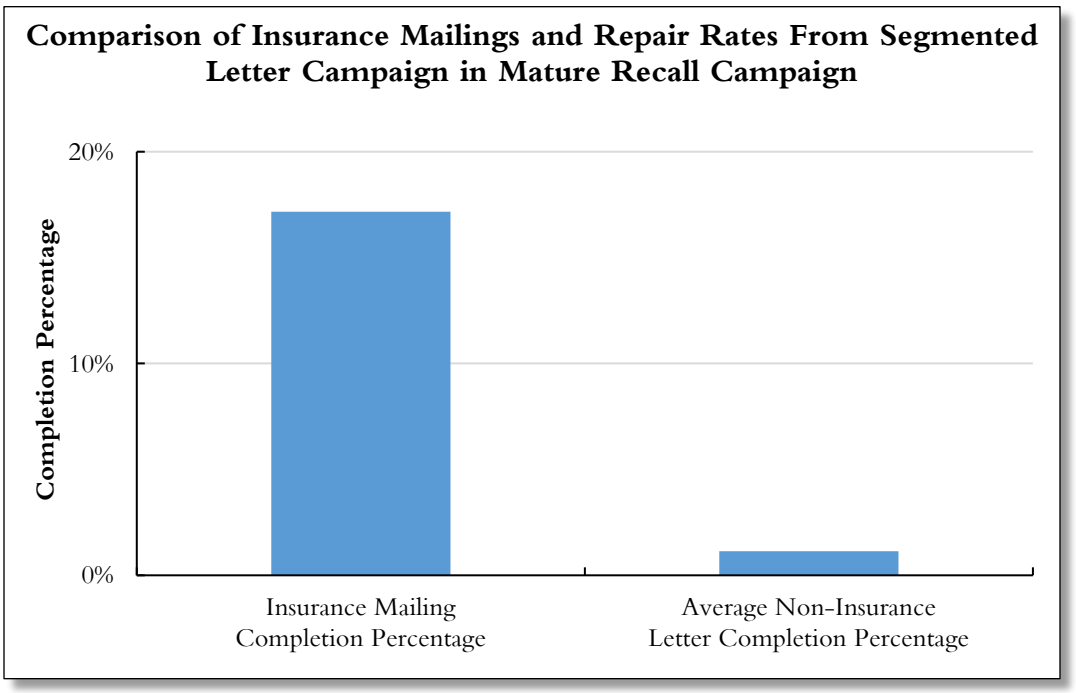
One affected vehicle manufacturer has partnered with three different major insurance carriers for outreach mailings. The manufacturer provided the insurers a list of VINs associated with unrepaired vehicles affected by the Takata recalls, the insurers were then able to check whether any of their customers were on the list and, if so, use their third-party mail vendor to send letters to the owner using the contact information the insurer had on file. Figure 7 shows completion percentages resulting from mail notifications sent from these three separate automobile insurers. The results have shown significant achievement: the first letter sent using insurance carrier owner data resulted in a completion percentage that was more than 17 times the expected completion percentage from typical letter outreach; the second letter using another carrier's owner information resulted in a completion percentage more than 16 times the expected completion percentage from typical letter outreach; and a third letter using a third insurance carrier's owner information resulted in a completion percentage more than 11 times the expected completion percentage from typical letter outreach. However, these mailings were sent to less than 2% of this manufacturer's total unrepaired population, limited by the number of unrepaired vehicles that were matched to the three pilot insurers' vehicle inventory.

Figure 7


Completion Percentage Improvement from Insurance Mailings as a Multiple of Typical Mail Outreach Completion
Completion Percentage Improvement (as a multiple of mail outreach completion)
19x
17x
15x
13x
11x
9x
7x
5x
3x
1x
Insurer A
Insurer B
Insurer C

As shown in Figure 8 below, automobile insurer owner data is over 15 times more effective than registration information at this stage of the recall.

Figure 8



While several affected vehicle manufacturers have made substantial efforts to engage insurance companies to send recall notification messages, most major insurance companies continue to cite concerns regarding legal risks or liabilities associated with sending recall notifications. However, NHTSA, the Monitor Team and affected vehicle manufacturers are confident that these concerns can be resolved and that the insurance industry can continue to become a more valuable partner in the Takata recalls. Both the Monitor and NHTSA continue to leverage relationships to engage the industry, and the Monitor has launched a working group for affected vehicle manufacturers to work together to find opportunities to partner with the insurance industry.

DMVs

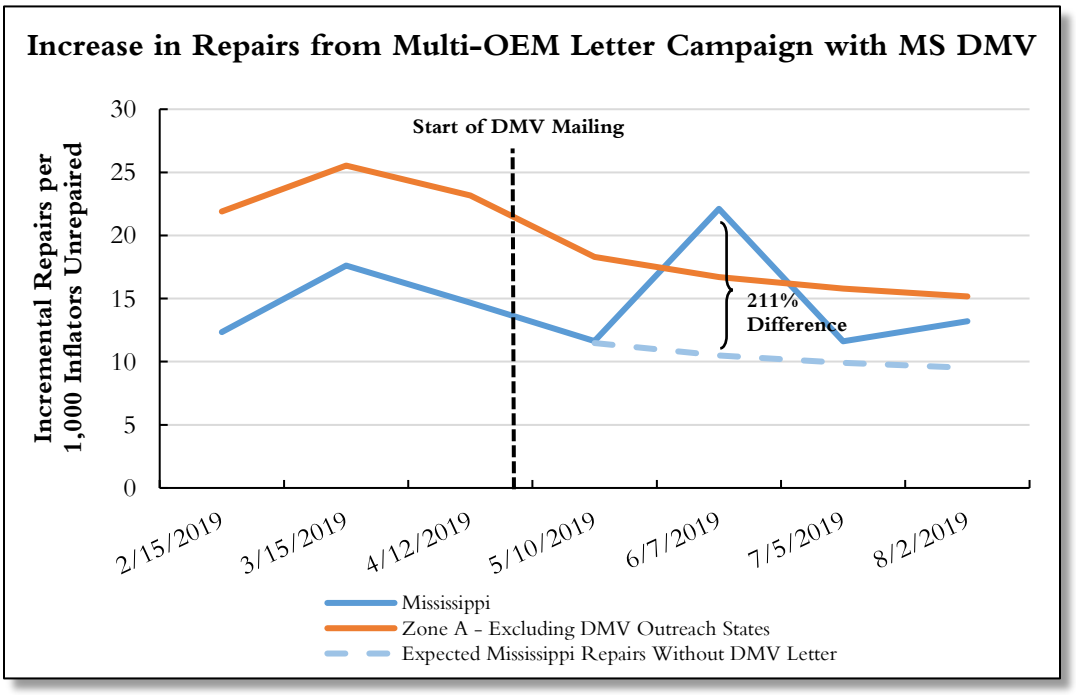
State Departments of Motor Vehicles have become valuable third-party stakeholders in the Takata recalls. Twenty-three states have partnered, or agreed to an upcoming partnership, with affected vehicle manufacturers to send letters to affected vehicle owners. Letters mailed through November 2019 targeted 4.6 million vehicle owners and consistently resulted in a doubling or tripling of incremental repairs after each mailing. Figure 9 below lists the number of DMV letters mailed to affected vehicle owners in each participating state in 2019 and the corresponding repair increases.

Figure 9

State	Mailing Date	Total Letters Mailed	Estimated Incremental Repairs Attributable to DMV Outreach	Increase in Incremental Repairs
Alabama	June 2019	221,647	13,171	348%
Arkansas	November 2019	206,780	TBD	TBD
Florida	October 2019	648,787	13,840	186%
Kentucky	August 2019	197,247	6,805	226%
Louisiana	August 2018	388,324	5,968	177%
Michigan	October 2018	224,105	9,582	161%
Minnesota	September 2019	156,113	2,889	172%
Mississippi	May 2019	133,586	951	210%
North Carolina	August 2019	417,755	15,277	307%
New York	August 2018	612,092	31,494	222%
New York	May 2019	589,089	13,925	201%
Pennsylvania	November 2019	355,359	TBD	TBD
Virginia	August 2019	264,655	13,021	331%
Wisconsin	July 2019	168,158	7,407	285%

DMV letters have been particularly impactful in Zone A[3] states. For example, in May 2019, affected vehicle manufacturers engaged with the Mississippi DMV to conduct a letter mailing campaign to nearly 135,000 affected vehicle owners. The letters included the Mississippi DMV letterhead and were mailed in envelopes displaying the Mississippi DMV logo. Figure 10 shows the number of incremental repairs for every 1,000 unrepaired vehicles in Mississippi (blue line) as compared to all other states in the same temperature and humidity region that did not receive a DMV mailing, "Zone A" (orange line). The DMV mailing resulted in repair rates approximately 211% higher than would be expected absent the letters but where regular monthly outreach by affected vehicle manufacturers was still ongoing.

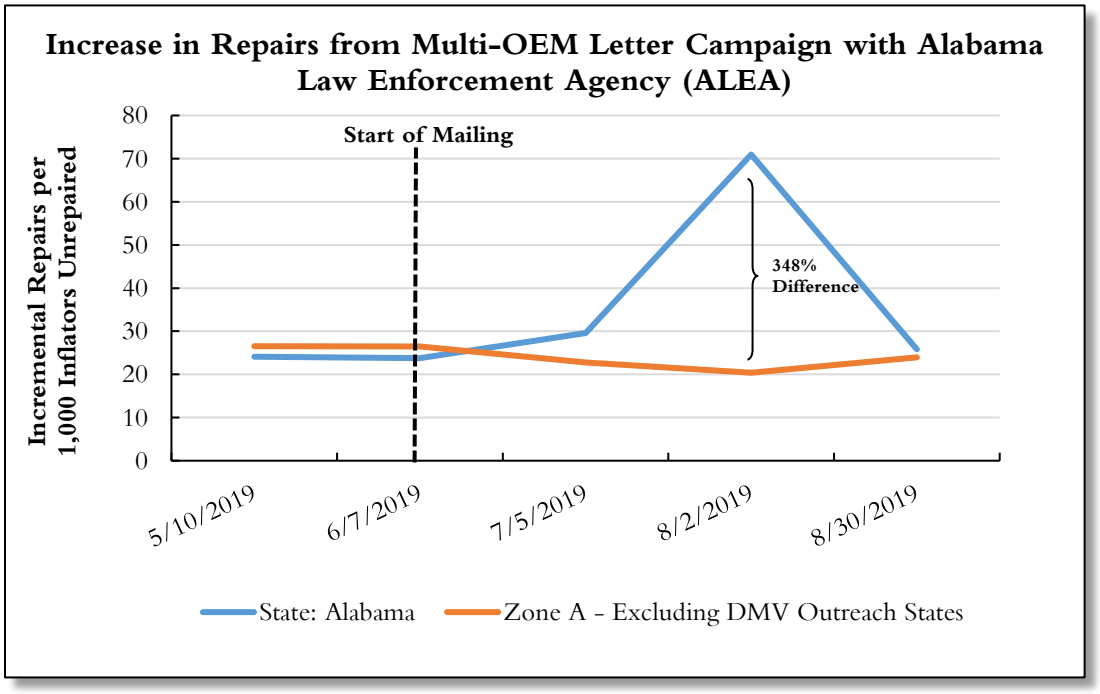
Figure 10



[3] Zone A, the highest risk zone, includes Alabama, California, Florida, Georgia, Hawaii, Louisiana, Mississippi, South Carolina, Texas, Puerto Rico, American Samoa, Guam, the Northern Mariana Islands (Saipan) and the U.S. Virgin Islands.

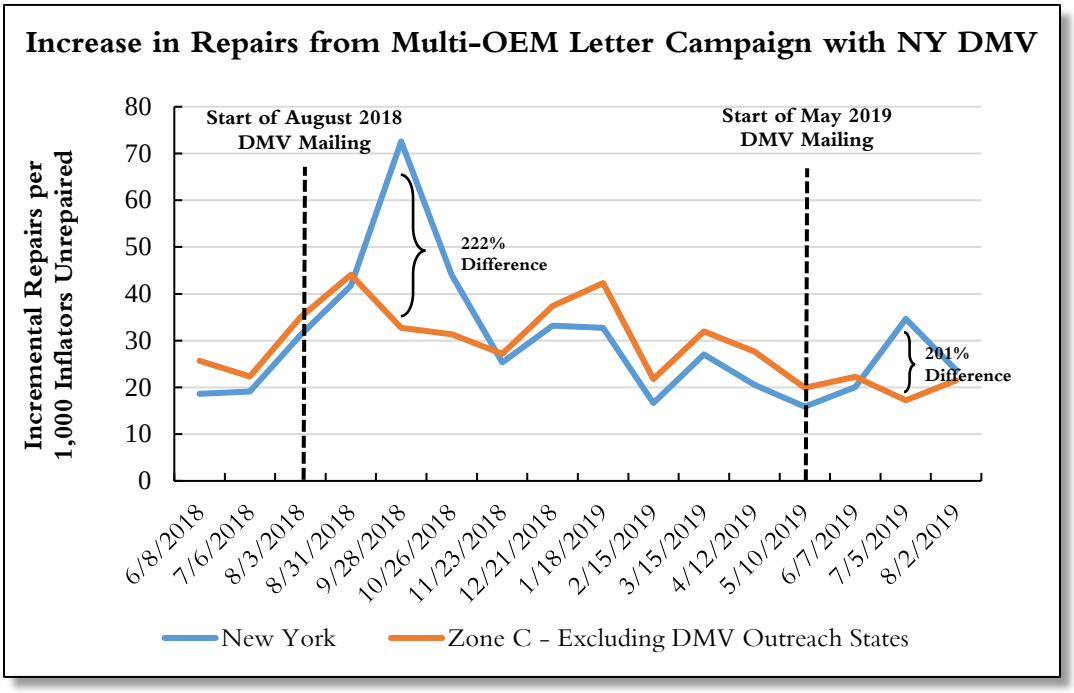
In June 2019, affected vehicle manufacturers engaged with the Alabama Law Enforcement Agency (ALEA)—which issues drivers licenses in Alabama—to conduct a letter mailing campaign to nearly 222,000 vehicle owners in Alabama. The letters included the ALEA letterhead and were sent in envelopes displaying the ALEA logo. Figure 11 shows the number of incremental repairs for every 1,000 unrepaired vehicles in Alabama (blue line) as compared to all other states in the same temperature and humidity region that did not receive a DMV mailing, "Zone A" (orange line). The mailing resulted in repair rates in Alabama approximately 348% higher after the letters were sent, as compared to other states where vehicle owners did not receive such letters.

Figure 11



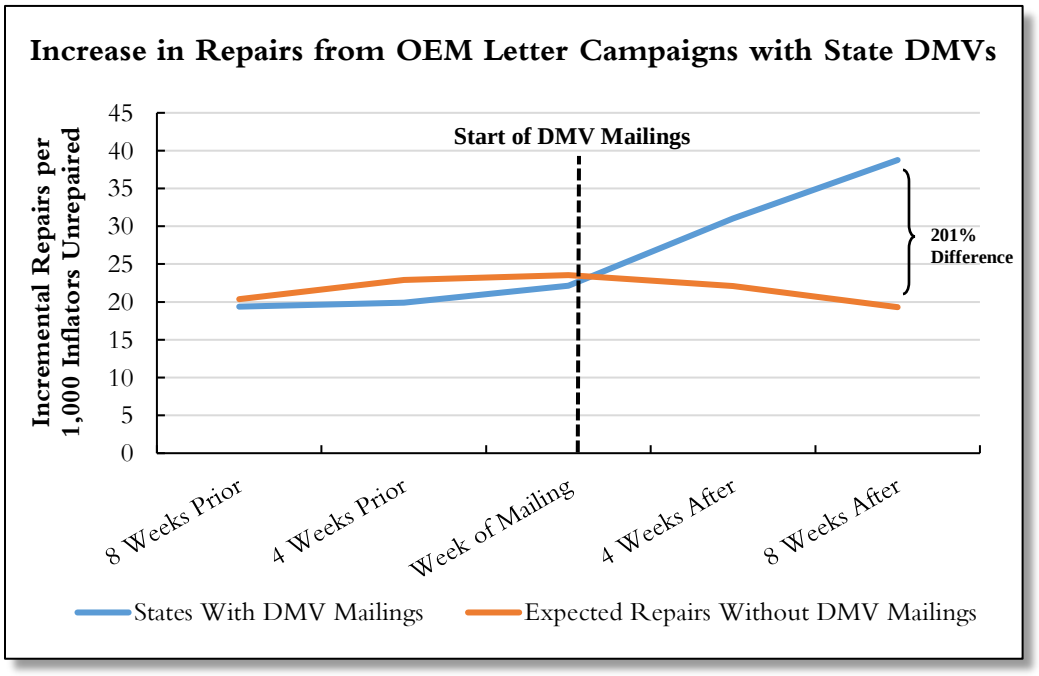
Affected vehicle manufacturers have also seen success in sending successive DMV letters in the same state. In August 2018 and May 2019, affected vehicle manufacturers engaged with the New York DMV to conduct a letter mailing campaign to approximately 600,000 vehicle owners. The letters included the New York DMV letterhead and were sent in envelopes displaying the New York DMV logo. Figure 12 shows the number of incremental repairs for every 1,000 unrepaired vehicles in New York (blue line) as compared to all other states in the same temperature and humidity region that did not receive a DMV mailing, "Zone C" (orange line). The DMV mailing resulted in increased repair rates in New York. The August 2018 mailing resulted in an approximately 222% increase in rates, as compared to other states where vehicle owners were receiving outreach but the DMV did not send such letters. The May 2019 mailing resulted in approximately 201% higher repair rates.

Figure 12



Across all states that have participated in DMV mailings, affected vehicle manufacturers have seen significant increases in incremental repairs immediately following the mailing. Figure 13 shows the number of incremental repairs for every 1,000 unrepaired vehicles in states where the DMVs agreed to these mailing (blue line) as compared to all other states that have not yet participated in mailings (orange line). The DMV mailings have resulted in combined increased repair rates of approximately 201% and an estimated 100,000 repairs to date above what would have been expected if DMV outreach had not been sent.

Figure 13



Many other states have shown interest and will likely participate in similar mailings this year. DMV mailings have now been scheduled, or are in the process of being scheduled, in all "Zone A" states, except Hawaii and U.S. Territories. Eight of the 20 "Zone B" states have already sent a Takata notification letter or are scheduled to send a DMV letter during the first quarter of 2020.

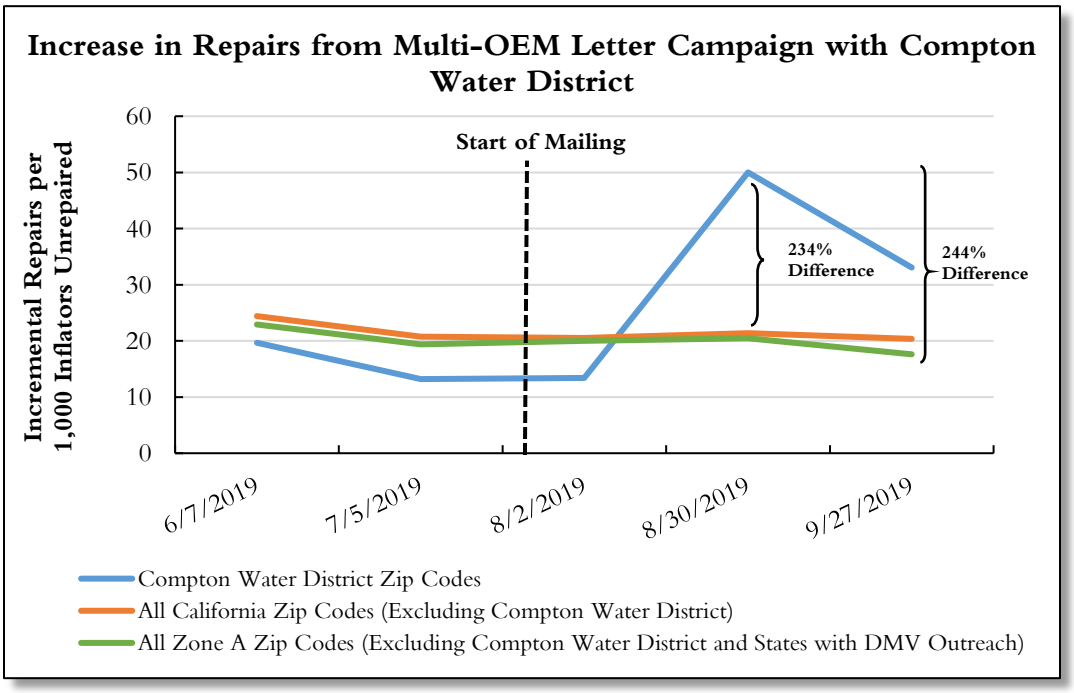
Based on the success of DMV outreach, some DMVs are now also creating systems to provide Takata recalls notification during the registration process. Maryland is providing notification for all recalls during registration and Indiana enacted legislation in May 2019 to do the same. States are also beginning to integrate recall notifications through safety and emission inspection processes. In June 2019, Texas signed into law a bill that requires recall notification when vehicles are inspected annually for emission compliance.

State & Local Agencies

Recognizing the impact of partnering with a trusted messenger, affected vehicle manufacturers have also launched partnerships with state and local authorities over the past year. Much like letters sent in connection with Departments of Motor Vehicles, state and local agency letters led to significant increases in repair percentages.

For example, in August 2019, affected vehicle manufacturers partnered with the Compton Water District in Southern California to conduct a letter mailing campaign to nearly 5,000 vehicle owners in the water district. The letters included the Compton Water District letterhead and were sent in envelopes displaying the Compton Water District logo. These letters had a significant impact on repair rates. Figure 14 shows the number of incremental repairs for every 1,000 unrepaired vehicles in the Compton Water District (blue line) as compared to the rest of California, (orange line) and all other states in the same temperature and humidity region, "Zone A," that did not receive a DMV mailing (green line). The mailing resulted in repair rates in the Compton Water District approximately 234-244% higher after the letters were sent, as compared to rest of the state of California and other states where vehicle owners were receiving outreach but did not receive such letters.

Figure 14



Additional state and local agencies have also recently completed, or are planning to complete, similar outreach activities for the Takata recalls. Letters and envelopes displaying the Houston Department of Neighborhoods logo were sent in November 2019 to nearly 300,000 owners of unrepaired vehicles affected by the Takata recalls in the Houston metro area. The Metropolitan Transit Authority of Harris County (METRO) began a campaign to increase awareness of the Takata recalls on December 13. This campaign is taking place over a period of

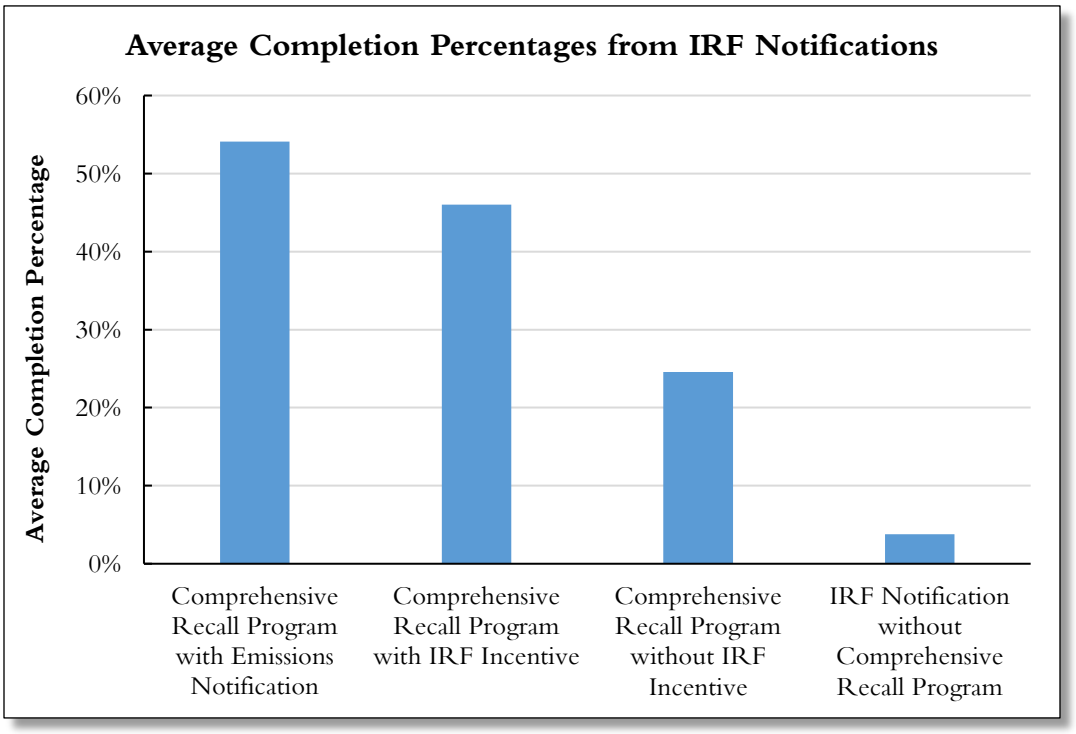
six weeks (spanning December 2019 and January 2020) and includes a combination of digital and "out of home" advertising (in English, Spanish and Vietnamese) at bus and rail stations, METRO office locations and a featured story in the METRO Connections newsletter. Flyer distribution and regular social media activity will be used to amplify the impact of this campaign. Additionally, the California Bureau of Automotive Repair has authorized the use of its logo on letters and envelopes to over 1.2 million owners of vehicles that remain affected by the Takata recalls. These letters are expected to be mailed in January and early February 2020.

Independent Repair Facilities

IRFs are also a valuable third-party partner for Takata recall engagement. Because these shops regularly interface with an estimated 90% of the remaining unrepaired vehicles, they have access to a trove of up-to-date vehicle owner information that affected vehicle manufacturers may not. There are over 250,000 IRFs nationally, with little industry consolidation.

Perhaps the only unifying feature of this fragmented industry is the use of common software providers and parts distribution networks. While many affected vehicle manufacturers have engaged with IRFs to be messengers for the Takata recalls, completion percentages from these activities have shown varying degrees of effectiveness. Figure 15 shows the completion percentages reported by different affected vehicle manufacturers that have incorporated Takata recall notifications through IRF software platforms into their recall engagement strategy. One affected vehicle manufacturer reported notifications through emissions testing centers and IRF notifications in conjunction with a comprehensive Takata recall engagement strategy, another affected vehicle manufacturer developed an IRF incentive program in conjunction with a comprehensive Takata recall engagement strategy, and three affected vehicle manufacturers report IRF notifications without an overall comprehensive Takata recall engagement strategy. Figure 15 demonstrates that different types of notifications incorporated into different recall programs result in varying completion percentages in the Takata recalls, based on how well these strategies are coupled with a comprehensive outreach campaign.

Figure 15



The first bar in Figure 15 shows completion percentages from vehicles that received a Takata recall notification while getting a required emission test for state registration. Nearly 54% of vehicles notified about the Takata recall during these required emissions tests had the Takata recall repair completed after the visit. This completion percentage is quite remarkable considering that, at the time of the notification, the manufacturer was already at a stage of the recall effort where less than half of their total affected vehicle population remained. These repair results suggest that the notification from an authoritative source is the most effective type of IRF notification.

The second bar in Figure 15 shows completion percentages from an affected vehicle manufacturer that employs a comprehensive Takata recall repair strategy using multiple sources of vehicle owner data, taking an informed and escalated approach to vehicle owner communication, meaningful dealer engagement and engagement of third parties combined with repair incentives for each Takata recall repair to the facilities. The incentives, combined with this comprehensive recall engagement strategy, resulted in 46% of owners who were notified by an IRF completing their recall repair. A comprehensive recall strategy without an IRF incentive resulted in only 25% of notified owners completing their recall repair, represented by the third bar.

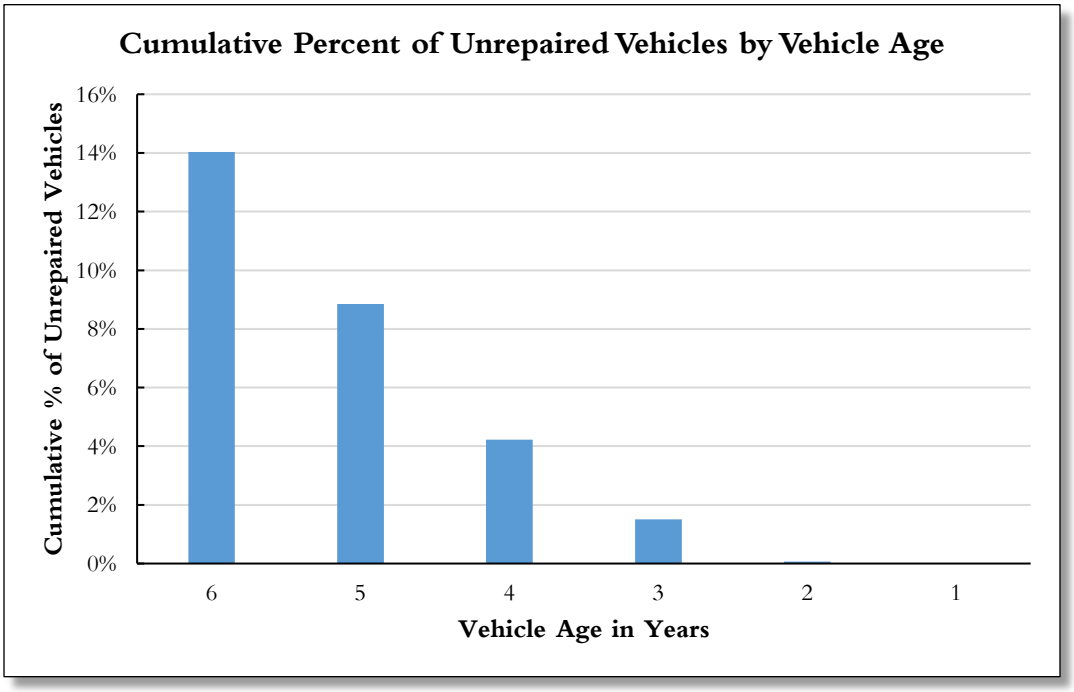
The fourth bar demonstrates that when an affected vehicle manufacturer without a comprehensive recall program in place uses an IRF notification without an incentive to the IRF, it experiences a lower completion percentage. Vehicle owners in this group may not have received prior outreach due to data integrity issues with the information the manufacturer is using, may be unaware of available repair accommodations, may not understand the risk and urgency of the Takata recall repair and the franchised dealer network may not be working as closely with local IRFs to capitalize on Takata recall repair opportunities.

Vehicle Auctions

Repair opportunities also exist while vehicles are in-transition at auctions and while sitting on independent automobile dealer lots awaiting sale. Three affected vehicle manufacturers identified that between 1% and 2% of their unrepaired vehicle populations were processed by a large wholesale auction company in the last year.

Most vehicles processed by large commercial auctions are between three and six years old. Figure 16 demonstrates that vehicles six years old or younger represent 14% of all unrepaired Takata airbags and that 86% of unrepaired Takata airbags are in vehicles more than six years old. Repairing vehicles at large commercial auctions represents an opportunity to repair a meaningful portion of unrepaired Takata inflators. However, as these vehicles age, fewer and fewer of them will likely be processed through large commercial auctions. Instead, older vehicles are typically processed through smaller, local auctions, sold and bought by individual buyers, or transacted through salvage auctions when the vehicle may experience an end-of-life circumstance. Each of these waystations in a vehicle's life represents a further opportunity for recall engagement.

Figure 16



Repairing vehicles at auction is productive. The location of a vehicle is known and an individual owner is not inconvenienced with a recall repair. Two affected vehicle manufacturers are working with wholesale auctions to develop models designed to ensure that as many vehicles as possible are repaired prior to leaving the auction. One of these affected vehicle manufacturers is also encouraging its dealers to engage with the National Auto Auction Association ("NAAA") to identify local auctions where repairs can be completed; 86 dealers have performed over 11,000 repairs at these auctions. Two affected vehicle manufacturers are completing repairs at salvage auctions where vehicles are commonly disposed after collisions or

other vehicle damage. Approximately 4,000 Takata affected vehicles have been repaired while being processed through a salvage auction.

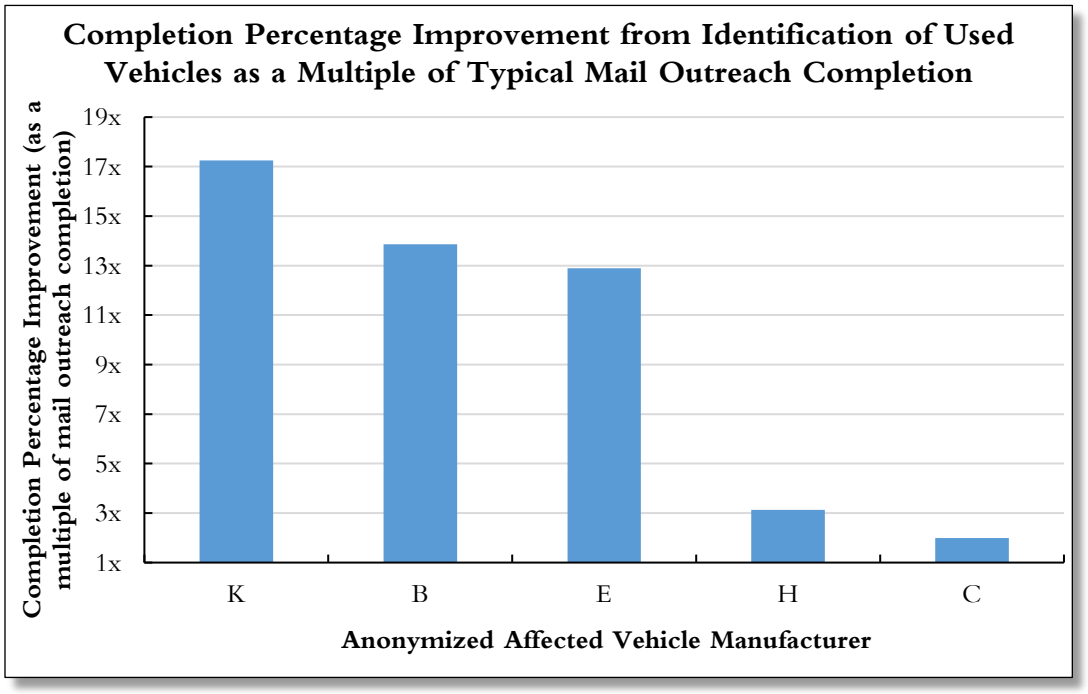
Affected vehicle manufacturers are also developing new technologies to enable the collection of pictures of vehicles with deployed airbags at salvage auctions (and other locations) to assist in identifying vehicles that no longer have risks associated with defective airbags.

Independent Automotive Dealers

The identification of used vehicles held for sale by an independent reseller has provided opportunities for dealers and mobile repair vendors to complete a Takata recall repair while the vehicle is in a known location and without any inconvenience to the next owner. All but one large affected vehicle manufacturer—those manufacturers with 200,000 or more inflators affected by the Takata recalls—have developed programs to identify and repair used vehicles identified for sale. The affected vehicle manufacturers with the highest degree of follow-up through dealer and field team staff reports completion rate of approximately 30% of identified vehicles—or more than 15 times the completion percentage from typical letter outreach.

Figure 17 shows completion percentage increases as compared to typical mail outreach completion of less than two times to over 17 times achieved by five affected vehicle manufacturers by completing Takata recall repairs for vehicles listed for sale by independent used car dealers. The affected vehicle manufacturers that have the most robust mechanisms for dealer and field team follow-up with independent used vehicle dealers are reporting the highest completion percentages from these programs.

Figure 17



IV. CONCLUSION

This past year has continued to see marked progress in completing Takata recall repairs; however, further work is needed, particularly in the areas of data quality, engagement with third parties and strategies, in order to engage specific populations to reach 100% completion.

APPENDIX 1: FATALITIES

Confirmed U.S. Fatalities

Ashley Parham, 18
Midwest City, OK
2001 Honda Accord
Collision Date: May 27, 2009

Gurjit Rathore, 33
Richmond, VA
2001 Honda Accord
Collision Date: Dec. 24, 2009

Hai Ming Xu, 47
Alhambra, CA
2002 Acura TL
Collision Date: Sept. 3, 2013

Jewel Brangman, 26
San Diego, CA
2001 Honda Civic
Collision Date: Sept. 7, 2014

Hien Thi Tran, 51
Orlando, FL
2001 Honda Accord
Collision Date: Sept. 29, 2014

Carlos Solis, 35
Spring, TX
2002 Honda Civic
Collision Date: Jan. 18, 2015

Kylan Langlinais, 22
Lafayette, LA
2005 Honda Accord
Collision Date: April 5, 2015

Minor Victim*, 13
Mercer County, PA
2001 Honda Accord
Collision Date: July 22, 2015

Joel Knight, 52
Kershaw, SC
2006 Ford Ranger
Collision Date: Dec. 22, 2015

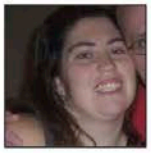
Huma Hanif, 17
Fort Bend County, TX
2002 Honda Civic
Collision Date: March 31, 2016

Ramon Kuffo, 81
Hialeah, FL
2001 Honda Accord
Collision Date: June 18, 2016

Delia Robles, 50
Corona, CA
2001 Honda Civic
Collision Date: Sept. 30, 2016

Steven Mollohan, 56
Martinsburg, WV
2006 Ford Ranger
Collision Date: July 1, 2017

George Sharp, 60
Baton Rouge, LA
2004 Honda Civic
Collision Date: July 10, 2017



Nichol Lynn Barker, 34
Holiday, FL
2002 Honda Accord
Collision Date: July 19, 2017

Armando Ortega , 55
Buckeye, Arizona
2002 Honda Civic
Collision Date: June 8, 2018

APPENDIX 2: INFLATOR EXPLOSIONS

Geographic Dispersion of Confirmed Inflator Explosions in the U.S.