EMV Preparedness Survey

for the

U.S. Convenience and Retail Fueling Industry

June 30, 2020

Version 1.0

Document Summary

From February 27 to March 31, 2020 Conexxus fielded a second electronic survey to determine the level of preparedness of the retail fueling industry for the EMV liability shift for automated fueling dispensers (AFDs). At the time of the survey, the shift was to take effect in October 2020. After the survey closed, the major card brands (in light of COVID-19 challenges) moved the liability shift date to April, 2021.

COVID-19 disrupted the U.S. in mid-March. Because this survey spanned the start of the disruption, and some questions were forward looking, results are shown for pre and post COVID-19 where meaningful.

Questions? Please email: info@conexxus.org

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1 Introduction

According to the 2019 NACS State of the Industry (SOI) report, the United States had almost 153,000 retail fueling and convenience stores. These stores perform 160M transactions per day with annual sales totaling almost $648B. Card transactions comprised the most popular payment method, at 73.2% of all sales transactions. Approximately 80% of stores sell fuel and over 60% of stores are owned by a single store operator.

Many stores carry "branded" fuel. While the brand (e.g., major oil) may not own the store, it has significant influence on equipment and solutions that the site installs. For major oils, as well as chains with larger store counts, it is typical to support multiple vendors for each component in the payment ecosystem (e.g., dispensers, POS, EPS, PINPad terminals). Due to the many combinations of equipment that can occur, development, testing, and certification requirements increase in order to fully support EMV across all stores in the chain or brand.

From February 27 to March 31, 2020 Conexxus fielded a second electronic survey to determine the level of preparedness of the retail fueling industry for the EMV liability shift for automated fueling dispensers (AFDs). At the time of the survey, the shift was to take effect in October 2020. After the survey closed, the major card brands (in light of COVID-19 challenges) moved the AFD liability shift date to April, 2021. All survey responses still assumed the October date. As a result, a follow up survey in the fall of 2020 is planned. The first survey from the summer of 2019 can be found on the Conexxus website. Note that while comparison data between the two surveys is included, the sample size for 2020 by store count was smaller than 2019 but the sample size by individual respondents who own/operate sites and sell fuel was larger in 2020. There is no guarantee that the same respondents completed both surveys, therefore there will be discrepancies due to sample differences.

COVID-19 disrupted the U.S. in mid-March. Because this survey spanned the start of the disruption, and some questions were forward looking, analysis was completed for pre and post COVID-19 responses using March 15, 2020 to delineate pre and post, and in fact no survey responses were received between March 11 and March 19. Only the results that were statistically different pre vs post are reported.

In an attempt to maximize the total number of responses, Conexxus reached out to over 1600 individuals (CEO, CFO, payment professionals) at 1100 organizations representing individual sites, retail chains, major oils, and fuel distributors and wholesalers. Recipients were encouraged to choose one person within their company with the most knowledge of the topic to complete the survey, in order to avoid duplicate responses. Respondents who did not own and operate sites in the US or did not have any sites that sell fuel were excluded from completing the survey. Utilizing convenience sampling methods, **91 unique completed surveys were received, representing 16,095 retail sites, with a median of 9 sites and a mean of 177 sites.** Not all questions were asked of every respondent (varied by answers to specific questions earlier in the survey) and not every respondent chose to provide answers to all asked questions. Therefore, the sample for each question varied and is shown in the results reported below. If the reported data is a number by itself or a number followed by a percentage in parenthesis, the number represents the total count for that answer to the question. In column headings where a number is shown in parenthesis, this indicates the sample size for the question.

No company identifying information (e.g., name or email address of respondent, company name) were captured as to encourage accurate disclosure. The following report details the aggregate results from the survey.

2 Executive Summary – Small Retailers Still Struggling

Site operators understand the risk of not upgrading to outdoor EMV, but financial and resource challenges still pose a threat to compliance.

The survey included a cross section of major oils, fuel distributors/wholesalers, and company owned/retail site operators. Only respondents who own and operate sites in the US that sell fuel were included.

This survey is a follow-up to the 2019 Conexxus EMV preparedness survey. The original survey found the vast majority of sites were fully *in-store* EMV operational (86%), while a small minority of sites were fully EMV operational on the fuel island (14%). This survey was shortened in length to make completing the survey more attractive and to only focus on outdoor EMV, including contact (when the card is inserted in the reader) and contactless.

Fuel island *contact* EMV status: 15% surveyed report full deployment.

- Those reporting no sites deployed with outside EMV, 89% (up from 80% in 2019) indicated they intended to implement it, while 10 % (down from 17% in 2019) were undecided. The undecided respondents all owned/operated 10 stores or less; indicating solution and affordability issues within small operators.

- Almost 52% indicated they had 0 (zero) sites deployed, an improvement from 70% in 2019.
- With the exception of owners/operators of 10 stores or less, site owners/operators are making progress in installing at least a few outdoor EMV sites. This is seen in the shift from the percentage of sites installed at the 0% interval to the percentage of sites installed at the < 25% interval.
- For respondents that were undecided, the cost of upgrading was the top reason (60% of respondents in 2020, 43% of respondents in 2019). Those who thought the risk did not justify the expense fell to 0% in 2020 (as compared to 43% of respondents in 2019). This indicates small operators understand the risk, but may not be able to afford the upgrades.
- For those that were not 100% deployed, getting functional hardware installed/upgraded has seen modest progress (28% in 2020 vs 23% in 2019), with the remainder needing new hardware or upgrades.
- The top challenge for getting sites deployed (by store count) were certifications (67%/) and software (64%). The top challenge by respondent count was cost (31%).

Fuel Island *contactless* EMV: 61% surveyed have implemented or plan to implement.

- Site owners/operators are making progress on deciding whether to deploy contactless EMV outdoors. The COVID-19 pandemic is proving to be a further catalyst; pre COVID-19 respondents (40% undecided), post COVID-19 respondents (13% undecided).
- Pre (51%) and post (74%) COVID-19 responses indicated they have or would be installing contactless EMV.
- For those who have decided not to implement it, costs (34%) and upgrade requirements (31%) were cited as top reasons.

3 Survey Sample Description

3.1 Company Classification

Respondents self-identified as to whether they were a major oil, fuel distributor or wholesaler or a retail site operator.

Company Classification broken out by respondents			
	Full Sample	Pre-COVID	Post-COVID
Major Oil	6 (6.6%)	3 (6.1%)	3 (7.1%)
Fuel Distributor/Wholesalers	15 (16.5%)	8 (16.3%)	7 (16.7%)
Company Owned/Retail Site Operators	70 (76.9%)	38 (77.8%)	32 (76.2%)
Total	**N = 91**	**N = 49**	**N = 42**

Company Classification broken out by sites represented	
Major Oil	2010 (12.49%)
Fuel Distributor/Wholesalers	195 (1.21%)
Company Owned/Retail Site Operators	13890 (86.30%)
Total	**N = 16095**

3.2 NACS Store Count Categories

The NACS annual SOI report utilizes 5 categories (A, B, C, D, and E) to classify store count size. Some questions are broken out utilizing these same categories.

NACS Store Count Categories broken out by respondents			
		Pre-COVID	Post-COVID
A (1-10 stores) **	49 (53.8%)	27 (55.1%)	22 (52.4%)
B (11-50 stores)	25 (27.5%)	12 (24.5%)	13 (31.0%)
C (51-200 stores)	9 (9.9%)	6 (12.2%)	3 (7.1%)
D (201-500 stores)	3 (3.3%)	2 (4.1%)	1 (2.4%)
E (501+ stores)	5 (5.58%)	2 (4.1%)	3 (7.1%)
*The total respondent for this question is **N=91**. ** Note that 17 respondents were single store operators.		N = 49	N = 42

NACS Store Count Categories broken out by sites represented	
A (1-10 stores)	202 (1.26%)
B (11-50 stores)	613 (3.81%)
C (51-200 stores)	956 (5.94%)
D (201-500 stores)	974 (6.05%)
E (501+ stores)	13350 (82.94%)
Total	**N = 16095**

3.3 Region

Areas of the Country Where Respondents are Located	
New England (Maine, Rhode Island, Vermont, Connecticut, New Hampshire and Massachusetts)	5.49%
Mid Atlantic (New York, New Jersey, and Pennsylvania)	14.29%
South (Virginia, West Virginia, Kentucky, Delaware, Maryland, North and South Carolina, Tennessee, Arkansas, Louisiana, Florida, Georgia, Alabama, and Mississippi)	27.47%
Midwest (Michigan, North and South Dakota, Iowa, Minnesota, Kansas, Nebraska, Ohio, Indiana, Illinois, Wisconsin, and Missouri)	31.19%
Southwest (Texas, Arizona, New Mexico and Oklahoma)	17.58%
Rocky Mountain (Montana, Idaho, Colorado, Utah, Wyoming and Nevada)	14.29%
Pacific (California, Oregon and Washington)	21.98%
*Note: This may not equal 100% in total as respondents could select more than one region. Data related to store count per region is not available. **N=91**	

4 Contact EMV Outside

4.1 Spring 2020 Survey Results

In the following tables, responses are split out by respondent's store count using the NACS store count categories, where:

- A = 1-10 Stores
- B = 11-50 Stores
- C = 51-200 Stores
- D = 201-500 Stores
- E = 501+ Stores

4.1.1 What percentage of your sites have contact EMV currently working outside at the dispenser?

Outside Contact Deployment						
	A (49)	B (25)	C (9)	D (3)	E (5)	Total Respondent Count (91)
0%	65.31%	28%	44.44%	66.67%	40%	51.65%
< 25%	6.12%	36%	44.44%	33.33%	20%	19.78%
25%-50%	2.04%	8%	0%	0%	0%	3.30%
50%-75%	0%	4%	11.11%	0%	20%	3.30%
75%-100%	4.08%	16%	0%	0%	0%	6.59%
100%	22.45%	8%	0%	0%	20%	15.38%

4.1.2 Do you plan on implementing contact EMV outside at some point in the future for at least some of your sites?

This question was only for site owners who have 0% deployment contact outside.

Outside Contact Plans						
	A (32)	B (7)	C (4)	D (2)	E (2)	Total Respondent Count (47)
Yes	84.38%	100%	100%	100%	100%	89.36%
No	0%	0%	0	0	0	0%
Undecided	15.62%	0%	0	0	0	10.64%

4.1.3 Who Are the Undecided?

47 respondents, making up 51.65% of the sample replied that they have 0% of sites with EMV working in the field today. Of those 47 respondents 65.31% are made up of companies with 10 or less stores. 5 respondents, equaling 15.63% of A category companies and 10.64% of all companies not deployed, are operating 7 or less sites. There is no trend in where the sites operate geographically or in regards to company type (i.e., major oil, fuel distributor, company own/operated).

One commonality of the undecided respondents is that 60% indicated their reason for not upgrading is related to cost.

4.1.4 Why aren't you implementing contact EMV outside?

This question was only for site owners who have 0% deployment contact outside and indicated they were either undecided about or definitely not implementing it.

Why aren't you going to implement outside contact? (Respondents could choose all that applied, therefore the total % may not equal 100%)	
	Respondent Count (5)
I don't know how	20%
It's too complex, requires too much effort	0%
Other priorities	0%
The cost is too high	60%
I'm not sure how to pay for it	0
My risk for not converting doesn't justify the expense	0
Other (Haven't Decided)	20%

4.1.5 Outside Contact EMV Challenges

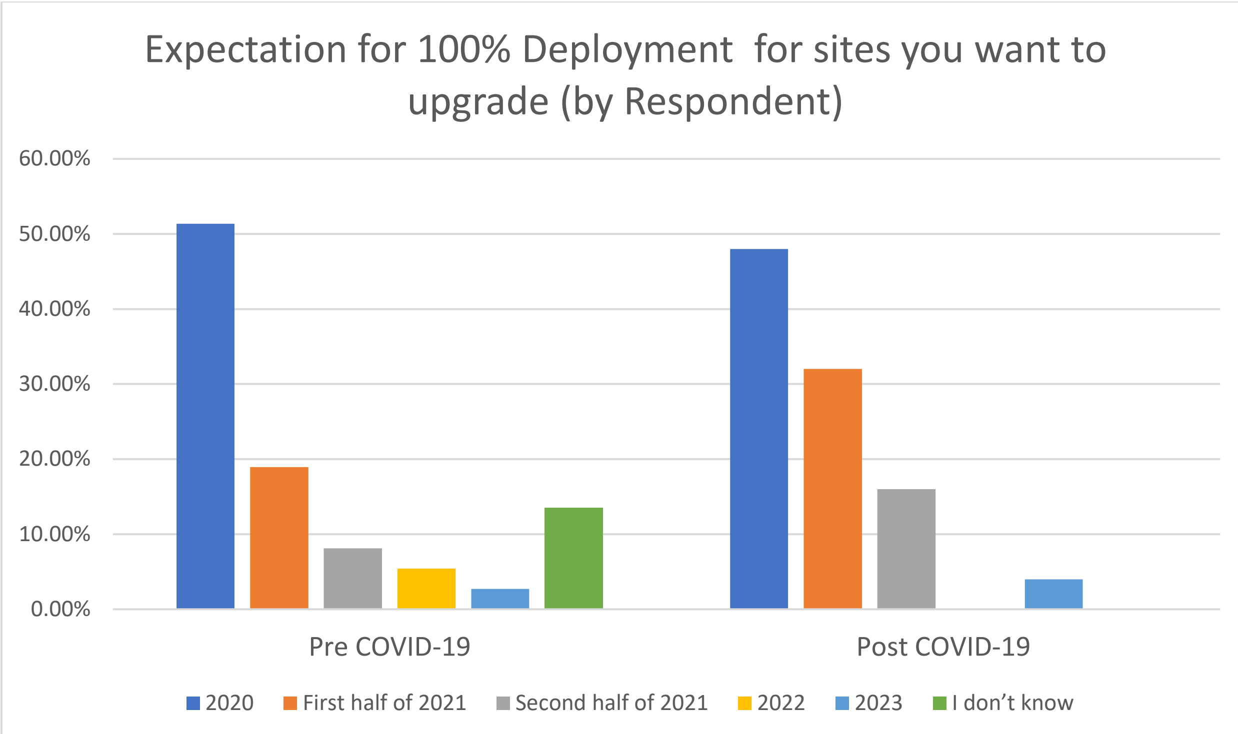
These questions were asked of respondents that do not currently have 100% deployment of outside contact EMV. A total of 13195 sites are represented across 62 respondents.

Outside Contact EMV Challenges	
Hardware Status	
	Site Count (13195)
I have deployed hardware that is functional as is	28.88%
I have deployed hardware but it needs to be upgraded	21.68%
I have not deployed hardware	45.92%
I have some sites that I won't be upgrading	3.52%
What is preventing you from being 100% deployed? (By Respondent) (Respondents could choose all that applied, therefore the total % may not equal 100%)	
	Respondent Count (62)
Lack of available hardware	20.97%
Lack of available software	20.97%
Waiting on certification	25.81%
Not sure how to pay for it	30.65%
Effort, complexity	11.29%
Other priorities	19.35%
My fuel brand has told me a solution is not available yet	19.35%
Other (Specific reasons included availability of certified technicians, waiting for a cheaper solution, considering rebranding to get additional funding for upgrades, other upgrades needed, fuel brand restrictions on hardware, COVID-19 paused installs, still considering/testing options)	27.42%
What is preventing you from being 100% deployed? (By Store Count) (Respondents could choose all that applied, therefore the total % may not equal 100%)	
Lack of available hardware	1.97%
Lack of available software	63.71%
Waiting on certification	66.57%
Not sure how to pay for it	1.91%
Effort, complexity	59.72%
Other priorities	35.23%
My fuel brand has told me a solution is not available yet	57.96%
Other: See Above	2.61%

Outside Contact EMV Challenges	
What % of your sites do you expect to have EMV working outside by Oct 1, 2020? (By Respondent)	
	Respondent Count (62)
0%	6.45%
< 25%	4.84%
25%-50%	19.35%
50%-75%	9.68%
75%-100%	17.74%
100%	41.94%

Expectation for 100% deployment for sites you want to upgrade? (By Respondent)			
	Respondent Count (62)	Pre COVID-19 (37)	Post COVID-19 (25)
2020	50%	51.35%	48%
First half of 2021	24.19%	18.92%	32%
Second half of 2021	11.29%	8.11%	16%
2022	3.23%	5.41%	0
2023	3.23%	2.70%	4%
I don't know	8.06%	13.51%	0

The post COVID-19 responses show a shift in the timeline for implementation dates when compared with the pre COVID-19 responses. As noted previously, the current survey relied on the liability shift date (October, 2020) in effect at the time of the survey. While the new date is currently April, 2021 this falls in the middle of the choice of first half of 2021, so drawing a conclusion on preparedness for the new date is not conclusive.



Outside Contact EMV Challenges	
What % of your sites do you expect to have EMV working outside by Oct 1, 2020? (By Store Count)	
	Site Count (13195)
0%	0.03%
< 25%	1.18%
25%-50%	7.84%
50%-75%	54.48%)
75%-100%	30.72%
100%	5.75%
Expectation for 100% deployment for sites you want to upgrade? (By Store Count)	
	Site Count (13195)
2020	9.47%
First half of 2021	86.79%
Second half of 2021	1.31%
2022	0.31%
2023	0.89%
I don't know	1.23%

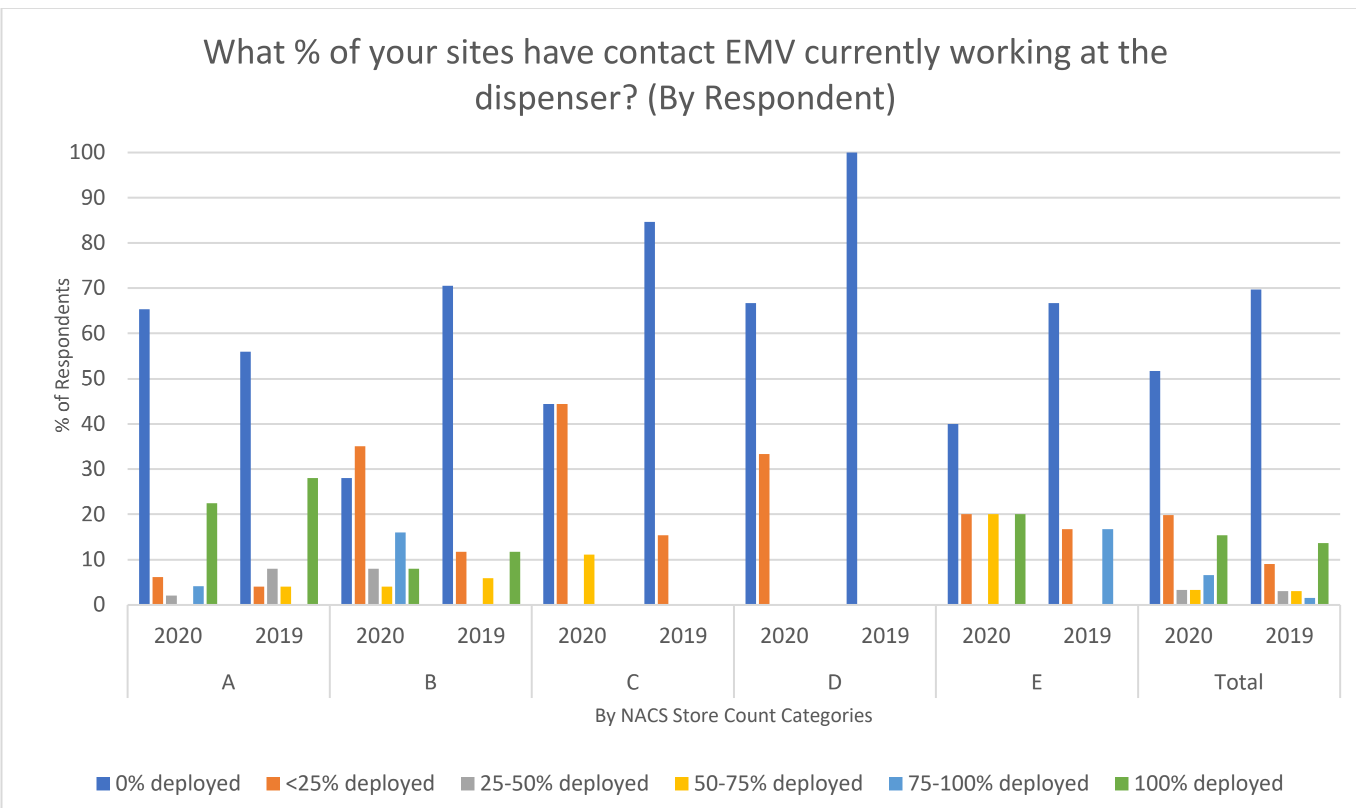
4.2 Comparison (2019 vs 2020) Results

Note that the data in the surveys is completely anonymous and aggregated. There is no guarantee that same respondents completed both surveys, so care must be taken with blanket comparisons.

In the following tables, responses are split out by respondent's store count using the NACS store count categories, where:

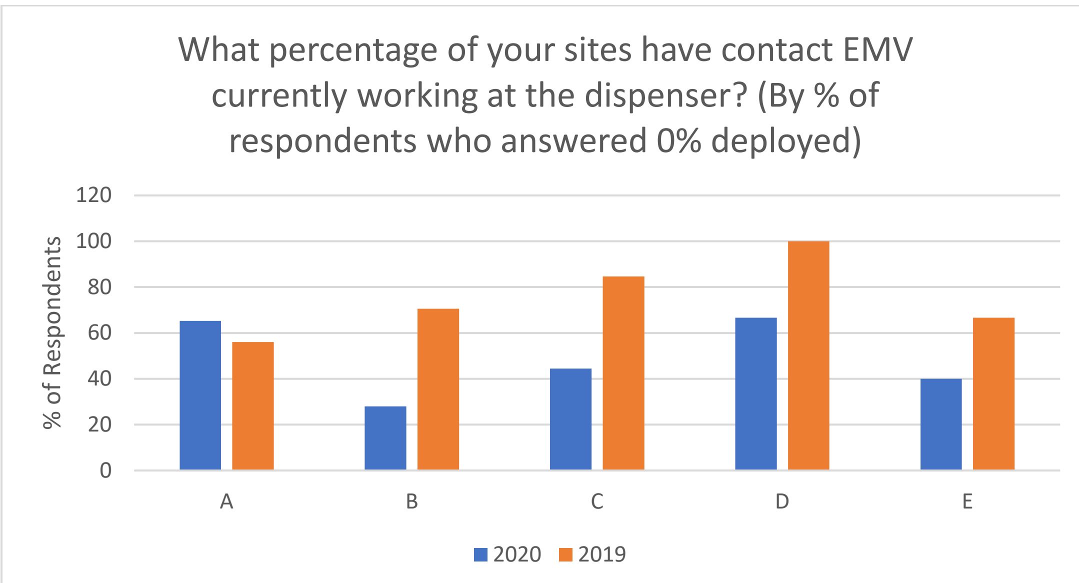
- A = 1-10 Stores
- B = 11-50 Stores
- C = 51-200 Stores
- D = 201-500 Stores
- E = 501+ Stores

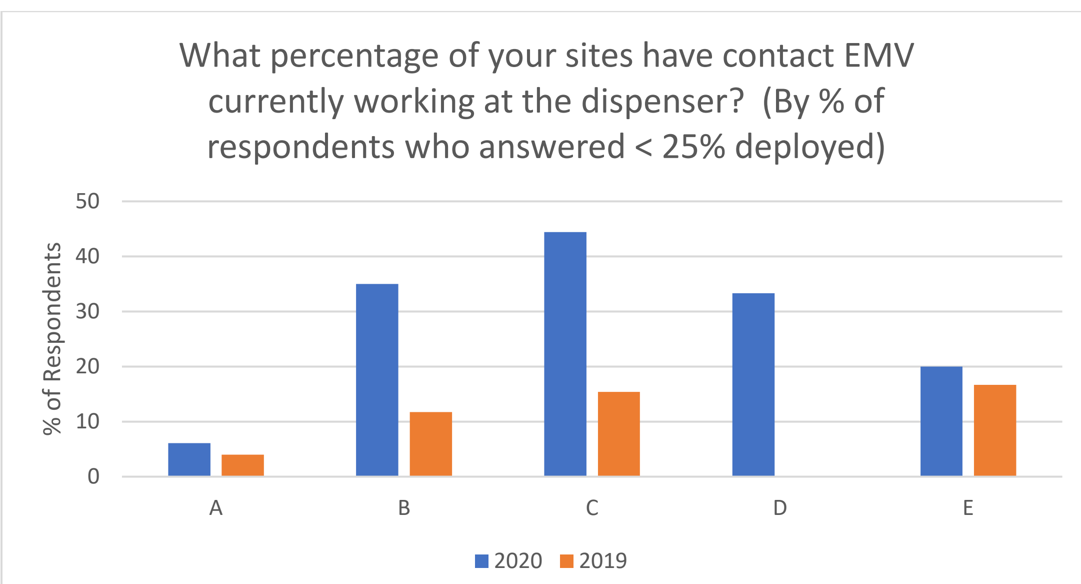
4.2.1 What percentage of your sites have contact EMV currently working outside at the dispenser?



With the exception of the A store count category, the above chart shows that owner/operators are making significant progress in outdoor EMV implementation. This is especially true across all other store count categories when comparisons are made between the "0% deployed" (decreased in 2020) and the "< 25% deployed" (increased in 2020). Shifting from no sites deployed to at least some sites deployed (whether they are test/beta sites or initial roll out of high fraud sites) shows progress is being made.

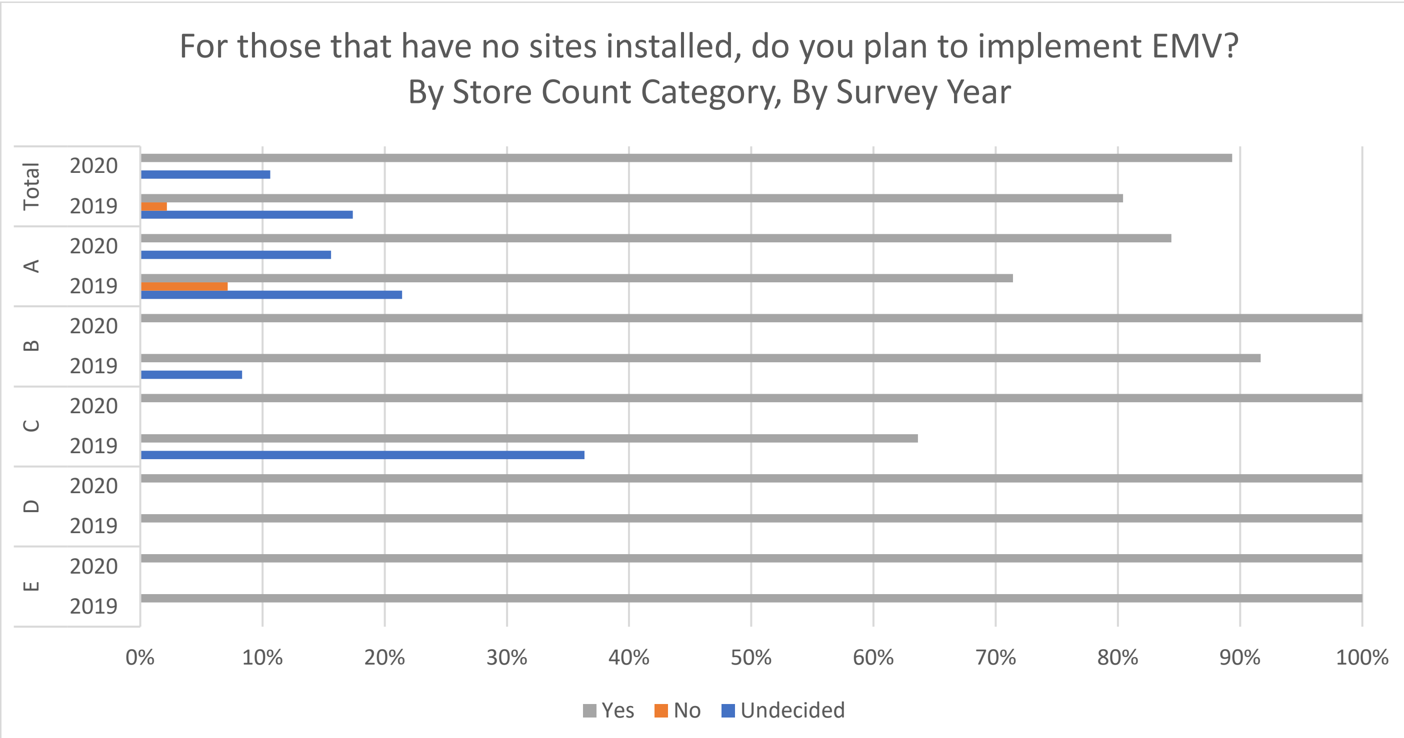
The following (easier to read) charts show the % of respondents who chose these two responses, highlighting that owner/operators of more than 10 stores, in general, have moved from 0% deployed sites to at least some sites deployed.





4.2.2 Do you plan on implementing contact EMV outside at some point in the future for at least some of your sites?

This question was only for site owners who have 0% deployment contact outside.

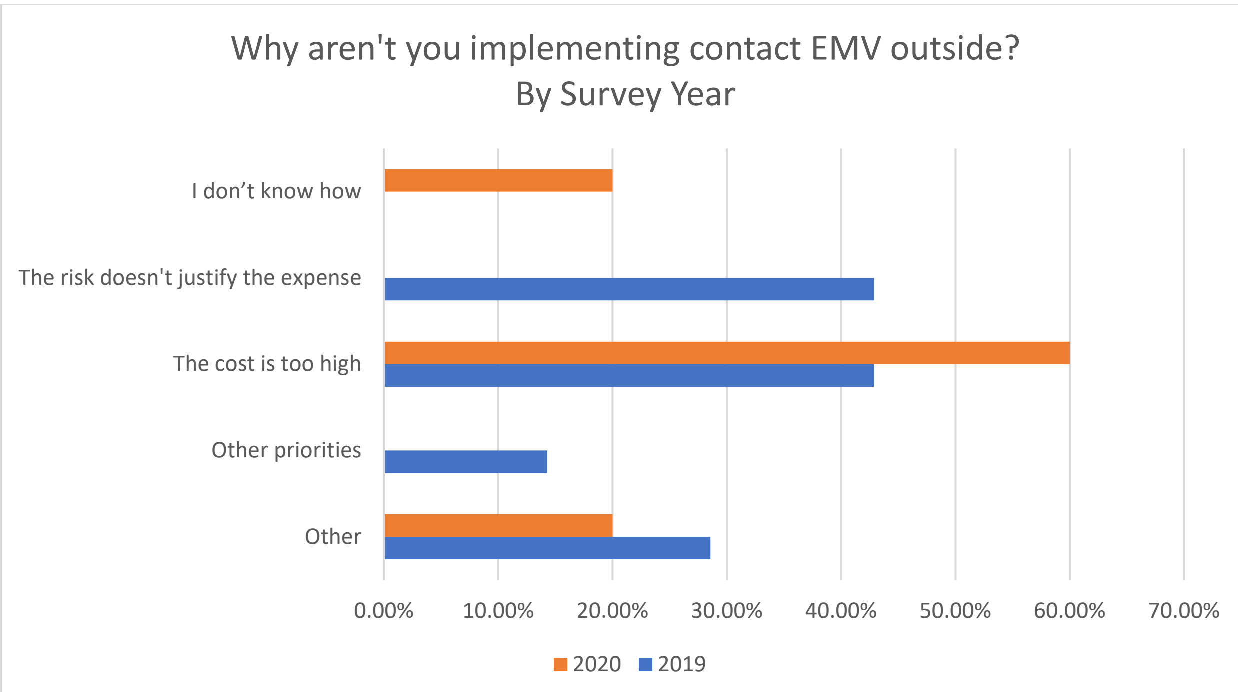


In the 2019 survey, 7% of the “A” owner/operators (1-10 stores) had decided not to implement EMV outside. In the 2020 survey, that number fell to 0%. Other sized store count respondents showed 0% in 2019 and that trend continued in the 2020 data.

In the 2019 survey, a significant number of owner/operators in the A (21%), B (8%), and C (36%) categories were undecided about implementing outdoor EMV. The 2020 data revealed that all but a percentage (declining to 16%) of “A” owner/operators have decided to implement outdoor EMV.

4.2.3 Why aren't you implementing contact EMV outside?

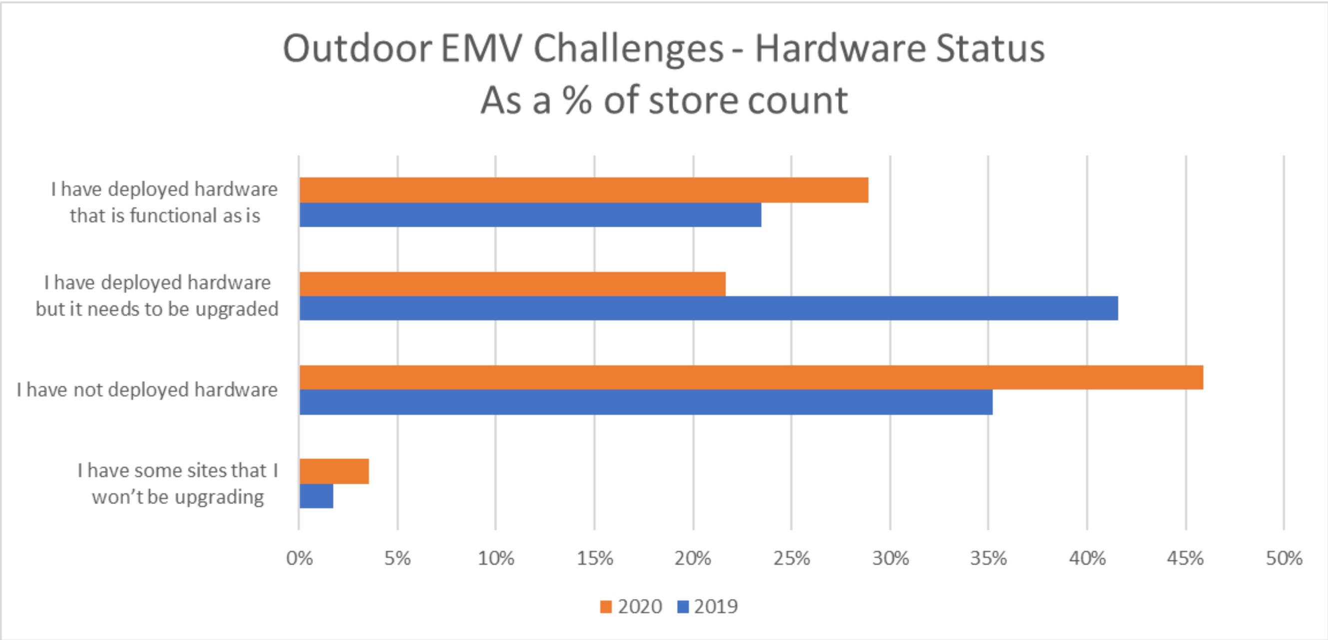
This question was only for site owners who have 0% deployment contact outside and indicated they were either undecided about or definitely not implementing it. Note: All respondents except a percentage of A sized owner/operators were excluded from this question in the 2020 data (refer to section 4.2.2 above) as most respondents had made a decision to move forward with implementations. Respondents could choose all that applied, therefore the total % may not equal 100%.



While the 2020 survey results confirm that owners/operators understand that the risks associated with not upgrading to EMV, the cost of upgrades remains top of mind (increasing from 43% to 60%) when these small operators are considering their implementation plans.

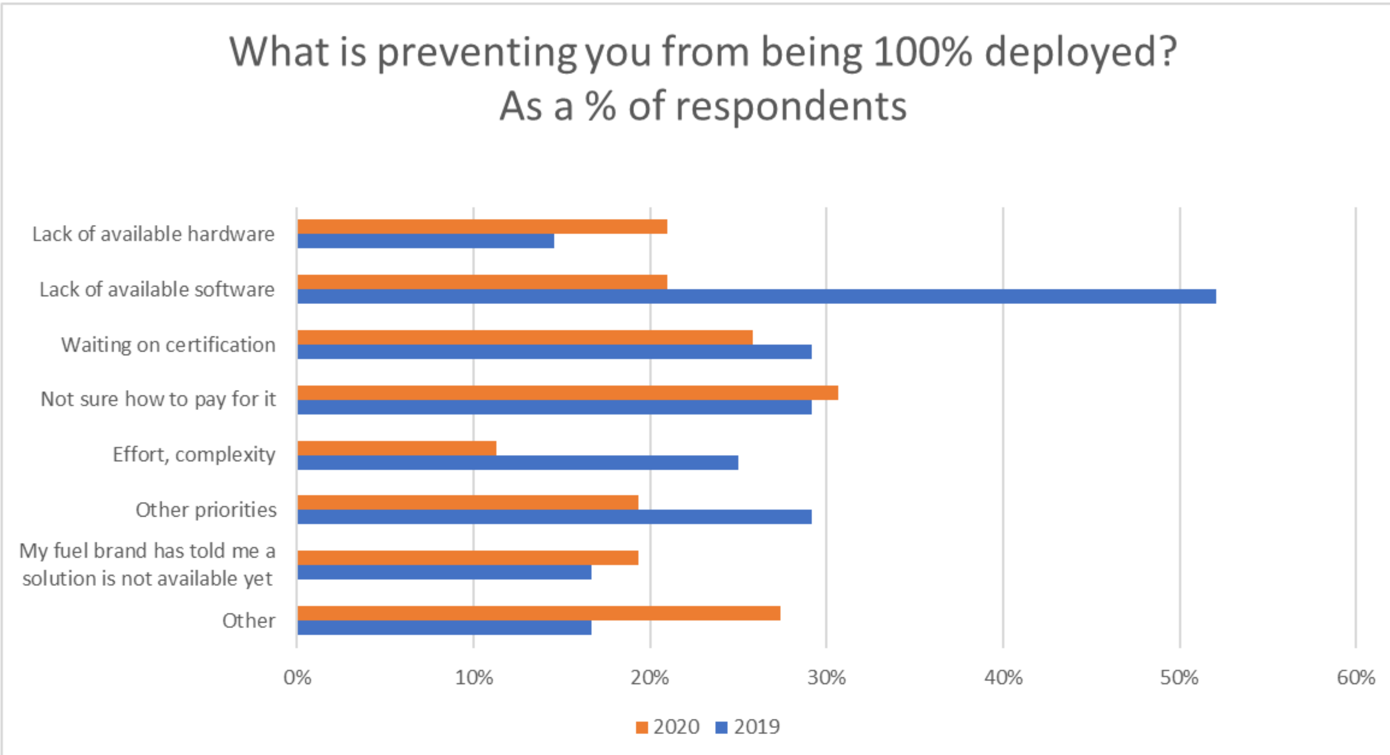
4.2.4 Outside Contact EMV Challenges

These questions were asked of respondents that do not currently have 100% deployment of outside contact EMV.



The 2020 data shows progress in functional hardware installed at sites, with considerable progress in getting previously deployed "EMV ready" hardware upgraded to the necessary level. However, the percentage of "not having hardware deployed" increased in 2020 data. This is perhaps due to survey respondents not necessarily being the same in both survey data sets. Alternatively, based on respondent free form comments that were received, some of these respondents may have realized that their hardware in place was not sufficient and needed significant and costly upgrades/replacements, which may have led to choosing this answer over "needs to be upgraded".

These questions were asked of respondents that do not currently have 100% deployment of outside contact EMV. Respondents could choose more than one answer, so the percentages may not equal 100%.

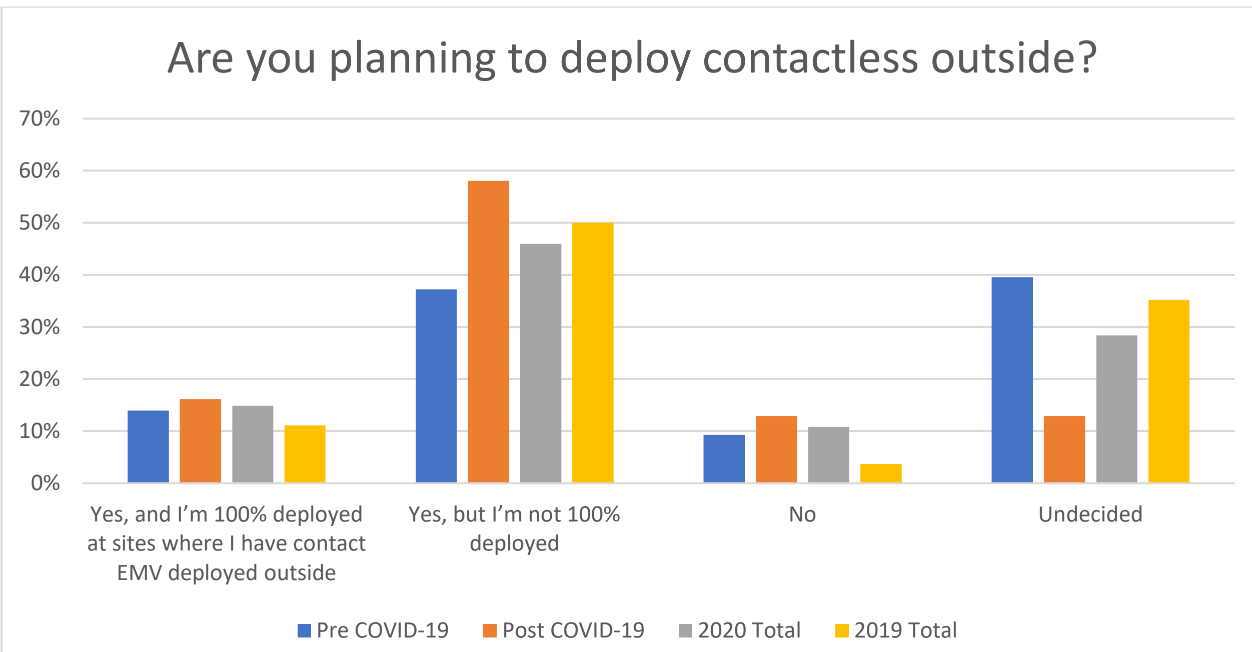


The 2020 data shows significant progress over 2019 data towards software availability issues (21% vs 52%), as well as modest progress in certifications issues (26% vs 29%). Lack of available hardware issues increased according to the survey results (21% vs 15%). Again, this is perhaps due to survey respondents not necessarily being the same in both survey data sets. Alternatively, COVID-19 has disrupted the global supply chain and increased lead times for some hardware may be influencing this answer.

The “other” answer saw significant uptick (27% vs 17%). Based on the free form text respondents could supply if they chose “other”, cost, technician issues, and COVID-19 impacts were popular reasons.

5 Contactless EMV

Contactless EMV			
Are you planning to deploy contactless outside?			
	Respondent Count (74)	Pre-COVID (43)	Post-COVID (31)
Yes, and I'm 100% deployed at sites where I have contact EMV deployed outside	14.86%	13.95%	16.13%
Yes, but I'm not 100% deployed	45.95%	37.21%	58.07% [1]
No	10.81%	9.30%	12.90%
Undecided	28.38%	39.55%	12.90% [2]



The 2020 survey when compared to 2019 shows owners/operators reaching decisions about deploying contactless payments outside; 35% in 2019 vs 28% in 2020 were still

[1] Z-scores were identified for this difference with a z-value of -1.9793 and a p-value of 0.02385 thus meeting the confidence that difference is statistically different with results significant at $p < 0.05$.
[2] Z-scores were identified for this difference with a z-value of 2.5072 and a p-value of 0.00604 thus meeting the confidence that difference is statistically different with results significant at $p < 0.01$.

undecided. The COVID-19 pandemic proved to be a further catalyst for reaching a conclusion; 40% pre COVID-19 vs 13% post COVID-19 undecided responses.

Contactless EMV	
If you are not implementing contactless, why not? (Respondents could choose all that applied, therefore the total % may not equal 100%)	
	Respondent Count (29)
I don't know how	6.90%
Effort, complexity	0
Other priorities	20.69%
The cost is too high	**34.48%**
Not sure how to pay for it	20.69%
Requires additional upgrades	**31.03%**
Not Applicable	20.69%
Other*	13.79%

*Responses to "Other" cited preferences for app-based payments (mobile) over NFC, capital investment decisions outside of their control, and not wanting phones at the pump for safety reasons.

Contactless EMV			
If you want to deploy but aren't at 100%, what's the primary reason for why not?			
	Respondent Count (34)	Pre-COVID (16)	Post-COVID (18)
I need hardware	9 (26.47%)	3 (18.75)	6 (33.33%)
Lack of available software	7 (20.59%)	3 (18.75)	4 (22.22%)
Waiting on certification	1 (2.94%)	1 (6.25)	0
Not sure how to pay for it	3 (8.89%)	0	3 (16.67%)
Effort, complexity	4 (11.76%)	2 (12.5%)	2 (11.11%)
Other priorities	1 (2.94%)	1 (6.25)	0
Not Applicable	5 (14.71%)	4 (25%)	1 (5.56%)
Other*	4 (11.76%)	2 (12.5%)	2 (11.11%)

*Responses to "Other" cited waiting on installs, waiting on quotes, cost, considering ROI, delays due to COVID-19 pandemic.