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The Honorable Dick Mazza, Chair
Senate Committee on Transportation
Vermont State House
115 State Street
Montpelier, VT 05633

April 15, 2021

Re: Future-Proofing Payment Technology for Electric Transportation in the T-Bill

Dear Chair Mazza:

Thank you for providing ChargePoint with the opportunity to testify in support of amending the T-bill to ensure that Vermont's investments in electric vehicle (EV) charging infrastructure are reliable, cost-effective, and secure. This amendment would require that State agencies take a technology-neutral approach when setting requirements for how payments are processed at public EV charging stations.

Background on ChargePoint

Since 2007, ChargePoint has been creating the new fueling network to move all people and goods on electricity. ChargePoint is committed to making it easy for businesses and drivers to go electric, with a world leading EV charging network and most complete set of charging solutions available today. ChargePoint's cloud subscription platform and software-defined charging hardware is designed internally and includes options for every charging scenario from home and multifamily to workplace, parking, hospitality, retail and fleets of all kinds.

Background on How Payments Are Processed at EV Charging Stations

Drivers can pay for EV charging services in a number of different ways, if payment is required:

- Radio frequency identification ("RFID") cards;
- Mobile app-based payments;
- 24/7 phone support lines operated by EV charging networks; and
- Credit cards; and
- Payment through a network roaming agreement, which allows drivers from one network to initiate charging sessions on chargers operated through another network;

Card-based payments can be processed by Magnetic Stripe Readers (“MSRs”); EMV Chip readers; phone via secure 1-800 numbers; and “contactless” validation enabled by Near Field Communication (“NFC”) technologies like EMV contactless credit cards (“tap-and-pay”) and digital wallets (e.g., Apple Pay, Android Pay, Samsung Pay).

It is critically important to note that the payment industry is rapidly shifting away from legacy methods for processing card-based payments, such as MSRs and EMV Chip readers. For example, 85% (300 million) of VISA’s 350 million card fleet are now capable for tap-and-pay, 84 of the top 100 US merchants accepted contactless payments, and Mastercard has reported that 51% of Americans use contactless payment methods.¹



Fig. 1: EMV Contactless Logo

The key drivers away from MSR and EMV Chip readers are security, reliability, cost, accessibility, and health:

- **Security:** MSRs and EMV chip card readers are widely known to be insecure, and are routinely exploited on by “skimmers” and “shimmers,” which are hard-to-detect and readily-available devices that steal credit card data. Skimmers and shimmers are already a serious problem at gas stations and other point-of-sale terminals, because they can be installed on legacy card readers in a matter of seconds. Recent reports have detailed how EV charging stations are a ripe target for fraud.²
- **Reliability:** MSRs and EMV chip readers are known to have reliability issues, and are often the typical point of failure for consumer-facing technology like gas pumps. Getting the State prepared for electric transportation will require thousands more EV chargers than there are gas stations in Vermont. In order for Vermonters to embrace EVs, charging stations need to be reliable and available. Mandating legacy payment processing methods will reduce overall reliability and limit driver access while stations are down, leading to a poor consumer experience and disincentivizing EV adoption.
- **Cost:** MSR and EMV chip credit card reader would add approximately \$3,000 to the cost of a charging station over its lifetime. This represents a 50% to 100% increase in capital costs for Level 2 charging stations, and is also an unnecessary expenditure for DC fast charging stations.
- **Accessibility:** Contactless payments technology is almost ubiquitously available. Within the next 12-18 months, nearly 100% of personal credit cards will support contactless. In the meantime, current MSR/EMV chip cards can be loaded into “digital wallets,” and contactless payment technology is increasingly being incorporated into prepaid cards.
- **Health:** The COVID-19 pandemic has accelerated the shift away from physical swipe and chip payment processing. A 2021 report by VISA identifies that overall contactless

¹ “Zero Touch Payments are Set to Grow Post-Covid” Market Scener. Published January 13, 2021. Available at: <http://tinyurl.com/8a49dn7r>

² Digital Citizens Alliance. *Charging in the Crosshairs: How EV Drivers Could Become Cyber Criminals’ New Target*. Available at https://www.digitalcitizensalliance.org/clientuploads/pdf/Charging_in_the_Crosshairs.pdf

payment usage has increased 150% in the past year, and that only 16% of consumers want to revert to old methods of payment after a COVID-19 vaccine is widely available.³

Vermont State Agency Policy is Inconsistent with Statute

In 2019, the Vermont Legislature took a technology-neutral approach for payment technology requirements to ensure widespread access to publicly available EV charging stations. This flexible approach is consistent with other New England states, and is critically important due to the variety of options and rapid change in payment technology. Importantly, these statutory requirements do not mandate how payment options are processed:

Table 1. Statutory Payment Requirements in New England			
State	Year	Citation	Payment Requirement
CT	2016	Public Act No. 16-135	The owner or operator of a public electric vehicle charging station... that requires payment of a fee <i>shall provide multiple payment options that allow access by the public.</i>
MA	2016	Ch. 448 of the Acts of 2016	The owner or operator of a public electric vehicle charging station <i>shall provide payment options that allow access by the general public.</i>
NH	2018	SB 575	The owner or operator of a public electric vehicle charging station that requires payment of a fee <i>shall provide multiple payment options that allow access by the public.</i>
VT	2018	Act No. 59 of 2019	Electric vehicle supply equipment available to the public shall provide <i>multiple payment options that allow access by the public</i>

In practice, however, Vermont has imposed payment mandates that prescribe the specific method by which card-based payments are processed. For example, the Department of Housing & Community Development mandated EV chargers could only be eligible for public grant funding if they processed card payments with either a magnetic swipe or EMV chip credit card reader.⁴

In contrast, Connecticut’s Department of Energy and Environmental Protection has repeatedly cited to its statutory requirement in its EV Roadmap and public grant programs as its own payment requirements, which have not mandated MSR or EMV chip readers.

State Agency Policy is Inconsistent with Best Practices Around the Country

Vermont is an outlier in imposing a mandate on how card-based payments are processed. Of the 34 other states that have EV charging programs and policies, all have either (i) specifically avoided mandating MSR or EMV chip readers, or (ii) retracted an initial mandate in favor of more flexible payment processing methods:

³ VISA Back to Business Study – 2021 Outlook. Available at: <https://vi.sa/3nljat4>

⁴ Request For Proposals For Electric Vehicle Supply Equipment (EVSE) Program – Fast Charging Vermont’s Highway Corridors at 16. Available at: https://accd.vermont.gov/sites/accdnew/files/CPR-EVSE-Round%203%20RFP_Final.pdf

Mandates MSR/EMV Chip readers	Rescinded Initial Mandate of MSR/EMV Chip readers	Does <u>Not</u> Mandate how Card Payments are Processed
Vermont	Colorado* New Hampshire** Oregon***	Alabama Alaska Arkansas Connecticut Florida Hawaii Idaho Indiana Iowa Louisiana Maine Maryland Massachusetts Michigan Minnesota Montana Nebraska New Jersey New Mexico New York North Carolina North Dakota Ohio Oklahoma Pennsylvania Rhode Island South Dakota Texas Utah Virginia Washington

**Colorado initially included a requirement for MSR and EMV chip readers in its VW Appendix D program, which it subsequently rescinded in favor of a technology-neutral approach.*

*** New Hampshire is currently revisiting its requirements after failure to receive qualifying bids on an RFP that mandated legacy MSR and EMV chip credit card processing requirements.*

****Oregon included MSR/EMV chip requirements in its Draft RFP for replacing West Coast Electric Highway chargers, but removed the requirement prior to publishing the final RFP.*

California does not fit neatly into the list of states in Table 2, as the California Air Resources Board (CARB) is currently in the process of implementing regulations regarding card-based payments for EV chargers. CARB is slated to phase-in requirements for how card-based payments are processed in early 2022. However, CARB is currently reviewing payment card technologies to ensure that a prescriptive mandate is not unnecessarily implemented.

Incorporate Technology-Neutral Requirements in the T-Bill

In order to protect consumers and avoid wasting the very limited resources available for Vermont to expand access to electric vehicle charging stations, ChargePoint respectfully urges the Committee to incorporate the following amendment language into the T-bill:

Proposals or state incentives for public electric vehicle supply equipment shall not require a specific method or technology for processing payment options.

Conclusion

ChargePoint appreciates the opportunity to provide testimony on this important issue. Thank you for your consideration, and please let me know if I can provide additional information.

Sincerely,

Kevin George Miller
 Director, Public Policy
 ChargePoint