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On Behalf of the New York Civil Liberties Union

Before the New York City Council Committee on Technology

Regarding a Study on a Digital Identification Program Pilot

September 24, 2021

The New York Civil Liberties Union ("NYCLU") respectfully submits the following testimony regarding the proposed legislation to create a study and report on a digital identification program pilot. The NYCLU, the New York affiliate of the American Civil Liberties Union, is a not-for-profit, non-partisan organization with eight offices throughout the state and more than 180,000 members and supporters. The NYCLU's mission is to defend and promote the fundamental principles, rights, and values embodied in the Bill of Rights, the U.S. Constitution, and the Constitution of the State of New York. The NYCLU works to expand the right to privacy, increase the control individuals have over their personal information, and ensure civil liberties are enhanced rather than compromised by technological innovation.

While a carefully implemented and nuanced digital identification system may prove worthwhile and beneficial, if done improperly it could have far-reaching ramifications, entrench injustice, erode privacy rights, and threaten our civil rights and liberties. Intro. 2305 risks the latter by creating a pathway for new tracking capabilities without setting the necessary guardrails and oversight.

We have significant concerns about the digital identification program pilot study, as laid out in Intro. 2305, and oppose the legislation in its current form. As currently drafted, a mayor-designated city agency would work in partnership with a financial institution on a digital ID feasibility study and report. Mandating a fin-tech vendor to be the sole partner is problematic at best. To succeed, the focus must be squarely on equity and privacy, not a company's bottom line. Appropriate partners would be experts in cryptography and cyber-security, open-source technology, immigrants' rights, civil rights, and accessibility; and, most importantly, representatives from the communities most affected by such a program, especially those receiving public assistance.

Further, any digital identification program must be entirely voluntary, require opt-in consent, offer granular control over one's data, and ensure strong privacy protections – guaranteed both by legal and technical safeguards.

But the technology is not ready yet: open standards[1] development is still in process and the City should not fall for proprietary tech developed behind closed doors, forcing costly vendor lock-ins – as experienced in the past. Transparent and auditable open standards are the only meaningful path to ensure trust and security.

Unfortunately, throughout the pandemic, opaque, exploitative, and discriminatory technologies were deployed for digital identity verification. 21 states have procured a facial recognition tool for unemployment insurance processing.[2] The New York Department of Labor is one of them, thereby creating new barriers for people to receive their benefits by requiring the provision of their biometric data to third-party companies and risking misidentification through a technology that has repeatedly been shown to have significantly higher error rates for women and people of color. It is incumbent on the Council to not repeat these mistakes and ensure such technologies have no place in our city.

As the *Identity Crisis* report[3] in the appendix further details, we strongly urge to not move forward with any digital ID system unless the following key principles are adhered to:

- *Community Inclusion*. Impacted people need to have a seat at the table from the start. Communities most affected and those receiving public assistance must be represented and meaningfully involved. Consult with experts in digital identification, cryptography and cyber-security, open-source technology, immigrant's rights, civil rights, and accessibility.
- *Equitable Tech*. Ensure technologies serve people and communities in need, not companies' shareholders.
- *Voluntary and Opt-In Consent*. Any digital ID program must be fully voluntary and require opt-in consent. The use of digital IDs should never become mandatory or be required to access certain services.

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[1] *See*, e.g.: Verifiable Credentials Data Model 1.0, WORLD WIDE WEB CONSORTIUM (W3C) (2019), https://www.w3.org/TR/vc-data-model/ (last visited Sep 23, 2021).

[2] *See*, e.g.: Dave Gershgorn, *21 States Are Now Vetting Unemployment Claims With a 'Risky' Facial Recognition System*, ONEZERO (2021), https://onezero.medium.com/21-states-are-now-vetting-unemployment-claims-with-a-risky-facial-recognition-system-85c9ad882b60 (last visited Sep 23, 2021); and Michele Gilman & Mary Madden, *Digital Barriers to Economic Justice in the Wake of COVID-19*, DATA & SOCIETY (2021), https://datasociety.net/library/digital-barriers-to-economic-justice-in-the-wake-of-covid-19/ (last visited Sep 23, 2021).

[3] Jay Stanley, *Identity Crisis: What Digital Driver's Licenses Could Mean for Privacy, Equity, and Freedom*, AMERICAN CIVIL LIBERTIES UNION (2021), https://www.aclu.org/report/identity-crisis-what-digital-drivers-licenses-could-mean-privacy-equity-and-freedom (last visited Sep 23, 2021).

- *Encryption and Security Standards*. The system must be built with the strongest possible encryption and security standards.
- *No Police Officer Access to Phones*. System should be designed that ID owners never need to hand over their device to a verifier.
- *Unlinkable Presentations*. The system should be designed to prevent any creation of records of where and when an ID was presented.
- *Granular control over data released*. The system must be designed to give people comprehensive controls over what data is released. It should also allow for broad categories to be disclosed and therefore follow data minimization principles (e.g., over 21; over 65; NYC resident).
- *Restrictions on ID Demands*. The system should not create additional ID checks where none was needed before.
- *Open Source and Open Standards*. Avoid proprietary solutions, vendor lock-ins, and long-term dependencies. Adopt initiatives like "Public Money, Public Code," which requires publicly financed software developed for public use to share its source code. Standard, interoperable protocols are also more secure and better tested.
- *Ban Discriminatory Technologies*. Enact bans on technologies that show discriminatory impact or threaten people's fundamental rights.
- *Auditing and Reviewing Mechanisms*. All systems should be subject to independent, transparent review to ensure – and to assure the public – that such technologies are being used appropriately and treating personal information with the care required.

In conclusion, the NYCLU thanks the Committee for the opportunity to provide testimony. We urge the Committee not to rush the digital ID infrastructure prematurely. Without the necessary precautions, it would supercharge surveillance and lock people out from much needed city services. Any steps towards a digital identity system must center equity and privacy protections from the very beginning – and for this it matters who sits at the table and what values undergird the endeavor.

Identity Crisis

What Digital Driver's Licenses Could Mean for Privacy, Equity, and Freedom

ACLU

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I. Introduction

State legislatures, motor vehicle departments, and companies that sell identity systems are gearing up to offer a new technology to the American people: digital driver's licenses stored in smartphones and used in place of the plastic identity cards that most Americans now carry.

Digital driver's licenses (often called "mobile driver's licenses" or mDLs) are often promoted as a straightforward digitization of our driver's licenses as they are currently used. And if mDLs are broadly adopted, they are likely to start that way.

But this technology is likely to have ramifications that quickly extend far beyond a simple replacement of plastic IDs by phones. Identifying people is sometimes necessary, but but it's also an exercise in power. That means that we need to take great care in how we build identity systems—especially when digital technology enters the mix.

A move to digital identity cards is not a straightforward translation.

By making it more convenient to show ID and thus easier to ask for it, mDLs will inevitably make demands for ID more frequent in American life. They may also lead to the routine use of automated or "robot" ID checks carried out not by humans but by machines. Depending on how a digital ID is designed, it could also allow centralized tracking of all ID checks, and raise other privacy issues. We might even see demands for driver's license checks become widespread online. This would enormously expand the tracking information such ID checks could create and, in the worst case, make it nearly impossible to engage in online activities that aren't tied to our verified, real-world identities. Longer-term, if digital IDs replace physical documents entirely, that could have significant implications for equity and fairness in American life.

A move to digital identity "cards" is not a straightforward translation; important things are lost and gained in the switch. New possibilities open up, some potentially good and some not. A digital system could enhance user privacy and control if done right—but it could also become an infrastructure for invading privacy and increasing the leverage and control of government agencies and companies over individuals. In this paper, we will look at how mDLs are currently shaping up and the issues that they raise for privacy, equality, and other civil liberties.

THE EVOLVING ROLE OF IDs IN AMERICAN LIFE

Mobile driver's licenses would arrive at a time when the role of identity and identity checks in American life has already been expanding. Until relatively recently, identity checks did not feature as prominently as they do today. Before an accidental plane crash in 1999, you didn't need to show an ID to fly, for example, and if you had an airline ticket you couldn't use, you could sell it to someone else. After 9/11, the highly questionable notion took hold that terrorist attacks could be thwarted by tightening up the standards for issuance of IDs. At the same time, conservative antipathy toward immigrants led many people who were normally skeptical of government mandates and the creeping bureaucratic regimentation of American life to embrace the expansion of identity systems. The post-9/11 effort to make driver's licenses more secure was bungled by the congressional leadership of the time, who rammed through the poorly designed Real ID Act of 2005. That bill, which was passed with no hearings, debate, or testimony from state department of motor vehicles (DMV) officials or other experts and was attached at the last minute to must-pass emergency legislation, imposed a cumbersome and unnecessary system of identity and citizenship proofing on state DMVs.

> Digital driver's licenses will give institutions a major new tool by which individuals can be inescapably tracked.

In the years since, identity checks have increased in more and more places, from building lobbies to banks, voting booths, doctor's offices, and employers. The TSA began building an enormous, misguided security infrastructure on the quicksand of identity-based security—trying to protect aviation by gathering information about people and pretending to know who is most likely to launch the next attack—an approach that also opens the door to bias and targeting. And identity checks are on course to further accelerate in the coming years as the Department of Homeland Security (DHS) pushes to fully enforce the ill-conceived Real ID Act over resistance by the states, and as facial recognition–based machines for automatically verifying the authenticity of physical ID cards enter the market.

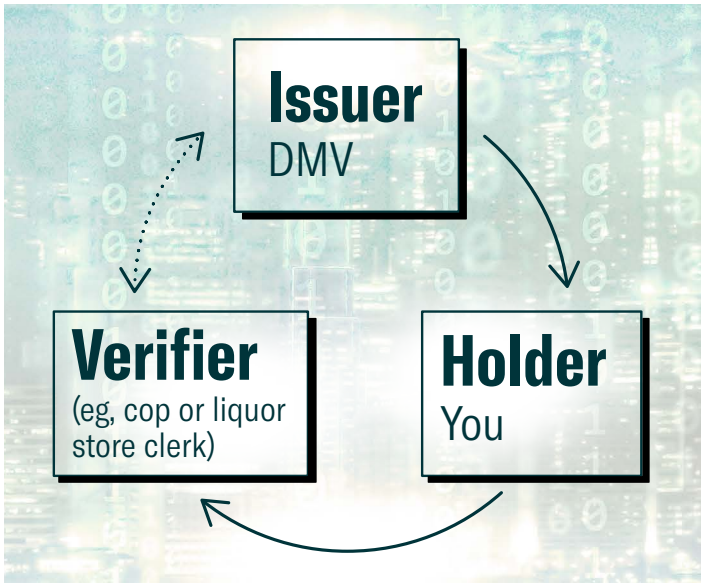
Americans across the political spectrum have long resisted the idea of a national identity card, and Congress would probably never pass any measure labeled as such. But the nation is backing into such a system through state bureaucracies originally set up for a limited purpose: to certify who is competent to drive a car on the public roads. This backdoor ID system has been exploited and

expanded by proponents of a national identity system who understand that calling it such would never fly politically.

It is in this context that digitization of identity would arrive. Digital driver's licenses may bring certain advantages for individuals, but they will also give institutions a major new tool by which individuals can be tied to the full documentary DMV identification and proofing process required by the post-9/11 Real ID Act—and thus be inescapably tracked.

HOW DIGITAL ID SYSTEMS WORK

To understand some of the potential privacy issues raised by mDLs, it's important to understand the structure of digital identity systems. In their simplest form, they include three parties: an identity Issuer (for mDLs, that would be the state's DMV, but it can be any party wanting to issue a credential, including a bank, library, gym, etc.), an identity Holder (such as you), and an identity Verifier (such as a liquor store clerk or a police officer who has pulled you over on the highway).



Digital credentials like mDLs rely on modern cryptography to produce files that—even though they consist of nothing but ones and zeros stored on your phone—cannot be tampered with by you or anyone else without detection. Such a feature is necessary, or it would be easy for the Holder (or others, including malicious hackers or apps) to open the digital driver's license file on their phone and change anything or everything about it. This system works through what is known as public key cryptography, in which files are signed and verified with a linked pair of digital codes or "keys"—one that is public and one that's kept private. When an Issuer (such as the DMV) places a digital credential (such as an mDL) on your phone, it digitally signs that file using its *private* digital key, which only it possesses. Then, when a police officer or other Verifier looks at that file, they verify it using a corresponding *public* key distributed by the DMV. That public key can only verify signatures that have been made with the

corresponding private key, so if the signature is valid, the police officer knows with ironclad mathematical certainty that the file was signed with the DMV's private key, and that not a single bit has been changed.

The presentation of an mDL is envisioned as working in one of two ways: offline or online. The offline version would work like this: When you walk up to a cash register to buy alcohol, get pulled over by a police officer, or otherwise need to show ID, the clerk or officer uses an mDL reader app or device to request certain data from your ID. You see the request on your phone and choose whether to approve it. Any data that you agree to release to the Verifier gets sent to them along with your photo, which they use to make sure that you are the actual owner of the mDL that you're presenting. The Verifier's device then checks the digital signature on your mDL against the DMV's public key to make sure that it's a valid digital license that hasn't been tampered with.

Under the online method, your phone would not actually hold your driver's license data. Instead, your phone would send an identifying digital token to the Verifier, who would then send that token over the internet to the DMV. The DMV would confirm its authenticity and then send the Verifier the data that you have given permission to share. As we discuss below, online verification raises significant privacy problems.

POSSIBLE ADVANTAGES

A digital driver's license could bring a number of advantages that should be weighed in considerations of the technology.

One of those advantages is that, if done right, the technology could actually improve the privacy of ID holders in some respects, by giving them the power to decide exactly what information they share with a Verifier—and to share no more than is necessary for a transaction. With a physical driver's license, for example, if you want to prove to a bartender that you're old enough to be served, you have to hand over a card that lets the bartender see your full date of birth as well as all the other information printed on your ID, from your name and address to weight, gender, and organ donor status. Some bars scan patrons' driver's licenses, collecting and retaining all the data from the IDs' bar codes for marketing or other purposes. In our experience, some retailers, such as Target, abuse this system to collect their customers' full date of birth, refusing to sell them alcohol unless they give not only the year but also the month and day of their birth, no matter how old a customer appears to be.

But with the right kind of digital ID, you could attest to a Verifier that you are over 21 without sharing your date of birth or any other information. You could share your state but not your city, your city but not your ZIP code, your ZIP code but not your address, and so on.

Another advantage touted by mDL boosters is convenience. There's no guarantee people will find mDLs more convenient given the ease of a physical card compared to fiddling with a phone. Alabama, for example, has had a digital driver's license available to residents since 2015, but it remains rarely used even as mobile payments have skyrocketed. Nevertheless, it's certainly true that people are storing ever more information on their phones and it's possible that mDLs could prove popular if the option is more widely publicized. Allowing people to prove their identity remotely could also open up new conveniences and efficiencies.

> If done right, the technology could actually improve the privacy of Holders in some respects.

Digitization would also make stealing, altering, or forging driver's licenses exceedingly difficult if not impossible; it would probably require theft of the cryptographic private keys held by the DMV or other Issuer. For institutions that want to know who you are with a high level of certainty, mDLs provide a significant advantage.

At the same time, while it may be true that a shift toward digital could bring enough convenience or other advantages that it ultimately proves successful, Americans should not leap to embrace that change on an assumption that it will be neutral and harmless. As with some other technologies like voting systems—where digital-only is not just inferior but potentially disastrous, and is being phased out in most places—digital IDs can bring distinct disadvantages over old-school hard copies, and those need to be thought through carefully. In particular, if we are to accept a digital ID system, we need to make sure it remains voluntary and has the strongest possible privacy protections. Although the state of privacy online and off is already pitiful in many ways, there is plenty of room for a poorly constructed digital identity system to make things worse and leave us looking back on today's world with a feeling of loss over the freedom, anonymity, and lack of regimentation we once had.

THE CURRENT STATE OF PLAY

The impetus for digital driver's licenses is coming from a variety of powerful institutions. The concept is being sold hard by an "identity-industrial complex" of corporate players, including the French companies Thales and Idemia and the Louisiana-based company Envoc.

A number of state legislatures and DMVs have also begun moving toward mDLs. Louisiana, for example, enacted a law in 2016 that fully legalized digitized driver's licenses for traffic stops and has made a mobile ID app available to the public. The state's alcohol and tobacco and voter registration agencies have both begun accepting the app, which was jointly designed by the Louisiana State Police, Department of Public Safety and the Office of Motor Vehicles and built by Envoc. According to the American Association of Motor Vehicles Administrators (AAMVA), Colorado, Delaware, and Oklahoma also have some form of digital driver's license, though, like Louisiana's, they are not yet compliant with a common standard and will need to be updated when such a standard is finalized. The states closest to issuing standards-compliant mDLs, according to AAMVA, are Iowa and Florida, which have announced contracts or plans with companies to create such a system. Other states have enacted enabling legislation, including Arizona, Arkansas, Illinois, Indiana, Maryland, Michigan, Tennessee, Utah, Virginia, and Wyoming. And a number of states—including Idaho, Maryland, Virginia, Utah, and Washington, D.C.—have worked with companies on mDL pilot programs.

The push for mDLs is also coming from the federal government. The National Institute of Standards and Technology (NIST) has, since the Obama administration, been working to create an online identity system, and financed several of the state mDL pilots. The TSA is working on integrating mDL functionality into its airport security checkpoints. And in December 2020, Congress passed legislation modifying the Real ID Act to allow mDLs to qualify as compliant and giving DHS the power to regulate what that looks like. That means our nation's largest security agency can dictate the implementation of any mDL that is to be recognized by the federal government, which, realistically, means it has the power to shape the national standard—a power that DHS is already gearing up to exercise.

The movement toward mDLs has not yet gained wide traction within the states, however. A big reason is that such IDs must be interoperable—that is, recognized around the United States and abroad, as physical licenses are. That requires the creation of standards. Standards-making efforts for mDLs have been underway at both the national and international level and are nearing completion. Internationally, the International Organization for Standardization (ISO) is creating

DHS can dictate the implementation of any mDL that is to be recognized by the federal government

a standard for mDLs, and within the United States, AAMVA is working to help state DMVs implement mDLs that are compliant with ISO's standard. Meanwhile, Google and Apple, the duopoly that makes the operating systems for nearly all smartphones, are working to make those operating systems function well with an mDL system.

More broadly, aside from these institutional architects of the emerging mDL system, the move toward mDLs stems from a general sense that digital versions of our identity cards are inevitable. That sense has fueled the emergence of an entire identity community that has been working on the problems of online identity and authorization for many years. That community is animated by a belief that it's not realistic to expect that in 50 years everyone will still be sharing meaningful documents only in face-to-face meetings using pieces of paper. Some within the identity community have embraced centralized, proprietary systems, while another camp is animated by a vision of "self-sovereign identity" that is decentralized, open source, privacy-preserving, and empowering of individuals. That movement has created a number of proposed systems, including an open standard created by the World Wide Web Consortium (W3C) called Verifiable Credentials (VCs). Like most efforts in this area—including mDLs—the VC concept is still being refined. Unlike mDLs, with their narrow focus on the centralized digitization of one form of identity (driver's licenses), broader concepts like VCs would create a framework that would allow any party—from government agencies to your employer to your local coffee shop—to issue digital credentials.

But as we will see, despite their purportedly narrower focus, mDL proponents are simultaneously thinking big.

II. Potential Threats to Privacy

The overarching privacy question is whether digital driver's licenses are being built to form a solid foundation for the much broader uses to which they may eventually be put. Getting privacy right in the mDL architecture is important for digital driver's licenses themselves, but it becomes even more important if they end up being used in a hundred other ways. The nation's DMVs put credentials in the pockets and purses of most Americans, an enormous power that could overwhelm efforts to create more decentralized ID systems.

Although the global ISO standards and AAMVA's work are quite advanced, participants in this ecosystem tell us that the work is not complete. Most of the players we spoke with recognized that privacy is an important value, and they told us that further work may substantially affect mDLs from a privacy standpoint. Currently, and for some time into the future, many of the details of how mDLs will work will be determined by a secret committee in the ISO standards-setting process, along with AAMVA, smartphone companies, individual state DMVs, and the companies those DMVs hire to design mDL apps.

At the same time, some states are already rushing to prepare for the creation of ISO-compliant mDLs, and some participants in the ecosystem expect that the first compliant state systems will be unveiled in the next year or so. Once states begin to roll out interoperable identity systems, it will become significantly harder to address any privacy problems that may arise at the technology level. Those issues should be addressed now.

We see seven immediate potential privacy problems with digital driver's licenses. Some of these are being addressed in current standards and plans—but others are not. In addition to these immediate concerns, there are a number of other, longer-term potential implications of and problems with mDLs. Here, we start with the immediate privacy issues and then discuss the broader issues.

1. POLICE ACCESS TO PEOPLE'S PHONES

The most immediate and obvious danger of transferring our driver's licenses from physical plastic cards to our phones would arise if we were required to hand our phones over to a police officer. That would be a total nonstarter for any mDL system given how much personal information our phones hold.

Fortunately, current mDL architects appear to recognize that having Holders hand their phones over to police officers (or other ID verifiers) is unacceptable and are designing a system that would not require Holders' phones to leave their hands. Instead, Holders would show a QR code on their phone screen to the officer or other verifier, or transmit the ID wirelessly to the Verifier.

Nevertheless, it's important to understand the context in which this technology will land. Despite a crystal-clear Supreme Court requirement that police obtain a warrant for smartphone searches, questionable "consent-based" police searches of people's cell phones happen thousands of times a day. A police officer's request—"mind if I look at your phone?"—may make a search "voluntary" in the eyes of the law, but few searches based on such police requests are truly voluntary. That is especially true for members of poor and marginalized communities. And while people may think an officer is just planning to flip quickly through their phone, many are surprised when an officer then walks away with it. When your phone is taken from you—especially if it's taken out of your sight—you have no idea what is being done with it. An officer may have indeed just looked through it, but they may also have used forensic tools—which have become widespread within law enforcement—to copy the phone's entire contents. If your cellphone is taken, police could even install spyware or make other changes to it.[1]

Some states have enacted statues declaring that presentation of an mDL "shall not serve as consent or authorization" for Verifiers to "search, view or access any other data or application on the mobile device." While it's helpful to clarify that using an mDL "may not be construed as consent" for an officer to search a phone, that kind of language, which is also contained in the federal bill enacted in late 2020, is weak. It doesn't categorically bar officers from exploiting the presence of cell phones in the digital verification process to achieve an abusive, so-called "consensual" phone search. Police officers must be expressly prohibited by statute from seeking consent for phone searches during mDL verifications.

Given rampant questionable police searches of mobile devices, statutory protections against such searches—already needed—will become even more vital if people's smartphones are to become a central and routine part of interactions with law enforcement.

1 In addition, access to a person's phone can reveal to the police not just the data on the phone itself, but also, frequently, additional reams of data that are stored in the cloud, as apps on the phone provide a gateway to that online data.

2. CENTRALIZED ID TRACKING

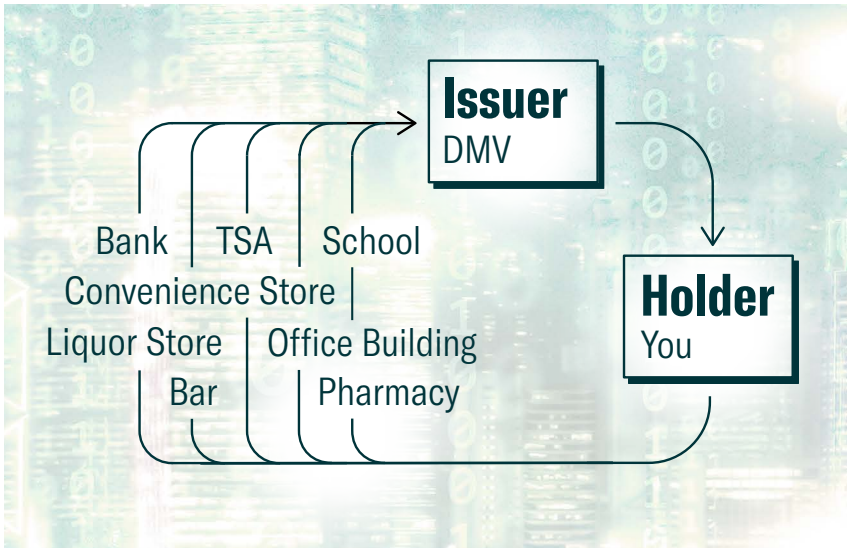
Another significant question about a digital identity system is whether it would make centralized tracking possible. When someone visually inspects your plastic driver's license, no record of that inspection is automatically generated, retained, or shared with the DMV. But with a shift from plastic to digital identities, such tracking becomes possible. No system of electronic identity that permits that kind of tracking should be supported.

For mDLs, such tracking would mean the DMV would learn that "police officer X checked driver's license holder Z's ID on this date at this time." Having information on police traffic stops flowing to the DMV may not seem like an enormous invasion of privacy, but remember that driver's licenses have become all-purpose identity documents in American life. This means that tomorrow, information could be gathered by DMVs about every bar, club, casino, office lobby, bank, pharmacy, doctor's office, and airport that you visit; every convenience store beer purchase, equipment rental, or hotel check-in; any applications for social services; and any other circumstance in which you may be asked to show an ID. The record of an ID presentation at a marijuana store that is legal in your state could be viewed quite differently by the federal government. And that list could grow exponentially; if a digital identity system starts being used for online transactions, it could include every website you visit.

> Questionable police searches of people's cell phones happen thousands of times a day.

In addition, if the police in your town have a memorandum of understanding (MOU) with your state's DMV—and almost all of them do— that could give the police access to whatever the DMV can see. Where a DMV chooses to outsource its verification functions, that data might also flow to private contractors—companies that would have a constant incentive to make money off our personal information.[2] DMVs themselves have long sold access to personal information as a revenue source.

2 There is another group of companies that could also conceivably gather information: The ISO standard suggests as an option that Issuers hand off key distribution functions to third parties who will hold and verify the cryptographic keys that are used to verify the authenticity of a Holder's mDL. AAMVA is working on making that happen for American DMVs through what they call "Digital Trust Service" providers. If Verifiers carry out a real-time check of public keys with the Digital Trust Service, as opposed to, for example, preloading them, that service could gather data about such checks.



Fortunately, there are fancy cryptographic techniques that can solve this problem. They can allow a Verifier to mathematically confirm that a token was issued by a particular Issuer without the Issuer knowing to which Holder that credential was issued. In other words, a police officer's device would ask the DMV, "Did you issue this person's credential and is it valid?" and the DMV could reply, "Yes that's one of our tokens—but we have no way of telling you to which user we issued it."

Such "unlinkable presentations" are an absolute requirement for any digital identity scheme. Digital IDs need to be designed on a technological level to prevent the Issuer from gaining a bird's-eye view into a Holder's transactions. Given that such techniques already exist, there's absolutely no reason why they should not be incorporated into a digital identity system *before* it becomes operational. The more likely a system is to expand in the uses to which it is put, the more important implementing such protection from the outset becomes.

Unfortunately, in the current mDL system, which allows for online verification as an option, this protection is not being baked in. Using the online mode—which many mDL architects speak of as the default—a Holder can send a token to a Verifier that contains no information but lets the Verifier request information about the Holder directly from the DMV or other Issuer. And, as the ISO notes in its standard,

> The issuing authority is present in each transaction in the on-line solution; therefore, the issuing authority knows when an mDL is used and what data is shared. If tracking is a concern, the issuing authority is advised to implement mitigating strategies to ensure the mDL and the mDL Holder are not tracked.[3]

3 AAMVA points out that the ISO standard for the online mode (which the ISO calls "server retrieval") does not include a field in the data sent from the Verifier to the Issuer that identifies the Verifier—just the identity of the Holder and the fields they have agreed to share. But they will see the Verifier's IP address, which could be used to identify them. In addition, to establish the connection between the Issuer and the Verifier's ID reader, they will use something called "TLS client authentication," which easily and strongly identifies the reader to the Issuer. And if Verifiers were to be charged a fee for using the verification service, as has been suggested, the need to identify them would be even stronger. Rather than relying on good policies and trust in DMVs, tracking must be made technologically impossible in any identity verification system that is widely adopted.

Many of the interests pushing mDLs appear to see the linkable presentation problem as an issue of policy rather than technology. A recent white paper by the industry group Secure Technology Alliance (STA), for example, merely urges that Verifiers "do not report Holders' personally identifying information to any centralized service that compiles usage data, regardless of whether the data is obtained from offline or online mDL interactions."

Digital IDs should not be built around an online system that gives an Issuer visibility into where and when a Holder is using their ID. But an mDL model statute created by AAMVA (and partly adopted by at least one state) requires construction of a "verification system" based on the online mode. The statute explicitly contemplates situations where a government agency "requires that an electronic credential or profile be verified through the verification system." There is no requirement that that verification system be unlinkable. (AAMVA tells us that it is rethinking this model and "will be working on an update.")

DHS, meanwhile, said in an April 2021 document that it sees "data freshness"—minimizing the time that has passed since the data in an mDL was last verified—as a security benefit. Other security agencies and interests no doubt agree, and that will be an incentive to create mDLs that are based on an online model where constant connection guarantees such freshness.

Another incentive for DMVs (or the private companies that work for them) to build an online model for verification is to enable the collection of fees. DMVs have expressed reluctance to cover the costs of an mDL system that would mainly benefit businesses and other government agencies that verify ID. So, they are looking at revenue options. Among the possible models is a system in which Verifiers pay a fee to verify the IDs that they check—a model that would most likely require tracking of mDL presentations. In its model legislation, AAMVA suggests state legislatures authorize such fees.

In its mDL implementation guidelines for state DMVs, AAMVA points out that the online option allows tracking and encourages Issuers to carefully weigh its use against the privacy implications. Still, DMVs are free to adopt an online structure that allows them to track presentations while still being compliant with the ISO standard—and the possibility of charging fees will provide an incentive to exercise that option.

Policy protections are vital but may change or weaken over time. They need to be enacted on top of technological protections for privacy in any widely adopted digital identity system.

The architects of the emerging mDL system are largely representatives of government agencies and big companies, and they have focused on using the most advanced cryptographic techniques to advance the government's interest in preventing people from faking their IDs and to protect people from malicious hackers. But they have not so far made it a priority to protect people's

privacy against the kind of tracking by Issuers (or their contractors) that a switch to digital IDs would make possible.

3. IDS THAT "PHONE HOME"

Even without a digital identity system designed so that Verifiers report back to Issuers every time an ID is presented, digital IDs may "phone home" to their Issuers for other purposes. The primary such purpose is revocation: the ability to remotely reach into a Holder's phone and revoke or update a license.[4] That's something that obviously can't be done with plastic licenses, and it's a big selling point for mDL boosters. But designing an mDL that regularly connects to the issuing DMV (outside of specific appointments initiated by the Holder) creates all kinds of privacy problems and shouldn't be done. It allows the Issuer to see your IP address, for example, from which it can infer your location—both potentially sensitive pieces of information. It also increases the opportunity for abuse.

And it's not necessary to create these privacy problems. First, it's not clear how instant remote revocation of a license would reduce the incidence of unlicensed driving, compared to simply notifying someone that their ID has been revoked. Either way, some people will drive even though they're not supposed to, and if (and only if) they are pulled over by a police officer, they will be caught. Second, revocation of a digital license doesn't accomplish anything if the Holder also has a plastic license, because when their mDL is revoked, they can just present their physical card. In the case of police stops, officers can check for license revocation when presented with a physical card just as easily as when presented with an mDL. And when it comes to non-driving contexts, there's no reason to render an mDL inoperative as a means of identification or age-proofing just because

> Architects of the emerging mDL system are largely representatives of government agencies and big companies.

4 An alternative to a revocation system is to provide short-term expirations that have to be remotely renewed regularly to keep a license valid. Those two systems are largely functionally equivalent.

someone is no longer qualified to drive. In fact, giving the government the power to instantly and remotely remove people's ability to identify themselves or verify anything about themselves is a recipe for abuse.[5] (As an ACLU investigation has shown, driver's license revocations are already used abusively around the country.)

The ability to do remote revocation is unnecessary and not worth the privacy tradeoffs. And it is only relevant if our driver's licenses become digital-only—but, as we explain below, that shouldn't happen.

4. VERIFIER ID TRACKING

Another threat to privacy comes not from the Issuer (DMV) but from Verifiers. Even if data doesn't flow to the Issuer each time a person presents their ID, Verifiers could record and compile information about those presentations. For example, a consortium of bar owners could keep an electronic record every time you present your ID. They may not see when you present your driver's license to others, but they could know every time you show it to one of them (or to their corporate affiliates or anyone else they make a data-sharing deal with) and gain a rich trove of data about a Holder's life. The digitization of IDs could make this much easier and more automatic than it is today.

The threat of Verifier linking of presentations can be addressed through the same cryptographic architectures for unlinkable identities that can protect Holders against tracking by Issuers. However, under current standards, the Verifier will receive a copy of the Holder's license photo in order to verify that the mDL actually belongs to the Holder. And those photos can be stored by the Verifier and used to link presentations—or for automated face recognition. That's a distinct privacy disadvantage of mDLs over physical licenses, where the Verifier looks at your photo but doesn't get a digital copy of it. The only solution to this problem under the photo-based system would be to ban the collection of photos in that way and/or to regulate the equipment used by Verifiers to prevent it from saving copies of photos (not an easy task as a cryptographic matter, let alone an administrative one).

5 In some states, police officers are authorized in some circumstances to seize and/or destroy driver's licenses, rendering their holders not only unable to legally drive but also taking away the primary ID that most Americans use in a variety of contexts—including, in some states, voting. Remote access would allow an mDL in such circumstances to be demoted to a non-driver ID, but that is not sufficient reason to build such access. Instead, this practice should be ended. In a police stop, an officer can check to see if a driver's license has been suspended or revoked, so there is no need to seize a license.

AAMVA says that "work is in progress that would alleviate the need for a Holder to share his/her portrait image." That work is part of a second stage in the ISO standards practice aimed at allowing ID presentations over the internet. It would most likely involve using a fingerprint or other biometric identifier to allow Holders to authenticate themselves to their own phones as part of presenting their mDLs.

A robust privacy-protective system should also protect the privacy of Verifiers. In some circumstances, such privacy won't matter—such as a police officer checking a motorist's driver's license—but in others, it could, especially if the data contained on mDLs and the uses to which they are put expand in unanticipated directions. An individual buying a used item off Craigslist, for example, may want to see the seller's ID in case of problems, but may not necessarily want a record of the interaction sent to the government.

5. LACK OF PERSONAL CONTROL OVER ID DATA

A potential advantage of digital IDs is that if done right, they could improve the privacy of ID Holders by giving them the power to decide exactly what information they share with a Verifier—and to share no more than is necessary for a transaction.

The current mDL standards do contemplate this kind of selective disclosure, which is a good thing. For example, the standards will allow a Verifier to attest that they are over 21 without sharing their date of birth. ID holders may want to use their digital IDs to share other pieces of information in a similarly limited fashion, such as the ability to reveal whether they are the resident of a certain city or ZIP code without revealing their street address. We can't anticipate all of the permutations of data minimization that holders may want—especially if mDLs begin to hold more forms of data, in which case user control will become even more important.

But Holders will only have whatever degree of control their Issuer allows to be built into the app, and—especially if the categories of data held in mDLs expand—it's not clear whether those organizations will have any incentive to actively, responsively, and continually build in the privacy options that people need, or to judge what those needs might be.

Another threat to Holders' control over what data is accessed is a proposal under discussion that would allow law enforcement officers to virtually "seize" the ID of a person without their permission, such as when they're incapacitated. That would mean building a mechanism to allow law enforcement to read a person's ID without their permission or control. Such a backdoor into

> Holders will only have whatever degree of control their DMV allows to be built into the app.

the holder's security mechanism could be hacked—or abused, for example, by undercover police who have infiltrated the meeting of a political group they don't like. And it would only be useful with regard to incapacitated people if mDLs become a replacement for rather than an optional secondary copy of people's physical IDs.[6]

Finally, another part of having control over the data in one's mDL would be knowing exactly what is shared and when. That means that mDL apps should have thorough auditing functionality built in so that users can look at exactly what data leaves their phone. This is something that mDL architects appear to be building into the current system.

6. SUSCEPTIBILITY TO HACKERS

Security in the digital age is hard. The fact is, as security experts point out, that attacking digital systems is simply easier than defending them. We see this in the way that even the largest, most sophisticated and deep-pocketed companies and government agencies fall prey to malicious hackers. The essential insecurity of the digital world should not automatically be a reason not to make something digital, of course—and plastic licenses have their own vulnerabilities—but the consequences of successful cyberattacks do need to be carefully considered: not only how serious the effects of an incursion could be, but who will bear the burden of an attack. All too often, we have seen that companies don't spend the money to protect their digital assets because when they're attacked it's their customers, not themselves, who suffer the consequences.

The direct alteration or forging of cryptographically signed mDL tokens would be difficult if not impossible, but the apps that hold them could still be vulnerable. An intruder could hack an mDL app to access the app's data or other data on your phone or copy your mDL token, allowing them to

6 Some proposals under consideration would ameliorate that problem by requiring that an officer take physical possession of a phone and plug a special certified reader into it. In the case of an incapacitated person with no physical ID, that would be better, but the creation of such a backdoor still raises concerns about hacking and abuse.

present themselves as you—not only in person, but potentially in the future, online. And the more everyone assumes that mDLs are secure, the more trust they will put in the imposter and the more damage that imposter could do to you.

Google and Apple are both working on modifying their phone operating systems to make identity apps like mDLs more secure and privacy protective. In some cases, they rely on secure cryptographic hardware that is built into some phones—but it's never certain how secure such complex systems are until they are released into the wild. In addition, not all phones have such hardware, and that leaves mDL apps vulnerable to known, unfixable vulnerabilities in phone hardware, as well as whatever *unknown* vulnerabilities exist in hardware and operating systems.[7]

And of course there are always other weak points. mDL boosters tout the ability to easily and remotely transfer a digital license when the holder's phone is lost, replaced, or broken. This would require that the holder and their new device be properly authenticated, which is susceptible to fraud and trickery, and that the mDL on the old device be properly revoked, which is not necessarily an easy task for the reasons we discussed above.

7. FORCED APP INSTALLATION

Another privacy issue arises from the fact that a digital driver's license system could require people to install what is essentially government software on their phones. Although many or all of the ID apps are likely to be built by private contractors, those companies will still be building their software for, and with the approval of, DMVs.

We don't want to government to say, "You need to install this software on your phone." But even if mDLs are fully optional, there are important steps that can be taken to give people confidence in the app they may want to install on their phone.

First, it's important that the source code of these apps, which will be carrying out an essential public function, be transparent, so that experts (or any member of the public so inclined) can scrutinize them to confirm their operation and security. This will help assure people that the apps a) only do

7 In addition, the security problems posed by digital authentication—especially internet or other remote authentication—may drive an increasing loss of control by consumers over their own devices. Because remote Verifiers will want assurance that you are not using someone else's phone or other device, you would have to authenticate yourself to your own phone. That means there would have to be areas of the phone that are under the control of ID Verifiers instead of you, the owner of the phone. This would be another step toward making our phones devices built not to empower us but to control us.

what they are supposed to do and b) are as secure as the authorities claim they are. The problem is that many or all of the private companies that make the apps (such as Idemia, Thales, and Envoc) are likely to want to keep their code proprietary. That would mean that ID holders are running what is essentially secret government code on their phones and reduced to merely trusting in its operation and security. That is not acceptable—and even less so if people are legally or practically required to use mDLs.

It's important that the source code of these apps be transparent.

Second, open standards should be created for the "provisioning process"—the procedure by which DMVs (or other Issuers) load a Holder's mDL onto their device. An open standard for that process could allow anybody to create an mDL app that would interface with a DMV simply by complying with those standards. This would allow a variety of developers—including public-minded/nonprofit developers—to create competing mDL apps, giving consumers a choice in which app to use. If some states fail to require that all mDL apps reveal their source code, open standards for the provisioning process would also help give consumers the ability to choose an open-source application they can trust. And, in the worst case, if mDLs were to become legally or practically mandated, an open standard would save us from a situation in which we're forced to install a particular government app on our phones.

III. Potential Harmful Consequences of Digital Driver's Licenses

It's important that any digital ID system squarely address the seven immediate privacy threats discussed above. Only then will an mDL be built on a solid foundation that would allow Americans to feel comfortable using the technology.

Solving those privacy problems is necessary but not sufficient. There are potential longer-term consequences and evolutionary paths that digital identities might take that would hurt privacy and other civil liberties interests in significant ways.

1. EXPANSION OF USAGE

It is not too early to start worrying about mission creep. Currently, mDLs are being framed narrowly as replacements for physical ID cards, to be deployed in traffic stops, alcohol purchases, TSA checkpoints, and the like. But, once entrenched in that role, mDLs are likely to expand into a far broader role in proving identity than driver's licenses play today.

Indeed, many of those involved in the development of mDLs envision just such an expansion. The global ISO working group is planning a second phase of standards-writing to enable the presentation of mDLs over the Internet; Google and Apple's operating system work in this area is also largely focused on building the capacity for online presentations. AAMVA declares that "new use cases brought about by the nature of an mDL can be expected. Online use is one example."

Much of the pressure for an ID that is usable over the internet, seems to be coming not from DMVs and AAMVA, however, but from corporate interests. As one anonymous participant in an AAMVA webinar put it, "The overwhelming interest among big relying parties is not [in live human ID presentations] but one where people can use their mDLs to support remote ID proofing." AAMVA appears happy to accommodate that; as one executive with the association put it in the webinar, "We understand there's a thirst for trust and identity and proofing when the people are not in the same room, and that the natural interest is going to take us down that path."

There is a real danger that once a standard is in place, people may start having to identify themselves everywhere online.

The fact is, corporate America likes to identify people. Among the motivations for this "thirst" to do so is cybersecurity. In security circles, there has long been talk about creating a "driver's license for the internet" that everyone would have to use when they go online—meaning not a driver's license that *can be used* on the Internet, but one that is *required to use* the Internet. The problem, of course, is that the former could easily morph into the latter. In the past, top executives at Facebook, Google, and Microsoft have suggested ending online anonymity. In 2010, for example, Google CEO Eric Schmidt said that the only way to manage online security problems "is true transparency and no anonymity.... it is too dangerous for there not to be some way to identify you."

There is a real danger that once a standard is in place, people may start having to identify themselves everywhere online. Other interests that could drive that include:

- **Marketing:** "We want to be sure we know who you are so we can collect reliable personal data for online advertising and so that data is worth more."
- **Enforcement:** "We need to make sure you aren't someone we've previously banned due to violations of our terms of service."
- **Age verification:** "For our legal due diligence, we need to know you're over 13 or we can't market to you."[8]

And, of course, versions of those same motivations may operate offline as well, increasing real-world tracking in the same way.

If mDLs don't make it more convenient to prove one's identity, they're not likely to succeed unless people are forced to use them. If they do make it more convenient to show ID, they will make demands for ID more frequent. In 2007, online pioneer Brad Templeton dubbed this the "Paradox of Identity Management": "If you make something easy to do, it will be done more often....The easier it is to give somebody ID information, the more often it will be done. And the easier it is to

8 The Children's Online Privacy Protection Act bars the online collection of personal information from children under 13 without parental permission.

give ID information, the more palatable it is to ask for, or demand it." We have already seen this dynamic with the appearance of magnetic stripes and bar codes on our licenses; fully digital IDs will only accelerate that trend.[9]

Digital ID checks could be increasingly demanded not just by humans, but also by machines. This would likely supercharge Templeton's paradox, because automated "robot ID checks" will be cheaper, less time-consuming, and more scalable for verifiers. Why not ask people for their IDs left and right when you can just buy some cheap machine, sit back, and let the data pour in? Imagine, for example, a website that today requires you to turn on your webcam and take a photo of your driver's license for human verification to make an account. If you can instead just press a button that says "Send mDL," you are going to be asked to prove your identity a lot more often just because it's so easy.

These kinds of dynamics could lead us toward a "checkpoint society" where an increasingly dense net of identity checkpoints and access controls is woven throughout American life. It could become impossible to go anywhere or do anything online without proving your identity. That would mean a significant loss of privacy. Anonymous speech has been an important American tradition since the nation's founding (the Federalist Papers and many pro-revolutionary pamphlets were written anonymously) and brings many benefits, including the ability to do everything from freely associate and exchange ideas to seek support online for conditions and experiences that many find shameful to speak truth to power.

This potential for a drastic expansion in demands for identification makes it vital that any digital identity system created in the United States be built with the most bullet-proof privacy protections possible at the technological level. It's also why it's important that policymakers put strong privacy protections into mDL-enabling legislation, such as limits on commercial demands for ID.

2. EXPANSION OF INFORMATION CONTAINED

In addition to an expansion of the circumstances in which people are asked to prove their identity, we may also see an expansion of the data that is held in these digital IDs. AAMVA points out that

9 We have seen ease-of-scaling lead to overuse in other surveillance contexts as well, such as cell phone location tracking, face recognition, and communications eavesdropping.

DMVs "are uniquely positioned to enroll citizens in an identification system," and that "other entities within jurisdictional governments have started to recognize this, and there are initiatives to leverage this setup by adding other privileges (e.g., hunting licenses or social entitlements) as attributes to the identity established by the issuing authority. It is envisioned that a mDL would be an ideal vehicle to support this."

A mobile driver's license would likely be seen as an "ideal vehicle" for far more. "The really powerful thing is that once we bind you to that credential and verify it," gushed Iowa's transportation director, Mark Lowe, "you can use it for hunting and fishing licenses, weapons' permits, tax returns—all sorts of things." Some have already pushed to use the mDL standard for "vaccine passports." And many other ideas would no doubt flow; think of the information that could be valuable to various Verifiers:

- Complete vaccination records
- Pre-existing health conditions a paramedic should know about
- Other health data
- Dietary preferences
- Licenses and permits of all kinds
- Outstanding parking fines and other fees
- Sex offender status
- Passage of—or failure to pass—a government background check for whitelist/blacklist programs like the TSA's PreCheck
- Status in various rewards programs
- Credit score

Some of this information might be useful for some people to have in a cryptographically secure, user-controlled, privacy-protected digital form. But the prospect that mDLs will become a vessel for so much sensitive information is another reason why any digital identity system we create must have an unimpeachable privacy foundation.

> There's no guarantee that demands for ID data will be limited to what is necessary.

Of course, technology only gets us so far when it comes to protecting privacy. Even if mDLs are designed for maximal Holder control over what data gets released, the Holder will still only have so much control. When a police officer demands to see your license as you're driving, you will have to say yes. But you may also have to say "yes" to demands for data if you want to get a job, see a doctor, open a bank account, enter a shop, participate in an online

discussion, use a Wi-Fi network, or purchase a product. Wherever companies or other parties have real-world power over people, those parties will be able to pressure people to give "voluntary permission" to share. And there's no guarantee that those demands for ID data will be limited to what is necessary, unless our country passes stronger legal privacy protections. Good technological privacy protections are vital, but they're not enough.

3. MANDATORY DIGITAL IDs

Another possible consequence of the introduction of mDLs is that they will gradually become mandatory. Currently, mDL boosters are saying that digital licenses will augment rather than replace physical IDs. "For the near future, it is envisioned that an mDL will be issued in addition to, and not in lieu of, the plastic license," as AAMVA puts it. "It is anticipated that, *for the time being*, an mDL will be an option."[10] But, as the association also notes, there is a "generally held position by subject matter experts that we will in the not-too-distant future see physical credentials start to disappear and experience an ever-increasing electronic landscape when it comes to credentials."

Indeed, as we have seen, much of the architecture being built for mDLs (such as revocation) appears to be implicitly premised on them eventually replacing physical driver's licenses. And the fact that physical licenses can't be remotely revoked or updated and are easier to forge could cause mDLs to be viewed as more reliable by some Verifiers and cause those Verifiers to pressure people to use mDLs. In its mDL model legislation, AAMVA recommends that state legislatures declare that "In the case of a discrepancy between the physical and electronic credential, the electronic credential takes priority and is considered the more current information."

Another incentive for Verifiers to force people to use electronic licenses is that they want to use machines to quickly and automatically check people's credentials so they don't have to pay humans to do it.[11]

10 Emphasis added.

11 The TSA has introduced "Credential Authentication Technology" (CAT) machines to automatically check the validity of travelers' IDs, and as of this writing, it is currently experimenting with using face recognition to also automatically verify that the ID belongs to the person presenting it. It is possible—indeed likely—that such machines could proliferate outside the airport to spare humans from checking IDs. But they are likely to be less reliable and more expensive than the systems that would be needed to automatically check mDLs.

While use of mDLs might theoretically be "optional," in other words, it might become harder and harder to get by with just a physical ID. The United States has no constitutional authority to compel people to carry a phone, much less to install a specific app on their phone, but that doesn't mean it won't become a practical requirement. Nowhere is it written that a person has to own a credit card—yet it's difficult to fully participate in modern life without one, and those who lack them suffer significant disadvantages in establishing credit, renting a car, buying things online, or even, increasingly, buying food. It may become much the same with mDLs: First a few merchants or others start rewarding people for using mDLs. Then they start refusing to recognize plastic IDs outright. More and more follow, and eventually they become legally mandated.

Given the strong corporate interest, it could be the online uses of mDLs that lead this trend. It would not be surprising if, once mDLs that meet a national standard begin being issued, online ID demands proliferate practically overnight.

If mDLs become practically or legally mandatory, that would have several bad effects:

a. Further Marginalization of People Without Smartphones

First, a lot of people don't have smartphones, including many from our most vulnerable communities. Studies have found that more than 40 percent of people over 65 and 25 percent of people who make less than $30,000 a year do not own a smartphone. People with disabilities are 20 percent less likely to own a smartphone, and many who are homeless also lack access. Some spurn smartphones to protect their privacy or because they just don't see the need. In other cases, a single phone may be shared among family members.

Affordable Internet connectivity may also pose a challenge to using an mDL app if it requires online checks. Pew estimates that 24 million Americans—including 30 percent of rural Americans—lack access to fixed broadband service. Many lower-income smartphone users have limited data plans. Even for those who have access to a smartphone and affordable broadband, technical ability and lack of support may pose a challenge. (This is another reason why mDLs should be designed to work only offline.)

Broadband service will hopefully improve over time, and the penetration of smartphones is sure to rise. But much of the discourse around mDLs assumes a future with *universal* smartphone ownership. While smartphones bring many conveniences, it would be unwise to allow ourselves to become too dependent upon them.[12]

12 In this, they are much like cashless payments—often convenient but not something we ever want to allow to entirely supplant cash as an option.

A legal requirement for mDLs would therefore be deeply problematic, and even a purely practical requirement for the IDs would further disadvantage marginalized communities.

b. Harmful Precedent for Forced App Installation

Smartphones are personal computers. They belong to, should remain under the control of, and should act on behalf of their owners. Mandatory digital IDs would amount to a government demand that citizens install a particular piece of software on their personal phones—software that, as we have seen, may very well be opaque to those who are forced to install it.

That sets a terrible precedent. We don't want to see people's smartphones fill up with apps that serve the purpose not of empowering people, but of controlling them. We don't want our phones to turn into the functional equivalent of ankle bracelets. Giving consumers the option to install a duplicate, digital version of their driver's license for their own convenience is one thing; forcing them to install software that serves as an instant, remote, and revocable government lever over citizens is quite another.

We've already seen signs of this trend elsewhere. Some colleges and universities require their students and faculties to install tracking apps on their phones as part of the effort to stem the spread of COVID-19. And the companies that make actual ankle bracelets are shifting to cell phones, imposing nightmarishly onerous requirements on parolees and others through tracking apps they're required to install on phones they're required to carry.

There is no end to the range of bureaucratic enforcement measures, petty and grand, that could conceivably be enforced through a mandatory mDL app on people's cellphones. The desire of DMVs to tighten control over their bureaucratic domain should be seen in this context—driver's license expiration or revocation is just the tip of the iceberg. Because driver's licenses also serve as general-purpose identity cards in the United States, DMVs just happen to be in position to become the first to use modern identity technology to tighten control. But by creating a digital identity platform on which much else can be built, they could make it possible for every other bureaucracy to do the same. We may reach a point where every little municipal fee, fine, dues payment, uncompleted bureaucratic form, and overdue library book results in direct and inescapable enforcement actions taken through apps on people's phones.

The worst-case scenario is that people become prisoners of their own phones as various government agencies use compulsory app installation rules to turn them into enforcement devices for all kinds of legal and administrative rules. Radio-enabled digital IDs could be connected to vehicles and cars programmed not to start if the license of the person who gets

behind the wheel has been suspended. Digital license plates might change to show the ID of the person who is driving at any given time—helping the authorities identify drivers but eroding privacy. People convicted of driving under the influence could be prohibited from using their IDs to buy alcohol.

There are endless such possibilities, most of which haven't been thought of yet, but these examples give us a glimpse of how far-reaching the implications of this technology could be.

c. New Possibilities for Abuse

Digital enforcement also increases the potential scale and consequences of abuse. Imagine a ruthless governor or an abusive official like J. Edgar Hoover bent on destroying Black Lives Matter activists or other political opponents or activists challenging the status quo. What could someone like that do with badly designed mDLs that they couldn't do with plastic licenses? They could abusively revoke or alter the licenses of activists—individually or even en masse—rendering their IDs invalid with the flip of a switch. They could monitor deployments of licenses by people on watch lists (a group that in recent years has included nuns, anti-fracking activists, and peace activists), setting alarms when certain people present their IDs in certain locations or for certain purposes.

Due process rights might become harder in the context of digital enforcement as well. When you're standing at the DMV as part of a periodic scheduled application or update for a license and run into a problem, you can challenge, argue, and explain whatever bureaucratic quirks or anomalies—or abuses—might arise. But if your driver's license just gets deleted remotely, you may have no such opportunity, and the burden could fall on you to fight your way into the bureaucracy to get an explanation for the problem and then solve it.

d. Failures of Technology

Smartphones fail. They are dropped, get run over by trucks, suffer water damage, experience software corruption, get infected with malware, and, of course, lose battery power. Sometimes, they stop working properly—or die entirely—for no apparent reason. Within an mDL system, a Verifier's reader might not be able to connect to the Holder's device or authenticate the mDL after it does. Neither party may have the foggiest idea why the verification isn't working, and whether the problem lies with the Holder's phone or the Verifier's reader.

And it's not just smartphones that fail; so do entire computer systems. The world saw this in 2019, when the network of one of the nation's largest retailers, Target, went down, leaving customers with no way to buy anything in any of its stores except by cash. Entries in

databases—like your DMV records—also can get corrupted, hacked, or simply deleted. Like cash and the paper ballot, plastic IDs may seem primitive compared to a bright and shiny future world of digital-only transactions, but they are an important and robust safeguard against centralized failure.

In a context where mDLs are an optional accessory to mandatory physical licenses, AAMVA contemplates putting the onus for such failures in contexts such as traffic stops squarely in the hands of the ID Holder; where an mDL can't be read, "the mDL holder is treated as if it did not present a driver's license." Putting the onus on Holders could be justified if mDLs are viewed as an optional supplement for plastic licenses: If your phone fails while driving, you had better have your plastic license with you just as you do now, or that's on you. But if plastic licenses disappear, how would technology failures be handled? It can't be the case that if your device dies—or the police officer's does—you go to jail.

In Britain, a whole political movement is demanding the right to physical rather than digital documents. European Union citizens who immigrated to the UK before the passage of Brexit, having established lives and families in that country, are being offered a special immigration status as the UK exits the EU. The UK government proposed to certify that status in a digital-only form, but the EU citizens are loudly objecting. Among other things, confidence in digital-only methods was undercut by the UK's tragic "Windrush Scandal," in which unknown numbers of people who had legally immigrated to Britain between 1948 and 1970 from British colonies in the Caribbean were wrongly deported from the country where they'd been living for decades when they couldn't prove they were legal residents. And one reason they couldn't prove their legal status was that the Home Office had lost or destroyed their records.

While digital IDs have some advantages for Holders, such as selective data disclosure, a physical document is concrete, can't be quickly or easily modified, and stays under the control of the person who possesses it. In some circumstances, these are important advantages.

IV. Questions About Process and Transparency in the Creation of mDLs

If our society is to embrace a digital identity architecture, we should do so in an educated, clear-eyed, open, and democratic fashion, not merely as the result of decisions by small handful of bureaucratic and corporate players.

Crucial decisions about our new potential identity infrastructure, for example, are being made by a working group within the ISO whose American members seem to consist primarily of representatives of corporations, AAMVA, and government agencies such as the Department of Homeland Security. The ISO is a private entity and hardly exhibits the transparency that an organization whose activities have such important public implications ought to have. The working group's membership list is not published, for example, and the ISO refused to share it with us. It's practically impossible for any interested party to join this secret committee; their deliberations are not open to the public; and their drafts and other work products are treated like classified documents. The draft ISO standard for mobile driver's licenses we were able to find was not formally posted or shared by the ISO, and we have no idea how current it is. When published, their standards, including those governing mDLs that will guide the construction of every state digital driver's license in America, aren't accessible except by paying thousands of dollars for the copyrighted document. That might be acceptable for something like industrial machinery, but certainly not for standards with implications that go to the heart of the relationship between citizens and their government. There are also representatives of authoritarian countries in the ISO who would like to surveil ID holders instead of protect their privacy.

All this is in stark contrast to W3C, the developer of the "Verifiable Credentials" standards, where the work is done through an open public process, participation is far more open, and meeting notes, recordings, and materials are accessible to all.

Then there's the work being done within the U.S. states. While our transparent and democratically elected state legislatures are, in theory, the ultimate deciders regarding state driver's licenses, as a practical matter, that's not always true. The federal government imposed strict regulations on those licenses through the Real ID Act. And DMVs, like all agencies, have a lot of discretion and power themselves. Much of the work implementing Real ID has been performed by AAMVA, a Washington, D.C., association that most Americans have never heard of.

As driver's licenses have gained an increasingly significant role in American society, motor vehicle administrators are being thrust into a role far broader than their traditional one of administering the nuts and bolts of motor vehicle regulations. AAMVA is increasingly playing the role of a federal government agency, making decisions that will affect American life nationally—yet, like the ISO, it is a private entity, not subject to the checks and balances that apply to government agencies. The Freedom of Information Act, for example, doesn't apply to AAMVA. The organization's staff were commendably helpful and open with us as we prepared this report, but as a legal matter, AAMVA is free from the transparency obligations that apply to civilian government agencies. Many of its key documents are not available to the public, and it claims copyright in the materials that it produces. In the past, it has removed controversial documents from its site and sent copyright takedown notices to critics who are monitoring its activities. That's not something that a federal agency can do. Nor is AAMVA subject to strictures like the Administrative Procedure Act, which imposes rules for how agencies enact new regulations—such as requiring that they be submitted for public comment, and that those comments be addressed, before the rules are finalized.

Because of the backhanded way IDs have developed in the United States, DMVs and companies are building a governance architecture that will be national in scope yet developed by a process not subject to democratic input and debate. This is not the way to proceed with societal decisions that promise to have enormous and long-term implications.

V. Recommendations

No police officer access to phones

Standards and technologies should be designed so that as a practical matter, Holders never need to relinquish control of their smartphone to any Verifier. When it comes to law enforcement, technology design should be reinforced through policies that prohibit "voluntary" requests—which are never truly voluntary coming from a police officer—to hand over devices.

Unlinkable presentations

Standards and technologies should be designed so that the Issuer (or any of their agents or contractors) cannot know where or to whom a Holder is presenting their ID, and so that Verifiers cannot conspire with each other or with Issuers to compile records of presentations.

Granular control over data released

Standards and technologies should be designed so that Holders have complete control over what data is released from their IDs, including broad flexibility to provide attestations of general categories into which a Holder fits, such as "over age 65" or "a resident of this city."

A standardized provisioning process

The process by which data from DMVs or other Issuers is loaded onto people's devices should be standardized so that anyone can write a compliant mDL app and Holders will have choices in which app they use.

Transparent source code

The code for mDL apps that people install on their phone should be transparent so that members of the public can be assured that it does only what it's supposed to do, and to increase its security.

IDs that don't "phone home"

mDLs should not incorporate remote revocation capabilities and should be designed to operate offline only, except when a Holder wants to set up a remote "appointment" for a specific task such as an update or renewal.

A "right to paper"

People should have a right to obtain and use a paper or other physical identity document instead of or in addition to a digital ID. The use of digital IDs should never become mandatory as a legal or practical matter. Policies should be enacted in mDL-implementing legislation or elsewhere to bar those engaged in commerce or other regulated activities from refusing to accept physical IDs on an equal basis.

Restrictions on ID demands

Legislatures should consider enacting laws that limit ID demands in commercial contexts outside of specified circumstances, such as the purchase of age-restricted items.

VI. Conclusion

Until relatively recently, identity checks did not feature as prominently in American life as they do today, and it's important to keep in mind that such checks are not a natural or inevitable part of life. Nor are they necessarily a reflection of the public interest. Many ID presentations, such as those in airports, banks, building lobbies, and elsewhere, though usually unquestioned, amount to little more than theater and do nothing to enhance security at the cost of creating surveillance infrastructures that erode people's privacy.

There is no question that identifying people is sometimes a social need. But because of the way we have backed into the identity system we have today, we are not having the explicit political conversations and debates about our identity systems that we ought to be having. This raises the danger that a relatively small cadre of corporations and specialized government bureaucracies will build a new infrastructure for their own economic and administrative purposes, regardless of the larger implications. It raises the danger that there will be no balanced assessment of the costs and benefits of such a system and that we will adopt systems that do not strike the right balance between the needs for identification, security, and convenience and Americans' well-founded aversion to government and corporate surveillance and regimentation.

State legislators and other policymakers should ask hard questions before leaping to institute digital driver's licenses

State legislators and other policymakers should ask hard questions before leaping to institute digital driver's licenses in their state. Is there a problem that we need to solve, for which mDLs are the solution? Are the side effects of that solution worth creating? Mobile driver's licenses would likely make it harder to alter or forge driver's licenses once they are issued. But how important is that project? There are undoubtedly occasions when people's ability to obtain and use fake IDs have serious consequences. But how common are those situations? How bad are their consequences? And how much will this measure help avert those situations, how much will it cost, and what side effects might it have?

It is not worth building a national identity infrastructure that will ratchet up the tracking of Americans and eviscerate online anonymity simply to reduce the scourge of college students using

fake IDs to buy beer. Nor is it worth doing so to fill some cracks in the administration of our motor vehicle licensing system.

Policymakers should seek objective data on just how important more-secure IDs are in terms of reducing fraud and other serious crimes. They should ask just how much of a difference mDLs will make if they remain optional, and what the consequences will be if they're made mandatory. They should ask broad, far-sighted questions about the likely future evolution of such a system. If the goal is a broader system that can cover a variety of authentication needs, they should ask if this is the right vehicle. And if they decide to allow digital identity systems to move forward, they should insist that they be built with the strongest possible technological and legal privacy protections.

In the end, a digital identity system could prove just and worthwhile, if it is done right. But such an outcome is far from guaranteed, and much work will have to be done to implement a digital identity system that improves individuals' privacy rather than eroding it and is built not to enclose individuals but to empower them.

BetaNYC's Testimony Int 2158-2020
Designating a geospatial information officer

Hello, I am Zhi Keng He, the Assistant Director of the Lab at BetaNYC, we are a non-profit organization working to improve the lives of residents through civic tech, design, and data.

We support the bill to create the position of a geospatial information officer since there is great importance in the ability for our government to know... not only what assets and resources are available but WHERE they are.

From my first experience of NYC spatial data, with tax lot information, to hearing about NYC's mapping of underground infrastructure, having GOOD and WELL MANAGED / UPDATED spatial data is imperative. Especially when our built and natural environments interact with each other all the time.

At BetaNYC we have a fellowship program and host events to train fellows and the general public in using Open Data. As new datasets have been released, the amount of spatial data has also increased. Linking records by place has always been a priority to bring to light to inequity in existing issues, delivery of services, and maintenance of infrastructure.

In the last few years, emergency crises affecting our city — such as the pandemic, flash floods and hurricanes— has only HEIGHTENED the city's need for WELL managed geospatial information.

Datasets on flooding, air quality, city facilities, open spaces, streets, and business are interconnected by PLACE. Knowing where they are is crucial to our ability to respond to a range of issues from quality of life, emergencies, and long term inequities.

In order to adapt into the future as a leader, our City must create this position with the responsibility over the management and use of our geospatial information.

Council Bill 2358

Bill Title:

A Local Law to amend the administrative code of the city of New York, in relation to the creation of a centralized mobile application for accessing city services

TESTIMONY FROM GCOM
Kamal Bherwani, CEO

The concept of Frictionless or Effortless Customer Experience has been a part of our daily lives for years. Pioneered by retail companies aiming to sell more products to consumers, the concept of "customer experience" has evolved into technology that drives customer satisfaction with the ultimate goal of increasing brand recognition and loyalty. In our daily lives we have all become accustomed to easy-to-use applications and experiences that sync across our phones, tablets and web browsers.

In the course of our work with State and Local government clients we recognize that our government partners are often looking for innovative ways to provide access to government services for the residents. As governments work to meet residents where they are, and as governments leverage the right technical approach, they drive more positive engagement. When there is an easy-to-use tool that reduces the time required to transact with the government, there are major gains on both sides.

So, by focusing on more frictionless interactions between government and residents, governments can increase the level of satisfaction and engagement. One of the easiest ways to build more frictionless interactions is using mobile applications. Mobile applications are increasingly becoming the preferred method of interaction between residents and government.

COVID-19 has reinforced the value of engaging with residents through mobile applications. During the last year we have all become more reliant than ever on our phones to connect with others and access everyday products and services. The pandemic also exposed challenges for those in communities with limited broadband infrastructure and/or inability to afford communication services to access services online, receive telehealth or engage in remote learning.

Mobile applications ensure a more equitable reach of services to the residents that need them the most, reducing the time required to complete a service issue or transaction or engage with an Agency. They also offer government increased opportunity for fraud prevention and higher security through the use of secure logins and verification services.

We believe that the residents of NYC would welcome a more frictionless experience with their government, and access through mobile applications is a key element of that interaction. Providing a centralized mobile platform provides the residents of NYC 360 digital degree view of government with a person, business, or household centric view of government rather than individual siloes and diverse user experiences.

Int.2158-A Local Law to amend the New York city charter, in relation designating a GIO, etc.
Public Hearing Statement
Wendy Dorf, Director, NYC GISMO-Sept 24, 2021

Bio: My career in City government spanned 34 years, including 6 years as a Legislative Analyst at the City Council Finance Unit; and 21 years of service at NYC DEP where I directed mapping of the City's water supply system and worked on the development of NYC's basemap. I directed infrastructure mapping at the Emergency Mapping and Data Center following the 9/11 attack. Since then I consulted for Plangraphics, a GIS firm, and Parsons Brinckerhoff, an infrastructure/engineering firm. Currently I serve on the Board of Directors of GISMO and President of NYGeoCats. I am engaged in an international project of the Open Geospatial Consortium to develop a data model for all underground infrastructure.

While working at NYC DEP in the mid 1980's, I was tasked with an effort to manage a project to digitize and create a 6,000 mile network of the city's water mains. The budgetary justification for mapping the accurate location of water mains was to coordinate planning and operations and also to facilitate design and construction, to reduce excess costs incurred by delays in construction. Further, if the city was able to locate a water main break rapidly, property damage, and payments associated with damages, could be reduced. This could only be accomplished with a networked map of water mains made possible with the use of geospatial information systems.

The successful implementation of the water main map for operations at DEP convinced the managers to fund a citywide sewer map layer. New York City is one of the very few cities in the world that has digital maps of its water and sewer systems.

I was in charge of underground infrastructure mapping of the World Trade Center site. I worked with DEP, DDC, MTA, Port Authority, Con Edison, Empire City Subway, etc. I collected maps of different scales and media and supervised a team of GIS technicians and engineers assigned to align/layer the maps for use by the responders as they navigated the World Trade Center site. It took several weeks to bring all of this information together, but it enabled us to discover a buried tank of freon gas threatened by underground fires, and enabled us to take measures to avoid the release of phosgene, mustard gas.

Since 9/11 I have been working on the development of an accurate, integrated underground infrastructure map for first responders. Since 9/11 we have canvassed colleagues, interviewed city agency executives, had presentations with utility representatives, etc. …all of whom agree that this initiative is critical for emergency response and for the development of New York as the premier Smart City. The project had been stalled due to lack of funding.

In the past year Alan Leidner and I joined a team at NYU CUSP to compete for an NSF Civic Innovation Challenge grant to support community-based solutions to disaster resilience. We

interviewed more than forty stakeholders including city agency and utility managers, and community leaders. Two very different communities were selected as pilot locations. The stakeholders agreed to share infrastructure data and to develop security measures for storing the data. Our team received the NSF award on September 21, 2021, twenty years after 9/11. The grant provides our city with an outstanding opportunity to demonstrate the value of utility data sharing in response to anticipated potential disasters resulting from climate change. City leadership and direction will be needed to assure that the demonstration project will provide guidance in developing a resilience plan.

Our efforts in advancing the use of GIS for infrastructure has been seriously impeded by lack of leadership, a lack of planning and difficulties with coordination between City infrastructure agencies and utilities. Yet recent analysis has shown that City infrastructure agencies and utilities could save billions of dollars by having complete, accurate and interoperable infrastructure data. Available interoperable utility data is also critical for disaster planning and response.

I support amendments to Chapter 48, DOITT of the City Charter as follows:

- The appointment of a Deputy Commissioner who serves as the City's Chief Geospatial Information Officer
- The establishment of a GIS Steering Committee comprised of Agency GIS leaders and other experts.
- A requirement that the City produce and keep up to date a GIS strategic plan.
- A requirement that the spatial data connecting most of the City's open data be standardized, interoperable and easy to use.
- The establishment of an underground infrastructure steering committee comprised of representatives from City infrastructure agencies and private utilities, to guide the improvement of utility data so it can be quickly accessed and used during routine operations and emergencies.

New York City Council Committee on Technology

September 24, 2021 Hearing re: 2305

Testimony of Jose Chapa, Senior Policy Associate, Immigrant Defense Project

Thank you Committee Chair Holden and to the members of the committee for holding this hearing. The Immigrant Defense Project (IDP) is a New York-based nonprofit that works to secure fairness and justice for all immigrants by focusing on the rights of those caught at the intersection of the criminal justice system and the immigration system.

IDP is concerned about the proposal to address the feasibility for a digital ID program that could be used to determine eligibility for public benefits and access to city services, as well as to provide financial services through a Fintech company.

A couple years ago, IDP, as part of the NYC Municipal ID Coalition, raised a host of concerns—including privacy, surveillance, and financial equity—about the proposal to add a digital ID functionality to the IDNYC. Our coalition worked in 2014 with the New York City Council and the administration for a municipal ID that would ensure equal access to services and protections for all New Yorkers. We continue to believe in the central principle of the coalition, which was to protect the privacy and security of cardholders, and to provide a uniquely protected state-issued ID card for those who were vulnerable as they often faced obstacles in acquiring one--namely the homeless, formerly incarcerated people, gender non-conforming people, youth and undocumented immigrants.

Two years ago, IDP spoke out against the De Blasio administration's soliciting proposals from financial firms to integrate multiple functions into the IDNYC, which according to the solicitation, the chip would allow cardholders to load funds onto their IDNYC cards, make payments to private vendors and enable "integrations with public and private partners, such as the MTA's planned contactless fare payment system and NYC Health + Hospital medical records.

Digital ID programs have been shown to raise significant issues around privacy and control over collected data. These well-documented issues include compulsory enrollment, data and privacy breaches, increasing police power, and the elevation of corporate-based solutions over community solutions.[1]

In the case of the previous IDNYC proposal, our coalition pointed out in a letter submitted originally to the Mayor on September 12, 2019 and attached to the bottom of this document: *Even if well-intended, connecting this kind of technology and data to vulnerable New Yorkers'*

[1] "Understanding Identity Systems Part 3: The Risks of ID," Privacy International, January 31, 2019, https://privacyinternational.org/explainer/2672/understanding-identity-systems-part-3-risks-id;

identification cards would expose people to serious risks -- including dangerous experimentation or misuse by current or future administrations and private vendors -- that far outweigh any potential benefits.

IDNYC-financial technology (fintech) partnership would "eliminate banking deserts." This is false. Fintech companies are not banks. They do not provide branches and personnel that customers can readily access. They do not have legal obligations to reinvest in communities. And they are not subject to the strong, uniform federal regulations and consumer protections that govern banks and credit unions.

We continue to be concerned about the infiltration of privacy and the control over data that the city might collect. We are also concerned that the legislation states that the City agency would work "in consultation with at least one financial institution." One of our primary concerns with the proposal to include a smartchip on the IDNYC was that there were no meaningful opportunities for community and stakeholder engagement around issues related to privacy, data security, or financial equity.

Speaking from the position of an organization whose goal is to provide maximum protection for immigrants during a time of increasing hostility and the constantly growing engagement of the tech industry in the surveillance and policing state, it is clear that the correct path is not to give financial corporations more power and information on us than they already have.[2] If this legislation moves forward, we encourage the City Council to include community organizations that have been focused on financial equity, surveillance and privacy rights.

[2] Mijente, Immigrant Defense Project, and the National Immigration Project of the National Lawyers' Guild. Who's Behind ICE: The Tech and Data Corporations Fueling Deportation. October 2018 https://mijente.net/2018/10/23/whos-behind-ice-the-tech-companies-fueling-deportations/

Letter to Mayor de Blasio, originally submitted on September 12, 2019

September 12, 2019

[Resubmitted on October 2, 2019 with additional signatories.]

Mayor Bill de Blasio

City Hall

New York, NY 10007

Dear Mayor de Blasio: The undersigned community, labor, immigrant, civil rights, legal services, and economic justice organizations write to express our united and unqualified opposition to the administration's plan to add financial technology and a host of integrations to NYC's municipal identification (IDNYC) cards, which are held by more than 1.2 million New Yorkers. We call on you to halt the City's pursuit of this dangerous, corporate-driven plan, which threatens to erode public confidence in IDNYC and expose cardholders -- particularly immigrant New Yorkers -- to serious privacy, surveillance, consumer protection, and other unwarranted risks. These very real risks far outweigh any purported benefits the plan would provide to New Yorkers. Our organizations include leading members of the coalition that worked to design, promote, and help launch IDNYC in 2015. Collectively, we represent hundreds of thousands of low-income, immigrant, senior, homeless, and other New Yorkers who have benefited tremendously from IDNYC. Our opposition to the proposed IDNYC changes is rooted in our desire to protect the integrity of this vital program, and in our decades of work and expertise on privacy, consumer protection, immigration, financial services, federal surveillance, deportation and other relevant matters. Over the past year, many of our organizations have communicated our detailed concerns and steady opposition to this plan. We have participated in phone and in-person meetings with your administration, testified at a City Council IDNYC oversight hearing, submitted detailed memos, engaged community members, and consulted with national experts who have affirmed our assessments of the vast risks to which the proposal would expose the very New Yorkers that IDNYC is intended to support. Last year, your administration began soliciting proposals from financial firms to host an EMV/RFID "smart chip" on IDNYC cards. According to the solicitation, the chip would allow cardholders to load funds onto their IDNYC cards, make payments to private vendors, and enable "integrations with public and private partners, such as the MTA's planned contactless fare payment system and NYC Health + Hospitals medical records." If implemented, the proposed changes to IDNYC would facilitate unprecedented, wide-scale data collection about New Yorkers' travel, spending, and other activities. Indeed, administration officials have spoken publicly about their express interest in generating "big data"

and revenue through IDNYC cards equipped with smart chips. Even if well-intended, connecting this kind of technology and data to vulnerable New Yorkers' identification cards would expose people to serious risks -- including dangerous experimentation or misuse by current or future administrations and private vendors -- that far outweigh any potential benefits. These risks are particularly heightened given the Trump administration's escalating attacks on immigrant communities. The administration has asserted that an IDNYC-financial technology (fintech) partnership would "eliminate banking deserts." This is false. Fintech companies are not banks. They do not provide branches and personnel that customers can readily access. They do not have legal obligations to reinvest in communities. And they are not subject to the strong, uniform federal regulations and consumer protections that govern banks and credit unions. Moreover, the fintech industry is notorious for data breaches and a business model that relies on the collection and sale of people's personal data. By steering undocumented and low income New Yorkers to these entities, the City would be perpetuating, not resolving, inequality in our banking system and potentially facilitating IDNYC cardholders' exploitation. According to the City's own research, IDNYC cardholders want access to actual banks and credit unions. In fact, more than 9,000 people used IDNYC successfully to open bank and credit union accounts in the program's first year. The same research found that the top reason New Yorkers hesitated to get an IDNYC card was the concern that it was being used to monitor people. IDNYC cardholders simply are not clamoring for the type of "banking solution" that this proposal would advance. Recently, immigrant communities won passage of NYS Green Light legislation, which will allow undocumented New Yorkers to obtain driver licenses; this will go far to expand equitable and safe banking access for hundreds of thousands of New Yorkers. The IDNYC fintech proposal is neither progressive nor effective. NYC is home to a robust landscape of nonprofit economic justice and immigrant rights activists; community reinvestment and fair lending advocates; consumer law attorneys; community development financial institutions; and many others that are eager to work with your administration to advance truly progressive solutions to bank redlining and economic inequality. IDNYC was created for -- and must continue to prioritize the safety of -- undocumented, homeless, and other New Yorkers who, more than ever, face real privacy and surveillance risks. The proposed changes to IDNYC are antithetical to the program's original purpose and scope, and would expose New Yorkers to unprecedented risks at a time when they can least afford to be subjects of such experimentation. For the security and stability of our communities, we call on you to ensure that this exploration comes to an end. For further information, please feel free to contact Mizue Aizeki, Deputy Director, Immigrant Defense Project (maizeki@immigrantdefenseproject.org); Natalia Aristizabal, Co-Director of Organizing, Make the Road New York (natalia.aristizabal@maketheroadny.org); Deyanira Del Rio, Co-Director, New Economy Project (dey@neweconomynyc.org); Betsy Plum, Vice President of

Policy, New York Immigration Coalition (eplum@nyic.org); or Daniel Schw
Technology Strategist, New York Civil Liberties Union (dschwarz@nyclu.org).

Signed,

African Communities Together
ALIGN
Arab American Association of New York
Association for Neighborhood and Housing Development
The Black Institute Brandworkers
Brooklyn Cooperative Federal Credit Union
Brooklyn Defender Services
Cabrini Immigrant Services of NYC, Inc.
CASA – New Settlement Apartments Center for Family Life in Sunset Park
Chinese Progressive Association
Citizen Action - NYC
Common Cause/NY
Community Solutions
Cooper Square Community Land Trust
District Council 37
DRUM – Desis Rising Up & Moving
East Harlem-El Barrio Community Land Trust
Families for Freedom
Frank Pasquale, author of The Black Box Society Freedom to Thrive
GOLES
Green Worker Cooperatives
Housing Court Answers
Immigrant Defense Project
Inclusiv
Interfaith Center on Corporate Responsibility
Justice For Our Neighbors
LatinoJustice PRLDEF
The Legal Aid Society
Legal Services Staff Association, NOLSW/UAW 2320
Lower East Side People's Federal Credit Union
Make the Road New York
Men Talk
MinKwon Center for Community Action
Mixteca Organization, Inc.
Mobilization for Justice, Inc.
National Center for Law and Economic Justice
Neighborhood Defender Service
New Economy Project
New Immigrant Community Empowerment
New Sanctuary Coalition
New York Civil Liberties Union
New York Communities for Change
New York Immigration Coalition
New York State Youth Leadership Council
NYC Network of Worker Cooperatives
Pan-African Community Development Initiative

Peter Cicchino Youth Project of the Urban Justice Center
Queens Law Associates
Red de Pueblos Transnacionales
SEIU 32BJ
South Bronx Unite
S.T.O.P. - Surveillance Technology Oversight Project
TakeRoot Justice
UAW Region 9a New York Area CAP Council
UHAB UnLocal, Inc.
Upturn
Violence Intervention Program, Inc.
Volunteers of Legal Service
The Working World Worth Rises Youth Represent

cc: NYC Council Speaker Corey Johnson, NYC Council Member Carlos Menchaca, NYC Council Member Daniel Dromm, Commissioner Steven Banks, Human Resources Administration Commissioner Bitta Mostofi, Mayor's Office of Immigrant Affairs Laura Negrón, Chief Privacy Officer for the City of New York Commissioner Lorelei Salas, Department of Consumer and Worker Protection J. Phillip Thompson, Deputy Mayor for Strategic Initiatives

From:
https://www.immigrantdefenseproject.org/wp-content/uploads/10-2-19-updated-letter-re-IDNYC-1.pdf

Noreen Whysel, Head of Validation Research, Me2B Alliance
Board of Directors, NYC GISMO
Coordinator, Coalition of Geospatial Information Technology Organizations
Adjunct Lecturer, CUNY City Tech

September 20, 2021

I am writing to register my support for creating a NYC Chief Geospatial Information Officer (GIO) position. I attended the 9/11 20th Anniversary Commemoration at NYC Emergency Management on September 11, 2021 and reminisced with many of my colleagues from that time about the efforts by the mapping community, coordinated under the Emergency Mapping Data Center at Pier 92 and having benefited from the prior efforts by city agencies to develop a base map, which has provided uncountable benefits to residents of New York City in City services, emergency response and future planning for our great Ci. If anything good could have come out of the horrible events of that day it was the achievements of a highly coordinated team of geospatial data and mapping experts from all agencies, sharing a common operating picture.

To continue to build on that achievement and regain some of the ground we have lost, we should appoint a Geospatial Information Officer. According to the National States Geographic Information Council (NSGIC.Org), 36 of its 41 member US States have a GIO. It goes on to say that coordination among those state GIOs and Geospatial data offices is lacking. Only 12 US states in the nation have a greater population than New York City. It seems that if much smaller states agree that high level coordination is critical, then certainly a city of our size and complexity must also create his role. https://s3.documentcloud.org/documents/6594228/2019-GMA-Report-FULL.pdf

I participated in the NYC Charter hearings in May 2019, where I explained in more detail how a NYC GIO would improve the lives of New York City residents and have attached it here. Thank you for your consideration and I look forward to joining the livestream on Friday.

Sincerely,

Noreen Whysel
895 West End Avenue 10a
New York, NY 100025

Noreen Whysel, COO, Decision Fish
Board of Directors, NYC GISMO
Coordinator, Coalition of Geospatial Information Technology Organizations

May 2, 2019

Bio: I am resident of Manhattan, a digital researcher, archivist, teacher, and entrepreneur. I am an advisor on several information and data mentoring projects that provide introductions and resources for companies and individuals working with government entities. I am also a member of an international project of the Open Geospatial Consortium to develop a data model for underground infrastructure. Currently, I serve on the Board of Directors of the NYC Geospatial Information Systems and Mapping Organization (GISMO) where I coordinate activities for the Coalition of Geospatial Information Technology Organizations (or COGITO), on whose behalf I am speaking today.

COGITO is an informal alliance of non-governmental practitioners and researchers who are interested in the geospatial technology environment New York City. This group includes researchers and data centers at many of the City's public and private universities (CUNY: Hunter College, Lehman College, the geospatial center at Bronx Community College's CREST Institute, John Jay College, BMCC, and at the New School and Cornell Tech, and Columbia's Center for International Earth Science Information Network (CIESIN) as well as spatial data centers at Columbia, Pratt Institute, CUNY Graduate School and NYU Tandon). It also includes professional associations and civic groups like the American Geographical Society, the NY State GIS Association, the Society of Women Geographers, Open Geospatial Consortium, Beta NYC, URISA and other, informal meetups and regional interest groups.

I came to speak today about the need for oversight of geographic tools and data. The 2012 Open Data Law allowed our City to create a robust community of civic data consumers, adding a great deal to NYC economic development, operations and citizen services . Applications for academic research, civic accountability and citizen services have exploded in the last several years, with new businesses and citizen-led initiatives created and supported by the NYC geodata ecosystem and City programs like the Big Apps Challenge.

While the data portal has done a good job making agency data sets available to the public, and efforts are moving toward more structured data formats, data standards are not rigorously enforced. Most of the data produced by the City is geocoded which requires management by a central governing entity can ensure that processes and data are standardized and interoperable data across all City departments, and ensure the protection of sensitive data and ensure that location based data in particular is not inadvertently harming citizens and their privacy. We are proposing that a Chief Geospatial Information Officer along with a GIS Steering Committee at DOITT would make the data more useful to business, City partners and the public and that these processes and overall strategy would support our growing and vibrant civic data communities.

Some of you may be wondering why can't this role be covered by the City's Chief Data Officer? The Mayor's Office of Data Analytics was created in 2013 by Executive Order 306 with a limited mandate to analyze and share City data with the public. It is not equipped to address Citywide operational challenges that require coordinated efforts among City departments, service vendors and non-government partners, such as a massive emergency/9-11 type event. While it is certainly true that MODA could oversee data formats and delivery of public-facing geospatial data, a DOITT role, codified in the City Charter, would also cover sensitive geospatial data that is not publicly available, such as underground infrastructures and emergency and safety operations.

In light of the above and on behalf of COGITO, I support amendments to Chapter 48, DOITT of the City Charter as follows:

- The appointment of a Deputy Commissioner who serves as the City's Chief Geospatial Information Officer
- The establishment of a GIS Steering Committee comprised of Agency GIS leaders and other experts.
- A requirement that the City produce and keep up to date a GIS strategic plan.
- A requirement that the spatial data connecting most of the City's open data be standardized, interoperable and easy to use.
- The establishment of an underground infrastructure steering committee comprised of representatives from City infrastructure agencies and private utilities, to guide the improvement of utility data so it can be quickly accessed and used during routine operations and emergencies.

SURVEILLANCE TECHNOLOGY OVERSIGHT PROJECT

40 Rector Street, 9th Floor
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www.StopSpying.org | (646) 602-5600

STATEMENT OF
CAROLINE MAGEE
LEGAL FELLOW
SURVEILLANCE TECHNOLOGY OVERSIGHT PROJECT, INC.

BEFORE THE
COMMITTEE ON TECHNOLOGY
NEW YORK CITY COUNCIL

ON INT. 2305-2021

PRESENTED
September 24, 2021

Good afternoon Councilmembers, Chair Holden. My name is Carrie Magee, and I am a legal fellow at the Surveillance Technology Oversight Project. Thank you for allowing me to testify today about Introduction 2305-2021.

To put it simply: digital identification solves a problem we don't have. New Yorkers already have to carry photo ID in too-many places throughout this city. Rather than expanding the types of ID we have and the number of places we must use it, the council should be rolling-back the need for photo ID in public life.

Already we have drivers' licenses, NYCID, work IDs, student IDs and many more. Making ID digital will only increase demands for it, until we are IDed every time we buy groceries, book a theater ticket, or enter a store. These demands will inevitably fall on BIPOC and undocumented New Yorkers, their ID data tracked by police and even ICE. Whether online, or locally stored, New Yorkers simply do not need this kind of digital ID. Thus, we urge the Committee on Technology to not pass this Introduction.

I. A Lack of Clarity on a Goal

The draft legislation fails to explain what type of ID it's seeking to investigate. We read the bill as contemplating two discrete use cases, each of which is concerning for the reasons stated below.

In the first case, the City might generate a locally-stored digital credential, similar to what is used for many sports and cultural events. Such an ID could be presenting on a phone or smart device for in-person verification. Alternatively, the legislation could contemplate a remotely-verifiable credential that can be used remotely via an internet—enabled portal. These products pose drastically different, public policy and civil rights consequences.

Creating in-person digital identification will pose significant privacy problems. Iowa's transportation director has already excitedly proclaimed how a digital license could be bound to "hunting and fishing licenses, weapons' permits, tax returns."[1] The consolidation of this volume of information to something as immediately personal – and as frequently used – as a driver's license, should scare you. The examples given are just the beginning; your license could eventually be tied to recent purchases, to outcomes of parole-mandated drug testing, to your recent attendance at a ball game or on a subway train or anywhere. The points of personal information that could be tied to this kind of identification are limitless. The consequences of this could be devastating.

[1] See: Jay Stanley, *Identity Crisis: What Digital Driver's Licenses Could Mean for Privacy, Equity, and Freedom | American Civil Liberties Union (aclu.org)*, American Civil Liberties Union (July 2021), https://www.aclu.org/report/identity-crisis-what-digital-drivers-licenses-could-mean-privacy-equity-and-freedom, last accessed: September 24, 2021.

Furthermore, by unlocking one's phone to display a digital ID, New Yorkers would put themselves at risk. Think of a typical traffic stop, where you are asked to provide your license. What if you had a digital license, but you had to unlock your phone to access it; inherently, that system would demand that you unlock your phone and hand it to the police.[2] Think of everything in your phone: your texts, your photos, your contacts. Digital ID creates a real risk of exposing New Yorkers to warrantless searches every time an officer asks to see ID. Forgetting your turn signal should not give officers access to your most intimate files.

If digital ID is used remotely, it would quickly become yet another online tracking tool. The easier we make it for websites to ask for ID, the more they will do it. This provides unprecedented ability to connect our digital and real-world identities. This should terrify you. The ability to be anonymous online would evaporate.

It's easy to write this off as something not necessary for 'regular people' but it absolutely is. LGBTQ+ teenagers looking for resources and information. Adults who google medical symptoms in search of whether they need a doctor. Individuals who are working one job, searching for another. These searches could become tied to your identity – your name, address, income, everything. Digital identification is a slippery slope to never being anonymous, in any space. This bill fails to acknowledge the danger that the system it wants to create would pose.

II. The Effect on BIPOC New Yorkers

New York City's surveillance always falls hardest on BIPOC New Yorkers; digital IDs will be no exception. BIPOC New Yorkers systematically surveilled, from NYPD surveillance of mosques[3] to being targeted by Stop and Frisk[4] to the audio surveillance that is ShotSpotter.[5] Expanding digital identification will – now matter your intent – evolve into dossiers that New Yorkers are forced to compile on themselves.

III. Conclusion

Have you ever left your phone on the seat of the bus, or on the table at your favorite restaurant? Have you ever attempted to start an app on your phone – one that was just working – and suddenly

[2]See: Lily Hay Newman, *Apple Says It's Time to Digitize Your ID, Ready or Not*, WIRED (June 15, 2021), https://www.wired.com/story/apple-wallet-drivers-license-digital-id/, last accessed: September 24, 2021.
[3] See: *Factsheet: The NYPD Muslim Surveillance Program*, American Civil Liberties Union, https://www.aclu.org/other/factsheet-nypd-muslim-surveillance-program, last accessed: September 24, 2021.
[4] Bridget Initiative Team, *Factsheet: NYPD STOP AND FRISK POLICY*, Georgetown University, https://bridge.georgetown.edu/research/factsheet-nypd-stop-and-frisk-policy/, last accessed: September 24, 2021.
[5] See: Gabriel Sandoval, Rachel Holiday Smith, *'ShotSpotter' Tested as Shootings and Fireworks Soar, While Civil Rights Questions Linger*, The City (June 2020), https://www.thecity.nyc/2020/7/5/21312671/shotspotter-nyc-shootings-fireworks-nypd-civil-rights, last accessed: September 24, 2021.

it won't stop crashing? Technology fails sometimes, and as your phone becomes more closely tied to your identity, losing it – or breaking it – will be disaster. These systems undergirding the physical phones are also not invulnerable to hacking or simple mistake. For the foregoing reasons, I urge the City Council not to pass Introduction 2305-2021 or create this new tracking tool.

Testimony: GIS Legislation, NYC Council Hearing, Intro 2158 Alan Leidner

Good afternoon. My name is Alan Leidner. I am here to speak in favor of Intro 2158 which provides for a Citywide Geospatial Information Officer, the formation of a GIS Steering Committee, and a requirement for the development of a GIS strategic plan. I currently serve as President of NYC GISMO which is the City's GIS user group. GISMO was founded in 1990 by Dr. Jack Eichenbaum and has been at the forefront of advancing GIS use in NYC, nationally and internationally. We have a membership of more than 100 GIS practitioners.

My deepest thanks to the Council for considering this legislation. I'd like to recognize the efforts of IT Chairman Holden, and Council Members Steven Levin and Ben Kallos. Borough President Gale Brewer has also been a GIS advocate and supporter for the past thirty years. I'd also like to extend special thanks to Elizabeth Adams, Chief of Staff to Council Member Levin.

A bit about my background. I worked for NYC government for 35 years and while I was at the Department of Environmental Protection my colleague, Wendy Dorf and I, with the support of the City GIS community, initiated the development of NYC's highly accurate digital basemap in the years between 1991 and 2000. I served as the City's Geospatial Information Officer or GIO until 2004, and Directed the Emergency Mapping and Data Center following 9/11. When I retired from the City I went on to spend ten year working with the Department of Homeland Security on Infrastructure Protection as a consultant for Booz Allen and Hamilton. I continue to work as a GIS consultant with NYU and the Open Geospatial Consortium.

We can all agree about the importance of information technology and digital data as drivers of municipal improvement. I believe we can also agree that having good location data such as street names and address, street elevation, and accurate x,y spatial coordinates is key to just about everything cities do: from 9-1-1 emergency response, to tracking COVID cases. Where things are, will be, have been, or are going to be is critical to how we get things done. The location field of a database enables us find the places where we need to "take action". For municipal government a location field can be found in more than 90% of all databases that have anything to do with service delivery. Most people are familiar with GIS through digital maps that they use over the internet. Many think that GIS are only

pretty maps that are useful but nothing to get excited about. They fail to understand that behind every map there are layers of data, applications, and analysis. A map is like human skin which while certainly essential hides the enormous complexity of the systems that lie beneath it.

But GIS is even more than that. If all City agencies use the same standardized location data, if they place their facilities and operating information on the same basemap, then all data regardless of its source can be integrated and made inter-operably. This is GIS' superpower: the ability to break down data silos allowing practitioners to choose from among thousands of databases to pick the ones that support an operation or best inform a decision. This ability was on display at the EMDC following 9/11 when we were able to churn out thousands of mapping and analytic products to serve the entire response community of more than fifty agencies and organizations.

To fully utilize the data integration and analysis capabilities of GIS it is essential that City agency GIS personnel work collaboratively, and have effective leadership to coordinate efforts. Because GIS capabilities are expanding rapidly, we also need a strategic plan that is continuously updated to take into account breakthrough technologies like Digital Twins, Artificial Intelligence, Machine Learning, and Big Data Analytics, the Internet of Things, the evolution of Sensor technologies, Underground Infrastructure data integration, and advanced uses of Mobile Devices, to name a few. In the years immediately following 9/11 we had these key GIS ingredients in place, but over the past decade these management components have deteriorated. There is currently no city GIO. There is no City GIS Steering Committee with the exception of the multi-agency group called together by NYCEM to coordinate disaster response. And there is nothing that resembles a GIS strategic plan. This is why GISMO helped to draft this legislation and is supporting it so strongly.

The cost of putting these elements in place is trivial, especially compared to the benefits. The GIS based systems of today have a profound impact on City life. 9-1-1 saves lives daily enabling rapid emergency response to precise locations when seconds count. Our 3-1-1 CRM system orchestrates the delivery of crucial services provided by dozens of City agencies. GIS based property assessment and tax collection applications support a $30 billion annual revenue stream. GIS is an

essential tool for all emergency and health services. City agencies use hundreds of GIS enabled applications. It is regrettable that the full powers of GIS were not used in the response to COVID. They would have made an enormous difference. This is a case of the exception proving the rule. One reason for this is that the GIS community did not have a high placed leader and advocate within City government.

Between 2000 and 2010 NYC GIS was considered among the best in the world. We can no longer make that claim. Cities like Philadelphia, Washington D.C., Chicago, Denver, Seattle, and San Francisco take GIS more seriously than we do and ensure that the leadership and coordination it requires are provided for. We need to halt our decline and bring NYC back into the forefront of GIS. We need to do this so that we can fully take advantage of all it has to offer and will offer in the future to make the lives of our citizens better.