



| PUBLIC SECTOR

A DMV For The Digital Era: Transforming Driver And Vehicle Services With Human-Centered Design

WHITEPAPER

Overview

State agencies are under constant pressure to meet the needs of many constituencies: governors, legislatures, and taxpayers who expect efficiency and return on taxation; unions and employees, who value a high-quality work environment; other agencies who may rely on each other's data and systems; and above all, a public in need of crucial services that are reliable, equitable, and securely delivered. Balancing these competing priorities while keeping pace with the challenges of modern technology can be a daunting (and costly) task. This is especially true of agencies that offer high-demand, high-volume, high-touch driver and vehicle services that are often tightly interconnected with federal, state, and local agencies. To keep their operations relevant and adaptable to an ever-changing landscape, there is a strong case to be made for viewing **modern systems** as components of a **reimagined platform** that **evolves, rather than ages**. A **reimagined platform** offers a number of advantages, including:

- A true **customer-first digital experience** for the public and workforce.
- **Seamless scalability** to adjust to shifting demand for online services.
- **Flexibility and adaptability** to virtually any user workflow/process.

Unlocking these advantages requires a different way of thinking about how goals and services intertwine. This holistic approach, known as human-centered design, is gaining traction among public sector agencies looking to offer a superior customer experience while simultaneously realizing transformational operational and technology benefits.

Purpose & Audience

In this whitepaper, we'll describe a comprehensive, design-centered approach for agency leadership, Program Managers, and other agency stakeholders who are exploring pathways to system and customer experience modernization. Because the value of this approach is especially demonstrable for agencies and departments that offer driver and vehicle services (i.e., "DMVs"), our examples will be filtered through the DMV lens. These insights are based on real-world experience transforming legacy DMV systems into modern, user-centric customer experiences, made possible by deep expertise in cutting-edge technology implementation.

While it's helpful to have familiarity with Agile delivery methodologies, as well as some knowledge of cloud-based platforms, artificial intelligence (AI), and machine learning, all DMV stakeholders and decision-makers can explore the business cases we'll present and draw inspiration from our approach and solutions.

A CHANGING LANDSCAPE

Next-generation DMV platforms must be designed to keep up with agencies' evolving needs over time, whether it's the **type** of services that are offered, or the **way** that those services are requested and delivered. In addition to perennial challenges such as cost and time-to-value, DMV-focused agencies must also navigate a changing landscape that directly impacts them on two fronts.

Evolving Public Services:

The range of services that DMV agencies offer the public continues to expand

beyond traditional driver and vehicle services. While demand for licensing and registration remains strong, considerations like environmental concerns, inflation, high gas prices, and the aftereffects of supply chain issues are changing how and when drivers purchase vehicles and take to the road. Meanwhile, DMVs are a central player in the future of identity verification services, like REAL ID upgrades and digital wallets/licenses.

Modern User Experiences:

The last several years have seen an explosion in online services, with the ubiquity of mobile devices and e-commerce becoming a key part of day-to-day life. Consumers are embracing online transactions and the concept of digital wallets. And it's not just the public who demand a modern experience. In our experiences with large government organizations, we have learned that public sector employees recognize the value of—and are coming to depend on—powerful, comprehensive, user-friendly back-office platforms: from the customer support representative fielding calls, to the agent screening an application, to the supervisor who needs real-time data to make operational decisions. Meanwhile, both the public and the back-office can agree that transforming the stereotypical DMV experience—long lines, extended wait times, return visits—by blending the convenience of digital pre-screening with minimal in-person interactions is the ideal outcome.

Accelerated by the pandemic, and driven by the demands of an increasingly tech-savvy public, agency leaders know that the **DMV of the future** must be synonymous with **simple, user-friendly experiences** that **minimize operational overhead** while offering a broad range of **evolving services**. Solving these problems in a durable way requires a design-centered approach that ensures that solutions can be rapidly delivered, accurate, and flexible enough to adapt easily to new and changing use cases.

| The Design-Centered Approach

DMV agencies are inherently complex, with an intricate network of online, paper-based, and in-person workflows that span many personas, and generally rely on multiple technologies. A design-centered approach can help tame this complexity by enabling all stakeholders to understand end-to-end experiences and focus on goals and outcomes, with less need for extensive technical or institutional knowledge. It also helps organizations accelerate time to value by establishing an organically-defined, well-understood roadmap that can facilitate rapid, agile delivery.

Practically speaking, this means:

- Stakeholders are engaged early and often to identify goals.
- A cross-functional tactical team rapidly prototypes a solution.
- Stakeholders participate in a highly visual, collaborative design review.
- Design review outcomes influence the solution and roadmap.

One way to visualize this approach is as a continuous, iterative flywheel, where design phases flow seamlessly to ensure momentum and continuity (*Exhibit 1 located on page 4*).

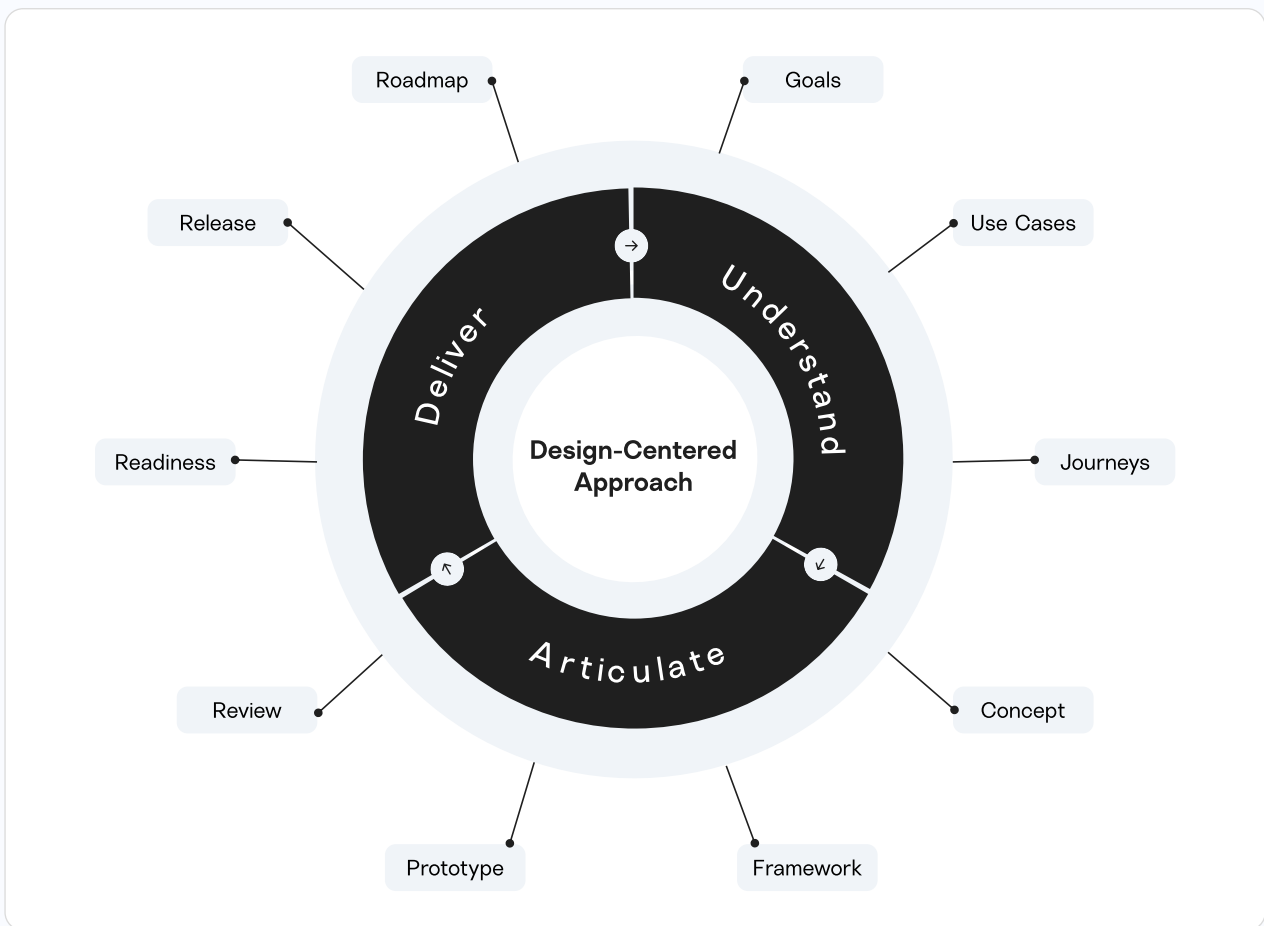


Exhibit 1: The Design-Centered Approach Flywheel

There are a number of advantages to approaching transformation from a design perspective, rather than a technology-forward approach.

The design-centered approach:

- **Creates a sense of shared ownership** with a common visual language and mutual understanding of the goals and challenges.
- **Converts stakeholders into influencers** who can begin change management immediately, creating a glide path into testing and training.
- **Reduces risk** by identifying gaps and opportunities early in the development cycle.
- **Accelerates time to value** by leveraging innate knowledge and capabilities to create thoughtfully-fitted foundational infrastructure that can tolerate rapid iteration.

When done right, the up-front investment of the design-centered approach can be offset by accelerated time-to-value. In practice, we have seen this approach contribute to a **44% reduction in build time**, with complete solutions projected to deliver in six months being delivered in under 100 days.

It's worth noting that while a design-centered approach can be the straightest line to agency transformation, the reality is that some organizations may want or need to apply a more technology-forward approach toward modernizing existing systems in the short-term. Leaders can still apply the **principles** of human-centered design within a more traditional technology-forward framework as a way to get started. But experience has shown that, over time,

adopting the design-centered approach described in this paper is the right path to a successful transformation.

In Summary: Using the customer experience to drive design and technology decisions with a platform mindset, rather than focusing on configuring a product to meet defined use cases, results in more predictable and better outcomes.

| Understanding the Problems and the Possibilities

Reimagining the DMV as a user-centric platform is a complex undertaking that requires all stakeholders to have a deep understanding of the short- and longer-term goals of an organization. In this section, we'll do a deep dive into the first phase of the flywheel: understanding the goals, challenges, and some common use cases that stakeholders need to consider when approaching their transformation from a design perspective.

FIND THE “NORTH STAR”

While the challenges and tactical goals of every organization will be unique, common themes and pain points exist for virtually all DMV agencies on the path to transformation. Considering these goals as a “north star” - a set of ideal outcomes to focus on throughout the transformation journey - can help leaders create a vision and communicate it easily to others.

Goals	Challenges
Improved Customer Experience	Aging, Disconnected Systems
Customer 360 View	Pandemic Impact
Optimized Business Agility	Authentication & Security
Optimized Operational Efficiency	Staffing Constraints

Exhibit 2: Common DMV Goals and Challenges

→ GOAL: Improved Customer Experience

An equitable experience that meets the customer where they are, based on their preferences, abilities, access, and needs, is the key to building trust, increasing engagement, and changing perceptions. An improved customer experience can move the needle on more specific tactical goals, such as increased driver engagement and fewer (and more successful) in-person visits. For example, we've seen DMV agencies dramatically improve the in-person visit experience through online pre-screening workflows - **increasing the success rate of first-time visits from 65% to 97%, while reducing the average duration of the visit by 50%.**

To improve the customer experience, agencies must reflect on how the new platform can echo *and* anticipate the changing landscape.

When defining this goal, teams must consider many factors, such as:

- Equitable **access**.
- Simplified **logins**.
- Intuitive **digital journeys**.
- Smart **submissions** that offer guidance and validation in real time.
- Convenient **touchpoints** for status and alerts.
- True **self-service** with automated support.

While constructing the vision of this customer journey, stakeholders should think about every aspect of the experience, from the first interaction with the agency - be it via phone, in-person, or online - to the last, be it a downloadable document or an in-person visit. Every interaction along this journey is an opportunity to improve the customer experience, and a well-designed platform will be the anchor for that experience.

→ **GOAL: Customer 360 View**

Fulfillment of DMV services is often distributed among many departments and divisions, but in practice, a common view into a driver's profile and transaction history is critical for both the customer experience and to support operational tactics. Imagine a period of high call or visit volume, where supervisors have limited staff managing frustrated customers. A single, common interface would help them quickly shift resources from other tasks to handle customer inquiries with minimal training or transition effort. Meanwhile, being able to access the information the customer needs in a consolidated location, such as a complete customer activity/history log, will help agents address inquiries quickly and efficiently.

This is just one example of how a "Customer 360 View" can transform driver and vehicle services. Reimagined DMV platforms can use constituent data to provide optimal customer support and develop key insights for agencies to use for research, reporting, and decision-making.

Customer 360 View is a notoriously difficult capability to get right, but with a design mindset, it's possible to tame that complexity and achieve consensus on what the agency needs and how it will be safely applied within the architecture. When defining this goal, it's helpful to consider how staff will access and use a central "**command center**," as well as how to collect and use **customer data** to drive insights leaders can use to continuously improve the agency's services.

→ **GOAL: Optimized Business Agility**

The perspectives of agency staff, directors, the governor and legislature, and counterparts at other agencies all need to be considered when designing a transformational platform that will get the right buy-in and stand the test of time.

Decision-makers must consider many factors and objectives, such as:

- The need for **rapid adaptation** to new use cases.
- **Fluctuations** in demand.
- **Omnichannel** customer experiences.
- **Reporting and analytics**.
- **Fraud prevention** and **security** risk mitigation.

A well-designed platform can enable agencies to integrate new use cases into their supported services in a matter of weeks, rather than months or years. Using a design-centered approach, we have seen agencies **implement new features in as little as two weeks** (a single Agile sprint), and **entirely new workflows in as few as six weeks**.

→ GOAL: Optimized Operational Efficiency

When thinking about the idea of “customer experience” for a modern system, one may immediately visualize the public journey. But drivers aren’t the only customers to consider - the agency workforce deserves a great experience, too. Keeping agents in mind when designing a modern system can help with recruitment and retention, and in turn can help them deliver world-class customer service to the public. Working closely with agency stakeholders (at all levels of the organization) to design modern systems that work internally *and* externally provides helpful insights on the types of features needed by the back-office.

This goal can be approached in many ways, but some of the most impactful objectives include improved **throughput**, optimized transaction **metrics**, minimized **training** and low-effort **change management**, and **automation** of transaction-related activities. For example, we’ve helped DMVs get creative with solutions like pre-formatted email templates that enable agents to send customized emails to drivers with the click of a button - dramatically reducing the incidence of errors in grammar and spelling, and giving agencies confidence in the professionalism of their communications.

TAKE A USE CASE INVENTORY

The range of services offered by the DMV is broad, and much like goals, use cases can vary widely based on the unique needs of a given agency. However, most DMVs offer similar core services, which can be used as an initial framework to envision end-to-end customer experiences. Understanding the nuances of these use cases can help “connect the dots” and think ahead to use cases that may not yet be known or fully understood. In our experience, this exercise is most effective [when led by a highly-skilled product manager](#)¹, who can collaborate with stakeholders to elicit the kind of information needed to prioritize and sequence execution based on real-world delivery considerations.

The use case inventory is extremely important when designing a user-centric experience. It’s more than just listing known transactions, and predicting ones that stakeholders anticipate will emerge in the future (although that’s an important part of the exercise). Understanding different aspects of those use cases, such as overall **volume**, seasonal **fluctuations** in need/usage, the **audience** for the transaction, the **visibility & impact** of the transaction, and the number of **staff** needed to support the transaction, is also crucial. And at a higher level, understanding which use cases naturally fit together, or have important dependencies/relationships, is just as important.

All of the information gleaned from the inventory can be used to craft a vision for how these experiences will weave together over time. It also helps leaders crystallize the launch strategy and engage resources across the agency early. Most importantly, it will inform which use case(s) will be selected as the foundational experiences on which a scalable platform can be built (*Exhibit 3 located on Page 8*).

¹ “How Product Management Can Supercharge Your Next Project,” Nuvalence, 2023: <https://nuvalence.io/insights/how-product-management-can-supercharge-your-next-project/>

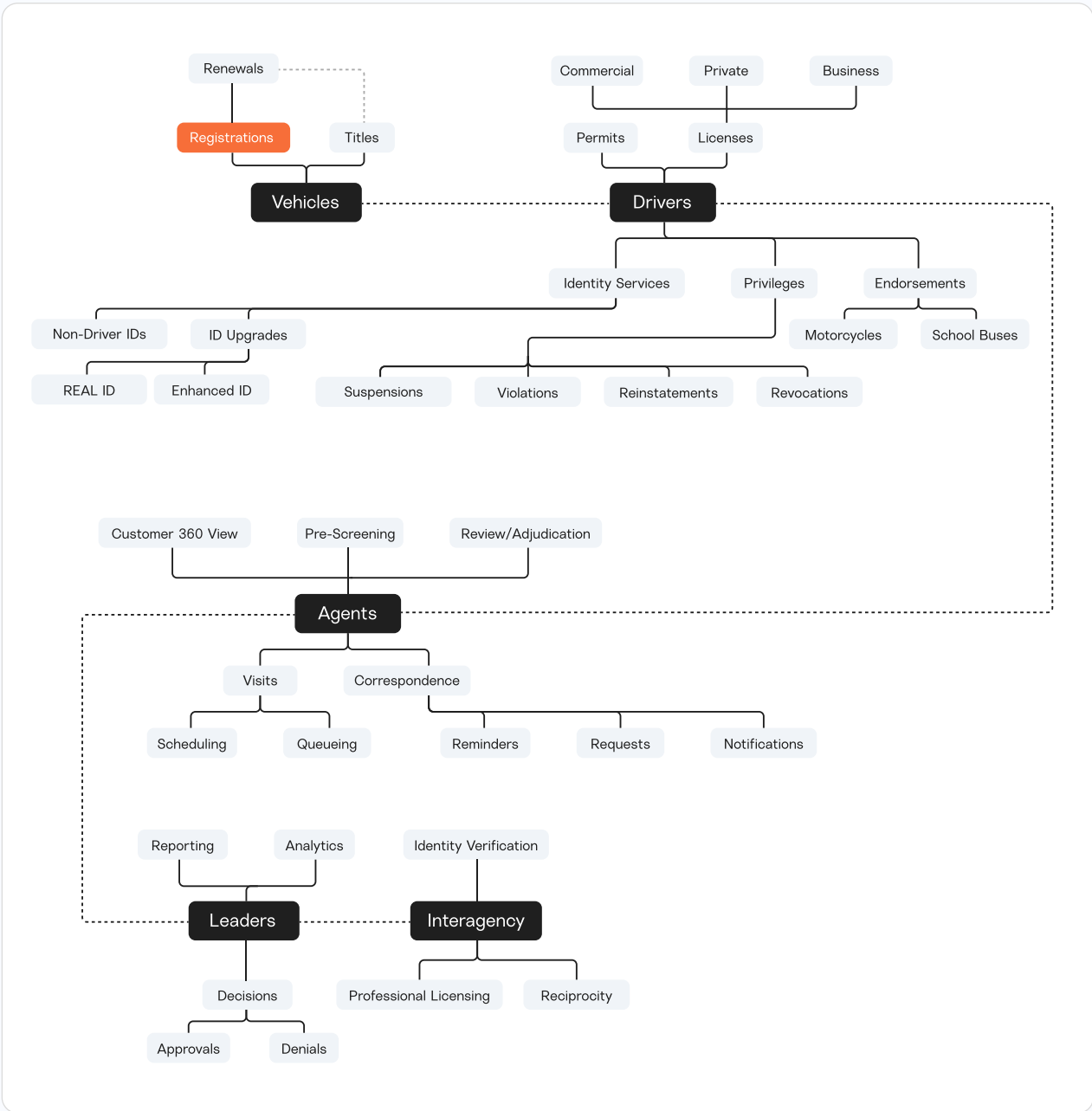


Exhibit 3: Use Case Inventory - Common DMV Use Cases with Example Vehicle Registration

For the remainder of this paper, we will focus on a simple **Vehicle Registration** as the example foundational use case that will be used to model a modern, scalable digital platform.

MAP THE USER JOURNEYS

The design-centered approach is, by definition, a highly visual process. Leveraging basic user journey mapping can be a low-cost, low-effort way to unpack a given use case and create a shared visual language for stakeholders to use throughout the process.

There are many ways to map user journeys; this step can happen in response to the requirements and user stories previously gathered by subject matter experts (SMEs) and business analysts, or it can be a tactic to develop those requirements. In any case, the mapping exercise will complement (not replace) traditional requirements-gathering.

Turning to the Vehicle Registration use case, a high-level map of the journey begins like this:

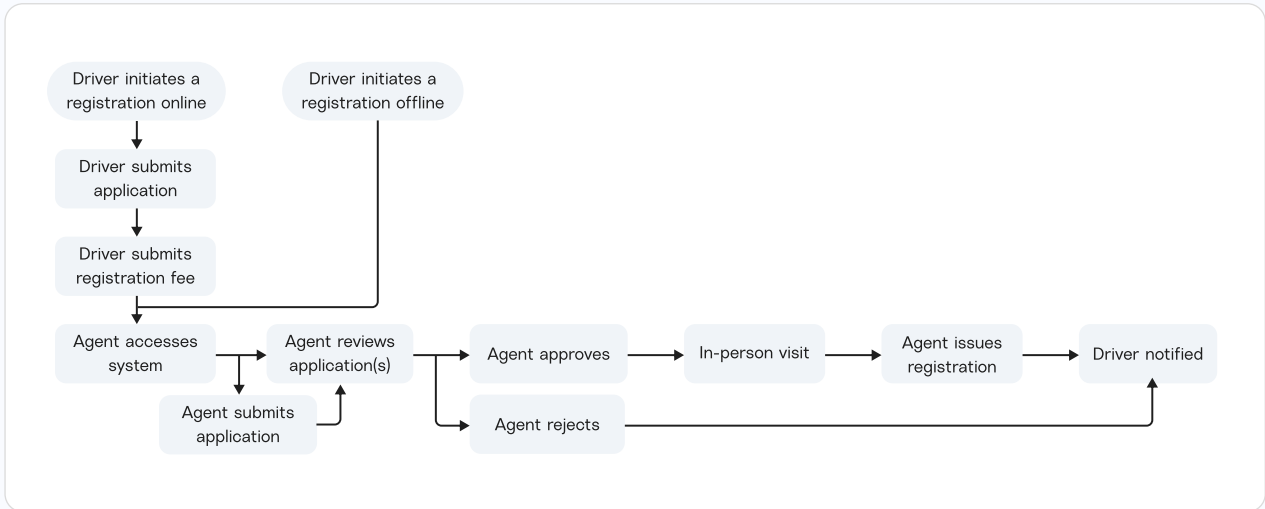


Exhibit 4: High-Level Map of the Vehicle Registration Journey

A careful walkthrough of the full customer journey from the driver’s first interaction with the DMV to the last can help the stakeholders identify gaps and improvements. In this example, the original visual flow helped uncover missing pieces that were crucial to design: hold workflows, access to registration documents, single-sign-on (SSO), and visit scheduling.

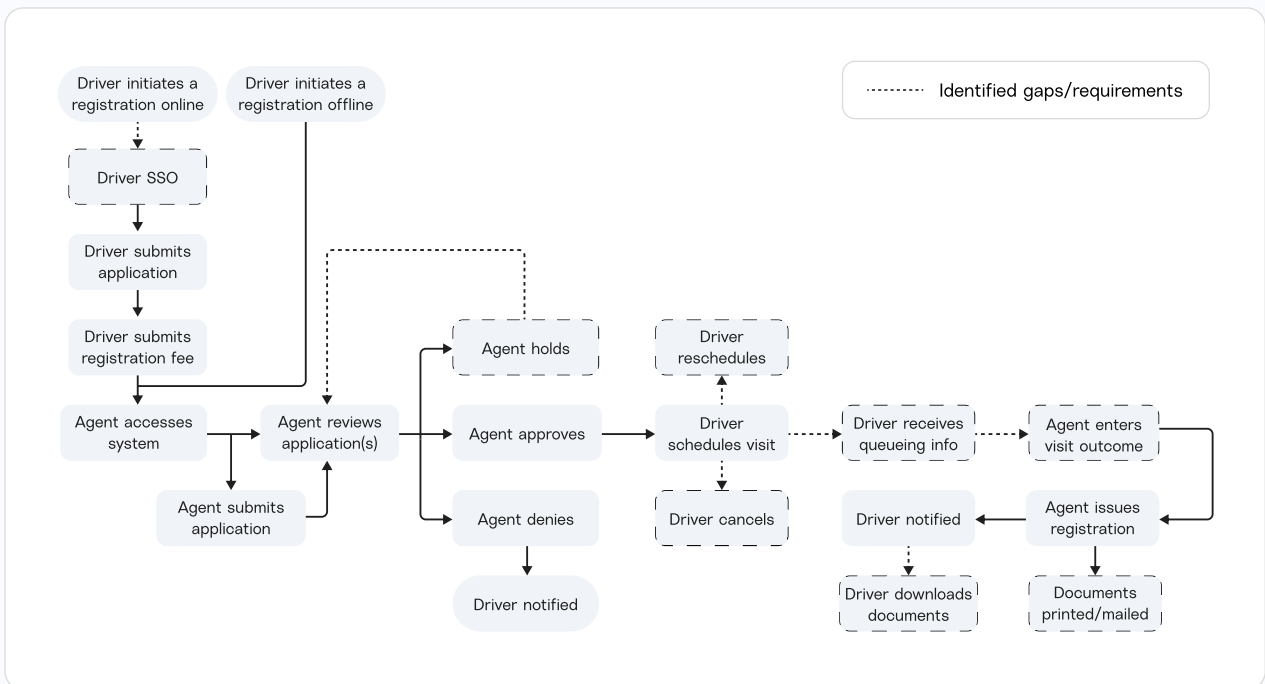


Exhibit 5: Enhanced Map of the Vehicle Registration Journey

Already, the value of the design-centered approach is starting to emerge. Identifying these gaps and requirements at the very beginning of the cycle empowers leaders to make strategic decisions, such as whether these capabilities are considered critical for the immediate product release, or if they should be deferred to a later cycle. It also drastically reduces the likelihood of “scope creep” and subsequent delays once the development cycle gets underway.

| Articulating the Vision

Once the goals are established and initial discovery is complete, the stage is set for a solution to be defined and articulated in a high-resolution visual prototype. There are many ways to ideate and develop prototypes; in this section, we'll describe an approach rooted in product management principles to explain how the pieces come together as a solution is designed.

As a best practice, this phase in the flywheel is managed by a tactical team that consists of a technical lead, a product manager, and a user experience (UX) designer.

There are three objectives to the exercise:

1. Apply domain knowledge, best practices, and past experience to the current goals and requirements to align on a **concept**.
2. Take a deep dive into the technology framework to **match** the right **solution** to each requirement.
3. Develop a highly visual **prototype** for design review.

CREATE THE CONCEPT

When creating the concept for a solution, the tactical team will unpack the goals, use cases, requirements, journey maps, and all other insights collected during discovery to build out a conceptual framework for the relevant journeys. Returning to our Vehicle Registration example, workflows are used as the foundation for the design, and are built organically to uncover gaps and opportunities that should be addressed in the prototype.

During the user journey mapping exercise, the flow was high-level and intentionally focused on human interactions with hypothetical systems. Based on domain expertise, the tactical team begins to build out that flow to capture nuance and details that were not explicitly communicated in the original requirements, such as authentication, document uploads, status updates, issuance of the registration, and reporting. They will also call out placeholders for likely future transactions, which will be surfaced to the stakeholders during design review for inclusion in the roadmap.

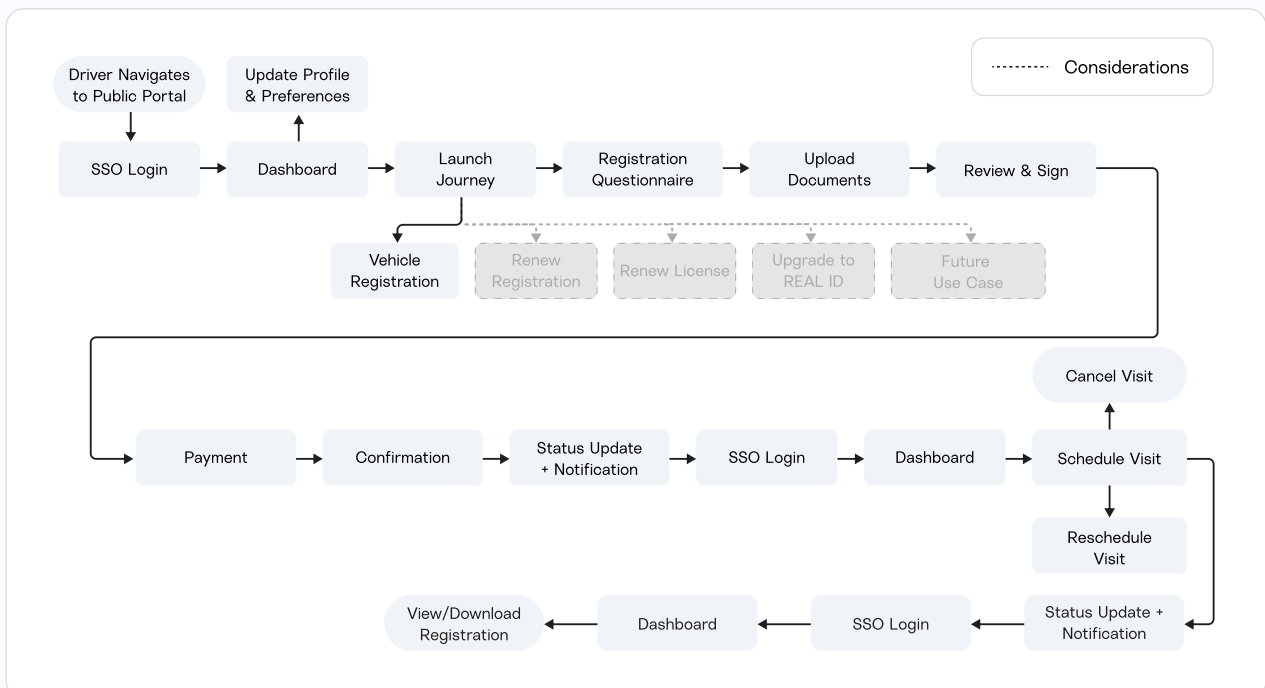


Exhibit 6: Concept Flow for the Public Vehicle Registration Experience

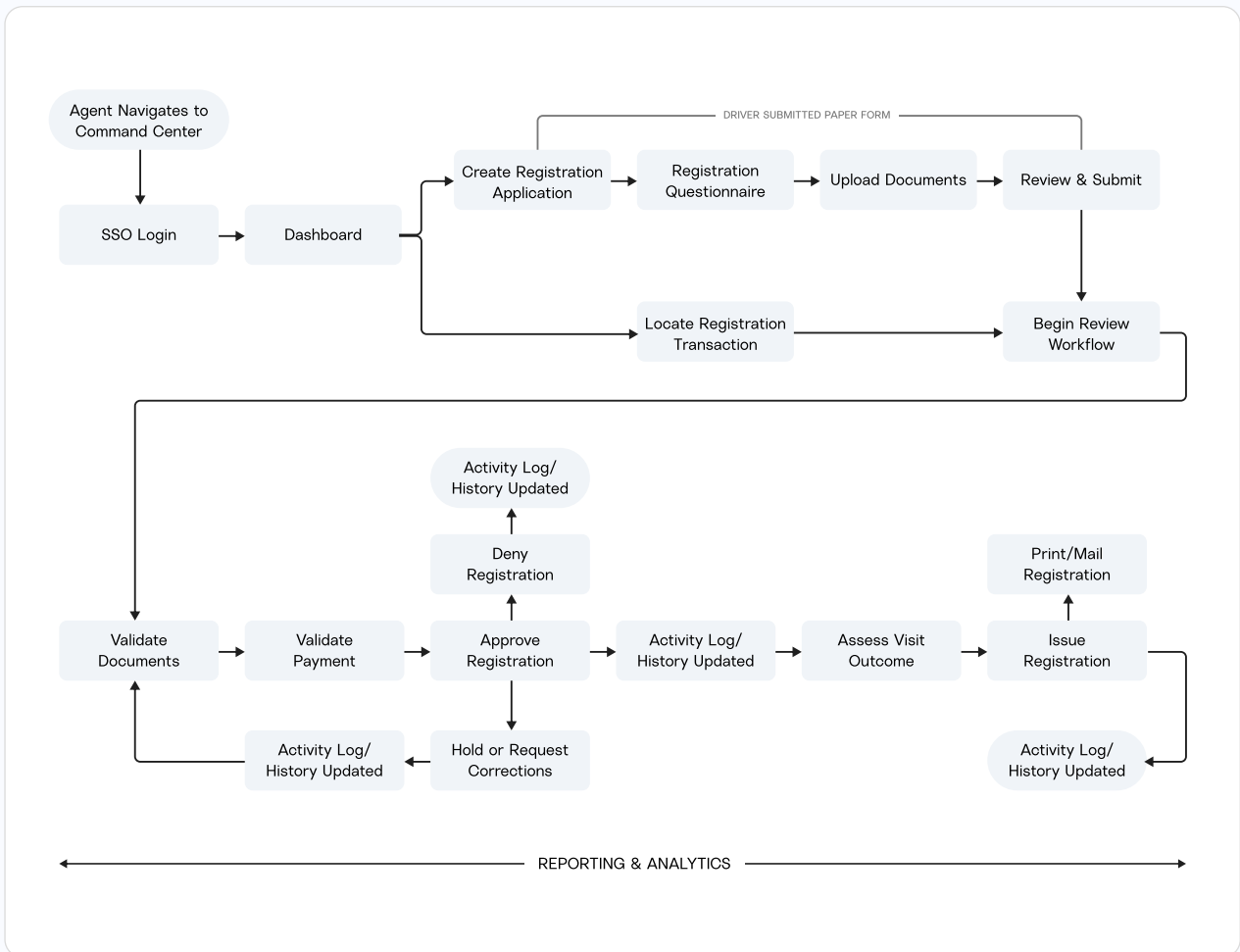


Exhibit 7: Concept Flow for the Agency Vehicle Registration Experience

Based on a more complete understanding of the requirements, the team has enough information to begin to match technologies to each requirement.

APPLY THE FRAMEWORK

One of the key benefits of the design-centered approach is that it takes a holistic view of various customer experiences, and the right technology is applied to those experiences – instead of the other way around. The solution most compatible with this approach is a **modern digital platform** that can seamlessly serve many different experiences, from website gateways to digital journeys to web apps, in a scalable, consistent, secure model.

Digital platforms are as nuanced and complex as they are powerful and flexible. For readers who would like to learn more about the anatomy of a digital platform, Nuvalence has published a [comprehensive white paper](https://nuvalence.io/white-papers/generalizing-the-architecture-of-a-digital-platform/)² that offers a practical framework for understanding the key concepts that underpin this kind of solution. However, for the purposes of this paper, a simple overview of the platform architecture is enough to illustrate how the design-centered approach can influence technology decisions.

² "Generalizing the Architecture of a Digital Platform," Nuvalence, 2021: <https://nuvalence.io/white-papers/generalizing-the-architecture-of-a-digital-platform/>

At the highest level, a modern DMV’s platform architecture generally starts here:

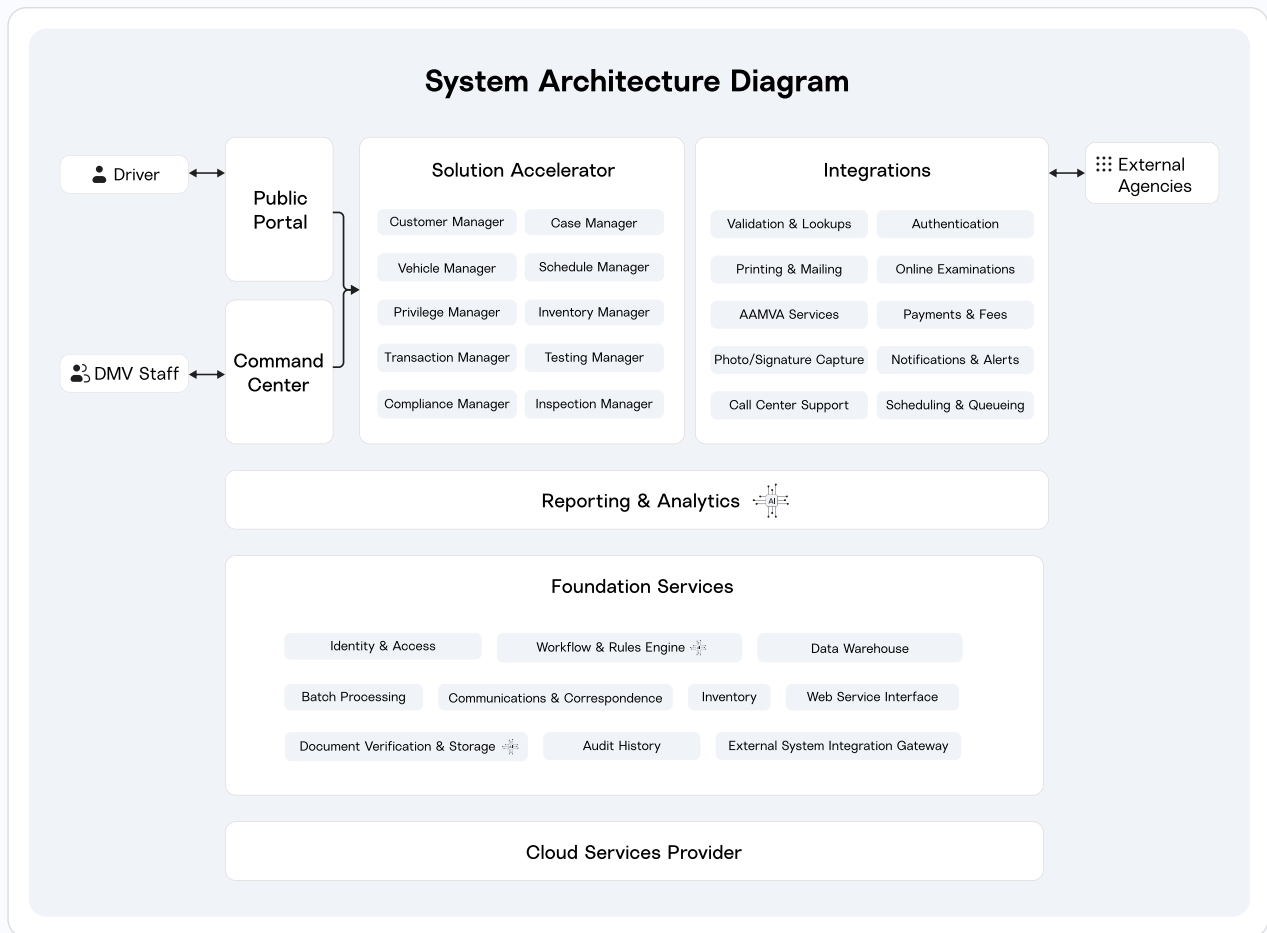


Exhibit 8: System Architecture Diagram

To achieve this, Nuvalence has found success by continually refining a sophisticated **technology framework**, which consists of a **solution accelerator**, a comprehensive collection of **foundation services**, innovative **reporting & analytics**, and deep expertise in a wide range of **integrations**. This framework is designed to evolve as new use cases and technologies emerge, and can be customized tactically to meet the unique needs of specific agencies.

Nuvalence has built [a cloud-native government use case accelerator](https://nuvalence.io/white-papers/cutting-time-to-value-in-half-with-public-sector-solution-accelerators/)³ as a collection of open-source, reusable platform components. Built with human-centered design at its core, it can be easily customized into end-to-end experiences for both public and agency audiences.

In the context of a design-centered approach, the technology framework is used during prototyping to identify the best possible solution to power the desired experience. Given the unique nature of agency requirements, existing tools may be deployed, enhanced, configured, or customized, or new tools added. **In short: the technology expertise and capabilities are applied holistically as part of the overall platform design.**

What follows is an overview of the technology framework, and some examples of how components within the framework can be tactically deployed using a design-centered approach.

³ "Cutting Time-to-Value in Half with Public Sector Solution Accelerators," Nuvalence, 2023: <https://nuvalence.io/white-papers/cutting-time-to-value-in-half-with-public-sector-solution-accelerators/>

Solution Accelerator:

As described earlier in this paper, many use cases are common to DMV agencies. This offers technical organizations the opportunity to create solutions that are pre-architected to meet basic requirements and can be configured with workflows and business rules, as needed. There are several ways to accomplish this, but at Nuvalence, we have found that using the “solution accelerator” is the most effective path by **reducing time to value by as much as 44%** – meaning that experiences can be delivered in weeks, rather than months.

It may be tempting to think of a solution accelerator as a configurable product, but there are meaningful differences that are rooted in the design-centered approach. While workflows and business rules within the accelerator can (and are) configured for rapid implementation, a solution accelerator is built based on the assumption that customization will always be required. It’s less rigid, which enables rapid iteration that results in high-quality, feature-rich outcomes.

Foundation Services:

Foundation services power the back-end of the platform, and ensure that the solution delivers the range of experiences needed in the short- and long-term. The architecture must consider services for authentication, activity logs/audit history, data warehousing, document verification and storage, communications & correspondence, batch processing, workflow/rules engines, inventory, external system integration gateway, and web service interface – just to name the most common ones. It’s a tremendous amount of architectural complexity that needs to reflect the agency’s north star in a modern, scalable, secure way, while keeping innovations like AI front-and-center.

Each of these services must be carefully evaluated in the context of the overall experience, and the design-centered approach enables exactly that type of thinking. For example, implementing a public digital intake process often comes with a document-quality cost; drivers who use their phones to upload proof of identity might not realize that the image they submitted is blurry (or the wrong image from their camera roll). By considering this likely scenario, the document verification service can be designed to leverage artificial intelligence and machine learning to identify illegible or incorrect documents upon intake, dramatically reducing the need for an agent to visually assess and remediate unacceptable documents during the application review process.

Integrations:

The complexity of DMV agencies generally demands integration with many systems, with some common examples including **inter- and intra-agency legacy systems** for tasks like reporting, lookups, validation, and printing/mailing of documents and correspondence; and **third-party integrations** for capabilities like authentication, validation, online examinations, payments & fees, notifications & alerts, scheduling & queuing, photo/signature capture, call center support, and services provided by the American Association of Motor Vehicle Administrators (AAMVA). These are just a few of a nearly infinite number of integrations that a modern DMV could support; experience has shown that the best way to **identify** those integrations is through a design-centered approach anchored by detailed journey mapping, and the best way to **incorporate** them into the end-to-end experience is via a digital platform.

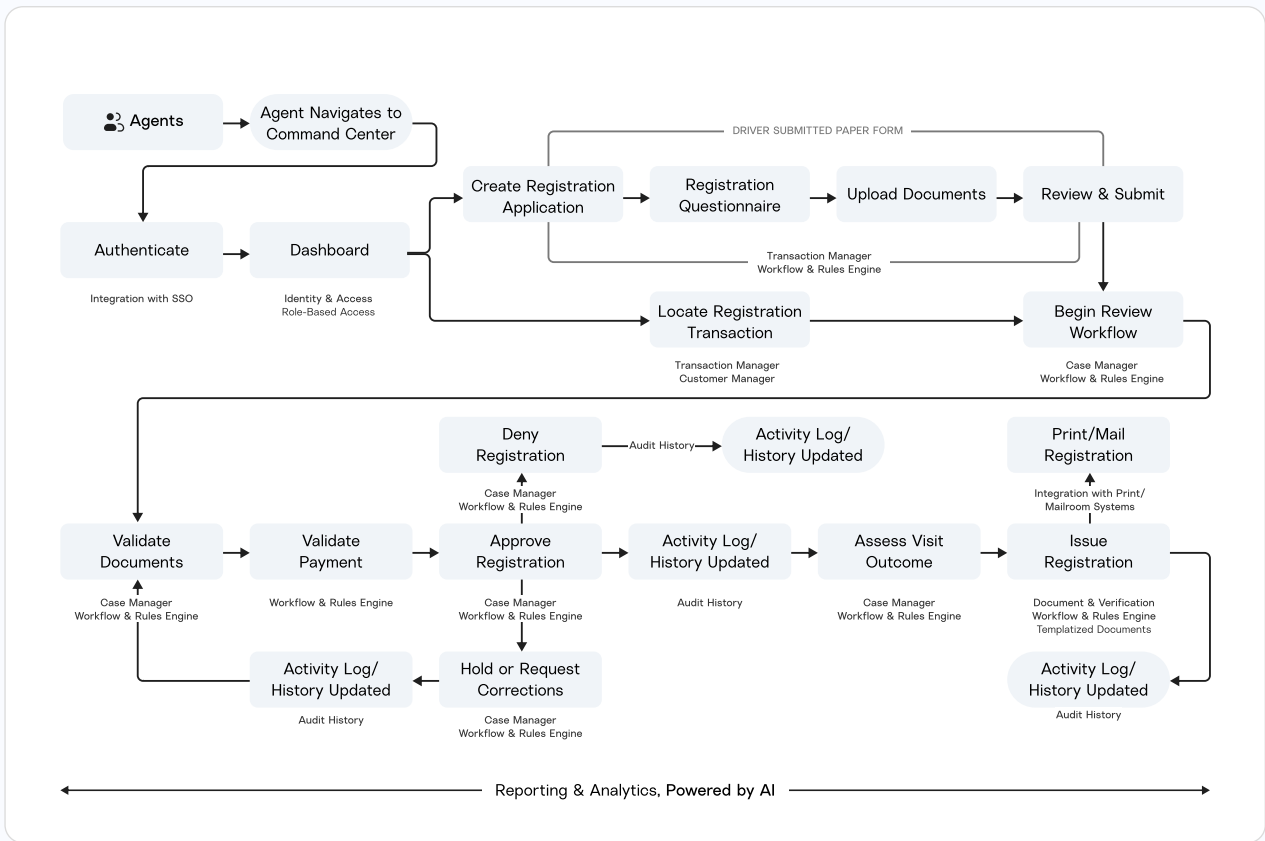


Exhibit 9b: Concept Flow + Framework for Vehicle Registrations

PRODUCE THE PROTOTYPE

The culmination of the concepting and technology matching exercises is a high-resolution visual prototype. In the design-centered approach, this asset is used to ensure that all requirements are captured in an experience that is user-friendly, compliant with all accessibility guidelines, *and* easy to maintain and scale. Every design choice must be weighed against the “north star” and tested for adaptability to future experiences.

For example, Nuvalence advocates for a modern, scalable digital platform as the best solution for DMVs. In this model, the designer would understand that a driver who applies for a Vehicle Registration is likely to need additional services in the future, like a REAL ID upgrade or a new endorsement on their license. By considering the likely future journeys, it’s safe to assume that a customer dashboard experience is needed for the driver to manage all their requests, and design with that in mind. Having the design framework reflect the driver’s intentions makes it easier to rapidly incorporate those experiences into the existing platform, when needed.

Returning to the Vehicle Registration example, the visual prototype will clearly illustrate key moments in the customer and agent journeys. The full range of high-resolution screens can number in the dozens for each journey; for the purposes of this paper, we have chosen a select few to demonstrate the quality of the prototype that’s needed for a successful design review.

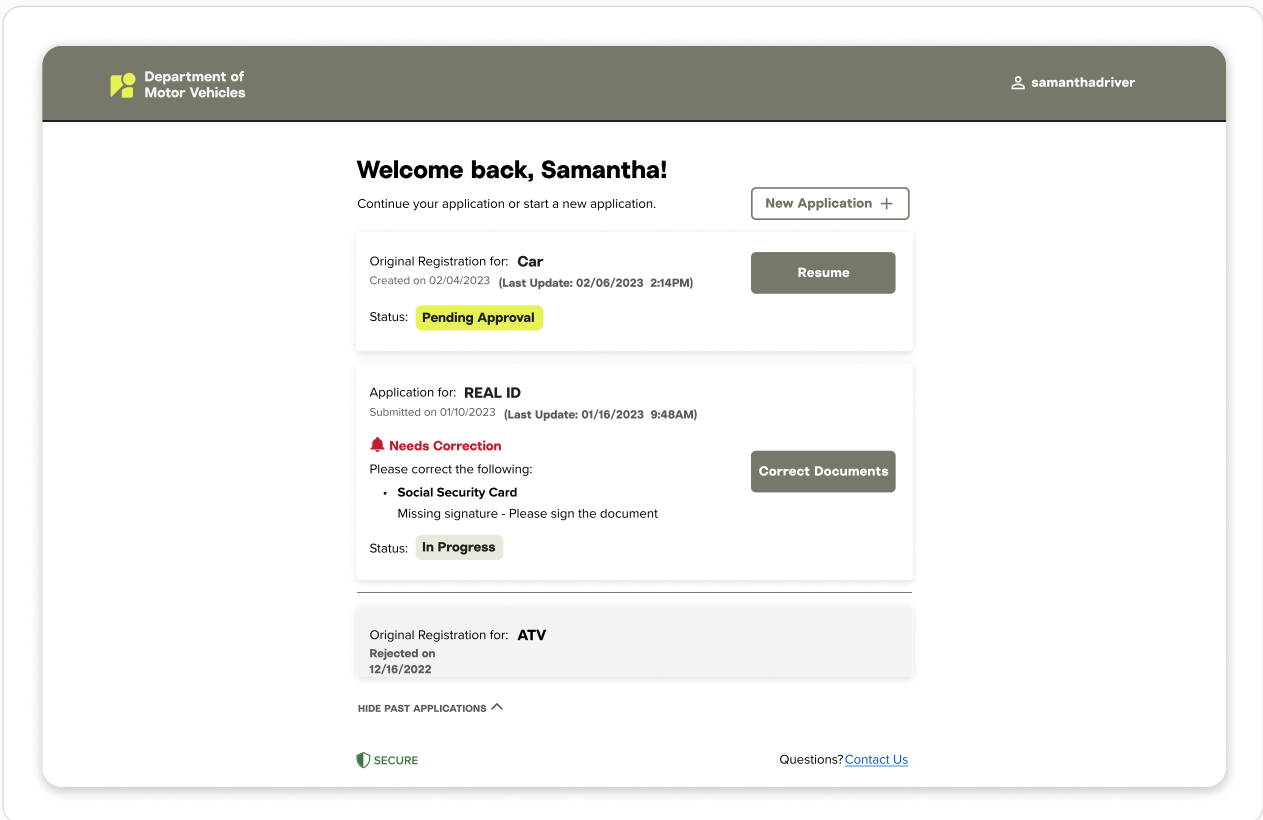


Exhibit 10: Customer Journey Dashboard with Vehicle Registration Transaction and Placeholders for Future Use Cases

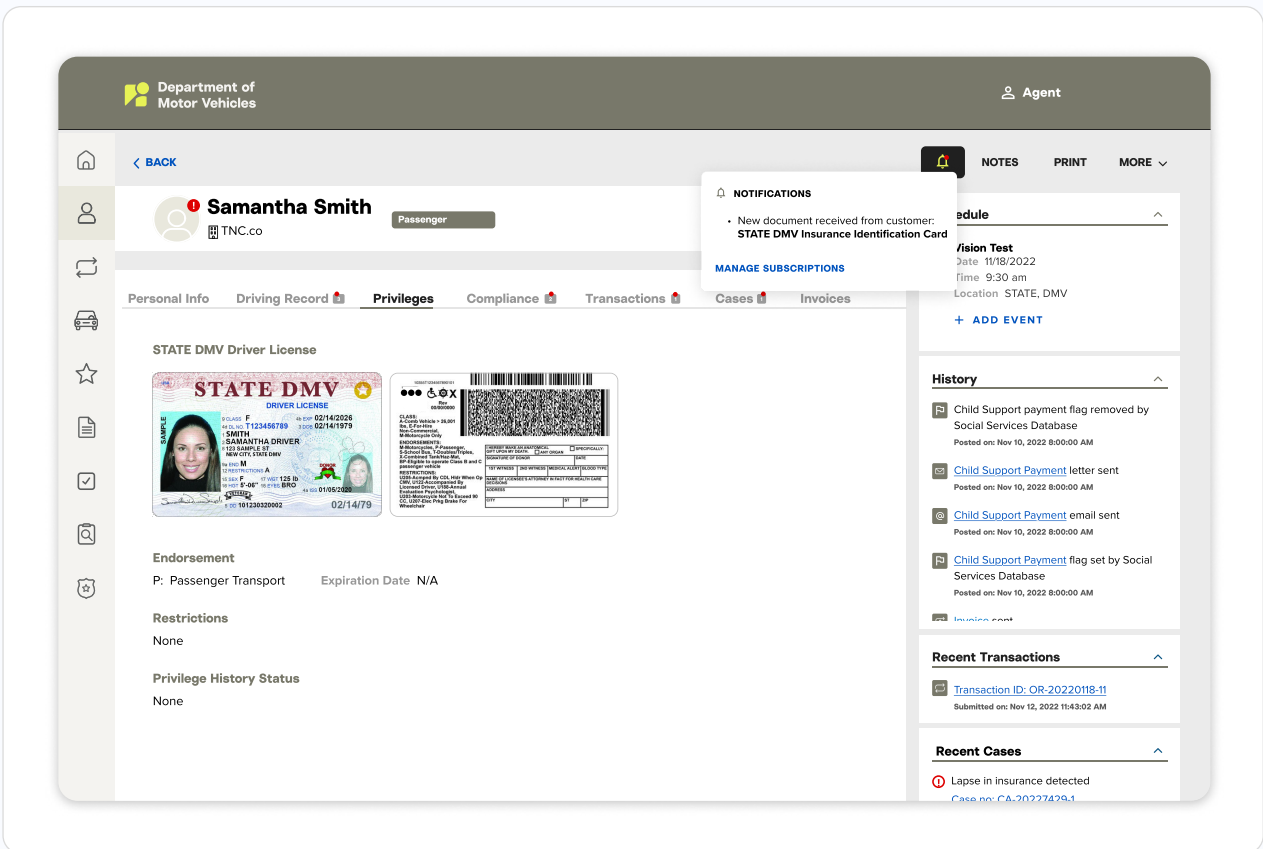


Exhibit 11: Agency Command Center with Customer 360 View

The prototyping exercise helps refine minute details of the experience, with the added value of providing a visual representation of the end product without requiring any code. There are a number of methods for creating the visual prototypes, including cloud-based design tools, which require varying levels of expertise and investment. At Nuvalence, we combine out-of-the-box tools and proprietary prototype generators to **rapidly create the designs in as little as a few hours**.

REVIEW THE DESIGN

While every aspect of the design-centered approach can positively influence outcomes, it can be argued that the value is most tangible during the design review. This deceptively simple exercise offers significant advantages – it can even mean the difference between a seamless, on-time delivery and a delayed or suboptimal one.

The design review is held with key stakeholders from across organizations, including any operational stakeholders (such as supervisors or agents) who have insight into the processes that will be affected by the new system. A detailed walkthrough of every journey, supplemented by the high-resolution visual prototypes, empowers every stakeholder to react and respond to the experience collaboratively, in real time.

Since the design review takes place before any significant code is written, it is a low-cost opportunity to validate assumptions and course-correct, if needed.

Experience has shown that design review can:

- Uncover previously unknown gaps and opportunities.
- Reduce or eliminate requirements “churn” on UX details, such as on-screen text.
- Identify operational pain points.
- Create a natural glide path into UAT and training.

| Bringing the Vision to Life

PREPARE FOR CHANGE

Successful delivery is just as contingent on user readiness as it is on world-class technology. Applying the design-centered approach to pre-release and change management activities means that agencies can leverage all of the assets and knowledge collected throughout the process to ensure a frictionless delivery.

The following tactics can be useful when preparing the public and agency personnel for change:

- **Leverage messaging from earlier in the cycle.** The north star goals established during discovery, along with assets like visual prototypes, can be used to tell a compelling story to internal teams about the benefits of transformation, and what it means to them.
- **Use prototypes to support testing and training.** Since the design-centered approach is highly visual, assets like prototypes and demos can help leaders prepare testing resources for User Acceptance Testing (UAT), and support managers and supervisors as they get their teams up to speed on new ways of doing things.

RELEASE PREDICTABLY AND THOUGHTFULLY

One of the advantages of the design-centered approach is that it offers a predictable, repeatable framework for creating complete user experiences. The predictability and repeatability of this approach makes it a perfect complement to Agile software delivery methodology. Leaders can apply design principles to the release step of the development lifecycle to facilitate well-planned, uneventful launches, and use the information collected from the Agile process to influence the roadmap.

- **Use insights to guide the launch plan.** Early in the design cycle, stakeholders identified the most impactful experiences to build into the product roadmap. Use those insights to zero in on the core audience, and schedule the release for a time when they will be the most receptive to new experiences.
- **Always consider the customer journey.** One of the first steps in the design-centered approach was to identify how drivers become aware of your services. By leveraging those insights, leaders can work with marketing teams to craft the best way to communicate reimagined processes to the public – via press releases, updates to the agency website, social media, or other channels.
- **Monitor and measure every step of the way.** Metrics and reporting are a core component of understanding user experiences. By establishing key metrics, KPIs, and other analytical components, leaders can discover insights and re-evaluate conventional wisdom in real-time. In the design-centered approach, metrics aren't just about measuring success; they're a window into the customer experience.

BUILD A DESIGN-CENTERED ROADMAP

In this paper, we've walked through the process of delivering a modern solution for DMV transformation using a design-centered approach. We've highlighted many of the advantages of this approach along the way. But one may wonder: how does this scale?

One of the most powerful advantages to the design-centered approach is that it is uniquely positioned not just to scale, but to continually build forward momentum according to Agile methodology. As the flywheel spins, the technology framework grows, and the platform evolves. Unlike the lifecycle of a more traditional product, where innovation naturally slows over time as features are added, tech debt increases, and redesigns are needed, the lifecycle of a thoughtfully-designed digital platform is modular, lightweight, and iterative. The repeatability of execution improves success rate and lowers risk, and delivers more business value in less time.

Using the Nuvalence technology framework as an example, the Transaction Manager and Compliance Manager on the business back-end can be configured to support new transactions, business rules, and workflows with minimal new code, and integrations with additional legacy systems can be added to the framework as needed. Earlier in this paper, common related use cases, like REAL ID upgrades, were uncovered and highlighted throughout the design process for the Vehicle Registration use case. Since stakeholders can visualize that experience, and understand how it fits into the reimagined platform, they can make thoughtful decisions about where a future REAL ID workflow will fit into the roadmap.

The same is true for unexpected, net-new use cases that emerge outside of the design

process. For example, many DMV agencies offer a variety of endorsements that may be granted to drivers as part of a professional license, such as a Commercial Drivers' License (CDL). If this endorsement were to be discovered at any point, the team would simply apply the design-centered process to this use case like any other.

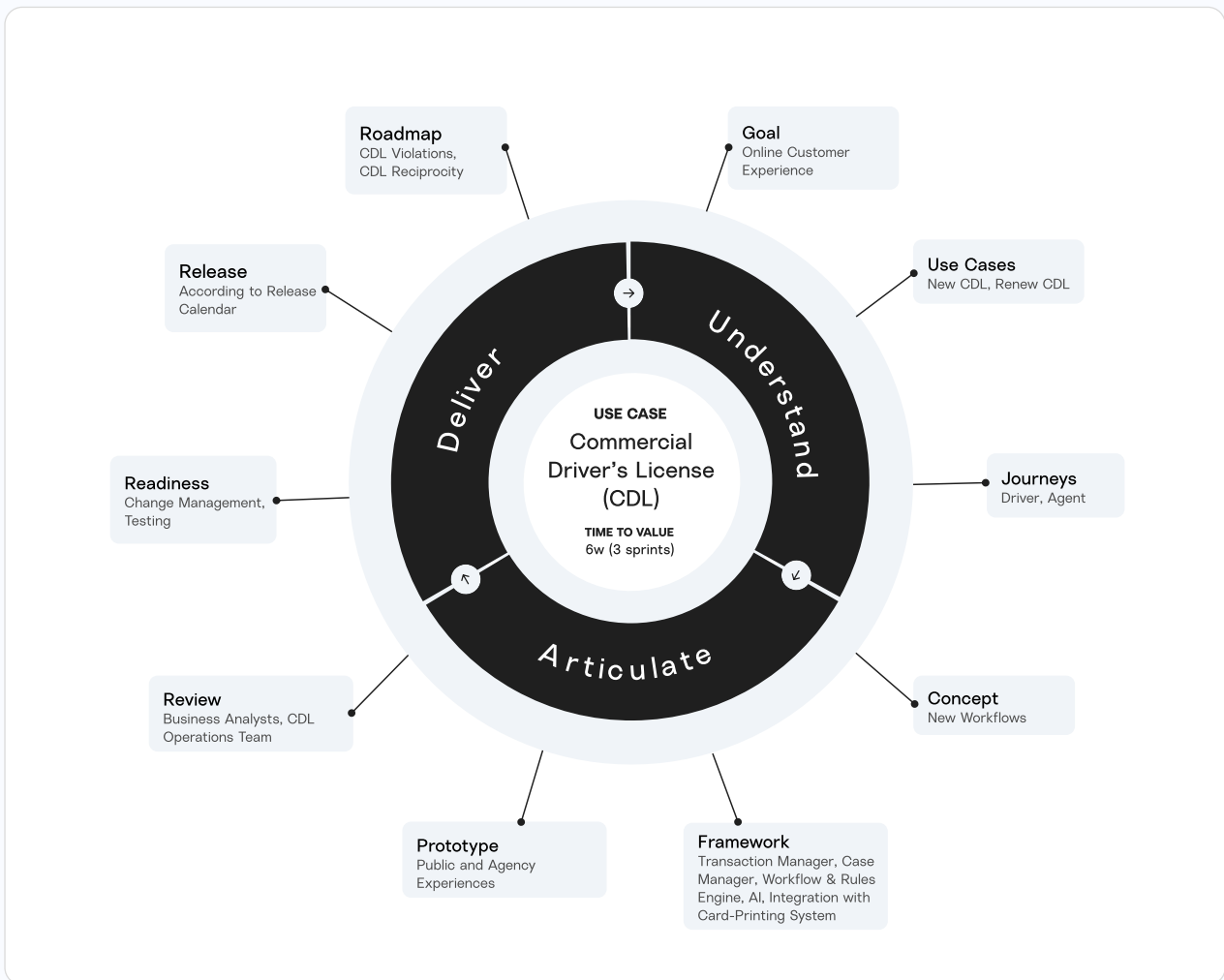


Exhibit 12: Design-Centered Approach Summary for New CDL Use Case

By following the same process with each new use case, stakeholders over time will gain confidence in a consistent process, and the prototypes can be used to document the planned and delivered work in a format that is easily extensible to leadership, testers, and users alike.

Conclusion

Agencies who need to modernize their DMV systems have a number of pathways to success. We've found that a design-centered approach, which leverages a blend of domain expertise, active stakeholder engagement and collaboration, innovative and comprehensive technology frameworks, and a platform mindset, is the most effective path to transforming a DMV agency. This path empowers agencies to launch better public experiences faster, boost the productivity of agency staff, and more effectively navigate the rapidly-evolving landscape of the digital era.

KEY RESULTS

Using the strategies described in this paper, Nuvalence has delivered tangible results for public sector agencies like DMVs.

For example:

- Accelerated time-to-value **by 44%**, delivering experiences in **weeks, not months**.
- Increased success of completing desired tasks in a single DMV visit **from 65% to 97%**.
- Reduced the average duration of DMV in-person visits **by 50%**.
- Reduced the need for high-touch agent document correction requests **by up to 50%**.

KEY TAKEAWAYS

- Many agencies use the principles of human-centered design to drive their transformation initiatives.
- The rapidly-changing public services landscape requires an innovative, flexible approach to delivering modern DMV systems that evolve, rather than age.
- A design-centered approach can help reduce risk and improve alignment, adoption, and time to value by reducing requirements churn and creating a glide path to delivery.
- The design-centered approach can be optimized by relying on a strong tactical team led by a skilled product manager.
- When done right, the upfront investment of the design-centered approach can be offset by accelerated time-to-value, with new features and workflows delivered in weeks, rather than months or years.



ABOUT NUVALENCE

Nuvalence is a next-generation consulting firm specializing in mission-critical, intelligent platforms for the world's most ambitious organizations.

Using our product-driven, AI-centric approach, we empower organizations to build for the intelligent digital future. Our elite team of product leaders, data scientists, designers, and software engineers enables our clients to solve their most complex technology product challenges and positively impact people and the world.

We don't just deliver software, we deliver outcomes.

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