



State of Wisconsin
Department of Transportation

MV1 Application

Wisconsin Department of Transportation

MV1 Application

2021 NASCIO State IT Recognition Award Nomination

Category: Digital Services: Government to Citizen

Project Initiation: September 2019

Project Completion: June 2020

Megan Bergum

Section Chief – Title and Registration Processing Section

Megan.Bergum@dot.wi.gov

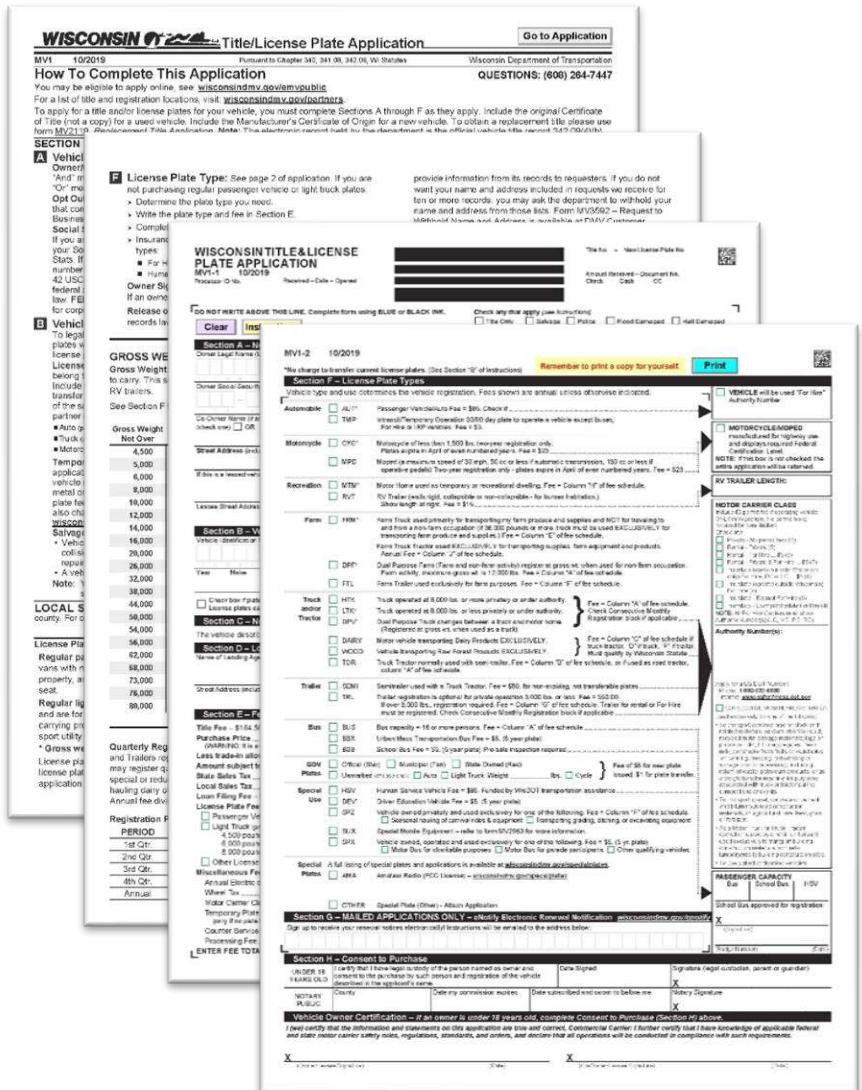
Executive Summary

The MV1 Application is a website that assists users through the completion of the MV1 form, which is one of the Wisconsin Department of Transportation's (WisDOT) most used and most complex forms. The MV1 form is used by residents and businesses to title and register different types of motor vehicles in the State. The completion of the MV1 form requires users to navigate a myriad of choices and perform complex calculations to estimate their fees based on their selections. With all this complexity, approximately 30% of submitted applications were filled out incorrectly prior to the MV1 Application. These errors required WisDOT to manually correct forms and recalculate fees.

In response, the WisDOT worked with NIC Wisconsin to create the MV1 Application. The Application is fully responsive and 508c compliant, which ensures it can be used by users regardless of their device. The Application uses industry-leading graphic and UX mobile-responsive design to simplify complex administrative concepts using appealing icons to help users visually differentiate between vehicle types, license plate types, and usage types.

The maintenance of the website is also seamless. WisDOT staff can modify the help fields in the MV1 Application in real-time. They can also enable or disable help text for any field in the application, as well as use an advance search feature to locate help text and/or fields from anywhere in the Application in seconds. All this can be done without the need for IT requests or the associated overhead of deployments.

Within a month of launching the MV1 Application in 2020, WisDOT has experienced huge benefits. The MV1 Application recorded more than 900 downloads each day, which is nearly 3x the average daily downloads of the MV1 form itself. The MV1 Application has decreased MV1 applications with errors that require manual intervention by 20% and WisDOT has experienced a nearly 5,000 call decrease in customer service phone calls per days since the Application launched. All told, the MV1 Application has had an enormous positive impact on WisDOT's resources.



Idea

One of WisDOT's most used forms is form MV1, which is used by residents and businesses to title and register motor vehicles in Wisconsin. The MV1 form offers a wide range of registration types, plate options, ownership or plate transfers, tax deductions and other options that result in hundreds of different possible fees and workflows. Previously, the MV1 form required users to navigate the myriad of options, cross reference different fields, and manually complete complex calculations themselves to estimate the fees owed. The complexity of the form had proven to be an enormous barrier to digitization, as every form had to be hand-reviewed by a trained professional to ensure the submission met all legislative requirements and was billed correctly- regardless of the calculations completed by the customer. The complexity of the form was not new, and WisDOT staff had been honing the form's instructions for many years. Nonetheless, approximately 30% of all applications were completed incorrectly, resulting in time consuming accounting practices. These were costly for WisDOT in time and resources, which caused delayed service to customers.

Seeking to better serve its customers and simplify the MV1 filing process, WisDOT staff engaged NIC Wisconsin as part of the State's eGovernment Program to digitize the MV1 form in 2019. The goals of the project were to implement a modern modular MV1 Application using the latest architecture and library standards that eliminates the complexity of the MV1 form.

The project was envisioned by the administrator of the Division of Motor Vehicles and the General Manager of NIC Wisconsin as part of the State's eGovernment Program after hearing feedback from citizens, WisDOT staff, and businesses who regularly use the MV1 form for their vehicles. The project was undertaken using an Agile methodology allowing WisDOT and NIC Wisconsin to iteratively develop the Application and quickly respond to feedback from external and internal stakeholders to ensure the Application satisfied users' needs.

What are you looking to do?

Please select one of the options below:




- Title Only**
What this covers
- New Plate**
What this covers
- Plate to Transfer**
What this covers
- Title with Registration**
What this covers
- Re-Register Vehicle**
What this covers

The project further required several different stakeholders and groups coming together to share expertise and technical abilities. The NIC development team consisted of a project manager, business analyst, UX and UI designers, and software engineers. The WisDOT team consisted of Division of Motor Vehicles field experts, motor vehicle program specialists, the section chief, technical project management, developers, and database specialists. Due to the complexity of requirements gathering and business logic discussions, the project took approximately 9 months to complete.

The MV1 Application was build using modular programming, with the latest accessibility and responsiveness standards at front-of-mind. Due to the changing nature of title and registration requirements, there was a purposeful design decision to not hard-code logic whenever possible. Instead, the application heavily integrated into a wide number and variety of WisDOT webservice and APIs to enable flexibility and instant updates whenever required. This means that as different options become available, the WisDOT can simply update their database tables which will flow through into the application with minimal delay or developer time needed.

Usage
What category best describes the vehicle's use?

Please select one of the options below:

 Standard Use ? What this means	 Government Use ? What this means	 Special Use ? What this means
---	---	--

Further, the MV1 Application includes several other innovative and unique features, including:

- No code configurability of help text to empower administrators to add and update text in real-time without the need for development services.
- Geolocation webservice to assist the user in accurately identifying their municipality instantly in order to accurately calculate applicable wheel taxes
- A direct connection to WisDOT for fee generation on-demand and to ensure the MV1 Application is always up to date with new and changing fee guidelines the minute they are updated by WisDOT staff in their own systems.
- Smart logic to determine registration dates and offer more customer friendly options that would traditionally rely on a WisDOT staff member's own knowledge. For example, motorcycles plate expires every even-numbered year on the last day of April. If a user were to register on April 27th 2022, a tradition application would leave them disappointed to have to renew several days later – not having known their registration timeframe. Instead, the MV1 application communicates the plate type with WisDOT, and checks to see if the registration period is within a set timeframe. If so, the user is prompted, asking them if they'd like to extend out for the following year. Using the connection with different WisDOT webservice, the application will

then automatically calculate the number of days left in that registration period, then pro-rate the current year's rates and add them to the following year's registration.

Finally, the MV1 Application uses state of the art, industry leading graphic design to communicate complex concepts and vehicle types to users easily and effectively. For example, designers met and researched the functional differences between a truck, tractor, truck tractor, farm truck, heavy farm truck, or dual-purpose truck. While these all have separate fees and specific legislative definitions, the terminology is highly confusing to an average resident. By conducting thorough UX and UI research, the development team were able to communicate these subtle differences clearly and effectively, which was met warmly by end-users. As a part of this process, the design team used industry leading accessibility design to ensure the form would be usable by all residents, with the application running through several rounds of thorough scanning and testing. Lastly, the design is fully responsive and works on any mobile device – allowing citizens an easy way to access the application from wherever they may be.

Impact

The project was assessed based on two factors:

- The accuracy of completed forms
- The reduction in administrative issues with the processing of each form

A successful implementation would present a final form that would present accurately for every possible use-case, which resulted in a drastic reduction in send-backs and customer service calls.

Immediately after launching, the WisDOT experienced the following quantifiable benefits:

- 17% overall reduction in customer support call length
- 21,000 fewer calls each month
- 20% reduction in the number of send-backs (incorrect forms) – from 30% to 10%

Further, the project launch came at a key time – with COVID-19 closing DMV offices and the drastic increase in paper-filing - the MV1 application was a tremendous success for the WisDOT. Not only did it provide an easy-to-use, intuitive application for residents to use, the use of the MV1 Application resulted in a drastic decrease in administrative cost and resourcing, when WisDOT’s resources were already stretched thin. Before the project was launched, hundreds of thousands of residents who wanted to title or register their vehicle would have to have downloaded a blank form to fill out by hand. During COVID-19, when many of these people would have visited the DMV offices, they were left with little choice but to often guess and try their best – causing enormous delays as the application was mailed and manually processed, corrected, mailed back, and amended. While the titling and registration of vehicles is not the most high-profile example of government impact in daily life, it is one of the most important for many people and businesses. By providing a user friendly, quick, and accurate method for residents to fill these forms, the overall process has been greatly streamlined and improved for residents and the WisDOT.

Due to the modular architecture of the MV1, it is easy to update and support as time and changes go by. The team has already begun discussing the introduction of autocycles as an option, which will only require design support to create icons. This will allow the WisDOT to add or change options very quickly to meet market, customer, and legislative needs.

In sum, the MV1 Application has made the process to register and title a motor vehicle in Wisconsin much simpler, more efficient and more accurate. The results thus far have proven the value of the application to users and WisDOT staff, and the simplicity of maintaining and updating the form in the future will ensure it stays an asset to save time and money for everyone involved in the process.

