MINNESOTA IT SERVICES

March 8, 2019

Representative Frank Hornstein
Chair, Transportation Finance Committee
Minnesota House of Representatives
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Senator Scott Newman
Chair, Transportation Committee
Minnesota Senate
95 University Ave W
Saint Paul, MN 55155

Chairs Hornstein and Newman,

Please find attached the fifth MNLARS Steering Committee report, as mandated by Minnesota Laws 2018, Chapter 101. In signing below, we affirm that the statements submitted to the committee in this document are complete and truthful to the best of our knowledge.

Please let us know if you have questions related to this report or would like any additional information.

Sincerely,

William Poirier
Commissioner and State Chief Information Officer
Minnesota IT Services

John Harrington
Commissioner
Minnesota Department of Public Safety

658 Cedar Street, St. Paul, MN 55155

MNLARS Quarterly Update

March 2019

Contents

Executive summary

This document serves as the March 10, 2019 update provided by Minnesota IT Services (MNIT) and the Department of Public Safety (DPS) to the members of the MNLARS Legislative Oversight Committee (LOC). Each item in this document responds directly to the performance requirements defined by statute: Minnesota Laws 2018, Chapter 101. The quarterly update outlines MNLARS benchmarks, describes how those benchmarks have improved since the report submitted in December 2018, and details the work that continues to improve the system and the business processes that exist between the Department of Public Safety Driver and Vehicle Services division (DVS) and its business partners.

The Office of the Governor, DPS and MNIT have been working together closely over the last several weeks to collectively move forward on MNLARS and make progress on behalf of all Minnesotans. We are grateful to the MNLARS Steering Committee for their dedication to finding the best solution possible for the challenges facing the motor vehicle and driver systems. As a result of this work, we will be able to continue the progress we've been making over the last year on MNLARS and complete Phase II of the new driver system. There are three separate funding requests for the motor vehicle and driver systems. A brief description of each request, and where the investments will be made, is listed below.

Passage of deficiency funding

The FY19 deficiency funding of $13.2M provides the critical investment needed for MNIT, DVS and contractors to continue making progress on MNLARS. With this investment, we will deliver additional features to the system's users, build up the data team to correct data entry errors, and add necessary staff to DVS. In doing so, we will provide better customer service on a timely basis to Minnesotans.

It is important to note that the decrease in funding from the original deficiency request will have a direct impact on the number of releases the development team will be able to accomplish between now and the end of FY19. Instead of the two releases originally planned for deployment between now and June 30, 2019, we will only be able to deliver one under the current funding amount. As a result, MNIT and DVS will need to work with the Executive Steering Committee (ESC) on options for this release, based on existing priorities from the Master List. We will keep the MNLARS Oversight Committee updated on the content of the next release once we've had the opportunity to review with the ESC.

Development request

The FY20-21 development request of $37.67M provides the funding needed to continue delivering on the priorities of DPS and their business partners, and allows them to better serve all Minnesotans. Full funding will also enable the MNIT team to complete the development phase of the MNLARS system. This development will deliver all features and functions necessary to complete system modernization for motor vehicle services. Completion of development means we will be able to retire the legacy systems still in operation, which will provide a savings to the state on licensing and operational costs.

Ongoing maintenance request

The request of a $2 technology fee for DVS is crucial to maintaining both the health and growth of the motor vehicle and driver systems for the long-term. Both staff and contractors are needed to take care of these systems and are an absolute necessity to the maintenance and operation of both MNLARS and the driver system. Systems of this size and complexity cannot run on autopilot. There will always be a need to update features, fix glitches, and in the event of a disaster, make sure that recovery is swift and does not leave lasting negative effects on the businesses and customers it serves.

Release 1.15: Deployed on February 10, 2019

As noted in the December report, release 1.15 delivered the long-awaited ability to transfer specialty plates. Here are some additional feature highlights in the latest release:

- Ability to transfer specialty plates and plate replacement by deputy registrars
- Ability of deputy registrars to log, track, and process data-entry errors and other corrections within MNLARS by submitting a data entry ticket
- Ability to perform Change of Registration Class and Registration Class Conversion Transactions
- Extended functionality in the ability of DVS to issue refunds
- Ability to process refunds under five dollars

Thus far, the release is performing very well in the system and has provided some important features for DVS, their business partners, and ultimately, Minnesotans. While the functionality of the release has been working well, there were some minor issues that arose with the release and have already been fixed by the data team. Those issues are detailed below:

- Ability to add an impound plate to a record when there is an active impound order in effect
- The full name of the registered owner prints on registration and cab cards, instead of just the last name
- The full name of a license plate type in the Change or Transfer action did not appear when the plate type name exceeds 50 characters
- If the registration address was missing when attempting to transfer or change a license plate, an error message is now generated
- Ability to issue duplicate stickers if the customer renewed registration early and new registration period hasn't yet started (for example, if the customer renewed registration in early February for a vehicle with March expiration)

Performance measures

Updated data on the seven performance measures is available for the following areas:

- Performance measures #1 and #2: MNLARS gaps and defects (pg. 10, 11)
- Performance measure #4: Reduction in vehicle title backlog (pg. 12-15)
- Performance measure #6: System performance (pg. 17-25)
- Performance measure #7: Customer service responsiveness (pg. 26-31)

Key milestones

The key milestones detailed within this report are measured by the performance requirements outlined in Minnesota Laws 2018, Chapter 101, as follows:

- Subd. 2 (b) (1) - Extent to which MNLARS defects have been resolved
- Subd. 2 (b) (2) - Extent to which gaps have been resolved
- Subd. 2 (b) (3) - Improvements to edit transactions
- Subd. 2 (b) (4) - Reduction in backlog of vehicle titles
- Subd. 2 (b) (5) - Extent of errors in transactions – data fixes
- Subd. 2 (b) (6) - System performance
- Subd. 2 (b) (7) - Customer service responsiveness

Governance

MNLARS Executive Steering Committee (* = voting member)		
Jeff Schwiesow* Product Manager, BCA	**Amber Backhus*** MN Auto Dealers Association	**Dana Bailey** Director of External & Partner Relations, MNIT
Anthony Anderson MNLARS Program Director	**Tami Bartholomew** Administrative Supervisor, DVS	**Rayah Barton*** Management Analyst
Amanda Coppin* Deputy Registrar, South Saint Paul (Member MDRA)	**Thomas DeVita*** Support Services Program Director	**Ash Durham** Project Architect
Jim Forsell Deputy Liaison Supervisor	**Tom Henderson*** Vehicle Services Program Director	**Scott Lambert*** MN Auto Dealers Association
Laura Laudenbach* Deputy Registrar, Stearns County (Member MDRA)	**Al Lentsch*** Northland Independent Auto Dealer Association	**Neng Lor*** Deputy Registrar, Hennepin County (Member MDRA)
Beckey Mechtel MNLARS Communication	**Vic Moore*** Minnesota Auto Auctions	**Cassandra O'Hern** Deputy Commissioner, DPS
Dawn Olson Director, Driver and Vehicle Services, DVS	**Joan Redwing** Interim CBTO, DPS	**Deana Schweitzer*** Deputy Registrar, Prior Lake (Member MDRBOA)
Denise Vogel* Deputy Registrar, Morrison County (Member MDRA)	**Donny Vosen*** Deputy Registrar, Brainerd	**Mike Wright** Senior Manager of Operations, MNIT

MNLARS Project Management Team

Dana Bailey	**Tami Bartholomew**	**Rayah Barton**
Director of External & Partner Relations, MNIT	Administrative Supervisor, DVS	Management Analyst
Thomas DeVita	**Ash Durham**	**Jim Forsell**
Support Services Program Director	Project Architect	Deputy Liaison Supervisor
Tom Henderson	**Dawn Olson**	**Joan Redwing**
Vehicle Services Program Director	Director, Driver and Vehicle Services, DVS	Interim CBTO, DPS
Jeff Schmitz	**Anthony Anderson**	**Mike Wright**
DVS Deputy Director	MNLARS Program Director	Senior Manager of Operations, MNIT

MNLARS Senior Leadership Team

Dana Bailey	**Jon Eichten**	**Emily Shimkus**
Director of External & Partner Relations, MNIT	Deputy Commissioner, MNIT	Communications Director, MNIT
Joan Redwing	**Bruce Gordon**	**Cassandra O'Hern**
Interim CBTO, DPS	Communications Director, DPS	Deputy Commissioner, DPS
Dawn Olson	**Katie Knutson**	
Director, Driver and Vehicle Services, DVS	Legislative Affairs Director, DPS	

MNLARS Executive Leadership Team

John Harrington	**William Poirier**	**Jon Eichten**
Commissioner, DPS	Commissioner, MNIT	Deputy Commissioner, MNIT
Dana Bailey	**Cassandra O'Hern**	
Director of External & Partner Relations, MNIT	Deputy Commissioner, DPS	

Quarterly project status summary

MNIT and DPS successfully deployed Release 1.15 to address items from the MNLARS stakeholder priority Master List. MNIT continues project management efforts to release software based on stakeholder priorities, continues to update the project methodology and reporting, and continues to provide updates to the MNLARS system design, tools, and software development standards.

Release schedule		Target deployment	Current status
1.12	Partial Electronic Vehicle Titling Registration, end of day close	Successfully Deployed June 2018	
1.13	Duplicate Title Printing	Successfully Deployed July 2018	
1.14	Majority of Top 5 Tiers of Master List Priorities – Apply for Corrected Title	Successfully Deployed Nov 2018	
1.15	Majority of Top 5 Tiers of Master List Priorities– Specialty Plate Transfer	Successfully Deployed Feb 2019	

Key:

Green: Project performing to plan   **Yellow:** Project viability is at risk   **Red:** Project requires corrective action

Status of recent and upcoming releases: Release 1.15 successfully launched in February of 2019. Release 1.15 addressed several top-ranked features and fixes that the Executive Steering Committee requested for inclusion: specialty plate transfer, change of class, and change of class conversion, among other items.

Continued MNLARS progress: There are 110 items remaining on the stakeholder priority master list – 35 gaps, 56 defects, and 19 new feature requests that are not yet fully covered in the MNLARS Vehicle release plan. In addition, there remain several legacy systems that have not been migrated to the modern MNLARS Vehicle system, as well as many stabilization/optimization features that would allow the system to be maintained properly post-launch. Ramping back up and transitioning to a new team, versus continuing system improvements with an experienced team, will cost more and lead to lost productivity. As has been reflected in previous biennial budgets, sufficient ongoing funding sources that will support the maintenance of either the MNLARS Vehicle or FAST Driver systems do not exist. MNIT and DPS must secure funding for MNLARS to avoid impacting critical services upon which Minnesotans rely.

MNLARS Vehicle development and implementation timeline

The primary focus of the MNLARS Vehicle project to date has been to remediate high priority defects and gaps while delivering new features that deputy registrars, auto dealers, and other system stakeholders need. Guided by stakeholder prioritization in the Master List development process, the project milestones below reflect a focus on delivering priority fixes for defects and gaps, which MNIT and DPS anticipate completing with remaining funding.

Milestones

Delivery deadlines

Deadline	Milestones	Status
Q1 2018	January 31, 2018 MNLARS Vehicle defects and gaps roadmap	Completed
Q2 2018	Launch Release 1.11.2	Completed
Q2 2018	Project re-charter with new project management and reporting	Completed
Q2 2018	Re-score and refresh stakeholder priority list	Completed
Q2 2018	Launch Release 1.12	Completed
Q3 2018	Launch Release 1.13 – Duplicate title printing	Completed
Q4 2018	Launch Release 1.14 – Apply for corrected title and majority of top 5 tiers gaps/defects/new feature priorities	Completed
Q1 2019	Launch Release 1.15 – Specialty plates and remaining majority of top 5 tier gaps/defects/new feature priorities	Completed
Not funded beyond June 2019	Deliver all defects/gaps/new features for stakeholders, migrate remaining legacy systems to MNLARS platform and deliver remaining system stabilization and workflow optimization efforts required by system users for continued system maintenance and performance	Not Started
Not funded beyond FY 2019	Provide system operations, maintenance and support	In Progress

Additional roles staffing date milestones

Because MNIT and DPS do not have full funding to keep or recruit all of the contractors needed to enhance the system, some of the planned system optimization, analysis and mainframe migration work was put on hold. There are a number of contractor positions that are unfilled. The MNLARS Vehicle system project requires these positions to complete DVS, deputy registrar, and dealer workflow optimizations needed for system maintenance and to build remaining features needed for overall system acceptance. These positions are also necessary to complete the vehicle services modernization effort to get off of remaining legacy systems. In March of 2018, the MNLARS Vehicle team's focus shifted from completing the system modernization effort to resolving stakeholder priority defects and gaps before funding ran out.

Deadline	Milestones
Funded through FY19	(3) DBA/SQL developers for performance tuning entity framework and data corrections
Funded through FY19	(2) Program managers/project managers – backfills for turnover
Funded through FY19	(3) .NET development tech leads for managing concurrent development work
Funded through FY19	(2) Solution architects for technical oversight of parallel development – backfill for turnover
Not funded	(4) .Net developers for dealer, DVS, and deputy registrar system workflow optimization
Not funded	(5) Mainframe migration programmers to migrate from remaining legacy applications
Not funded	(2) User Interface (UI) designer/programmers for dealer, DVS and deputy registrar system workflow optimization
Not funded	(3) .NET programmers to replace remaining legacy applications
Not funded	(4) User Interface (UI) designer/programmers for dealer, DVS and deputy registrar system workflow optimization

High level legacy system decommission deadlines

Deadline	Milestones
Not funded	Finance: accounting controls, reporting – NSF bad checks
Not funded	Prorate / IRP / IFTA (commercial trucks) title and registration functions
Not funded	Dealership licensure
Not funded	HP permits legacy systems support – commercial permitting, temporary 60 days
Not funded	Document imaging: Stellant

MNLARS Vehicle performance measures

Performance measures #1 and #2: extent to which MNLARS Vehicle gaps and defects have been resolved

One release has launched successfully since the last report. Release 1.15 primarily contained new features and gap items. As of March 1, 2019: 110 defects, gaps, and new feature requests remain, and they have been ranked and prioritized for inclusion in future releases by the Executive Steering Committee. The 110 items remaining on the stakeholder priority Master List are comprised of 35 gaps, 56 defects, and 19 new feature requests. While this is down from 138 items in the September report, this is unchanged since the December report because 6 large Master List features were considered "in progress" for release 1.15.

Electronic Vehicle Title Registration (EVTR) code is currently deployed in production in a pilot mode.

Definitions:

- A **gap** refers to functionality that is required by the stakeholders, but has not yet been developed.
- A **defect** refers to existing functionality that is not working, or is incorrectly implemented.
- The **scale** of an individual gap or defect can range from small, simple fixes (such as creating a new fee type) to very large, complex enhancements that include significant system redesign (such as modifying editing functionality across the full MNLARS Vehicle System).
- **Electronic Vehicle Title Registration (EVTR)** allows customers to get plates and registration from a dealer in order to speed up the registration and plate process.
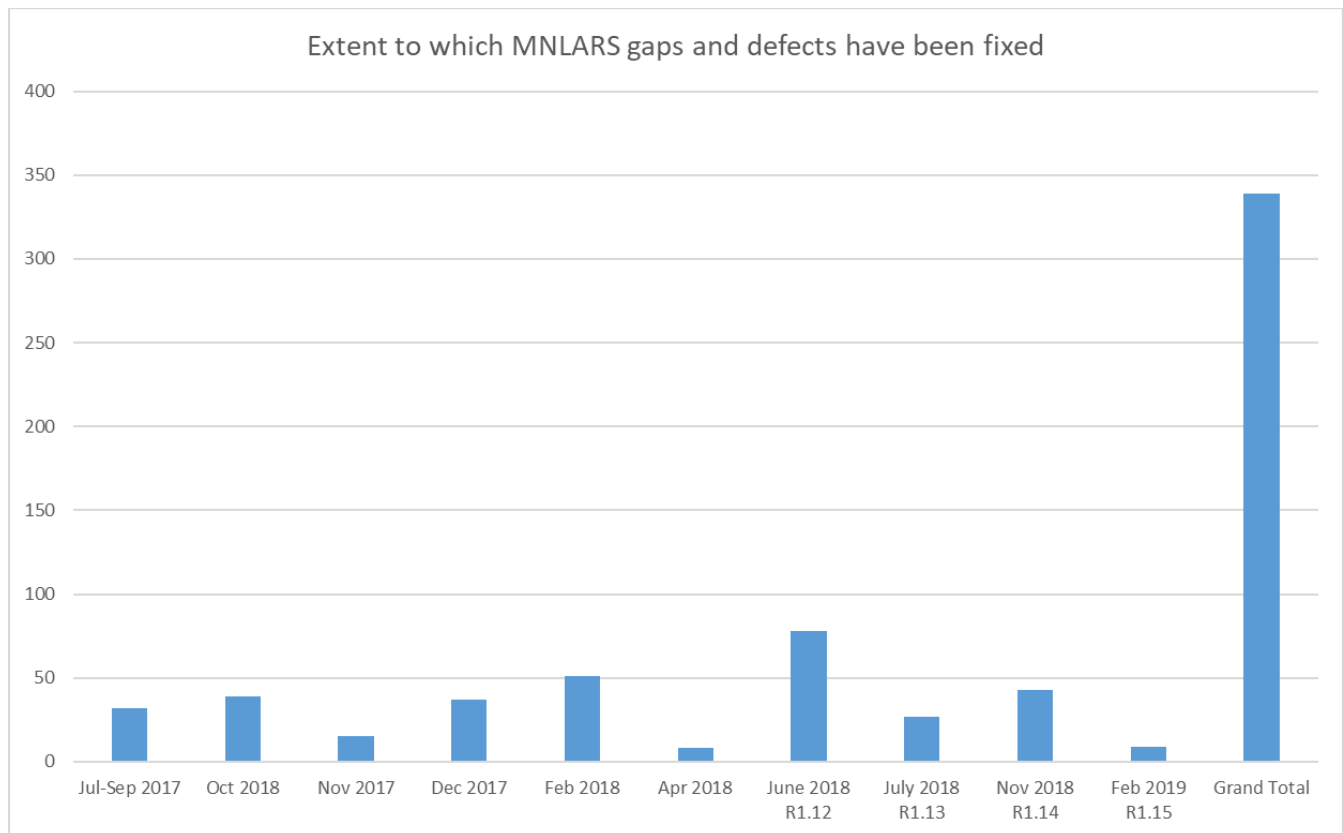
Extent to which MNLARS gaps and defects have been fixed

Figure 1 - Extent to which vehicle services gaps and defects have been fixed

Figure 1 - it is important to note that the graph above does not represent the scale or size of each work item delivered but instead, the progress toward resolving the centralized list of itemized gaps, new feature requests, and defects. Some of these itemized issues are extremely large in scope and impact every workflow in the application – like specialty plates, which was included in Release 1.15.

Remaining gaps and defects

Since December 2017, there have been seven successful releases of the MNLARS Vehicle system where MNIT and DPS have been focused on delivering defects, new features, and gaps in response to stakeholder feedback on a prioritized list called the MNLARS Vehicle Master List. The MNLARS Vehicle Master List tracks gaps, new feature requests and defects. As of today, there are 110 items remaining on the Master List. Of these, 35 are gaps, 56 are defects, and 19 are new feature requests. Some of the items remaining on the MNLARS Vehicle Master List are quite large (like the addition of editing functionality throughout the application) and others are small fixes (like a request to change the color of the expiration year box – "It's grey and should be bigger").

The MNLARS Vehicle Master List is a living document, and it requires updating to ensure it aligns with current stakeholder priorities. In June 2018, stakeholders refreshed and re-prioritized the MNLARS Vehicle Master List. This list informs the priorities of feature delivery for the remaining funded releases. Releases 1.14 and 1.15 delivered the majority of the top 5 tiers of requested defects and gaps on the Master List. With additional funding, MNIT and DPS will revisit the prioritization process to clarify the remaining work and new feature requests for inclusion in future releases.

Performance measure #3 - improvements in the ability of MNLARS Vehicle users to edit transactions

Update since December report: As of early March 2019, 19,130 transactions have been updated for users by DVS using the administrative editing tools. The breakdown is as follows:

Updated records count	Type of change
4,301	Change the class, base value, county, and gross weight on a registration.
4,757	Change the start and end date on the registration.
535	Change registered plate type on the registration.
364	Change the plate on a registration to a new plate.
376	Change the status of the sticker to "available."
6,194	Change the status of the plate to "available."
1,750	Delete a range of plates from a particular inventory location.
853	Delete a range of stickers from a particular inventory location.
19,130	**Total number of records corrected by DVS**

Also, included in Release 1.15 was a feature allowing deputy registrars to submit a data entry ticket in MNLARS Vehicle and track its status. This ability to submit known issues quickly and with system-tracked follow-up is a step in the right direction in the much larger effort it takes to build in formal transaction editing features. If funded, additional editing capabilities will likely include the following features:

- Transaction cancellation or return capability
- Additional inventory management functionality
- Editing an unpaid transaction
- Updating title and registration records outside of transactions (as permitted by statute)

To add these additional editing capabilities into MNLARS Vehicle, MNIT and DPS must complete system optimization and performance tuning work, and additional funding must be available.

Performance measure #4 – reduction in the backlog of vehicle title applications

Update since December 2018 report: The MNLARS Vehicle title application work queue rose briefly in December 2018 and January 2019 as 19 title and registration staff members were temporarily redeployed to assist with driver license processing. These staff members have since returned to title processing beginning in mid-January 2019.

Date	Title applications in work queue
12/1/2017	379,591
1/2/2018	311,312
2/1/2018	222,903
3/1/2018	179,253
4/1/2018	194,949
5/1/2018	204,104
6/1/2018	219,079
7/1/2018	196,247
8/1/2018	141,150
9/1/2018	96,154
10/1/2018	109,291
11/1/2018	125,420
12/1/2018	150,231
1/1/2019	160,849
2/1/2019	134,103
3/1/2019	108,097

The number of transactions in the work queues represent all title applications that DVS has to work on. While the numbers in the work queue have increased briefly since the last report, the current queue total is down from the last report.

DVS measures title turnaround by the number of days required to complete an application, beginning when the customer visits the deputy registrar. DVS measures title turnaround times in three classes: out-of-state (OS) applications, manufacturer certificate of origin (MCO) applications and Minnesota (MN) titles.

Figure 2 shows the longest title turnaround times for each title class since February, 2018, while Figure 3 shows historical title turnaround times since May 2009. Both figures demonstrate continued improvement in application turnaround times.
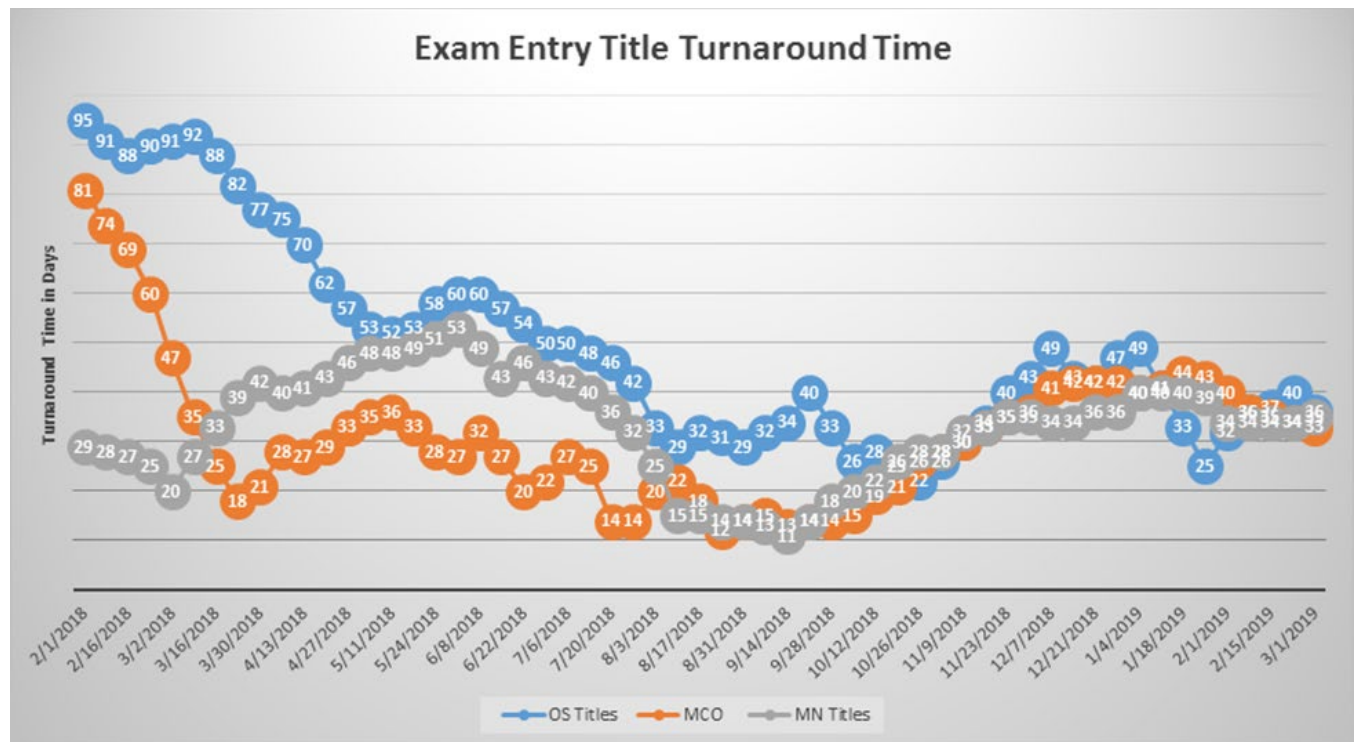

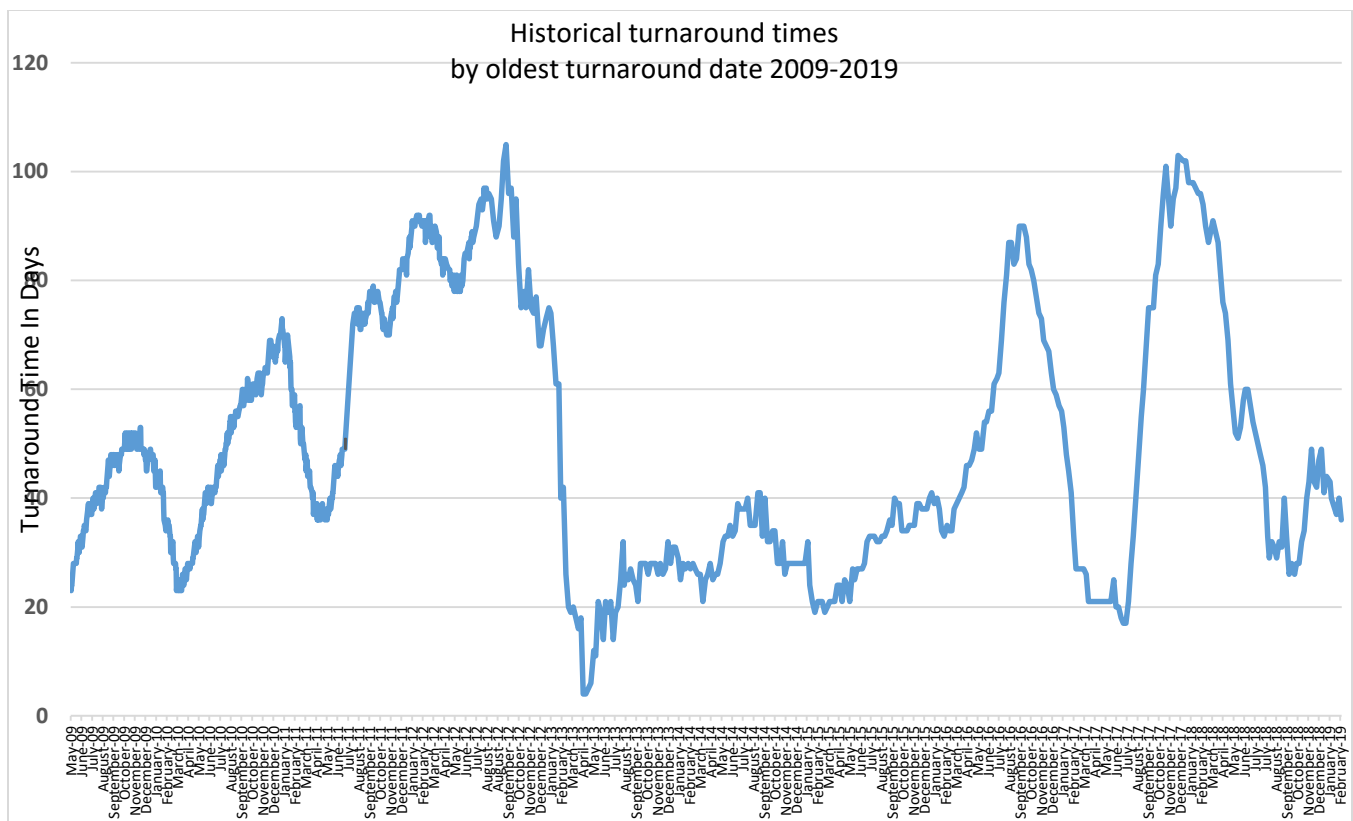*Figure 2 - Exam entry title turnaround time.*

**Historical turnaround times
by oldest turnaround date 2009-2019**

Figure 3 - Historical title turnaround times since May 2009

Performance measure #5 - extent of errors in Driver or Vehicle services transactions

There are two main sources of data errors in the system: data entry errors, and transactions hung up due to an error in the system. The current MNLARS Vehicle system has limited record editing capability due to the complexities of business rules around changing registrations and titles.

Release 1.15 introduces a "Data Entry Ticket" system as part of MNLARS that enables deputy registrars to handle data entry errors and other conditions that are not readily solved via the normal customer service transaction flows. Issues are reported to DVS for resolution at DVS. This new feature supports deputy registrars in resolving edge-case title or registration problems and customer requests, while enabling DVS in its responsibilities to ensure information quality, accurate records, and compliance with policy. For data entry errors, the Data Entry Ticket system is a significant improvement over the previous method of reporting and tracking fix-it requests, and it provides deputy registrars and DVS with visibility of the status of Data Entry Ticket.

The Data Entry Ticket system also satisfies the stakeholder request to edit transactions when it is easier to document an issue, after a deputy registrar has completed the customer transaction within MNLARS, without placing additional burden on the deputy registrar staff. The system enables DVS staff to resolve the reported issue, and it alerts DVS staff quickly so they can manage potential down-stream effects of the errant data. For example, they can stop an incorrectly-entered VIN from being reported to a national information system such as the National Motor Vehicle Title Information System, or NMVTIS.

In addition, the MNIT data team can fix motor vehicle transaction errors as they are reported to, or identified by, the data corrections team on the back end. Data corrections are applied to the system by the data team each Tuesday and Thursday after business hours. This includes data issues reported by deputy registrars, DPS, and the public. MNIT also runs a series of programs to search through the data, to discover and correct discrepancies.

If MNIT and DPS are given additional funding, there is a plan to deliver additional data control reporting and editing capabilities for Vehicle Services liaisons and deputy registrars, so that they can make edits to:

- Edit gross weight not entered correctly in the legacy system
- Resolve registration transactions hung up due to an error in the system
- Remove/cancel deficiencies that should be voided or waived
- Control reports to flag any payments for a transaction recorded twice due to an error in the system
- Fix general data entry errors for registrations and titles
- Control reports and searches for DVS to monitor errors in system use including input of values outside of normal usage parameters
- Edit incorrectly entered inventory
- Resolve a title transfer performed on the wrong vehicle

A report from the Office of the Legislative Auditor has confirmed that MNLARS vehicle system calculated fees correctly on over 99% of the transactions.

The new Driver Services system (FAST Driver Services) allows authorized users to correct driver records; in many cases this is available to all users, including driver services liaisons and driver license agents.

Performance measure #6 - system performance including slowdowns, outages or other performance issues

Load testing validates system performance prior to each MNLARS Vehicle release. In the fall of 2017, MNIT enhanced this performance testing discipline to include more tests, greater coverage, and a full copy of the MNLARS Vehicle production environment. Previously, performance testing occurred infrequently, and it did not occur with each release that was put into the MNLARS Vehicle system.

Definitions:

- **Uptime** means the time the system is up and available during business hours.
- A **slowdown** is any system response that returns in less than one second.
- An **outage** is a period of time that a system fails to provide or perform its primary function.
- **Legacy driver** is a legacy system that supports driver services, which was replaced by the FAST Driver system in October of 2018.
- **Mainframe** is a legacy system that supports vehicle services.

Uptime, slowdowns and outages

In addition to load testing, the operations team tracks uptime for the systems that stakeholders use. Industry standard for a slowdown is to alert technical teams on any transaction that returns in over four seconds, but due to the importance of system performance for MNLARS Vehicle, MNIT and DPS set the bar higher for monitoring and reporting alerts for any potential performance issues. For the purposes of the graphs below, potential performance slowdowns, known performance slowdowns and outages, have been summarized as outages. However, it is important to acknowledge that downtimes and slowdowns both have adverse effects on how deputy registrars, auto dealers and other stakeholders conduct business.

System response time test results

Update since December Report: There are slight system response time improvements in MNLARS Vehicle between the December 10, 2018 report and this March 10, 2019 report. Performance remains stable, and tests between Release 1.14 and 1.15 indicate that the system performs as well as or slightly better than prior MNLARS Vehicle releases. We continue to evaluate system performance with each release to ensure performance does not degrade with subsequent releases.

The following table demonstrates the improved response time since launch and for the last 2 releases. When the system launched, response time varied by transactions. At launch in July of 2017, the "apply for title" transaction took 25 seconds to load, and today the same transaction takes seven seconds. Less complicated transactions, like "sign-in," previously took three seconds to load, and today it takes less than one second.

Definitions:

Sign-In: Measures the time it takes the user's credentials to be authenticated against MNEIAM (registration tracking tool) and successfully log into the system.

Title Queue: This is the backlog of titles that are currently being processed. These transactions represent navigating to and around the queue.

Deputy registrar search: These transaction are the various search transaction/options that deputy registrars use throughout the workday.

Apply for title: "Apply for title" represents one of the most commonly used business transactions in MNLARS. The steps indicated in 20-28 are the typical user workflow.

Registration renewal: "Registration renewal" represents the core transaction of MNLARS. Like "apply for title," it exercises a large part of the system's internal functionality (i.e. vehicle, inventory, finance, third party calls, and online registration.)

Title transfer: "Title transfer" allows users to transfer a title to another party.

Release	MNLARS launch	11.12	1.13	1.14	1.15	1.15.1	Trend
Test Information	90 percent - 7/19 baseline	90 percent - 5/21 baseline	90 percent - 7/10 baseline	90 percent - 11/5 baseline	90 percent - 1/29 baseline	90 percent - 2/15 baseline	
Transaction Name **HTTP Load Scripts**	90%						
Sign-In	3.239	.82	0.755	0.89	.718	.771	
Title Queue	New functionality added	4.6	6.74	5.872	5.405	4.656	
Deputy registrar search	2.61	.609	0.755	0.727	.652	.681	
Apply for title	25.676	6.87	7.5	7.329	6.131	7.158	
Registration renewal	12.52	5.96	6.5	6.175	5.758	5.819	
Title transfer	15.098	5.97	6.88	6.12	4.923	4.574	

Load testing has been successfully utilized prior to each MNLARS Vehicle release for 2017 and 2018. This performance testing discipline is the most effective way to ensure the following objectives:

1. Identify software or system bottlenecks prior to production release.
2. Determine application configuration issues and provide tuning guidance.
3. Validate that system capacity is sufficient.
4. Ensure system resources scale linearly as workload increases.
5. Find memory leaks and other types of performance constraints that would impact system performance.
6. Mitigate three core risks: speed, scalability and stability.

    a. **Speed:** How fast does the system process the request?
    b. **Scalability:** How well do system resources scale under load and increased concurrency levels?
    c. **Stability:** Measures system uptime under prolonged use and extreme load conditions.

Actual performance results experienced in the field are greatly depend on the consumer's network quality, i.e. bandwidth, packet loss, network congestion, and latency with latency having the greatest impact on end user performance.

Vehicle systems uptime: November 2018, December 2018 and January 2019

Update since December 10 Report: The FAST Driver's System has been added to the report and the MNLARS Driver, Vehicle and legacy systems have stabilized at close to or at 98% uptime, although SLA targets remain at 95% uptime. Service Level Agreements (SLAs) have been updated as a result of recommendations from the MNLARS OLA audit of accuracy of reporting of this performance measure. In addition, additional QA controls are in place to ensure that our manual monitoring reports are accurate, and we did not include the February 2019 uptime data in this report to ensure we have time to perform sufficient quality assurance reviews on the data collected. Also, as a result of the OLA audit, MNIT continues to mature and enhance our SLA documentation and system definitions with DPS for performance testing and monitoring for MNLARS Driver and Vehicle systems. This includes breaking out third party vendor outages and service impacts.

Figures 4, 5 and 6 show uptime and slowdowns, measured in hours, for this report. The systems averaged close to or slightly over 98% uptime over this three month period during system business hours. These graphs also show the downtime for each of the vehicle systems, including legacy driver and the mainframe, but system slowdowns cannot be tracked on these older legacy systems. On the far right of the graphs, uptime and outage metrics include both system slowdowns and outages for the MNLARS Vehicle system and DVS permits.

MNIT has set a one second response time alert on its monitoring tools, which is far more aggressive than the four second industry standard. The uptime numbers in the following graphs summarize all outages and slowdowns over one second.

November 2018 uptime:

- MNLARS Vehicle – greater than 99% uptime
- DVS Permits – greater than 99% uptime
- ESupport – greater than 99% uptime
- Mainframe – greater than 99% uptime
- Driver's System (FAST) – greater than 98% uptime

Vehicle Systems Uptime: November 2018

	DVS Permits	ESupport	Mainframe	MNLARS	Driver's System
Downtime (Hours)	1.77 <1%	1.77 <1%	1.77 <1%	2.00 <1%	8.39 <2%
Uptime (Hours)	328.23 >99%	362.23 >99%	718.23 >99%	718.00 >99%	711.61 >98%

Figure 4 - Vehicle systems uptime: November 2018

December 2018 uptime:

- MNLARS Vehicle – greater than 97% uptime
- DVS Permits – greater than 93% uptime
- ESupport – greater than 94% uptime
- Mainframe – greater than 97% uptime
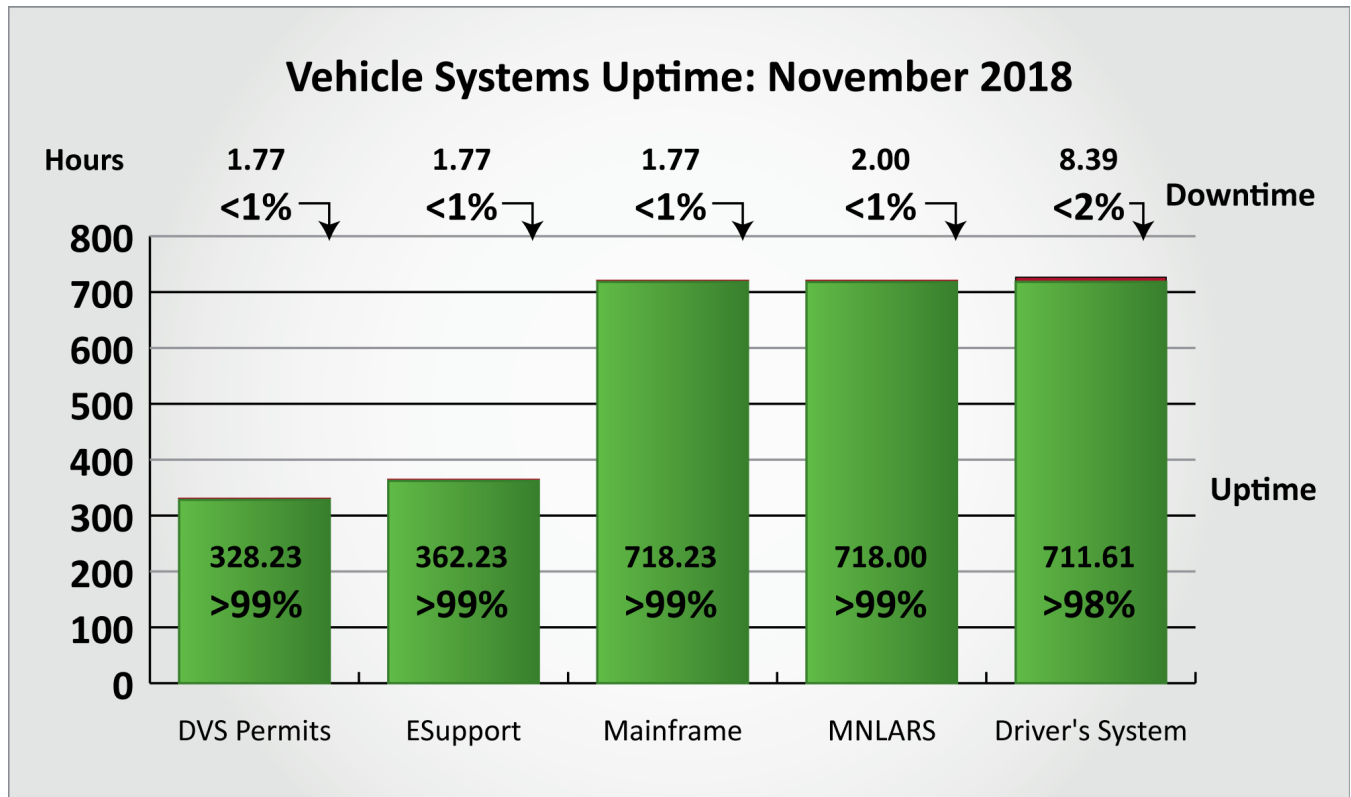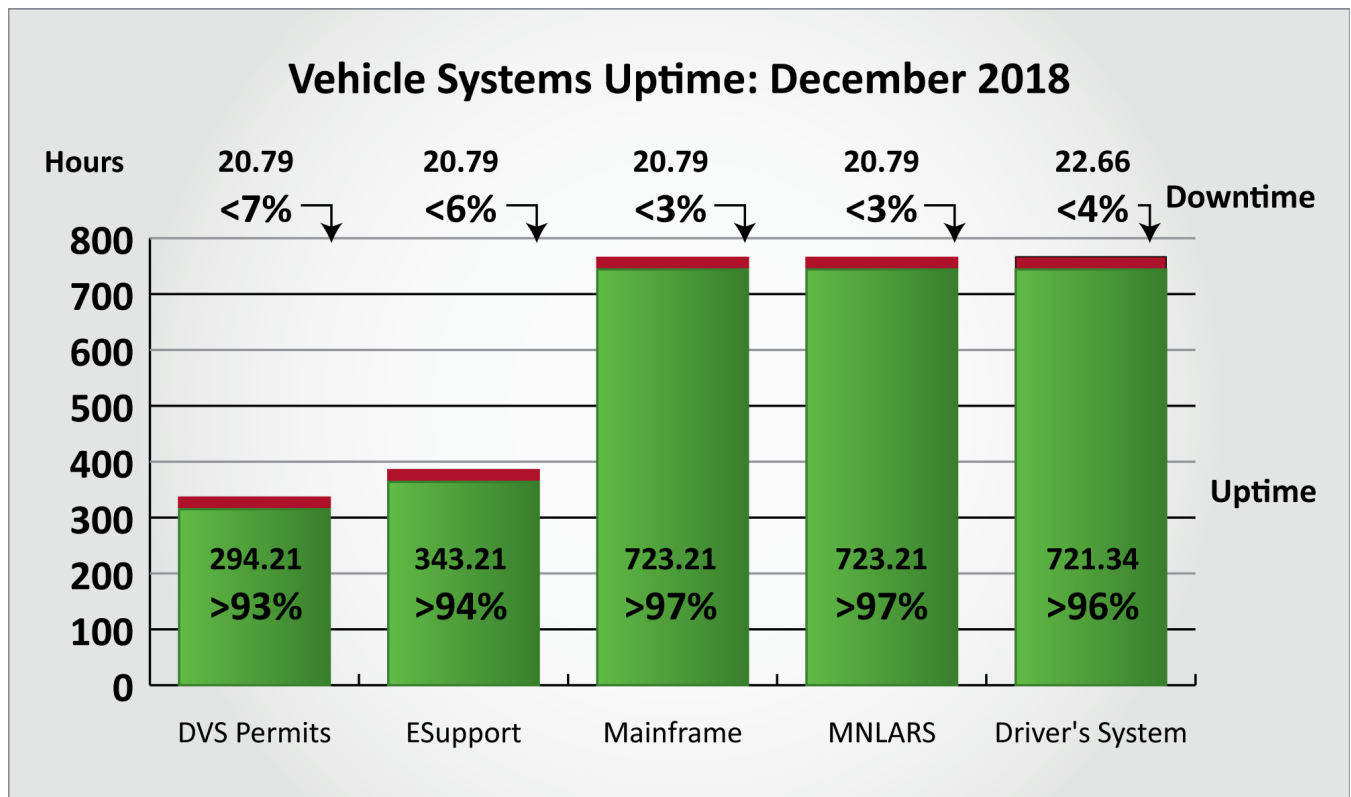- Driver's System (FAST) – greater than 96% uptime.

Figure 5 - Vehicle systems uptime: December 2018

*All system downtime is attributed to third-party vendor outages. See table on next page for specific issues.

Third-party issues in December 2018

Date	Hrs. of impact	Category	Impact description
12/3/2018	N/A	AAMVA	AAMVA helpdesk notified DPS tech support of NCS connection bouncing issues. Doesn't seem like that there was any user impact.
12/5/2018	N/A	AAMVA	AAMAVA has informed us that there are still intermittent issues with transactions that use Triple Check. MNIT and AAMVA are working together to resolve these issues. This impacted RealID.
12/12/2018	N/A	AAMVA	False Alarm for AAMVA. Error with DC code applying for IDs. AAMVA MN	NCS Connection Bouncing ISSUE=229729 PROJ=11 (TICKET PENDING)
12/14/2018	0.8	DHS	DHS intermittent issues with US Passport Verification. This impacted RealID.
12/15/2018	N/A	IDEMIA	Hennepin County Ridgedale office cameras down. They emailed Idemia. Idemia is aware and tech is on-site. This impacted this specific office's ability to issue ID's.
12/18/2018	1.07	AAMVA	AAMVA Operations issues, DHS US Passport verification is down. This impacted RealID.
12/27/2018	11.59	US Bank	U.S. Bank E-Payment Service is experiencing sporadic connectivity issues on all channels as a result of a service event at a third party telecommunications vendor.
12/28/2018	9.2	Century Link	CenturyLink continues to actively work on restoring service from multiple different locations throughout the country. While progress is being made in some states, this continues to be a nationwide service outage impacting voice services. 9:12AM is when the issue was resolved.

Total hours FAST: 22.66
Total US Bank / CenturyLink only: 20.79

January 2019 uptime:
- MNLARS Vehicle – greater than 99% uptime
- DVS Permits – greater than 99% uptime
- ESupport – 100% uptime outages
- Mainframe – 100% uptime
- Driver's System (FAST) – greater than 98% uptime
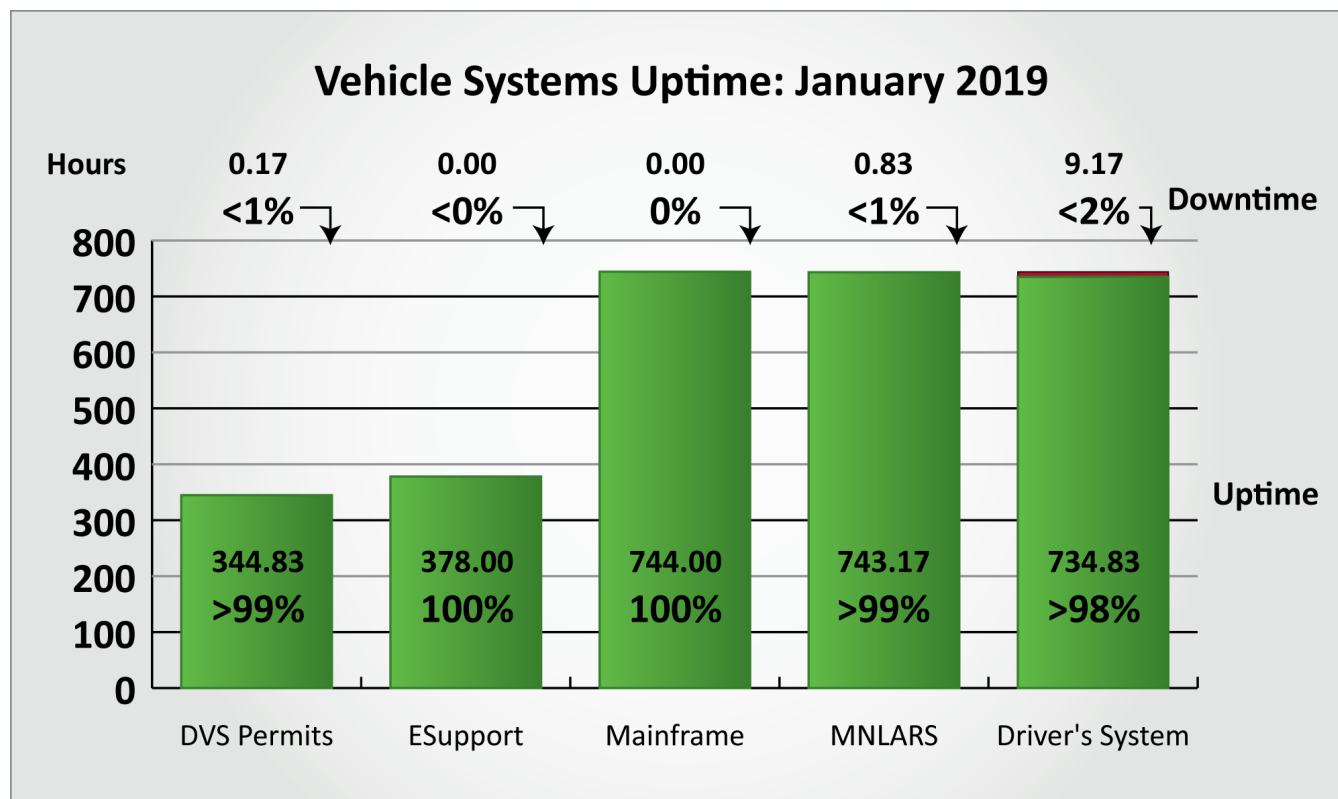
Figure 6 - Vehicle systems uptime: January 2019

Service level agreement updates

One area of improvement for MNLARS and Driver Services has been the MNIT-wide effort to more clearly define Service Level Agreements on behalf of new systems and the partner's usage of those systems. The table below illustrates the applications, support hours, and the additional monitoring in place by MNIT at DPS Operations to ensure system availability remains high. With the launch of these two major systems, refreshing these support hours and tools is was a planned post-launch phase to help clarify the monitoring strategies for these upgraded DVS systems.

Service availability categorized by customer

MNIT support hours for DVS with an SLA is 95% uptime

Customer	Service	MNIT service desk core business hours	MNIT on-call support	System monitoring hours*
Law enforcement interfaces				
Note: All services provided to law enforcement services are 24x7x365				
	FASTDS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	MNLARS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
Citizen/public facing website				
Note: All services provided to citizens are 24x7x765				
	FASTDS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	MNLARS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
DVS systems				
Note: Services provided to DVS are during core business hours and on-call support hours				
	FASTDS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	MNLARS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	Permits	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	Esupport	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
Deputy registrars				
Note: Services provided DR/DL are during core business hours and on-call support hours				
	FASTDS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	MNLARS	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	Permits	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365
	Esupport	7:30 a.m. to 4:30 p.m. M-F	4:30 p.m. to 9:00 p.m. and 7 a.m. to 9:00 p.m. Sat.	24x7x365

Monitoring hours also include most of our routine maintenance windows, which are communicated in advance.

Performance measure #7 - customer service responsiveness

The DVS Contact Center encompasses 21 phone lines and several email channels. Unlimited phone servicing is provided to law enforcement and deputy registrars, with priority routing for law enforcement calls in front of general public calls. Unlimited email servicing is provided with response times based on the capacity of available agents. Public phone lines have limited servicing based on the capacity of available agents and size of the phone network, which causes incoming calls to be rejected when exceeding these capacities. During the December 2018 - February 2019 time period, 603,470 calls were received, of which 203,446 calls (33.7%) were rejected and sent to a busy message. This represents a 33.9% decrease in high call volume (rejected) calls from the previous quarter. Compared to the preceding quarter (September 2018 to November 2018), call volumes decreased 18.95%.

To improve customer service, DVS implemented mandatory overtime during the month of September and hired, and continues to hire, temporary staff to reduce the number of unanswered calls and untimely emails. In addition, DVS also increased the call threshold on all Motor Vehicle and Drivers' License lines, which led to the decrease in rejected calls.

Figure 7 shows the call volume pre and post-MNLARS. The vertical line represents the date of the MNLARS Vehicle rollout.
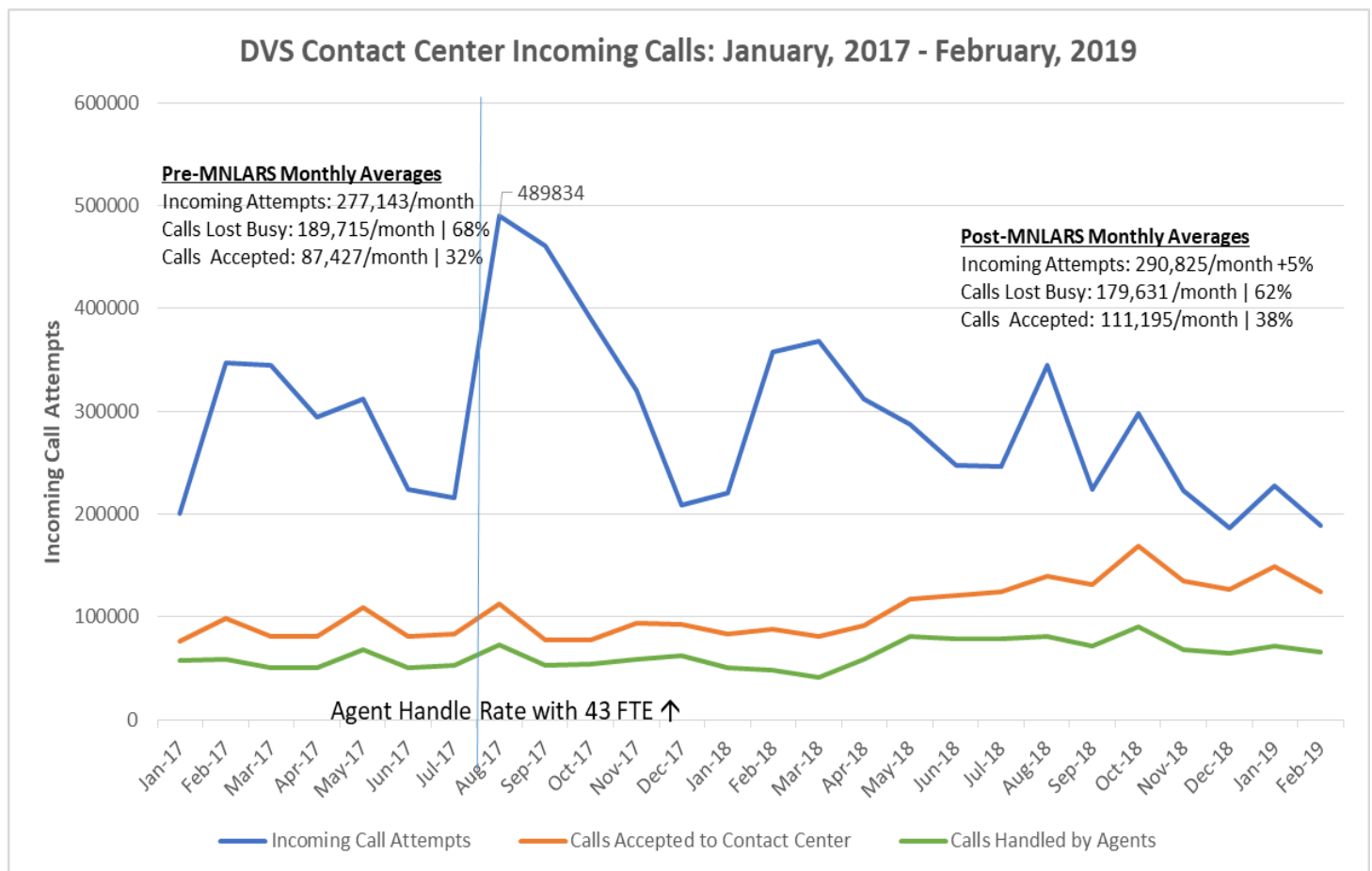

Figure 7 - DVS contact center incoming calls: January, 2017 - February, 2019

Total calls to DVS contact center from 12/1/2018 to 02/28/2019

The following chart contains specific information about the volume of calls and emails to the Public Information Center (PIC) from December 2018-February 2019.

Phone line	Number of calls
Public phone lines (19)	576,279
Deputy registrar* lines (1)	26,452
Law enforcement line (1)	739
Total calls	603,470

DPS Driver and Vehicle Services registrar lines include deputy registrar and driver's license agents.

All public communication – public phone lines (19)

Call type	Number of calls
Incoming calls	576,279
Accepted calls	372,833
Rejected calls	203,446
Calls offered to agents	228,149
Abandoned calls	41,366
Calls handled by agents	185,197
Average speed to answer	07:22 minutes

Incoming calls are not tracked by call type.

Definitions:

Incoming calls: All attempted calls to the contact center.

Accepted calls: Calls that immediately entered the contact center system upon dial without receiving a busy message.

Rejected calls: Calls rejected due to high volume and sent to a busy message.

Calls offered to agents: Caller has selected a menu option and was placed in queue to speak to a live agent.

Abandoned calls: Queued calls to speak to a live agent that disconnect/hang-up while in the queue.

Calls handled by agents: Queued callers have been connected to speak to a live agent.

All public communication – email

Email type	Number of emails
Vehicle services emails received	14,397 emails
Driver services emails received	16,807 emails
Outgoing responses	33,770 emails
Total unprocessed emails	1,014 emails – on 02/28/19
Furthest date unprocessed	02/20/2019 (8 days) – on 02/28/19

Deputy registrar communication – deputy registrar phone lines (1)

Call type	Number of calls
Total calls from deputy registrars	26,452
*MNLARS Vehicle specific calls	5,562
Average speed to answer	10:37 minutes

*MNLARS Vehicle calls are those selecting option "MNLARS Navigation" or "MNLARS Transaction."

Deputy registrar communication – email

Email type	Number of emails
Total emails from deputy registrars	4,632
Total unprocessed emails	445 emails – on 02/28/2019
Furthest date unprocessed	01/14/2019 (45 days) – on 02/28/2019

Plan for user acceptance testing (UAT)

DVS staff performs user acceptance testing (UAT) to ensure that all business and system requirements are met. DVS staff develops test scenarios and writes test cases based on new functionality, and DVS staff tests these scenarios and cases prior to each release. DVS staff also perform regression testing to ensure existing functionality remains as it was built. This is an ongoing process throughout the development of the MNLARS Vehicle system.

DVS conducts UAT training demonstrations to validate upcoming releases. DVS plans pre-release training demonstrations with stakeholders. DVS also engages stakeholders to do "live" UAT testing, using business test scenarios that cover the functionality that will affect them.

Training demonstrations

DVS has modified the UAT process to host UAT webinar training demonstrations, at the request of stakeholders in the Executive Steering Committee. This provides stakeholders the ability to give more complex feedback about multiple scenarios that could happen under a given transaction. DVS included this model of UAT for the 1.15 release.

Participating stakeholders are notified five days prior to training demonstrations to make sure they can successfully sign in to WebEx. During UAT training, DVS presents how a fix or functionality will work in the system. Additionally, they collect any feedback or concerns that stakeholders have. DVS hosts the training demonstration before the release goes live.

Stakeholder "live" user acceptance testing

During UAT testing, stakeholders come in person to St. Paul to execute business test scenarios using the MNLARS Vehicle UAT test system. DVS hosted "live" morning and afternoon sessions for Release 1.15

Stakeholders have a choice of which method would give them the most assurance that the release works within the scope of the defects and gaps addressed.

Plan for stakeholder input on code releases to MNLARS Vehicle

Executive Steering Committee

The Executive Steering Committee (ESC) is comprised of staff from the Minnesota Deputy Registrars Association, the Minnesota Deputy Registrar Business Owners Association, the Minnesota Auto Dealers Association, the Northland Auto Dealers Association, Manheim Auto Auctions, and MNIT and DPS personnel. It currently meets every other Wednesday from 2-4 p.m. During those meetings, the focus centers on how MNIT and DPS are making the MNLARS system better for end-users and instituting better processes between DVS and their business partners.

Master list process

Members of the ESC completed the reprioritization of the Master List on June 5. Provided the project is not ramped-down, reprioritization will continue to be scheduled on a regular basis since it's a process that needs to accommodate changes bound to occur in the normal course of business.

The items in any given release will rarely be delivered in exact order of ranking. There are many factors that come into the bundling process for each release. While stakeholder priorities are the number one factor in deciding what is included in a release, with a multi-disciplined approach, it will never be the only factor. IT also determines the optimal sequence in packaging to address the priority items on the list based on the ability to build any given item into the system.

Once the content of the release is put together, the ESC reviews the list. MNIT and DPS walk through each line item and members have the opportunity to give feedback and ask questions about overall content.

Emergency Master List additions process

MNIT and DPS have established an emergency escalation process. This process allows any member of the ESC to bring an urgent need to the table. MNIT can also bring up critical security-related items that it must act upon immediately to avoid a data or access breach.

The item of concern gets elevated to the emergency ESC subcommittee. These members volunteer for a "tour of duty" – to be available at short notice and help triage any critical issues. Different ESC members rotate to fill this role every three months. These members help decide a plan of action and assist MNIT and DPS in reporting out any decisions made on a particular emergency item at the next ESC meeting the following week.

Post-deployment production testing

Live-in-field release tests occur with each release. Each participating deputy registrar tests the release with actual customer transactions during post deployment check out. With this live testing, MNIT and DPS are able to confirm every transaction the deputy registrars process go through successfully in the system, to ensure there is no need to roll back the release.

Prior to the in-field testing, the UAT team sends out identified test scenarios to a number of stakeholders who then make sure that they have real transaction data that can be used to test the scenarios. This data is an actual transaction the stakeholder will process for their customer on the day of testing, since their system will be live.

MNIT and DPS notify volunteer testers 30 minutes in advance of when the test process begins. MNIT and DPS use WebEx for screen sharing and monitoring purposes. Stakeholders perform their transaction while on a conference call with the UAT team and other registrars and auto dealers. This way, testers have the ability to confirm the transaction or share any issues or concerns they have.

After testing each item, the UAT team asks stakeholders to verbally acknowledge that their test was successful. If the stakeholders are unable to do so, someone on the UAT team will get all of the details about what went wrong with the transaction and take that back to the designated emergency ESC in an immediate conference call. Should something unexpected occur, the emergency ESC, MNIT, and DPS may need to make a go/no-go decision together.

For Release 1.15, Governor Tim Walz added an additional level of scrutiny by joining the release team personally to approve the pre-launch go/no-go decision. In addition, he joined DPS and MNIT meeting with Deputy Registrars to participate in the go/no-go decision post deployment and participated in observing the post deployment testing.

Communications plan for transparent MNLARS Vehicle outages and system slowdowns

The communication plan is comprised of a three-part process to keep stakeholders informed and updated as soon as MNIT and DPS become aware that something is wrong with either MNLARS Vehicle or one of the DVS legacy systems (legacy driver, mainframe, motor vehicle permits). This process is also used when an issue arises with an interface partner.

> *Step 1:* Send preliminary notification to stakeholders confirming there is an issue.
> *Step 2*: Identify issue with stakeholders, give approximate timeline for resolution.
> *Step 3:* Send final notification indicating resolution and providing additional details when necessary.

MNLARS Vehicle service interruption - communication procedure

To ensure continuity of operations and service, MNLARS Vehicle, legacy driver, and motor vehicle permits staff will enact the communications procedure outlined below.

0-30 minutes   Determination of impacted applications and services.

< 30 minutes   **First stakeholder notification:**

DPS service desk sends initial communication sent to deputy registrars and dealers, acknowledging that MNIT and DPS know there is an issue with MNLARS Vehicle or one of the legacy systems (legacy driver, mainframe, motor vehicle permits). As soon as possible, DPS service desk sends the generic preliminary notification to system users.

Delivery method:

- DVS staff sent via Outlook
- Deputy registrar and dealers via GovDelivery

30-45 minutes   DPS service desk further escalates and troubleshoots, implements ESC procedures, and participates in technology and management bridge calls.

45-60 minutes   **Second stakeholder notification:**

DPS service desks sends an update to initial communications – includes additional details, resolution, or estimated time to resolution. *Subsequent communications follow every 60 minutes until resolution.*

DVS communications sends the notification within 15-30 minutes of first one.

DVS communications works with DPS service desk and the DPS Office of Communications to craft a more comprehensive message about what system is affected, what the problem may be, and, if possible, the anticipated length of the issue.

Delivery method:

- DVS staff sent via Outlook
- Deputy registrars and dealers via GovDelivery

Resolution   **Resolution notification to stakeholders:**

Notification is sent after the resolution is found and services are confirmed as fully restored.

DVS communications works with DPS service desk and the DPS Office of Communications to craft a resolution notification with root cause analysis, total impact, and any additional information regarding the issue.

Delivery method:

- DVS staff sent via Outlook
- Deputy registrars and dealers via GovDelivery

Proposed plan for post-release reporting on features and fixes to system stakeholders

MNIT and DPS must include three items in communications about all future releases. The first item is to socialize the actual content of the release, making sure that stakeholders are aware of what is changing and that MNIT and DPS can answer any questions they may have. The second item is to share a report once the UAT demonstration is finished, to ensure that stakeholders know that the UAT demo is complete, and to provide any necessary information or feedback received from the process. The third and final item is a post-release follow-up, confirming whether live-in-field testing went well and what, if any, additional feedback MNIT and DPS received since the release went into the system.

Socialize release content

Once the ESC has determined and vetted the content of each release, all stakeholders will receive the itemized release list, along with highlighted priorities, before it goes live in the system. After the content is socialized, MNIT and DPS start the UAT process.

UAT report out

When MNIT and DPS get into the testing phase of each of the releases, the stakeholders will receive an updated report on the status of the UAT.

If there are significant issues during the UAT phase and as a result the release is postponed, the stakeholders will receive a follow-up notification that the release has been postponed. This notification will include the reason for postponement. When possible, the notification will include the rescheduled release date.

It can be difficult to identify this date quickly because the release will still be in the testing phase. MNIT and DPS will not deliver a release until the UAT team has worked out all the issues that made it a "show-stopper" and fixed them.

Post-release reporting

Once a release is deployed into the system and has had three to five business days to run, the stakeholders will receive a follow-up email either notifying them of the success of the release, or notifying them of any issues they may experience as a direct result of the release. If there is additional action or notification needed, the DVS Communications team will follow up with all stakeholders.

Plan to create greater efficiencies and streamline title processing to reduce and minimize backlogs

As was noted in earlier reports, DVS continues to uses a multi-focused strategy to reduce and minimize backlogs, which includes using overtime for DVS staff, employing seasonal employees, and contracting for staff.

DVS engaged with the Department of Administration Office of Continuous Improvement and has now transitioned the continuation of this work to the Vehicle Services Process Improvement Team.

Staffing changes	Comments
Driver and Vehicles Services title and registration employees.	Since October 1, 2018 DVS has trained 19 title and registration team members in processing driver license applications. They were temporarily deployed to assist with driver's license applications and returned to Vehicle Services January 8, 2019.
Dept. of Revenue seasonal employees (These are seasonal staff who the Dept. of Revenue employs during the tax season.)	DVS contracted for an average of 21 temporary, seasonal employees to work on manufacturer certificate of origin (MCO) title transactions and Minnesota (MN) title transactions. The time period for their availability ranges from July to February.
Ally Business Solutions, LLC (A St. Paul non-profit organization that match the skills and interests of people with disabilities to the needs of private business and government agencies.)	An average of 13 contracted employees work on manufacturer certificate of origin (MCO) and Minnesota title transactions.

Request for information (RFI)

The following companies responded to the April 30, 2018 RFI solicitation in the *State Registrar*.

These companies submitted responses to the RFI by the May 31, 2018 4:00 p.m. deadline:

- Business Information Systems (website: http://www2.bisonline.com/)
- Celtic Systems (website: https://www.celtic.bz/Hub)
- FAST Enterprises (website: https://www.fastenterprises.com/)

The summary of the responses and information received from qualified vendors was submitted to the committee and the information technology auditor by August 1, 2018, as required by 2018 Minnesota Session Laws, Chapter 101, Section 2, Subd.5 (e). Recently, each of the RFI respondents were contacted to determine their continuing interest in providing information. Each agreed to continue their participation in the RFI and each were provided with additional questions. In addition, they attended RFI panel discussions on March 4, 2019. After the respondents provide additional information, it will be summarized and provided to the committee members.

MNLARS Vehicle budget update

Provided below is the MNLARS Vehicle budget for fiscal year 2019. It should be noted that in the absence of additional funding, the state faces a number of serious concerns, including the inability to retain and recruit talent, address priority fixes and gaps in the system, fully move production from the mainframe, allow for needed maintenance, and hire sufficient staff to provide the level of oversight identified in other reports.

The budget is in a number of tables, including a budget summary (Table 1) and a special rider budget (Table 2). Please note that due to budget restrictions during FY 2018, the MNLARS project experienced a period of several months where spending was slowed due to ramp-down of the project and contractor uncertainty. As a result, some of the funding provided last session will be spent in FY 2019, rather than as expected in Q4 FY 2018.

Table 1 – budget summary

Table 1, the budget summary, includes a breakdown of revenues and costs rolled-up to a summary-level similar to that previously provided to the legislature as part of the full funding budget from the governor's recommendations in January 2018. It includes revenues, expenditures, encumbrances, and forecasted spend for the reporting period ending November 30, 2018. "Expenditures" are monies paid subject to an invoice or expense incurred. "Encumbrances" are monies set aside for payment after an obligation for payment has been established, but no invoice has yet been approved or paid. "Forecasted spend" includes planned expenditures and encumbrances that are anticipated, but have yet to be either paid-out or set-aside.

Financial reporting for vehicle & driver for reporting period ending March 1, 2019 ($000)	FY18	FY19		
Revenues	**Total**	**YTD spend**	**Encumbered & forecast**	**Total**
Special revenue	3,738	3,193	2,710	5,903
Carryforward	12,632	14,080	-	14,080
Receipts	2,130	1,314	586	1,900
Transfers in	8,000	8,000	-	8,000
Total revenue	26,500	26,587	3,296	29,883
Expenditures - Driver	**Total**	**YTD spend**	**Encumbered & forecast**	**Total**
FAST contract	8,250	6,500	3,000	9,500
FAST DVS staff	-	370	462	832
MNIT Drivers staff	41	345	284	629
FAST contractors	834	762	264	1,026
Technology costs	659	463	941	1,404
Other spent	32	68	27	95
Total Driver	9,816	8,508	4,979	13,487
Expenditures - Vehicle	**Total**	**YTD spend**	**Encumbered & forecast**	**Total**
Contractors	11,020	6,047	2,800	8,847
DVS staff	416	437	250	687
MNIT staff	2,740	1,078	1,535	2,613
Technology costs	2,287	1,580	2,541	4,121
Other spent	221	85	43	128
Total vehicle	16,684	9,227	7,169	16,396
Total Driver and Vehicle	**$26,500**	**$17,735**	**$12,148**	**$29,883**

Table 2 – special rider budget

Table 2, the special rider budget, contains an accounting of the use of fund provided under MN Laws 2018, ch. 101, including $7,051,000 for contracting to perform software development on the vehicle services component of MNLARS and $2,599,000 for technology costs. The numbers contained in this table are contained in the data provided in Table 1, but are addressed separately here.

Special rider budget for reporting period ending March 1, 2019 ($000)	FY19						
Rider	Carry forward from FY18	Transfers	Total FY19 budget	YTD	Encumbered & forecast	Total forecast	Remaining amount
Contracting	3,626	93	**3,719**	2,657	1,062	3,719	-
User authentication & access control management	83	(23)	**60**	27	24	51	9
Testing environment, hardware, server & data storage	2	(2)	**0**	-	-	-	0
Partial relocation of data center	650	-	**650**	121	529	650	-
Disaster recovery & preparedness	667	-	**667**	226	441	667	-
Contracted software review & software development Support	884	(68)	**816**	162	654	816	0
Total	**$5,912**	-	**$5,912**	**$3,193**	**$2,710**	**$5,903**	**$9**

Spend for employees and contractors

Spend for MNIT and DPS employees is shown for the reporting period ending March 1, 2019. Tables 3 and 4 contain staff charges allocated to the MNLARS Vehicle project for each position, as well as an indication for each position of the number of dedicated staff and non-dedicated staff (those that spend part of their time supporting MNLARS Vehicle, but not assigned to the project).

Table 3 – amount spent for MNIT employees

Position	Dedicated staff	Non-dedicated staff	FY19 Spend ($000)
Managers/supervisors	2	-	118
Project managers/admin support	1	1	89
Technical/software architects	-	-	-
Software developers	8	-	527
Operations	10	4	634
Technical support	5	1	55
Total	**26**	**6**	**$1,423**

Table 4 – amount spent for DPS employees

Position	Dedicated staff	Non-dedicated staff	Vehicle ($000)	Driver ($000)	FY19 Spend ($000)
Program Director	2	-	37	78	115
Business Analyst	15	-	358	267	625
Information Officer	1	-	24	24	48
Project Consultant	1	-	19	-	19
Total	**19**	**-**	**$438**	**$369**	**$807**

Table 5 – amount spent (in thousands) for contractors

Spend for MNIT contractors is shown for the reporting period ending March 1, 2019. Table 5 contains the amount (in thousands) paid by the MNLARS Vehicle project for each contractor. Each contractor may have one or more billed resources placed on the project or may be paid upon completion of deliverables without regard to the number of resources engaged.

Contractor	FY19 Spend ($000)
American Association of Motor Vehicle	12
American Databank	1
American Cybersystems Inc	148
Basswood Consulting Group LLC	70
Charter Solutions Inc	296
Dahl Consulting	125
Elegant Enterprise Wide Solutions Inc	76
FAST Enterprise LLC	6,500
Iceberg Tech Group	69
International Projects	158
Intertech Inc	65
Knowledge It A Cooperative	422
Lighthouse Software Solutions	775
Logisolve LLC	19
Sdk Technical Services	120
Software Engineering Services	50
Sogeti/Capgemini America Inc	3,976
Systems Advantage Inc	219
Talent Software Services Inc	80
Zinncorp Inc It Doctors	128
Total	**$13,309**