New Mexico Survey and Mapping Project

Project Report
Data Confidentiality

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<table>
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<th>Version</th>
<th>Date</th>
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<tr>
<td>V1</td>
<td>December 13, 2021</td>
<td>Version 1 delivered December 2021</td>
</tr>
<tr>
<td>V2</td>
<td>April 4, 2022</td>
<td>Updated based on New Mexico Legislature Staff feedback, corrections and clarifications.</td>
</tr>
<tr>
<td>V3</td>
<td>May 13, 2022</td>
<td>Updated based on New Mexico Legislature Staff feedback, corrections and clarifications.</td>
</tr>
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1. Report Summary

1.1. Introduction

We would like to thank all the staff of the New Mexico Legislature who gave generously of their time to participate in this survey and mapping project. The level of engagement and attention to detail in the process workshops, output sample collation, demonstrations and screen-shares by all staff was very high and has contributed significantly to the findings and recommendations in this report. The groundwork laid during this project by all departments will contribute greatly to a successful outcome in the long term.

Specifically, we would like to thank Raúl Burciaga, Pamela Jensen, Lisa Ortiz-McCutcheon, Lenore Naranjo, Amy Chavez-Romero, Jon Boller, Ric Gaudet and Ralph Vincent for their work in coordinating the effort and supporting the online and remote attendance in the workshops.

1.2. Executive Summary

Following the awarding of the contract to Propylon for ‘A Survey and Mapping of the Workflow, Processes and Documents used in the Legislative Process’, Propylon worked with the New Mexico Legislature in a number of remote and onsite meetings and workshops. The two outputs from this process are the already delivered ‘New Mexico Workflow Report’ and this survey and mapping project report. The Workflow Report details the workflows and processes listed in ‘Section 1.3.4 – Functional Areas Covered’ below. That report also includes a brief description of those processes and outputs.

This report includes the findings and observations made by Propylon during our review and the onsite workshops. These findings and observations set the context for a set of recommendations that the New Mexico Legislature can implement to improve the IT infrastructure and applications that are used to support their legislative process. The recommendations can be implemented in a phased manner spread across legislative sessions in order to minimize session disruption. A phased implementation will allow for a maximum return on investment in the challenging areas of the existing IT systems acknowledged in the discovery.

Legislative IT projects have their own unique challenges. Foremost being the ‘hard stop’ deadlines enforced by legislative sessions. Project planning is needed around session schedules to account for staff availability and to de-risk going live with new software during business-critical periods. We are confident that the recommendations contained in this report are achievable and will realize the benefits outlined for the New Mexico Legislature.

The recommendations will improve services for members, staff and all consumers of the Legislature’s outputs. A key aspect of the recommendations is around consolidating the IT systems supporting the legislative process under a centralized, single platform. By doing this, all departments will benefit from increased efficiencies, robust digital tools and an improved user experience. The main recommendations include:

- Development of new drafting tools based on Microsoft Word and an accompanying integrated request management system.
- Create user friendly applications for managing chamber and committee business where users can enter information once and reuse it.
- Consolidate systems into a Legislative Enterprise IT Architecture.
- Adopt a Master Data Management approach to document management.
- Improve services for members, staff and the public with updated applications and IT systems.
Implementing a single consolidated IT platform will introduce measurable improvements and create a stable platform that can support and grow with the requirements of the Legislature for years to come.

1.3. The Report

This section sets the context of how the report was created, the business areas covered and its structure.

1.3.1. Report Background

Following the issuing of a request for proposals for ‘A Survey and Mapping of the Workflow, Processes and Documents used in the Legislative Process’ by the Legislative Council Service of New Mexico, Propylon was selected to carry out the survey.

1.3.2. Creating the report

Having engaged with multiple Legislatures to assess their existing IT systems that support their Legislative Processes, Propylon has developed a tried and tested methodology that enables a full overview and understanding of a Legislature’s processes and supporting systems. The ability to achieve a rich understanding of the ‘as-is’ in the New Mexico Legislature was rooted in Propylon’s extensive domain knowledge coupled with the high level of engagement from staff. This report is the culmination of a number of activities:

- Output gathering

An essential aspect of any legislative systems analysis is gaining an understanding of all the outputs that are required to be produced by all systems. An inventory and samples were provided by staff, and these are detailed in ‘Appendix D – Output Inventory’. This work provides critical inputs to the recommendations in this report. This exercise will also benefit the full design and development process of an implementation project in the future.

- Legislature website review

Propylon analysts leveraged the rich information available on the Legislature’s website which enabled a good understanding of the New Mexico lawmaking process and the outputs produced throughout the process.

- Legislative outputs review

Prior to the workshops, Propylon analysts cataloged and analyzed delivered outputs. A key aspect of our proprietary Output Centric Design Methodology is an understanding of the critical legislative outputs such as drafts, bills, journals, calendars, agendas and enrolled and engrossed legislation. Their ‘as-is’ production workflows form the focus of the on-site workshops. Any potential ‘to-be’ system will need to produce the same outputs at the same level of fidelity.

- On-site workshops

The on-site workshops formed the core of the analysis activities for this survey and mapping project. Over a period of two weeks, New Mexico staff and Propylon analysts workshopped all the areas listed in ‘Section 1.3.4 – Functional Areas Covered’. This report would not have been possible were it not for the extremely high level of engagement...
we experienced with all the legislature’s staff. We were able to gain a good understanding of the legislative processes in a relatively short timeframe. The insight gained in these workshops underpins our confidence that the recommendations are the best-fit for the New Mexico Legislature.

- **Workflow diagram creation**

Following the workshops, Propylon analysts created workflow diagrams as detailed in ‘Appendix C – Index of Workflow Diagrams’. These formed part of the first deliverable and were delivered to the New Mexico Legislature for review on December 1.

- **Analysis findings write-up**

Following on from the detailing of the process workflows, Propylon analysts assessed these workflows and captured observations and resulting issues. These are detailed in ‘Section 2 – Root Causes Analysis’

- **Recommendations and implementation write-up**

Based on our observations and findings, the full Propylon team of analysts, technical architects and senior management met regularly to map out a series of recommendations. We have documented these recommendations in ‘Section 3 – Recommendations’

- **Report delivery and findings and recommendations presentation**

The final stage of this project is the delivery of this report and a presentation to all stakeholders of our findings and recommendations. This will include a question-and-answer session. This is scheduled for December 10th, 2021. Upon delivery of the final report, if there are any process details that the New Mexico Legislature staff find inaccurate, we would welcome feedback and will incorporate them into an updated report. A follow-up meeting for feedback will be scheduled.

**1.3.3. Business Areas Covered**

The following business units participated in the creation of this report:

- **House of Representatives**
  - Chief Clerk
  - Committee Staff
  - Journal Clerk
  - E&E Clerk (Enrolling & Engrossing)
- **Senate**
  - Chief Clerk
- **Legislative Council Service**
  - Drafting Services
  - IT
  - Library Services
  - LIS
  - Proofing and Editing
  - Research and Publishing
1.3.4. Functional Areas Covered

For each of the business areas listed above, the following legislative processes and functional areas were covered for both House and Senate:

- Request Tracking (202 system)
- Creation of a Bill
  - Drafting of Bills
  - Drafting of Memorials
  - Drafting of Resolutions
  - Analysis of Fiscal Impact
- Drafting of Amendments and Substitutes
  - Standing Committee Amendments
  - Floor Amendments
  - Standing Committee Substitutes
  - Floor Substitutes
  - Enrolling & Engrossing
- Committee
  - Committee Agenda
  - Standing Committee Reports
- Session
  - Committee Report Adoption
  - Messages
  - Speaker’s/President’s Table
  - Supplemental Calendar
  - Concurrence Calendar
  - Consent Calendar
  - Working Calendar
  - Temporary Calendar
  - 3rd Reading Calendar
- Reports
  - Bill Finder Webpage
  - Daily Bill Locator
  - Subject Matter Index
  - Sponsor Index
  - Concordance

1.3.5. Report Structure

The report is broken down into the following sections:

- Executive Summary
- Root Cause Analysis - observations and related issues
- Recommendations
1.4. Summary of Findings

The following is a summary of our findings. ‘Section 2 – Root Cause Analysis’ explores these findings from the workshops and discovery in more detail.

It is common in all Legislatures that paper is central to many aspects of their legislative business. We do not advocate for a complete transition to digital. However, the ability to maintain verifiable master digital documents that can be printed as needed to support the parts of the process that require paper copies is our recommended approach. What was interesting in this discovery was how the New Mexico Legislature staff have had a forced transition to digital due to remote working during the pandemic. Through our analysis, we found systems have evolved around the paper, and latterly the PDFs, in order to track and update their progress. The need to track these documents – separate from the document itself – has led to synchronization and duplication of effort issues. Paper copies and disconnected emailed PDFs, without a reliable consolidated master copy, can slow down business and prevent more timely updates of data pertinent to the legislative process. Copy actions can overwrite existing digital versions – without a full, verifiable audit trail of changes, leading to master data issues and additional proofing cycles.

The nature of many legislative IT systems is that they grow organically over time. As a result, they can form into information silos that do not allow for the easy exchange of data. We have seen evidence of information silos and users maintaining their own individual logs, backups and tracking systems. This, and the proliferation of emailing documents, introduce ambiguities around what is considered the 'master version' of an electronic document at any given moment in time. A consolidated approach to these tracking systems, in conjunction with centralized data management, will bring many benefits in streamlining workflows.

Individually, the issues observed may not add a significant overhead to how individuals accomplish their tasks, collectively however – and at busy periods – the sum total can add delays to the legislative process and affect business critical actions. This adds to the stress and workload at these times and can introduce errors.

1.4.1. Common Themes

Throughout the course of the workshops, a number of common themes emerged.

- **Versioning and master data management**
  As documents work their way through various processes, we observed the use of email and shared network drives for their exchange. As a result, it may be difficult to determine the master copy and it may also be necessary to update tracking databases. This makes it hard to follow a verifiable, versioned audit trail for documents. For example, bill drafts are emailed as attachments between drafting attorneys, word processing and proofing, each time creating a copy of that document. This results in a versioning and master data problem. Ideally these groups would be working off a single master document accessed via links to that master file.
• **Duplicated data entry**
  During the survey and mapping workshops, we encountered many examples whereby data, which may well already be included in a document, must be re-entered into a database or tracking spreadsheet and kept up to date in that location as it may change within the source content. The Table of Changes (ToC) database is a good example of this whereby information in bills must be entered in this database and kept in sync as it evolves. Other examples of this duplicated data entry can be seen in the Bill Finder database.

  This duplication of data entry causes a number of connected issues. It could lead to errors, so additional proofing cycles are required to maintain the high levels of quality seen. It has the potential to slow down business processes – especially at crunch busy periods. It can cause the information to get out of sync.

• **Multiple, disjointed applications and databases**
  Multiple databases and tracking spreadsheets were demonstrated in the workshops (see ‘Appendix B – Applications and Databases’ for a list). Each plays a key role in workflow and bill status management – however their organic growth has not allowed for consolidation and interoperability. There is extra workload required to maintain these. For example, a spreadsheet is used to manually track future effective dates, data that could be tracked directly in a bill's metadata.

• **Synchronization**
  The above issues have led to synchronization challenges. There is extra overhead in updating single actions in multiple locations. For example, a Bill Status event may need to be updated in numerous locations. In our workshops, we found that Bill Status information was being added in the LegInfo database, but bill actions were also being added in the Bill Jacket database used in House. Other data elements were added to the LegInfo database but were also added to a number of other databases. This has negative downstream effects on applications used within the Legislature. For example, if a data element is pulled into an application incorrectly, then it can be difficult to determine which database is the origin of the bad data. For example, it was noted that the member name format differs between MS Access databases. Some applications, such as the Journal application, pull in information from various Access databases and have, on occasion, suffered from member names being displayed in an incorrect format within a Journal. It is quite complex to track and debug this type of error, to find the database where the correction needs to be made.

• **Tracking and audit trails**
  Despite the large number of databases that are maintained within the New Mexico Legislature, there are still a number of complications when tracking various items. The lack of a centralized system means there is no one place for staff to track all of the items related to their work. There are several databases for tracking items, some of which are tracking similar items but for different staff members. We also observed a number of instances where the databases did not provide full tracking coverage, and staff had to keep their own records to ensure that they can track the items relevant to them. The lack of an audit trail was also evident during our workshops. A number of documents are emailed back and forth between different groups. That makes it very difficult to determine what has happened to a document between various steps within the workflow.
• **Adjusted working processes for remote working during pandemic**

What we found particularly interesting during the survey and mapping workshops were changes to work processes due to remote working. This primarily revolves around marking up and emailing PDFs during editorial and proofing cycles. This is the natural progression from what was primarily a paper-based process and does indicate a willingness to adopt digital practices. However, this is still a rather ‘paper-centric’ approach and can be slightly more time consuming. Rather than marking up PDFs, it will be more efficient to explore processes around tracking changes and annotations directly in the drafting tool. Additionally, ad-hoc emailing of files can lead to master data issues. It is more robust to work off a centralized document management system in a more formal, versioned and managed workflow model. Anecdotally, there was reference to increased statutory errors associated with the new working practices that were related to a required application change. Previously files could not be sent without fixing statutory errors flagged in the error report; currently, the file can be sent with the error report.

We feel the move to remote working, while it may not have resulted in an optimal alternative to the heavily paper-based workflow, has opened a window of opportunity for the Legislature to review and revise work practices.

• **WordPerfect**

Having engaged directly with multiple US state legislatures, we have seen a diverse set of custom drafting software that has evolved to meet the specific needs unique to each state. These vary from mainframe-based systems and custom XML editors to custom add-ons for Microsoft Word and WordPerfect. The custom WordPerfect tools developed for the New Mexico Legislature have served the Legislature very well, and we are impressed by the scope of their features. However, as we detail in ‘Section 2 – Root Cause Analysis’, some limitations have been identified and there is an acknowledged desire to create drafting tools based on Microsoft Word. WordPerfect’s roadmap is uncertain and we do not believe it is a platform that can be relied on for future development.

• **Institutional knowledge**

What was very evident in the workshops was the high levels of detailed knowledge all staff were able to demonstrate regarding their specialist areas. In many incidences, this high level of knowledge and experience gained over many legislative sessions is key to making the process run smoothly and the high levels of quality in the work product demonstrated.

### 1.5. Summary of Recommendations

As outlined in Propylon’s response to the Request for Proposals, this survey and mapping project was framed using our Output Centric Design Methodology (OCDM). This methodology has been developed by our legislative experts to properly survey and map existing legislative workflows, documents, and processes. The OCDM method uses the system’s outputs to organize the analysis work and provide deliverables that clearly articulate the business process, while creating documentation that can be built on for future software implementation projects independent of the design solutions chosen. Propylon’s OCDM process is our proprietary method of capturing business processes using real-world samples to validate that process.
During the workshops, we gained good insight into how processes work across all relevant business units involved. We understand how staff interact with the process and the dependencies that exist for each step in the legislative process. We also examined the IT systems and manual systems in place to manage data. As part of the workshops, we also discussed existing pain points and briefly discussed potential solutions and ‘wish lists’.

‘Section 3 – Recommendations’ details our complete set of recommendations based on our findings and observations of issues resulting from our ‘as-is’ analysis. A key focus of workshop and recommendation discussion was developing new drafting tools based on Microsoft Word. By its nature, drafting is a core function of the legislative process and, as a result, will touch on multiple aspects of any IT change project. As part of our recommendations around drafting tools contained in ‘3.4. Introduce Drafting Tools in MS Word with integrated Request Management’, we show that integrating a tracking system with the drafting tools, will remove the administrative overhead for drafters. Workflow and content dashboards will allow drafters to focus directly on their drafts, while at the same time, capturing all the relevant details and rich data for a consolidated tracking system. By better leveraging the data contained within drafts with styles and metadata, you can remove the need for additional data entry into multiple tracking databases and applications as is currently the case. Improvements in data handling within bills will allow for better tracking of changes to sections across the full corpus of bills and drafts – allowing for a better ‘real-time’ view as to how a statute is changing, improved management of potential conflicts and faster turnaround in the update of Zoo files.

In order to develop these new tools, another key recommendation is the consolidation of legislative data and applications under a legislative enterprise IT architecture. We discuss issues caused by a lack of master data management and show how, through the implementation of a consolidated document management system, a single consistent view of all legislative data can be achieved, while respecting organizational boundaries and legislative procedure. It will be a single place to store all legislative data while supporting the rules, processes, access rights and legislative procedures required for each body.

Currently, there are a number of tools that need updating to capture session information, including LegInfo, Calendar Creation, Messages, Journal etc. We would recommend consolidating these into a single chamber application. This is discussed in ‘Section 3.6 – Consolidate and Streamline Session Recording Tools’.

An opportunity exists whereby the Legislature can build on the changes that have been made due to remote working during the pandemic. ‘Section 3.11 - Build on Work Practice Changes Initiated by Remote Working’ includes recommendations for reviewing and building on these changes, which can benefit the Legislature as part of a wider IT change project.

Throughout the workshops, and with all interactions with New Mexico Legislature staff, we were impressed with the level of expert knowledge each person has for their business area. Indeed, this depth of institutional knowledge plays a key role in the smooth running of sessions and the quality of the legislative outputs. A key recommendation we make as part of any future project is to capture this institutional knowledge and codify it as part of the new system and record it as training material and ‘run books’. Run books capture specific processes in a step-by-step guide that can be used for training, support and troubleshooting. We also recommend that, as part of the analysis and design phase of a future project, you look at opportunities to standardize and streamline existing processes. For example, opportunities may exist for agreeing standards for amendatory language and title structuring.

By implementing the recommendations contained within this report, our experience has shown that significant efficiency and time savings can be achieved. Additionally, this will improve the services that can be offered to
members. By establishing a centralized legislative enterprise architecture, consolidating documents within a central document management system and leveraging data within documents, the immediate requirements of drafting and chamber recording can be met. Also, future enhancements and additional services can be built faster on this core foundation. For example, Application Programming Interfaces (APIs) can drive additional features like Apps for members and additional website functionality.

‘Section 3 – Recommendations’ in this report outlines Propylon’s recommendations which would form the basis of an IT implementation project for the New Mexico Legislature. The following is a summary of our recommended actions and deliverables for this project.

1.5.1. Project Success Outcomes

A key aspect of any project initiation is a clear definition and agreement of what success looks like. It is necessary to clearly define and agree to a list of success criteria and deliverables to gain understanding and consensus from all key stakeholders as to what they will be getting. Based on the recommendations within this report, the Legislature will be able to compile a list of deliverables that are focused on delivering improvements directly to help staff with the jobs they need to get done daily.

1.5.2. Implement a Consolidated Legislative Enterprise Architecture

To facilitate the creation of new, modern applications shared across all business units and to allow for centralized data management, it is important that at its core is a consolidated legislative enterprise architecture. This will allow for a master data approach and allows for the sharing of data, greater re-use of content and more robust publishing processes. Please refer to ‘Section 3.3 – Implement a Consolidated Legislative Enterprise IT Architecture’.

1.5.3. Consolidated Master Data Management

In addition to basing your new IT systems around a Legislative Enterprise Architecture, consolidating data management in a centralized location enables the design and implementation of cohesive end-to-end processes and business applications. By adopting a master data management approach, issues that currently exist around the rekeying of data and the synchronization of information in multiple tracking databases and applications is removed. This will be discussed in more detail in ‘Section 3.3.2.1 – Centralized Master Data Management’.

1.5.4. Introduce Drafting Tools in MS Word with integrated Request Management

The move to drafting tools based on Microsoft Word will address some of the identified pain points that currently exist in drafting. By integrating the drafting tools with an updated Request Management (‘202’) system, it will allow for workflow efficiencies and reduce the administrative overhead for draft request tracking. This will allow for details to be captured directly in Microsoft Word – enabling drafters to focus on their content. ‘Section 3.4 - Introduce Drafting Tools in MS Word with integrated Request Management’ details the improvements which would include:

- Template management
- Bill processing
- Section management
- Title creation
- Embedded metadata
- Improved amendment and substitute drafting
- Streamlined enrolling & engrossing
Due to the central role that drafting plays in all session activities, drafting tools will form the core of our recommendations.

1.5.5. Consolidate and Streamline Session Recording Tools

By implementing a master data management approach, improvements can be achieved in recording chamber activities. A number of disjointed applications can be merged into one single application, with user permissions setting boundaries where necessary, in order to ensure that staff build upon each other’s work rather than working in silos. If built upon a centralized data management system, data can be entered once and used multiple times. One group could enter data that can be leveraged and built upon by another group. For example:

- Introduced bills could leverage information entered in a request (‘202’) record (where appropriate).
- The process for creating bill jacket labels in the House could leverage bill status data that has been entered for a specific bill.
- PDFs of amendments could automatically be populated in the correct location once they have been offered.

1.5.6. Improved Committee Document Creation

A new Committee Application, which leverages the aforementioned centralized master data management, could provide greater information and reporting to internal legislative staff. The Legislative Council Service and the Chief Clerks could easily and quickly determine which bills and amendments have passed during a committee meeting, to ensure that they are ready for their next tasks related to those bills. A new Committee Application could also streamline the creation and publishing of Committee Notices and Reports. Multiple user groups and roles within this application could also ensure greater oversight and reassurance.

1.5.7. Improved Reporting and Report Publishing to Website

During the survey and mapping workshops, multiple examples of PDF reports were discussed. In some reports, data needs to be updated in bulk on the website multiple times in a day during busy session periods. Implementing the approach of tracking a document’s metadata within the document itself will allow for querying this data via self-service reporting tools. This data can be replicated for publication and querying on the public website. This will allow for near ‘real time’ reporting across all legislative data and documents.

1.5.8. Improved Services for Members

Implementing a master data management system opens the door to new possibilities that could dramatically improve the day-to-day workings of a legislator. For example, a legislator’s mobile app could be created that would allow Members receive custom alerts for their legislation and committees. Members would have the ability to automatically track items of relevance to them, such as sponsored legislation and notices and reports from committees they are assigned to. Members would also be able to sign-up for custom alerts on various other items and publications within the Legislature.

1.5.9. Improved Statute Management for Zoo Files

The benefits associated with improved drafting tools above allow for greater control of managing updates to the statutes in the Zoo files. To leverage this, we recommend implementing a new statute management system and dashboard for LCS. This will bring efficiencies in keeping statutes up to date – both with the in-session statute updates required for when sections are chaptered with an emergency clause and need to be amended again during
session, and for the larger post-session statute update work. Features of the new system and dashboard could include:

- Entering chapter numbers for session laws once assigned by the Secretary of State
- Splitting Acts into individual zoo files
- Tracking suggested changes to zoo files, proofer notes and comments
- Effective date tracking and tracking changes of law that have not yet taken effect
- Managing editorial and proofing workflows
- Publishing in necessary formats

1.5.10. Build on Work Practice Changes Initiated by Remote Working

Change management is an often-overlooked aspect of transformative IT system projects. Working directly with users and key stakeholders along all stages of a project is key to its success and is central to how Propylon runs projects. What was interesting in this survey and mapping project was the extent to which a level of IT system change is already in-train within the Legislature. In many workshops, users referred to ‘before’ and ‘after’ COVID. In a very short period users have adopted some digital-centric work practices due to remote working. We believe this presents a unique change-management opportunity for the Legislature to assess the efficacy of these changed work practices and to work with users to adjust them to bring more process efficiencies and improvements.

1.5.11. Codify Institutional Knowledge into Systems and Processes

What we have found with these survey and mapping projects is that they present an opportunity to create a greater awareness amongst all business units within a legislature to better understand the dependencies that exist. The workshops help staff to better understand their role in the full legislative process and the effects of their actions on the downstream process and other dependencies. They facilitate interdepartmental discussion around standards such as amendatory language and title formats. During the workshops, the wealth of knowledge each individual has for their business area was evident.

With the Workflow Report, a certain amount of this knowledge and process has been recorded. What we recommend is that, as part of a future project’s objectives, the opportunity is taken to codify the shared institutional knowledge the expert staff of the legislature has developed over a long period. This information can be captured as training material or codified into IT systems and run books. Please refer to ‘Section 3.11 – Codify Institutional Knowledge into Systems and Processes’.
2. Root Cause Analysis

2.1. Summary of Root Cause Analysis
This section details the as-is process workflow analysis undertaken during the survey and mapping project. Based on the business processes listed in the original request for proposals each process is described. Related workflow diagrams are listed in ‘Appendix C – Index of Workflow Diagrams’ and are also included in the Workflow Report issued on December 1st. We have also included Propylon’s observations and possible issues in addition to the workflow analysis.

2.2. Creation of a Bill
At its core, one of the primary responsibilities of a legislature is to create and update the law. As such, the process of making changes to law must have vigorous checks and balances in place to ensure that all changes that are proposed have been thoroughly reviewed before they have the opportunity to be approved.

2.2.1. Drafting of Bills
When an individual has an idea to create or change law, the first step of the process is to forward that idea to a legislator who will authorize the drafting of a new bill. While the approving legislator does not necessarily need to ultimately become the sponsor of that new bill, having their approval is required to begin the process. State agencies, the governor and other legislative agencies can also request legislation without initially needing a legislative sponsor.

After receiving a request for a new bill with the correct approval, an authorized individual opens the “202 file” to record all relevant information regarding the new bill. The “green sheet” is printed containing all of the information included in the 202 file. This consists of the unique “202 number”, which serves as the unique identifier for the bill. Once this information is delivered to the designated drafter, the drafting process can begin.
Figure 1 – Create New Bill Form

‘Figure 1 – Create New Bill Form’, shows the form that is used to capture the type and details for a new legislative document in the 202 system. For amendatory bills, existing statute is imported within a WordPerfect file (see ‘Figure 2 – Insert Zoo Section Options’), and the drafter makes the requested changes and may add sections of new material, non-amendatory sections, as needed. Using the WordPerfect error checking tools, various checks are run against the newly saved version of the bill. These checks ensure that the statutory integrity of the amendatory sections are maintained by checking each word of the proposed changed section against the archived section; section and subsection numbering/lettering; and multiple formatting issues. Following the resolution of these errors, the document is sent on to the proofing team for their review. Proofers convert the WordPerfect file to PDF, check all content of the bill for accuracy, mark needed changes and send the file on to Word Processing to be put into the system, which includes putting the bill in the proper shell and saving on the appropriate network drive (wordpros). Word Processing sends the file back to the proofers, where the file is reviewed again, changes are marked and returned to Word Processing. This cycle continues until the bill is approved. When the proofing team approves the bill, it is sent on for a final review by the original drafter, who sends the bill to the requester for review. Any suggestions by the requester are sent back to the drafter who incorporates them into the bill, which then must go through proofing and word processing again. However, if the original requester approves the bill, then the "DISCUSSION DRAFT" language and the date are removed, bill is prepared for introduction, copies of the bill are made by the LCS bill clerks and the bill is put into a bill jacket and delivered pursuant to instructions of the bill sponsor. The sponsor or designated staff member who receives the bill will then deliver it to the Chief Clerk to be filed for introduction.
Figure 2 - Insert Zoo Section, note this includes 30,000+ sections of New Mexico statutes

SECTION 1. Section 64-27-63 NMSA 1978 (being Laws 1933, Chapter 154, Section 48) is amended to read:

"64-27-63. ARREST AND PROSECUTION OF VIOLATORS.--It [shall be] is the duty of the sheriffs of the counties to make arrests, and it is the duty of the district attorneys [and/or] attorney-general to prosecute all violations of this act.

Sections 64-27-1 through 64-27-65 NMSA 1978."

Figure 3 - Amendatory Section Markup
2.2.2. Drafting of Memorials

Memorials are a formal expression of legislative desire, by at least one chamber, without the force of law. A “Simple Memorial” is one that will only be reviewed by the originating chamber, while a “Joint Memorial” is one that will be reviewed by both chambers, but both will follow the same process for drafting as a bill. Memorial are, however, drafted in a very distinct format that differs from a bill. The drafter will use WordPerfect to draft and error check. The proofing team will review and the word processing team will process the memorial before it is then forwarded on to the original requester where it continues its path towards introduction.

2.2.3. Drafting of Resolutions

Simple resolutions are a request to change the rules of at least one chamber. Similar to memorials, they follow the same drafting and review process as bills. They are also drafted in a similar format to a memorial. A “Simple Resolution” changes the chamber rules for a single chamber. Concurrent Resolutions are used in order to amend the joint chamber rules.

A “Joint Resolution” is drafted in a similar format to a Bill. Joint Resolutions are generally used to:

1. Propose amendments to the New Mexico constitution;
2. Ratify amendments to the federal constitution; or
3. Express the approval of the legislature in those instances where by statute the legislature has required only legislative (not executive) approval for some action, such as approving the sale, trade or lease of state-owned real property as required by Section13-6-3 NMSA 1978..

2.2.4. Analysis of Fiscal Impact

Fiscal Impact Reports (FIR) are documents that detail assessments made by the Legislative Finance Committee (LFC) on the financial effect a bill will have if passed in its current state. While not related directly to the drafting of a bill, the Fiscal Impact Report (FIR) is run after each version of a document (Bill/Resolution/Memorial) has been introduced. This includes when a document has been introduced, amended, or substituted. To assist with the review of the changes included within a document, this analysis is performed to identify if there will be any costs or savings associated with the change. Since amendments and substitutes associated with the document could alter these costs or savings, a Fiscal Impact Report (FIR) must also be prepared after amendments or substitutes have been adopted.

2.2.5. Drafting Observations

The program used for drafting purposes is clearly well liked amongst drafters and provides users with a number of helpful and efficient tools to support draft creation. However, it was acknowledged during the workshops that the WordPerfect tools are close to reaching the limit of what they can achieve. Once this occurs, it will become more difficult for any improvements to be made to the current tools. Similarly, WordPerfect is not as commonplace within the market as in previous years and its roadmap is unclear. New versions and improvements have been less frequent over time. If this trend continues, it has the potential to cause the existing drafting tools to stagnate.

One element of the current tools that was evident was the lack of integration between tools and departments. Documents are created in separate applications by separate departments, with no underlying document management system or formalized interconnection between the various tools. Due to this, the different groups are also separated from one another. For example, the following was noted —
• Drafters create 202 records in a MS Access program.
• Drafters create Discussion Drafts in WordPerfect, which is not integrated with the 202 system. These files are emailed to Proofing and Word Processing.
• Proofreaders create a PDF of the original document—in order to have some format to markup changes that are visible to later users.
• Proofreaders proof and create proofing notes in a document that has no link or connection to the Discussion Draft.
• Word Processing use the original WordPerfect document to merge into the official template used for creating legislation.
• Drafters mark-up the PDF version and email it to Proofing.

There are no integrations between the 202 system, the WordPerfect drafting tools or the application used to create and edit PDF documents. The lack of integration means that staff are forced to email their documents back and forth, creating difficulties in easily locating a document and determining its status. The lack of a centralized system and document storage means that additional effort is required by staff to ensure a draft document successfully navigates the drafting process.

The limitations of WordPerfect were also apparent in the workshops. For example, there are some formatting issues caused by WordPerfect that cannot be resolved by drafters. When these issues occur, the document must be sent to Word Processing staff who can correct the problem. Processes have also been created in part due to the lack of functionality available in WordPerfect. It was noted that the process of drafters marking up either hard copies of drafts (pre COVID) or PDF documents (since COVID remote working) were created in large part due to it being difficult to ascertain what a user has specifically done in a WordPerfect document. For example, if WordPerfect was used to make changes after the initial draft was returned from proofing, it would be very difficult for a proofer to determine what a drafter has changed in a document. There are also numerous codes, which are embedded inside the document in WordPerfect, which can be easily be accidentally moved or deleted by a user. Therefore, it is easier to use hard copies of the bill with manual mark-up from the drafter, or a PDF with comments from a drafter. Whilst this process does work, it adds additional steps to the process for all parties.

Lastly, we noted that there were a number of tracking spreadsheets and systems created by some individual drafters. For example, a spreadsheet is created to track effective dates for specific statute sections. This is in addition to the 202 system and multiple other databases currently in place. Therefore, we believe that the 202 system and other reporting databases are not currently providing the detailed reporting and tracking of requests, drafts and bills that may be desirable for some drafters.

2.3. Drafting of Amendments and Substitutes

2.3.1. Standing Committee Amendments

Amendments and substitutes are created using a similar process within the 202 system as the bill itself. When a drafter receives a request to create an amendment, they create a new document in the 202 system with the document type of “Amendment” selected. Within WordPerfect, they run the PA macro (see ‘Figure 4 – PA Macro in WordPerfect’), which generates the template that will be used. In the event that the bill has already been amended,
the drafter researches all previous amendments to ensure that there will be no conflicts. If there are no such conflicts, they begin drafting the requested changes.

As part of the process of drafting the first copy of the amendment, the drafter generates a marked-up version of the bill, which is sent to the proofing team along with the amendment for review. Following the same proofing process as a bill, the proofers identify any suggested changes to the Amendment and, with the help of the word processing team, send a PDF copy of the amendment back to the drafter. The drafter reviews the suggested changes and returns a revised draft to proofing. Once the proofing team approves the amendment, the word processing team creates a final PDF copy of the amendment, which is then sent back to the drafter along with proofing notes.

After reviewing the document and proofing notes a final time, the drafter forwards the amendment on to the requester. In the event that there are additional changes that the requester would like to see, it is sent back into the drafting loop between the drafter and the proofing team. Once the requester has approved the amendment, copies of the amendment are printed and delivered as requested (pickup or delivery). The 202 record is subsequently closed.

Once in committee, multiple proposed amendments can be accepted from multiple documents. The committee secretary then creates the committee report, usually by accessing the various WordPerfect documents, using the
202 number as a reference. Currently, the committee secretary sends a request to the LCS Word Processing department for copies of the appropriate 202 document. The secretary then creates a committee report using the language from the WordPerfect document, but using a different template (and macro tools). The amendment and the report are not adopted until the chamber adopts the committee report, which can happen at a later date.

Amendments created for standing committees differ from amendments created for conference committees. Conference committee reports are used after final passage of legislation, where the second chamber made changes to the bill, the first chamber rejects those changes and the second chamber refuses to recede form those changes. A conference committee is appointed from each chamber (typically 3 members from each chamber). The committee may agree on how to bill. In the report, each amendment previously made to the bill is either approved or disapproved, and the committee may make further changes to the bill, if desired.

2.3.2. Floor Amendments

The process for creating a floor amendment is almost identical to that of a committee amendment, with the only exception being that the requester of the amendment is named as its "sponsor", as opposed to a committee amendment where a legislator or committee can be named as its sponsor. The sponsor requests an amendment from a drafter. Using the same process as a committee amendment, the drafter creates the amendment in WordPerfect before sending it on to the proofing team. The proofer works with the drafter to perfect the amendment before it is sent to the sponsor. Once the amendment has been accepted by the sponsor, the amendment is delivered as requested and the 202 file is closed.

2.3.3. Standing Committee Substitutes

Substitutes are used to incorporate numerous or complex amendments that have been proposed or adopted. Similarly, substitutes are also used to combine two or more bills that deal with similar content. Substitutes take the form of a new bill, as opposed to enumerated amendments for a bill, and, therefore, require approval from both chambers.

To create a substitute to a bill in committee, a legislator or committee makes a request to a drafter who then adds that request into the 202 system where the substitute bill is given a 202 number. The drafter reviews the request and marks up the previous version of the bill with comments, and then undergoes the same process of drafting that is performed for bills. On occasion, the committee substitute will differ enough from the previous version of the bill that the drafter will draft the committee substitute in the same manner that a new bill is drafted. This includes working closely with the proofing team to perfect the draft of the substitute, having the word processing team process any required documents, and finally return a copy to the committee that made the request.

2.3.4. Floor Substitutes

Similar to committee substitutes, either chamber may create a new substitute of a bill on the floor. These floor substitutes follow a nearly identical process for creation as committee substitutes, where the legislator requests a substitute from a drafter. It also follows the same drafting, proofing, and review processes as a committee substitute. Once the floor substitute has been prepared, it is sent to the requester.

2.3.5. Enrolling and Engrossing

After any bill or other legislation that has passed in full, whether passing as introduced, amended or substituted, it must be compiled into a final version before it may be made into law. The process of compiling these amendments
is called “Engrossing” and is performed by the Enrolling and Engrossing (E&E) team. To begin, the E&E team receives a jacketed bill of legislation that has passed in full.

Upon receiving the original bill and amendments or substitute, the E&E team reviews it to make sure that all required signatures are present, and then they create a working copy of the bill for them to keep and use internally. Through the use of WordPerfect, they copy and paste all amendments into the bill, starting with the most recent amendment that was passed in order to avoid conflicts. After the bill has the correct content, the E&E Macro within WordPerfect is run to:

1) Remove the title, add new material, delete stricken language and create footer with bill and page number
2) Format a final page
3) Create a cover page
4) Add a signature page
5) Create a Certificate of Correction, if necessary
6) Prepare an E&E Committee Report
7) Create messages to Senate, Governor and Secretary of State

In the House, the legislation undergoes a proofing process where teams read the bill side by side comparing the Amendment in Context version with the E&E format. If any corrections or suggested changes are made by the proofing team, the E&E clerk will review them and make the corrections. If it is determined that corrections must be made, a certificate of correction is prepared. Once no further corrections are needed, the final version of the bill is printed to include the cover and signature page along with the Enrolling and Engrossing Committee Report.

All Senate E&Es are proofread by at least two sets of Senate proofreaders to ensure all amendments have been incorporated and formatting is correct in accordance with LCS drafting procedures. Proofreaders cannot make “suggested changes”. Substantive changes cannot be made; misspelled words may be corrected. If it is determined that corrections must be made, a certificate of correction is prepared.

The committee report is forwarded along with the final version of the bill to receive chamber signatures, and then 9 additional copies are printed. Following the printing, all copies are sent to the Governor’s Office, where the copies are timestamped to mark when they were received, and the Governor signs or vetoes the bill. If signed or partially vetoed, the bill is delivered to the Secretary of State and a copy to the respective Chief Clerk on behalf of their chamber. If completely vetoed, the bill is returned to the Chief Clerk on behalf of their chamber.

2.3.6. Amending Observations

The workflow of how amendments are offered and adopted or not adopted can have downstream negative effects for the drafters in Legislative Council Service. Amendments are only posted publicly once they have been adopted on the floor (for Floor Amendments) or when a committee report has been adopted on the floor (for committee amendments). Once amendments have been adopted on the floor, there is still a wait time before they become publicly available. During this time window, drafters may then be asked to prepare a new amendment to the same bill by a lobbyist or sponsor. However, the drafter does not know what the current language of the bill is, as they have yet to see the amendments adopted on the chamber floor. They also do not know what the 202 number for the amendment is or who drafted the previous amendment. Although they often tell the sponsor or lobbyist that they cannot draft amendments to bills until they know exactly what has happened to the bill, requesters may ask that the new amendment is drafted anyway. It was noted that this can lead to confusion and misunderstandings amongst staff.
This can be especially frustrating for committee amendments. For example, if a bill is amended in its first committee, then the drafter must wait until that bill has been returned to the chamber, the amendment is adopted on the chamber floor and then the amendment is publicly made available before they know what the current content of the bill is. All the while, members are asking for new amendments to the bill. In some cases for instance, one requester knows the current state of the bill and requests an amendment whilst a second requester does not know the current language of the bill but is requesting an amendment also. This issue is further complicated when there are late night committee meetings, and any amendments adopted within the committee meeting will have to wait until the next day to be read on the chamber floor.

One issue we identified that indirectly exacerbates the aforementioned issues is that drafters do not have the ability to easily access amendments created by other drafters or by committees that make verbal amendments. Whilst drafters do have access to the 202 system, it is difficult for each drafter to easily ascertain whether a 202 file contains a drafted amendment or whether it is an abandoned record that contains no amendment. Even if a drafter knows the 202 number of the amendment file they wish to see, they must request the PDF file from Word Processing. There have been some processes put in place to try to mitigate this issue. For example, during the COVID pandemic, an FTP site was created for the chief clerks to place any amendments received on the floor. This FTP site was made available to drafters, so that they could check for adopted amendments. While this method has decreased the time it takes to locate adopted amendments, it has not completely resolved the issue.

Lastly, we observed that tracking and amending duplicate bills in opposite chambers can be rather complex for drafters. If the same amendment is not created for the bill in the opposite chamber, the duplicate bills will become out of sync. If the duplicate bills are not reconciled, then they will become two completely different bills, which may not have been the original intention of the sponsors.

2.4. Committees

For a bill to reach committee for review, it first must be read twice by title in session and assigned to the relevant committee. At this point, the bill can be scheduled, heard and passed to each assigned committee.

During regular sessions of even numbered years and special sessions all bills must first be ruled germane before they can be heard in any other committees or as an order of business. In the House, if a bill needs to be ruled germane, the first committee that it is assigned to is the “Rules and Order of Business Committee”, and in the Senate, it is the “Committees’ Committee”. If the committee rules the bill germane, then it is referred to its next assigned committee. On occasion, in the House, the speaker may also decide on germaneness.

2.4.1. Committee Agenda

To create the Committee Agenda, the committee secretary selects all bills that they wish to hear on a given day using the Committee Module. During the committee meeting, manual notes are taken to record actions and votes of the members present, as well as if there are any amendments made to any of the bills that were discussed. If the bill is amended or substituted in committee, a new Fiscal Impact Report (FIR) is created to identify if the changes to the bill had an effect on the financial implications of the change to the document.
### 2.4.2. Standing Committee Reports

After hearing a bill in committee, a report is generated by the committee staff that details the recommendation of the committee as well as the final vote recorded. Committee staff may request a WordPerfect copy of a proposed amendment to be incorporated into a committee report from LCS word processing, to avoid the need to retype the provisions of the amendment language. From here, the committee report is proofed by staff, finalized, signed by the committee chair and delivered to the chief clerk for preparation for adoption during session.

The bill is then passed along to the next committee assignment. If there are no longer any remaining committee assignments it is placed on the next calendar for 3rd reading and final passage.

### 2.4.3. Committee Observations

Within the Committee application, committee reports must be ‘Comsaved’. This action is performed by a committee clerk who once actioned, makes the committee report accessible to LCS staff and bill historians. However, a committee report can only be Comsaved once it has been reviewed and finalized by the committee secretary and chair. As this is the last part of the committee report process, committee clerks, on occasion, do not press the Comsave button. There have been multiple times where the committee clerk is absent, so other individuals need to log in to a committee clerk’s PC and committee application in order to select the Comsave button for a committee report. This can cause frustration amongst staff but is also a security risk, as individuals must access other employees’ PCs and applications to complete a missed task.

The time it takes for the committee report to become accessible does create a number of other frustrations within the Legislature. The House Chief Clerk relies on committee clerks to email what bills were taken up in a committee meeting, as the committee agenda is only a reliable indicator of what the committee was intending to take up as opposed to what was actually taken up. This is an informal email where the committee clerks list the bills which were taken up in committee.

### 2.5. Session

During session, the chambers meet to discuss actions on various bills, memorials, and resolutions. A bill is considered read the First and Second time at introduction, when the reader starts with "Senate Bill No. ___ introduced by (reads the name(s) of sponsors); reads the title of the bill and repeats Senate Bill No. ____." The presiding officer announces: "Senate Bill No. ___, having been read twice by title is ordered printed and referred to the ____committee, thence to the ___ committee." After all relevant committees have discussed a bill and sent their committee report back to chamber, the bill is on third reading before a final vote on the floor.
2.5.1. Journal Creation

During each session, Journal clerks manually record notes on all activity that occurs. These notes are compared against those of other Journal clerks to ensure accuracy and are then used within the Journal module to begin creating the official Journal. This Journal documents all actions that take place as “records”, and then is used to create a WordPerfect file. The proofing team of the respective chief clerk receives this file and reviews it to identify if there are any suggested changes. Similar to other documents that the proofing team reviews, if there are any suggested updates to be made, the Journal clerk marks them up for the individual who originally drafted the document. If there are no suggested updates to be made, then the Journal clerk team creates a final copy of the Journal for the chief clerk to review.

The Journal is ideally correct at this point in the process, so if there are any small changes that the chief clerk would like to see made, they are added manually without the need to enter a new proofing cycle. The Journal clerk receives an index file, which typically does not have all the required page numbers for bill actions, and must manually update the index with the correct page numbers. Upon completion, the final copy is prepared for signature of chamber officers. The Journal is then sent to the library for publishing.

2.5.2. Floor Reports

On a session day where a bill, resolution, or memorial has been read, session staff record the actions that are taken on those documents. Using the LegInfo database, which houses all electronic information related to these documents, various reports may be run by the deputy chief clerk in the House. These include the “Floor Report”, which returns a list all documents that were heard on a specified calendar day, and the “LegInfo Report”, which returns all documents that have been read on a specified legislative day. Using these reports, the contents of the Journal are verified to ensure that they are accurate.
2.5.3. Messages

Whenever chambers need to officially communicate with another, they do so through official messages. Messages are printed and can be used to transfer bills, send notifications, or request information between groups.

Upon receiving a request to draft a message, session staff gather all required information. Users within the Senate use WordPerfect macros to pre-populate the body of various messages, and the House users typically rely on saved templates that are copied and pasted to create the body of the message. Once the content is finalized with all the relevant information, the chief clerk receives and signs the message before sending it on to its desired recipient.

2.5.4. Calendars

In order to plan which bills will be heard in session, organize them into a list format, and share them with interested parties, the Session Calendar is created, which includes multiple sub-sections. To begin the process of assembling the calendar, the chief clerk reviews all bills, memorials, and resolutions that have been read a first and second time in chamber and have passed through committee and determines which section of the calendar they should be assigned to for them to be read a third time.

Using the calendar tools located within the Daily Bill Locator, an electronic version of the calendar is built, including as many of the following sections as necessary to address all upcoming documents:

2.5.4.1. Speaker’s/President’s Table

For documents that do not need to be sent to committee, such as memorials, the Speaker’s/President’s Table is used to signify that these are automatically read for third reading in chamber.

2.5.4.2. Supplemental Calendar

Typically, there is a 24-hour holding period (recorded in the “Temporary Calendar” for House only) for all bills that have been read in committee before they will be heard in chamber. However, if there are any situations where the leadership determines a bill needs to be read immediately following its review in committee, it is added to the Supplemental Calendar.

2.5.4.3. Concurrence Calendar

All documents that have been approved, but amended in the opposite chamber, are added to the Concurrence Calendar of the chamber of origin. This reading will determine if there is concurrence between the two chambers or if there are any changes suggested instead of approving the document as-is. If amendments are not concurred, and the chamber of origin does not recede or withdraw their amendment, then the bill will be sent to conference committee.

2.5.4.4. Consent Calendar

On busy session days where a large number of bills will be read in chamber, leadership has the ability to pick legislation which seems the most likely to pass in chamber. These are compiled into the Consent Calendar and are voted on as a group in order to speed up the process. The Consent Calendar is used frequently in the House.

In the Senate, a member of each caucus is assigned to review the bills ready for third reading and determine which, if any, can be placed on a consent calendar. Alternatively, a list is given to the Senate Chief Clerk by the Majority
Floor Leader’s Office of bills taken from the regular calendar to be heard as a consent calendar. Consent calendars are not as frequent in the Senate and have not been used since 2019.

2.5.4.5. Working Calendar

Typically used by the Senate, the “Working Calendar” is a tool that is used as a staging area to draft the order of legislation that will be heard for third reading in chamber. After adding bills to this calendar, they can be easily transferred within the Calendar tool over to the third reading section when they are ready to be heard in chamber.

2.5.4.6. Temporary Calendar (House Only)

After a bill goes through the committee process, it typically enters a 24-hour holding period before it can be heard in session for third reading. The bills that are within this holding period are added to the Temporary Calendar in the House until the next session day.

2.5.4.7. 3rd Reading Calendar

All remaining bills that are ready for third reading are added to the 3rd Reading Calendar to be heard in session.

Once the calendar has been created and is ready to be shared with legislators and the public, the document is delivered electronically to the IT team for them to publish the PDF and HTML version of the calendar onto the public website.

2.5.5. Session Observations

Due to the large amount of MS Access databases that are used throughout the Legislature, there are often times where data is not synchronized. For example, it was noted in the Journal process that legislator names often display incorrectly when added into the Journal. The legislator’s name likely displays differently in various MS Access databases, at least one of which the Journal application will pull from. Maintaining the list of legislator names across the various MS Access databases is clearly a cumbersome process, which is having negative downstream effects on Journal creation.

Journal creation can be a difficult task, as the application limits accessibility to one user per legislative day. This can become problematic when a legislative day runs for a long time or for multiple calendar days. For this reason, rolling the clock to the next legislative day is advantageous to Journal clerks, as it allows a second person to begin working on the new legislative day whilst the original staff member finalizes the previous legislative day. We also observed pain points in the Permanent Journal and Index creation. Inserting the Budget Bill into the Permanent Journal is a difficult task for staff, as the bill is received in a landscape format and the Permanent Journal is in a portrait format. Staff have also observed issues with missing information and incorrect page numbers when proofing the Index that is created post-session.

Lastly, we observed frustrations with the ordering of bills on the calendar in the House. Moving bills from one order of business to another, or from one calendar to another, does not always maintain the correct sort order of the bills. Therefore, the order of bills on the calendar must be manually sorted, which can be time consuming for the user.
2.6. Reports

While a jacketed bill moves between various groups and remains the official document for any related documents, all information regarding the bill is also updated by staff electronically within the 202 file (such as session, bill number, closed file, etc.) and is entered in the LegInfo database by the Locator Coordinator. This information is used to check the accuracy of written documents, populate the public website, and store data online for anywhere else that it may need to be used. The following reports are ones that are generated using this LegInfo database information.

![LegInfo Menu](image)

2.6.1. Bill Finder Webpage

Bill Finder is accessible to the public through the New Mexico Legislature website and contains various reports filled with information related to the current status of all bills. To populate this page online, the IT team manually imports the information from the LegInfo database to move it into the correct location to be seen by the public. This tool is also useful as a quick reference for staff that have questions regarding bills, memorials, and resolutions.
2.6.2. Daily Bill Locator

The Daily Bill Locator report is run from the LegInfo database and includes all legislation sorted by Locator Title. The process of creating this report for users is to open the database and then select the button to generate the “Daily Bill Finder” and choose “Export PDF” to create a copy of the report in PDF format. Since these reports are compiled into a longer version to include the entire session, if this is not the first time that the report has been run, then the user will also manually delete the title page (for the semi-final and final locator) and add the content to the other reports before sending this on to the print shop for printing. Leginfo auto-generates the title page almost all other days, which includes the day’s date. LegInfo allows for manipulation of legislative days on each locator cover.
2.6.3. Subject Matter Index

As a bill moves through its lifecycle, bill historians work to identify any relevant subjects related to the content of the bill. These subjects are added in the form of “subject tags” at introduction and are used to quickly sort and filter the content of all bills that are read throughout a session. The report is generated by LegInfo on a weekly basis by clicking the report button and exporting to PDF. Bill Historians create a table of contents for the Subject Index also.

2.6.4. Sponsor Index

Within the LegInfo database, the Sponsor Report is run to create a PDF document that tracks all primary and co-sponsors for any bill, memorial, or resolution. Using the information in this file for proofing purposes, the IT team updates the website to make the data open to the public.

2.6.5. Concordance

When a significant number of bills have been signed by the Governor, the bill historians begin the task of creating the Concordance document that is comprised of multiple parts to summarize all bill activity during the year. The Concordance displays all passed bills to their corresponding chapter, and all chapters to their corresponding bills. It also contains constitutional amendments that have passed and all vetoed bills for a given session.

2.6.6. Table of Changes and Conflicts

Table of Changes and Conflicts are produced by bill historians, who note proposed changes to existing statutes. These changes are entered into the Table of Changes database by the bill number and section number. Proposed
Table of Changes and Conflicts are generated on a weekly basis by the bill historians and show which bills may conflict with each other and which sections are changed by which bills.

2.6.7. Reports Observations

There is an abundance of great reporting tools present in the New Mexico Legislature. Due to the large amount of data stored in the numerous MS Access Databases, detailed reports can easily be generated for a number of different stakeholders. During our time on-site, we only scratched the surface of the vast number of reports currently available to the Legislature.

However, one key drawback that we observed whilst on-site was the large amount of manual labor that goes into creating the data that is leveraged for these reports. The LegInfo database provides a large number of reports but it requires a lot of staff in order to create and maintain the data. For example, when bills are introduced, each data field concerning a bill must be filled out manually. This is despite a lot of this information already being known and present in the 202 database. Each Bill Status action code must be entered individually and manually, despite common patterns of multiples being known but not coded for. It was noted by staff that the manual nature of the work, coupled with the desire for this data to be made public on the website as soon as possible, can often lead to errors. Proofing cycles have been put in place to combat this, with data being proofed at various intervals before being published to the website. This can occur once a day or multiple times throughout the day, depending on how busy session is.

Lastly, we noted that a large number of these reports are generated as PDFs. This is a great for printing and sharing reports to other staff members. However, users can not edit the reports, run queries, or change the presentation of the data.

2.7. Work Practice Changes Initiated by Remote Working

In a number of workshops participants referred to processes ‘before’ and ‘after’ COVID. This was mainly reflected in a move to marking up PDFs as opposed to the physical copy. Additionally in place of moving the hard copies around the PDFs are emailed. We also noted that some physical folders were being retrospectively created despite not having the hard copy to be included.

2.7.1. Observations

What we observed was both the unique opportunity to evolve and adapt to these changed work processes and take stock as to their efficacy. Users expressed some frustration with commenting and tracking change comments using the clunky PDF annotation tools. We also observed master data issues that arise from emailing copies of documents around for managing workflow. In ‘Section 3.10 –Build on Work Practice Changes Initiated by Remote Working’, we will propose recommendations around building on the opportunity that has emerged with these new remote working practices.
3. Recommendations

3.1. How Recommendations were Discovered

As we have seen in ‘Section 1.4.1 – Common Themes’, over the course of the survey and mapping workshops, a common set of observations evolved over time. The following recommendations are based directly from these themes. They are a result of Propylon analysts meeting to review the workshop observations, analyze them in the context of both experience of similar workshops across multiple state legislatures and our experience in repeated, successful implementations of similar recommendations.

During the drafting-related workshops, there was an acknowledgment that New Mexico legislative staff feel they have reached a limit as to what can be achieved with WordPerfect. There was a stated desire to move their drafting tools to Microsoft Word. In addition to developing tools for Microsoft Word, we have identified system-wide advantages that can be gained by associating data, such as sections, sponsors, effective dates etc., directly in documents as opposed to separate tracking databases. This would be central to our recommendations around drafting and amending tools. A recurring observation was the proliferation of multiple tracking databases that require separate data entry to keep everything up to date and in-sync throughout the law-making process. These observations have been noted in ‘Section 2 – Root Cause Analysis’.

As systems have grown organically over a long period, the issue of data silos and disconnected IT systems has grown. This leads to multiple tracking systems to manage a reliance on paper and a lack of a digital audit trail for the ‘master version’ of documents. In some instances, the original reason for doing something a certain way may either not exist anymore or not be fully known.

3.2. Project Success Outcomes

To implement the recommendations within this report, the New Mexico Legislature will need to initiate a significant IT change project. Contained within this report are modular recommendations. Some recommendations, such as the implementation of a Legislative Enterprise Architecture and a master data management methodology, are key to enable building out the IT system changes required to meet the change objectives. Following the presentation of our findings, we strongly recommend that key stakeholders consider all recommendations and come to a stated agreement as to what success would look like for this project. The scope of what the key stakeholders want to achieve from a project is an important factor in sizing the project and setting implementation timelines. The following are a list of success criteria based on the recommendations detailed in this section:

- A new enterprise level Legislative IT Architecture is in place to facilitate building out the tools necessary to bring process efficiencies for staff, members, the public and all consumers of the Legislature’s data and documents.
- A consolidated document management system is in place for the management of all legislative outputs, removing the need for duplicating data.
- A request management system, tightly integrated with Microsoft Word, is in place and in use by all business units delivering workflow efficiencies, a reduction in the level of data re-entry and richer reporting and workload management capabilities.
• Drafters, proofers and word processors have improved drafting capabilities with custom tools built on Microsoft Word. These tools provide more robust templates, reducing formatting-related errors, improved section management, reducing the amount of statutory-related issues and assisting with title creation, an improved amendment workflow and improved data management with the use of styles and metadata.
• Turnaround times for drafting, amending, enrolling and engrossing are all measurably reduced as a result of reduced data re-entry, reduced proofing cycles and robust tools where appropriate. Certain aspects of the aforementioned processes that do not lend themselves to automation will remain intact.
• By consolidating the existing tracking databases and bill status recording tools into a single Chamber application, House and Senate will see process efficiencies as a result of greater automation, consolidated data capture and improved publishing.
• By implementing a single source, master data publishing methodology, the generation and publication of legislative outputs such as Journals, calendars and agendas will be streamlined, less error prone and more automated.
• Being able to track section data directly in legislation will allow applications to run comparisons on all bills to improve potential conflict tracking for drafters.
• Section data captured in bills can further be leveraged when the legislation is passed and can provide further assistance in the downstream Zoo file management process. For example, effective dates outlined in sections within a passed bill can later be leveraged for use when updating Zoo files.
• Members will experience faster turnaround times for draft and amendment requests and faster turnaround time for engrossing of amendments. Members can be offered improved services such as personalized apps alerting them on movements to their legislation and committee actions.
• The Legislature will improve its return on investment as a result of time savings achieved by the roll out of efficient and robust productivity tools for all staff.
• The Legislature will have reduced its reliance on paper and provide a modern, user-friendly suite of applications to support staff managing the legislative process for the next 20 years.

3.3. Implement a Consolidated Legislative Enterprise IT Architecture

3.3.1. Overview
Legislative IT Architecture is a form of Enterprise Architecture with special consideration given to the data processing, business-critical, and real-time nature of the Legislature. In this section, we outline a proposed architecture to meet the business needs of the New Mexico Legislature and outline the key considerations given in the design of a legislative system. The following section outlines a model system design that can be used to achieve the recommendations within this report.

3.3.2. Design Considerations
In designing a Legislative Enterprise IT Architecture, consideration is given to the following areas:

• Centralized data management
• Flexible workflow management
• Usage frequency
• Data integrity
3.3.2.1. Centralized Master Data Management

Consolidating the data management function to a centralized location enables the design and implementation of cohesive end-to-end processes and business applications. The centralized system holds all documents, metadata, permissions, and workflow rules required to manage the legislative business process.

In the Legislative Enterprise IT Architecture, this centralized system also stores the role-based access control definitions, which enable the provision of confidential document storage for individuals and groups of end-users.

A challenge often experienced in Legislative IT systems is the synchronization of data between multiple systems. For example, moving bills between chambers, ensuring the latest copy of an AIC is available, etc. As we have seen in our discovery in the New Mexico Legislature, multiple copies exist, and it can become unclear which is the primary copy from a system perspective. Additionally, users may end up manually entering data in multiple systems in an attempt to keep documents and systems in sync. Centralized data management removes these issues, providing an integrated environment for data sharing, collaboration, and business process implementation without sacrificing privacy and confidentiality. Data is entered once and re-used by all relevant parties throughout the process.

For example, updates to the Bill Locator database are time-sensitive and needed for internal workflows. Committees need to be recorded as having possession of a bill before they can schedule a hearing on that bill. This becomes a more acute issue towards the end of session. The root cause of this is that the Locator database is not an automatic by-product of workflow recording via metadata management contained within a centralized document management system. A key recommendation is to arrange the data model for the legislature so that document/workflow metadata and tracking databases do not get out of sync. We recommend a single data entry per information item and a Single Source of Truth for each information item. Copies can be identified from your information model making it explicit which item is master and which is the copy. Refer to ‘Section 3.3.3.2 - Consolidated Legislative Data Model’ for more information on the Legislative Data Model.

3.3.2.2. Flexible Workflow Management

A key requirement of any Legislative IT system is the ability to adjust business rules without redeployment or reconfiguration of software. The challenge with many Enterprise Architectures is the codification of business rules into the design of the software itself, which creates challenges in a legislative environment where rules are subject to change or suspension at any time.

The Legislative Enterprise IT Architecture needs to consider the ability to adjust and suspend rules as a key design consideration and implement a system that allows for the adjustment, suspension or override of the session rules without impacting the business of running session.

3.3.2.3. Usage Frequency

Due to the nature of session work, there will be usage spikes, corresponding to busy session days, pre-filing activities, or post-session work. This is seen particularly around the filing deadline and final session day.

Legislative systems must be optimized for the busiest periods to ensure business continuity and optimal performance. The challenge often faced here is the management of the associated infrastructure during the "off-peak" times in the legislative cycle.
The Legislative Enterprise IT Architecture should be designed to scale upwards to handle peak usage on demand. This allows for a relatively small footprint in terms of system usage for the majority of the legislative cycle, only growing to meet demand for a short period of time based on session cycles. This approach reduces the overhead in terms of system management and saves on infrastructure investment.

3.3.2.4. Data Integrity

Protecting the integrity of legislative documents should be a key focus of the new Legislative Enterprise IT Architecture. From initial request through codification, every change to a document should be recorded in order to provide a clear audit trail that demonstrates how a document came to exist in its current form.

Providing a repeatable, reconstruct-able, tamper-evident audit trail gives confidence that every change made to a document is accounted for as part of the business process, and the content, which, ultimately proceeds for codification, is correct and validated by the system. This supports the reporting on historic versions and makes it easy for staff to understand how changes have been made to a document.

3.3.3. Legislative Enterprise Architecture

A Legislative Enterprise Architecture (LEA) provides an information architecture that allows for the sharing and reuse of data throughout the Legislature. It achieves this while allowing each individual department to operate autonomously and respecting the necessary procedural and security rules of the Legislature. A key recommendation would be the implementation of an LEA for the New Mexico Legislature. This will allow for the following recommended applications and services to be built to better support the Legislature, its staff and members, other government agencies, businesses, and the general public.

The design of the LEA would include a core data repository, or document management system. Integrated with this would be modules to allow for features such as versioning, alerting, workflow management and search. It would ideally utilize a client server architecture to allow for both thin (browser based) and thick (desktop applications such as Microsoft Word) clients to be used on the client-side. Communication would utilize an Application Programming Interface (API) approach.

Ideally, this system would be composed of a document management system, extendable services, and an application framework to provide the functional and non-functional requirements of legislative systems and processes.

The platform architecture would need to be comprised of:

1. A Document Management System
2. A Legislative Data Model
3. Information access control engines for workflow and permission management
4. Data access layers
5. The primary business applications (Request and Drafting Tools, Chamber Management, Committee Management, Publishing tools, website integration)
6. Data integration points
7. Public system integration
3.3.3.1. Consolidated Document Management System

A key aspect of the LEA is a consolidated Document Management System (DMS). This would be a key recommendation to solve a myriad of identified issues associated with master data management.

The DMS would provide the many technical features needed to support the Legislative Enterprise Architecture that will underpin the business services of the New Mexico Legislature:

- Full transparency and audit trail of access
- Comprehensive search and retrieval facilities
- "Point in time" views of entire data sets: content and metadata
- Versioning of the entire data set on a transaction-by-transaction basis
- Seamless navigation through the entire repository history
- Support for all file types, including binary "blobs" and multi-media
- Full locking support for files and folders
- Extensible metadata framework
- Extensible suite of tools for managing workflows, content taxonomy/metadata, roles and users
- Extensible system monitoring
- Role-based access control management
- Messaging and alerting framework
- APIs to support business applications
- Centralized multi-domain authentication and SSO integration

The events and services architecture within the DMS would allow for real-time event distribution and notification to downstream data processing services. This services framework can be seamlessly integrated with the event notifications to create many common data processing solutions such as:

- Aggregating Publishing Engine
- XML Pipeline Engine for data conversions and publishing applications
- HTML and PDF rendering and generation

3.3.3.2. Consolidated Legislative Data Model

The implementation of the centralized document management system is contingent on the definition and deployment of a consolidated legislative data model. This data model will support the legislative process across all applications, systems, departments, and agencies.

The data model should consider the needs of all systems, agencies, departments, and users involved in the relevant portions of the legislative process. With the consolidated data model implemented in the DMS, users can benefit from the one-off entry of data, with the DMS tracking the underlying data requirements required to process the data downstream. This enables a consistent development and integration pattern for all legislative systems, even where systems require access to sub-sets only of the overall data model managed by the system.

For example, when information, such as amendments, repeals, new language, effective dates and sponsors, is defined in the legislative data model, these can be identified in bills via styles and metadata to be leveraged by applications within your LEA. By using this approach, the need for staff to manually maintain a Table of Changes would be removed as the information can be queried and reported on directly from the database of the DMS.
3.3.3.3. Information Access Controls

The Legislative Enterprise Architecture needs to provide a framework for information access controls. The information access layer facilitates the workflow management and permissions requirements of the Legislative, enabling strict confidentiality with flexible workflow rules to account for changes in the legislative cycle.

The information access controls are used to apply and enforce workflow rules on requests coming from the data access layers. For example, given a request for a document, the permissions engine will determine whether the current user has permissions to access the document before allowing the request through to the data storage layer. If the user has permissions to access the document, the data access layer will return the document through the workflow engine, which will annotate the response with additional workflow information such as the current workflow stage for the document and which additional workflow transitions the current user is permitted to make on the document.

3.3.3.4. Data Access Layer

The data access layer will query and interact with the underlying data and content in the systems. The data access layers are used internally by client applications and are also exposed to external systems for integration purposes.

The data access layers are related to the legislative data model and are the integration points for the business applications with the underlying data. The data access layer interfaces are kept in sync with the core data model enabling both the business applications and integrated systems to leverage the entire data model and provide deep system integration.

3.3.3.5. Business Applications

These are the business applications and user-facing components of the model legislative system. They would include, but not be limited to, an integrated request management and drafting suite, chamber recording tools and committee management system. We will expand on these business applications further in the recommendations below.

3.3.3.6. Data Integration

Data that will not be created directly in new systems, for example fiscal analysis documents or third-party committee testimony content, will need to be associated with system documents such as bills and agendas. As part of the new system a data integration point will manage the ingest of this content for it to be integrated and managed through the legislative process with the new system tools.

3.3.3.7. Public System Integration

The separation of data for public consumption is an important design decision from a security and performance perspective. Data marked as confidential should never be stored where the public internet can openly access it. The architecture needs to support automated publishing of legislative data and documents to the website and any Legislative apps as they are made public. The rules for publishing need to be developed as part of an implementation project.
3.3.4. **Recommended IT Infrastructure**

We would recommend an infrastructure that can cater for high availability and high performance. Since these systems will be used to manage the legislative process, it is critical that the underlying infrastructure is designed to handle performance peaks and uptime.

The recommended approach is to spread the system deployment across physical infrastructure appliances. The physical infrastructure, in this case, could be cloud-hosted or on-premise – the conceptual design is the same in both instances.

The infrastructure would need to include:

- A load balancer for handling traffic from end-user networks
- A proxy application for serving static files and user-interfaces
- Application servers for data processing and querying
- Database for persisting the DMS data

Data in the legislative system should be replicated to an off-site, geographically separated network for disaster recovery purposes. In case of a full system outage, data can be retrieved from the off-site network and deployed with a fresh system deployment in order to quickly restore system availability.

3.3.5. **Data Migration**

A necessary first step to facilitate building out improved legislative drafting tools is the ingest of existing legislative data into the centralized document management system. For example, to facilitate redrafts, previous drafts, bills and acts will need to be included in the document management system to facilitate these features. To achieve the recommendations around management of the Zoo files, the most up to date Zoo files will need to be migrated into the new system.

The following sections outline the best practice that should be followed when converting the in-scope data. Migrated data fidelity is critical due to the nature of the data in question.

3.3.5.1. **Data Capture**

It is vital that the conversion from the existing legislative data to the new system be conducted in a fashion that ensures the safe and orderly transition of all the content to the new system. High levels of rigor, quality and extreme attention to detail are required. A migration inventory should be created to identify the files to be migrated.

When data is converted from one format to another, it is necessary to ensure that the process is reliable and that all relevant data required in the output format was successfully reproduced from the input files.

3.3.5.2. **Data Conversion**

Extensive logging should be implemented to ensure that data conversion processing creates an auditable record of all steps in the conversion. A full suite of automated QA steps, such as paragraph counts, should be used as well as manual inspection of sample output files based on a pre-defined methodology. Examples of problems that can occur:

- Output produced is “invalid”
• Output produced is incomplete – information from the source files is not included or not included correctly in the output format. This could be missing textual content, missing metadata or missing mark-up.
• Output incorrectly formatted – information not required from the input files has been outputted.

3.3.5.3. Automated Checks
Automated checks are very important when large volumes of data are involved. Automated checks used in this project would need to include:

• Word to word text comparisons for migrated Zoo files.
• Counting of elements or entities in both the input and output files and a comparison of the results. For example, paragraph counts, link counts and counts of specific characters.
• Element counting includes:
  o Paragraph counts
  o Footnote counts
  o Image counts
  o Table counts
  o Table cell counts

3.3.5.4. QA Mechanisms
The test and monitoring methods are as follows:

Data Processing Logs
Data processing involves processing data from one format to another. Where this happens, it is important that the progress of files through the system is recorded. These logs are then used to verify that the process worked as planned. The logs are also used for debugging in the development phase to establish points in the process where errors have occurred.

Conversion Pipeline
The conversion pipeline records all actions during the process. This information includes:

• Time and date
• Version of software used
• Time taken to process
• Number of input files processed
• Location of input files processed
• Number of output files produced
• Location of files outputted
• Name of files with errors
• List of errors (if any)
• List of warnings (if any)
3.4. Introduce Drafting Tools in MS Word with Integrated Request Management

3.4.1. Integrated Request Management

In addition to acknowledging some of the limits of the current drafting tools in WordPerfect, the lack of integration between the 202 application and the actual documents was also highlighted as an issue. There is no connection between the application and the files it creates so there is additional overhead in keeping the 202 application up to date with the status of the files it tracks. Some users may update the 202 application regularly, others may update it in batches and others only after the fact when their schedules allow. In existence for over 30 years, the current 202 application may also include out of date and non-relevant fields, such as some subject codes. Primarily used to create the hard copy green sheet labels – that would subsequently be updated manually – there exists an opportunity to revisit the current application in light of both remote working and the move to new drafting tools. The 202 system, including the current numbering system and other processes, must be upheld. However, the application used to run the 202 system and its processes could be examined for greater integration with a drafting application.

Drafters need to be able to create drafts and capture the request details with as little friction as possible. The request system, in addition to being able to capture all the relevant details, needs to operate as a central hub to manage routing and editorial workflows. The system will need to cater for status and workload reporting and allow for direct access of the related documents. It will need to be able to be updated from both the request system itself and also from integrated applications such as Microsoft Word.

With an improved request system, you can capture request details directly in the ‘Create New’ dialog box in Microsoft Word and start drafting immediately in the correct template with relevant filename, author and drafter details already captured as metadata on the document. Alternatively, staff can enter the request details directly in the system from the request dashboard and assign it to the relevant drafter. Upon receiving an alert to the request, the drafter can open a Word file, correctly named, templated, etc., directly from the same dashboard, automatically updating its status, and add the necessary request information to the draft metadata automatically.

Amendment tracking could also be improved by implementing a new request application for the 202 system. An improved application could allow for greater detail and audit trails for certain documents. For example, amendment requests could allow the user to upload documents for reference. This could be particularly useful when dealing with verbal amendments that have come from a committee. Emails and scans of handwritten amendments coming from committee staff could be uploaded as part of an amendment request, so that LCS staff have greater transparency into these documents when combining documented and verbal amendments into a Committee Report.

This integrated drafting request system should accommodate changes requested in the workshops for the 202 application – such as better annotation tools, a better way of tracking, communicating and marking changes than clunky PDF annotation tools, capturing an audit trail and managing workflow from a central dashboard. This will provide a more efficient process for staff as opposed to email threads. Implementing an automated system for managing versions and updating point numbers on draft versions as opposed to manually updating versions should be implemented. This will also provide a verifiable digital storage system for all associated files, it was noted in the workshops that these may need to be retained for many years.

Using role-based access controls, the consolidated request tracking system can be used as a central point for drafters to access their drafts, record notes, add related documents, route for review and processing and produce custom
views, dashboards or reports of the status of all their work. Staff can also benefit from improved reporting features across all drafts. This would help support better workload management. The role-based access controls will ensure that only staff members with the correct permissions can access files at each step in the workflow.

3.4.2. Introduce Drafting Tools in Microsoft Word

In addition to improvements with a more integrated request management system, specific issues were discussed that form the basis of our recommendation to build improved drafting tools based on Microsoft Word. Furthermore, we recommend implementing carefully constructed MS Word templates, in order to resolve formatting issues, present within the current WordPerfect templates. All templates would need be created under direction from staff to ensure that formatting adheres to the expectations of the New Mexico Legislature.

3.4.2.1. Bill Draft Processing

We observed that typically when a bill draft passes from the drafter to word processing that from that point on the drafting attorney will no longer access or update the WordPerfect version of the draft. The editorial process essentially becomes paper centric, leading to unnecessary rekeying of data and requiring close one-to-one communication, which was difficult during remote working. While this workflow allows drafters and attorneys to concentrate on the subject and content of their bills, rather than the formatting and presentation, we believe that improvements can be made to the process. Through the use of Microsoft Word templates, central document storage and version control, it will facilitate more direct collaboration in the master version of the document by all involved.

By carefully constructing templates with Microsoft Word styles, formatting issues can be resolved at source. Formatting requirements can be built into the template so that drafters can draft their bill in the chamber-appropriate template without having to be concerned about formatting considerations. WordPerfect formatting complications, which can only be resolved by word processors, can be greatly reduced by using these carefully constructed templates.

To ensure that the high-level quality control of the bill drafting and proofing process is maintained, we recommend introducing version and revision control mechanisms for each bill draft. For example, if attorneys, drafters, word processors and proofers are now using the same template for their tasks, then there could be a proofer’s version of the draft bill, which contains mark-up for the attorneys or drafters to review. Changes made by proofers could then be accepted or rejected by the drafter. Specific proofing checks could also be implemented as features for the proofing team to run, ensuring that the proofing process is less laborious. Each changed version of the document can be recorded and admin users would have the capabilities to restore the bill draft to any version or revision of the document.

A feature for reusing bills, either from a previous or current session, for new drafts would also be implemented. This feature would allow users to select the bill and version that they wish to reuse for their new draft. The text from that bill version would then be inserted into the correct draft format. The drafter could then make any necessary changes they wish to the draft bill. Additional tools could be implemented to aid the drafter, such as a check on the statute sections present within the bill to ensure they have not been amended since the bill version they chose to reuse was created.
3.4.2.2. Improved Section Import

When importing statute sections to a draft, a limitation of WordPerfect was discussed whereby these sections could not be ‘protected’ and edits could be made to them that would not be tracked. With improved section import, these sections would be protected and any edits would automatically be tracked. With improved drafting tools developed in Microsoft Word, sections can be tracked as metadata associated with the draft and bill. This data can be tracked across the full set of legislative documents and their lifecycle. It can be used to manage potential conflicts, bring process improvements when updating Zoo files and offer much more control over the management and updating of statute.

By leveraging greater information about sections within the bill, it would allow the user to do the following within the drafting tools:

- Quickly and easily see a list of all Sections which are currently in the bill.
- Run comparisons against Zoo files to ensure that red line statutory text is present, new language is properly inserted and existing language has not been deleted.
- Review the actions (add, amend, repeal) that are being taken on each section in the bill.
- Find a section reference within the bill and quickly navigate directly to that section in the document.
- Reorganize sections within the bill and automatically re-number any moved sections.
- Check the text of the section to ensure that it is current statute and has not been amended since the section was added to the bill.
- View any other bills that contain the same sections.

3.4.3. Capture and Leverage Data Created in Drafting

By implementing new drafting tools the New Mexico Legislature can leverage the principle that data should only need to be captured once. Multiple applications should not be necessary to capture the same data multiple times. Therefore, we recommend capturing as much data as possible on a bill during the drafting phase. We observed during the workshops that a lot of information entered during the drafting phase would need to be captured again using a separate tool or database. We believe that it should be possible to capture this data as the document is being drafted without intruding on the drafter’s tasks. For example, the following data can be captured automatically during the drafting phase –

- Sections
- Effective Dates (including section specific effective dates)
- Emergency Clauses

As the text for each of the above sections is added to a bill, the metadata for that bill can also be updated to note that the section is present. For example, the metadata of a bill can include which sections are present within a bill, what the action of the bill is for that section (add, amend, repeal) and whether a specific section in a bill contains an explicitly defined effective date. The metadata can include whether the bill has an emergency clause and whether it has an effective date and what that specific effective date is.

This metadata can then be utilized and displayed in other applications. The metadata would also be updated when a bill is updated. For example, if an introduced version of a bill contained an emergency clause, then that would be noted in the metadata. However, if the subsequent floor version had removed the emergency clause, then the
metadata would be updated to note that. Other actions resulting from amendments and substitute drafting could also be noted in the metadata, such as effective dates changing due to amendments being adopted. If sections were moved due to amendments being adopted, then the effective date can be retained or updated depending on the scenario. Specific metadata would only be visible to appropriate parties and could be removed from any public documents if required. Bills containing sections that have different effective dates was a discussed pain point for drafters. Currently, some individual drafters are using Excel spreadsheets to help them manage and track effective dates. Capturing effective dates within the document and being able to display them in a report or dashboard would avoid the need for these separate data entry systems.

3.4.4. Title Creation

Any new system should include implementing automated and partly automated features to assist with the creation of the title. Some aspects of title creation lend themselves favorably to automation, whereas other elements of Title creation require more human interpretation and, therefore, may only be partly automated at best. All automated language within a title may also be overridden by the user, who would have the ability to make any edits to the title that they so wish.

A partly automated feature that could assist the drafter of the bill would be to add text from the bill to the title. Text within a section of a bill could be easily added to the title by highlighting that text and selecting to add it to the title. For example, if the user found text within the section in their bill that they would like to add to their title, they simply highlight the text, then select an option to add it to their title. If the highlighted text included underlined inserted text it would automatically be formatted correctly (i.e. the underline would be removed and the text would be displayed in all capital letters) when added to the title. It is likely that the text added to the title would need further editing, which the user would be able to do. Despite the additional editing, this feature would still reduce the amount of time taken by drafters to construct the title.

Implementing an application that will automatically add non-codified language, such as whether an emergency clause is present, into the title of the bill when specific non-codified sections are added to a bill, should also be considered. For example, as the user adds an emergency clause to their bill, the title would automatically update with the correct language (i.e., “DECLARING AN EMERGENCY”).

![Figure 9 - Multiple Effective Dates within a single Bill.](image)

These effective dates could be stored in metadata against specific sections.
3.4.5. Improved Amendment and Substitute Drafting

For drafting substitutes, we recommend the same process for drafting bills outlined in Section 3.4.2 above. Using the process, the drafter would create the substitute within Microsoft Word. Drafters, proofers and word processors would all be able to work within Microsoft Word, with controls in place to track and display changes between versions. The drafter would have the option to begin with a blank substitute document in which to draft the substitute, or the drafter could choose a version of the bill (or any other bill) as a starting point for their draft substitute.

For creating amendments, we recommend an Amendment in Context approach. When we refer to ‘Amendments in Context’ within this paragraph, it is not in reference to the Amendments in Context document currently created by the New Mexico Legislature. Improvements to that document are detailed in Section 3.4.6 below. ‘Amendments in Context’ in this paragraph refers to an approach to creating amendment documents. Amendment in Context functionality would involve the user making edits to an exact copy of a bill. These edits would be the desired result if the amendment to the bill is adopted. All edits made to the exact copy of the bill would be marked up to show the additions and deletions. Once the edits have been made, the user can then generate an amendment that will auto-populate the desired amendment directional language. Additional tools would be made available once the amendment directional language is generated. For example, the drafter would have the ability to add standard language to globally update section numbers within the bill. This method of amendment creation allows the drafters to concentrate on the desired changes they wish to make to the bill with the knowledge that the application will generate the amendatory language. The drafter would still possess the ability to further edit the generated amendment, in order to change the language, if required. It also greatly improves the speed and accuracy of the enrolling and engrossing process (see Section 3.4.6 below).

3.4.6. Streamline Amendment-In-Context Versions and Enrolling & Engrossing

Implementing Amendments in Context, as outlined in Section 3.4.5 above, would allow for downstream improvements to enrolling and engrossing bills. Once all amendments for a bill have been voted on, staff would have the ability to easily merge all adopted amendments into the digital version of the bill. Within a few clicks of opening a document, staff would have the language from all appropriate substitutes and amendments that have been adopted included within their bill. The inserted and deleted amendment language would initially appear in colored underlined and stricken mark-up, which can be used to better proof the document. Once the document has been proofed, the user can easily switch the mark-up to black underline and strikethrough with the click of a button. Once all amendments have been incorporated into the bill, it can then be published to the web. The user would have the ability to press a button that will create the formats needed for the website. These document formats could then be exposed to other applications that require them, such as any other internal sites.

The current Amendments-in-Context version of a bill, displaying inserted and parenthesized text resulting from adopted amendments in colored text, could also be created once a bill passes an Order of Business. These unofficial versions of the bill could be automatically created in the same way as the engrossed and enrolled version of a bill. The Amendment-In-Context version of a bill could keep with the current color coding, or it could provide alternative color coding such as:

- Inserted and stricken text in black font would indicate it was created in the Introduced bill.
- Inserted and stricken text in a colored font would indicate it was created in a House amendment.
- Inserted and stricken text in a second colored font would indicate it was created in a Senate amendment.
3.5. Consolidate and Streamline Session Recording Tools

During the workshops, we observed a number of tools being used within the Legislature to capture information during session. These include, but are not limited to, the following –

- Locator Database / LegInfo
- Calendar Creation
- Messages
- Journal Application
- Bill Jacket Program

We recommend combining these programs into one single application. Despite being consolidated into one application, the Legislature would still be able to control who has the ability to perform certain tasks by utilizing role-based access. For example, if the Legislature wanted one user to have the ability to create a Journal but not be able to create bill statuses, then their user account would be set up with those permissions.

The aim is to leverage a centralized data management system in order to build a common application where staff members can build upon each other’s work, as opposed to the current process whereby different groups are working in silos. For example, introduced bills could leverage information entered in the 202 file (where appropriate). The process to create Bill Jacket labels in the House could leverage bill status data that has been entered for a specific bill. PDFs of amendments could automatically be populated in the correct location once they have been offered. In each of the above examples, one group is potentially building on the work of another group. With a single session recording application, staff can build upon each other’s work in order to improve efficiencies whilst reducing workload.

3.6. Improved Committee Document Creation

If underpinned by a centralized data management system, a new Committee application could vastly improve the ability for staff within the Legislature to access committee information. For example, reports and documents could be auto generated and sent to select staff members within the Legislature when a committee meeting adjourns. These documents could include which amendments were adopted and which bills were passed. The documents would act as a simplified, internal-only version of a committee report. This would allow Legislative Council Services to easily identify adopted amendments within a committee for specific bills. It would also allow the chief clerks to get advance notice of which bills are due to be sent to the floor.

Creating committee notices and committee reports and running a committee meeting could also be simplified to ensure that it is easier to train session-only staff each year. Determining multiple user groups with different permissions would also help supervisors perform tasks if required. Implementing a Role Based Access Control approach as opposed to restricting some committee functions solely by users, will allow for supervisor’s permissions across multiple committees. For example, if a committee report was not correctly published (like a Comsave in the current application) then an admin user of the application, such as the chief clerk, would have a login whereby they could examine all current committee reports and publish them if required.
3.7. Improved Reporting and Report Publishing to Website

Following a 2015 survey, improvements were made to the New Mexico Legislature public website – nmlegis.gov. The website includes a rich level of the Legislature’s outputs and offers good tracking features via the ‘MyRoundhouse’ feature.

However we observed in the workshops some examples whereby data needed to be pushed in batches to the website at various intervals throughout the day, sometimes multiple times in a single session day. One of the key benefits of implementing recommendations around master data management is that it would remove the need to create data in disparate applications and siloed databases for publication. Proofing and checking mechanisms can still be put in place to ensure data accuracy, but streamlining data management will allow users the ability to query the data in a more dynamic and near real-time fashion. By replicating data suitable for external consumption, members and the public will be able to run dynamic queries along the lines of legislation by Subject, Sponsor, Committee, or Status.

3.8. Improved Services for Members

Implementing tighter master data management would allow the Legislature to leverage this data to improve services for members. For example, a legislator’s mobile app could be created that would allow members to receive custom alerts for their legislation and committees. By default, members will automatically be able to track their sponsored bills and receive committee notices and reports for their assigned committees. Additionally, the App could allow members to follow other bills and committees if they choose.

A legislator’s mobile app could also provide customized alerts to members with little customization required. Leveraging the underlying consolidation of legislative data in a document management system would allow the Legislature to extract more value from their legislative outputs – improving services to members.

3.9. Improved Statute Management for Zoo Files

We recommend an interconnected statute management tool that benefits from the improved section tracking, section management and pull-in tools used during the upstream drafting stage. The ability to track and manage your statute sections with metadata within drafts and bills affords a higher level of confidence and control that is not achievable from inferring bill details from parsing the text. Potential conflicts can be identified earlier in the process and remedial action sought earlier if needed to avoid future conflict issues.

We recommend implementing statute management tools that offer a centralized dashboard from which all tasks associated with keeping Zoo files up to date can be centrally managed. It includes tools for:

- Entering chapter numbers for session laws once assigned by the Secretary of State
- Splitting Acts into sections
- Tracking proofer notes and comments
- Effective date tracking
• Managing editorial and proofing workflows
• Merging sections
• Publishing in necessary formats
• Reconciling multiple amendments to the same section of law

This tool would be fully automated with the Microsoft Word drafting system. It would take information from, and feed information to, the Microsoft Word drafting application. For example, the statute management system should be able to take sections and section data (such as effective dates) directly from Acts finalized within the drafting tools. It should then be able to feed updated sections from the Zoo files back into the drafting tools, so that they can be imported into new drafts.

3.10. Build on Work Practice Changes Initiated by Remote Working

In many of the workflow discussions in the workshops, staff referred to how the process worked before and after COVID and remote working. In a very short period, staff successfully transitioned from the heavily paper-centric workflows to adopting email and PDF markup. It was interesting to hear that while some physical request folders were being created – they may have not been populated with hard copy as their digital equivalents were emailed around.

Our recommendation in this instance would be to review the new work practices adopted and determine their pros and cons. From our observations, users expressed a degree of frustration as to the limitations of capturing comments and changes as PDF markup. The PDF markup tools are finicky and clunky. Email is great to facilitate collaborative work on drafts. However, its inherent issue is traceability of master versions as each email is creating a new copy and over time it is hard to see a complete audit trail of changes and to ascertain who is the owner of the ‘master’ version of a document and what changes have been accepted.

The fact that change has started is a unique opportunity for the New Mexico Legislature, indeed one participant commented on how they felt they needed to look at the change in work practice – improve on it – ‘before we slip back to the old way of doing it’.

As we have seen in earlier recommendations, there is an opportunity to improve on PDF annotation of documents by allowing for greater use of the track changes and comment features native to Microsoft Word. Allowing for editorial exchange directly in the drafts will greatly reduce the need for rekeying and reduce proofing cycles. Also, rather than the email exchange of digital files, which causes issues around master data management as discussed earlier, working from a central document management system with the exchange of links to master copies can reduce the unnecessary proliferation of copies across systems. By adopting an integrated draft request management system, editorial workflows can be managed via a central dashboard. This will still allow users to receive email notifications to prompt work actions. It will offer a centralised location where they can view and manage their own workload and also view the status of all drafts within the system. This will bring improvements for reporting and workload management.
3.11. Codify Institutional Knowledge into Systems and Processes

A key deliverable from this survey and mapping project was the detailed workflow diagrams delivered as part of the workflow report and referenced in ‘Appendix C – Index of Workflow Diagrams’. A stated objective of the RFP was to document the existing work practices. As a result of facilitating these workshops with the business areas responsible for managing the legislative process in New Mexico, a greater awareness amongst staff was gained of both their role in the overall process and the effects of their actions on downstream processes. We were impressed by the considerable amount of institutional knowledge that has built up over the years allowing staff to work efficiently and smartly. We saw many examples in the process where institutional knowledge is key to maintaining the high level of quality in the legislatures work product.

We would recommend that, as part of the detailed design and analysis phase of any future project, the New Mexico Legislature capture this knowledge in the form of training materials and, where possible, codify it into system rules and workflows. To an extent this knowledge can also be codified as part of the new IT systems that will be developed to support the Legislature. This process will serve to both capture critical knowledge as staff retire and support a user friendly experience for new staff joining the legislature to support its critical work.
4. About Propylon

*At the intersection between legal content, and the impact of change.*

We believe in the power of technology to improve the creation of legal and regulatory material and make it useful for all. We have spent the last two decades honing our technology so that it meets the challenges our clients' face now and into the future.

Propylon is a world leader in legislative and regulatory data processing and document management. With a large pool of expert consultants and analysts, and a world class software development team dedicated to legislative and regulatory domains, we have considerably broader and deeper expertise than any other vendor in the market. We pride ourselves on having some of the leading world domain technical authorities on our team and contribute to the development of global standards relevant to legislative data processing.

Our software solutions cover the different departments in the Legislature providing an integrated information architecture for the legislative staff to enter information once and get the most value out of it in multiple places. Our drafting solutions introduce efficiencies such as automatic engrossment that allows for the return of amended bills more quickly. Our Chamber solutions integrate chamber actions to allow for generation of the Journal, Calendar and bill Status information reducing risks of data entry error and cutting down on the end of day legislative processes. Our Research tools provide efficiencies in the integration of data from multiple sources and make information available to the user when they need it. The results of integrated information management are better tools for staff, Members and the public. Staff can easily generate reports of the information they need, legislators can be provided their own portal to access all legislative information and the public website can be automatically updated as required. Propylon is ISO 27001 – Information Security Management and Cyber Essentials Plus accredited.

Propylon has introduced cost savings for Legislatures by heavily reducing print and composition costs through the provision of electronic camera-ready publications. Also, the consolidation of applications and services has reduced support and maintenance costs. Efficiencies of the applications allow staff to concentrate on higher value tasks and the creation of quality product to their consumers, such as better provisioning of electronic material to Members and the public.

Propylon’s work in over ten US State Legislatures, a number of national Parliaments, the Office of the Attorney General, and with legal publishers Wolters Kluwer and LexisNexis, demonstrates our commitment to deliver innovative and cost-effective technical solutions for authoring, managing and publishing complex legislative documents.
5. Appendices

5.1. Appendix A – Glossary and Terminology

The following is a selected Glossary and Terminology of some unique language used in the workshops that may be referenced in this document.

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>202 / 202’s</td>
<td>The request management system used for draft, amendment and other requests. 202 refers to the prefix number used in numbering requests</td>
</tr>
<tr>
<td>Bill Historians</td>
<td>They carry out a number of bill status updates and related tasks</td>
</tr>
<tr>
<td>Compilation Commission</td>
<td>New Mexico Compilation Commission, body responsible for maintaining and official publisher of New Mexico state laws</td>
</tr>
<tr>
<td>Comsave</td>
<td>Saving and publishing a committee report</td>
</tr>
<tr>
<td>E&amp;E</td>
<td>Enrolling and Engrossing</td>
</tr>
<tr>
<td>House</td>
<td>In New Mexico can be used to refer to either House of Representatives or Senate. For the purpose of this report Chamber is used to refer to either.</td>
</tr>
<tr>
<td>House Bill 2/HB2</td>
<td>The general appropriations bill</td>
</tr>
<tr>
<td>LCS</td>
<td>Legislative Council Service</td>
</tr>
<tr>
<td>MyRoundhouse</td>
<td>The tracking application available on public website – nmlegis.gov</td>
</tr>
<tr>
<td>NMSA</td>
<td>New Mexico Statutes Annotated</td>
</tr>
<tr>
<td>NMSA 1978</td>
<td>The date of the last major compilation of NM laws</td>
</tr>
<tr>
<td>Red Books</td>
<td>Hard copies of the NMSA</td>
</tr>
<tr>
<td>Red Quill</td>
<td>Intranet site hosting research tools</td>
</tr>
<tr>
<td>Duplicate Bills</td>
<td>Companion bills that may be introduced in both chambers</td>
</tr>
<tr>
<td>Roll the Clock</td>
<td>Move to a new Legislative day</td>
</tr>
<tr>
<td>The Comp</td>
<td>Term used for NMSA 1978 which is base compilation used for new bills</td>
</tr>
<tr>
<td>The Feed Bill</td>
<td>The annual bill that funds the legislature, Generally HB 1</td>
</tr>
<tr>
<td>The Zoo</td>
<td>Originally the physical location of the Zoo files, or New Mexico statutes. A naming convention derived by the coloured animal stamps historically used to identify original hard copy versions of the files</td>
</tr>
</tbody>
</table>
Zoo Keeper | Person responsible for updating the Zoo files at the end of each legislative session

### 5.2. Appendix B – Applications and Databases

The following is a list of applications and Word Add Ons discussed in the workshops:

<table>
<thead>
<tr>
<th>Application / Database</th>
<th>Proposed Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>202 System</td>
<td>Replace</td>
</tr>
<tr>
<td>Bill Finder</td>
<td>Integrate</td>
</tr>
<tr>
<td>Bill Jacket Label Creation MSAccess - House</td>
<td>Replace</td>
</tr>
<tr>
<td>Bill Locator MSAccess Database / LegInfo</td>
<td>Replace</td>
</tr>
<tr>
<td>CalSched MSAccess</td>
<td>Replace</td>
</tr>
<tr>
<td>Committee Module MSAccess</td>
<td>Replace</td>
</tr>
<tr>
<td>CoSponsor MSAccess</td>
<td>Replace</td>
</tr>
<tr>
<td>Fiscal Impact Statements MSAccess</td>
<td>Integrate</td>
</tr>
<tr>
<td>House Journal Database</td>
<td>Replace</td>
</tr>
<tr>
<td>International Roll Call Voting System</td>
<td>Integrate</td>
</tr>
<tr>
<td>LegLog MSAccess</td>
<td>Integrate</td>
</tr>
<tr>
<td>Name/Address Database</td>
<td>Replace</td>
</tr>
<tr>
<td>PDF Markup Tools</td>
<td>Replace</td>
</tr>
<tr>
<td>Red Quill</td>
<td>Integrate</td>
</tr>
<tr>
<td>Senate Journal Database</td>
<td>Replace</td>
</tr>
<tr>
<td>Sherpa Budget System</td>
<td>Integrate</td>
</tr>
<tr>
<td>ToC (Table of Changes) MSAccess</td>
<td>Replace</td>
</tr>
<tr>
<td>Website</td>
<td>Integrate</td>
</tr>
<tr>
<td>Website Downloads Page (nmlegis.gov/Downloads)</td>
<td>Integrate</td>
</tr>
<tr>
<td>Website Update Utility</td>
<td>Integrate</td>
</tr>
<tr>
<td>WordPerfect Committee Report Macros</td>
<td>Replace</td>
</tr>
<tr>
<td>WordPerfect Tools</td>
<td>Replace</td>
</tr>
</tbody>
</table>
5.3. Appendix C – Index of Workflow Diagrams

Individual PDF workflow diagrams are included with this report, the following index lists the PDF filenames and their related business process as described in Section 2.

<table>
<thead>
<tr>
<th>Workflow Diagram</th>
<th>Section 2 Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill Drafting.PDF</td>
<td>Section 2.2.1 – Drafting of Bills</td>
</tr>
<tr>
<td>Memorials.PDF</td>
<td>Section 2.2.2 – Drafting of Memorials</td>
</tr>
<tr>
<td>Resolutions.PDF</td>
<td>Section 2.2.3 – Drafting of Resolutions</td>
</tr>
<tr>
<td>Analysis of Fiscal Impact.PDF</td>
<td>Section 2.2.4 – Analysis of Fiscal Impact</td>
</tr>
<tr>
<td>Committee Amendment.PDF</td>
<td>Section 2.3.1 – Standing Committee Amendments</td>
</tr>
<tr>
<td>Floor Amendment.PDF</td>
<td>Section 2.3.2 – Floor Amendments</td>
</tr>
<tr>
<td>Committee Substitute.PDF</td>
<td>Section 2.3.3 – Standing Committee Substitutes</td>
</tr>
<tr>
<td>Floor Substitute.PDF</td>
<td>Section 2.3.4 – Floor Substitutes</td>
</tr>
<tr>
<td>E&amp;E.PDF</td>
<td>Section 2.3.5 – Enrolling &amp; Engrossing</td>
</tr>
<tr>
<td>Committee.PDF</td>
<td>Section 2.4 – Committee</td>
</tr>
<tr>
<td>Journal Creation.PDF</td>
<td>Section 2.5.1 – Journal Creation</td>
</tr>
<tr>
<td>Floor Reports.PDF</td>
<td>Section 2.5.2 – Floor Reports</td>
</tr>
<tr>
<td>Messages.PDF</td>
<td>Section 2.5.3 – Messages</td>
</tr>
<tr>
<td>Calendar.PDF</td>
<td>Section 2.5.4 – Calendars</td>
</tr>
<tr>
<td>Bill Finder.PDF</td>
<td>Section 2.6.1 – Bill Finder</td>
</tr>
<tr>
<td>Daily Bill Locator.PDF</td>
<td>Section 2.6.2 – Daily Bill Locator</td>
</tr>
<tr>
<td>Subject Index.PDF</td>
<td>Section 2.6.3 – Subject Matter Index</td>
</tr>
<tr>
<td>Sponsor Index.PDF</td>
<td>Section 2.6.4 – Sponsor Index</td>
</tr>
<tr>
<td>Concordance.PDF</td>
<td>Section 2.6.5 - Concordance</td>
</tr>
</tbody>
</table>
5.4. Appendix D – Output Inventory

Please refer to attached file ‘Appendix D – Output Inventory.xlsx’.