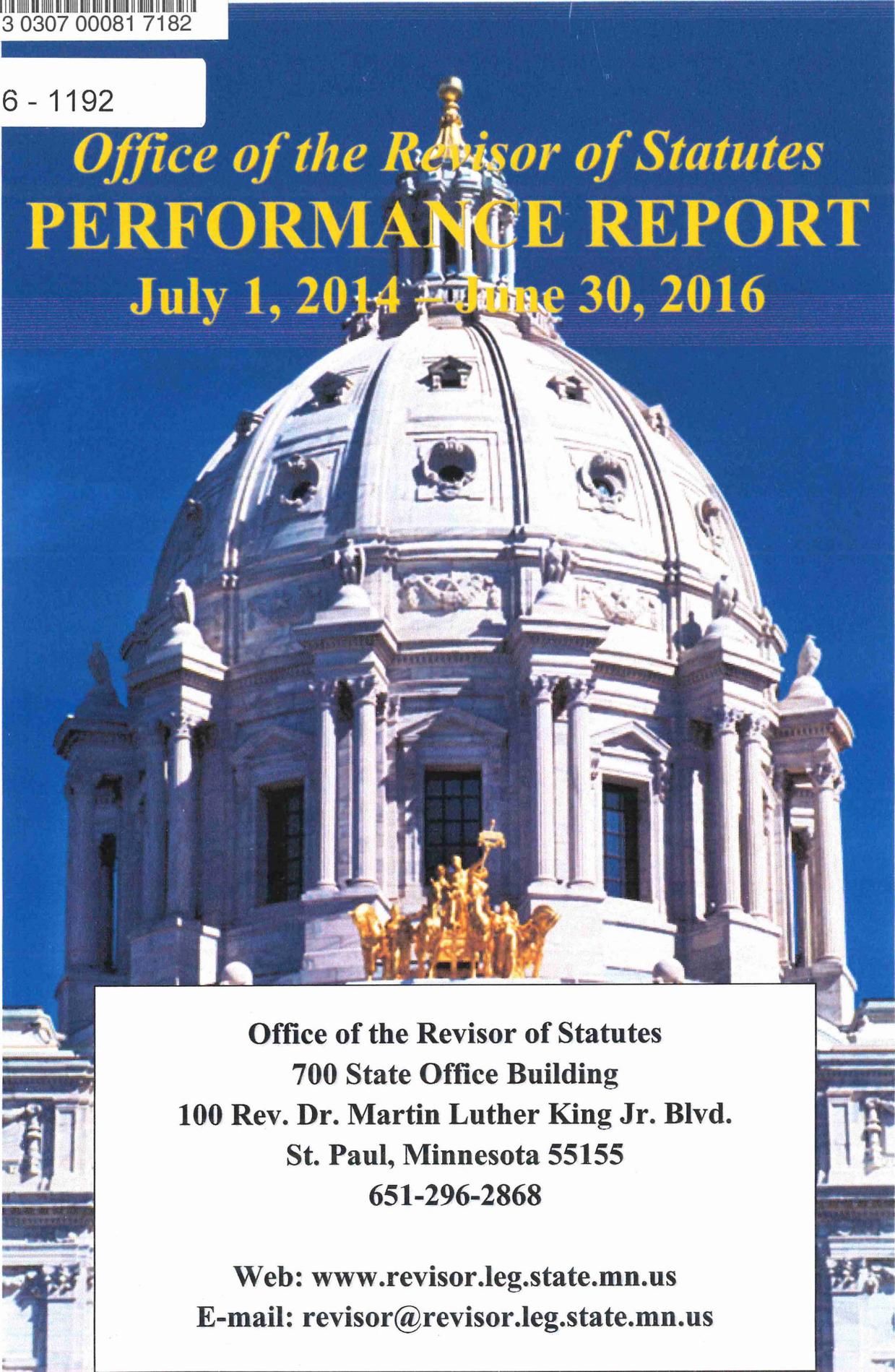




16 - 1192



Office of the Revisor of Statutes
PERFORMANCE REPORT
July 1, 2014 – June 30, 2016

**Office of the Revisor of Statutes
700 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, Minnesota 55155
651-296-2868**

**Web: www.revisor.leg.state.mn.us
E-mail: revisor@revisor.leg.state.mn.us**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
DUTIES OF THE REVISOR'S OFFICE	2
LEGISLATIVE DUTIES	2
BILL DRAFTING	2
RESOLUTION DRAFTING	2
AMENDMENT DRAFTING	3
REVISOR'S, CORRECTIONS, AND STYLE AND FORM BILLS	4
FORM APPROVALS OF BILLS	4
HOUSE COMMITTEE AND DIVISION REPORTS	4
CONFERENCE COMMITTEE REPORTS	5
COMPARISON REPORTS	6
ENGROSSMENTS	6
ENROLLMENTS	7
ADMINISTRATIVE RULE DRAFTING	8
RULE DRAFTING AND FORM APPROVAL OF RULES	8
PROPOSED RULES	9
MODIFICATIONS	10
NOTICES OF ADOPTION	11
ADOPTED RULES	11
PUBLICATIONS AND ACCESS TO DATA	12
<i>LAWS OF MINNESOTA</i>	12
MINNESOTA STATUTES AND SUPPLEMENT	13
LAWS TABLES	14
STATUTORY EDITORIAL OPERATIONS	15
MINNESOTA RULES AND SUPPLEMENT	16
INDEXES	16
COURT RULES	17
REVISOR'S MANUAL	17
RULE DRAFTING MANUAL	17
RULEMAKING GUIDE	18
COMPUTER SEARCHES	18
COPIES OF, AND ACCESS TO, PUBLIC DATA	18
LEGAL ASSISTANCE AND LIAISON	19
COUNSEL TO SUBCOMMITTEE ON CLAIMS	19
COURT OPINIONS REPORT	19
UNIFORM LAWS CONFERENCE	19
INFORMATION FOR OTHER STATE OFFICES AND THE GENERAL PUBLIC	20
COMPILING DATA ON OPERATION AND EFFECT OF LAWS	21
INTERNAL OPERATIONS	21
INFORMATION SERVICES	22
NEW SYSTEM DEVELOPMENT PROJECT - COMPLETED	22
MAINTAINING INFORMATION SYSTEMS (IS) INFRASTRUCTURE	23

CUSTOM SOFTWARE APPLICATION	27
IT COORDINATION IN THE LEGISLATURE	33
ACKNOWLEDGEMENTS	35

EXECUTIVE SUMMARY

The Office of the Revisor of Statutes is a nonpartisan legislative agency providing a broad range of services to the legislature, legislative staff, constitutional officers, and executive and judicial branches of state government. The services provided by the office are imposed by law, legislative rule, or legislative custom. This report is a review for the legislative biennium beginning July 1, 2014, and ending June 30, 2016, of each of these functions. Included as part of the report are graphs showing long-term trends in selected areas of office activities.

The statistics for the 2015-2016 biennium show legislative drafting activity higher than average for bill and resolution drafting but lower than average for enrollments, as compared to the previous five biennia. Rule drafting was up in some areas and down in others, balancing out to about average. Editing activity was lower than average for new legislative materials, but slightly higher than average for the codified statutes and administrative rules. Here are some selected statistics:

- Bill and resolution drafts at 7,801 were 15% higher than average
- Enrollments at 195 were 42% lower than average
- Final rule drafts approved at 163 were 6% higher than average
- New rule drafting files opened at 138 were 11% lower than average
- *Minnesota Laws* pages at 3,531 were 27% lower than average
- *Minnesota Statutes* pages at 26,027 were 2% higher than average
- *Minnesota Rules* pages at 14,576 remained steady at less than 1% higher than average

Drafting activity in the Revisor's Office at the end of the 2015 and 2016 sessions was high, as is typical, but we worked with legislative leadership to accomplish legislative goals and priorities on time.

Once again, the most dramatic chart in this report details the extensive use of the Revisor's Web site. In 2015, there were 411 million hits on Revisor Web servers, another all-time record. The Revisor's Office continues to receive accolades from legal researchers for the amount of legal material available on the Revisor's Web site and how easy it is to use.

In the previous biennium, the Revisor's Office completed implementation of the Uniform Electronic Legal Material Act's authentication requirements. The Minnesota Constitution, Statutes, Session Laws, and Rules can all be authenticated online, which is similar to obtaining a certified copy of the document. In this biennium, the office concentrated on the preservation requirements of the act, by designing the Keep Electronic Edicts Preserved and Secure (KEEPS) system. Now in the implementation phase, KEEPS uses Write Once, Read Many (WORM) disks to store the preserved data and ensure its accessibility for the future. Revisor's information services staff have presented the KEEPS system at two national conferences.

Finally, the Revisor's Office began a pilot project in July 2016 for a new Minnesota Administrative Rules Status System (MARSS). The project's objective is to provide an official online rulemaking record that will provide a one-stop location for legislators and the public to track rulemaking activity. The MARSS pilot project report will be ready in time for consideration by members during the 2017 session of the Minnesota Legislature.

DUTIES OF THE REVISOR'S OFFICE

This section of the report examines each of the functions of the Revisor's Office assigned by law, rule, request, or custom.

LEGISLATIVE DUTIES

Bill Drafting

Source of mandate: Minnesota Statutes, sections 3C.03, subdivision 2; 3C.035; and 3C.05, subdivision 1.

The mandate to draft and review bills and related legislative documents generated for the legislature is the office's chief responsibility during the legislative session. That mandate has many component duties: the work of drafting itself, the management of drafting loads, the maintenance of a bill tracking system, the systems and software that support bill production, the training and documentation associated with those systems, the work of data entry, and the work of supervision and quality control. As mandated by statute, the office drafts bills on request for any member of the House of Representatives and the Senate, the Governor, and state departments and agencies. Bill drafting services are nonpartisan and confidential. All drafting is done by lawyers, and the attorney-client privilege, as well as broad statutory confidentiality protection, attaches. A peer review procedure is utilized as part of the comprehensive quality control system for bill drafting. Computer programs developed in the office transfer data for all introduced bills to the legislative Web site.

In 2015-2016, the office drafted 796 bills for the executive branch and 5,638 for the legislature.

Much of the bill drafting for departments and agencies is done prior to the start of each session of the legislature. We cooperate with the Governor's office in preparing and jacketing agency bills, and with majority and minority leadership in the House of Representatives and Senate in a collaborative effort to deliver these bills to the legislature in a timely manner.

The Revisor's Office opened 4,594 drafting files for bills and resolutions in the first half of the biennium and opened an additional 3,207 files in the second half.

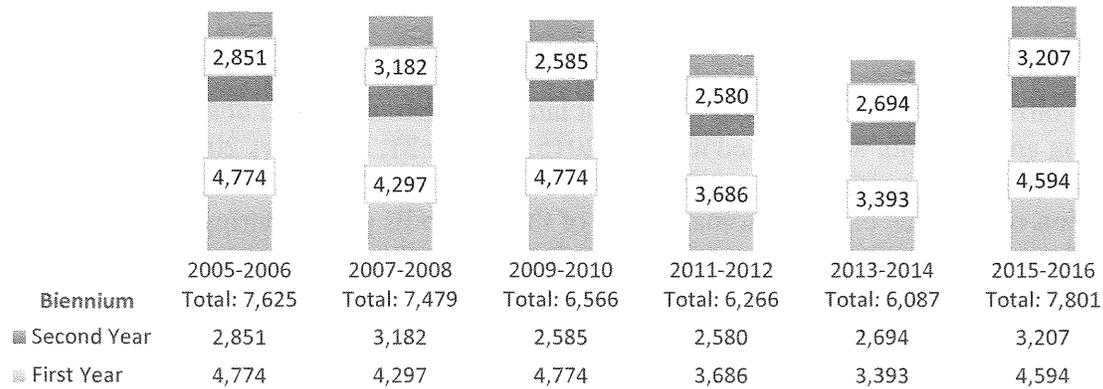
Resolution Drafting

Source of mandate: Minnesota Statutes, section 3C.03, subdivision 2

The office drafts memorial, concurrent, simple, and congratulatory resolutions. Memorial resolutions are drafted to accomplish public goals and contain statements of facts referred for action by a governmental official, agency, or body. Concurrent resolutions are drafted to conduct the internal business of the legislature, such as establishing budget limits. Some simple resolutions also conduct internal legislative business. The majority of resolutions drafted by the office are congratulatory resolutions, which are drafted to recognize outstanding achievements by groups or individuals, most often scouts, school athletic teams, and retirements. Resolutions are often presented at public functions by legislators or their designees to help maintain good constituent relations. Congratulatory resolutions are prepared and delivered directly to the requesting legislator who, in turn, obtains the proper signatures. In addition to formal resolutions, the office prepares text that can be used by the Governor's office in drafting proclamations as an alternative form of congratulation.

The office prepared 577 congratulatory resolutions in the first half of the biennium and 739 in the second half.

Bill and Resolution Drafts

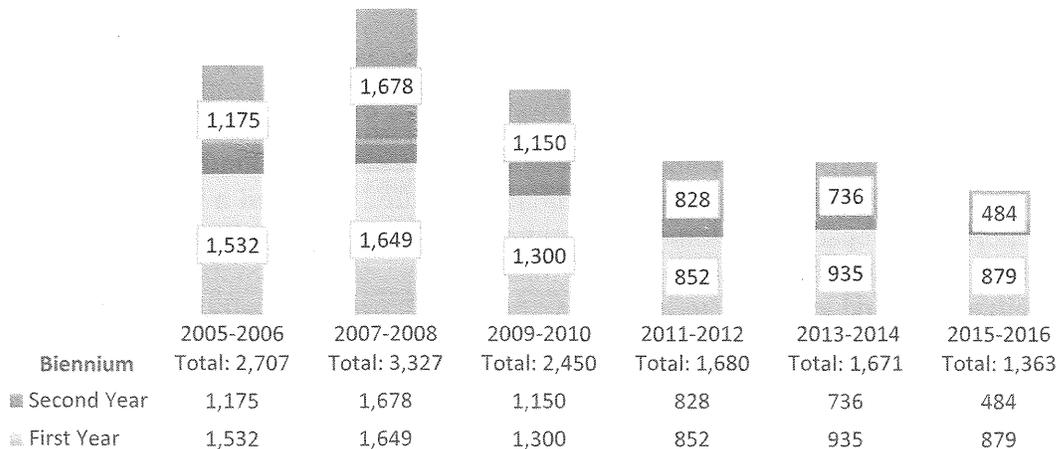


Amendment Drafting

Source of mandate: Minnesota Statutes, section 3C.03, subdivision 2

Amendments are prepared at the request of legislators, the Governor and other constitutional officers, and state agencies for Senate committees, House committees, and floor sessions. In addition, one lawyer from the office is available on the House floor during floor sessions to draft amendments and to provide related legal advice. The office also provides support staff to prepare amendments on the House floor. The office prepared 879 amendments in the first half of the 2015-2016 biennium and 484 in the second half.

Amendment Drafts



Revisor's, Corrections, and Style and Form Bills

Source of mandate: Minnesota Statutes, section 3C.04

Three types of bills are researched, proposed, and drafted by the office and introduced for consideration by members who sit on the House and Senate committees with jurisdiction over civil law matters. The Revisor's bill corrects technical errors in the statutes. The corrections bill is used to correct errors in a given session's bills. Style and form bills are used to improve the style and form of statutory chapters. Office staff attends committee hearings on these bills and testifies as requested by the members.

Revisor's bills to correct obsolete and redundant language, erroneous and obsolete references, and conflicting amendments were passed in Laws 2015, chapter 21, and Laws 2016, chapter 158.

The session corrections bill is customarily one of the final bills passed during a session. Because of end-of-session time constraints, an abbreviated procedure developed with legislative leadership is used for session corrections bills. Session corrections bills to correct session errors were passed in Laws 2015, First Special Session, chapter 6, and Laws 2016, chapter 187.

Style and form bills produced by the office are not generally introduced as standalone bills but are often added as an article to the Revisor's bill or integrated into more substantive pieces of legislation. For example, Laws 2015, chapter 9, article 1, recodified and made other style and form changes to liquor statutes.

Form Approvals of Bills

Source of mandate: House rule 4.01, Joint Rule 2.01, and custom and usage of the legislature

The office examines each bill and endorses approval of its form and its compliance with the Joint Rules of the House and Senate, with the Rules of the House, and with the provisions of the Minnesota Constitution relating to bills, such as the single subject and enacting clause requirements. Technically, this requirement of approval applies to bills prepared for introduction in the House of Representatives. In practice, it applies to all bills, since bills drafted for a Senate member have both House and Senate copies. Form checks and approvals are a standard part of the quality control component of the bill drafting process.

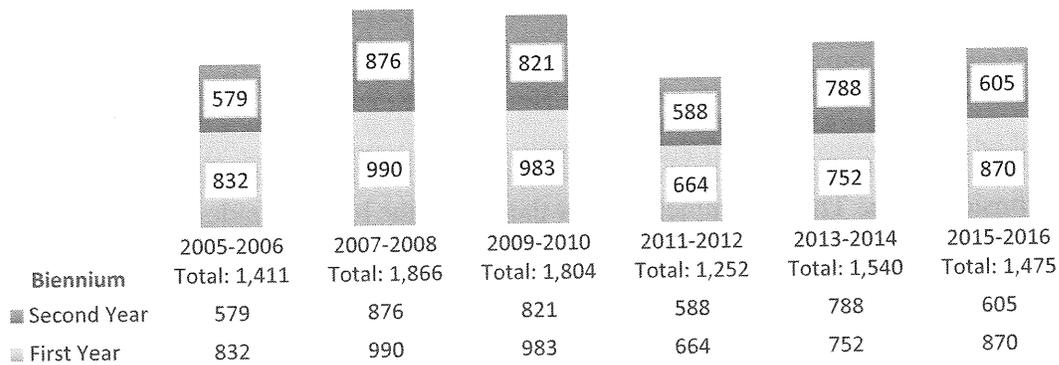
House Committee and Division Reports

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 6 (requested by the Speaker and Chief Clerk of the House)

The office drafts and approves all committee reports from standing committees of the House. Committee reports were once only prepared when a committee amended a bill, but since 1999, committee reports are prepared each time a committee takes action on a bill. Beginning in 2007, the office began preparing division reports for House subcommittees. Staff works closely with House committee staff and members to make sure the reports are technically accurate and legally sufficient. The office also prepares campaign finance reports for the Government Operations Committee to confirm appointments of new members to the Campaign Finance Committee.

The office prepared 856 committee reports, three division reports, three campaign finance reports, and eight minority reports for the House during the 2015 session. During the 2016 session, 601 committee reports, two campaign finance reports, and two minority reports were prepared.

House Committee and Division Reports



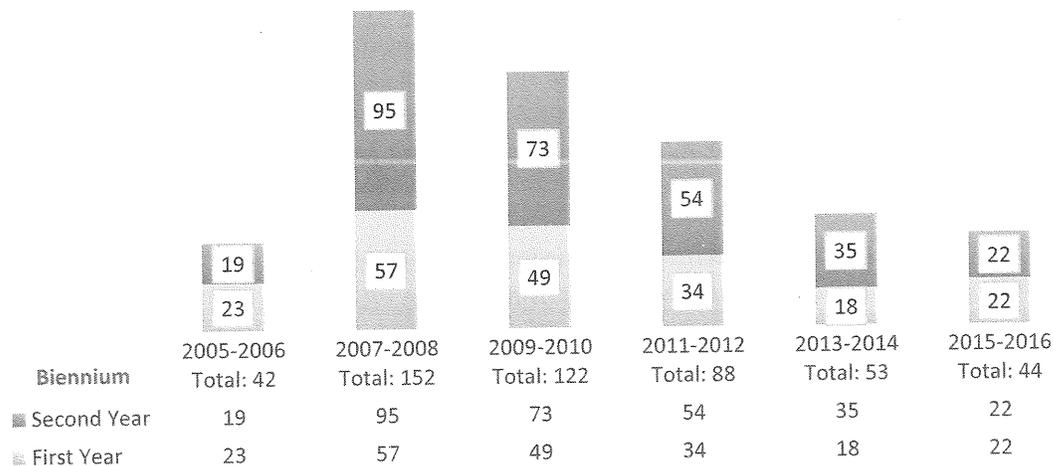
Conference Committee Reports

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 6; custom and usage of the legislature

The office drafts and approves all conference committee reports of the House and Senate. Staff works closely with members and conference committee staff to make sure the reports are technically accurate and legally sufficient. These reports are usually prepared under significant time constraints during the last few days of session. Computer programs developed by our office transfer data for conference committee reports to the legislative Web site.

During the 2015 regular session, the office prepared 22 conference committee reports that were returned to the desks. There were eight conference committee reports on House bills and 14 on Senate bills. The office prepared 22 total reports returned to the desks in the 2016 session, including 10 on House bills and 12 on Senate bills.

Conference Committee Reports



Comparison Reports

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 6; custom and usage of the legislature (requested by members, Secretary of the Senate, and Chief Clerk of the House)

The office prepares two types of comparison reports for the legislature: side-by-side comparison reports and desk comparison reports for both the House and Senate.

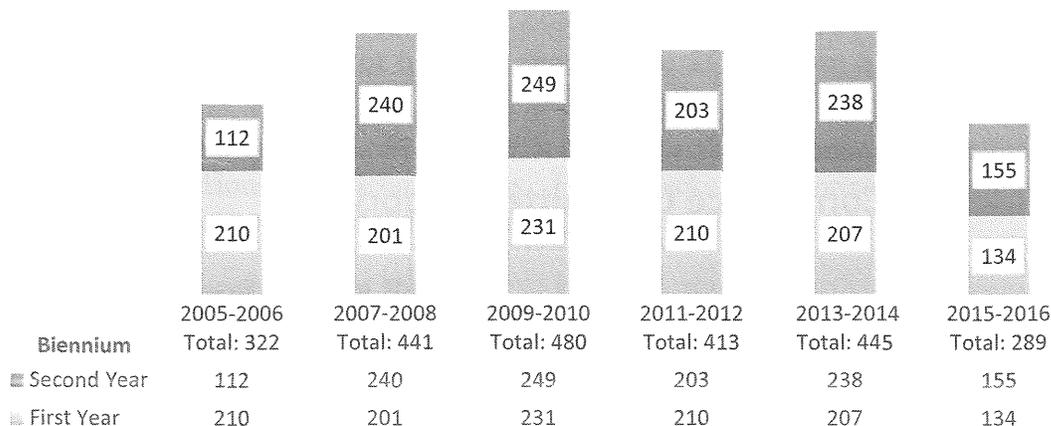
Side-by-side comparisons are usually requested for House and Senate bills under conference committee consideration. These documents show the text of the bills in a side-by-side presentation to show how they may differ from each other.

The office prepared 81 side-by-side comparison reports in the 2015-2016 biennium, including 38 reports in 2015 and 43 reports in 2016.

Desk bill comparison reports are also prepared in a different form for use by the House and Senate desks. The reports are used to determine differences in companion bills. A short form is prepared for both bodies indicating whether or not bills are identical. For bills that are not identical, the office prepares a detailed report highlighting the differences.

In 2015, the office completed 32 reports for the Senate and 64 for the House. In 2016, the office completed 43 reports for the Senate and 69 for the House.

Side-by-Side and Desk Bill Comparisons



Engrossments

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 5, and Joint Rule 2.07

When bills are amended in committee or on the floor in the house of origin, the office merges the amendments into the bill text to produce engrossments, which help readers understand the effect of the amendments. The office also prepares “unofficial” engrossments of amendments adopted by one house to bills that originate in the other house, “unofficial” engrossments of amendments

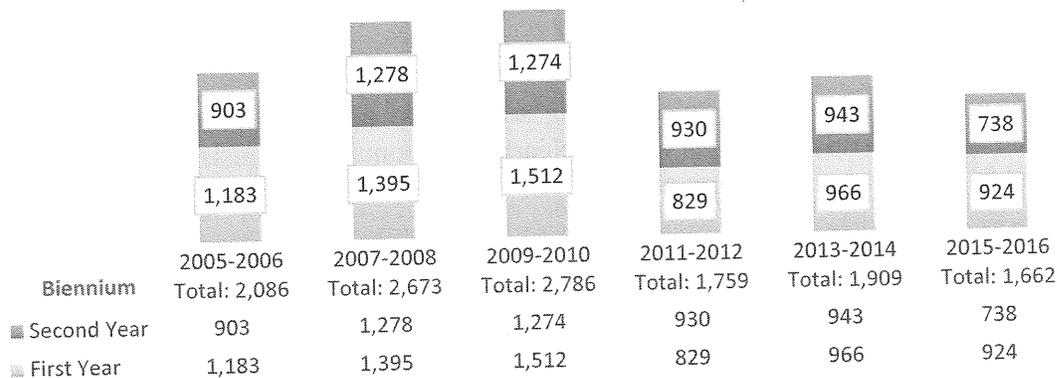
that are being considered in committees, and other similar working documents. In 2007, the office began preparing a committee engrossment for every division report created.

If amendments cannot be engrossed, the reviewing attorney suggests journal corrections for minor technical matters or works with interested members and staff to correct substantive problems that are found.

Computer programs developed in the office transfer data for engrossments to the legislative Web site.

The office completed 924 engrossments in 2015 and 738 during the 2016 session. These figures include committee engrossments and unofficial engrossments requested by the desks in each house. Of those numbers, the office prepared 439 engrossments on House bills in the 2015 session and 350 in the 2016 session. The office prepared 447 engrossments on Senate bills in 2015 and 345 in the 2016 session.

Engrossments including Committee Engrossments



Enrollments

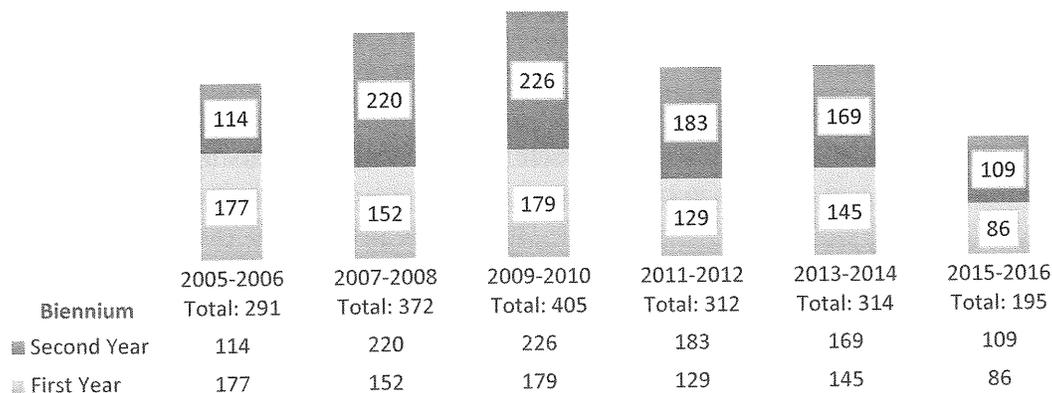
Source of mandate: Minnesota Statutes, section 3C.04, subdivision 5, and Joint Rule 2.07

After a bill has passed both houses in the same form, either as introduced or as finally engrossed, the bill is ready to be enrolled and presented to the Governor. Each enrollment is checked for technical accuracy and legal sufficiency.

Signatures of the presiding and chief administrative officers of each house and the Revisor are obtained, and the bill is formally presented to the Governor on behalf of the legislature. This work is done under time constraints imposed by the Minnesota Constitution.

The office prepared 80 enrollments in the 2015 regular session and six enrollments in the 2015 First Special Session. The office prepared 109 enrollments in the 2016 session. There were no resolutions enrolled during the 2015-2016 biennium.

Enrollments



ADMINISTRATIVE RULE DRAFTING

Rule Drafting and Form Approval of Rules

Source of mandate: Minnesota Statutes, sections 3C.03, subdivision 2, and 14.07, subdivisions 1, 2, and 4

The office provides administrative rule drafting services to agencies, providing assistance in proposing and adopting rules that are written clearly and concisely, consistent with legislative direction, and free of common drafting errors.

The office reviews and approves the form of all rules to ensure they are numbered, formatted, and edited in a way that will fit smoothly into the published compilation of *Minnesota Rules*. As part of this approval, the office certifies that documents incorporated by reference in rules are conveniently available to the public. In addition to form approval, substantive review is provided as a part of the drafting assistance performed by the office.

Quality controls for rule drafting include review and approval by the drafting attorneys and peer review by senior legal staff. Many redrafts of documents are typical as a part of the agencies' development of language for rules (see the bar graph illustrating the Average Document Drafts per File). Other elements include clerical review, the use of specifically adapted computer programs, the XTEND document production system, regular review of all processes, and formal and informal instruction of staff in quality control.

A relational database, for use by the office, stores status information on every action taken by executive branch agencies to adopt administrative rules. The database contains information from 1981—when the Revisor's Office took over rules drafting and publication responsibilities—to the present. In 2006, the data was converted to an Oracle database from an OpenText database. As part of the conversion, a new user interface was coded to allow staff to enter status information directly into the Oracle database. This conversion allows the office to minimize complexity by standardizing on Oracle databases exclusively.

In 2013, a beta version of a public rules status system was created to allow easy public access to the information contained in this database. The system is hosted on the Revisor's Web site and allows the public to track administrative rulemaking actions by executive branch agencies.

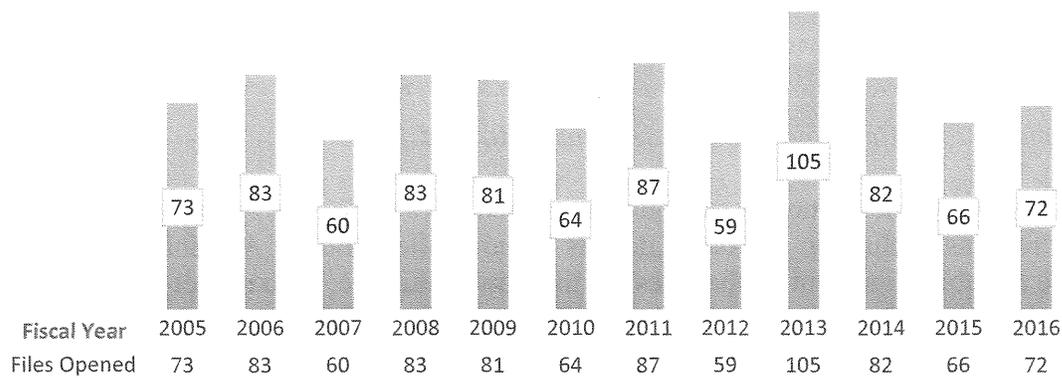
The office opened 66 rule drafting files in fiscal year 2015 and 72 in fiscal year 2016.

Proposed Rules

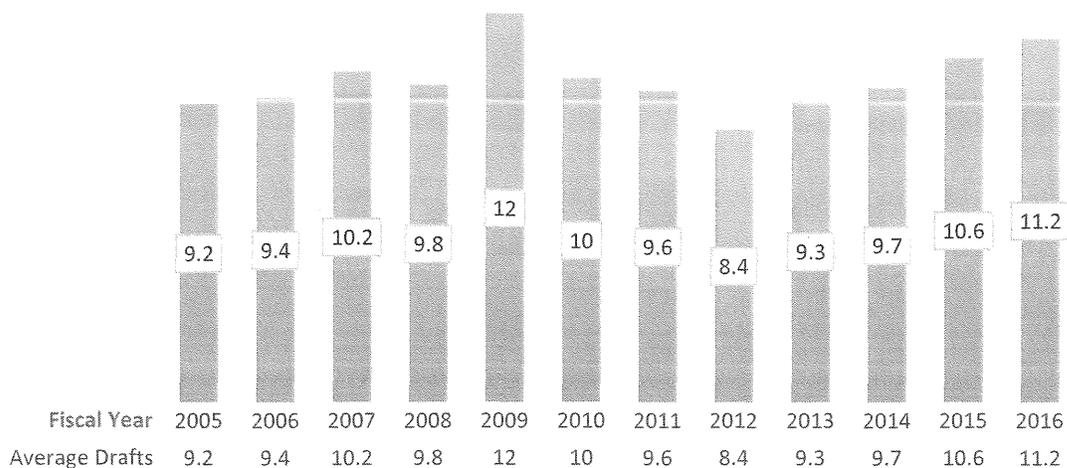
Source of mandate: Minnesota Statutes, sections 14.07, 14.14, and 14.20

The office prepares the document that contains the text of a proposed rule, certified approved as to form, for publication in the *State Register*.

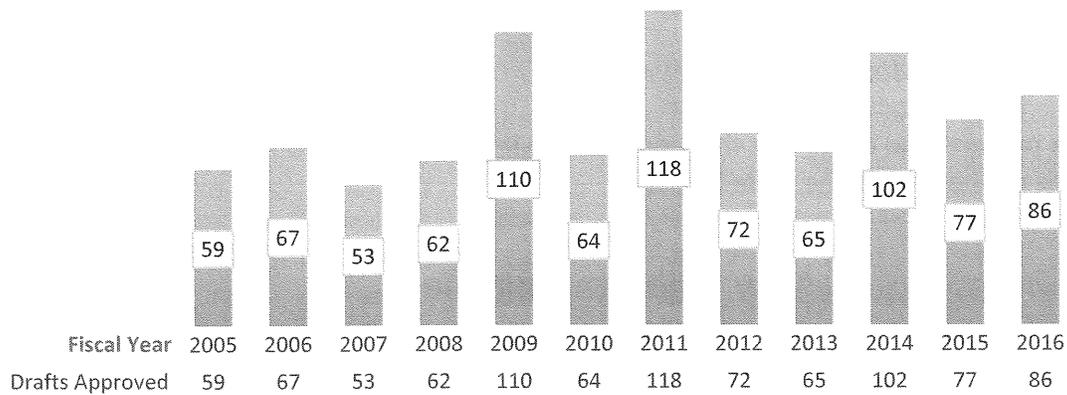
**New Rule Drafting Files
by Fiscal Year**



**Average Document Drafts per File
by Fiscal Year**



Final Proposed Rule Drafts Approved by Fiscal Year

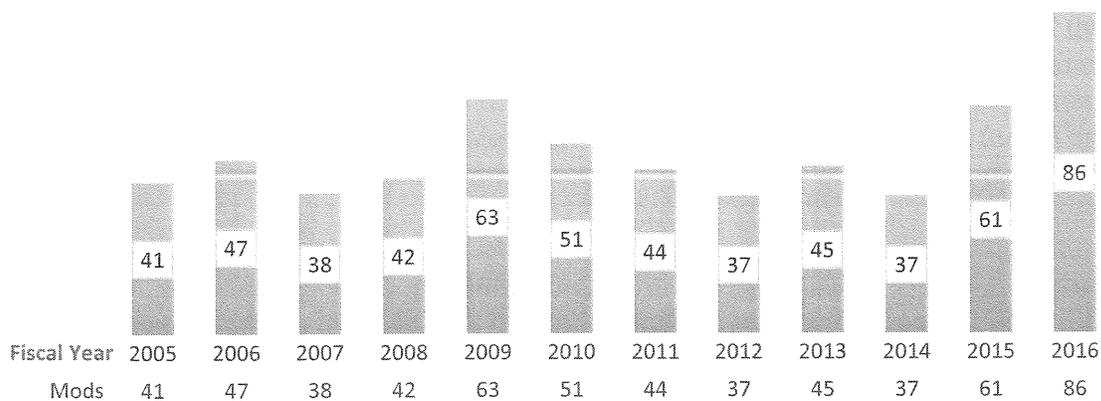


Modifications

Source of mandate: Minnesota Statutes, sections 14.07 and 14.08

After publication, agencies modify or change proposed rules during the rulemaking process for a number of reasons, including: to correct defects found by the Office of Administrative Hearings; in response to public comment on the rules; on their own initiative; or to reflect suggestions made by the reviewing attorney in the Revisor's Office. The office prepares the text of these modifications to rules, approved as to form, for use by agencies.

Modifications by Fiscal Year

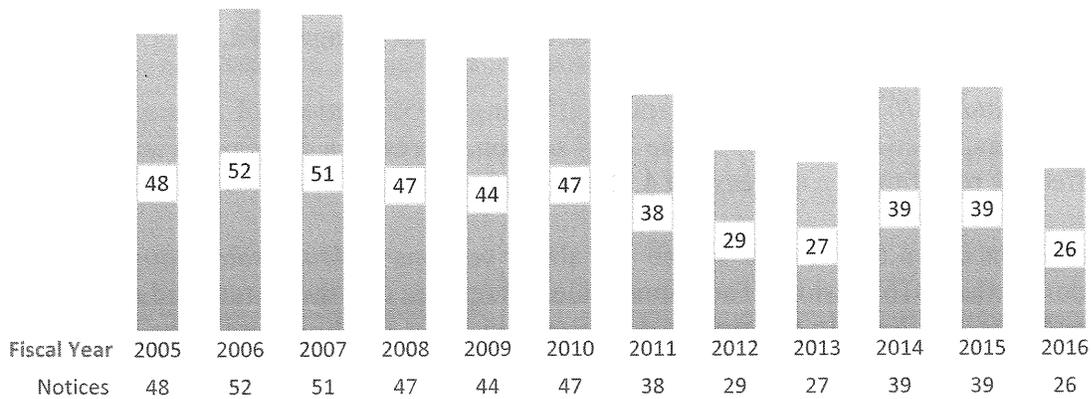


Notices of Adoption

Source of mandate: *Minnesota Statutes, sections 14.18 and 14.27*

Agencies are required to give the public notice of the adoption of rules. The office prepares and approves the form of these notices of adoption, which are then published in the *State Register*.

Notices of Adoption by Fiscal Year

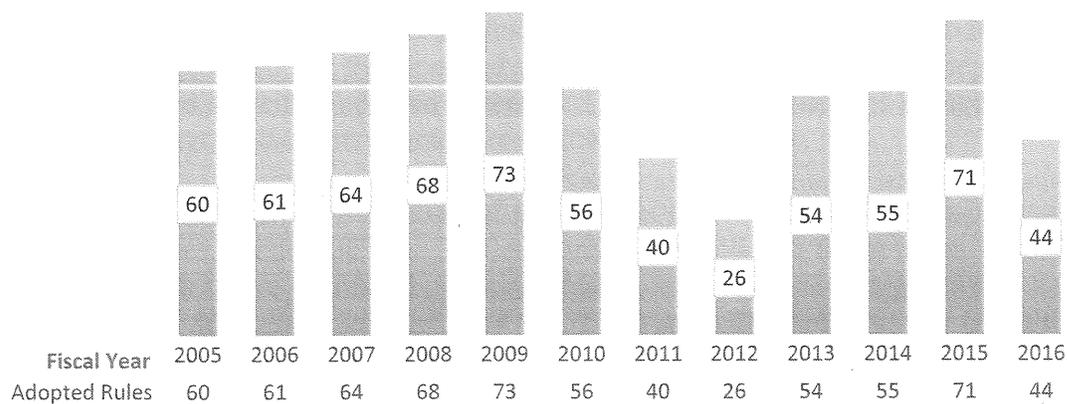


Adopted Rules

Source of mandate: *Minnesota Statutes, sections 14.08, 14.20, 14.28, 14.38, 14.386, and 14.388*

The office prepares copies of rules that have been adopted by agencies, approved as to form, for filing with the Secretary of State.

Final Adopted Rules by Fiscal Year



PUBLICATIONS AND ACCESS TO DATA

Laws of Minnesota

Source of mandate: Minnesota Statutes, sections 3C.06 and 3C.08, subdivision 1

After each regular legislative session, the office publishes all laws enacted during that session. A computer program is used to check the integrity of the source statutory language in *Laws of Minnesota*. Various finding aids and an index are published as part of the *Laws*.

Laws of Minnesota 2015 contains 80 chapters from the regular session and six chapters from the First Special Session. In total, 1,771 sections of *Minnesota Statutes* were affected. The 2015 numbers, when compared with the 2013 session, represent a decrease in acts passed and sections affected. The number of pages in the printed set decreased by 637 pages to 2,161.

Laws of Minnesota 2016 contains 109 chapters affecting 1,056 sections of *Minnesota Statutes*. The 2016 numbers, when compared with the 2014 session, represent a decrease in acts passed and sections affected, resulting in a decrease of 1,191 printed pages to 1,370.

Banners were placed on the Revisor's Web site above sections of *Minnesota Statutes* that were amended during the 2016 session. The banners alerted readers that the statute had recently been amended and provided links to the amended language in *Laws of Minnesota*. The banners were removed when the updated statutes were published on the Web site.

Minnesota Statutes, section 3C.12, provides for free distribution of the session laws to certain listed bodies. The remainder are sold, and the revenue is directed to the general fund. Sales have decreased in recent years, likely due to the online availability of the material. To reduce its press runs, the Revisor surveys those bodies who are entitled to receive free copies of session laws and only distributes printed sets to those bodies who respond affirmatively. In the last biennium, the Revisor was able to reduce the press run of *Laws of Minnesota 2015* to 1,200 sets and *Laws of Minnesota 2016* to 1,113 sets.

Laws of Minnesota 2015 and *Laws of Minnesota 2016* are available to the public on the Revisor's Web site, as well as in book form. All laws dating back to the 1849 First Territorial Legislature have been scanned and are also available on the Revisor's Web site.

Session Law Pages



Minnesota Statutes and Supplement

Source of mandate: Minnesota Statutes, sections 3C.08 to 3C.12

Minnesota Statutes 2015 Supplement supplemented the 2014 edition of *Minnesota Statutes*. The full edition of *Minnesota Statutes 2016* is available online and will be available in book form in early December 2016. The publication includes section histories, tables, an index, and other editorial aids. The full set of *Minnesota Statutes* includes a volume of *Court Rules*. The entire publication is composed in house.

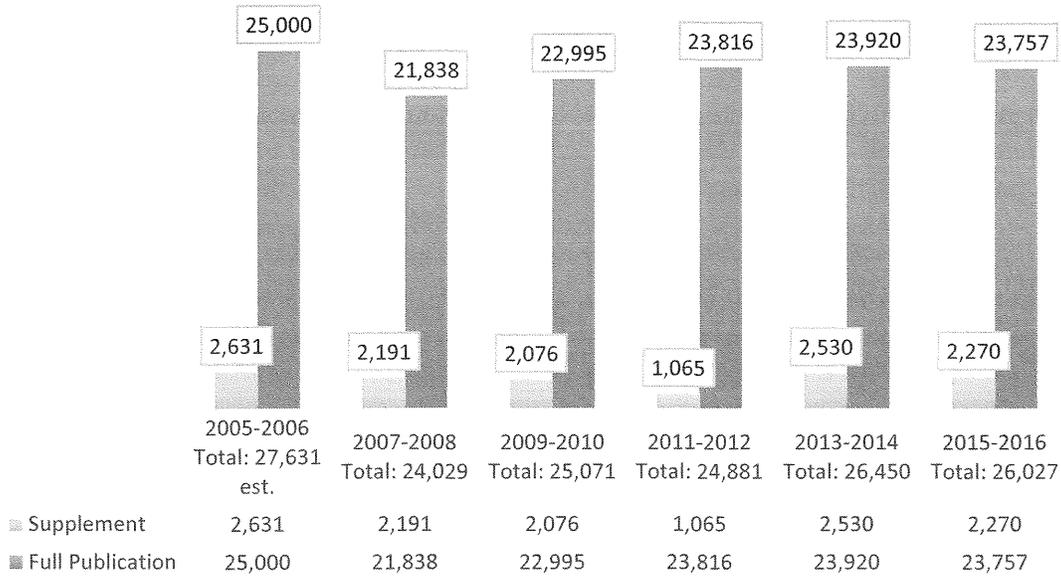
Minnesota Statutes 2016 is based on *Minnesota Statutes 2014*, incorporating *Laws of Minnesota 2015* and *2015 First Special Session*, and *Laws of Minnesota 2016*. The edition remains at 15 volumes, with the statutes text printed in 12 hardcover volumes and the tables, index, and court rules and indexes printed in three softcover volumes.

All materials for the statutes are reviewed by staff attorneys and editors in two stages of editorial work. First, the amended sections are checked and notes are composed to indicate delayed repealers or special effective dates. If sections are amended more than once during the session, the amendments are merged or, if they cannot be merged, notes are prepared to indicate a conflict. In the second stage of editing, the amended sections are merged into the statutory database, and all notes are reviewed and either updated or removed. Revisor's instructions are applied. Headnotes, first grade headings, and chapter names are reviewed for accuracy.

Like the session laws, free distribution of the statutes to certain listed bodies is provided for in Minnesota Statutes, section 3C.12. The remainder are sold and the revenue is directed to the general fund. Sales have decreased over time, likely due to the online availability of the statutes. The press run for *Minnesota Statutes 2014* was 1,750 sets. The press run for *Minnesota Statutes 2016* is 1,600 sets.

All statutes dating back to the 1851 Territorial Statutes have been scanned and are available on the Revisor's Web site.

Statutes and Supplement Pages



Laws Tables

Source of mandate: *Minnesota Statutes, section 3C.08, subdivision 1*

Laws that pertain to specific political subdivisions are infrequently coded in *Minnesota Statutes* and need finding aids to make them accessible. The Revisor's Office produces tables of these laws to accompany both the session law publication and the statutes. The tables are compiled by a staff attorney, not generated by a computer program. *Laws of Minnesota 2015*, Tables 4 to 6, and *Laws of Minnesota 2016*, Tables 4 and 5, list enacted local laws alphabetically by the names of local government units. Also listed are the dates of local approval and the filing of approval with the Secretary of State if local approval has been filed. Table I of *Minnesota Statutes* also lists the acts alphabetically, from 1849 through the 2016 session.

The office also publishes other tables to help users find the law, including Table 1 of the session laws, which indicates each time a previously enacted session law has been acted on in that legislative session. In 1999, the office began a project to prepare a consolidated, comprehensive Table 1. It now dates back to 1945 and is available on the Revisor's Web site.

Other tables in *Laws of Minnesota* include a table to coordinate *Laws of Minnesota* with the permanent statutes and a table showing House or Senate file numbers with corresponding chapter numbers. *Minnesota Statutes* includes a New Statutes table.

Statutory Editorial Operations

Session Year	Session Chapters	Session Law Pages	Average Pages Per Chapter	Statute or Supplement Pages	Statutory Units – Amended	Statutory Units – New	Statutory Units – Repealed	Total Statutory Units – Other	Statutory Units – Affected	Session Laws Press Run	Statutes and Supplement Press Run
2003	156	2,899	18.58	2,477	2,230	837	625	44	3,736	2,500	4,000
<u>2004</u>	<u>163</u>	<u>1,795</u>	<u>11.01</u>	<u>21,401</u>	<u>1,630</u>	<u>627</u>	<u>311</u>	<u>31</u>	<u>2,599</u>	<u>2,500</u>	<u>4,000</u>
Total	319	4,694	14.71	23,878	3,860	1,464	936	75	6,336	5,000	8,000
2005	163	3,555	21.81	2,631	2,841	941	576	46	4,404	2,500	4,000
<u>2006</u>	<u>114</u>	<u>1,591</u>	<u>13.96</u>	<u>25,000 est.</u>	<u>1,218</u>	<u>501</u>	<u>342</u>	<u>16</u>	<u>2,077</u>	<u>2,500</u>	<u>3,500</u>
Total	277	5,146	17.89	27,631 est.	4,059	1,442	918	62	6,481	5,000	7,500
2007	152	2,305	15.16	2,191	1,977	770	466	26	3,239	2,300	3,500
<u>2008</u>	<u>370</u>	<u>2,374</u>	<u>6.42</u>	<u>21,838</u>	<u>2,009</u>	<u>604</u>	<u>184</u>	<u>4</u>	<u>2,801</u>	<u>2,100</u>	<u>3,200</u>
Total	522	4,679	10.79	24,029	3,986	1,374	650	30	6,040	4,400	6,700
2009	179	3,142	17.55	2,076	2,443	751	322	6	3,522	1,850	3,200
<u>2010</u>	<u>219</u>	<u>2,550</u>	<u>11.64</u>	<u>22,995</u>	<u>1,939</u>	<u>851</u>	<u>325</u>	<u>0</u>	<u>2,835</u>	<u>1,525</u>	<u>2,200</u>
Total	398	5,692	14.60	25,071	4,382	1,602	647	6	6,357	3,375	5,400
2011	117	1,590	13.59	1,065	1,225	365	227	21	1,817	1,400	2,200
<u>2012</u>	<u>182</u>	<u>1,633</u>	<u>8.97</u>	<u>23,816</u>	<u>1,482</u>	<u>497</u>	<u>461</u>	<u>6</u>	<u>2,440</u>	<u>1,250</u>	<u>1,950</u>
Total	299	3,223	11.28	24,881	2,707	862	688	27	4,257	2,650	4,150
2013	144	2,798	19.43	2,530	2,388	828	477	0	3,693	1,250	1,950
<u>2014</u>	<u>169</u>	<u>2,561</u>	<u>15.15</u>	<u>23,920</u>	<u>2,447</u>	<u>595</u>	<u>1,213</u>	<u>4</u>	<u>4,259</u>	<u>1,200</u>	<u>1,750</u>
Total	313	5,359	17.29	26,450	4,835	1,423	1,690	4	7,952	2,450	3,700
2015	86	2,161	25.13	2,270	1,791	630	323	2	2,746	1,200	1,750
<u>2016</u>	<u>109</u>	<u>1,370</u>	<u>12.57</u>	<u>23,757</u>	<u>1,132</u>	<u>305</u>	<u>217</u>	<u>0</u>	<u>1,654</u>	<u>1,113</u>	<u>1,600</u>
Total	195	3,531	18.11	26,027	2,923	935	540	2	4,400	2,313	3,350

Minnesota Rules and Supplement

Source of mandate: *Minnesota Statutes, section 14.47*

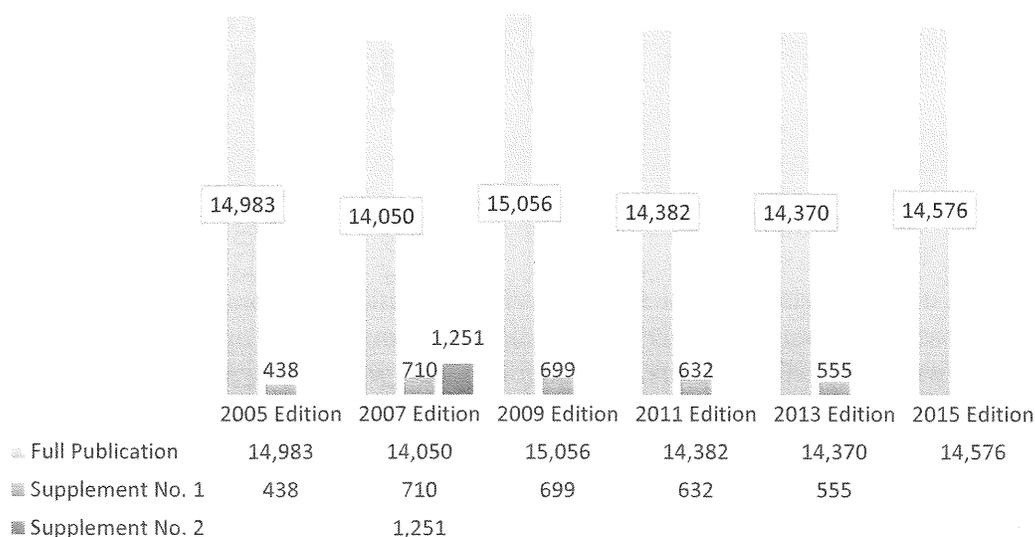
A full edition of *Minnesota Rules* was published in 2015. Due to budget constraints, the edition was again published in softcover rather than hardcover. The official publication includes a table of *State Register* citations, a table of amendments, and a table of statutory authority for rules.

Like the statutes, many changes to the rules are directed by the legislature in the form of Revisor's instructions. Legislation in 2015-2016 produced a number of such changes, adding both to the volume and complexity of the editorial work for the rules.

The text of *Minnesota Rules* is available on the Revisor's Web site, as well as in print form. The online text is updated throughout the year as changes are adopted.

The 2015 published edition will be supplemented in December 2016 in pamphlet format.

Rules and Supplement Pages



Indexes

Source of mandate: *Minnesota Statutes, sections 3C.06, 3C.08, and 14.47*

The Revisor's Office produced the following indexes in fiscal years 2015 and 2016:

- index to *Laws of Minnesota 2015*
- index to *Laws of Minnesota 2016*
- index to *Minnesota Statutes 2015 Supplement*
- index to *Minnesota Statutes 2016*
- index to *Minnesota Rules 2015*
- index to *Minnesota Rules 2016 Supplement*

- index to the *Court Rules 2015 Supplement*
- indexes to the *Court Rules* volume of the statutes set in 2016
- indexes for internal publications as needed

During the 2015-2016 biennium, the Revisor's index staff and IT staff have continued to work together to improve the usability of the indexes and the efficiency of indexing work. They have completed the following tasks:

- Periodic review of the manual of indexing procedures. These written procedures will help the office to train new index managers and indexers in future years.
- Programming to streamline the checking programs that help us achieve index quality control.

The index to the administrative rules, which was first made available online in 2010, has been updated monthly since that time, on or near the first of each month. The index is coordinated with updates to the text of rules. Online indexes to the court rules are updated on or near the effective dates of changes to the court rules. Indexes to the session laws and the statutes are made available online as soon as editorial work can be completed, usually in June and October following the legislative session.

We continue to produce and publish indexes in the print editions of the session laws, administrative rules, court rules, and statutes.

Court Rules

Source of mandate: Minnesota Statutes, section 3C.08, subdivision 1

Pursuant to Minnesota Statutes, section 3C.08, the office publishes *Minnesota Court Rules* in a separate volume that accompanies *Minnesota Statutes*. The office completed its work on the 2015 supplement to the *Court Rules* volume on schedule. The supplement included extensive amendments to the *Rules of Civil Procedure*, *Rules of Criminal Procedure*, *Rules of Juvenile Court*, and *Professional Rules*, as well as amendments to the *General Rules of Practice*. The *Court Rules* volume was published in the fall of 2016 and includes amendments to existing rules and new sets of rules received through August 1, 2016, including amendments to the *Sentencing Guidelines*, *General Rules of Practice*, and *Rules of Civil Appellate Procedure*.

Revisor's Manual

Source of mandate: Minnesota Statutes, section 3C.03, subdivision 4

The office publishes a manual of form requirements and drafting advice for use by those who draft bills, amendments, and resolutions. A substantially revised edition of the drafting manual was published in January 2013, which is available on the Revisor's Web site in PDF format.

Rule Drafting Manual

Source of mandate: Minnesota Statutes, section 14.07, subdivision 1, paragraph (a), clause (2)

The office publishes a manual of form requirements and drafting advice for use by those who draft administrative rules. The current, 1997 edition is available on the Revisor's Web site in PDF format. A new edition of the rule drafting manual is currently being drafted to substantially reorganize and revise the current edition. Many new forms and aids will also be included.

Rulemaking Guide

Source of mandate: custom and usage

Since 1987, the office has published a guide to help agencies through the process of adopting rules. *Rulemaking in Minnesota: A Guide* describes each of the three types of rulemaking proceedings, explains agency requirements at each stage of the process, and provides references to applicable laws and rules. The guide is periodically revised as necessary to include changes made to these laws and rules. The most recent, 2014 revision is available on the Revisor's Web site in PDF format.

Computer Searches

Source of mandate: Minnesota Statutes, section 3C.03 (extension of bill drafting assistance)

The office has customized commercial software to perform word and phrase searches in documents. In 2006, the office's Web site became the principal site for text searches. The public uses this software on the Web site to search bills, statutes, session laws, administrative rules, court rules, and the *State Register*.

Legislative staff use customized search capabilities built into the XTEND legislative publishing system. These searches are displayed in a user interface designed to expedite proofing and editing. The office performs searches for drafting and editorial work and at the request of members, agencies, and some outside entities such as the County Attorneys Association.

Copies of, and Access to, Public Data

Source of mandate: custom and usage

The legislative Web site is made available to the public by the Revisor's Office in conjunction with the House and Senate index offices and the Legislative Reference Library. The office provides access to the text of bills, statutes, and administrative rules as well as finding aids such as indexes and search software. The Web site also provides public access to House and Senate bill status information. House and Senate index staff input status information, but computer support is provided by the Revisor's information services staff. More detail about the Revisor's Web site can be found beginning on page 31.

The office also makes available, upon request, paper and e-mail extracts containing the text of portions of *Minnesota Statutes* and *Minnesota Rules*. Extracts are done for bills, statutes, and rules for state agencies, as well as for the general public. During the 2015-2016 biennium, 92 paper and electronic extracts were requested for a total of 7,980 pages. Many of these extracts were customized combinations of statutes and rules. The office charges a fee for the extracts of 50 cents per page. Revenue from the extracts is transferred to the general fund.

The office also sells copies of its entire databases or portions of its databases to outside sources as requested. Currently, the largest purchasers are Lexis-Nexis and Thomson Reuters for use on their respective online legal research services.

LEGAL ASSISTANCE AND LIAISON

Counsel to Subcommittee on Claims

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 6, and custom and usage of the legislature (requested by LCC)

Since 1991, at the request of the Legislative Coordinating Commission, the Revisor's Office has assigned an attorney to act as counsel to the Joint House/Senate Subcommittee on Claims. During the 2015-2016 biennium, Revisor of Statutes Michele Timmons served as the subcommittee legal counsel. Her duties included reviewing hundreds of claims made to the subcommittee, making recommendations on each claim, acting as counsel at subcommittee hearings, responding to telephone calls and correspondence from claimants and their lawyers, and drafting the annual claims bill.

Three Department of Corrections claims were paid in both the 2015 claims bill (Laws 2015, chapter 61) and the 2016 claims bill (Laws 2016, chapter 148, article 2).

For the first time in 2016, claims for awards of damages under the Imprisonment and Exoneration Remedies Act, Minnesota Statutes, sections 611.362 to 611.368, were heard by the Joint House/Senate Subcommittee on Claims, for recommendation to the House Ways and Means Committee and the Senate Finance Committee. The legislature appropriated funds in Laws 2016, chapter 148, article 1, for the Commissioner of Management and Budget to pay three awards.

Court Opinions Report

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 3

As required by Minnesota Statutes, section 3C.04, subdivision 3, the office prepares a biennial report on Supreme Court and Court of Appeals opinions declaring statutes unconstitutional, pointing out deficiencies in statutes, or recommending statutory changes. To produce the report, staff attorneys read and review every case from the preceding two-year period. Reports are submitted in November of each even-numbered year. Research for the 2016 reporting period is currently underway.

Uniform Laws Conference

Source of mandate: Minnesota Statutes, section 3.251

The Revisor or the Revisor's designated representative is one of Minnesota's four appointed Uniform State Laws commissioners. Revisor of Statutes Michele Timmons attended the 2015 and 2016 meetings of the National Conference on Uniform State Laws. In 2015, the conference approved seven new acts, including the Revised Uniform Athlete Agents Act, Uniform Recognition and Enforcement of Canadian Protection Orders on Domestic Violence Act, Uniform Trust Decanting Act, Revised Uniform Residential Landlord and Tenant Act, Uniform Home Foreclosure Procedures Act, Uniform Commercial Real Estate Receivership Act, and the Revised Uniform Fiduciary Access to Digital Assets Act. Seven additional acts were approved in 2016, including the Uniform Employee and Student Online Privacy Protection Act, Uniform Family Law Arbitration Act, Revised Uniform Unclaimed Property Act, Uniform Unsworn Domestic Declarations Act, Uniform Unsworn Declarations Act, Uniform Wage Garnishment Act, and the Amendment to the Revised Uniform Law on Notarial Acts.

To date, the Minnesota Legislature has adopted more than 80 uniform acts. During the 2015-2016 biennium, seven acts were enacted:

- Deployed Parents Custody and Visitation Act (Laws 2015, Ch. 30, Art. 2);
- Faithful Presidential Electors Act (Laws 2015, Ch. 70, Art. 2);
- Amendments to the Fraudulent Transfer Act, including renaming the act to the Voidable Transactions Act (Laws 2015, Ch. 17);
- Interstate Family Support Act, federal conformity (Laws 2015, Ch. 71, Art. 1, Secs. 101-119);
- Minnesota Trust Code (Laws 2015, Ch. 5);
- Revised Fiduciary Access to Digital Assets Act (Laws 2016, Ch. 135, Art. 2, Secs. 2-20); and
- Amendments to the Uniform Limited Liability Company Act (Laws 2016, Ch. 135, Art. 4).

Information for Other State Offices and the General Public

Source of mandate: Custom and usage of the legislature

Attorneys and other staff in the office respond to numerous questions from the public relating to laws, statutes, and rules. Attorneys also act as faculty for continuing legal education courses, address classes in law or public administration, and participate in organizations such as the Interagency Rules Committee. The computer searches we provide are also a source of information to the public and state agencies. Along with its drafting duties, the office provides information to state agencies by offering seminars on general drafting topics and specialized drafting areas.

In 1999, the office began a series of educational seminars for attorneys and other staff. More than 100 hours of continuing legal education credit has been obtained for these seminars, which have been attended by hundreds of legislative and executive branch staff, members of the legislature, and members of the public. The office offers as many seminars as it can fit into its workload each year. During the 2015 legislative interim, the office offered five seminars for a total of 8-½ hours of continuing legal education credit. In 2016, at least five seminars are expected to be offered, for a total of 5 hours of continuing legal education credit. Notices announcing the seminars are sent legislature-wide and to the executive branch departments, the judicial branch, and various other members of the Minnesota bar. Seminars have been offered on a variety of topics with a focus on topics that may be of interest to the legislature. The topics have included professional responsibility, elimination of bias, statutory interpretation, cultural diversity, legislative process, data privacy, uniform laws, and current Minnesota Supreme Court decisions.

The seminars are offered to provide educational opportunities particularly to legislative staff because of the very minimal number of seminars on topics with a legislative focus offered by outside vendors. Also, the seminars provide a service to all attorneys employed by the legislature who are required by the Minnesota Supreme Court to earn legal education credits. These free seminars reduce the cost of continuing legal education credits for all legislative, executive branch, and judicial branch staff attorneys.

During the 2015-2016 biennium, office staff also participated in meetings of the National Conference of State Legislatures and the Minnesota Bar Association. The office also helped to

staff the NCSL Legislative Summit in Minneapolis, the House of Representatives' State Fair booth, and the legislature's new member orientation.

Compiling Data on Operation and Effect of Laws

Source of mandate: Minnesota Statutes, section 3C.04, subdivision 2

Statutes Table I Completed. Pursuant to Minnesota Statutes, section 3C.08, the office publishes Table I of *Minnesota Statutes*, which lists all special laws enacted in Minnesota from 1849 to present that are not coded in *Minnesota Statutes*. The table, representing a substantial amount of legal research, was the result of a joint venture between the Revisor of Statutes and Hamline University School of Law. It was first published in *Minnesota Statutes* in 1982. In the decades following its initial publication, the table had not been maintained or updated in a uniform manner or in a manner consistent with the original methodology used to create the table. Revisor staff attorneys, led by the Assistant Deputy Revisor for Editing, thoroughly reviewed the entire table (260 published pages), researching all entries that had been added since 1982. Along with incorporating additional entries discovered during research, this process also resulted in the elimination of hundreds of erroneous records from the table. The version published in the 2014 *Minnesota Statutes* is an improved, more accurate, and consistent Table I.

Ongoing Efforts. There are a number of ongoing projects that fall under the category of compiling data on the operation and effect of laws:

- Court Opinions Report. Described more fully on page 19, the court opinions report highlights cases which involve the interpretation of statutory law.
- Unconstitutional Statutes. The Revisor's Office maintains a table of statutes declared unconstitutional and adds notes directly to *Minnesota Statutes* when a court has spoken on the constitutionality of a statute.
- Uniform Acts. The Revisor's Office maintains a list of uniform acts on its Web site to assist in identifying and finding uniform acts enacted in Minnesota.

Internal Operations

Source of mandate: custom and usage

The Revisor's Office made a number of internal improvements over the past two years, several of which also benefit the legislature as a whole. Continuing the trend of the last decade, many of the improvements involve enhanced technology.

Authentication and Preservation of Legal Material. During this past biennium, the Revisor's Office completed the authentication of online legal material, and made significant progress towards long-term preservation and accessibility for that data pursuant to the Uniform Electronic Legal Material Act, which was enacted in Minnesota as Laws 2013, chapter 7, and is now codified as Minnesota Statutes, chapter 3E. These efforts are provided in greater detail beginning on page 30 of this report.

Minnesota Administrative Rules Status System (MARSS). During the 2013-2014 biennium, the Revisor's Office created a beta version of an online administrative rules status system and

received funding in 2015 for a pilot project to research how best to expand the beta system and build a permanent rules status system. More detail about the MARSS project can be found beginning on page 29 of this report.

INFORMATION SERVICES

New System Development Project - Completed

Source of mandate: custom and usage

In September 2002, the office began a six-year, \$6.5 million project to replace the existing 30-year-old bill drafting system with an XML-based system. The new system, called XTEND (XML-based Text Editor, New Development), is now in production. XTEND was first used for the 2006 legislative session. In June 2008, the development phase of this new system was completed. Maintenance of the system is ongoing and includes the addition of user suggested features.

The XTEND system is a complete document production system. This means the system can create, edit, print, publish to Web server, and transmit documents electronically. Table 1 shows the document types and the year XTEND became the production system for each type.

Table 1. XTEND's Production Responsibilities

Year	Document Type
2006	<ul style="list-style-type: none"> - Legislative Documents - Senate Journal and Calendars - Minnesota Session Laws - Minnesota Statutes
2008	<ul style="list-style-type: none"> - Administrative Rules
2010	<ul style="list-style-type: none"> - Court Rules

XTEND runs on readily available computer hardware. The core of the software is commercial off-the-shelf products for the editor, composer, and data repository. Custom Java programs were written to provide features unique to the Minnesota legislature. These features include the ability to:

- (1) compute and insert page and line numbers;
- (2) automatically check statutory order within a bill;
- (3) automatically generate bill titles;
- (4) e-mail bills in PDF format;
- (5) automatically generate a committee report from amendments;
- (6) automatically engross a bill (i.e., apply amendments to a bill);
- (7) produce side-by-side comparison documents;
- (8) search for text in all document types;
- (9) customize print options;
- (10) print directly to House and Senate printers;
- (11) transmit documents to House and Senate servers;
- (12) generate Session Law Table 2;
- (13) utilize custom tools for editing and proofing of Statutes, Session Laws, and Administrative Rules; and
- (14) create the Senate Journal, calendars, and agendas.

Successful completion of XTEND development realized the following benefits:

- (1) elimination of two earlier, custom-developed document production systems (TE & XTE);
- (2) elimination of the computer hardware needed to run the earlier systems and termination of the related hardware and software support contracts;
- (3) termination of consulting contracts for software development services. However, one consultant is currently augmenting staff to maintain the database; and
- (4) using the XML file format for all document types. XML is an open-standard for digital document storage, exchange, and archiving.

Maintaining Information Systems (IS) Infrastructure

Source of mandate: custom and usage

A. Revisor's Office Systems

Revisor's Office information systems provide computer programs and equipment to support drafting and publication work of the office. The IS infrastructure supports the work of House, Senate, and Legislative Coordinating Commission offices. Approximately 130 users create and edit documents. The public, members, and staff access bill text and statuses from the office's Web servers. Revisor's Office information systems are used in the following offices:

House

- Chief Clerk's Office
- House Research Department
- House Index
- House Information Technologies
- House Public Information Services

Senate

- Secretary of the Senate's Office
- Office of Senate Counsel, Research and Fiscal Analysis
- Senate Index
- Senate Information Systems
- Senate Information Office

Legislative Coordinating Commission

- Legislative Commission on Pensions and Retirement
- Revisor's Office

The core information technologies (IT) include:

- (1) a secure and environmentally-controlled computer room;
- (2) network equipment;
- (3) data storage devices: network attached storage (NAS) and storage area network (SAN);
- (4) computer servers;
- (5) relational database management system (RDBMS);
- (6) commercial software products;
- (7) custom software applications; and

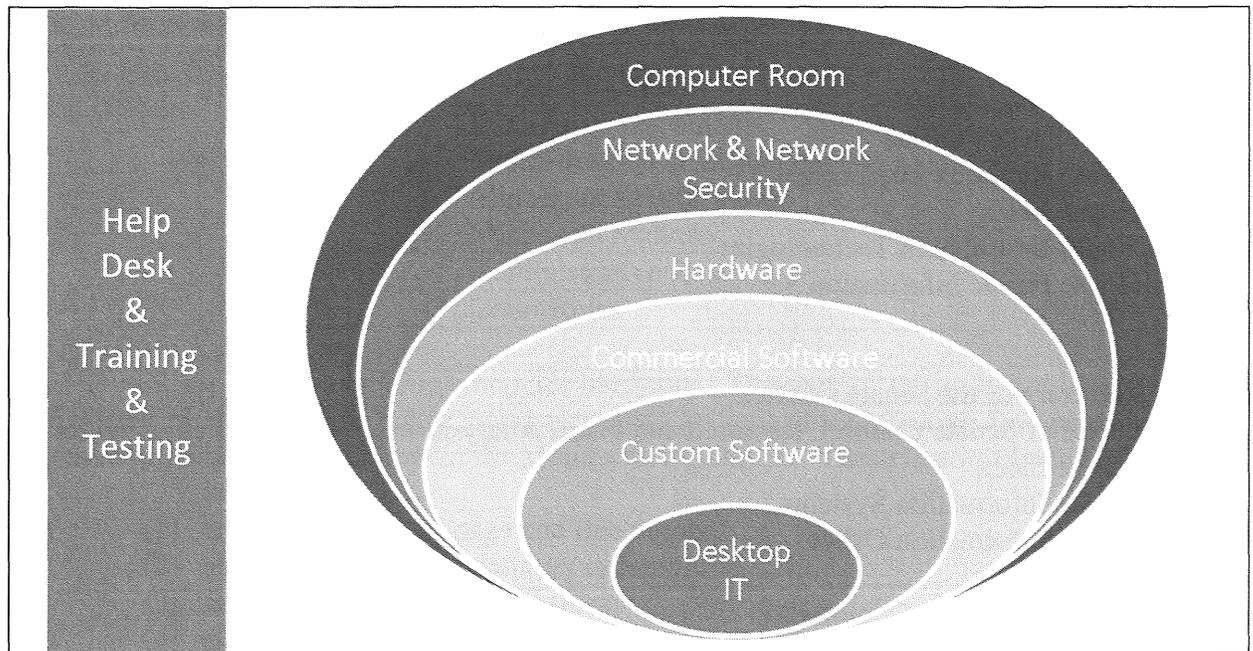
- (8) end user devices (e.g., phone, desktop computer, printers, etc.).

The information technologies are combined to create information systems (IS). The core information systems include:

- (1) a secure local area network (LAN) for digital communication within and outside the legislature;
- (2) desktop computers and office productivity software for Revisor staff;
- (3) the XTEND system, a customized software application for production of legislative documents, administrative rules, and court rules;
- (4) the public bill status system for data entry and retrieval;
- (5) the public administrative rule status system for data entry and retrieval;
- (6) Revisor Track system for document tracking within the office; and
- (7) the Revisor's Office Web site.

Figure 1.1 shows the hierarchical dependencies of these technologies and systems.

Figure 1.1. Revisor Computer Technology Hierarchy



B. Computer Room

The office maintains a secured and environmentally-controlled computer room, which houses network and computer hardware. The room has a raised floor and contains three air conditioning units and a Liebert UPS (uninterruptible power supply) with battery backup. The Revisor, House, Senate, and LCC all use this room.

In 2005-2006, the office contracted to install an FM200 fire suppression system and to improve the smoke and fire detection system to comply with the Saint Paul fire code. In 2008, obsolete 1980s- and 1990s-era computers were removed from the computer room. The recovered floor space allowed the Senate to install two racks and provided additional floor space to the House, LCC, and Legislative Reference Library. In October 2008, the Department of Administration

installed a new emergency generator for the State Office Building. This new generator also supplies electricity to all equipment in the computer room during electrical outages, thereby preventing hardware from crashing. Continuous electrical power to the computer room eliminates the time-consuming process (anywhere from one to 24 hours) of restoring crashed hardware, operating systems, and applications. In 2009, a 30-year-old air conditioner was replaced with a newer, refurbished unit.

C. Network & Network Security

Network security is a serious responsibility. Breaches in network security can render information systems unusable for a period of time, potentially interfering with the operation of the legislature. The network hardware and software described below seek to minimize this pervasive risk. Additionally, the office participates in the Legislative Security and Infrastructure Group (LSIG) and plays a key role in network security. One staff person serves as the Security Firewall System Administrator (consuming approximately 33% of their time). This person performs firewall administration duties for the Senate and LCC offices.

The office network consists of hardware and software components dedicated to reliable and secure delivery of data. The core of the network is a pair of Cisco layer three switches responsible for data routing decisions. The layer three switches are the network connection point for servers, access switches, and security appliances. Servers connected to the layer three switches include: Red Hat Linux Servers, Microsoft Windows Servers, and the network attached storage device (NAS). Access switches are the connection point for devices such as client machines and printers. They are located near end users and are distributed in nine locations in the Capitol, State Office Building, and the Park Street office. Security appliances are Cisco ASA (Adaptive Security Appliance) hardware.

Network security functions are performed by redundant Cisco ASA hardware. This multifunction device integrates a firewall, a virtual private network (VPN), intrusion prevention (IPS), and content security services in a single platform. A firewall protects a computer network from unauthorized/malicious access from the outside. The firewalls connect the Revisor's network to the Internet and act primarily as a security gateway. Through the use of access lists, the firewalls permit or deny inbound and outbound traffic based on certain criteria, such as source and/or destination IP addressing, and source and/or destination application port numbers. A VPN uses a public Internet connection to provide a user working remotely with secure access to the Revisor network. The VPN is used by certain staff during the legislative session to work from home, allowing them to immediately resolve issues without first commuting to the office. The IPS monitors network data arriving from the Internet looking for known virus and malware code in the incoming data through the use of predefined strings.

The network uses monitoring software to alert support staff any time problems occur. This software communicates with each network device and sends a page and/or an e-mail when a critical device or service stops responding. Other software is used to monitor bandwidth usage and device resources, such as CPU and memory utilization.

D. Hardware

The computer hardware in use consists of servers and data storage devices.

Computer Servers

Red Hat Linux and Microsoft Windows servers run the Revisor's commercial and custom software applications.

The office completed a project in 2012 to migrate from individual servers to virtual servers. To do this, special software is installed on a physical server, allowing multiple instances of an operating system to run simultaneously on one physical server. Each instance is called a virtual server and can be configured independently. Many virtual servers run on one physical server. Switching to virtual servers provides the following cost savings and benefits:

- Fewer physical servers are purchased. To date, the office has purchased six physical servers to host 126 virtual servers.
- Reduced electrical usage. Fewer physical servers consume less electricity. They also create less heat so the air conditioning system consumes less electricity, as well.
- Higher availability. A virtual server image is a single computer file. For the rare instances when a server becomes corrupted, a new virtual server can be created in five minutes by activating a copy of the virtual server file. A physical server needs to be reinstalled from CDs, which can take hours.

Data Storage Devices (NAS and SAN)

The office maintains two types of data storage devices: network attached storage (NAS) and storage area network (SAN). The NAS and SAN are high availability, expandable devices. Each consists of a cabinet of disk drives that can be logically combined and allocated to multiple virtual servers. Each connected server reads and writes data to the NAS or SAN, in addition to its internal disks. Using data storage devices, disk space can be added and removed without disrupting server operations. Additionally, a data storage device automatically monitors its health, rearranges data on the disks for fastest access, and employs RAID technology (redundant array of independent disks) to prevent loss of data in case of a disk drive failure. The primary difference between an NAS and an SAN is the network protocol used to connect individual servers. The NAS uses Ethernet (10 Gigabits/sec) and the SAN uses Fiber Channel (eight and 16 Gigabits/sec). Total data storage on the office's NAS and SAN devices is 255 terabytes.

E. Commercial Software

The office routinely renews license agreements for multiple commercial software products. These products provide essential features that would be cost-prohibitive to develop and maintain in-house. These products can be extended by adding custom code to provide the unique functionality required by the Minnesota Legislature.

Relational Database Management System (RDBMS)

The Oracle Database is a commercial software application for organizing many different types of information and making it available via the network to software applications. The Oracle Database contains all Revisor documents and all data used by XTEND, the bill status system, and the office's Web server. It is queried directly by House and Senate IS applications.

Application Server

In distributed applications such as XTEND, an application server runs custom code needed by many client programs. For example, programs on the application server perform all database operations for client programs. The JBoss Java Application Server is used by XTEND.

Document Creation and Publishing Applications

The PTC/Arbortext family of products are the base XML processing applications upon which XTEND customizations are built. The Arbortext Editor is used by legislative staff to create and edit documents. The Arbortext Publishing Engine is used by staff to add page and line numbers to a document, and to convert XML documents to standard display formats such as HTML and PDF. Three other Arbortext products are used exclusively by programmers.

The office began work in 2015 to replace the Arbortext Publishing Engine (PE) with the RenderX XEP Server. All work will be completed before the 2017 legislative session. Both products use custom programs called stylesheets to transform XML documents to standard display formats such as HTML and PDF. The move to RenderX was necessitated by Arbortext's announcement that maintenance releases for PE were ending in 2015.

Cindex is a product for creating indexes. This product is used to create indexes for *Laws, Statutes, Minnesota Rules, Court Rules*, and selected tables.

Office Productivity Applications

The Microsoft Office suite of applications is used for office productivity tasks. The office followed the lead of the Senate and other joint offices in 2016 by adopting the same e-mail application. The office now uses Microsoft's Office365 product for e-mail.

Custom Software Application

Source of mandate: custom and usage

A. TE (Text Editor) Retired in 2008

TE was the first generation computerized document production system customized for the Minnesota Legislature. TE system design began in the mid-1970s and was used from 1980 to 2005. TE was written in the assembler language and ran on one IBM mainframe computer.

B. XTE (X-windows Text Editor) Retired in 2008

XTE was the second generation document production system customized for the Minnesota Legislature. XTE entered production in 1995 and was used until 2005. XTE was written in the C, X-Windows, and Uni-Rexx languages and ran on three Hewlett-Packard UNIX servers.

C. XTEND (XML-based Text Editor, New Development)

XTEND is the third generation document production system customized for the Minnesota Legislature. XTEND provides all the features found in prior TE and XTE systems. XTEND architecture minimizes long-term maintenance costs by using popular computer hardware (Intel servers running Windows and Linux operating systems), and commercially available software products (Arbortext, RenderX, and Oracle) for common functionality. These products are extended with custom-written software to provide features unique to the Minnesota Legislature.

XTEND system development began in September 2002. The system reached production-ready status for the 2006 legislative session. All legislative document types were produced for the 2006 session using XTEND. Support for administrative rules and court rules was added in 2008 and 2010, respectively. Support for *Minnesota Statutes*, chapter 3E, the Uniform Electronic Legal Material Act, was added in 2015.

XTEND is written using multiple languages.

- Document structure definition
 - XML Schema Definition (XSD)
- Document display and conversion
 - Arbortext Styler
 - XSL Transformations (XSLT)
 - XSL Formatting Objects (XSL-FO)
- XML operations
 - XPath
- Software operations
 - Arbortext ACL
 - Java
 - J2EE (on the application server)
 - SQL (for database operations)
 - Ant (for deployment)

Many legislative offices use the XTEND system.

- (a) The Revisor's Office produces resolutions, bill drafts, engrossments, amendments, House committee reports, conference committee reports, side-by-side comparison reports, and enrollments and uses XTEND for editing and publication of session laws and statutes.
- (b) House Research and the Office of Senate Counsel, Research and Fiscal Analysis prepare resolutions, bill drafts, and amendments.
- (c) Offices under the Secretary of the Senate produce Senate agendas, calendars, daily and permanent journals, committee reports, and floor amendments.
- (d) The Chief Clerk's Office staff use XTEND to export documents that are then processed and included in the daily and permanent journals.

D. Bill Status System

The office maintains a bill status system that is utilized by the House and Senate. The purpose of this system is to record each body's actions on each introduced bill and make this information publicly available. The bill status system consists of a user interface for entering information, a database for storing the information, and reporting programs to retrieve and display the actions on a specific bill.

In the 1998 biennium, the House and Senate bill status systems were migrated from the IBM mainframe to a commercial database product, called BASIS, running on a UNIX server. In the

2005 biennium, the system was again migrated to an Oracle database running on Linux. In preparation for the 2005 session, House and Senate status information was exported from BASIS and imported into Oracle database tables. New user interface programs were written using Oracle Forms. Oracle Forms allows House and Senate Index staff to enter information on a form and the data is then saved in the database. New reporting programs were written to retrieve and display the information for a user-specified bill. These programs run on the office's Web site.

The bill status system underwent significant updates in 2008. The forms for entering information were converted from Oracle Forms to PHP. The conversion to PHP, a free, open-source content management software, allowed the office to terminate annual license fees for using Oracle Forms. Database tables were redesigned and replaced to simplify programmatic access to authors, committees, actions, and topics. The redesigned tables require less House, Senate, and Revisor's Office IS labor to maintain.

E. Administrative Rules Status System

The office first made Web pages showing the status of rule drafts available to the public in 2013. The beta administrative rule status system was the result of collaboration by the Revisor's Office, the Office of the Governor, the Office of Administrative Hearings, the *State Register*, and the Legislative Reference Library. The key to the status system is the consistent use of a Revisor rule draft number across all organizations. The office created custom code and public Web pages that show the status of a rule draft together with links to relevant documents held by the above offices.

Notices published in the *State Register* record the progress of a rule draft through the rulemaking process. In support of the rules status system, the office scanned *State Registers* from 1977 to 1997, making all *State Registers* from 1977 to the present available as PDF files on the Revisor's Web site. *State Registers* from 1998 to the present are also available from the Minnesota Bookstore Web site. The Revisor's Office stores the scanned historical registers plus hard copies of all Web-accessible registers.

Minnesota Administrative Rules Status System (MARSS)

The legislature appropriated \$380,000 in onetime money to the Revisor's Office during the 2015 legislative session to fund a six-month study and report on the resources necessary to expand the beta status system and create a permanent Minnesota Administrative Rules Status System (MARSS). MARSS is a concept for a new software application with the goal to improve public access, security, preservation, and transparency of state agencies' official rulemaking records through the creation of an integrated online records system. The envisioned MARSS system would serve as a single Internet location for the public to track rulemaking progress and access the official rulemaking record in nearly real time, much like the bill status system does for bills. MARSS would provide the capability to standardize rulemaking notices and recordkeeping across state agencies by allowing agencies to fulfill their requirement to maintain an official rulemaking record by submitting required documents to the Revisor for inclusion in MARSS. The legislature will be able to generate reports describing rulemaking activity of all state agencies.

The six-month study is occurring between July and December 2016. The study will research applicable technologies, select one or more of the "best" technologies, and use them in a system prototype. The knowledge learned from this prototype will be used to develop a budget and project

schedule to build the permanent MARSS system. These recommendations will be presented to House and Senate committees during the 2017 legislative session.

F. Uniform Electronic Legal Material Act

The Uniform Electronic Legal Material Act was enacted in 2013, codified in Minnesota Statutes, chapter 3E, and took effect January 1, 2015. The chapter requires the Revisor's Office to authenticate, preserve, and provide public access to the Minnesota Constitution, Laws of Minnesota, Minnesota Statutes, and Minnesota Rules.

To meet these requirements, new, custom software was developed and added to the office's existing software applications, including XTEND and the Web site. Information Systems staff completed significant database development to support these requirements and enable document versioning.

The office meets the public access requirement by publishing all of these documents in PDF format on its Web site.

Preservation of electronic legal material has traditionally been achieved by keeping many back-up copies in book form, plus retaining back-up tapes of the electronic versions and storing those tapes in multiple, geographically-diverse locations. To achieve improved and more cost-effective preservation under UELMA, Revisor Information Services staff in 2016 developed Keep Electronic Edicts Preserved and Secure (KEEPS), a new software application that proactively preserves and monitors the status of all official documents published to the Revisor's Web site. KEEPS uses Write Once, Read Many (WORM) disks—a well-tested and low-cost technology—to preserve the legal material for the long term. KEEPS is in the process of being implemented and will provide local control over the preserved data at a low cost to taxpayers. Revisor IS staff have written a white paper about the development of KEEPS and have presented information about the new software at two national conferences.

Information Services staff developed and implemented an online authentication tool that allows users a method to verify that the document shown on the screen or downloaded and stored in their files matches the original document in the Revisor's database, essentially resulting in the online equivalent of a certified copy of a law, statute, rule, or the Minnesota Constitution in PDF format. The method of achieving authentication chosen in Minnesota—storing a hash value for each statutory section or rule part published online—permits the creation of a version list that will be invaluable to legal researchers in the future. The authentication tool compares the hash values in the Revisor's database to a user's uploaded document and informs the user whether or not the uploaded document is a match and, thus, an authentic copy of the original document.

G. Web Site

The office's efforts in providing Internet access to data have been very successful. The office has contributed a considerable portion of data to the main legislative Web site. Statistical counts for access to data on the Revisor's Web applications are consistently high, especially during the legislative session when counts exceed one million per week. To accommodate this high volume of requests, the office installed two identical Web servers in 2006. One Web server is dedicated to public requests; the other is dedicated to legislative members and staff. Starting in 2007, separate statistics were accumulated for each server.

Figure 1.2 shows the annual number of browser requests, or “hits,” to the office’s Web site since the 1995 introduction of a Gopher server. Values for 2016 are for January through September. A hit is any request made to the Web server. Each browser request for a Web page causes one hit. Before the page can be displayed, the browser will hit the server additional times to retrieve all the information needed to render the page. The additional information includes images, CSS files, and JavaScript files. Most Revisor Web pages cause two hits per page, but the actual number can vary depending on the page. For this reason, although illustrative, the number of hits is no longer a representative measure of Web site traffic.

Figure 1.2. Total annual access to Revisor Web server

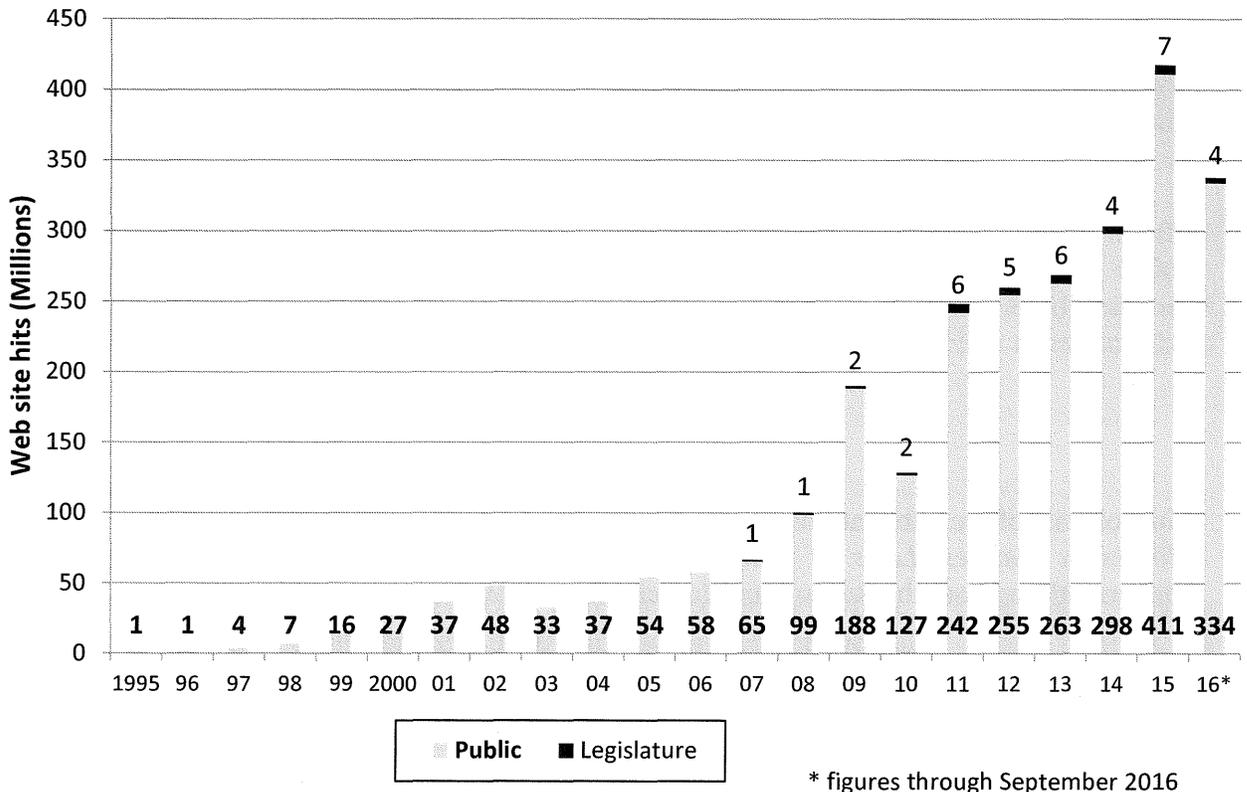
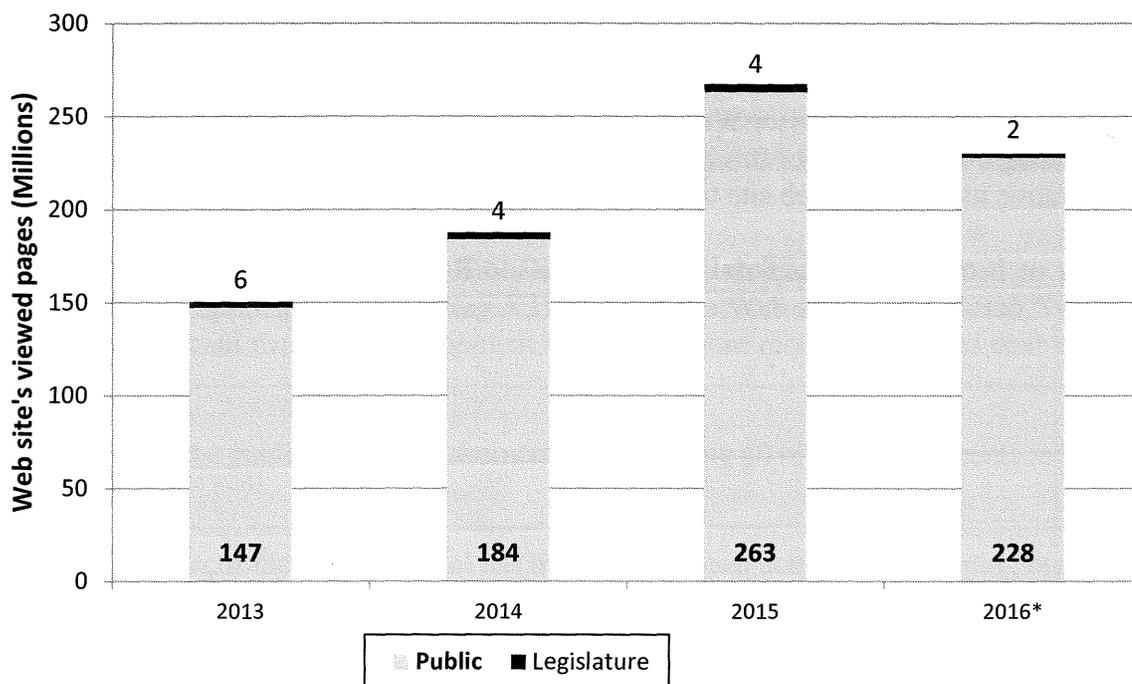


Figure 1.3 shows the annual number of Web pages viewed on the office’s Web site since 2013. Values for 2016 are for January through September. A page is the actual page being requested, and not all of the additional information needed to render the page, such as images and CSS files. The number of page views is a more representative measure of Web site traffic than hits.

Figure 1.3. Total annual access to Revisor Web server



* figures through September 2016

Most official office publications are available on the Internet via the legislative Web site, including *Minnesota Statutes*, *Laws of Minnesota*, and *Minnesota Rules*. *Court Rules* are published concurrently on both the Revisor and Judicial Branch Web sites.

Minnesota Statutes and its index are fully updated annually online, while the printed publication is fully updated biannually. The text of all statute chapters is searchable using the office's Web site. A new Statutes Archive, going back to 1851, has been added to the Web site. A legacy grant provided funding to scan older statutes from books and make the resulting electronic files searchable and accessible. Before updated statutes are available online, banners are placed above sections of *Minnesota Statutes* that were amended in the previous legislative session. These banners contain links to the amended language in the session laws, and they are removed when the updated statutes are posted online.

Laws of Minnesota and each session's index are available online from 1849 to the present. In 2007, the office initiated a project to scan paper-only session laws from 1849 to 1983. These laws are available in PDF format. The text of all laws is searchable using the office's Web site.

During session, the office updates an online, preliminary Table 2: "Minnesota Statutes new, amended or repealed." Shortly after each legislative session, the office has begun to make a preliminary version of session laws available online. This new practice provides session laws to the public much earlier than they could be made available in printed form.

Minnesota Rules and its index are available online from 1982 to the present. Rules on the Revisor's Web site are updated continuously, while the printed publication is fully updated biannually. The

office received a legacy grant in 2009 to scan paper-only full publications of *Rules* from 1982 to 2009. These rules are now available in PDF format on the office's Web site. The text of all rules is searchable using the office's Web site.

The office maintains and publishes *Court Rules* for the judicial branch. After applying requested changes to these documents, the updated documents are simultaneously published to the Revisor's Office Web site and transmitted to judicial branch servers. Consequently, *Court Rules* are now available through the Minnesota Supreme Court's Web site. The Revisor's Office is meeting with the judicial branch to refine procedures for updating *Court Rules* and posting the rules on the Revisor's Web site.

The office's Web site assumed responsibility in 2006 for performing text searches of session laws, statutes, and administrative rules. Previously, the state's North Star Web site provided this service. Combined with online indexes, users have powerful tools to quickly find relevant documents.

H. Education for Legislative Staff

Help Desk and IS staff provide annual training classes to legislative staff. New features in office applications are demonstrated for permanent staff, and seasonal employees new to the office's custom applications receive a full day of hands-on training. The Help Desk is staffed year round to answer questions about office software applications and to answer the public's questions about the office's Web site.

IT Coordination in the Legislature

Source of mandate: Laws 2007 c 148 art 1 s 3 subd 4(e)

A. Voice over Internet Protocol¹

Background. Voice over Internet Protocol (VoIP) is a technology where an organization uses its computer network to not only process data, but also process phone calls. These systems are attractive because the organization needs to support only one network (instead of two), and there are significant cost savings. The House converted to VoIP in early 2005.

With support of leadership, staff from House, Senate, and joint legislative offices met in various combinations for almost a year working through the concept of a centralized phone system. Staff reached a consensus in late fall 2007 across all of the affected offices about how to locate, manage, and maintain a single phone system that would serve the legislative branch. The House's core system was significantly supplemented by additional hardware to support the additional demands of the joint offices and the Senate. The system's core hardware and software reached their end-of-support date in 2010 and were replaced with new, five-year support agreements in 2010 and 2015.

Description of system. The centralized VoIP system requires an integrated core system of computer devices that connect, in turn, with House, Senate, and joint legislative agency computer networks.

¹ This section was taken from a February 11, 2008 LCC report prepared by Greg Hubinger entitled "Information Technology Coordination in the Minnesota Legislature."

Revisor's Office IS staff handle day-to-day management of the core system. The VoIP system is generally overseen by a committee of IT staff and other managers from each of the offices involved in the system. In addition, each office provides staff supports to deal with the myriad of administrative tasks involved in adding, changing, and deleting users of the phone system.

B. Wireless Internet Access in the Capitol and State Office Building

Members and staff in both houses discovered during the 2007 session that having wireless access was critical to the legislative process. Especially during conference committees, members of the House were in the Capitol, unable to access files that were on the House network. When Senate members and staff were in the State Office Building, they found that files they could access wirelessly in the Capitol were inaccessible in the State Office Building.

IT staff in the House and Senate concluded that for their members and staff to have ongoing access to files on their respective networks, no matter where they were in the Capitol or State Office Building, they would need a centralized system that allowed secure access to both.

The legislative wireless network, implemented for the 2008 legislative session, covers all legislative spaces in both the Capitol and State Office Building, allows all legislators and legislative staff access to their own networks from any location within the two buildings, and provides Wi-Fi access to members of the public within the same spaces.

The project was designed, developed, and implemented jointly by the House, Senate, and LCC technology staffs, with the review and guidance of the OET Security staff. The Revisor's Office configured and maintains the core network hardware, while House and Senate staff maintain committee room hardware.

C. Legislative Networking Group (LNET)

Membership of the Legislative Networking Group (LNET) includes staff members from the House, Senate, Revisor's Office, Legislative Reference Library, and Legislative Coordinating Commission. LNET manages the Legislative World Wide Web service and acts as a forum for all legislative offices to share and discuss technology issues. IT staff from the House, Senate, and joint legislative offices work within LNET to plan upgrades to the legislative Web site. The group meets year round to continuously improve usability and content on the legislative Web pages. The LNET group recently collaborated to achieve a redesigned Minnesota Legislative Web site with easier navigation and a more consistent look that works for both desktop and mobile devices.

D. Legislative Security and Infrastructure Group

Membership of the Legislative Security and Infrastructure Group (LSIG) includes staff members from the House, Senate, Revisor's Office, Legislative Reference Library, and Legislative Coordinating Commission. The group discusses and addresses general, technical, and security topics and issues. Each office is kept abreast of projects or changes in systems and architectures that may have relevance to their respective operations and computer networks. The group meets year round to proactively address security threats.

ACKNOWLEDGEMENTS

The Revisor wishes to thank the following staff members for their contributions to this report:

Jacqueline Ahrens, engrossing/enrolling, committee report statistics
Kevin Behr, editing of report
Delano DuGarm, extracts, editorial operations, statutory statistics
Jeff Kase, court rules, Revisor's bill
Jason Kuenle, indexing operations
Paul Marinac, Revisor's manual, rule manual and guide
John McCullough, court opinions report
Dan Olson, Senate Duplicating, printing and binding of report
Tim Orr, information services
Sheree Speer, information for other state offices and the general public
Corrine Staeheli, rules operations
Jan Vaidich, rules editing