WPLC Data Dashboard Exploration: Findings and Recommendations Report

Submitted by the Data Dashboard Workgroup | WPLC Technology Collaborative
February 2024

Executive Summary

Project Overview:
The WPLC Technology Collaborative initiated the Data Dashboard Workgroup in response to a recognized need for a statewide analytics dashboard containing library data and metrics for public library leaders across Wisconsin. The project aimed to create a standardized dashboard to assist library staff in interpreting and showcasing organizational data for reporting and advocacy purposes.

Exploration Process:
The Workgroup, comprising public library and system staff along with subject matter experts, conducted an in-depth exploration process from October 2023 to January 2024. This included reviewing existing library data dashboards in Wisconsin, evaluating external dashboards from other states, creating a comparative scoring rubric, and holding demonstrations of selected platforms.

Platform Selection:
After a thorough evaluation, the Workgroup recommends the dashboard built by WiLS' on Google's Looker Studio platform for a statewide pilot, favoring the platform for its viability and alignment with the project's proof-of-concept phase.

Pilot Recommendation and Timeline:
The Workgroup proposes a pilot of WiLS' Looker Studio dashboard from September to December 2024. The suggested timeline accommodates key library activities, such as budget preparation, while avoiding interference with summer reading program commitments. The pilot will be accessible to all public libraries, and WiLS will prepare the dashboard, accompanying materials and conduct training sessions.

Support and Funding:
DPI plans to allocate funds from its LSTA 2024 budget to support the WPLC data dashboard pilot. The estimated amount is $5,000, covering project management fees, dashboard preparation costs, and access fees for all public library staff during the pilot. DPI emphasizes the importance of providing equitable access to data tools for libraries. The WPLC Technology Steering

Committee will consider and make a recommendation for additional funding to cover remaining costs.

Cost Proposal:
WiLS outlines a total cost of $10,602 for the pilot rollout, covering services such as preparing the dashboard, developing training materials, providing technical support, and compiling a wrap-up report with findings and recommendations.

Desired Outcomes:
The intended outcome of the pilot is to test the effectiveness of a data dashboard in improving a library's ability to showcase value and advocate for community support. The Workgroup envisions the dashboard as a model of cooperation and a means to gather best practices for library advocacy and communication with stakeholders. It aims to identify innovations and iterations from systems for possible statewide capacity building in the future.

In conclusion, the proposed pilot of WiLS' Looker Studio represents a significant step towards providing Wisconsin public libraries with an accessible and equitable data visualization tool, fostering informed decision-making and advocacy efforts.

Project Background and Development

In January 2021, the WPLC Technology Operations Committee considered a project suggestion intended to affirm and subsequently address the common need for an analytics dashboard containing library data and metrics designed for public library leaders across Wisconsin for reporting and advocacy. The Committee surveyed Wisconsin public library system staff to gauge interest in a collaborative effort to create a statewide standardized dashboard, and ultimately, they received enough general interest from systems as well as DPI to develop a project proposal for the WPLC Technology Steering Committee in spring of 2023. That proposal included the creation of a [Data Dashboard Specifications Sheet](), which outlined the optimal dashboard functionality and features.

Around the same time, the results of the DPI-commissioned and IMLS-funded [Data Landscape Study Final Report]()were shared with the greater Wisconsin library community. The findings of that report, prepared by WiLS, reinforced the need for an accessible and equitable data visualization tool to aid library staff in interpreting and showcasing their organization's data. The relevant findings included:
- 83% of survey respondents are using data professionally on the job at least monthly.
- The majority of this work is data collection (74%), followed by creating data visualizations (66%).

- The most popular types of data people are accessing and using in professional library contexts are primarily coming from: internal library data (i.e., incident reports, feedback forms, etc), Annual Report data, US Census data, and Wisconsin's Digital Library (Overdrive) Data.
- The majority of respondents use free or low-cost and readily accessible tools to analyze and visualize their data.
- Library staff indicated they are most interested in seeing their data in one of two ways: trend data and comparison data with similar libraries for benchmarking purposes.

In addition, public library staff identified several needs and desires to improve professional data use in library contexts, including the desire for a plug-and-play data resource like a dashboard or data templates for foundational data use across the state.

With this report and the WPLC Technology Operations Committee proposal in mind, the WPLC Technology Steering Committee created a [Road Map to a Statewide Library Data Dashboard Solution](#), which launched a Data Dashboard Exploration Workgroup. WiLS was hired with LSTA support (WVLS served as fiscal agent) to facilitate the workgroup meetings and activities. The workgroup held its initial meeting in October 2023 to explore existing and potential data dashboard solutions to recommend for a statewide pilot.

The WPLC Data Dashboard Workgroup was charged with evaluating existing library data dashboards of public library systems in Wisconsin and those used by other states or non-library examples to help determine suitability for a statewide data dashboard pilot project. The project's primary purpose was to provide a baseline dashboard for all public libraries designed to showcase the value a dashboard can offer library staff and inform the next generation of dashboard development. It is important to note that the dashboard selected for a pilot does not represent a recommendation from the workgroup for a final dashboard solution.

Workgroup Membership and Committee Operations

The workgroup membership consists of individuals offering data and subject matter expertise and data users such as public library directors and public library system staff.

Public Library and System Staff
Jennifer Bernetzke, SWLS
Erica Brewster, WVLS
Anneliese Finke, Mead Public Library
Dominic Frandrup, Door County Library
Steve Heser, MCFLS
Josh Klingbeil, WVLS
Rob Nunez, Kenosha Public Library
Lori Roholt, IFLS

Subject Matter Experts
Melissa Aro, DPI
Tim Drexler, SCLS
Kim Kiesewetter, WiLS
Shannon Schultz, DPI
Bruce Smith, DPI

The workgroup conducted their work through four meetings from October 2023 - January 2024, two data dashboard demonstration sessions, and individual member assignments conducted asynchronously between meetings. Subject Matter Experts attended all meetings to provide data expertise and information on dashboard functionality.

Exploration Process Overview

The workgroup's process has three major components:
- reviewing of existing dashboards
- testing of a dashboard to understand usability and determine pilot feasibility, and
- creating a recommendation report on the feasibility and implementation of a statewide data dashboard pilot.

The workgroup divided the work into these main activities:

1. *Exploring and evaluating existing library data dashboards in Wisconsin.*
   The Wisconsin dashboard evaluation team (workgroup subcommittee) reviewed five existing dashboards currently used in the state: SCLS' Tableau, Lean WI's dashboard, WiLS' Looker Studio, Bridges Library System's Power BI (in beta mode), and Kenosha Public Library's LibInsights.

2. *Exploring and evaluating existing library data dashboards from other states or non-library entities.*
   The external dashboard evaluation team (workgroup subcommittee) reviewed four state dashboards: Oregon, Montana, Maryland, and North Carolina. Each state's dashboard utilized different data analytics tools, but all were built around library annual report data. Ultimately the team did not see any additional value these external sites provided over tools already available in Wisconsin. ([see meeting notes, November 6](#))

3. *Creating a comparative scoring rubric.*
   The workgroup created a rubric to evaluate various platforms based on criteria essential for an initial dashboard pilot. The identified criteria focused on user experience, pilot readiness, data trends and comparisons, and available support and training. Both subcommittees applied the criteria.

4. *Holding demonstrations of platforms of interest.*
   The workgroup held demonstrations of four different Wisconsin dashboards, Tableau, Looker Studio, Power BI, and LibInsights.

5. *Identifying a platform suitable for a statewide pilot and discussing materials and resources needed for pilot roll-out.*

After demonstrations, discussions, and a survey of the group, the workgroup decided to move forward with recommending a pilot of the dashboard built by WiLS' on Google's Looker Studio platform.

Scoring Rubric and Selection

After the initial research phase, workgroup members selected four existing Wisconsin dashboards for further review. Members explored the dashboards individually and attended live demonstrations to learn more about the features and functionality of each dashboard platform. Individual members scored each platform, and project managers provided an aggregate (below) report that identified Tableau and Looker Studio as the two dashboard platforms of interest. The committee continued discussing the merits and limitations of both platforms, and ultimately the group agreed that either platform was sufficient for a statewide pilot.
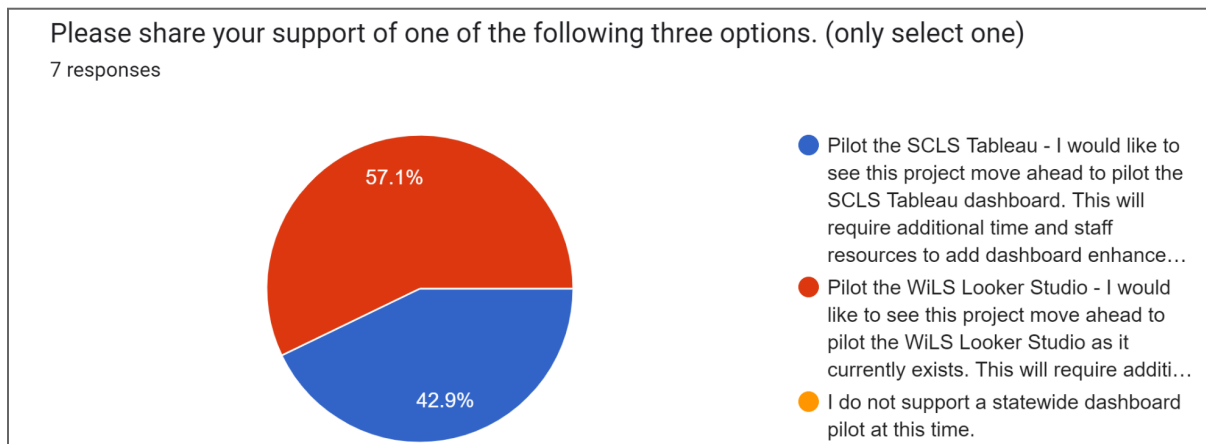
During the review of the specification sheet created by the Operations Committee, the workgroup discussed, at length, the data elements that should be included in a dashboard pilot as well as the refresh frequency.

The Operations Committee had noted that ILS data was imperative, and it was preferable if the data was updated weekly, if not daily. The workgroup agrees that ILS data is important, but for this project's sake, an initial dashboard needs to be built around common, universal data elements, such as the annual report data. If, eventually, it is determined to move forward with a statewide dashboard, incorporating the various ILS systems can happen then. Because of this determination, the frequency of data refresh needs identified by the Operations Committee isn't relevant at this point in the process.

A workgroup member noted that "with this being more of a proof of concept, the platform doesn't matter as much as having a rapid prototype available to show stakeholders, show some viability, and get buy-in on the next phase. With WiLS using Looker Studio already, it's a platform that the org is already familiar with and would work for this phase. The other add-ons, such as an API to allow libraries and systems to inject data, custom report generation, etc, can wait for future phases."

WPLC Data Dashboard Demo Evaluations				
Instructions: Rate each section below using a scale of 1 to 5. 1 being the least desirable and 5 being the most desirable.				
	Tableau (SCLS)	Looker Studio (WiLS)	LibInsights (KPL)	Power BI (Bridges)
Data Representation The dashboard contains core, common data elements of interest to library audiences.	35	33	31	32
Data Visualizations The built-in visualizations are appealing and easily understandable, as well as useful and effective.	38	37	26	29
User Interactivity The dashboard allows users to select and filter data elements and/or other locations for helpful comparisons, view trend lines, etc.	33	33	22	34
Ease of Use The dashboard is intuitive to a data novice.	28	33	23	25
Support/training There is ample support or training available either through state expertise, or online through YouTube or other tutorials.	34	31	25	31
Customization/Expandability The dashboard can be expanded with additional integrated datasets. Datasets can be added manually or via API integration.	33	31	26	29
Cost Cost implications are reasonable for statewide rollout.	19	32	21	19
Data Refresh The data refresh rate is acceptable.	27	27	24	30
Pilot Feasibility This dashboard can easily be rolled out for a pilot starting in July 2024.	23	30	16	18
Total Score	270	287	214	247
AVERAGE SCORE	30	32	24	27

Project managers shared a voting form with members after the December meeting to gather interest from the group on three options: not recommending a pilot of either product, recommending a pilot of Looker Studio, or recommending a pilot of Tableau. The workgroup unanimously supported moving ahead in supporting a dashboard pilot, with the WiLS' Looker Studio selected as the preferred platform.

Please share your support of one of the following three options. (only select one)

7 responses

- 57.1% / 42.9%
- Pilot the SCLS Tableau - I would like to see this project move ahead to pilot the SCLS Tableau dashboard. This will require additional time and staff resources to add dashboard enhance…
- Pilot the WiLS Looker Studio - I would like to see this project move ahead to pilot the WiLS Looker Studio as it currently exists. This will require additi…
- I do not support a statewide dashboard pilot at this time.

Pilot Recommendation and Timeline

It is the recommendation of the Data Dashboard Exploration Workgroup that a pilot of the WiLS' Looker Studio dashboard be made available for all public libraries from September 2024 to December 2024. The WPLC Technology Steering Committee's Roadmap suggested a July start date. However, the workgroup suggests a later start date to avoid interference with summer reading program commitments. A Fall 2024 pilot window allows libraries access to the dashboard during key budget preparation time but before the annual report data collection work begins in earnest. Upon receiving approval to proceed with the pilot, WiLS Data Analyst and designer of the Looker Studio dashboard, Kim Kiesewetter, will prepare the WiLS' Looker Studio dashboard for statewide use over the coming months.

This work includes:
- Getting the dashboard pilot-ready:
  - Creating a copy of the existing dashboard that creates cohorts by locale code
  - Adding a cohort element based on population size to offer libraries options for benchmarking
  - Developing materials explaining cohorts, their strengths and limitations, and how to find their relevant cohorts
- Developing training materials to include a tutorial, written instructions, and testing scripts
- Creating a Q&A tracker to collect questions raised by dashboard use. Melissa Aro, DPI, will screen this spreadsheet at DPI for any data-specific questions and forward any dashboard functionality troubleshooting or support to Kim Kieswetter for resolution.
- Developing a feedback mechanism to gather input on dashboard usability and satisfaction.

The dashboard and all accompanying materials will be rebranded with WPLC colors and logo, and accessed via the WPLC website without an additional login barrier.

DPI Pilot Support
DPI plans to continue the Collaborative Data Project Support category in its upcoming LSTA 2024 budget (performance period June 30, 2024 - July 1, 2025). The final amount that will be allocated for this category is still to be determined, but the current estimate is $5,000. The guideline description and definitions for this category in 2024 will specify that funds can be used to support expenses related to the WPLC data dashboard pilot. Allowable expenses will include project management fees, dashboard preparation costs for the pilot launch, and dashboard access fees for all public library staff in Wisconsin during the pilot. The DPI Library Service Team Director, Ben Miller, will attend the February 13, 2024 WPLC Technology Steering Committee and February 19, 2024 WPLC Board meetings and looks forward to DPI, Systems, and Libraries working together to move forward on this pilot, including identifying funding support.

DPI believes providing access to tools to improve the use of data by libraries should be considered a core library system operational service and platform. In addition to supporting a WPLC data dashboard pilot as an initial step toward all libraries in Wisconsin having equitable access to data tools, the Library Services Team is reviewing the Sparsity Aids LSTA grant category to make potential revisions. This includes allowing data dashboard development expenses, whether done individually or in collaboration with other systems, to be covered by the subawards provided to systems from the grant category.

Timeline

February 13, 2024	WPLC Technology Steering Committee reviews the proposal and determines approval and, if approved, identifies a fiscal agent
February 19, 2024	If Technology Steering Committee approves, Board will review the proposal and determine project approval as well as budget approval
February 29, 2024	WiLS prepares project MOU
March - June 2024	WiLS prepares dashboard and materials for pilot Workgroup volunteers draft related necessary pilot kit, i.e. instructional materials and scripts
July 2024	Share pilot rollout kit with system staff
August 2024	Systems hold group data dashboard training for member libraries
September - December 2024	Pilot is live
January 2025	WiLS project managers review and compile findings from pilot and prepare report for WPLC and DPI
January - March 2025	Consider additional LSTA funding to support dashboard development and final solution

Resources Required

While the WiLS' Looker Studio is currently in production and being used by WiLS in their contracted strategic planning projects, the dashboard needs limited development to make it useful on a statewide level as previously stated. Additionally, materials need to be created to assist with preparing systems and library staff in their use and interaction with the dashboard, as well as collecting feedback from users. The following cost proposal outlines the deliverables and

costs associated with this project that WiLS staff will do. Pilot preparation is slated to begin in March 2024.

Total Cost - $10,602 pilot roll-out

Service Deliverables:
- Preparing dashboard for statewide rollout, including creating cohorts for all libraries and adding additional dashboard elements such as population size cohorts
- Statewide open access to the dashboard and ancillary materials for the duration of the pilot via the WPLC website. If LSTA-funded, the materials will include an IMLS acknowledgment
- Development of training materials and other communications
  - Video introduction to the dashboard
  - Preview for library system staff to include:
    - Promotion guide for member library rollout
    - Communication templates for newsletters, emails, and other system communications
    - Tips on encouraging widespread engagement
    - Data use scenarios for board meetings, municipal budget discussions, etc.
    - How to provide system support throughout the pilot
  - Dashboard instructions and testing script (tiered by novice, intermediate, advanced)
  - Q&A platform to gather questions statewide
  - Feedback mechanism to gather information on usability, overall satisfaction, description of how the dashboard was used, and future suggestions/considerations.
- Technical support and troubleshooting throughout the pilot, as needed
- Wrap-up report with findings and recommendations from the pilot to be shared with the WPLC Technology Steering Committee, the WPLC board, and DPI (LSTA final report)

Desired Outcomes and Future Considerations

The intended outcome for this pilot is to test the concept of how a data dashboard can improve a library's ability to showcase value and advocate for community investment and support.

The workgroup feels an equitable and accessible data dashboard can:

- Encourage a widespread understanding of what a data dashboard can offer libraries of all sizes and data confidence levels, and serve as proof of concept
- Enact on the findings of the [Data Landscape Report](#)

- - Facilitate collaborative efforts with Library Services and Technology Act (LSTA) and Library Services Team support to provide equitable improvements throughout the state by acting on the report recommendations
- Serve as an efficient model of cooperation in line with other WPLC projects
- Gather and share examples and best practices on how libraries use dashboard visualizations for advocacy and communication with municipal stakeholders
- Learn more about what dashboard users are looking for in a universal data dashboard for libraries and what resources might be required to develop an ongoing statewide dashboard
- Identification of innovations and iterations from systems that can be brought back to WPLC for possible statewide capacity building