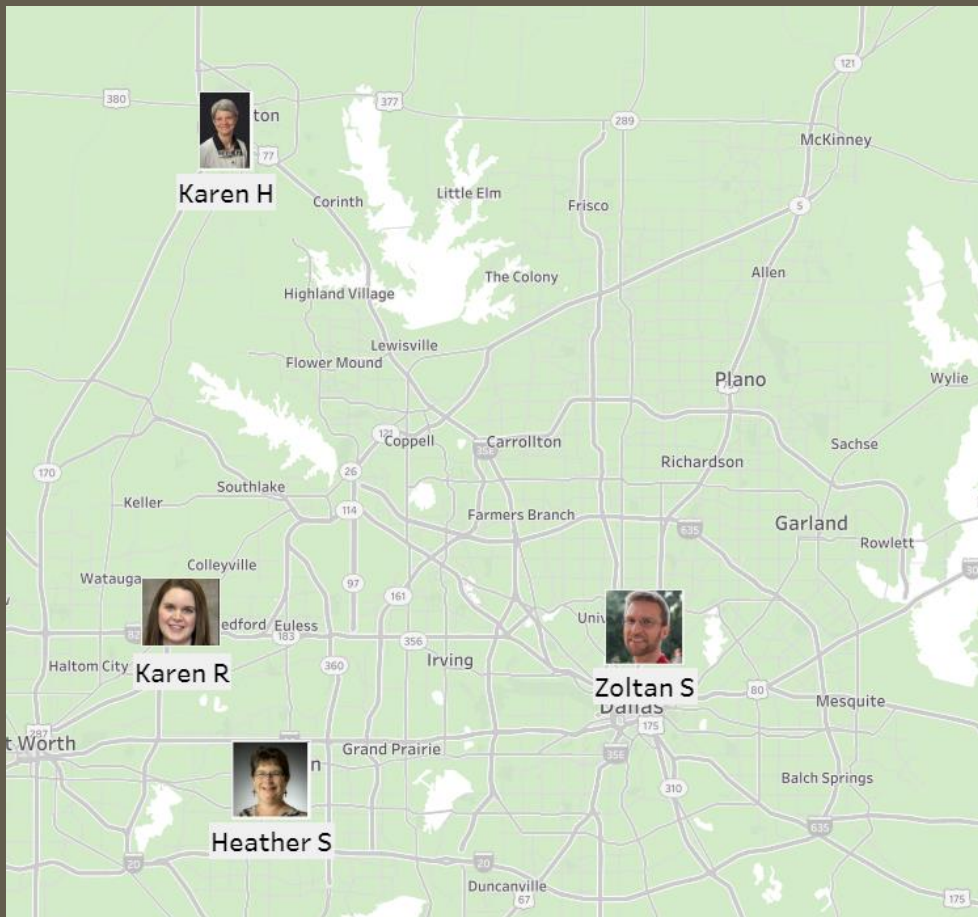


TABLEAU: INTERACTIVE DATA VISUALIZATIONS FOR YOUR LIBRARY

Panel Presentation, Texas Library Association

2018 Annual Conference

WHO WE ARE...



- **Karen R. Harker**, MLS, MPH
Collection Assessment Librarian
University of North Texas
- **Karen Raborn**, MLS
Collection Manager
North Richland Hills Library
- **Zoltán Szentkirályi**, MS
Director of Library Assessment
Southern Methodist University
- **Heather Scalf**, MLIS
Director of Assessment
University of Texas, Arlington

...AND WHY WE ARE HERE

- We are here to **share** with you **our experiences** with using **Tableau** or other visualizations to...
 - **engage stakeholders** – using innovative and effective skills and tools
 - **embrace multiple perspectives** – and the diverse frames of reference of your constituents
 - **partner to advocate** – forming a game plan with others in your community
 - **transform your community** – through excellent customer service

WHAT WE PLAN TO COVER

1. Visual representation of data
 - Karen R.
2. Stakeholders
 - Karen R. -- collection development librarians and library board
 - Zoltan -- traffic patterns
3. Interactivity
 - Zoltan (user interaction with data viz)
 - Heather and Karen H (between datasets)
4. Supporting decisions
 - Heather -- Budget and planning
5. Efficiency of providing data on demand
 - Karen H - Meet with Liaisons annually with refreshed data to help them make decisions
6. Q&A

VISUAL REPRESENTATION OF DATA

Karen Raborn

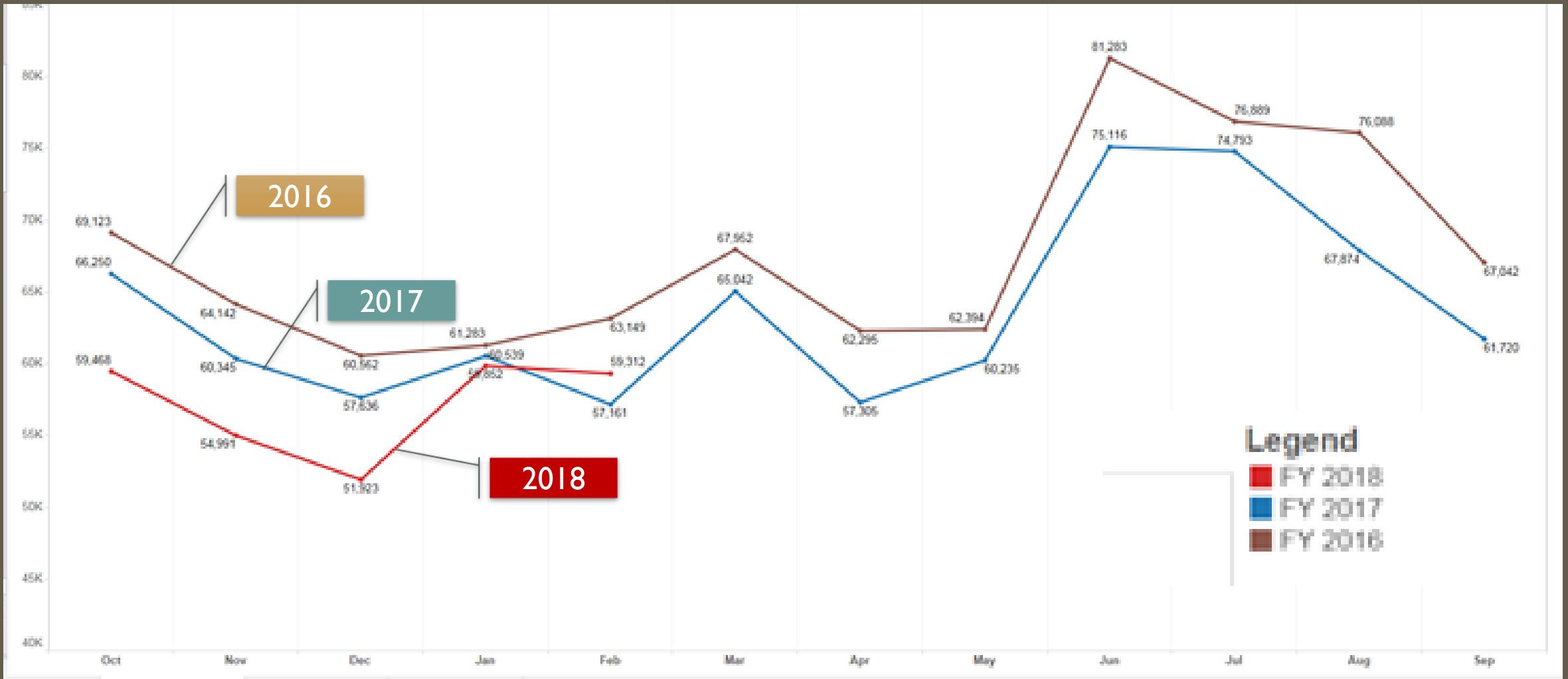
WHY USE VISUALIZATIONS?

To answer questions more **intuitively**

*How does this fiscal year's **circulation compare** with the last two fiscal years?*

FY16	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
	69,123	64,142	60,562	61,283	63,149	67,952	62,295	62,394	81,283	76,889	76,088	67,042
FY17	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
	66,250	60,345	57,636	60,539	57,162	65,042	57,305	60,235	75,116	74,793	67,874	61,720
FY18	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
	59,468	54,991	51,923	59,852	59,312							

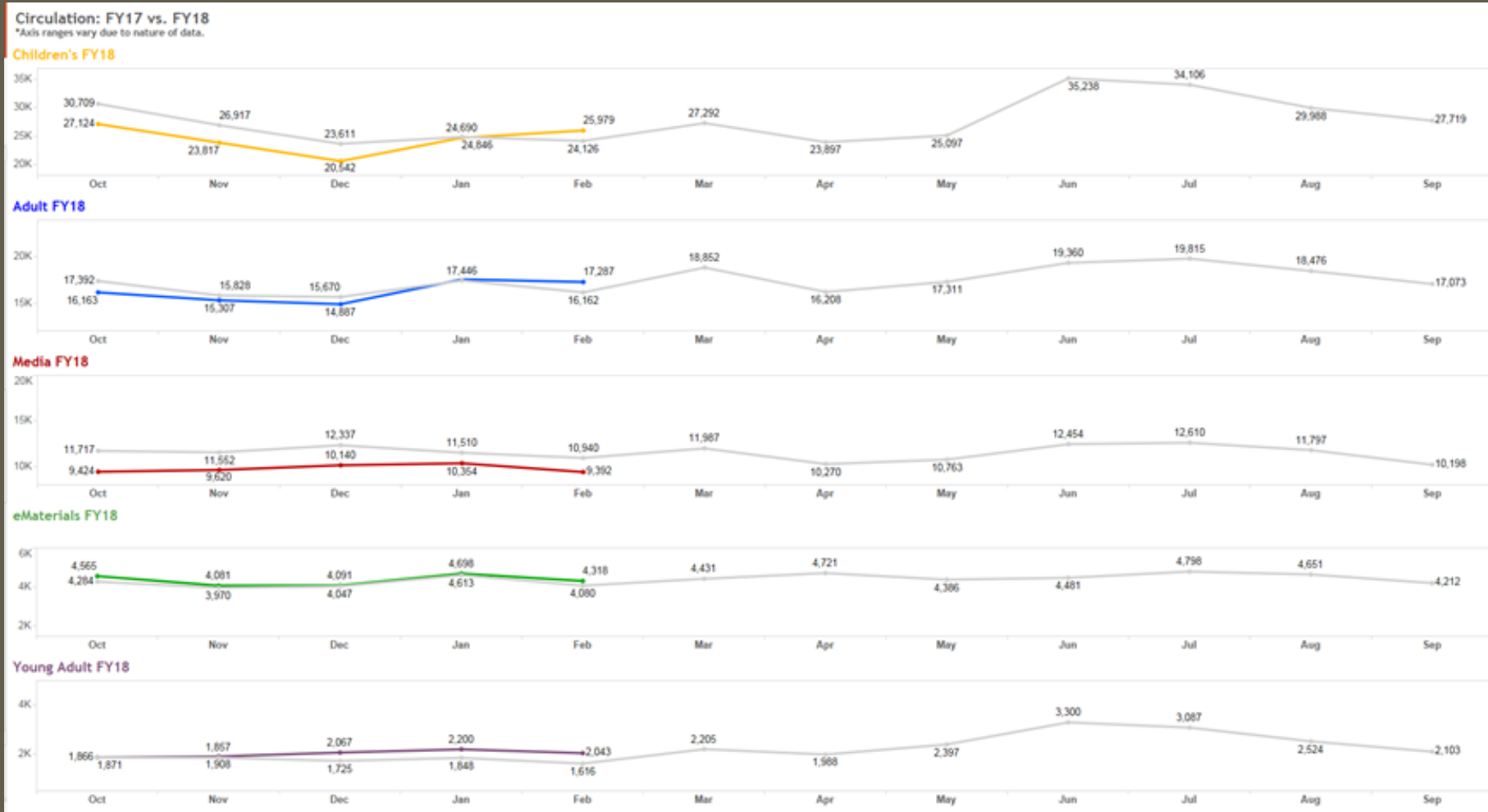
How does this fiscal year's **circulation** compare with the last two fiscal years?



WHY USE VISUALIZATIONS?

To *reveal trends or patterns* that would otherwise be lost

How does the circulation of **different categories** of materials compare over the course of the last two years?



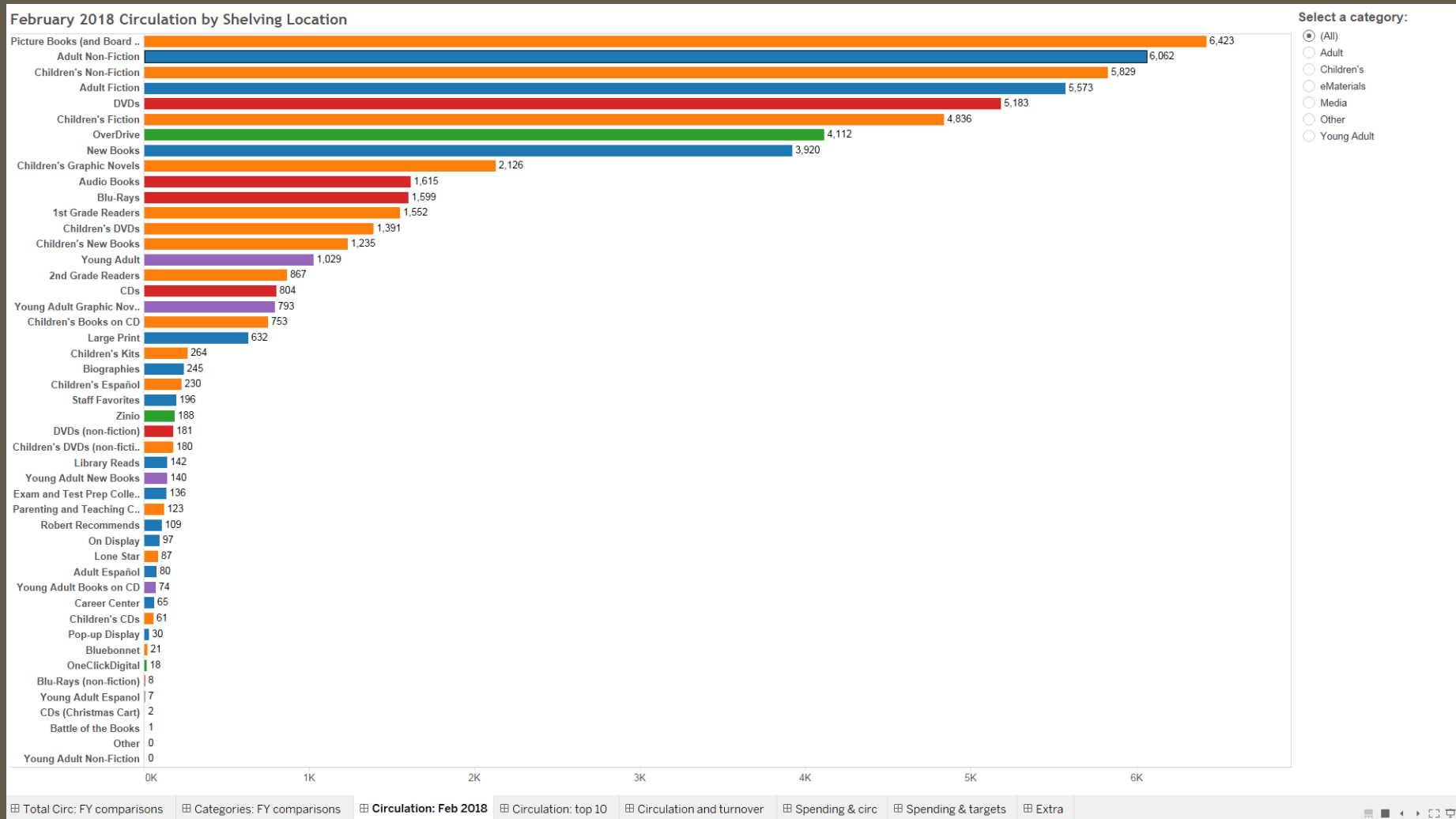
STAKEHOLDERS

Karen Raborn and Zoltán Szentkányi

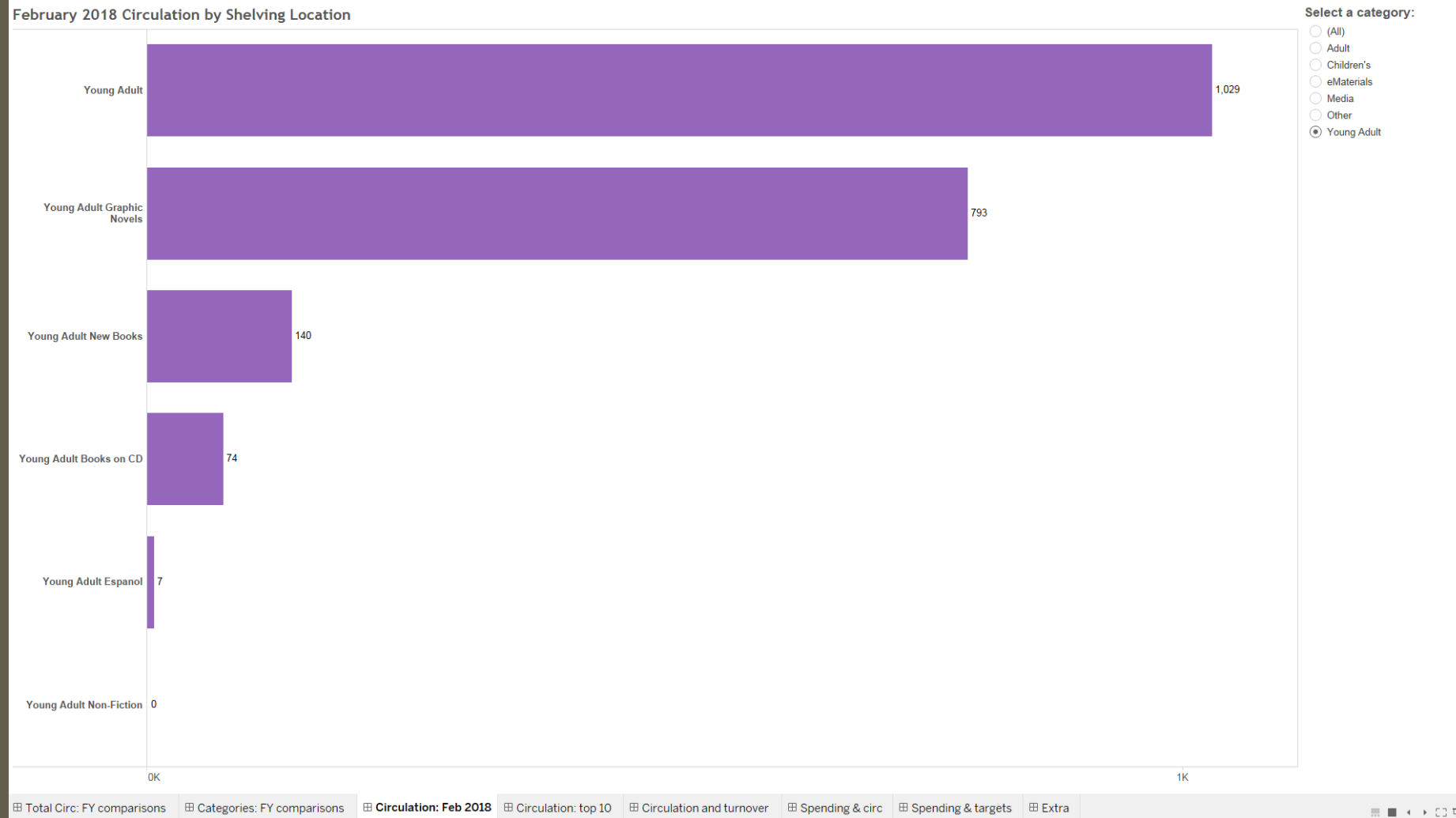
COLLECTION DEVELOPMENT LIBRARIANS

Monthly visualizations *track performance*
and *inform decisions*

How well are *my collections* circulating?



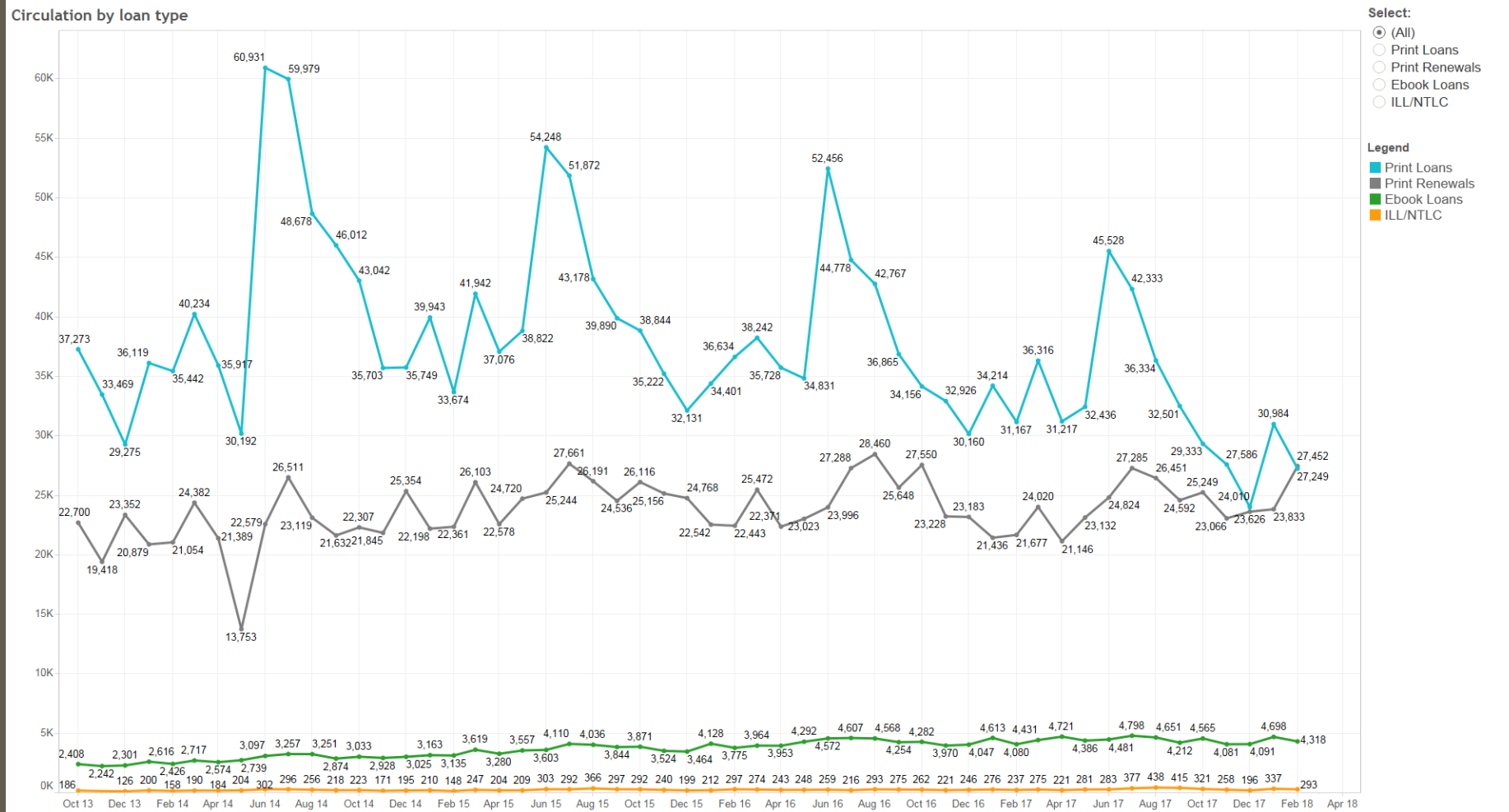
How well are *my collections* circulating?



LIBRARY BOARD AND LIBRARY ADMINISTRATION

Monthly visualizations *engage* and *update*
stakeholders

What are the **components** of our circulation?



MORE VISUALIZATIONS

- North Richland Hills Library on Tableau Public:
 - <https://public.tableau.com/profile/nrhpl#!/vizhome/February2018collectionstats/CirculationFeb2018>

VALUE OF VISUALIZATIONS
(ZOLTAN)

Visualizations posted online
make data available to
stakeholders and the public

LIBRARY ANALYTICS - WEB PAGE

The screenshot shows the SMU Central University Libraries website. The top navigation bar includes the SMU logo, "CENTRAL UNIVERSITY LIBRARIES", and links for "My Account" and "Ask Us". Below this is a secondary navigation bar with "CUL", "Research Help", "Services", "About", "Libraries & Collections", and "Give". A prominent red banner reads "Staff Resources". Below the banner is a breadcrumb trail: "SMU | World Changers Shaped Here / Central University Libraries / Staff Resources". The main content area is titled "Staff Resources" and features six large icons with corresponding text: "NEWS" (Staff Newsletter), a person with a question mark (Help Ticket / Website Update), a clipboard with a red toolbox (Submit a Building Work Order), a person at a whiteboard (Schedule a Meeting Room), a "MARKET" sign (Submit a Marketing Request), and a line graph (Record Stats or View Analytics). Below this are three columns of content: "Administrative Documents" with a list of links, "Report an Issue / Send Feedback" with a text box and a link to "Ask now!", and "Forms Shortcut" with sub-sections for "Human Resources" and "Mentoring Program for Professional Development".

SMU | CENTRAL UNIVERSITY LIBRARIES My Account Ask Us

[CUL](#) [Research Help](#) [Services](#) [About](#) [Libraries & Collections](#) [Give](#)

Staff Resources

[SMU | World Changers Shaped Here](#) / [Central University Libraries](#) / [Staff Resources](#)

Staff Resources

- [Staff Newsletter](#)
- [Help Ticket / Website Update](#)
- [Submit a Building Work Order](#)
- [Schedule a Meeting Room](#)
- [Submit a Marketing Request](#)
- [Record Stats or View Analytics](#)

Administrative Documents

- [Organizational Charts](#)
- [Library Administration](#)
- [Staff Directory](#)
- [Schedule](#)
- [Communication Guidelines](#)
- [Strategic Plan](#)
- [SACS / Institutional Effectiveness](#)
- [Innovation Grants](#)

Report an Issue / Send Feedback

Have a question for CUL management or about OE2C / Shared Services?

[Ask now!](#)
All questions are anonymous.

- [Submit a Help Ticket](#)
- [Request a Website Update](#)

Forms Shortcut

Human Resources

- [Student Assistant Application](#)
- [Hiring Checklist - International Students](#)
- [Hiring Checklist - U.S. Students](#)
- [Student Performance Evaluation](#)

Mentoring Program for Professional Development

LIBRARY ANALYTICS - WEB PAGE

The screenshot displays the SMU Central University Libraries website. At the top, the SMU logo and navigation links are visible. A red banner highlights the 'Staff Resources' section. Below this, the page title 'CUL Statistics and Analytics' is shown. The main content is organized into three columns: 'Record CUL Statistics Here' with a list of activity categories, 'CUL Interactive Analytics' featuring a Tableau logo, and 'CUL Data Sources' with a list of specific data sources. A footer provides contact information for Zoltán Szentkirályi.

SMU | CENTRAL UNIVERSITY LIBRARIES

My Account Ask Us

CUL Research Help Services About Libraries & Collections Give

Staff Resources

Central University Libraries / Staff Resources / CUL Statistics and Analytics

CUL Statistics and Analytics

Record CUL Statistics Here

- Library Instruction (Course-Related)
- Other Instructional Activities
- Reference / Consultations
- Library Outreach Activity


Resource: SMU Course Lists

- SMU Courses 2017-2018
- SMU Courses 2016-2017
- SMU Courses 2015-2016

Prior Years CUL Data Entry

- Library Instruction (2014 – 2016)
- Research Consultations (2014 – 2016)
- Outreach Activity (2015 – 2016)
- Outreach Activity (2014 – 2015)

CUL Interactive Analytics



CUL Data Sources

Highlighted data sources available. Other data sources available soon.

- Reference
- Circulation (Voyager)
- Interlibrary Loan (ILLiad)
- Instruction & Consultation
- Faculty Support Metrics
- Study Room Bookings
- Fondren Computer Logins & Printing
- Patron Counts & Gate Counts

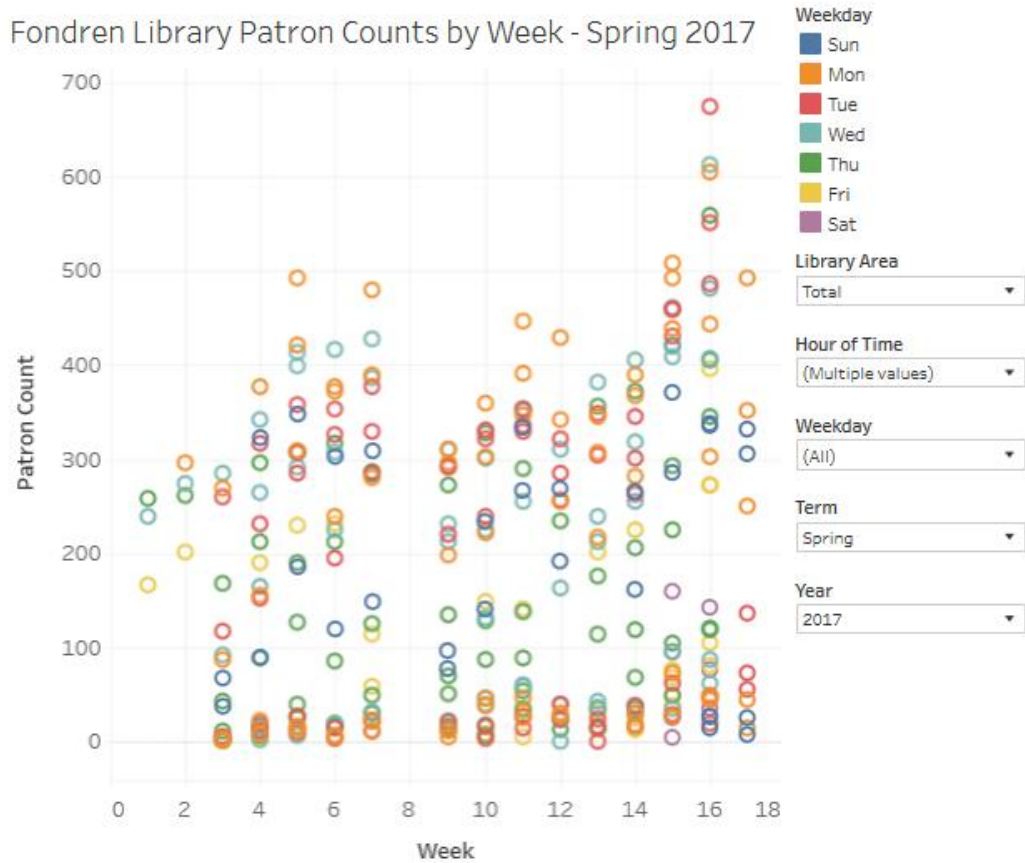
Questions? Contact Zoltán Szentkirályi at zoltan@smu.edu or 214-768-2276.

Library Analytics

Staff Resources / CUL Statistics and Analytics / Fondren Library Patron Counts by Week

Click "Full Screen" for best view. Hover over elements for details. Use filters to subset.
Click on rows, columns, headings, and specific elements to get summary data.

Fondren Library Patron Counts by Week - Spring 2017



CUL STATISTICS AND ANALYTICS

- [Circulation by Week](#)
- [Fondren Computer Logins by Week](#)
- [Fondren Daily Gate Counts](#)
- [Fondren Gate Counts by Month](#)
- [Fondren Library Patron Counts by Week](#)
- [Fondren Library Patron Counts by Year & Term](#)
- [Study Room Bookings by Week](#)

Weekday

- Sun
- Mon
- Tue
- Wed
- Thu
- Fri
- Sat

Library Area

Total

Hour of Time

(Multiple values)

Weekday

(All)

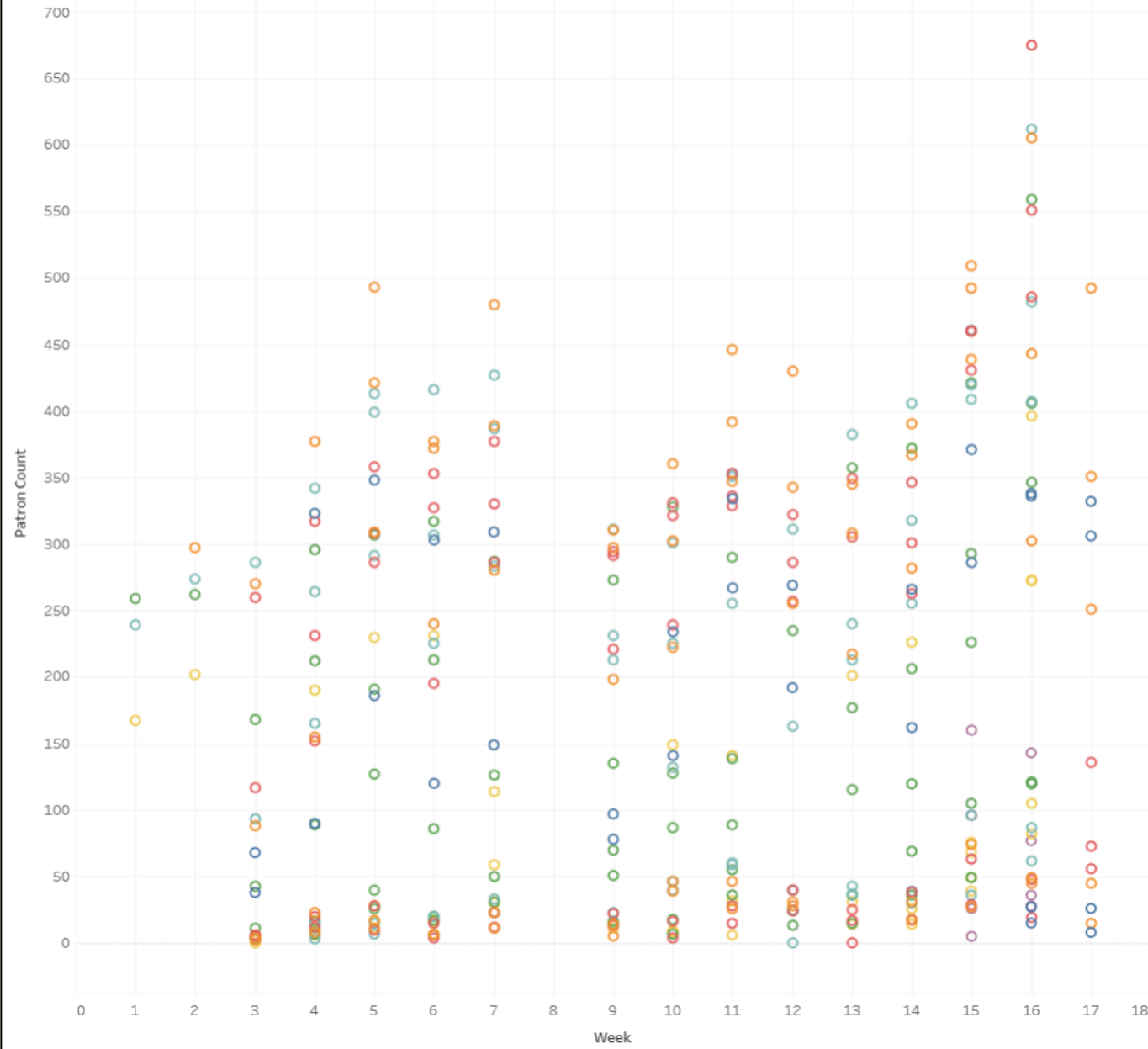
Term

Spring

Year

2017

Fondren Library Patron Counts by Week - Spring 2017



Weekday
Sun
Mon
Tue
Wed
Thu
Fri
Sat

Library Area
Total

Hour of Time
(Multiple values)

Weekday
(All)

Term
Spring

Year
2017

LIBRARY ANALYTICS - WEB PAGE

ACCESSIBLE FOR ANYONE

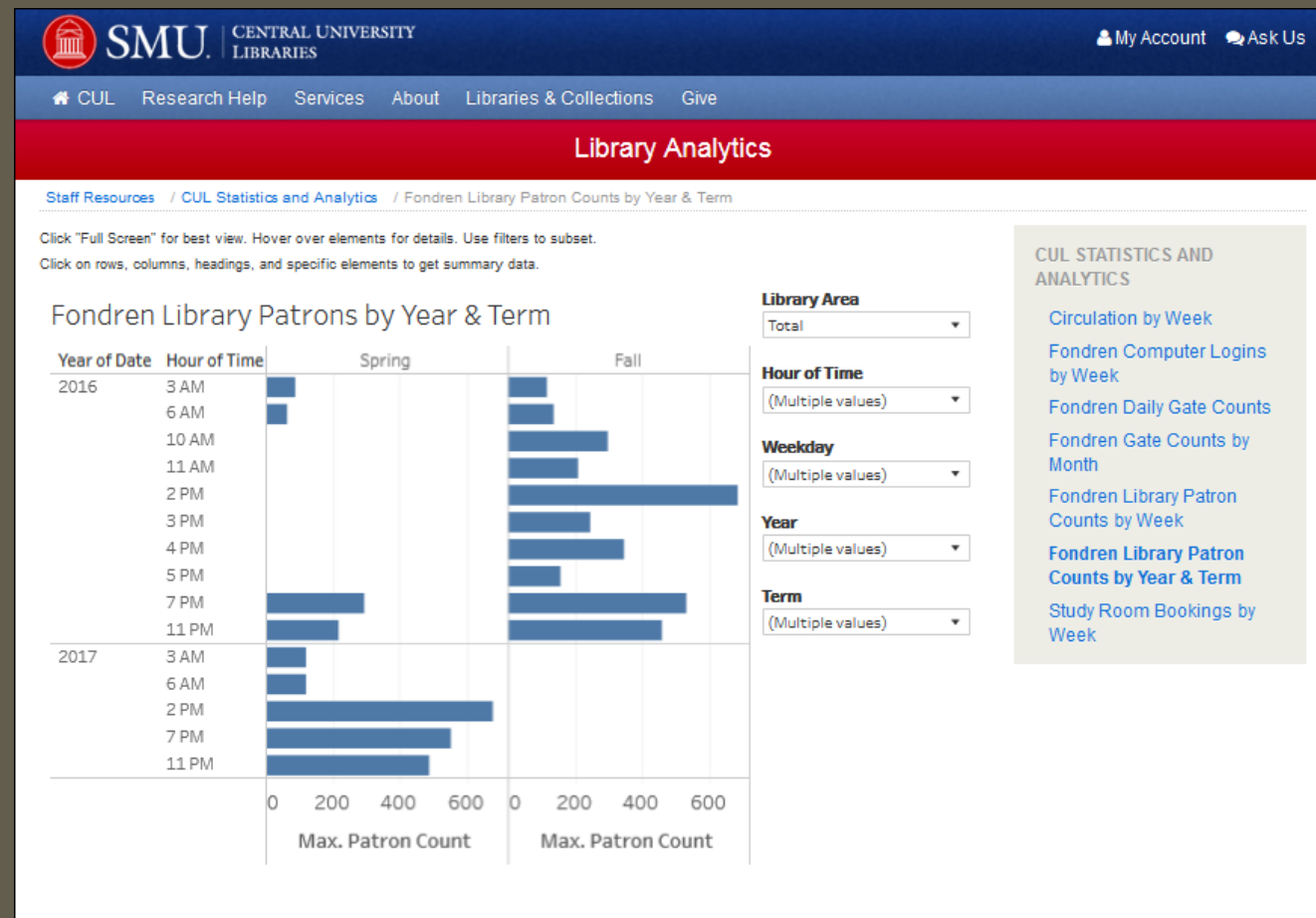
- Designed for library staff, but viewable on any browser with no login required.
 - Easily found by librarians and library staff seeking to review trends for planning.
 - Web link can be sent via email to other stakeholders to review data as well.

SERVES DIFFERING DATA NEEDS

- Different stakeholders may be interested in different types of library activity.
 - Different areas of library operation represented.
 - Data can be viewed in aggregate/summary as well as drilling down to specific details.

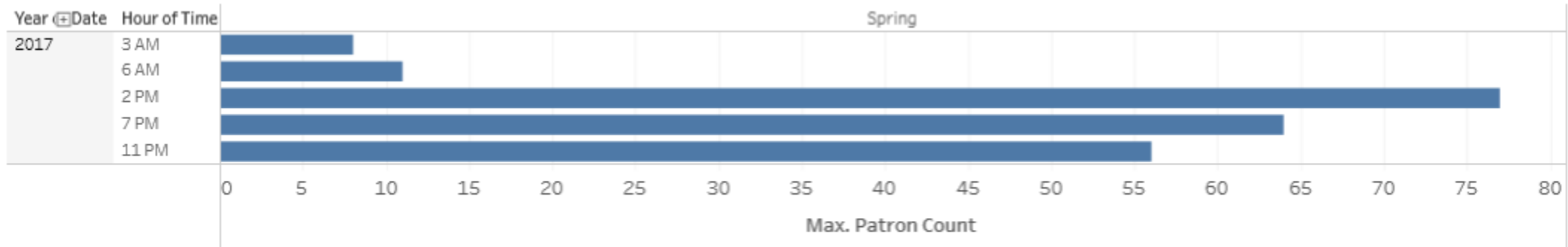
<http://www.smu.edu/cul/staffresources/stats>

LIBRARY ANALYTICS - WEB PAGE



LIBRARY ANALYTICS - WEB PAGE

Fondren Library Patrons by Year & Term



Library Area

Café Commons 1st Floor

Hour of Time

(Multiple values)

Weekday

Mon

Year

2017

Term

Spring

USER INTERACTIVITY

Zoltán Szentkárilyi

LIVE DEMO

INTERACTION OF DATA

Heather Scalf and Karen Harker

USING DATA TO TELL A RICHER STORY

All Access Objects

Search...

Tables

- fabapp_trans_ww
- illiad_requests_ww
- Name AutoCorrect Save Failures
- raw_swipes_ww
- refworks_ww
- reservations_ww
- student_data_ww
- Student_majors_by_College
- student_term_report_ww
- uta_people_ww
- utsi_ww
- visits_ww
- voyager_charges_ww
- ezproxy_log_ww
- public_pc_logins_ww

Queries

illiad_requests_ww

id_hash	request_dat	process_typ	document_t
d27d00c41ec30623638a98	7/30/2015	Borrowing	Article
d27d00c41ec30623638a98	7/30/2015	Borrowing	Article
d27d00c41ec30623638a98	7/30/2015	Borrowing	Article
d27d00c41ec30623638a98	7/30/2015	Borrowing	Article
17ced04bfd11ccf6f25a122	7/29/2015	Borrowing	Article
17ced04bfd11ccf6f25a122	8/1/2015	Borrowing	Article
17ced04bfd11ccf6f25a122	8/1/2015	Borrowing	Article
17ced04bfd11ccf6f25a122	10/3/2015	Borrowing	Article
17ced04bfd11ccf6f25a122	11/29/2013	Borrowing	Thesis
17ced04bfd11ccf6f25a122	11/29/2013	Borrowing	Thesis
17ced04bfd11ccf6f25a122	12/17/2013	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/1/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/2/2015	Borrowing	Thesis
17ced04bfd11ccf6f25a122	4/2/2015	Borrowing	Thesis

SALT-ed, hashed personal identifier

CREATING LINKING ELEMENT

major	acad_progra	major
	masters	Social Work
	masters	Interdisciplinary Studies
	masters	Nursing - Adult Nurse Practiti
	doctoral	Educational Leadership
	undergraduate	Education Intended
	second_baccel	Nursing BSN Major (AO)
	undergraduate	Marketing
	masters	Education Leadership & Polic
	undergraduate	Undeclared
	undergraduate	Undeclared
	undergraduate	Microbiology
	undergraduate	Information Systems

major	School/College	F
AE	Engineering	
Accounting	Business	
Accounting - N	Business	
Accounting Inti	Business	
ACCT	Business	
Acute Care Nur	Nursing & Health Innovat	
Acute Care Pec	Nursing & Health Innovat	
Adult Care/Gen	Nursing & Health Innovat	
Adult Nurse Pr	Nursing & Health Innovat	
Adult Psychiatr	Nursing & Health Innovat	
Advanced Nurs	Nursing & Health Innovat	
Advertising	Business	
Advertising - U	Business	
Advertising Int	Business	
ADVT	Business	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Aerospace Eng	Engineering	
Anthropology	Liberal Arts	
Anthropology -	Liberal Arts	
Anthropology -	Liberal Arts	
Anthropology I	Liberal Arts	

STORYTELLING USING DATA

- What is the question?
 - What percentage of the Libraries resources are used by each school or college?
 - What is the usage by school or college of the Central Library?
- Does the data already exist?
- Do we need to connect/clean the data?
- Who is the story for?
 - University Administration

LINKING DATA

Linked by hashed ID

raw_swipes_vw

student_data_vw

Join

Inner Left Right Full Outer

Data Source student_data_vw

Id Hash = Id Hash (Student Data V...

Sort Add new join clause

Id Hash	Trandate	Direction	Classification
d27d00c41ec306236...	11/18/2014 6:47:09 PM	O	graduate
d27d00c41ec306236...	11/18/2014 5:25:54 PM	I	graduate
d27d00c41ec306236...	7/30/2015 8:53:22 AM	I	graduate
d27d00c41ec306236...	7/30/2015 10:32:27 AM	O	graduate

Linked by Major

student_data_vw

Student_majors_by_College

Join

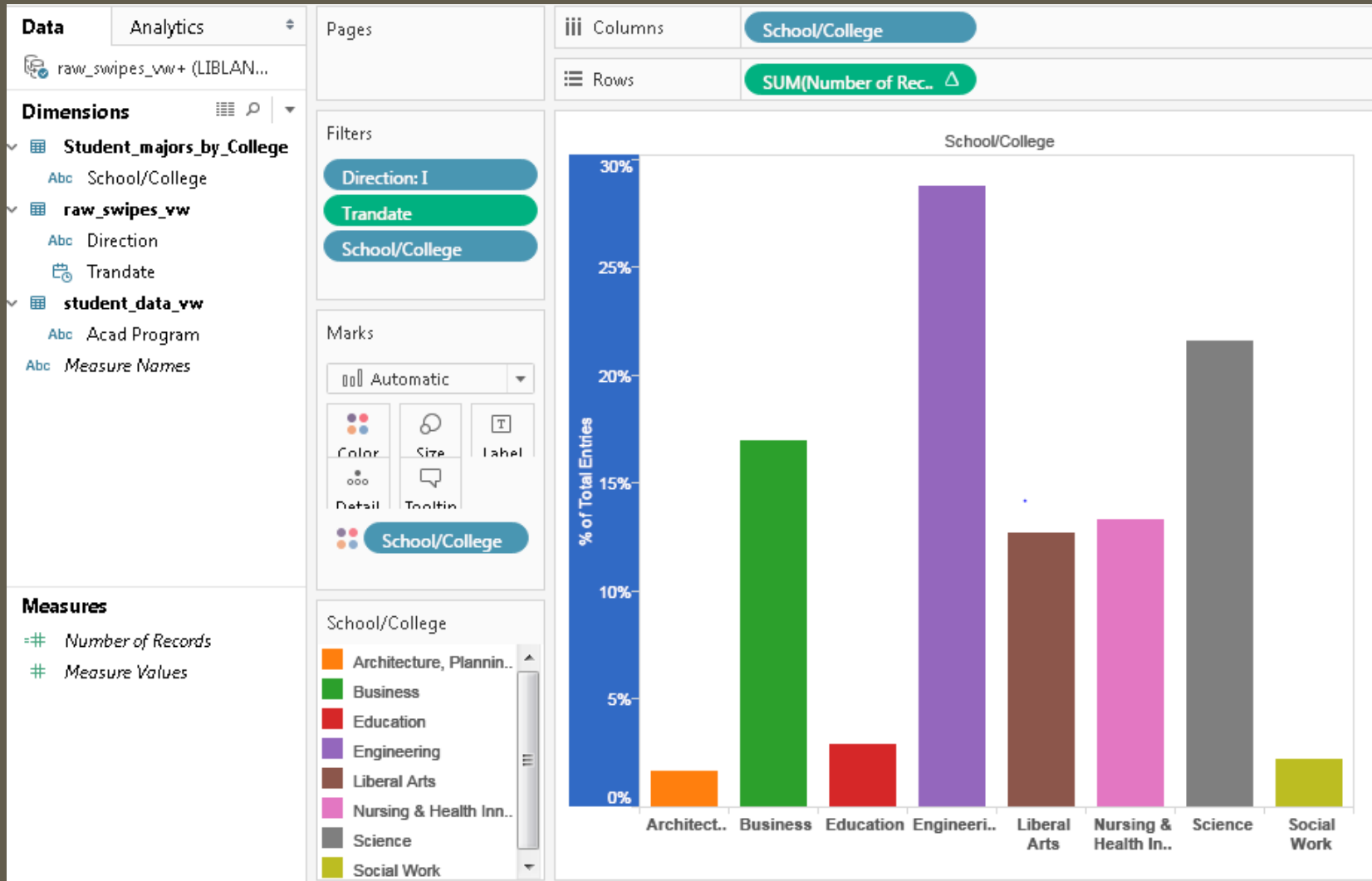
Inner Left Right Full Outer

Data Source Student_majors_by_College

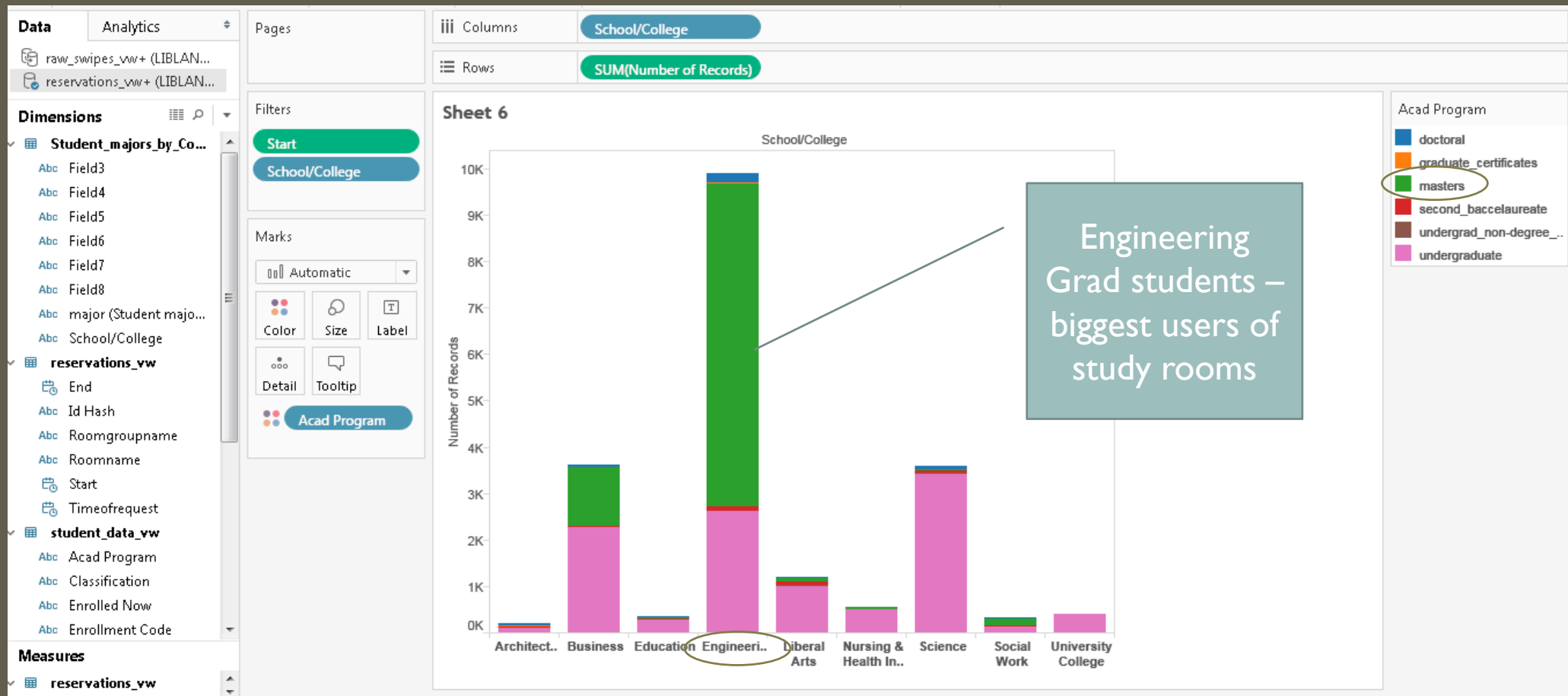
Major = major (Student majors b...

Major	Classification
...	graduate

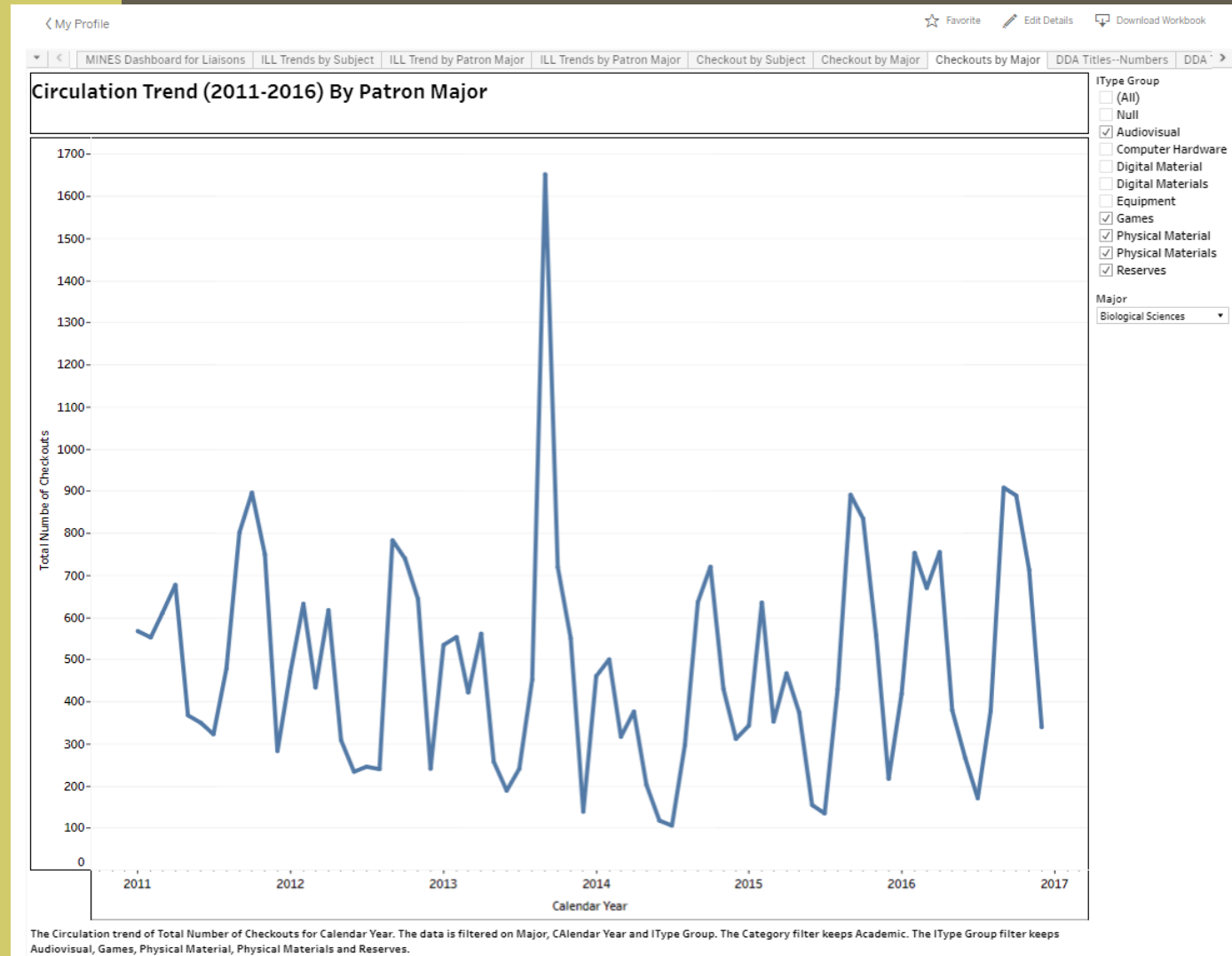
TELLING A STORY



USAGE OF GROUP STUDY ROOMS



WORKBOOK FOR SUBJECT LIAISON LIBRARIANS



WORKBOOK - BACKGROUND

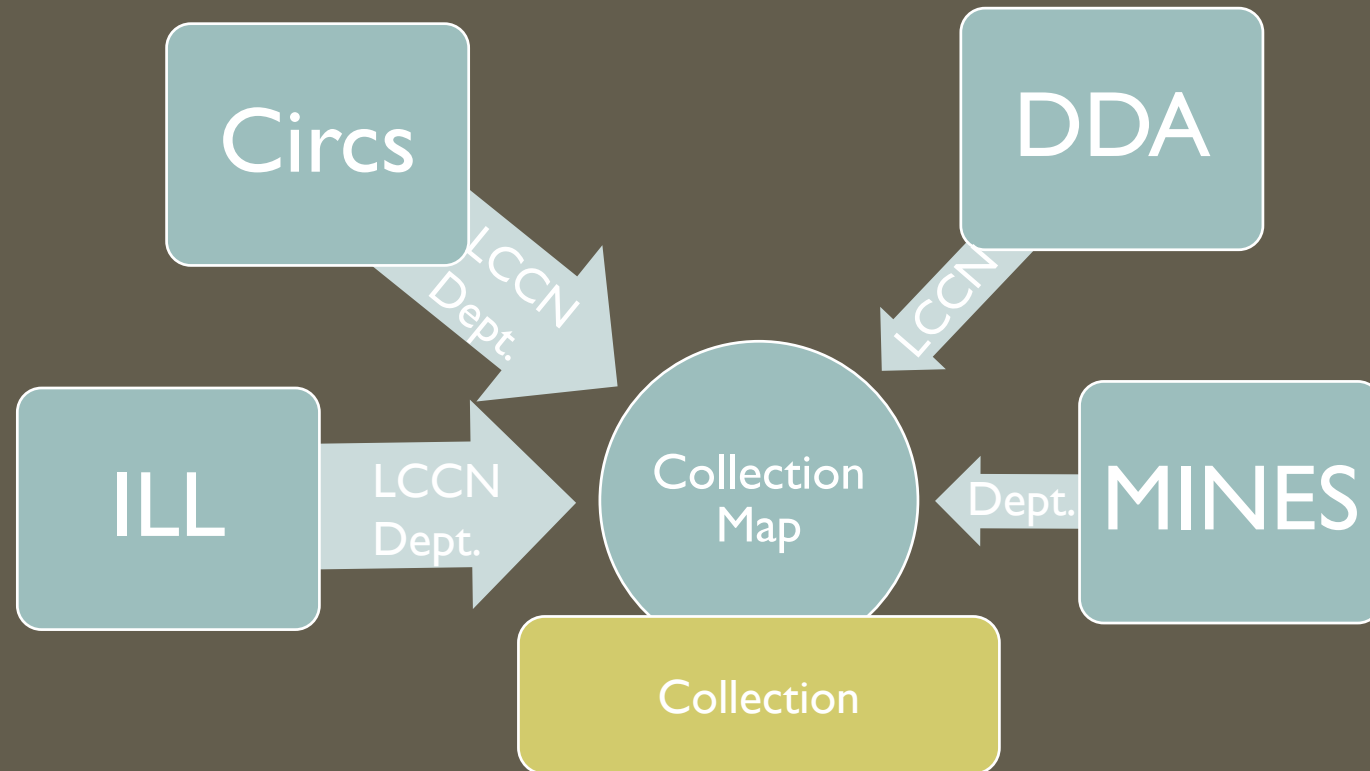
WHY IT IS NEEDED

- Collection development is centrally managed, with input from subject liaison librarians.
 - Liaisons directly request purchased materials - 99% of requests honored.
 - Liaisons may request subscription resources - decisions made by collection development team.

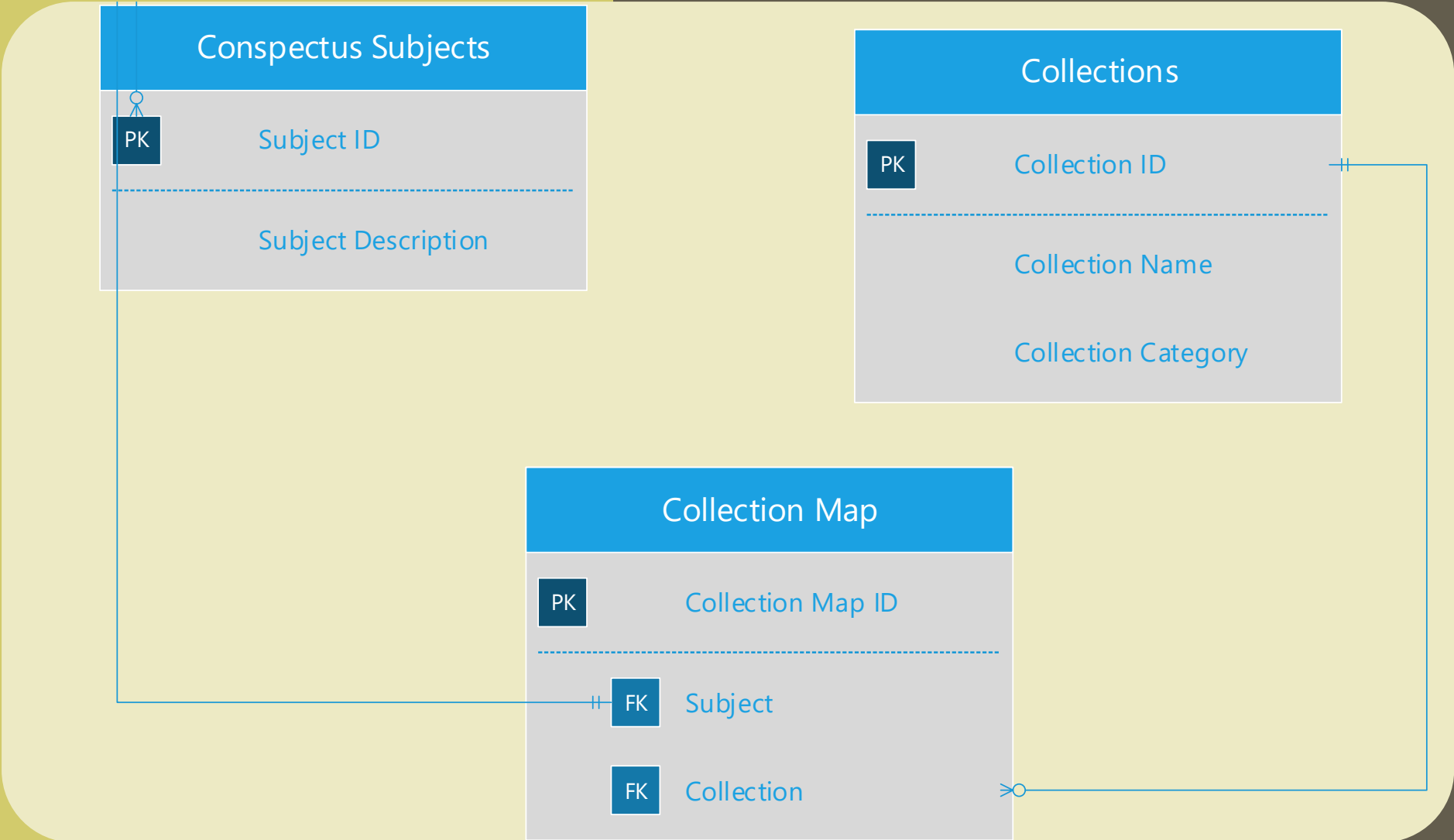
HOW IT IS USED

- Collection development meets annually with subject liaisons to...
 - Request feedback from librarians on the direction of the programs and the collections.
 - Describe their collection and what their students and faculty use and/or need.

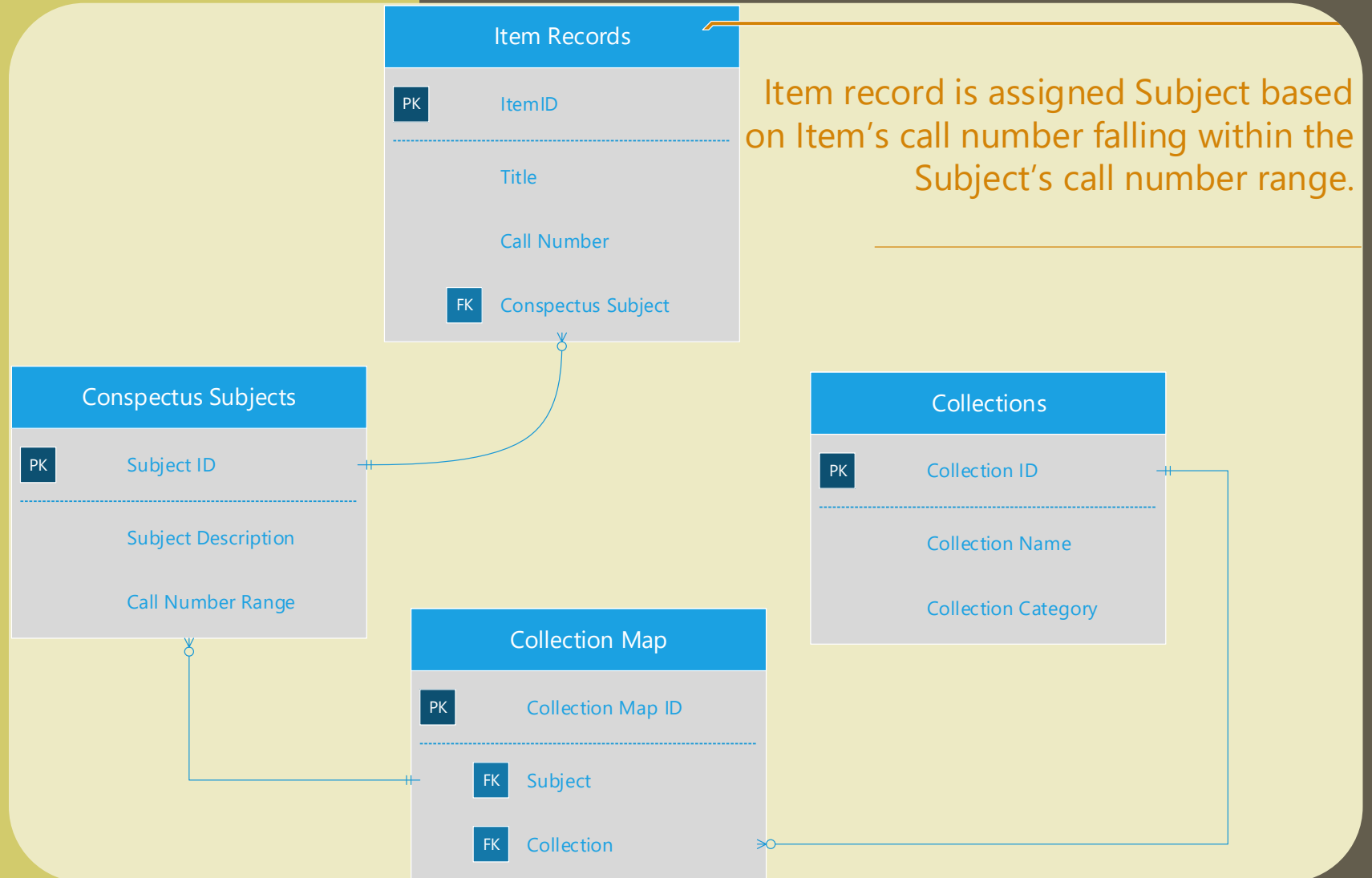
WORKBOOK - DATA



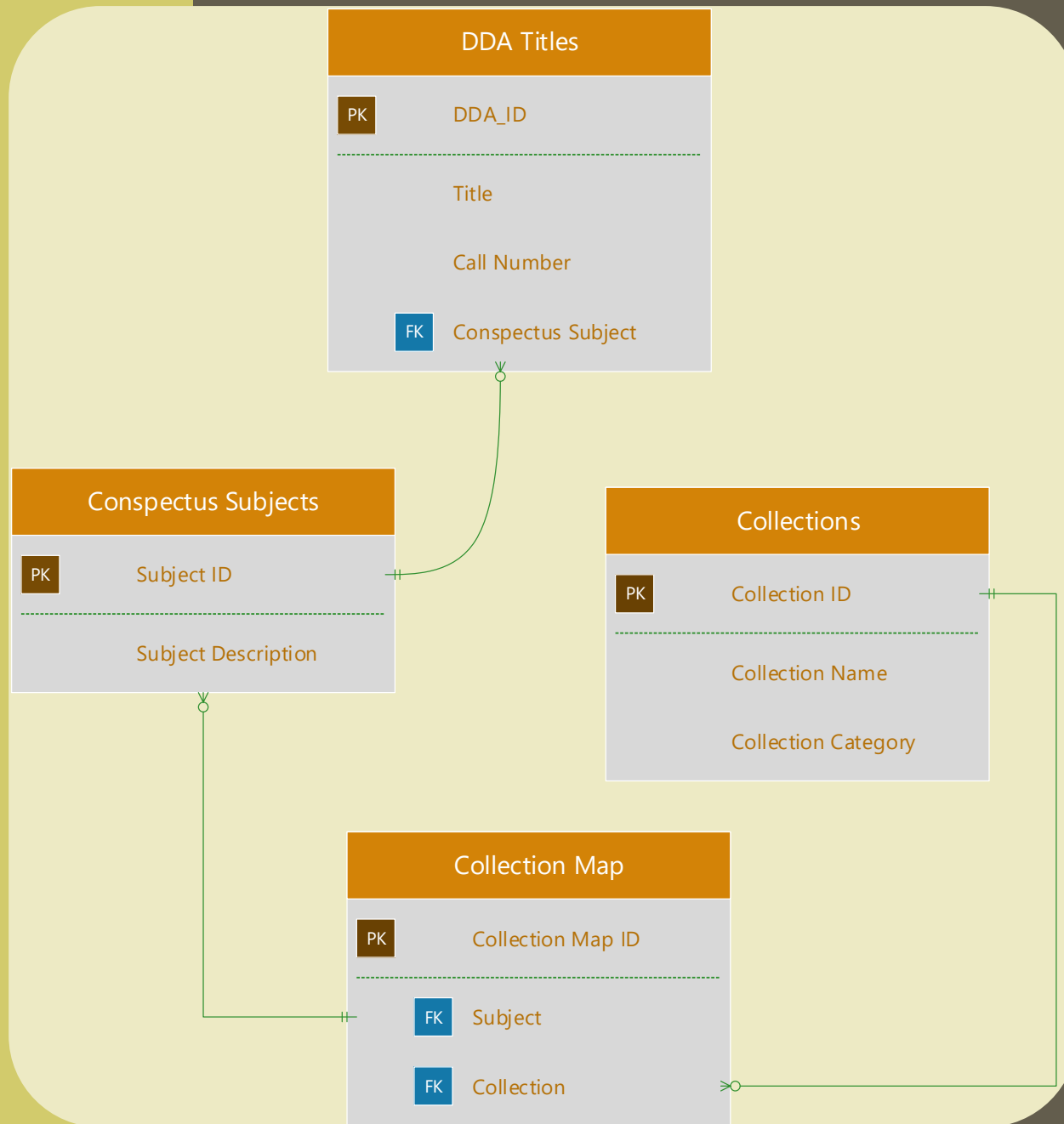
COLLECTION MAP



MAPPING ITEMS TO COLLECTIONS

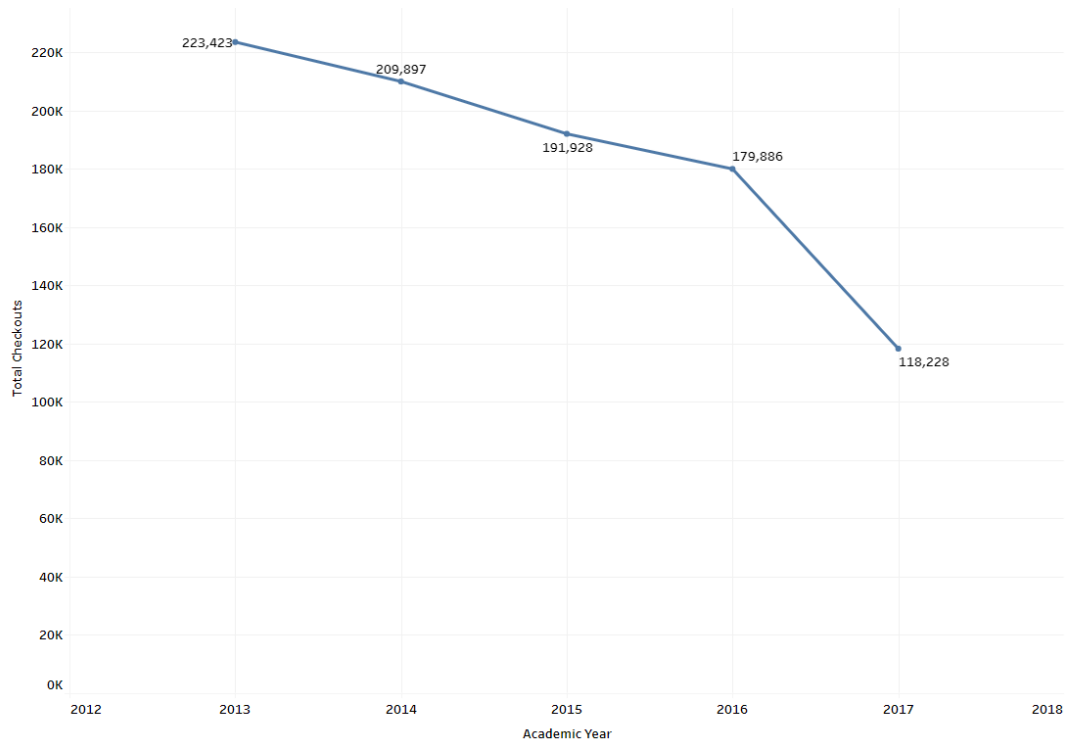


MAPPING DDA TO COLLECTIONS

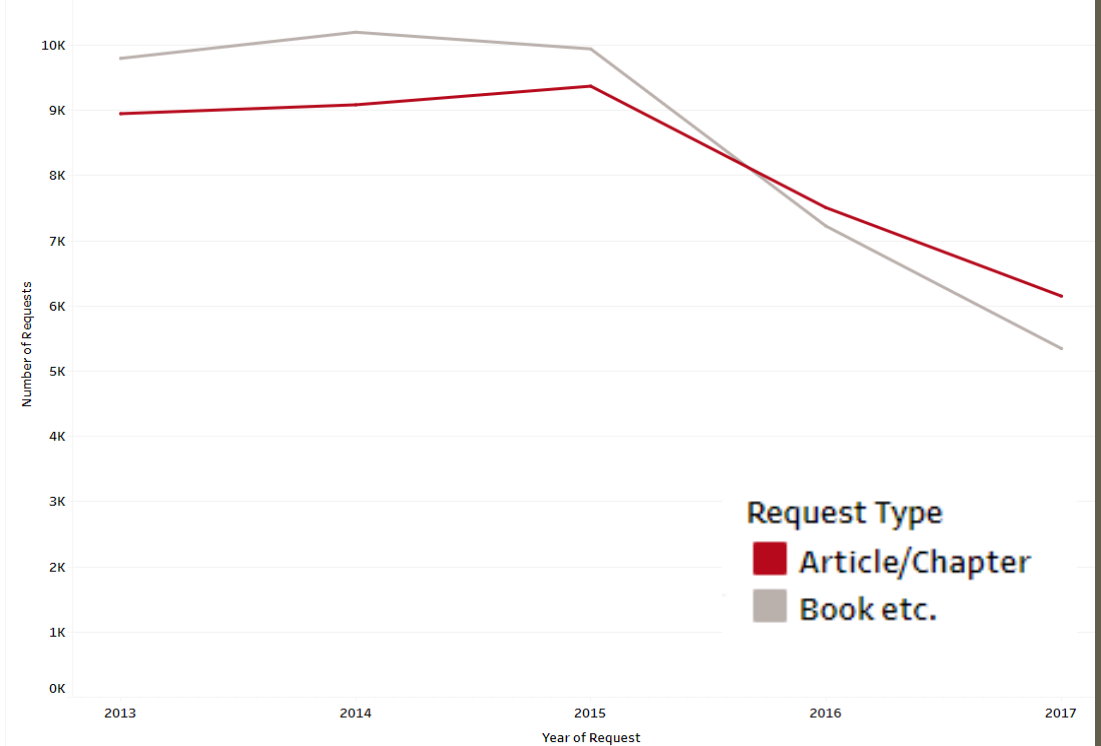


EXAMPLE SCREENSHOTS: ALL SUBJECTS

Circulation Trend By Subject: All

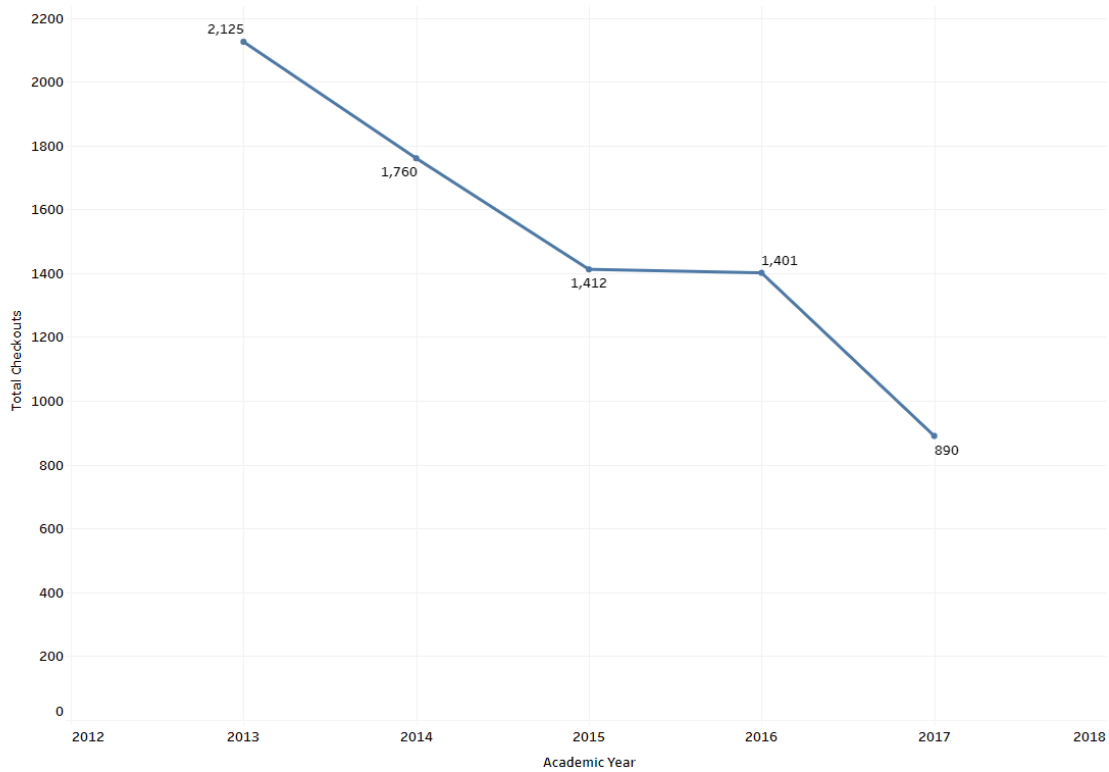


ILL Requests by Subject: All

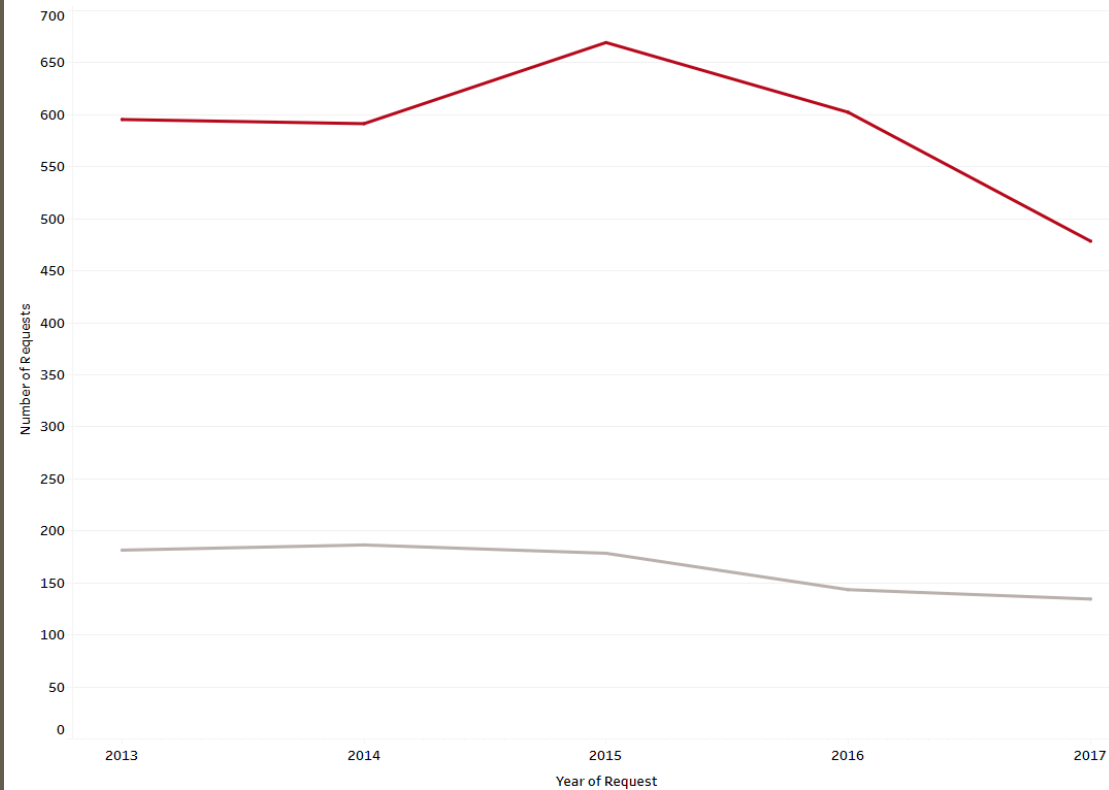


FILTERED ON ONE COLLECTION: BIOLOGICAL SCIENCES

Circulation Trend By Subject: Biological Sciences



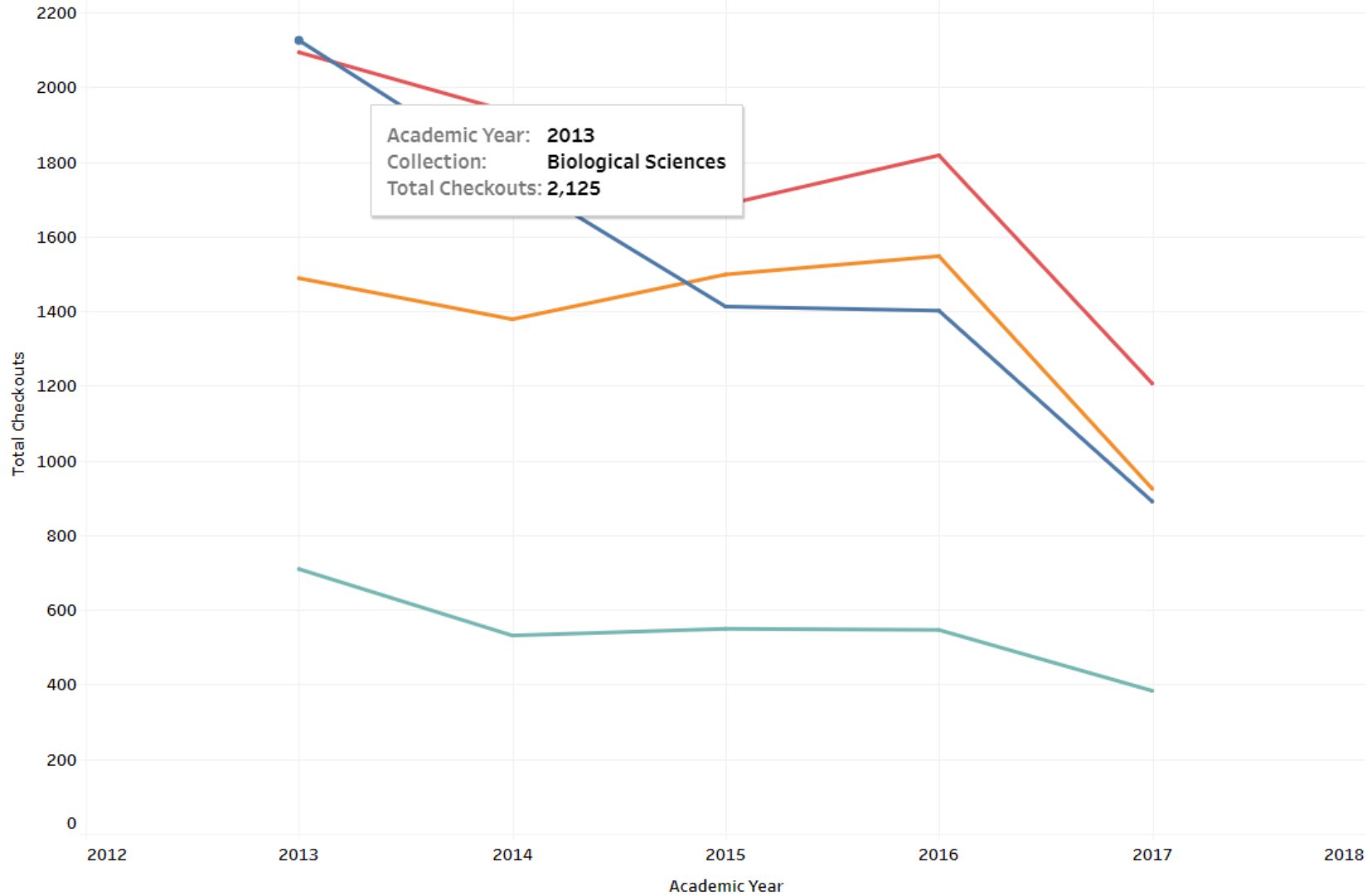
ILL Requests by Subject: Biological Sciences



Comparison of Circulations by Collections: Biological Sciences, Chemistry, Mathematics and 1 more

Collection
(Multiple values) ▼

- Biological Sciences
- Chemistry
- Mathematics
- Physics



Comparison of ILLs by Collection: Biological Sciences, Chemistry, Mathematics and 1 more

Collection
(Multiple values)

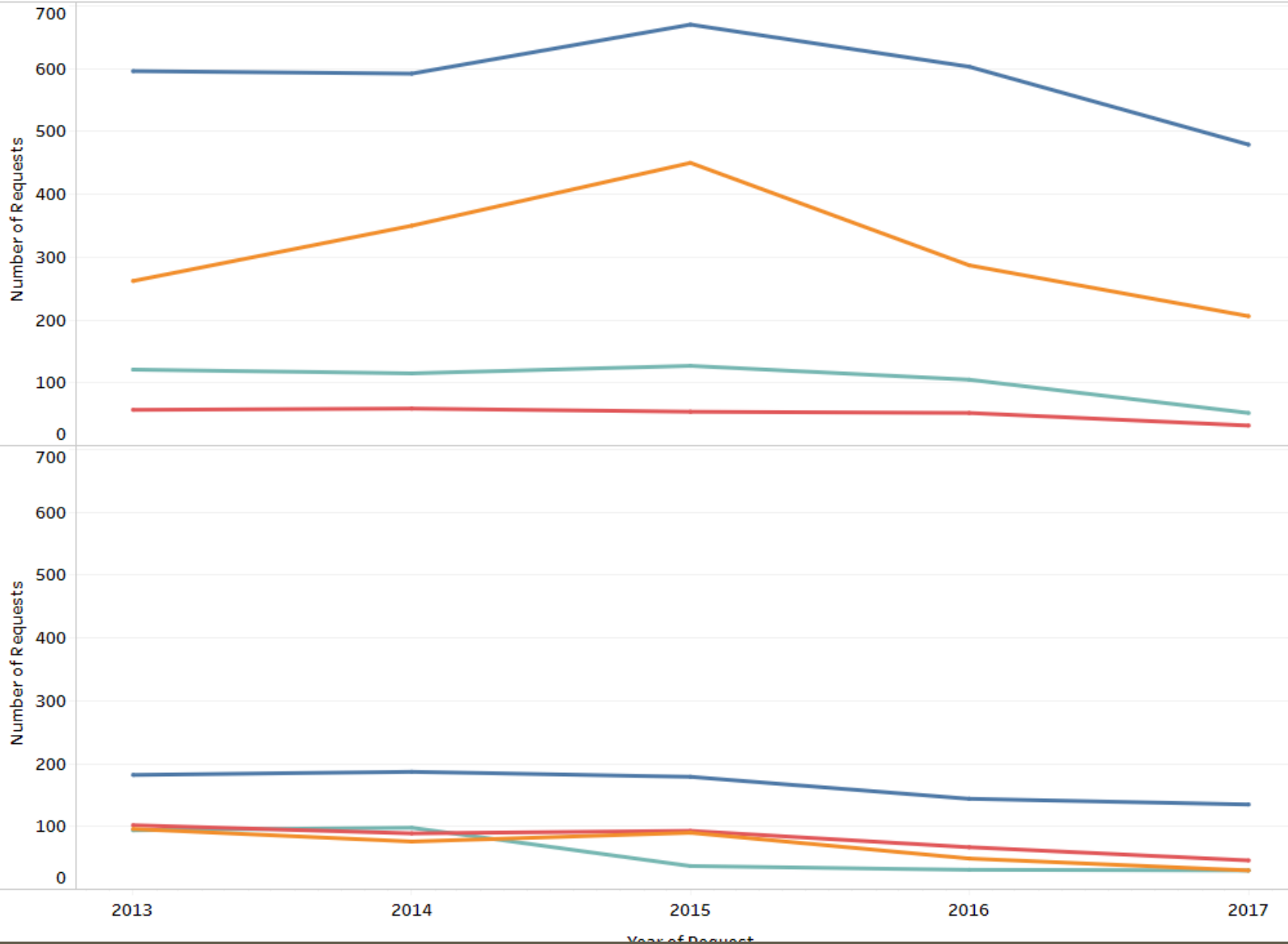
Status
(All)

Collection
■ Biological Sciences
■ Chemistry
■ Mathematics
■ Physics

Request T..

Article/Ch..

Book etc.



SUPPORTING DECISIONS

Heather Scalf and Karen Harker

WHAT SUBJECTS SHOULD LIAISONS FOCUS ON SELECTING?

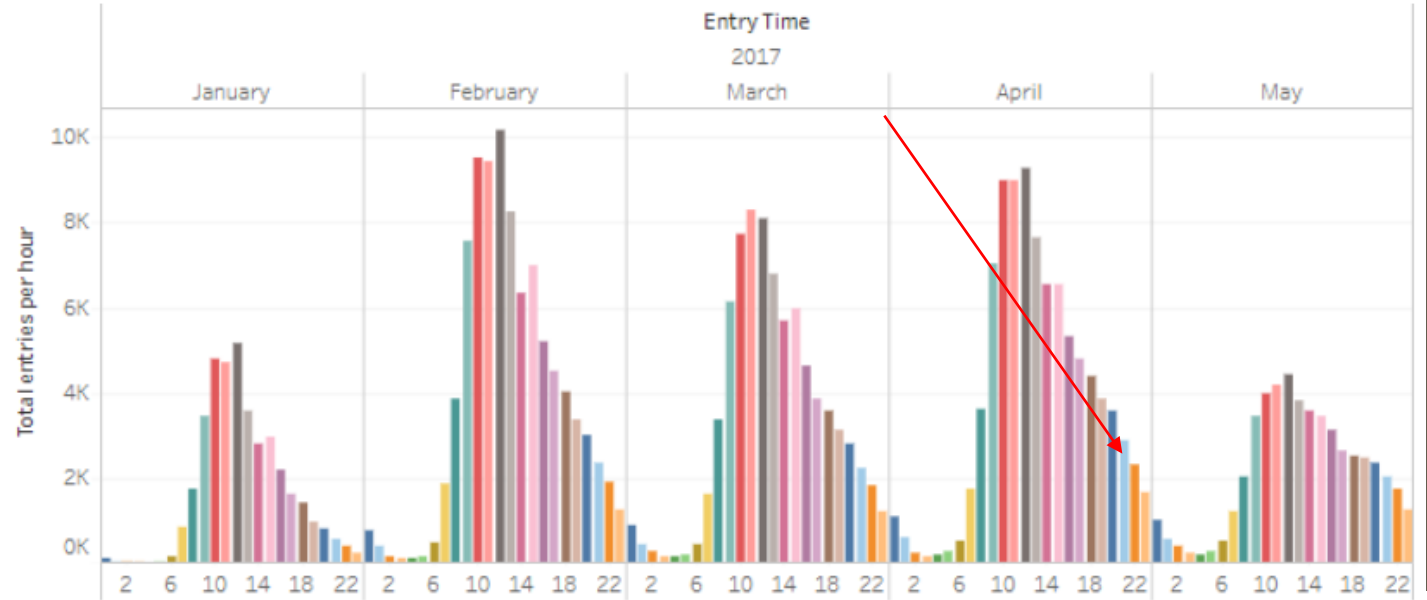
- Based on
 - Titles available DDA
 - Circulations of print
 - Interlibrary loan requests
- Comparisons of specific subjects within a broad collection

WHICH SUBJECT-BASED COLLECTIONS ARE WEAKEST?

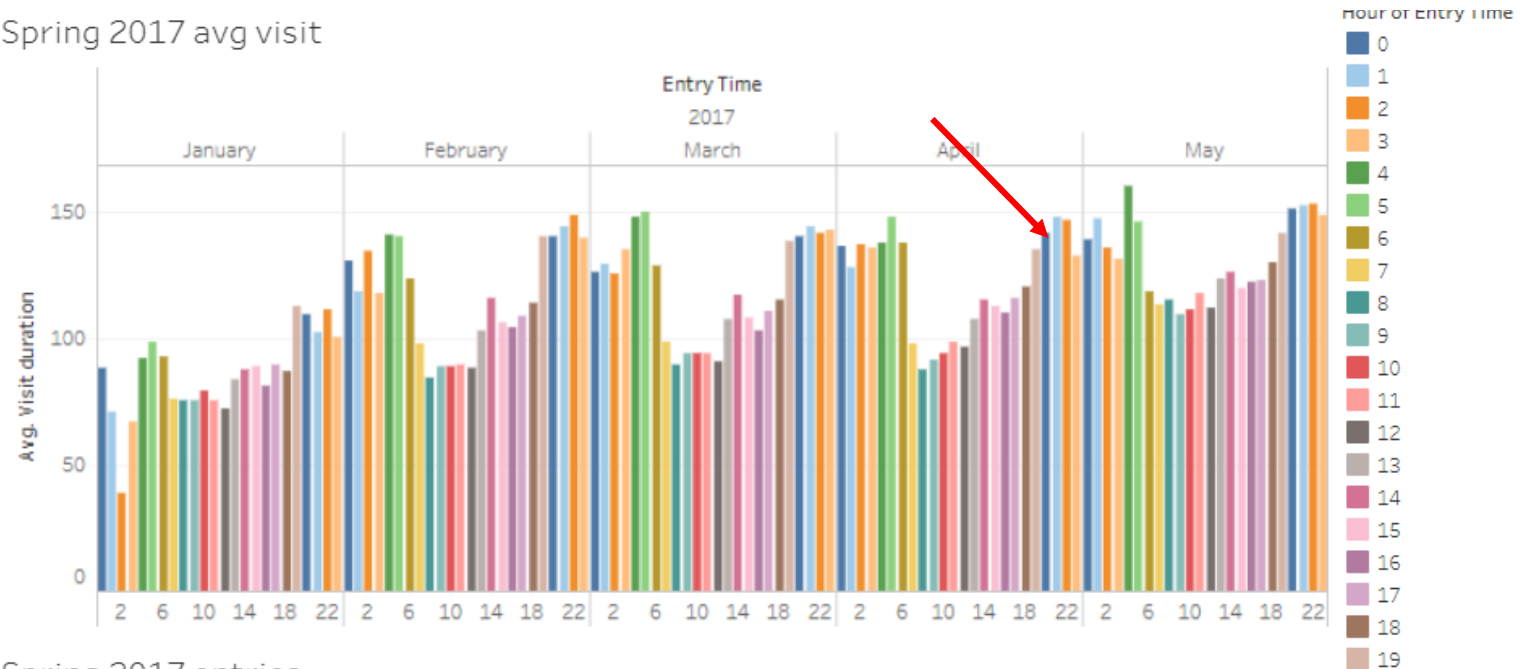
- Based on
 - Titles available DDA
 - Circulations of print
 - Interlibrary loan requests
- Comparisons across the collections



Spring 2017 entries



Spring 2017 avg visit



https://public.tableau.com/shared/Y7FPXWG76?:display_count=yes

Q & A