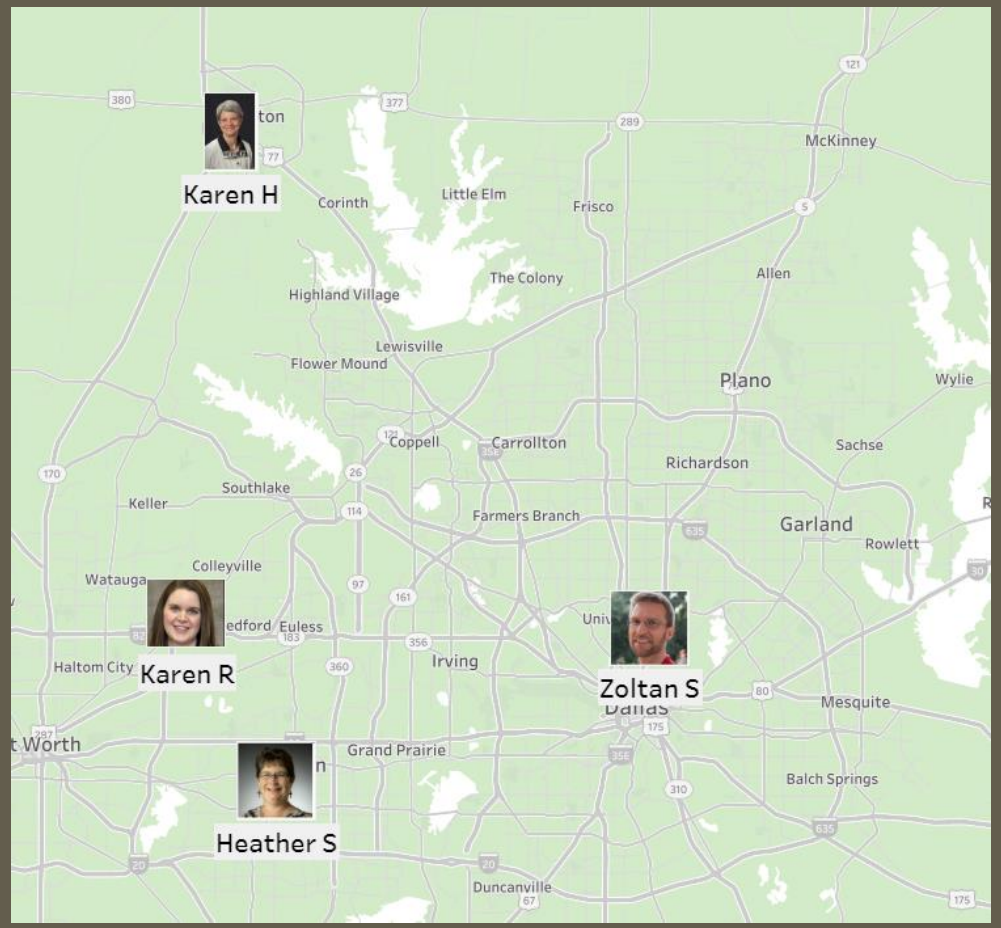
TABLEAU: INTERACTIVE DATA VISUALIZATIONS FOR YOUR LIBRARY

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

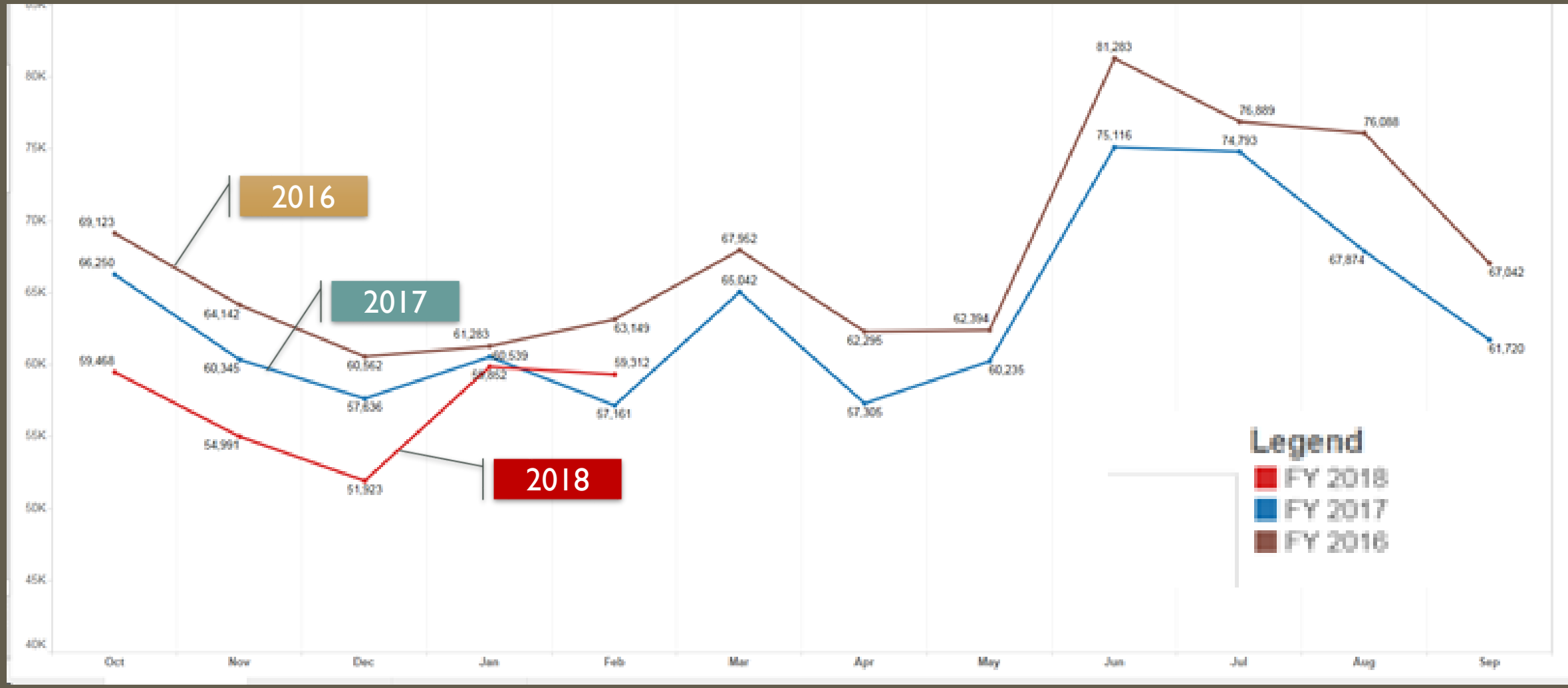
WHY USE VISUALIZATIONS?

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							

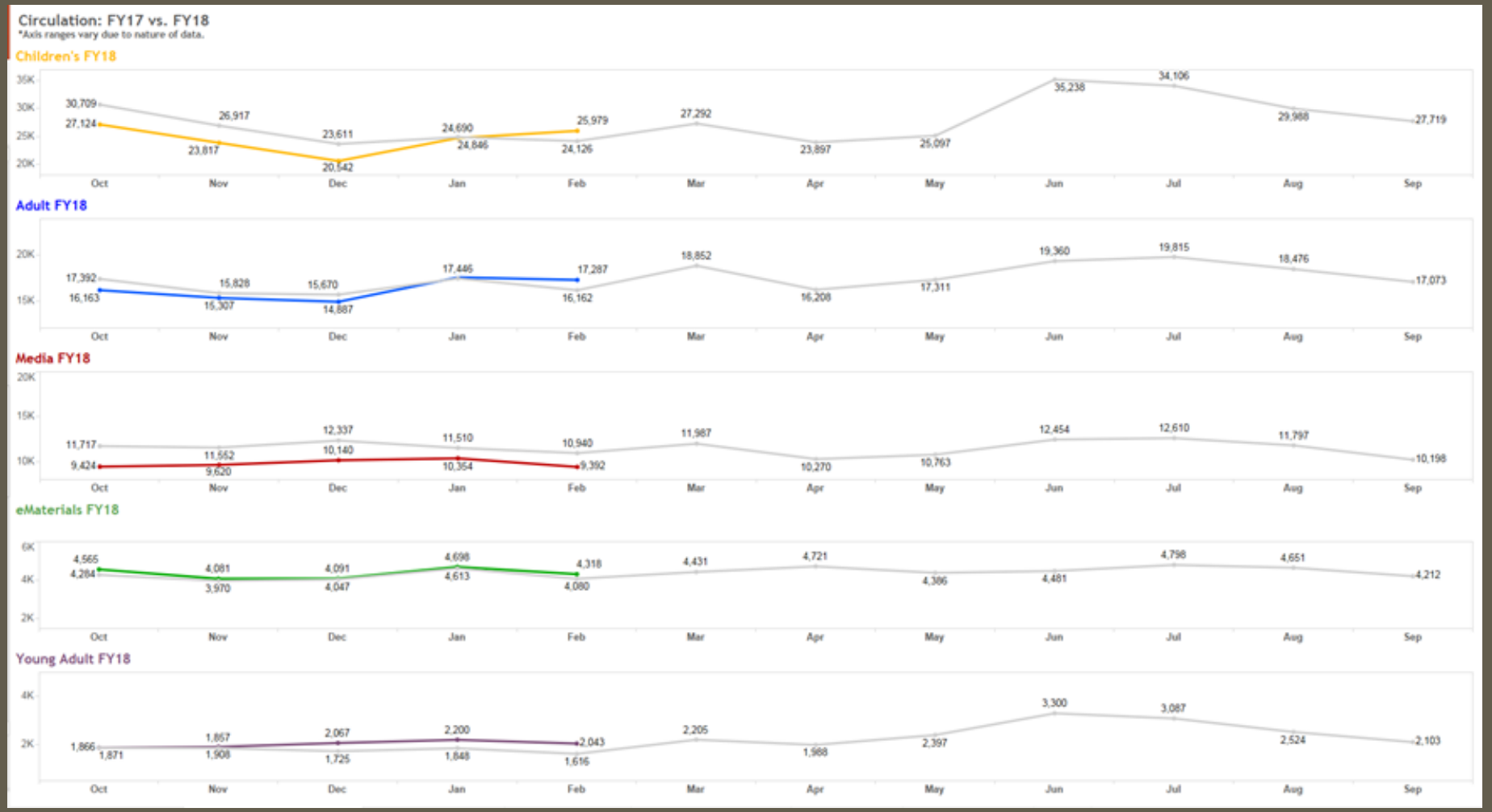
*How does this fiscal year's **circulation** **compare** with the last two fiscal years?*



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?*



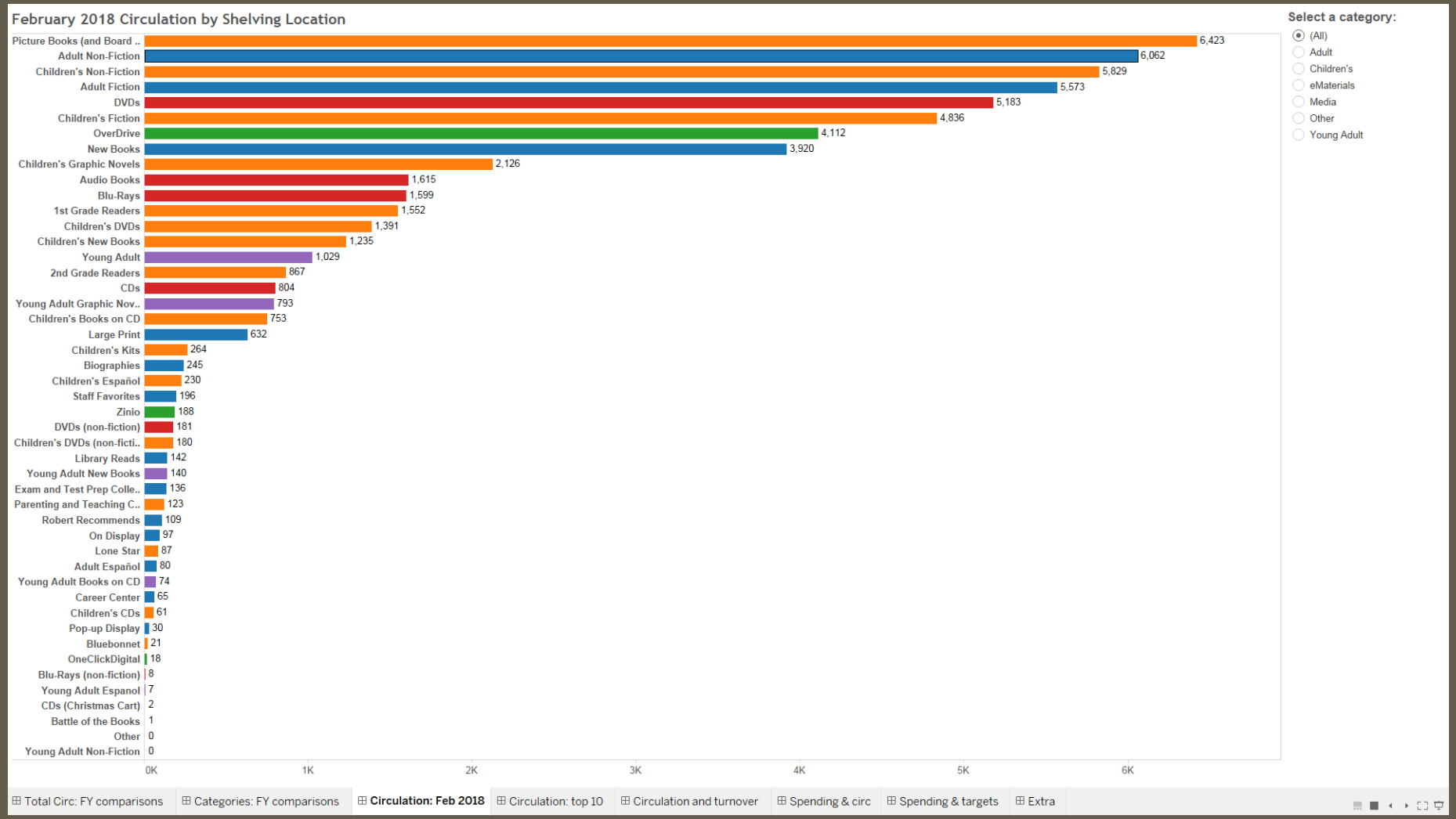
STAKEHOLDERS

Karen Raborn and Zoltán Szentkárilyi

COLLECTION DEVELOPMENT LIBRARIANS

Monthly visualizations ***track performance***
and ***inform decisions***

*How well are **my collections** circulating?*



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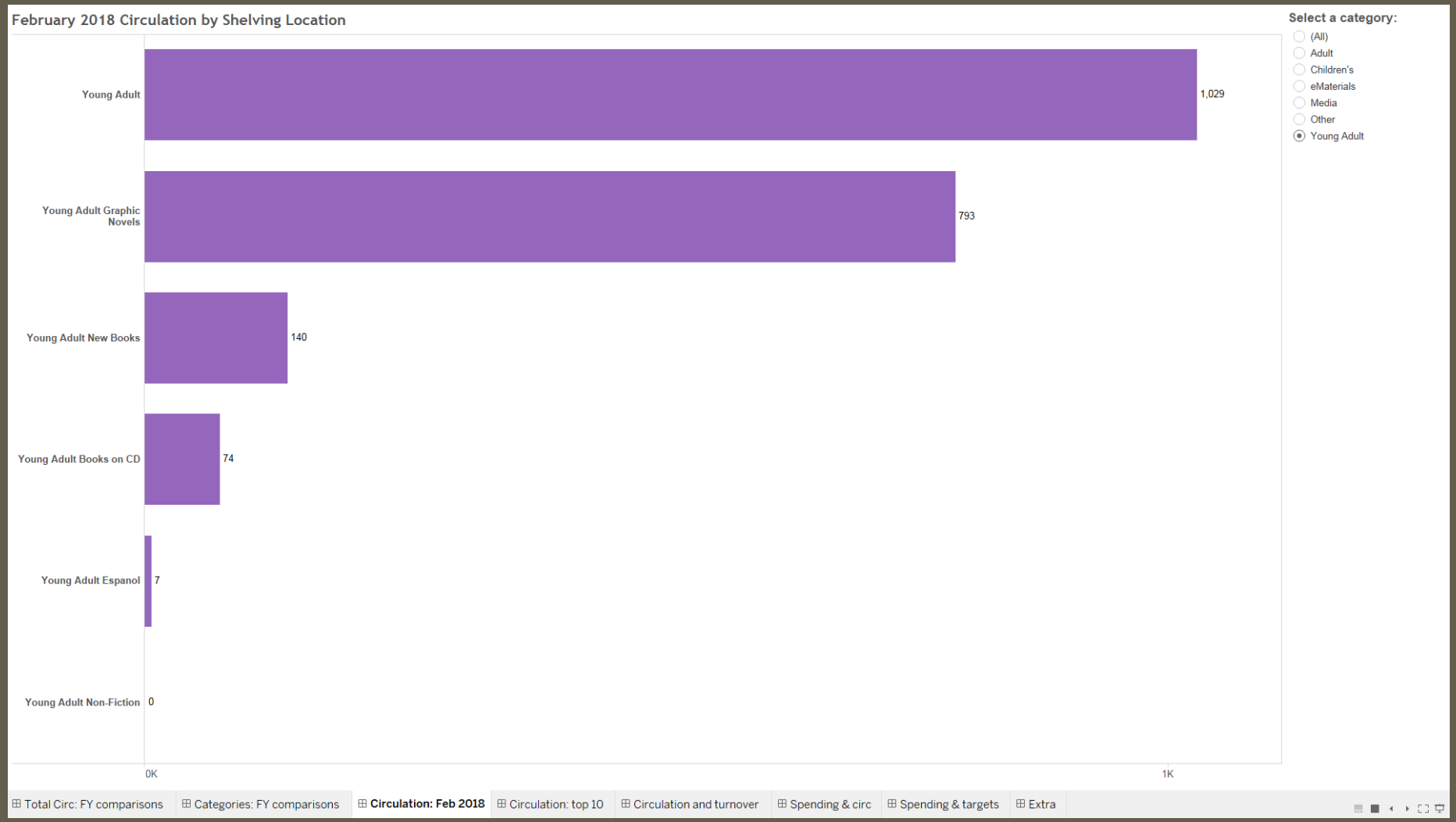
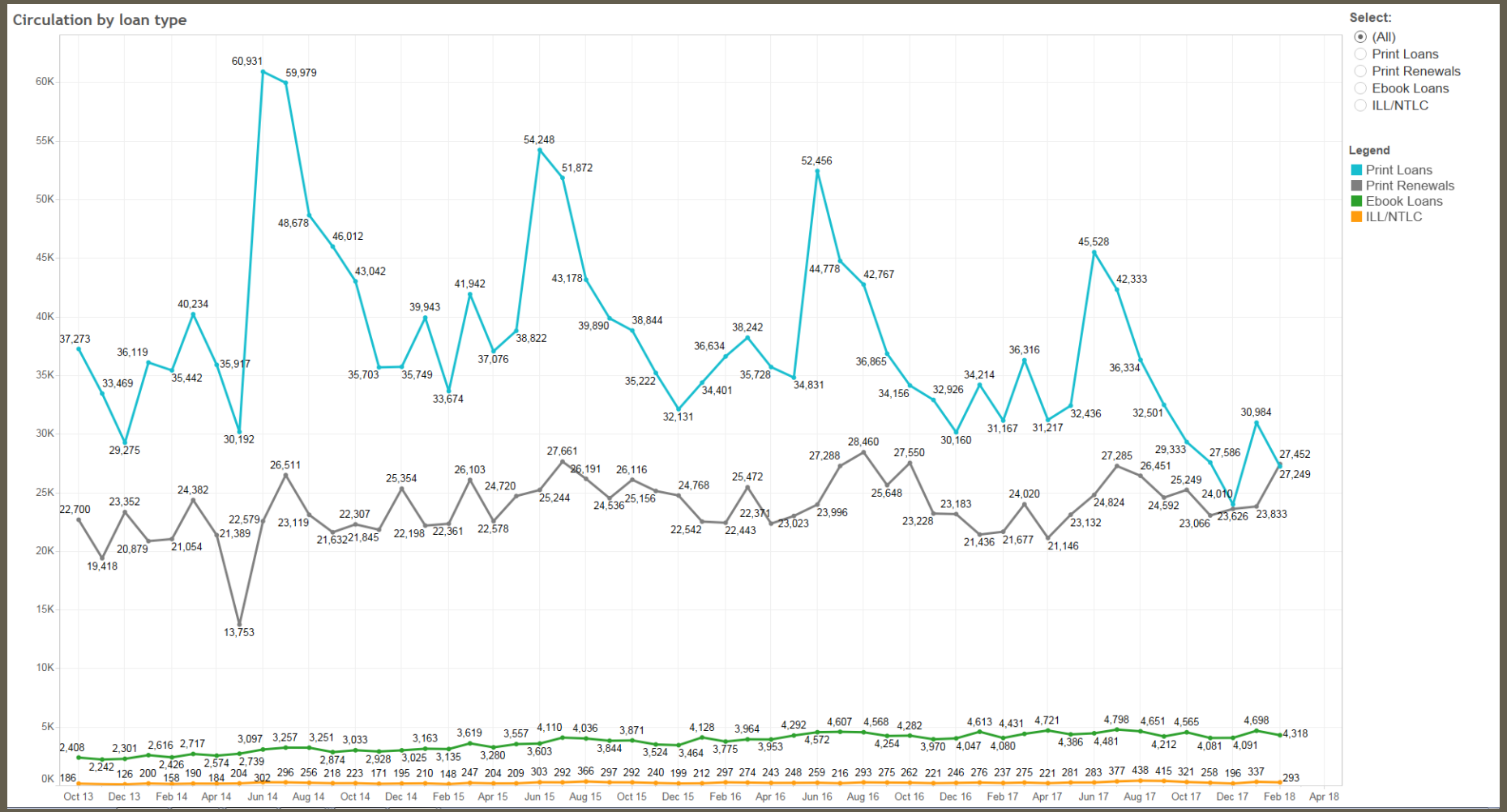


LIBRARY BOARD AND LIBRARY ADMINISTRATION

Monthly visualizations ***engage*** and ***update stakeholders***

What are the components of our circulation?



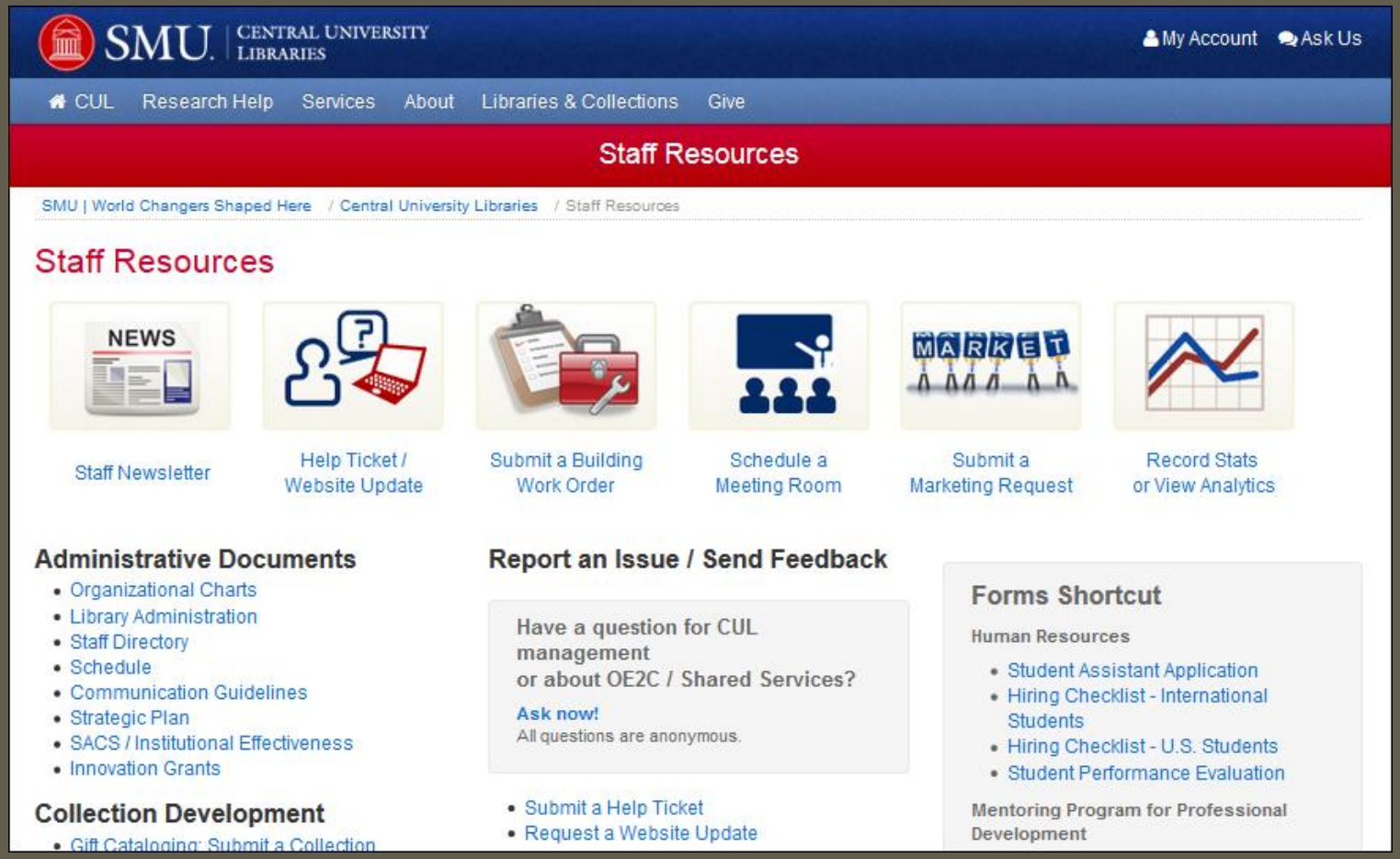
MORE VISUALIZATIONS

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

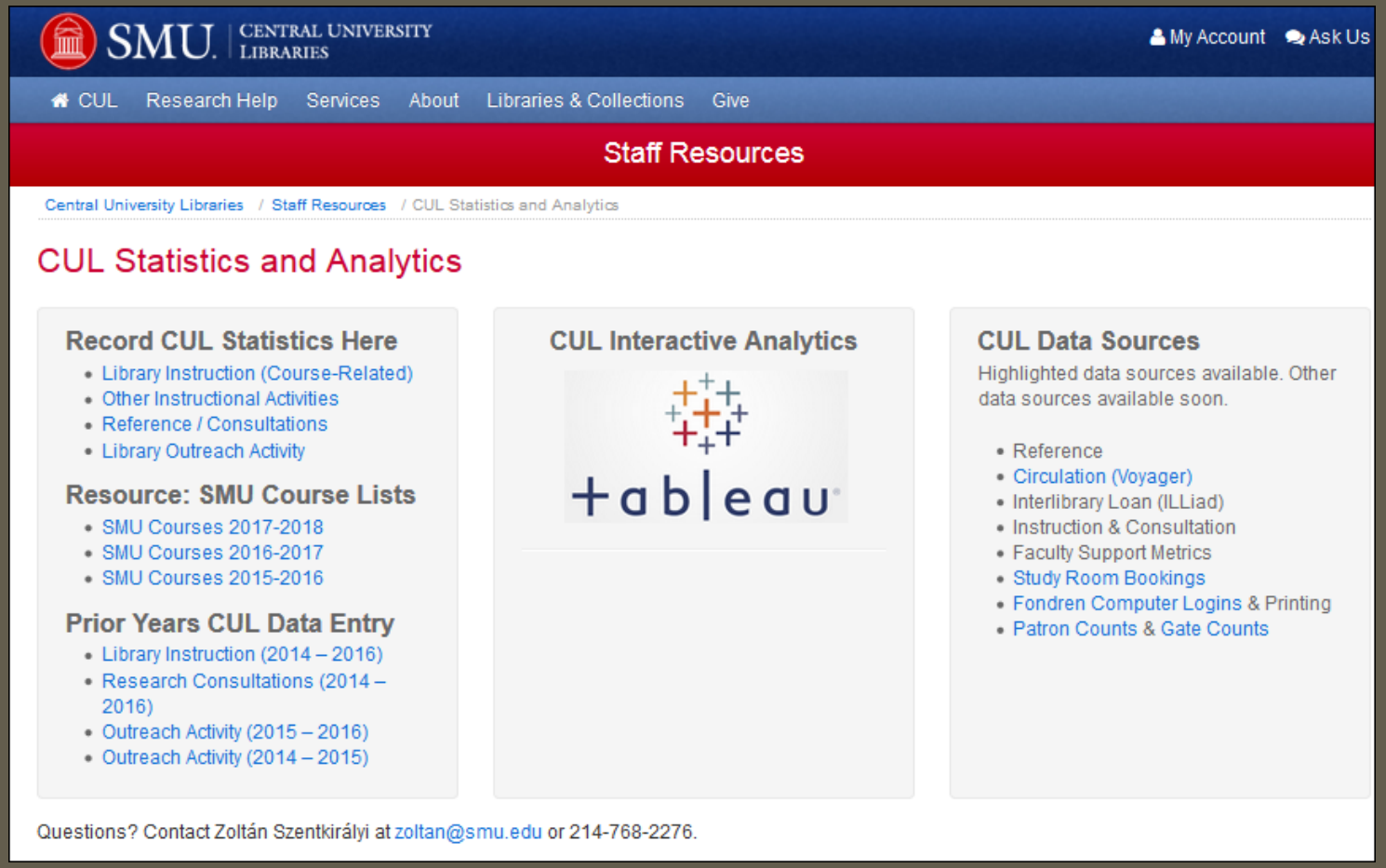
VALUE OF VISUALIZATIONS (ZOLTAN)

Visualizations posted online ***make data available*** to stakeholders and the public

LIBRARY ANALYTICS - WEB PAGE



LIBRARY ANALYTICS - WEB PAGE



SMU. CENTRAL UNIVERSITY LIBRARIES

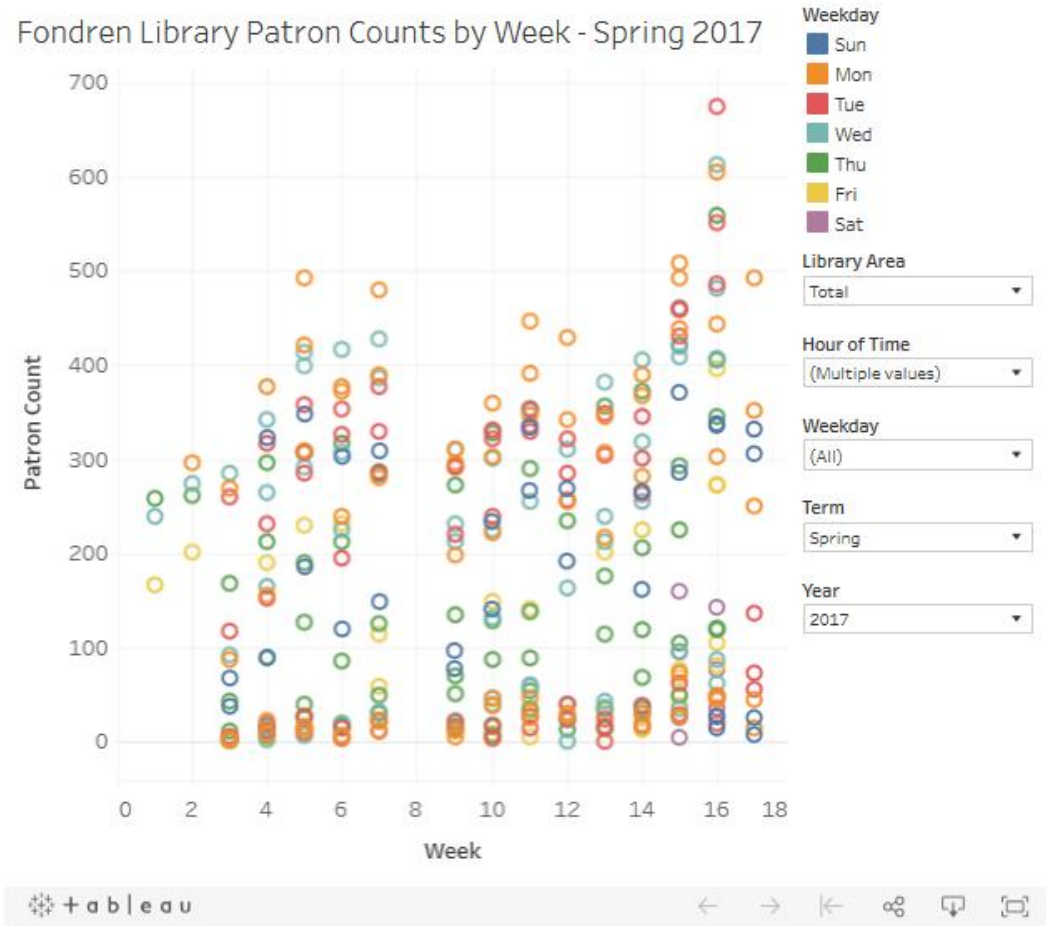
My Account Ask Us

CUL Research Help Services About Libraries & Collections Give

Library Analytics

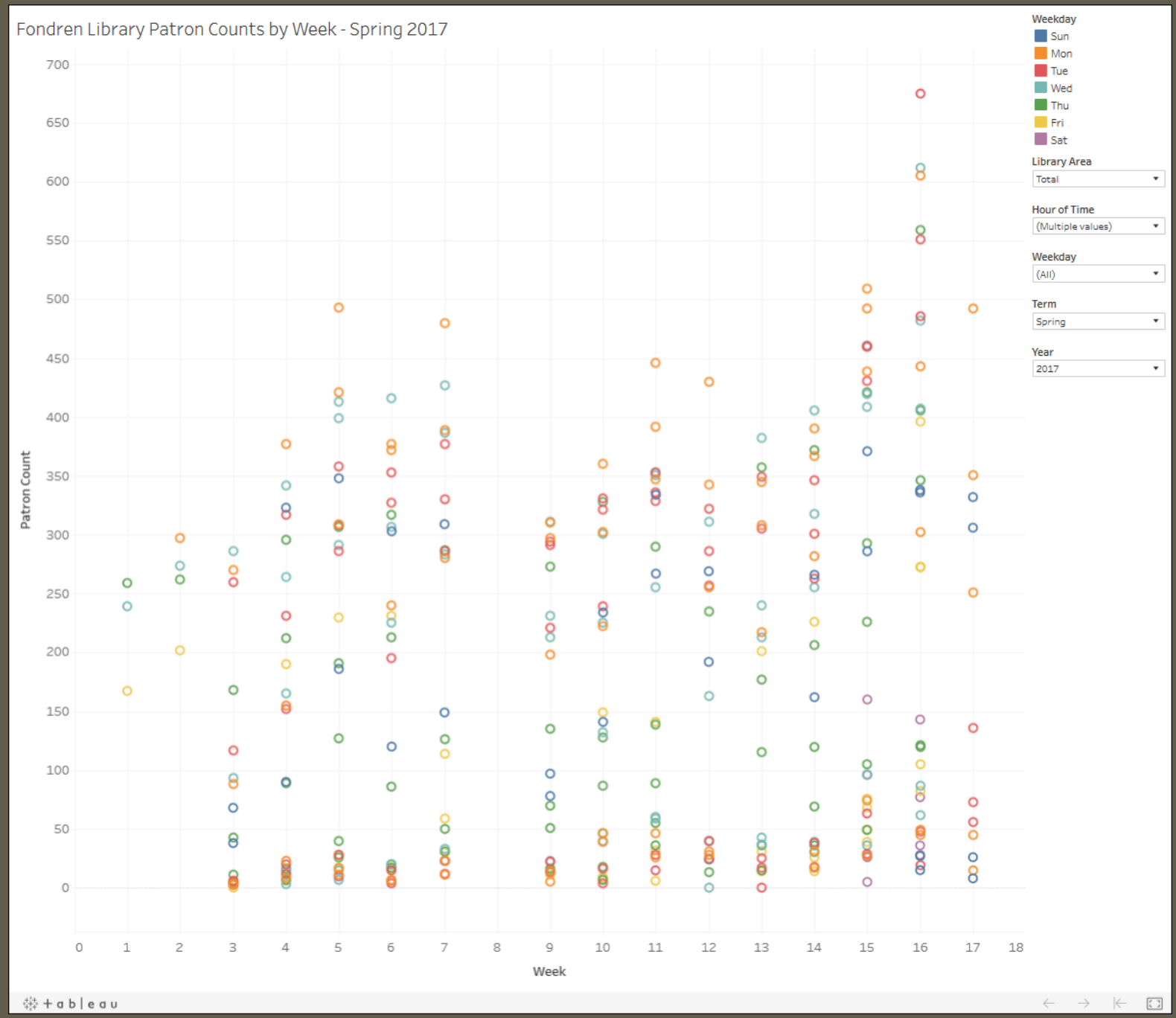
Staff Resources / CUL Statistics and Analytics / Fondren Library Patron Counts by Week

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.



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


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
Patron Count
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Week
tableau

LIBRARY ANALYTICS - WEB PAGE

ACCESSIBLE FOR ANYONE

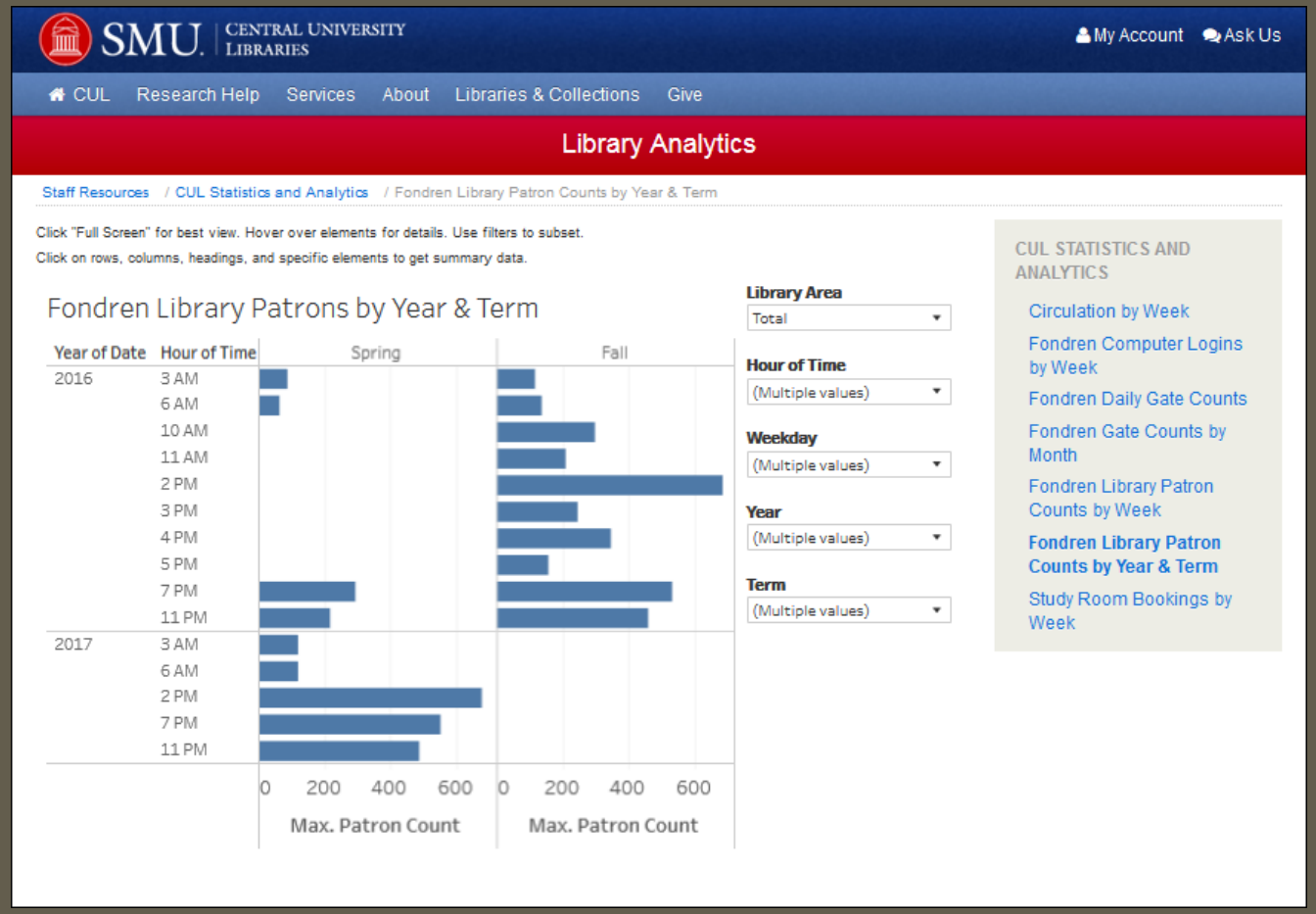
- Designed for library staff, but viewable on any browser with no login required.
  - Easily found by librarians and library staff seeking to review trends for planning.
  - Web link can be sent via email to other stakeholders to review data as well.

SERVES DIFFERING DATA NEEDS

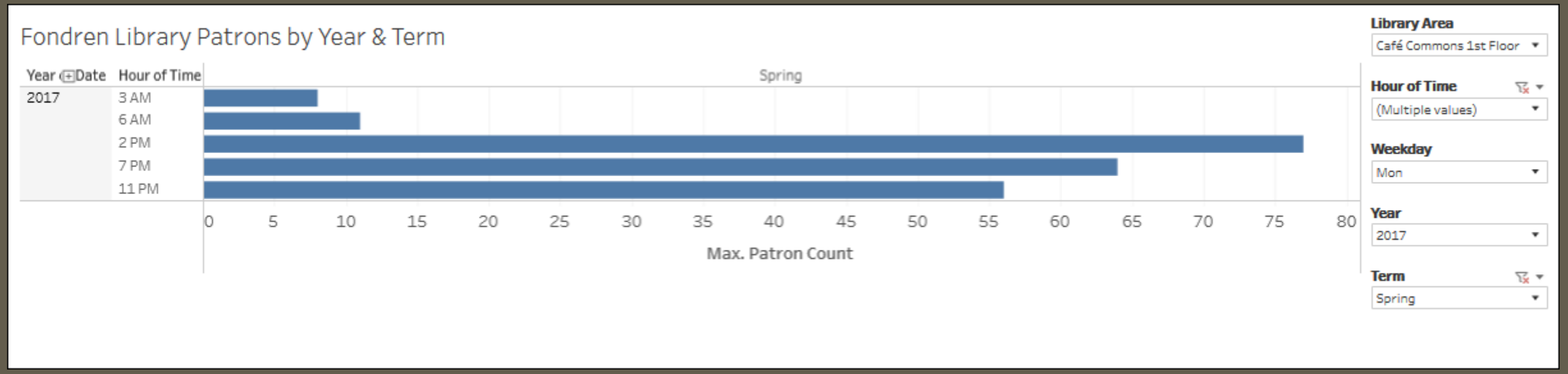
- Different stakeholders may be interested in different types of library activity.
  - Different areas of library operation represented.
  - Data can be viewed in aggregate/summary as well as drilling down to specific details.

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

LIBRARY ANALYTICS - WEB PAGE



LIBRARY ANALYTICS - WEB PAGE



USER INTERACTIVITY

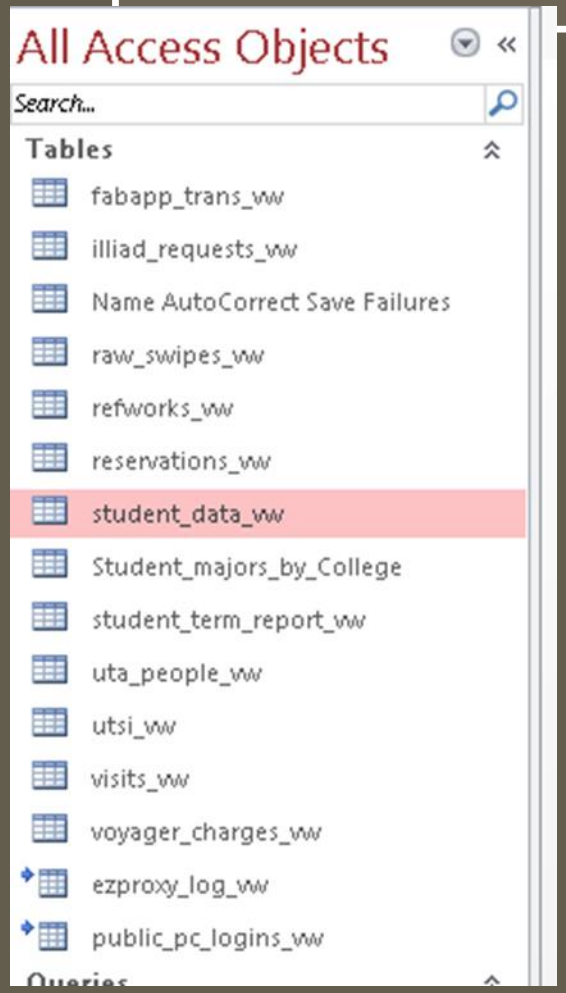
Zoltán Szentkárilyi

LIVE DEMO

INTERACTION OF DATA

Heather Scalf and Karen Harker

USING DATA TO TELL A RICHER STORY



illiad_requests_vw

id_hash	request_dat	process_typ	document_t
d27d00c41ec30623638a98	7/30/2015	Borrowing	Article
d27d00c41ec30623638a9	7/30/2015	Borrowing	Article
d27d00c41ec30623638a99	/30/2015	Borrowing	Article
d27d00c41ec30623638a98			
17ced04bfd11ccf6f25a122	7/29		
17ced04bfd11ccf6f25a122	8		
17ced04bfd11ccf6f25a122	8/		
17ced04bfd11ccf6f25a122	10/3		
17ced04bfd11ccf6f25a122	11/29/2		
17ced04bfd11ccf6f25a122	11/29/2013		hesis
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
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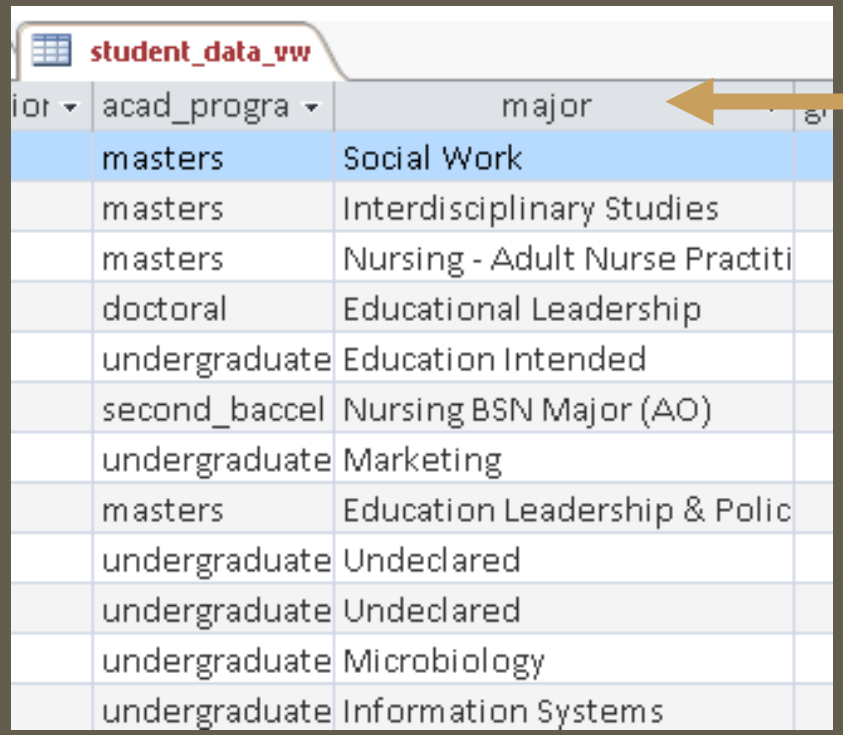
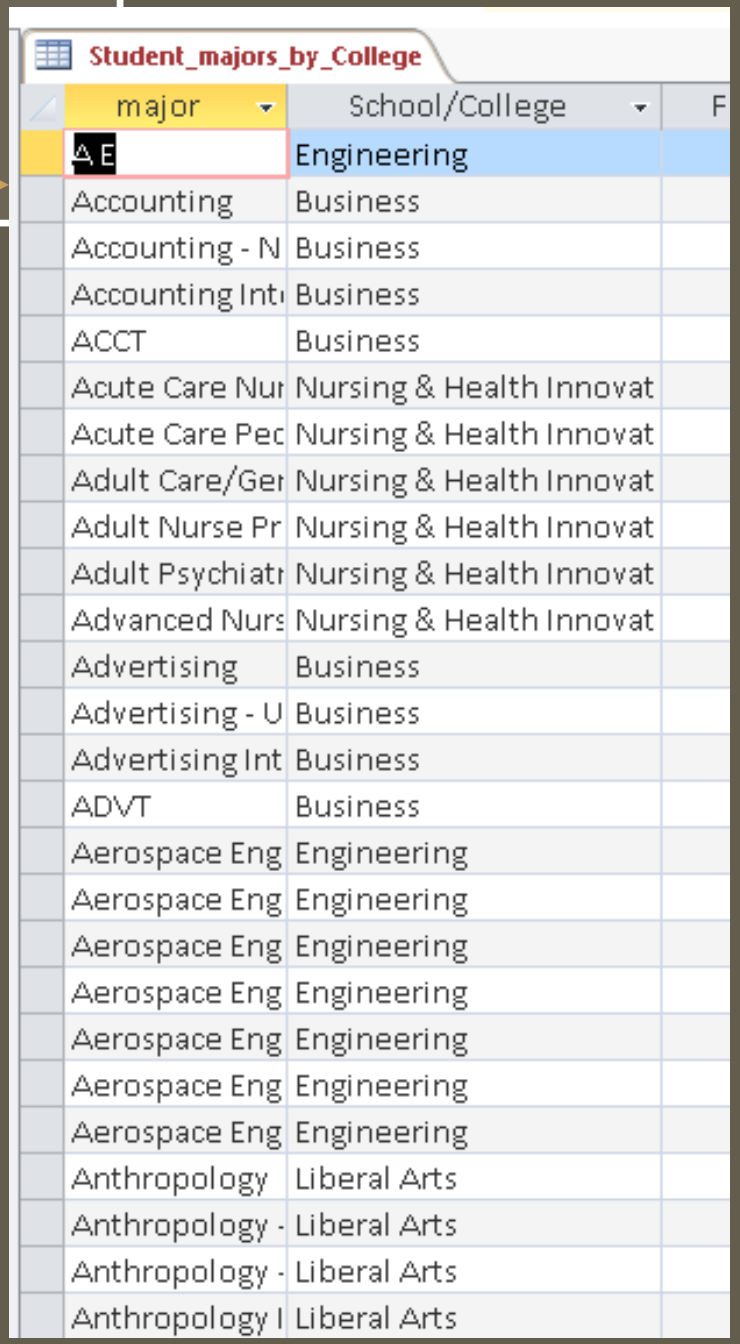
17ced04bfd11ccf6f25a122	4/2/2015	Borrowing	Thesis

SALT-ed, hashed personal identifier

CREATING LINKING ELEMENT



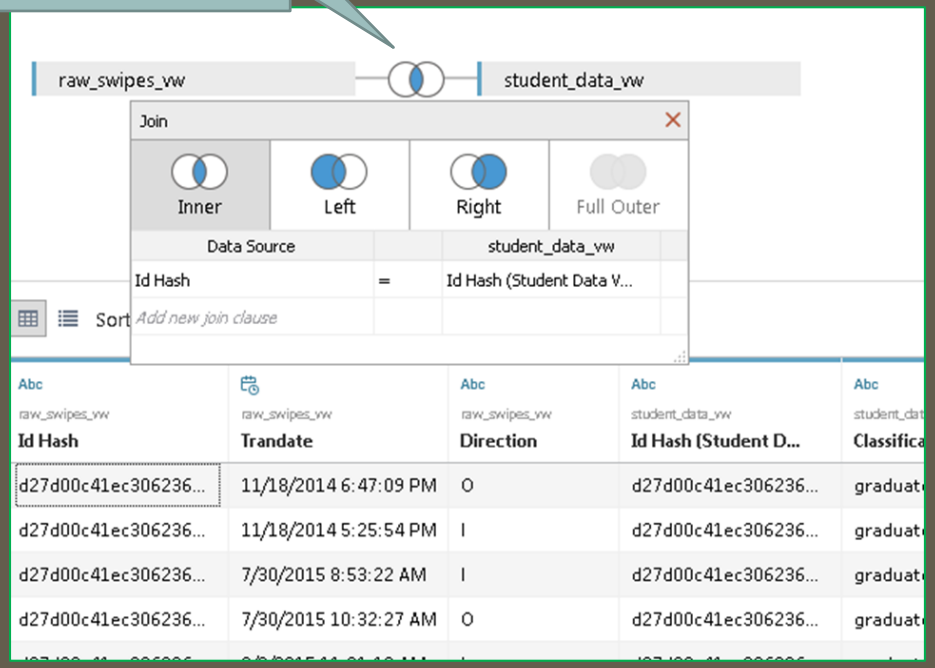


STORYTELLING USING DATA

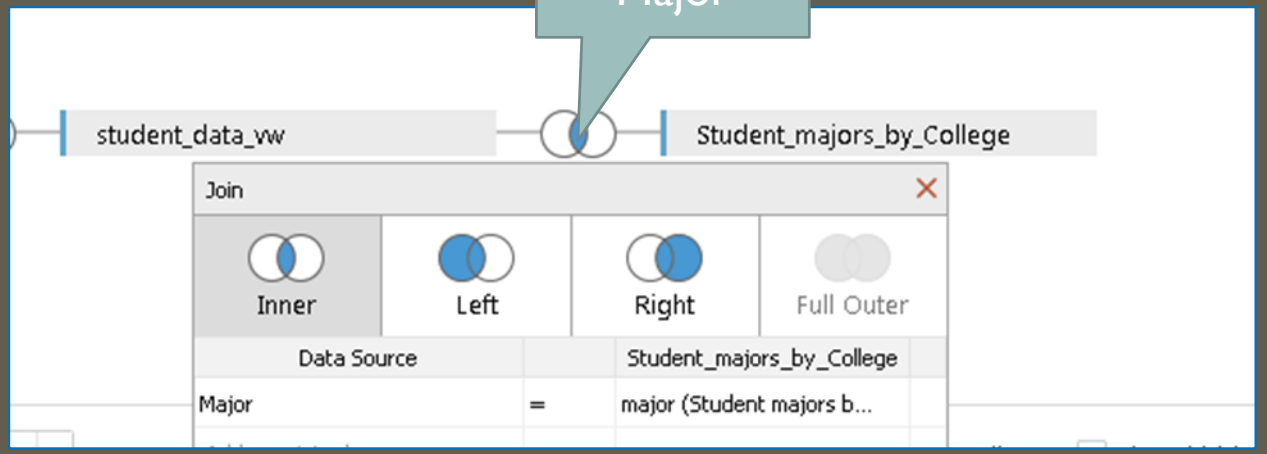
- What is the question?
  - What percentage of the Libraries resources are used by each school or college?
  - What is the usage by school or college of the Central Library?
- Does the data already exist?
- Do we need to connect/clean the data?
- Who is the story for?
  - University Administration

LINKING DATA

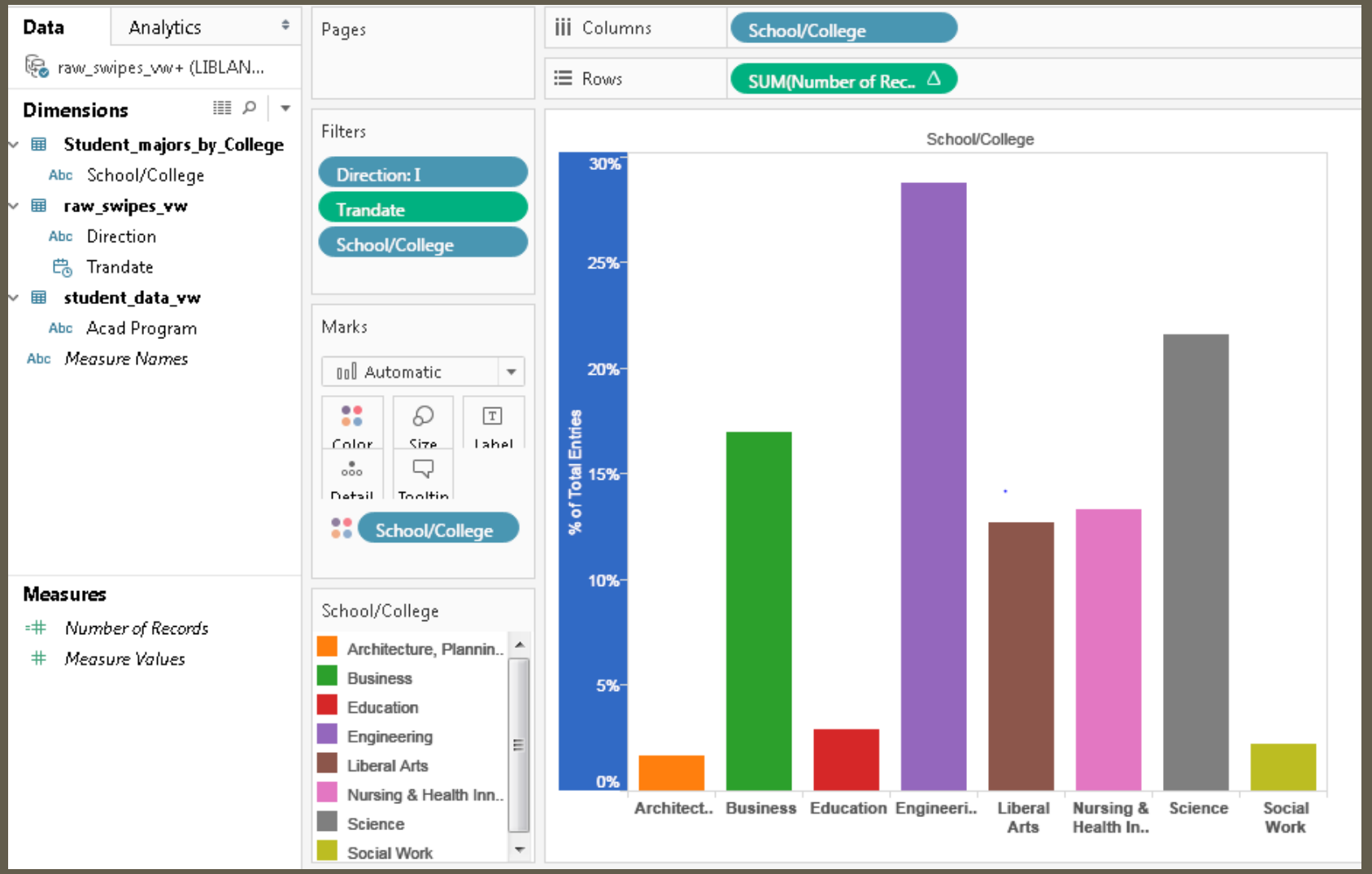
Linked by hashed ID



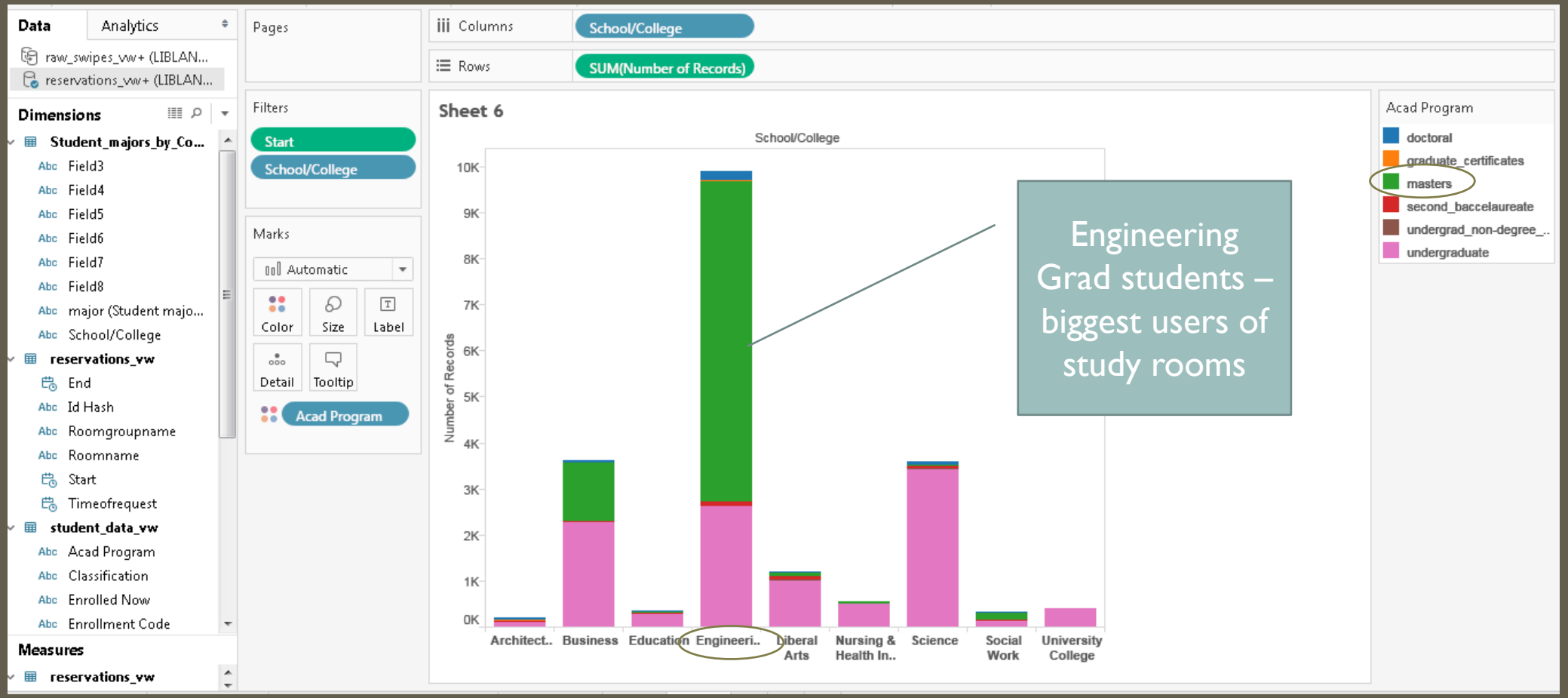
Linked by Major



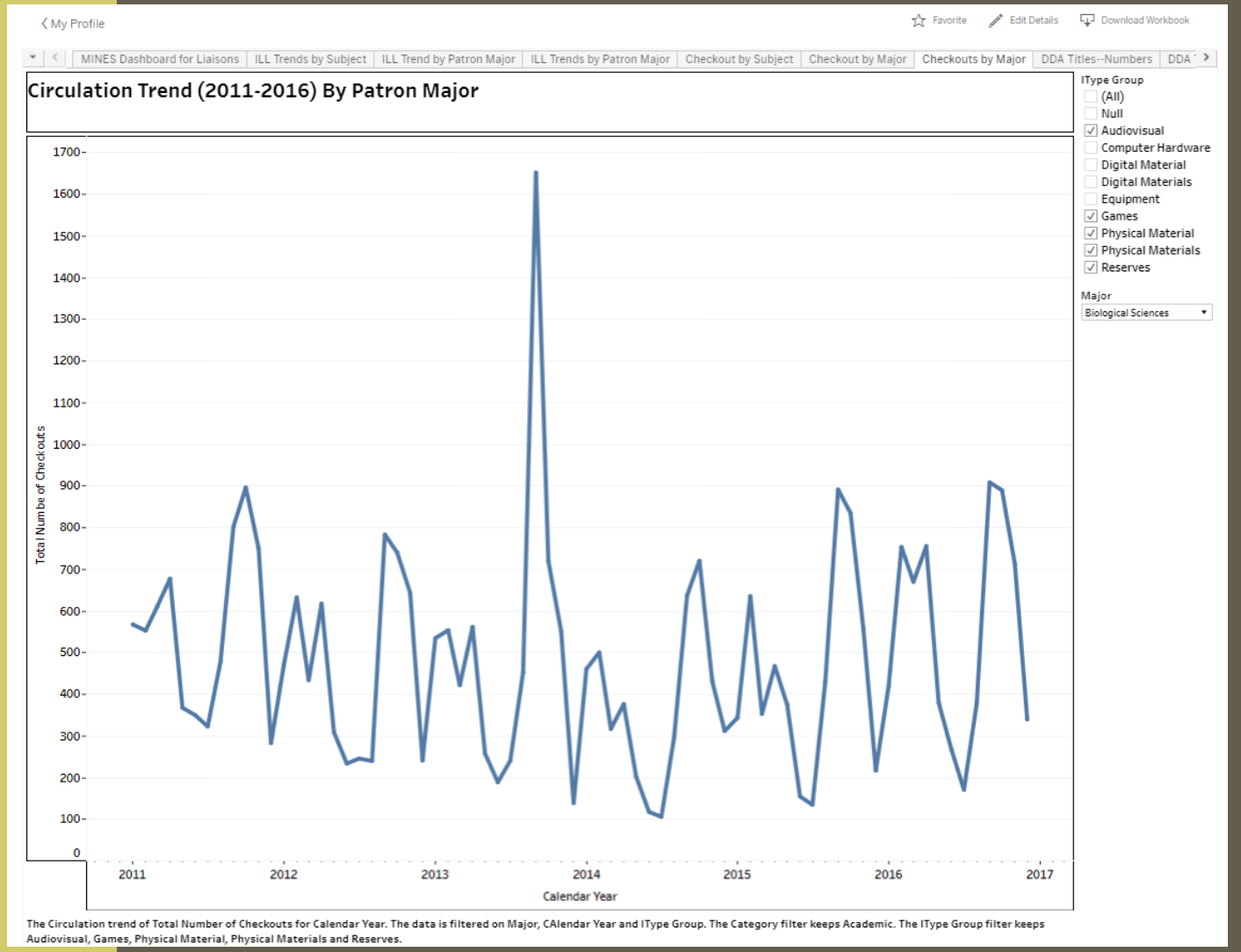
TELLING A STORY



USAGE OF GROUP STUDY ROOMS



WORKBOOK FOR SUBJECT LIAISON LIBRARIANS



WORKBOOK - BACKGROUND

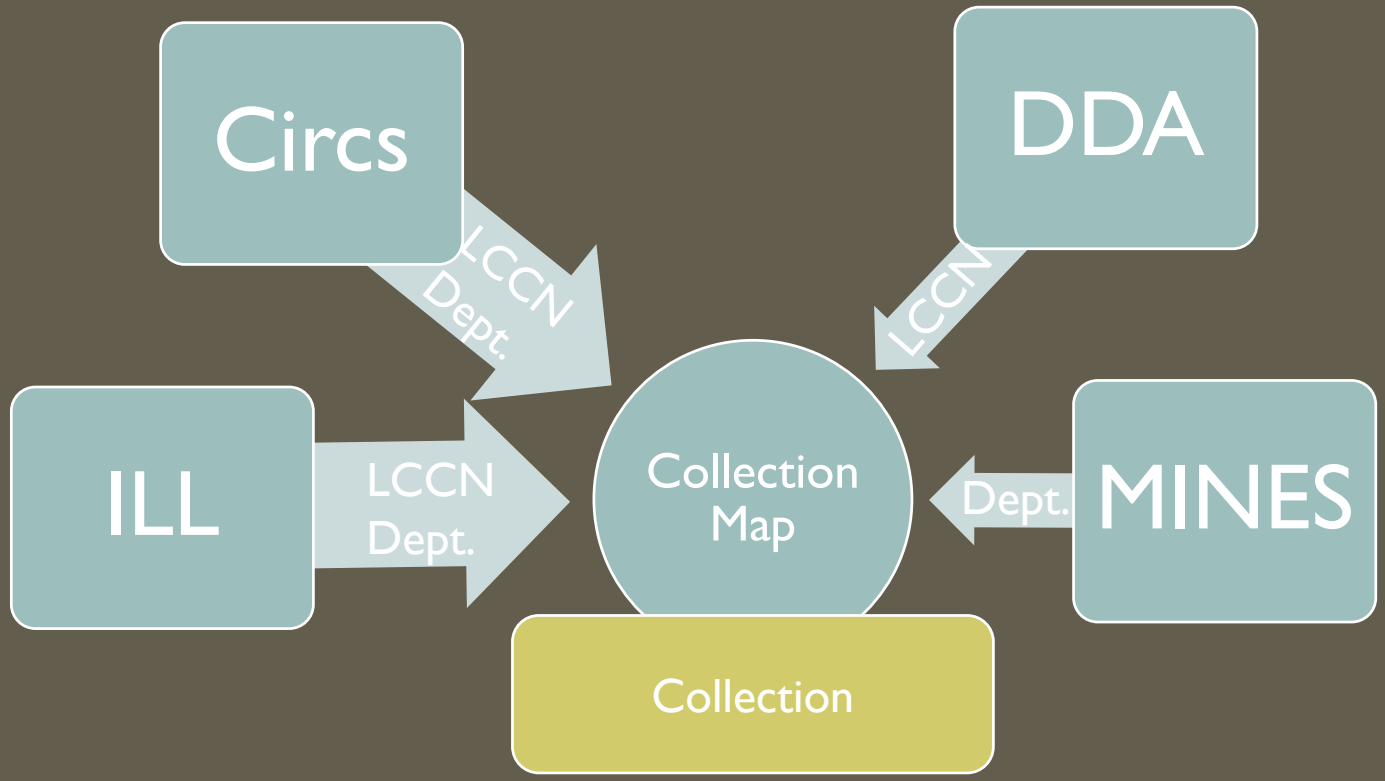
WHY IT IS NEEDED

- 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.

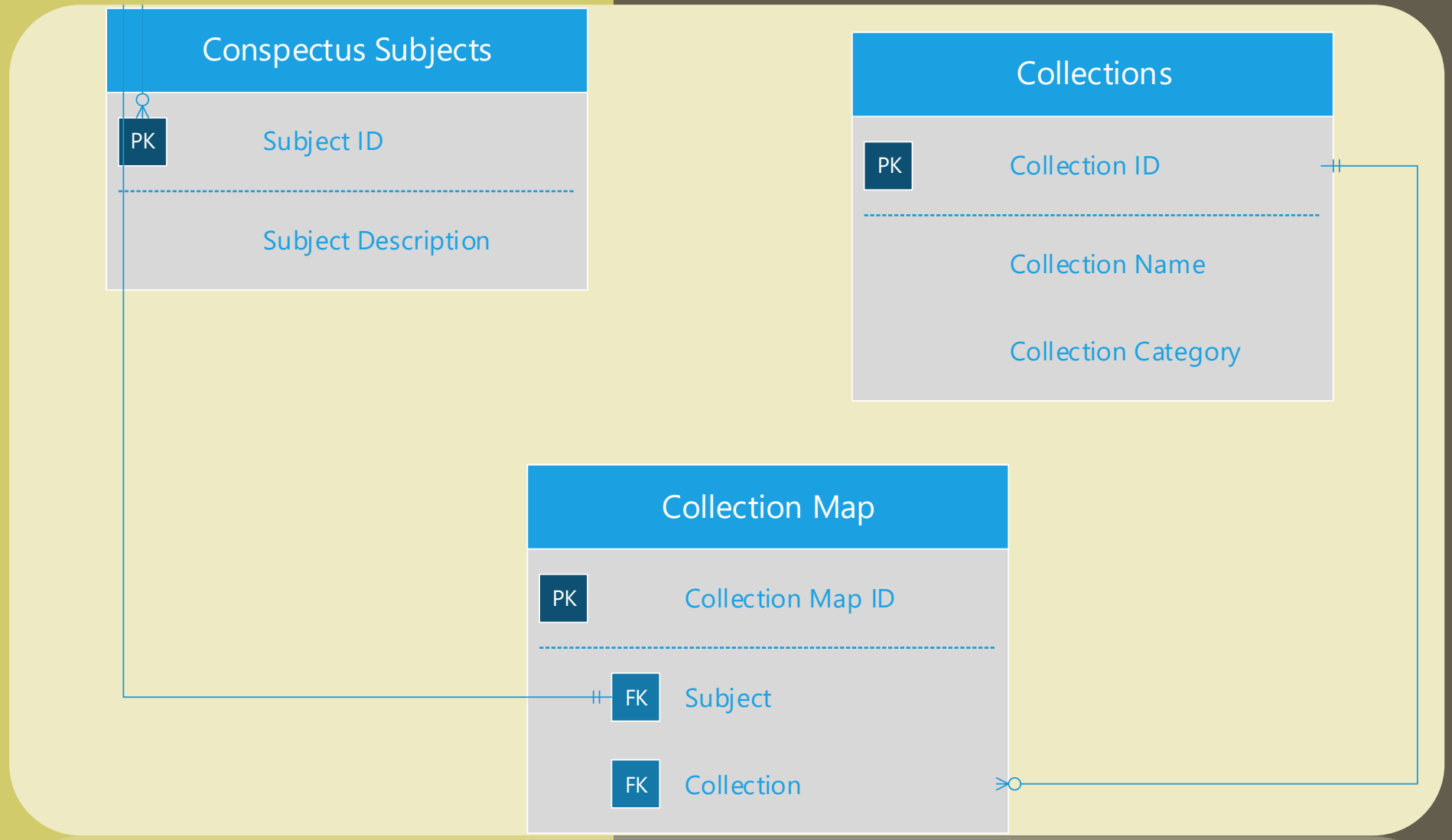
HOW IT IS USED

- 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.

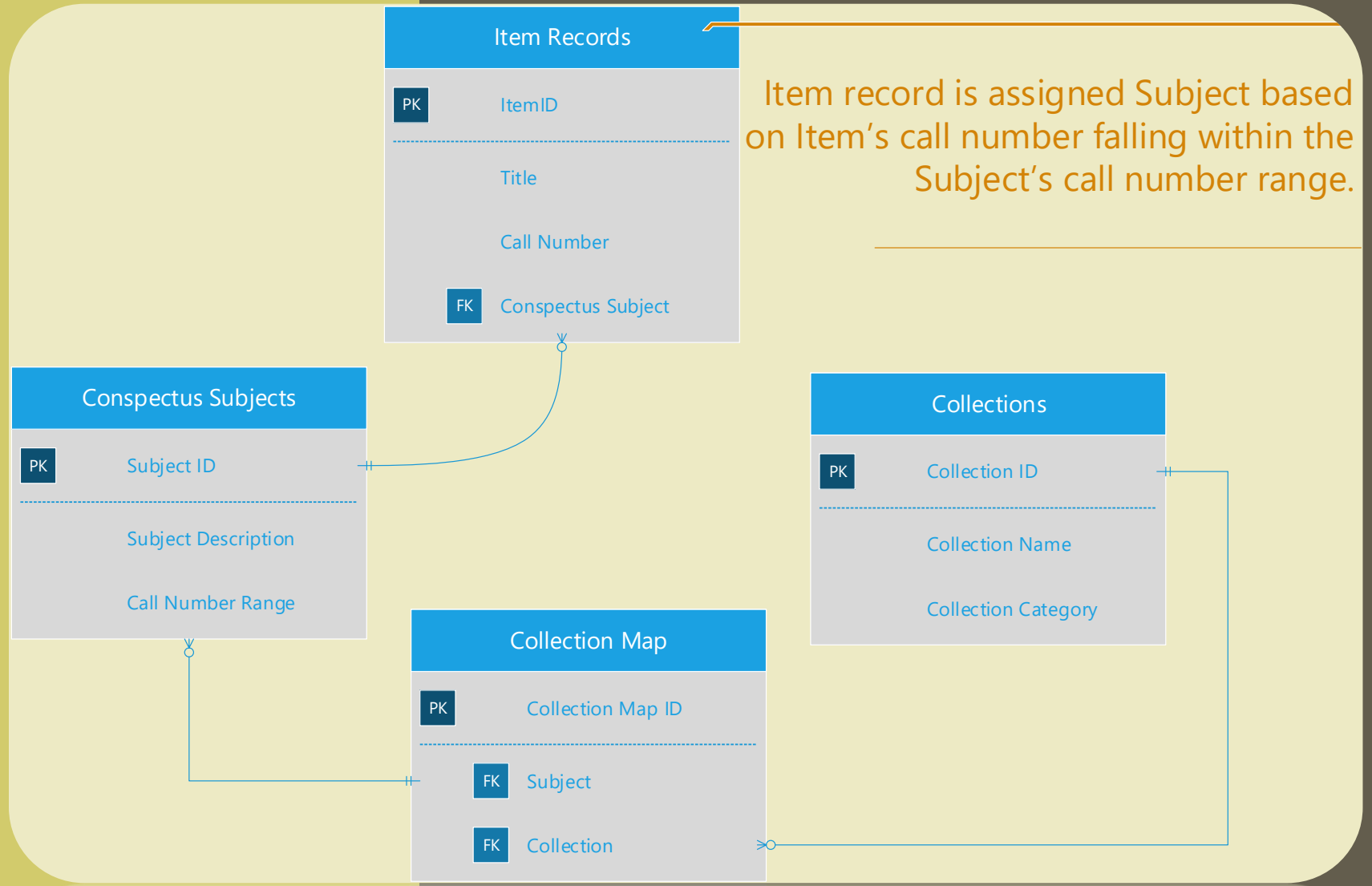
WORKBOOK - DATA



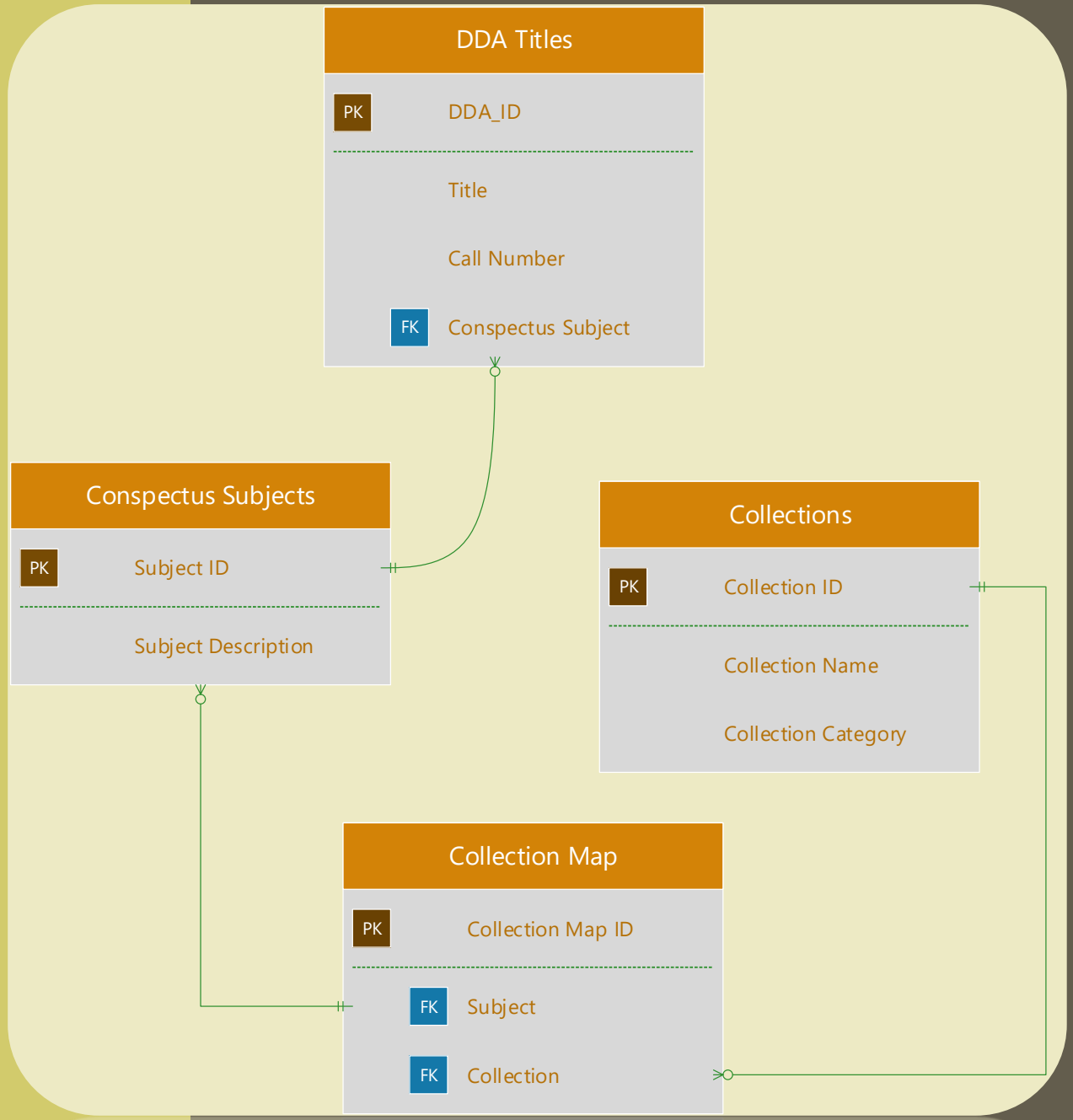
COLLECTION MAP



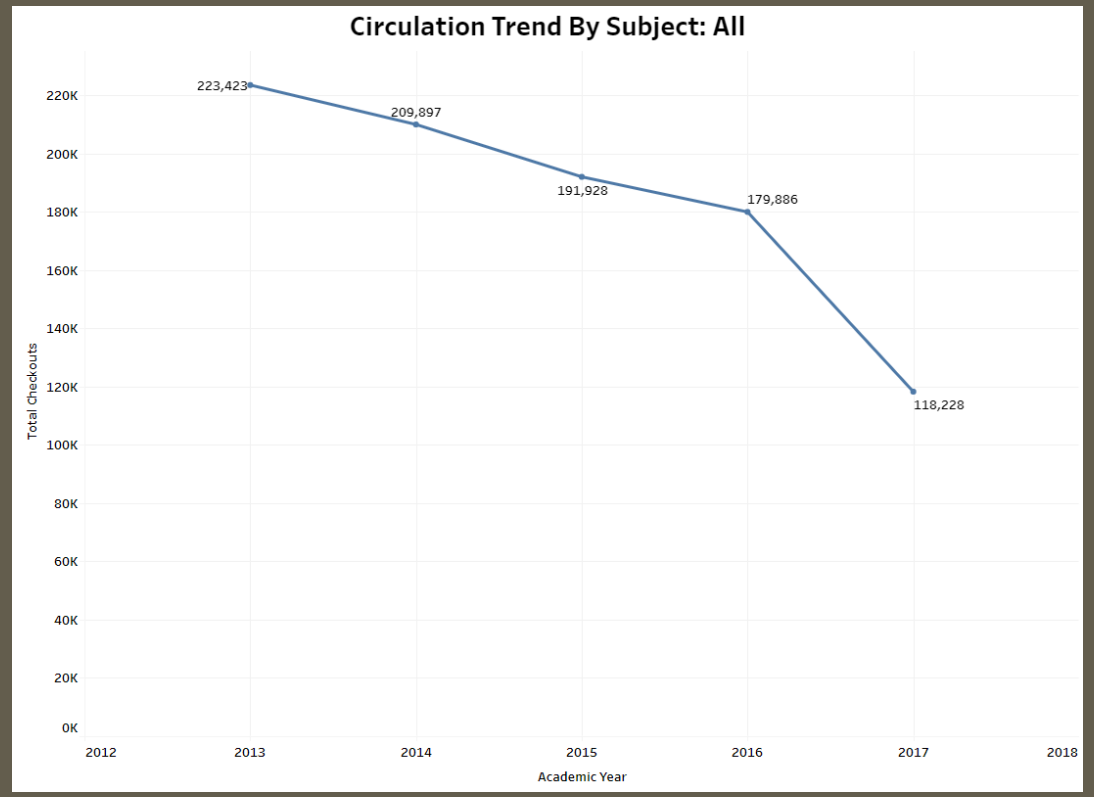
MAPPING ITEMS TO COLLECTIONS

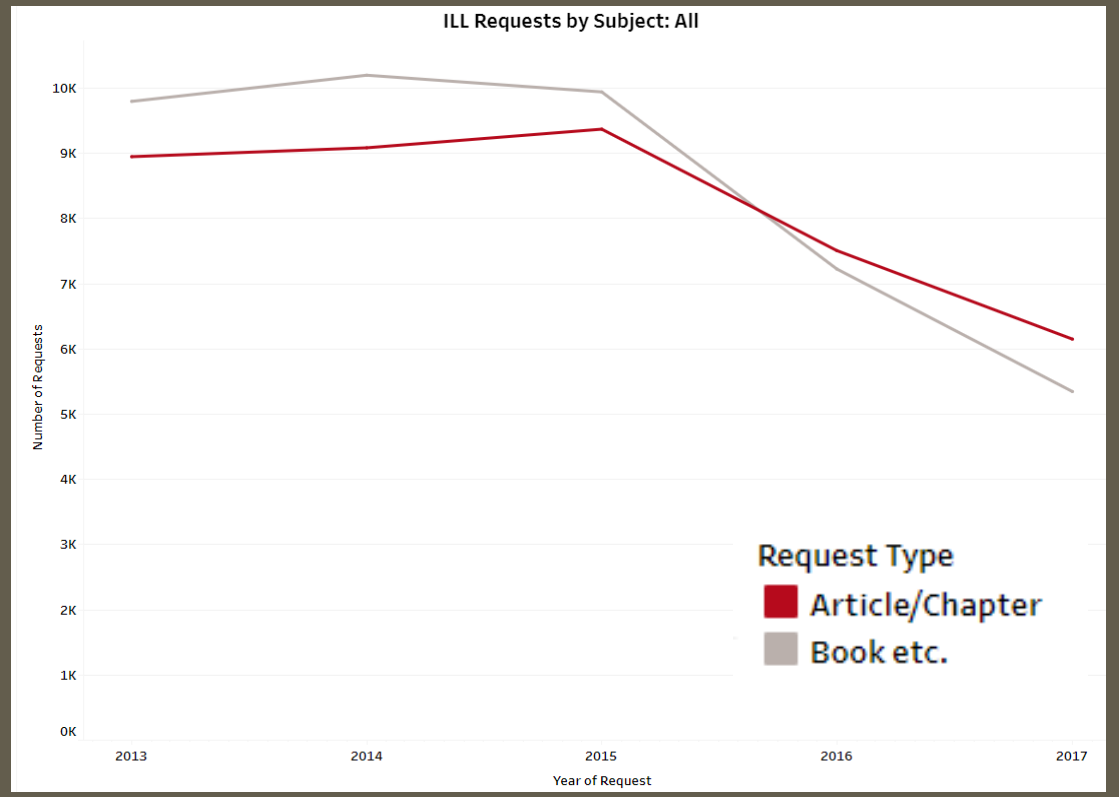


MAPPING DDA TO COLLECTIONS

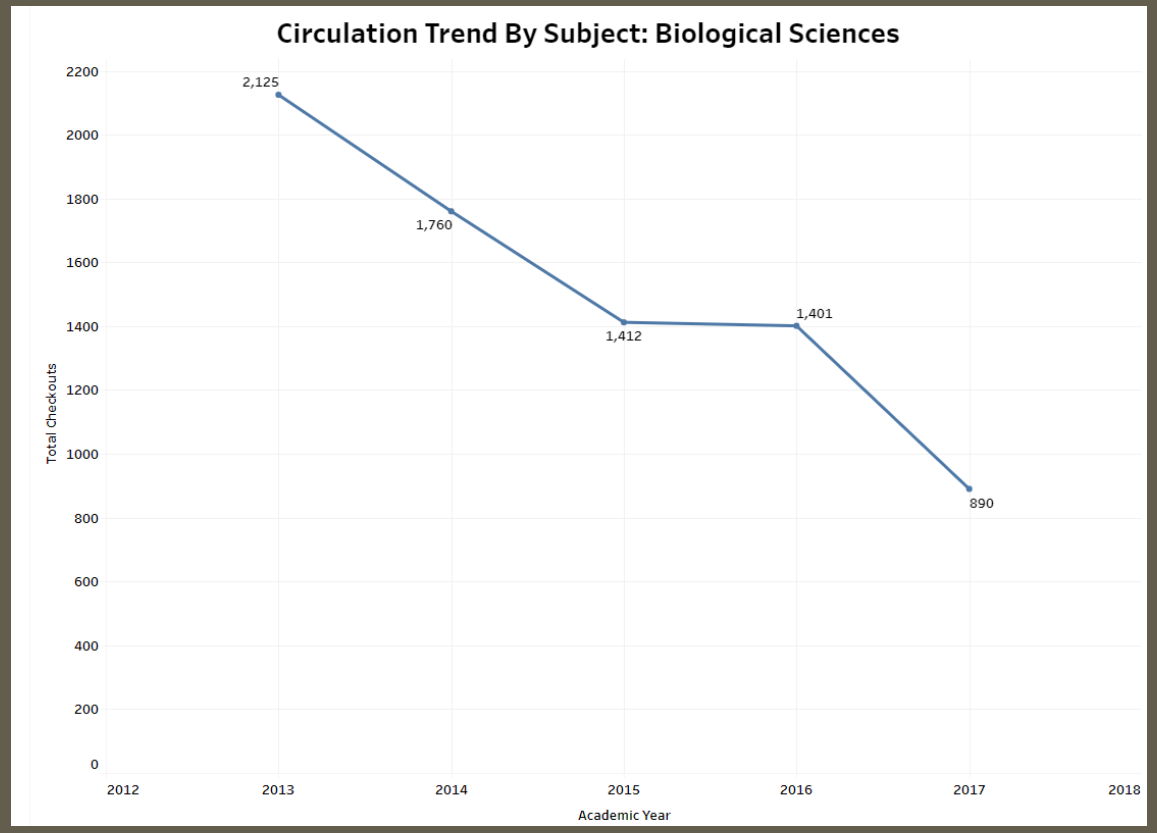


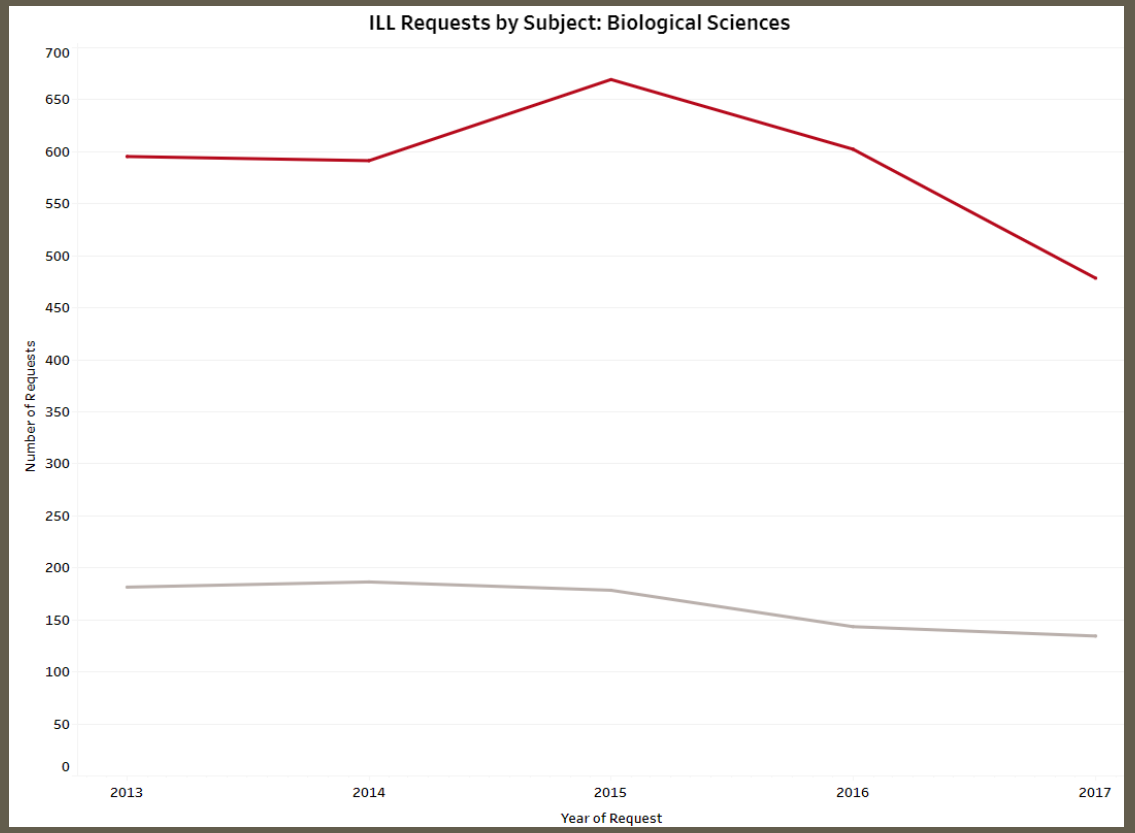
EXAMPLE SCREENSHOTS: ALL SUBJECTS

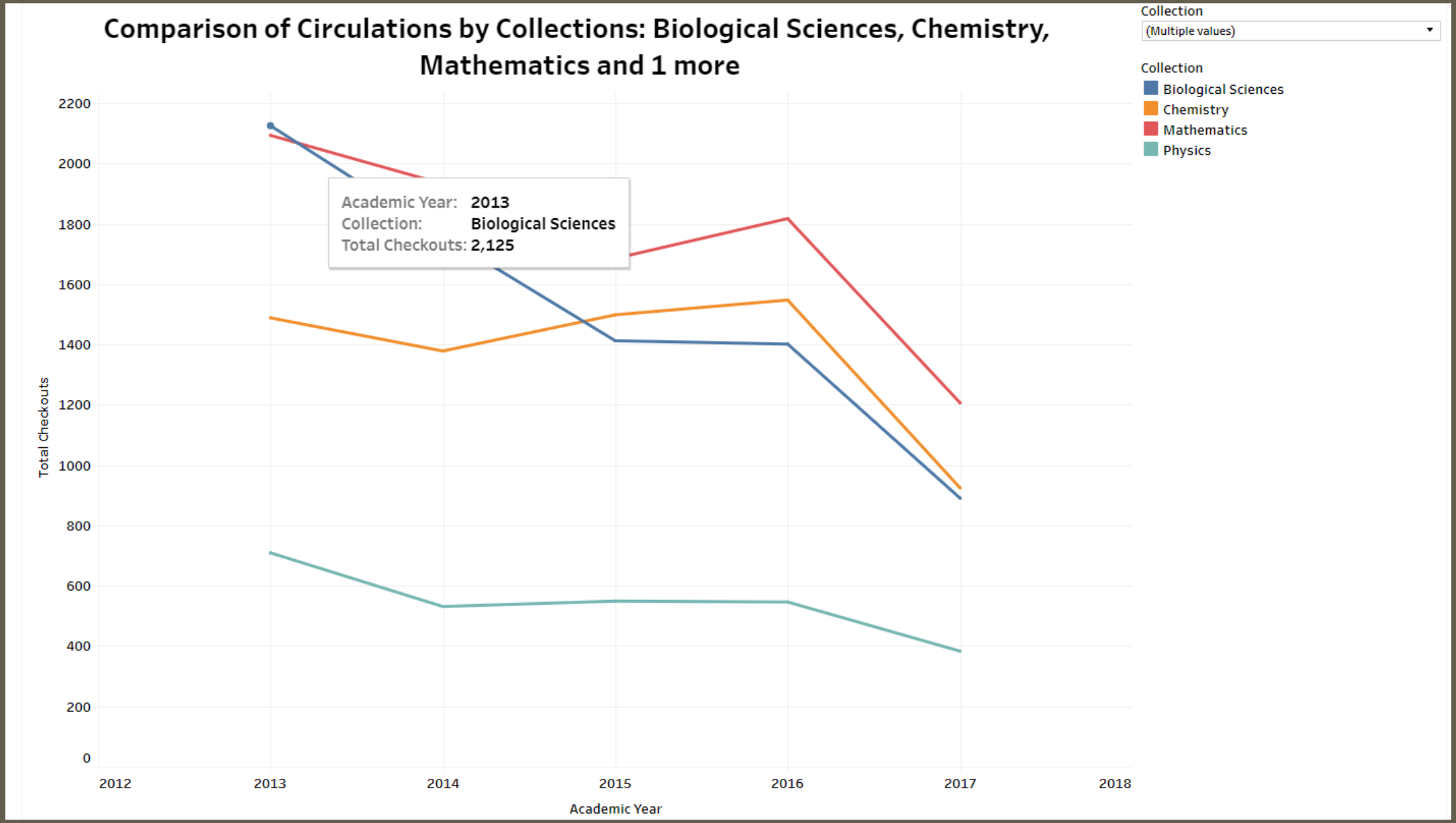


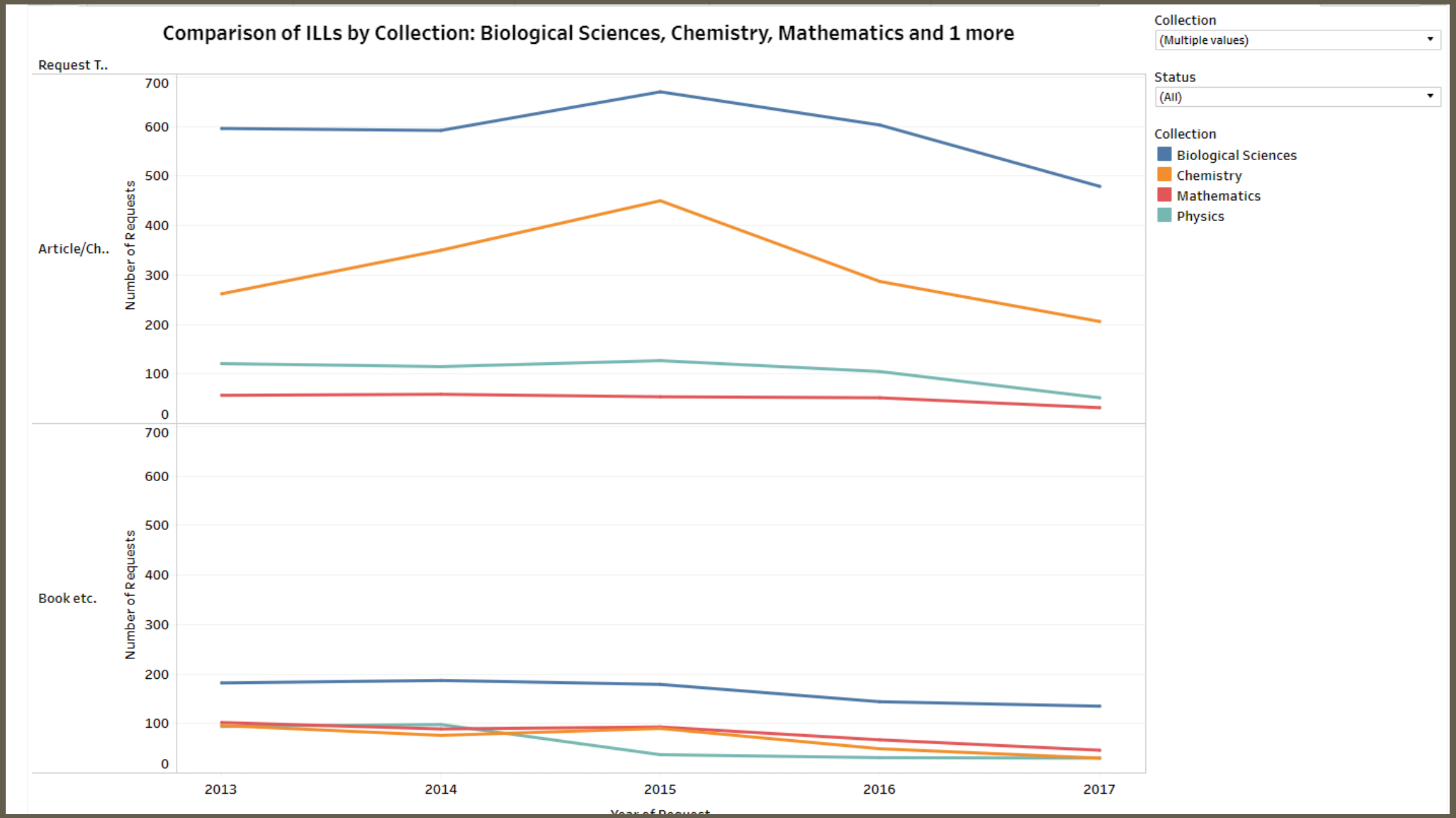


FILTERED ON ONE COLLECTION: BIOLOGICAL SCIENCES






Comparison of Circulations by Collections: Biological Sciences, Chemistry, Mathematics and 1 more
Collection
(Multiple values)
Collection
Biological Sciences
Chemistry
Mathematics
Physics
Academic Year: 2013
Collection: Biological Sciences
Total Checkouts: 2,125
Total Checkouts
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2012
2013
2014
2015
2016
2017
2018
Academic Year


Comparison of ILLs by Collection: Biological Sciences, Chemistry, Mathematics and 1 more
Request T..
Article/Ch..
Book etc.
Number of Requests
700
600
500
400
300
200
100
0
2013
2014
2015
2016
2017
Collection
(Multiple values)
Status
(All)
Collection
Biological Sciences
Chemistry
Mathematics
Physics

SUPPORTING DECISIONS

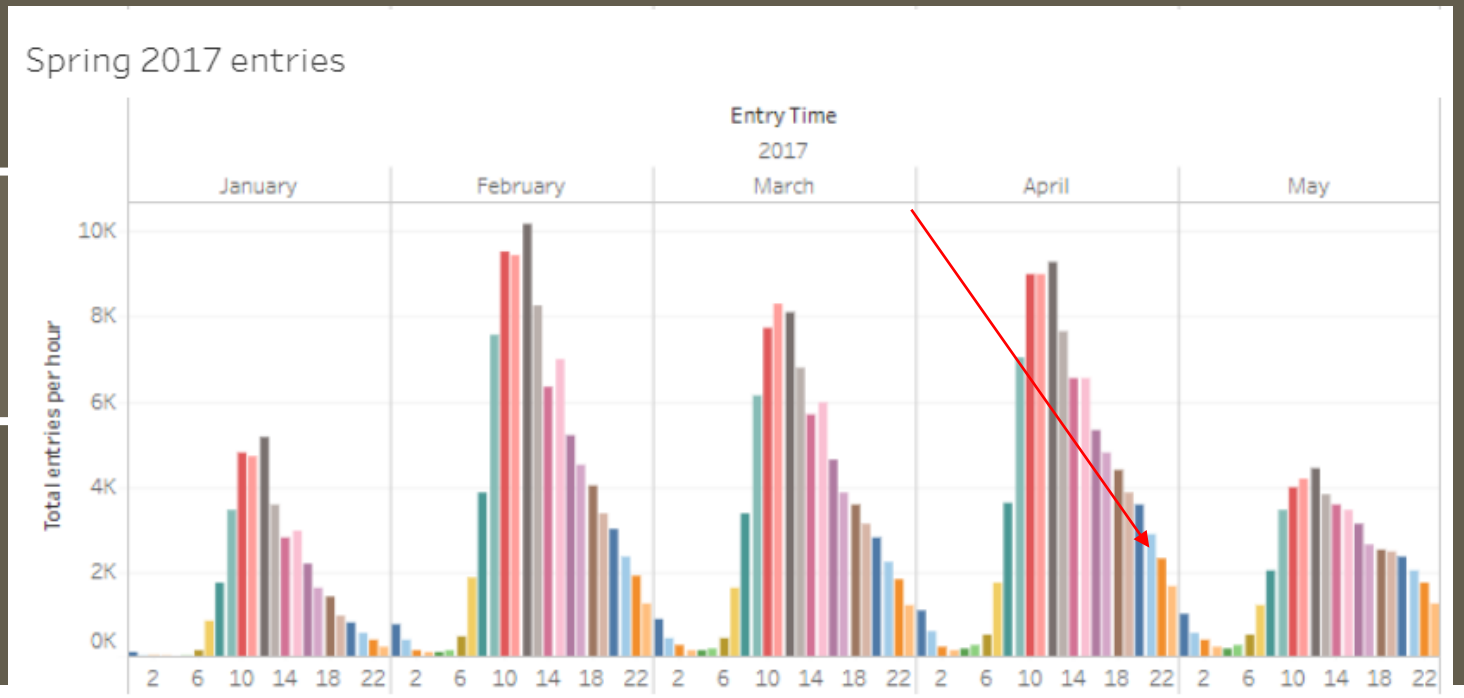
Heather Scalf and Karen Harker

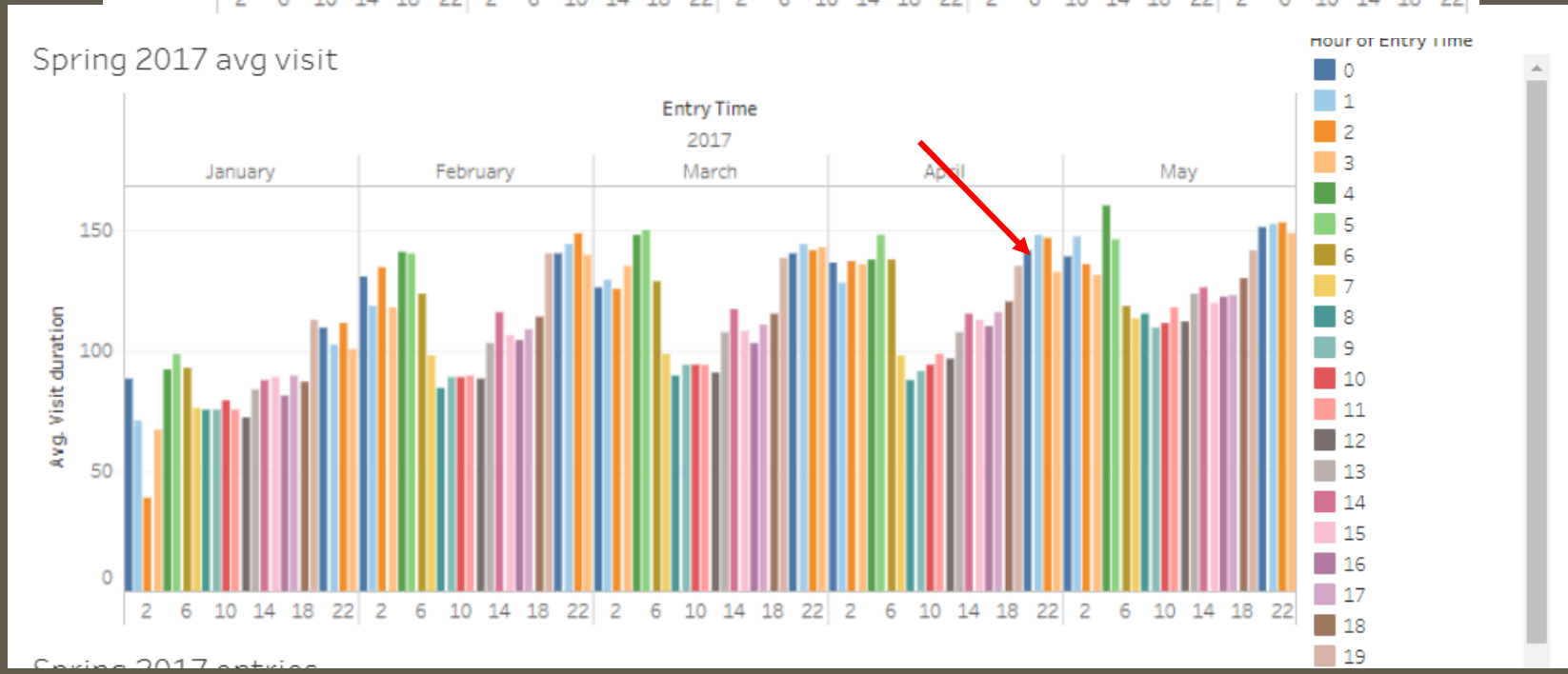
WHAT SUBJECTS SHOULD LIAISONS FOCUS ON SELECTING?

- 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





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Q & A