



Using Data to Tell a Story

SWAN Expo 2022

Data Tells a Story

Lucas McKeever

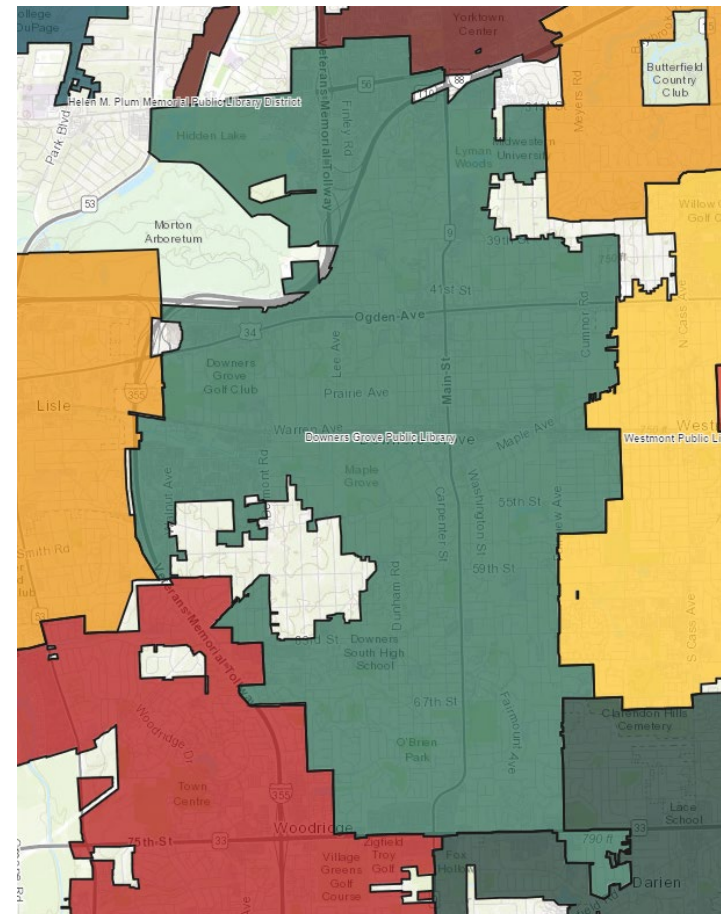
Access Services Manager
Downers Grove Public Library



Downers Grove – Real life use & examples

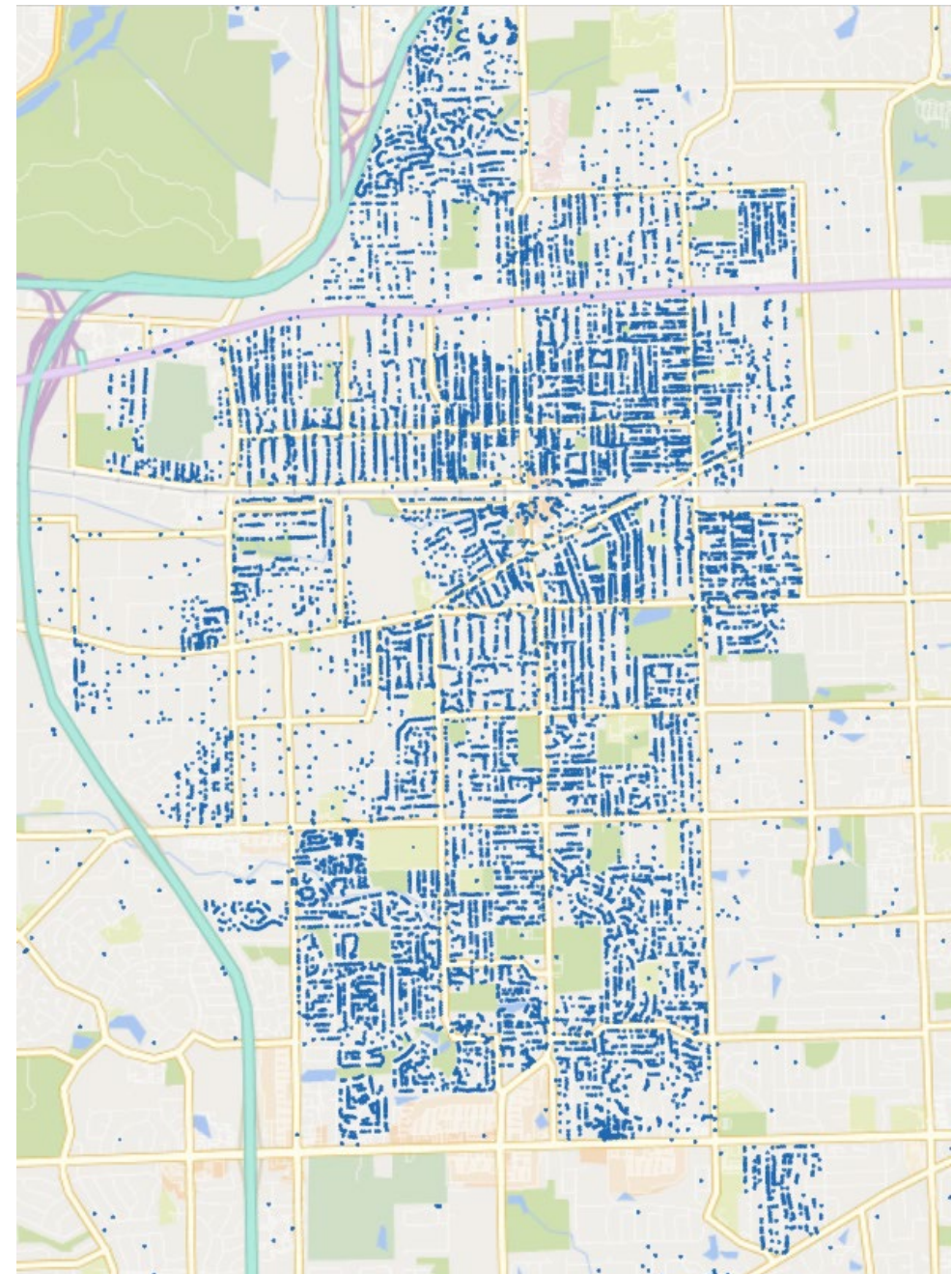
Real Life Questions:

1. Where do our patrons live and is there a trend in who is active each month?
2. Where does our material circulate and where do we receive material from?
3. Where do patrons reside that visit our library and check out materials?



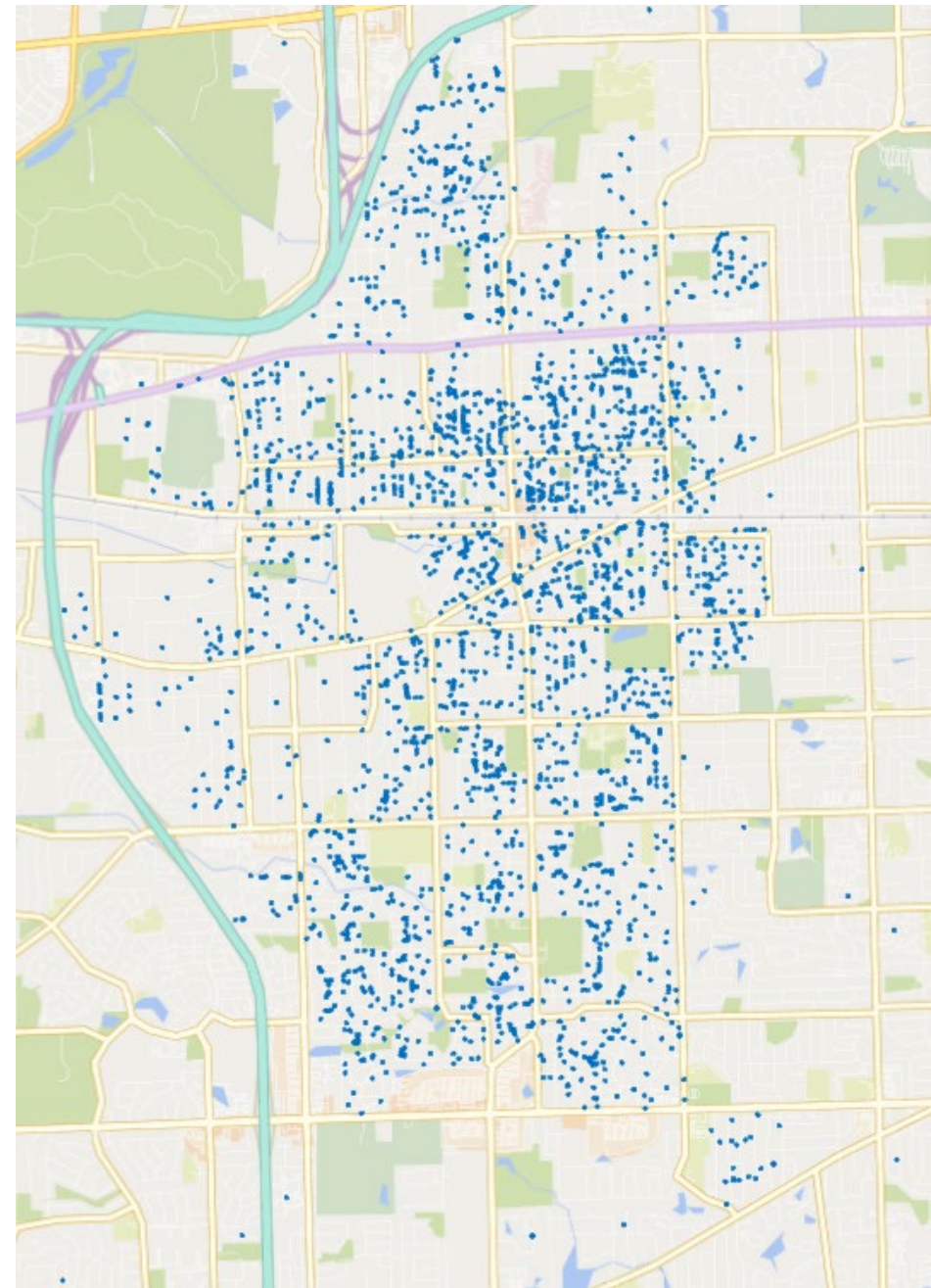
DGS active accounts

- All current accounts, including special patron types
- Pair this with Illinois library service maps from last slide to identify potential gaps in service
- Service maps can be found at https://www.ilsos.gov/departments/library/libraries/library_service_areas.html



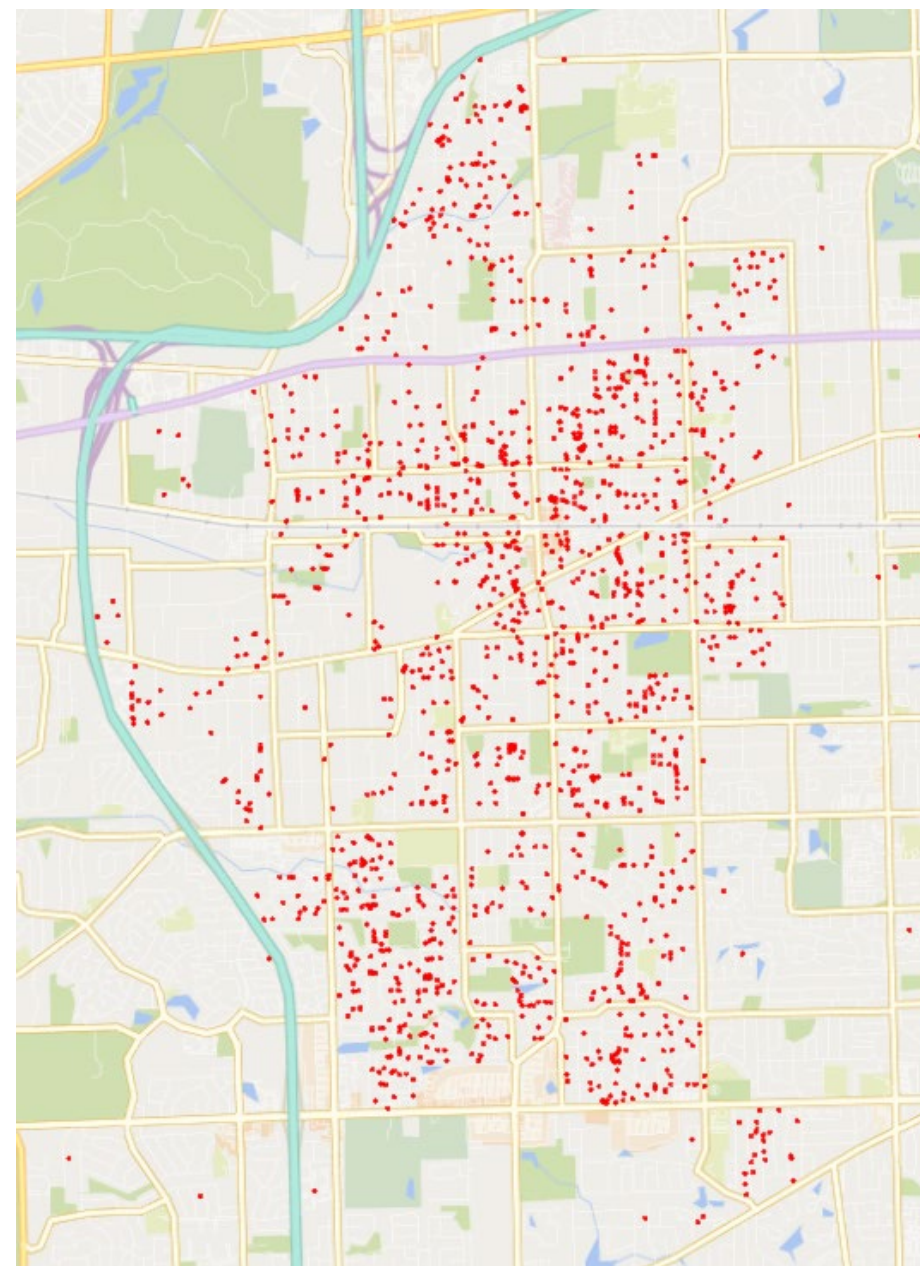
July 2022 activity

- Compare this regularly with all active user account map from last slide to identify trends in usage based on area in community
- Consider ways to make services more accessible to active patrons that do not visit the library as often.



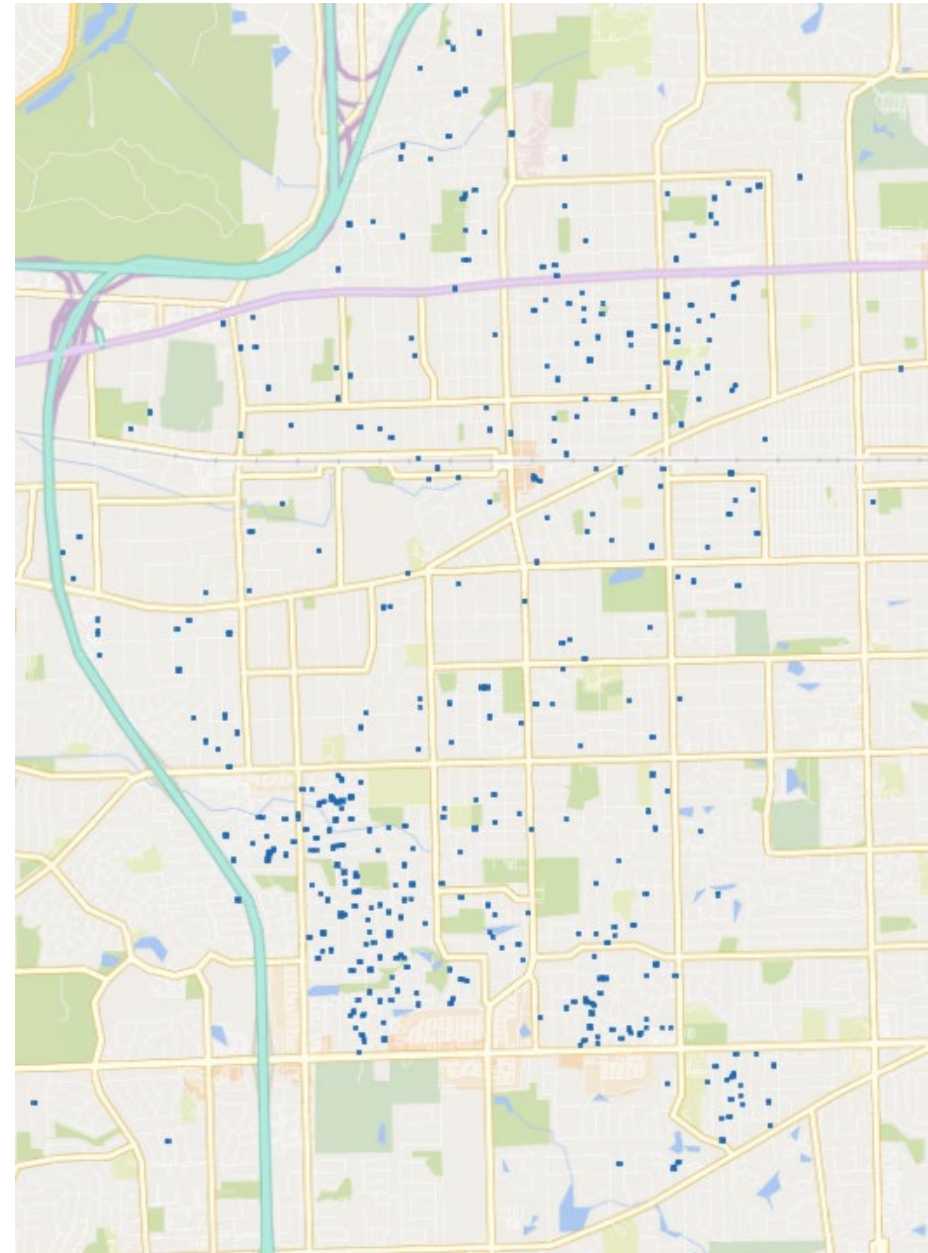
Resource sharing

- Active DGS patrons that checked an item owned by another library out in July 2022
- Very similar to the active patrons map from the previous slide – points to the importance and regular usage of non-DGS materials by DGS patrons

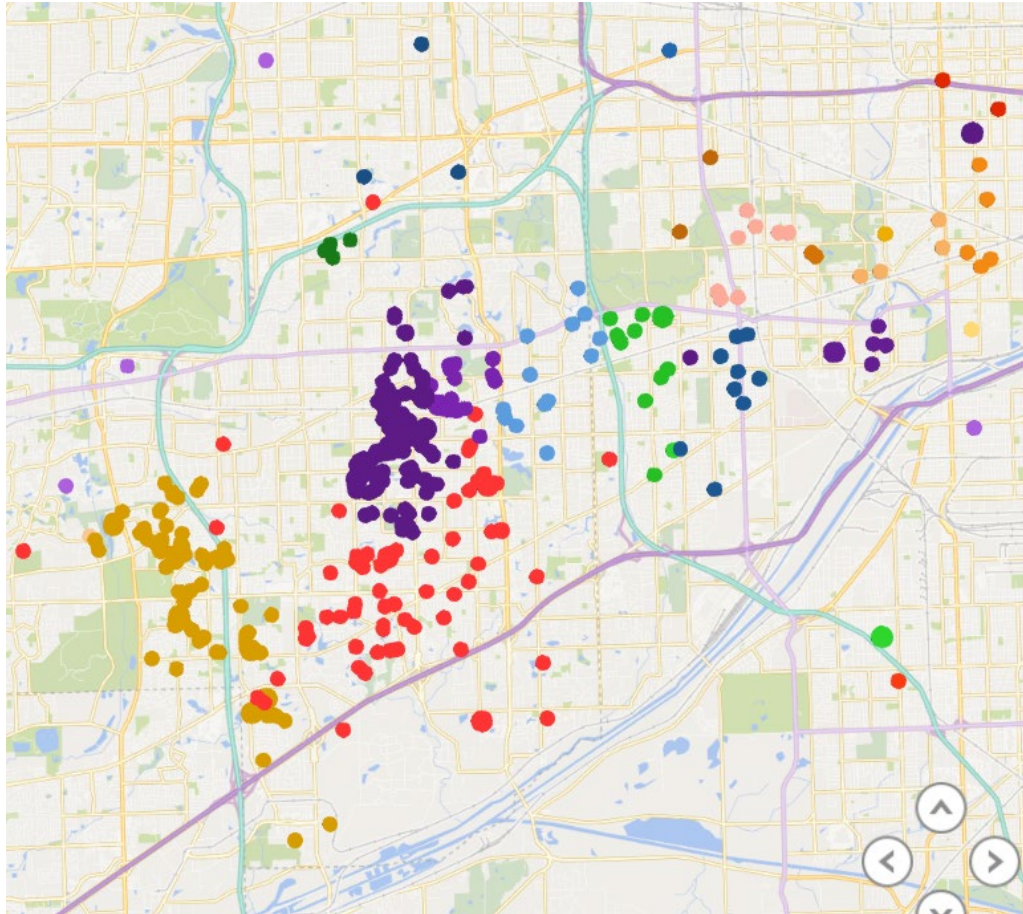


DGS @ other libraries

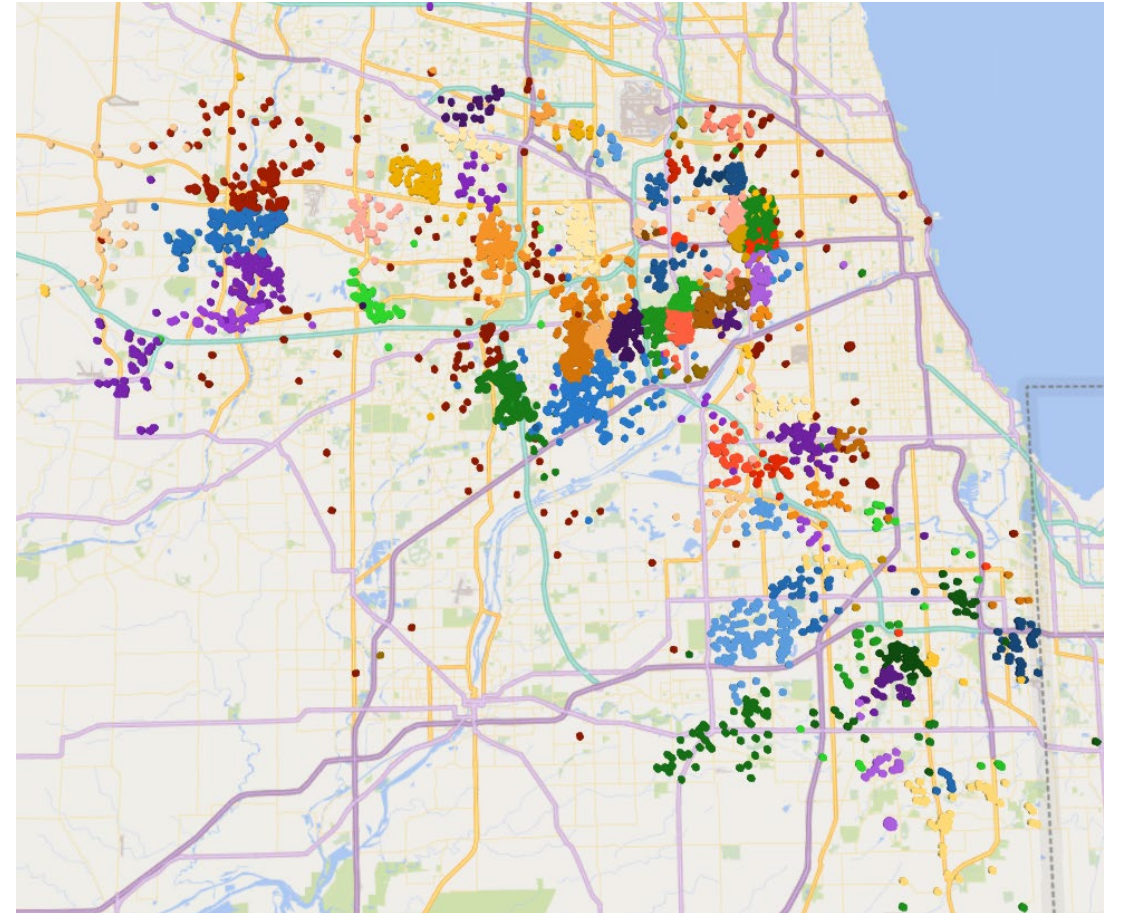
- Map of DGS patrons that checked materials out at another library location in July 2022
- May have some overlap with previous map, but also is a more specific look at patron behavior



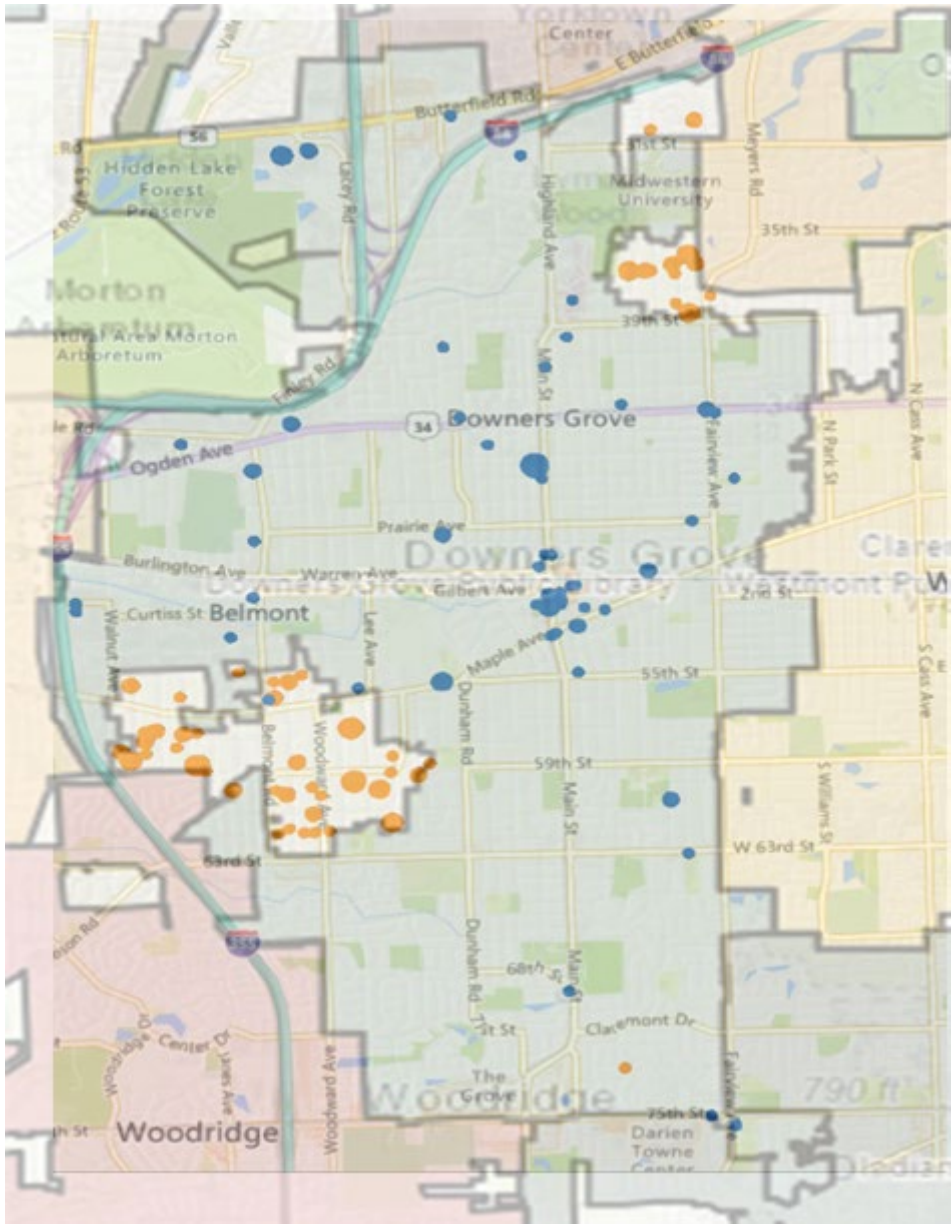
Consider audience when mapping data



Left image: Non-DGS patrons that checked materials out at DGS in July 2022



Right image: Non-DGS patrons that checked out materials owned by DGS in July 2022



Be as specific as possible

- Blue dots are business profiles
- Orange dots are nonresident
- Pairing this with service maps can help you identify areas surrounding your community that you can perform outreach to nonresidents
- Mapping business accounts can assist in identifying potential partners for planning collaborative outreach efforts

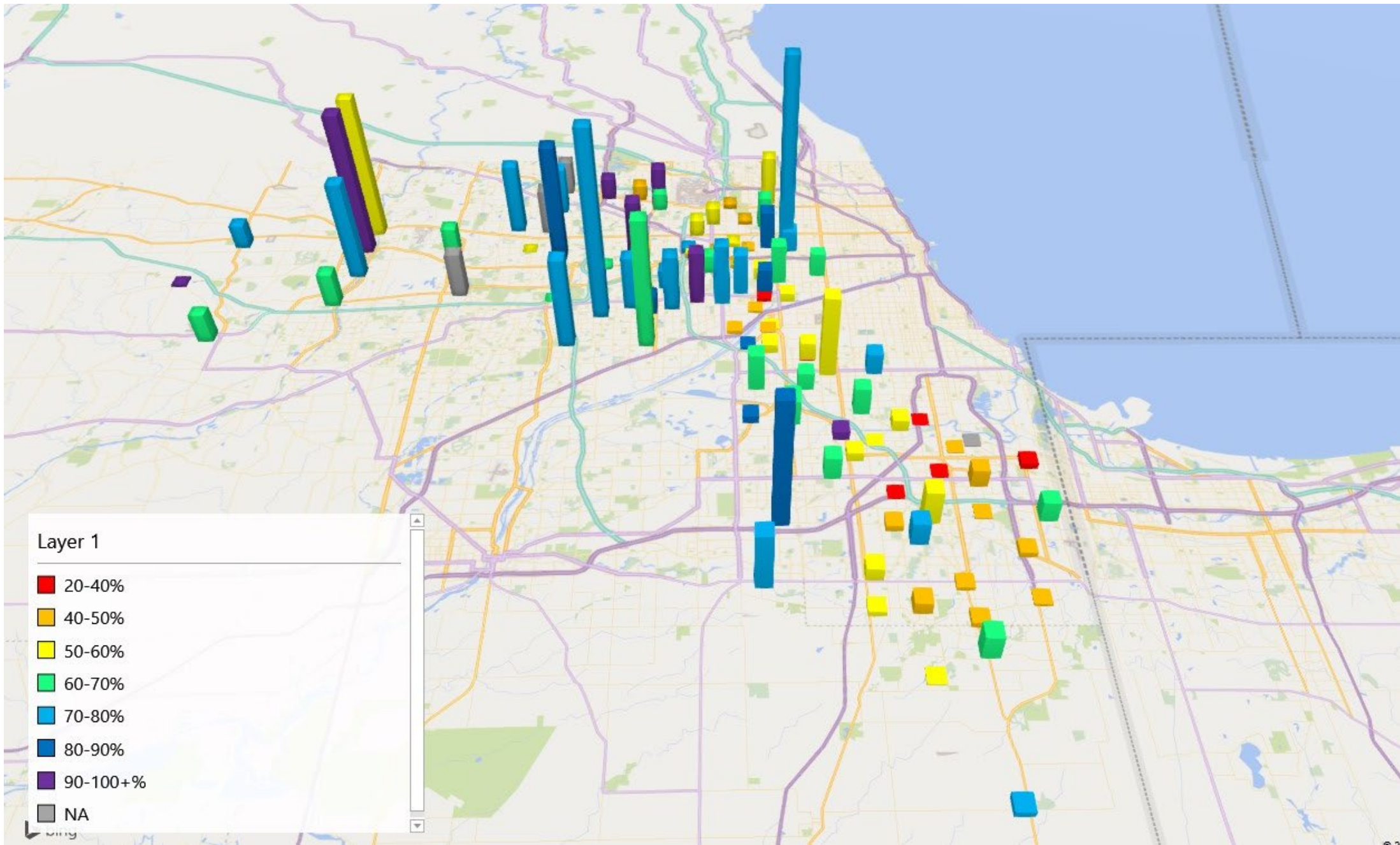
Things to consider in your own data journey

- Get creative in how you find the data
 - Sometimes the most specific information is not in the most obvious report – for example, DGS patrons checking out at non-DGS locations
- Get some help
 - Talk with colleagues at all levels of your organization and encourage suggestions based on interest rather than their own work responsibilities
 - SWAN staff continue to gain experience and insight in this process as they assist other libraries
- Tips on anonymizing data:
 - Remove barcode for reporting purposes
 - Consider housing density (e.g. apartment buildings) and impact on activity

Pandemic Impact 2019 Q1 vs 2022 Q1 Circ

- How are SWAN libraries recovering?
- Are there regional differences?
- Can data help us identify communities in need?
- And if so, how can our consortium help?

	2019-1	2022-1	Percentage	Internal Holding Code	Library Name	Latitude	Longitude
PCS	1,069	237	22%	PCS	Prairie State College	41.73878	-87.77351
CAS	446	102	23%	CAS	Calumet Park Public Library	41.663325191092156	-87.65804918685573
LYS	8,096	2,205	27%	LYS	Lyons Public Library	41.81517118821458	-87.81967556965216
CCS	13,638	3,856	28%	CCS	Calumet City Public Library	41.6170861179105	-87.55562377522014
HAS	1,470	535	36%	HAS	Harvey Public Library District	41.608577032824826	-87.64705412125615
MKS	2,971	1,149	39%	MKS	Markham Public Library	41.58700472253846	-87.69415177151254
CHS	5,564	2,243	40%	CHS	Chicago Heights Public Library	41.504648355338055	-87.64133899056844
BRS	6,124	2,502	41%	BRS	Broadview Public Library District	41.863390222118724	-87.85153548685031
RGS	6,231	2,618	42%	RGS	River Grove Public Library District	41.93000776140264	-87.8414105598864
WDD	22,085	9,450	43%	WDD	Wood Dale Public Library District	41.97097839043225	-87.9791568677937
SHS	24,364	10,449	43%	SHS	South Holland Public Library	41.59945427925019	-87.60991752547642
HKS	5,196	2,231	43%	HKS	Hodgkins Public Library District	41.771699513488926	-87.85497070456387
THS	1,961	843	43%	THS	Thornton Public Library	41.56824394541195	-87.61160902311144
GWS	7,271	3,132	43%	GWS	Glenwood-Lynwood Public Library District	41.53371362305342	-87.57662173474922
SPS	7,781	3,364	43%	SPS	Schiller Park Public Library	41.95578961583075	-87.8605724868478
STS	6,451	2,791	43%	STS	Steger-South Chicago Heights Public Library District	41.475046787434955	-87.63337917336979
BWS	5,714	2,628	46%	BWS	Bellwood Public Library	41.88161921314431	-87.87688415615929
SVS	2,138	992	46%	SVS	Nancy L. McConathy Public Library District	41.49213154385802	-87.57291510220561
MCS	2,753	1,314	48%	MCS	McCook Public Library District	41.80040762663871	-87.83036643103362
PFS	16,361	7,811	48%	PFS	Park Forest Public Library	41.485192873781436	-87.68413211569684
BPS	1,938	930	48%	BPS	Bedford Park Public Library District	41.77334902068791	-87.81589057707012
MWS	3,087	1,501	49%	MWS	Maywood Public Library District	41.88748237393467	-87.83837073103123
GPS	8,004	3,918	49%	GPS	Grande Prairie Public Library District	41.55673643107718	-87.70032255987651
RDS	784	388	49%	RDS	Riverdale Public Library District	41.633404637546796	-87.62687861754704
RPS	6,925	3,441	50%	RPS	Richton Park Public Library District	41.48337119173876	-87.72560477336953
ROS	24	12	50%	ROS	William Leonard Public Library District	41.64142655065208	-87.70868765009153
MPS	5,605	2,822	50%	MPS	Melrose Park Public Library	41.89454485019381	-87.85612614215626
HSS	7,024	3,575	51%	HSS	Hillside Public Library	41.87731021738526	-87.90721490404941
HWS	40,989	20,994	51%	HWS	Homewood Public Library District	41.564101144052984	-87.66383318500418
ESS	62,439	32,085	51%	ESS	Eisenhower Public Library District	41.96409655502421	-87.81097311382966
MDS	10,769	5,577	52%	MDS	Midlothian Public Library	41.6249518598603	-87.73145087521992
PTS	21,361	11,168	52%	PTS	Prairie Trails Public Library District	41.739022376761916	-87.730492193984
SFS	10,508	5,520	53%	SFS	Stickney-Forest View Public Library District	41.814602889917396	-87.79207818685163
SAS	1,399	769	55%	SAS	Summit Public Library District	41.77826519300497	-87.81256839663524
NLS	19,916	11,034	55%	NLS	Northlake Public Library District	41.91152453595246	-87.90247457706634
FPD	20,002	11,103	56%	FPD	Franklin Park Public Library District	41.92985406230719	-87.8822983905569
TOD	686	384	56%	TOD	The Theosophical Society in America	41.886111132405475	-88.1093435041023
BVS	10,076	5,654	56%	BVS	Bridgeview Public Library	41.74839379728209	-87.81495802547238
NRS	13,767	7,743	56%	NRS	North Riverside Public Library District	41.84637084845964	-87.82316274637759
BIS	12,188	6,896	57%	BIS	Blue Island Public Library	41.65710910887787	-87.68104226358219
OLS	89,092	50,963	57%	OLS	Oak Lawn Public Library	41.72073243894265	-87.75211173659837



Layer 1

- 20-40%
- 40-50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- 90-100+%
- NA

August 22, 2022

SWAN Library Services

Privacy and Aggregate Reporting

- Reports do not include patron personal information
- Intended for trends and aggregate reporting
- Helps to target geographic areas in the community where additional outreach may be desired
- Shows the strength of resource sharing within and between SWAN libraries and our communities

Data Collected through NCOA 2021

Address fields hidden in WorkFlows, harvested in BLUEcloud Analytics:

- Latitude
- Longitude
- Census Tract
- Census Block

- Approximately 1 million patron records updated to include this data

Excel 3D Mapping Tool

Microsoft Support:

- [Get started with 3D Maps](#)

Resources:

Computergaga YouTube – Use 3D Maps in Excel – Create Beautiful Map Charts

<https://www.youtube.com/watch?v=P--qP4mfxEg>

Access Analytic YouTube – How to Build a 3D Map in Excel

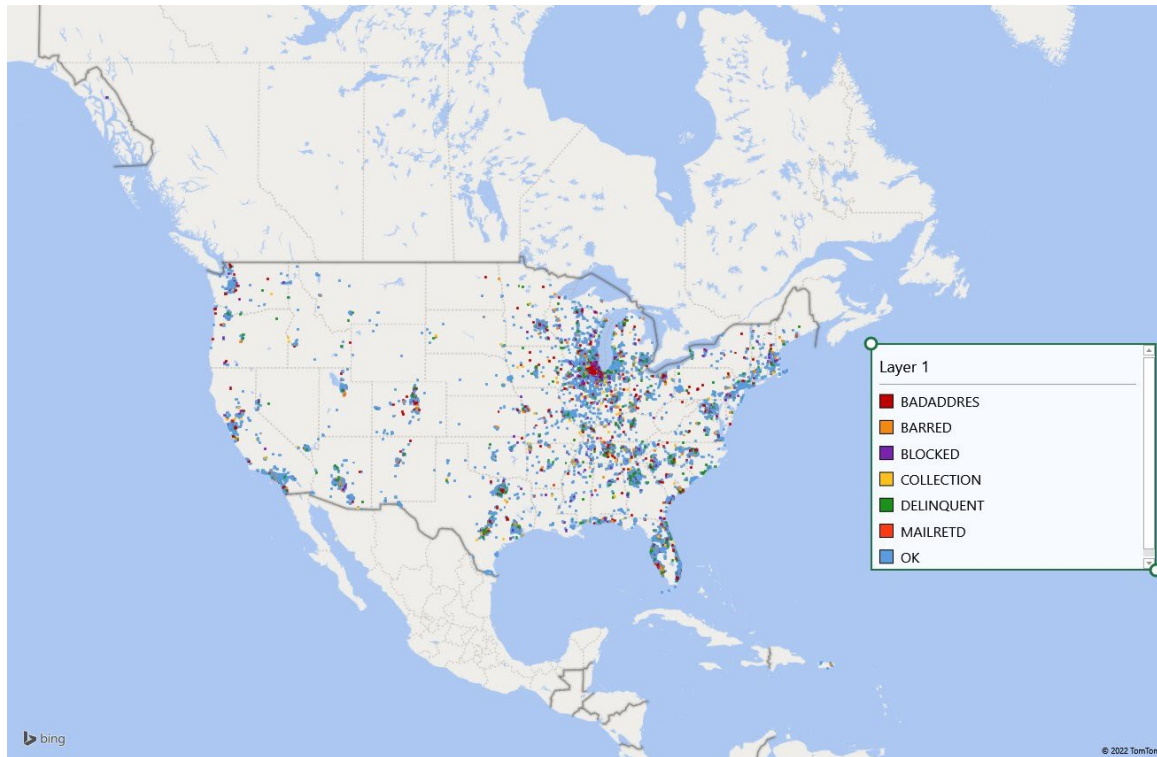
<https://www.youtube.com/watch?v=6nAwzQUaqPQ>

GeoDelta Labs YouTube – Microsoft Excel 3D Maps - A Complete Guide

<https://www.youtube.com/watch?v=o9gc2SbaQy0>

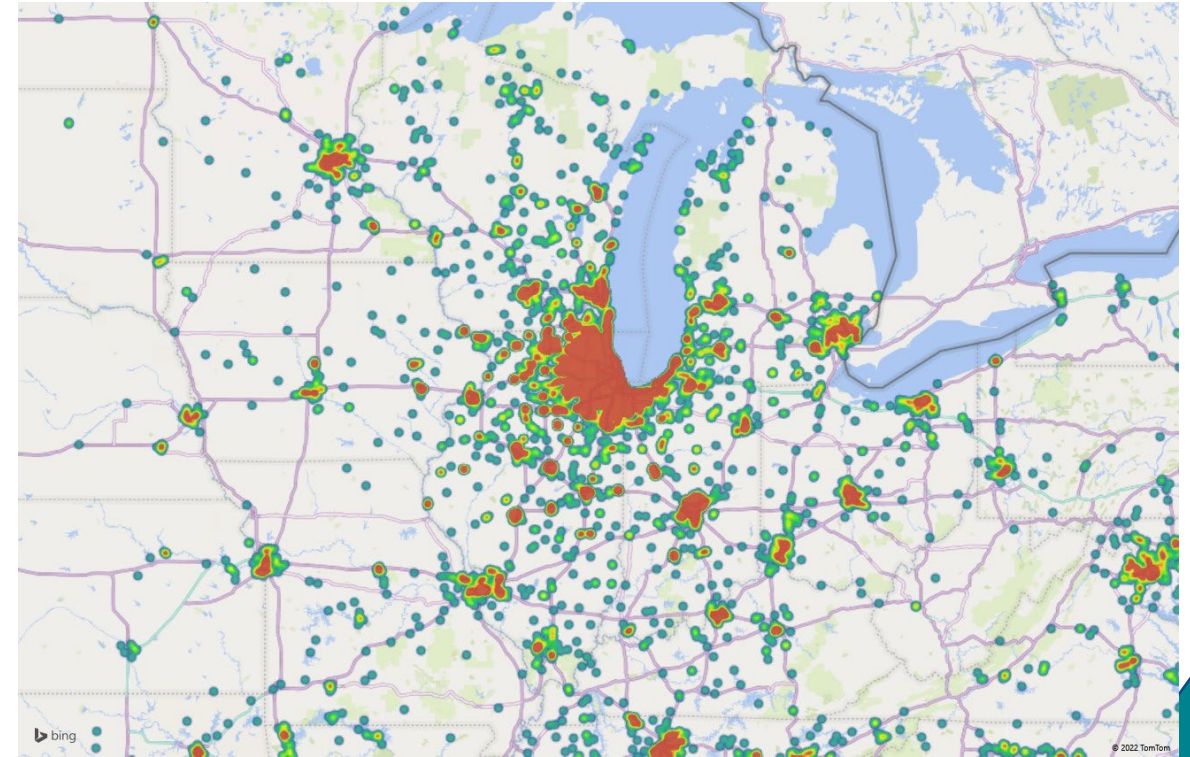
Demonstration: NCOA 2021 Patron Moves

- December, 2021 – 107,427 reported as moved
- April, 2022 – 85,914 remain in the database (82,611 households)



User Status color coded

August 22, 2022



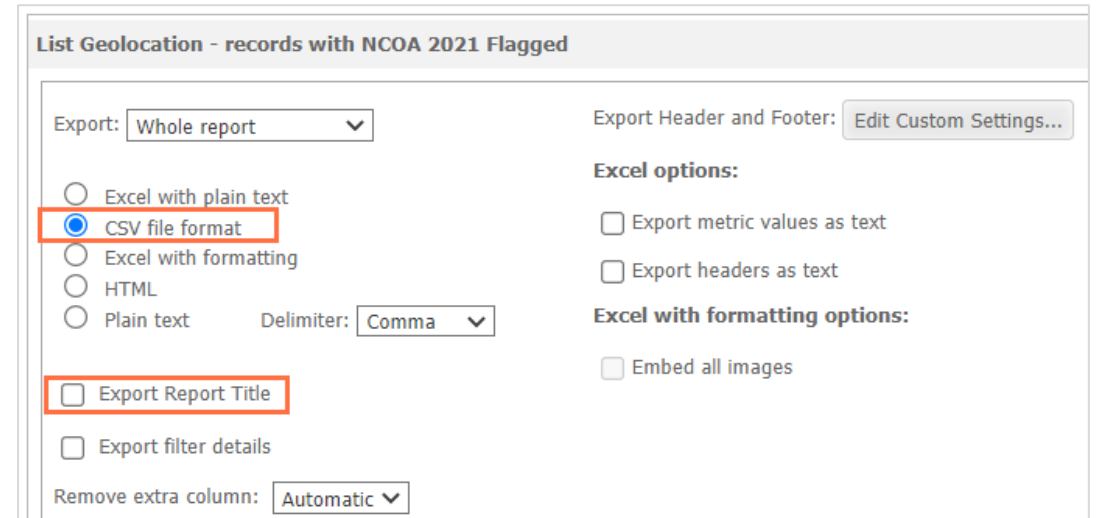
Heat Map of concentration

SWAN Library Services

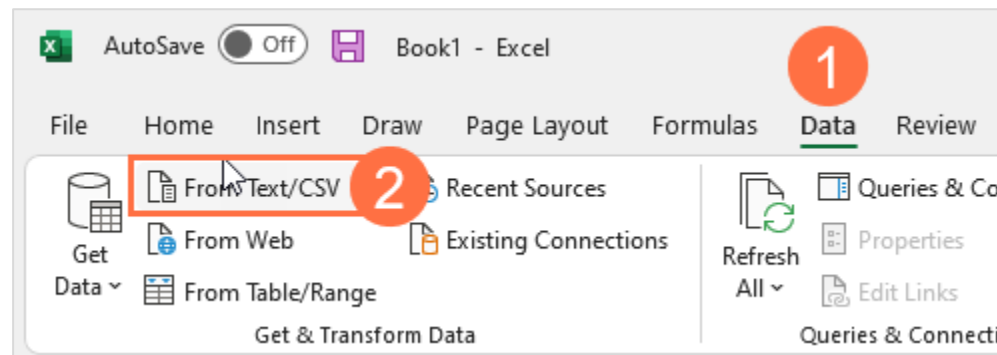
Demonstration: NCOA 2021 Patron moves

Get data from:

- List Geolocation – records with NCOA 2021 Flagged
- Export as Excel CSV (do not Export Report Title)
- Open blank worksheet in Excel



1. Data
2. From Text/CSV



Demonstration: NCOA 2021 Patron moves

1. Review Data is properly identified with columns indicated
2. Load

List Geolocation - records with NCOA 2021 Flagged.csv

File Origin: 1200: Unicode | Delimiter: Comma | Data Type Detection: Based on first 200 rows

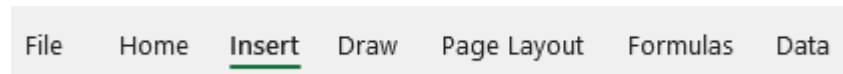
User Library	Latitude	Longitude	Census Tract	Census Block	User Last Activity Date	User Status
ry District	37.725203	-88.933803	21200	3028	5/1/2017	BADADDRES
ry District	38.550901	-90.00998	503322	5030	4/13/2021	BADADDRES
ry District	39.670249	-89.675271	3203	1006	1/29/2019	BADADDRES
ry District	39.739381	-89.629824	3000	1003	7/23/2018	BADADDRES
ry District	39.756375	-90.187826	951500	2117	1/30/2020	BADADDRES
ry District	40.055036	-88.247339	1400	2023	8/17/2016	BADADDRES
ry District	40.056765	-88.248681	1400	2003	10/2/2021	BADADDRES
ry District	40.056765	-88.248681	1400	2003	1/25/2022	BADADDRES
ry District	40.106069	-88.197683	5500	4046	8/14/2016	COLLECTION
ry District	40.135137	-87.628717	100	1000	7/31/2016	BADADDRES
ry District	40.463417	-90.648064	10600	2016	7/23/2021	BADADDRES
ry District	40.952417	-88.152182	961600	2027	8/1/2014	BADADDRES
ry District	41.06043	-89.269959	961100	2038	9/3/2020	BADADDRES
ry District	41.133894	-87.965364	10400	1046	11/15/2017	BADADDRES
ry District	41.141903	-87.866467	11800	2003	2/28/2019	BADADDRES
ry District	41.155722	-87.83963	10702	2014	6/29/2019	BADADDRES
ry District	41.155925	-87.901282	10500	3023	2/27/2019	BADADDRES
ry District	41.155925	-87.901282	10500	3023	8/10/2019	BADADDRES
ry District	41.162643	-87.856456	10602	3014	8/1/2014	BADADDRES
ry District	41.165444	-87.649743	10900	3015	6/21/2019	BADADDRES

The data in the preview has been truncated due to size limits.

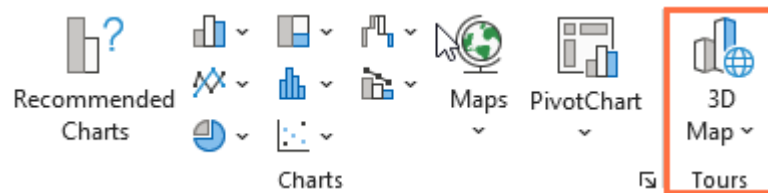
2 Load Transform Data Cancel

Demonstration: NCOA 2021 Patron moves

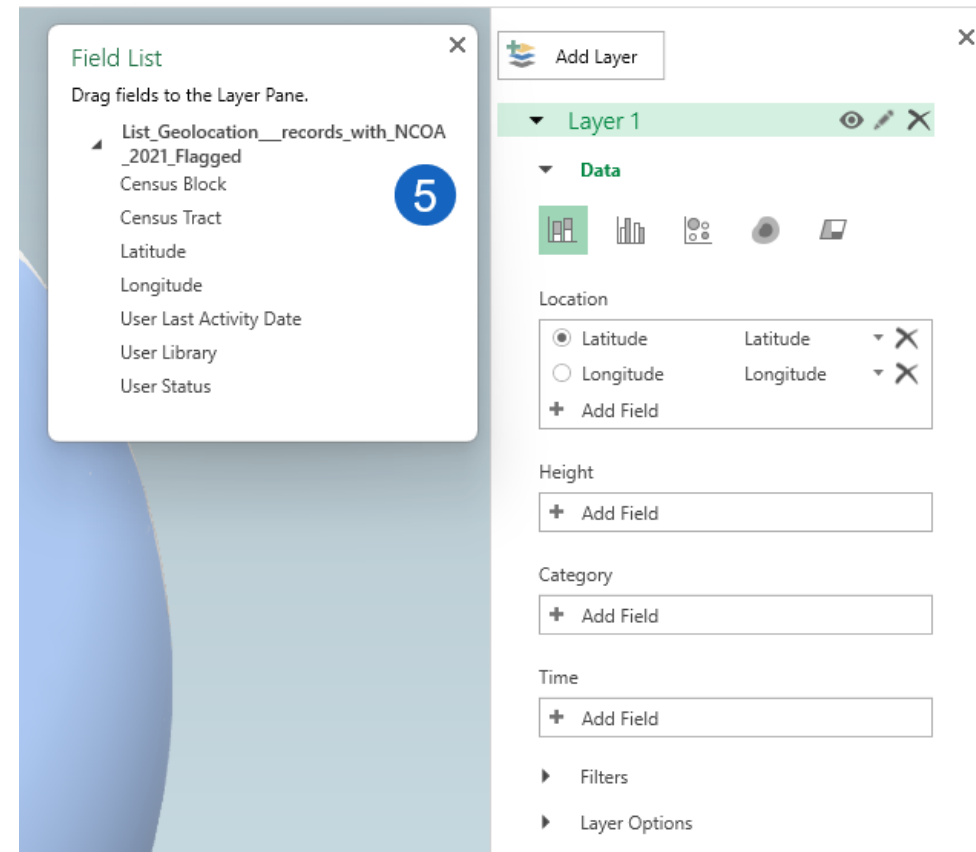
3. Insert



4. 3D Maps, open 3D maps

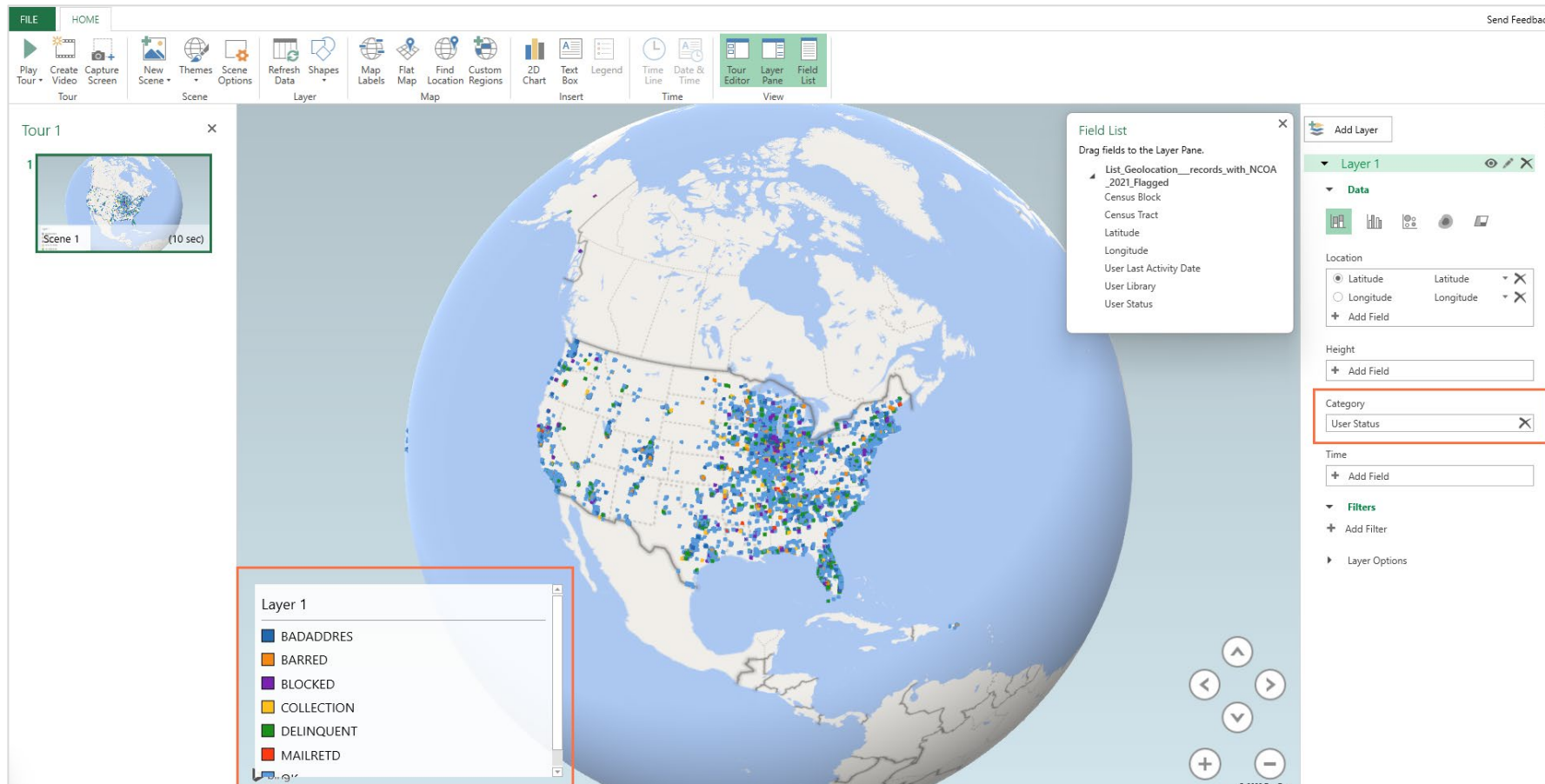


5. Verify Field List



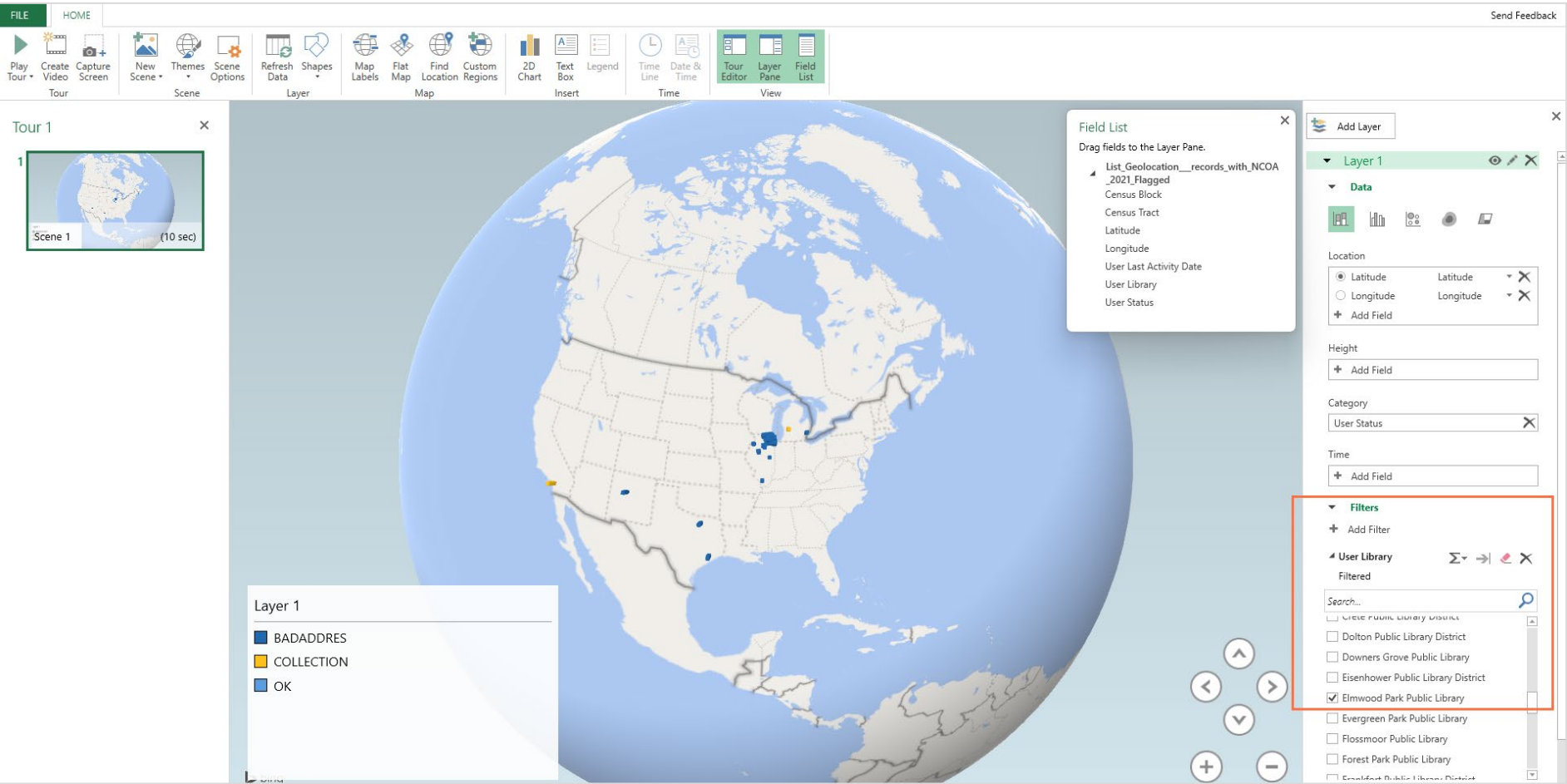
Demonstration: NCOA 2021 Patron moves

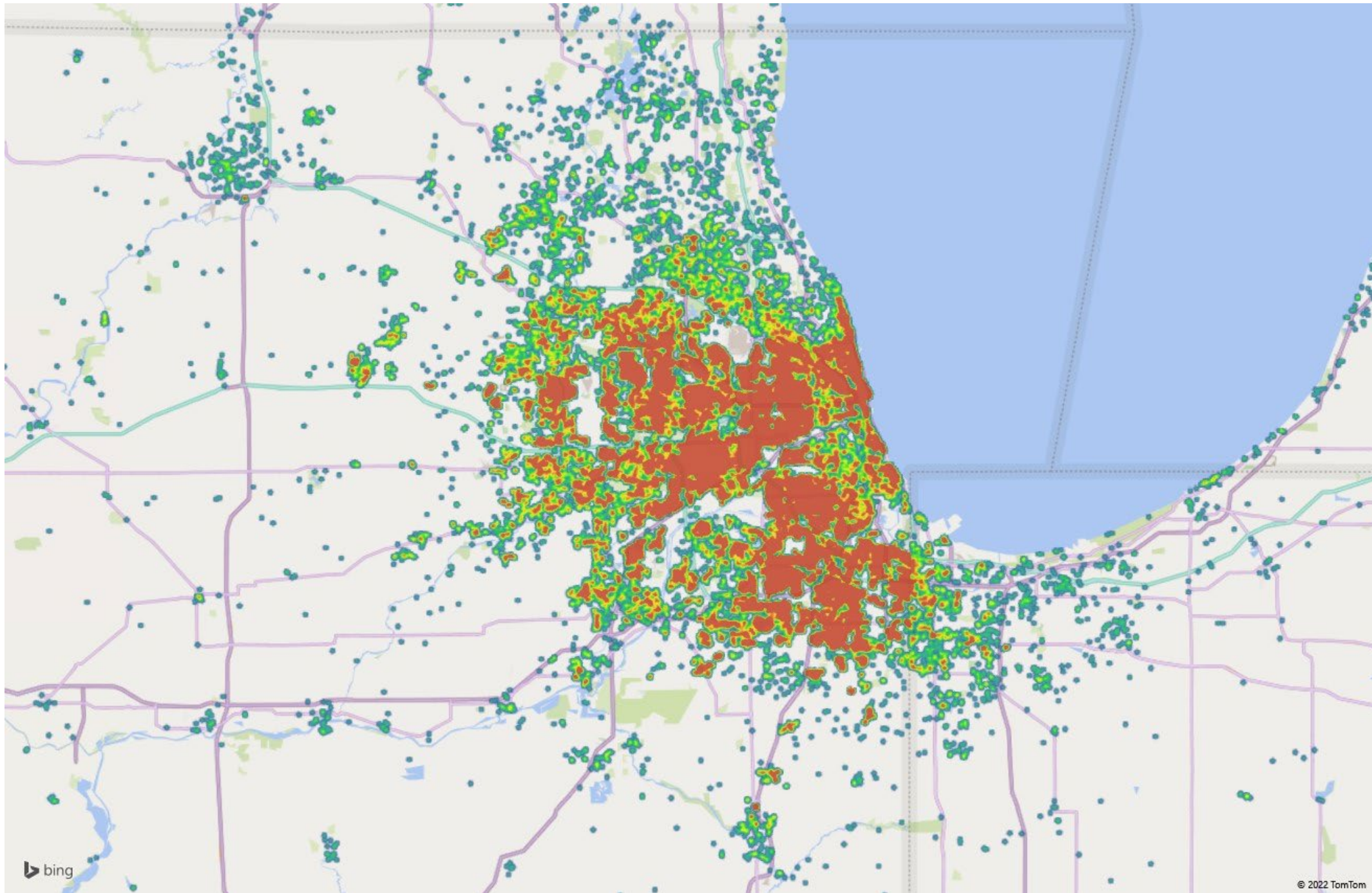
Experiment with Category = User Status

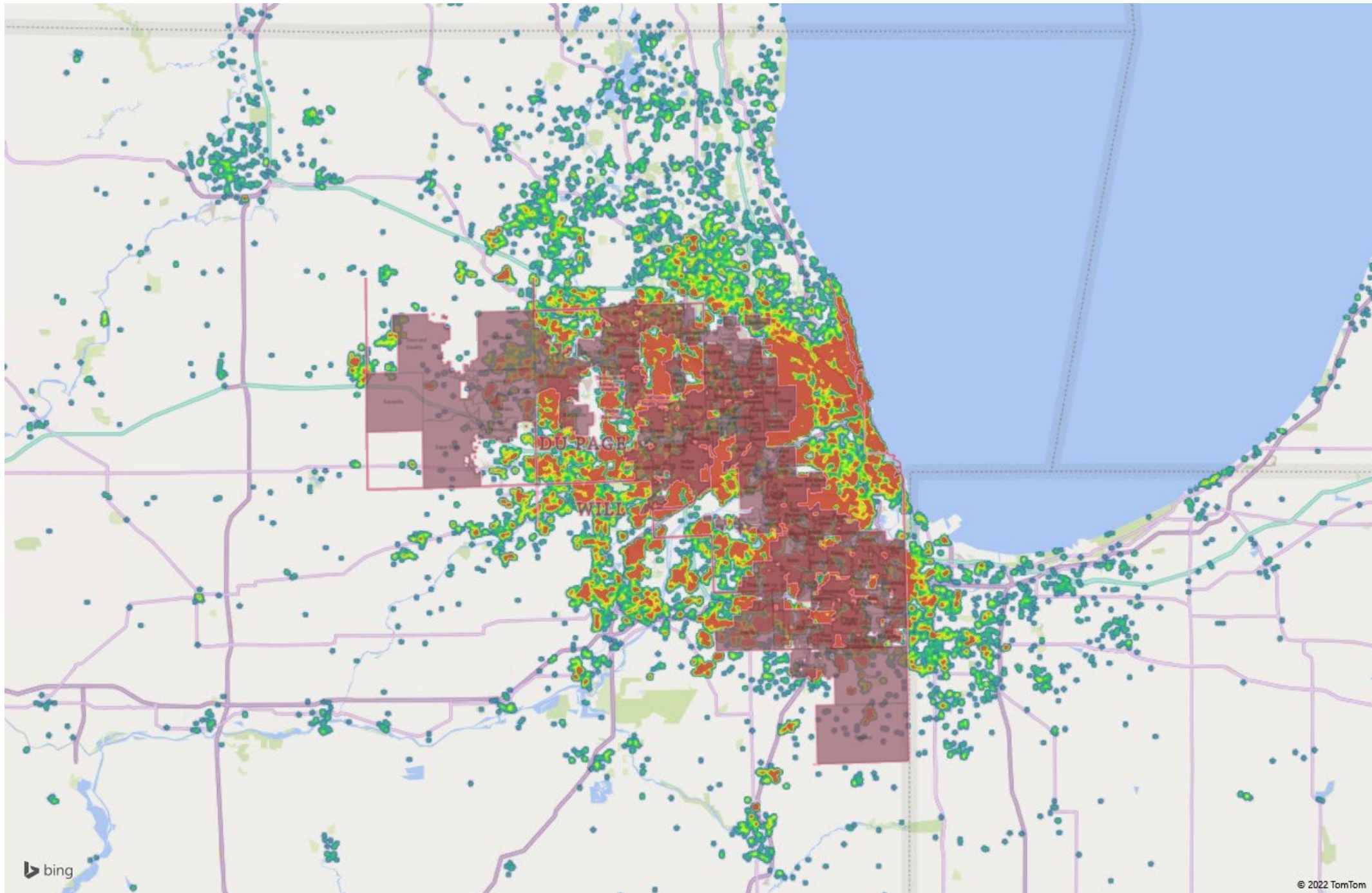


Demonstration: NCOA 2021 Patron moves

Experiment with Filter = User Library







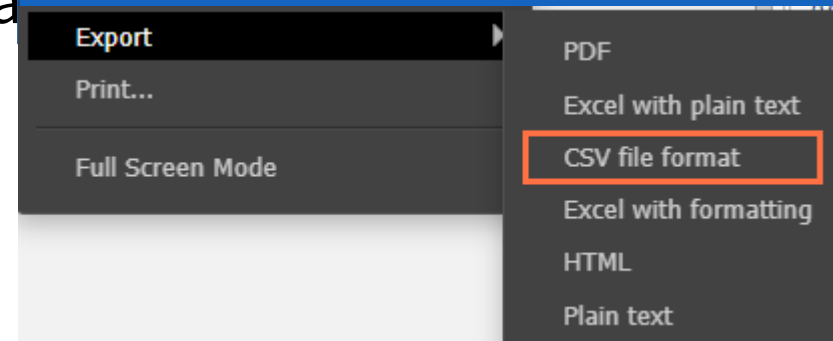
Where can I find these datasets?

BLUEcloud Analytics Reports (NCOA)

SWAN Reports > Users > NCOA Processing

- List Barcode w Geolocation Codes, based on LAD
- List Barcode w Geolocation Codes, checkouts & renewals in date range
- List Barcode w Geolocation Codes, checkouts in a data range
- List Barcode w Geolocation Codes, current checkouts
- List Geolocation – records with NCOA 2021 Flagged

Always export data with geolocation data in csv format.
Import into Excel as Data CSV



BLUEcloud Analytics Reports (GIS Activity)

SWAN Reports > GIS – Mapping > Library GIS Activity

- Patrons w Age Range, Geolocations Codes, checkouts in a date range
- Patrons w Geolocation Codes
- Patrons w Geolocation Codes, checkouts in date range
- Station Checkouts w Geolocation Codes, count of checkouts & renewals in date range
- Yearly Total Checkout by Library

Activity related reports with geolocation codes will be moving to this directory as we develop more reports.

Questions & Discussion



- How do you want to analyze this data?
- What other data elements would be helpful to understand patterns of circulation?
- And most importantly – how will having this information result in an action?