Dallas Public Library Regional Model Transition Data and Methodology

The following document is a data analysis white paper prepared by the Office of Data Analytics and Business Intelligence at the City of Dallas published January 20, 2026.

City of Dallas

Abstract

The purpose of this white paper is to provide a detailed walk-through of the data sources, methodologies and frameworks utilized by the Office of Data Analytics and Business Intelligence to assist the Dallas Public Library in building out of a regional library system. Data comes primarily from the American Community Survey and the Dallas Public Library. This paper outlines the basis of the data driven model, but the final recommendation relies heavily on Dallas Public Library expertise as well as direction from Dallas City Leadership.

Executive summary

During the Fiscal Year 2026 Budget Workshop, City Leadership determined that the Dallas Public Library should move to a regional library system model. This document explains the data sources and methodologies utilized to support the Dallas Public Library in normalizing service regions and establishing the elements that would be considered in the assessment of the current community need and use of the branch libraries.

Background & Introduction

On November 12, 2025, the City of Dallas, Library executive leadership team requested assistance from the Office of Data Analytics and Business Intelligence to identify and develop a regional model for Dallas libraries. The goal was to design a regional model to optimize services for our residents, given increasing budget constraints. There were two primary components of this project, first was to adjust the existing library service regions to ensure a similar population size in every service region and second, was the assessment of the individual branch libraries in terms of community need and library usage.

Data & Methods

Analytical Strategy Part 1: Establishing Regions and Elements

Library Regions

Seven regions were created and balanced by population using 2023 data from the U.S. Census Bureau's American Community Survey (ACS). Only census tracts with geographic centers within the City of Dallas boundary (excluding the North lake area) were included, ensuring the results reflect the city's actual population. These tracts were grouped using ArcGIS Pro's[1] Build Balanced Zones[2] tool. The tool uses an iterative genetic growth algorithm[3] to test and refine zone boundaries until population targets are met. Final refinements were made to align zones with real-world features such as major highways and the Trinity River basin. This approach produces zones that are statistically balanced on population size while still making sense to people who live and move through the city. Figure 1 demonstrates the spatial distribution of

[1] ESRI ArcGIS Pro: https://pro.arcgis.com/en/pro-app/latest/help/main/welcome-to-the-arcgis-pro-app-help.htm
[2] Build Balanced Zones: https://pro.arcgis.com/en/pro-app/latest/tool-reference/spatial-statistics/buildbalancedzones.htm
[3] Coley, D. A. (1999). An introduction to genetic algorithms for scientists and engineers. World Scientific Publishing Company.

flagship libraries identified and provided by library staff, overlayed with the seven library service region boundaries and associated population size.

Figure 1: Flagship Library Locations & Library Regions

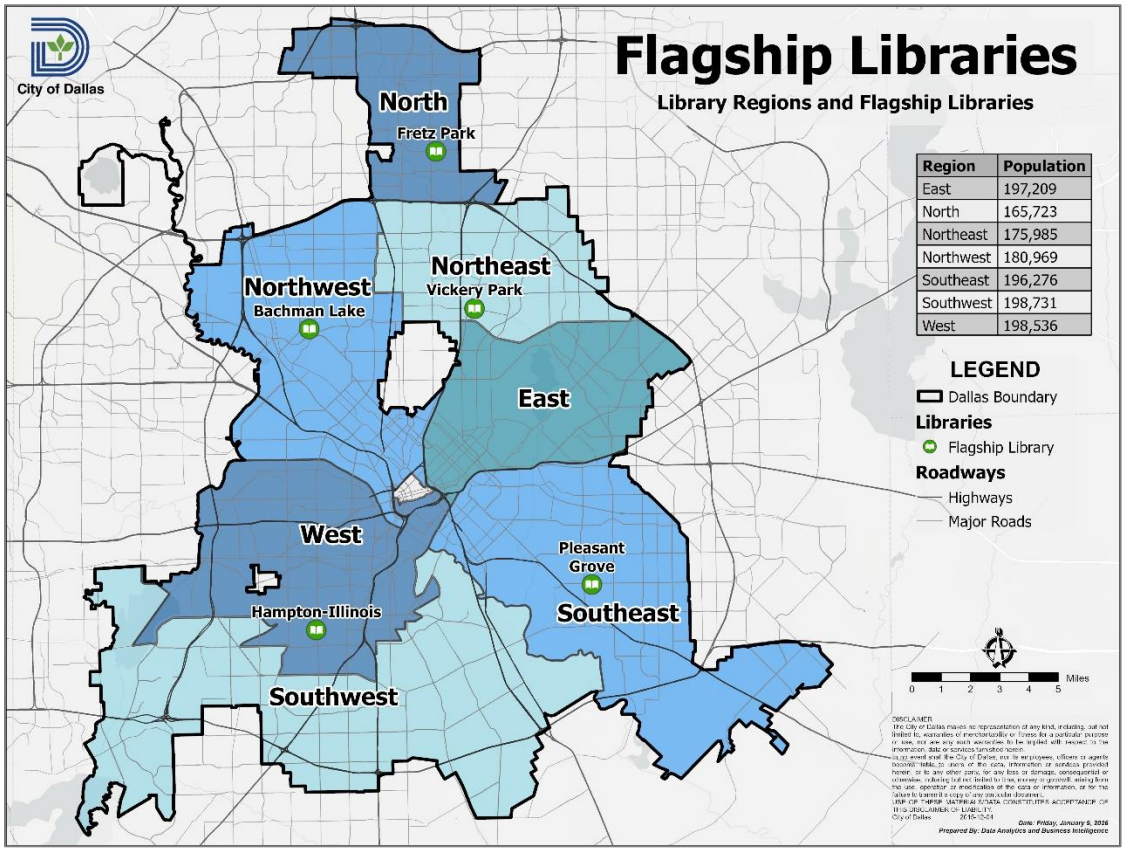

Figure 1: Flagship libraries were identified by library staff and provided to the Office of Data Analytics and Business Intelligence. Figure 1 demonstrates the spatial distribution of flagship libraries overlayed on the seven library regions.

Three Element Model

There were three major elements representing library community needs, library coverage details and library usage metrics considered in the regional model. Community need in this context measures resident need within the library's service area and consists of demographic and socioeconomic information. Library coverage details provide information on accessibility and capacity which can directly influence who can, and how libraries are used. The final element, library usage metrics, reflects how residents engage with libraries within a service area. Data was analyzed using a combination of analytical tools, such as Python[4], geographic information systems software like ESRI ArcGIS Pro, and enterprise platforms like ArcGIS Online[5]. Below is an explanation of variables based on the data elements included in the analysis.

Community Need Data

Three distinct metrics representing community need were selected and extracted from the 2023 ACS. ACS data was gathered through the ESRI ArcGIS Online enterprise platform from the

[4] The Python Language Reference: https://docs.python.org/3/reference/index.html
[5] ESRI ArcGIS Online: https://doc.arcgis.com/en/arcgis-online/get-started/get-started.htm

Median Household Income[6], Educational Attainment[7], and Population[8] data tables. To ensure population and census data accurately reflect each library's patrons, census tracts whose geographic centers fell within the library service area were used to represent that library. A library service area is a zone around each library that reflects where the expected resident resides. These service area boundaries were provided by the library department. An explanation of the metrics representing community need are below.

- Median Household Income: Measures median income and can indicate the degree of residents who may rely on free library resources and services.
- High School Completion Population: Estimates the frequency of adults in the community who may lack a high school diploma. It is calculated as the difference between total population and the population 25 years and over whose highest education completed is less than high school.
- Age Under 5 Population: Estimates the frequency of children under five years old in an area alluding to the library's role in early literacy support and programming.

Library Coverage Data

Library coverage information accounts for the physical footprint and how accessible the library facility is, recognizing that distance and physical space affect usage and available programming. There were two distinct metrics used to measure library coverage information.

- 15-Minute Drive Time: Drive time is calculated as a spatial network analysis and was derived using the ESRI ArcGIS Online, Generate Travel Areas[9] tool, with the driving time travel mode setting applied. The tool uses TomTom traffic data[10], which reflects average driving speeds based on real roadway conditions. A 15-minute drive time was used to represent library accessibility within a short commute.
- Building Area (square footage): Library building square footage was collected and provided to the Office of Data Analytics and Business Intelligence by library staff using Microsoft Excel[11]. Building area was used to indicate the library's capacity for people and programs.

Library Usage Data

Library use data was collected, maintained, and provided by library staff using Microsoft Excel. Library usage measures consisted of four main metrics to indicate how Dallas residents engage with and use library services.

- Checkouts: Measures the frequency of borrowed items from the library reflecting community demand for library services and resources.
- Computer Sessions: Measures public computer use, alluding to internet and digital resource needs by Dallas residents.
- Programs: Measures the frequency of programs offered by a library for the community.

[6] ACS Median Household Income Variables: https://esri.maps.arcgis.com/home/item.html?id=45ede6d6ff7e4cbbbffa60d34227e462
[7] ACS Educational Attainment Variables: https://esri.maps.arcgis.com/home/item.html?id=84e3022a376e41feb4dd8addf25835a3
[8] ACS Population Variables: https://esri.maps.arcgis.com/home/item.html?id=f430d25bf03744edbb1579e18c4bf6b8
[9] Generate Travel Areas: https://doc.arcgis.com/en/arcgis-online/analyze/generate-travel-areas-mv.htm
[10] TomTom Traffic Data: https://www.arcgis.com/home/item.html?id=b7a893e8e1e04311bd925ea25cb8d7c7
[11] Microsoft Excel: https://www.microsoft.com/en-us/microsoft-365/excel/?legRedir=true

- Program Attendance: Measures program participation reflecting library engagement and use of services.

Analytical Strategy Part 2: Normalization

Data Normalization

The Central library and the list of flagship libraries were removed from further downstream analysis. For all remaining libraries, and to prevent inaccurate estimations, raw variable values were normalized using minimum to maximum normalization procedures (Equation 1). Min-max normalization ensures that different types of data (such as 15-minute drive time and library checkouts) are on the same scale (0 to 1) allowing the data to be fairly compared and combined, preventing larger numbers from overpowering smaller ones. This means that in a column of data, the smallest value is normalized to 0 and the largest value is normalized to 1 (Table 1).

Equation 1: Minimum to Maximum Normalization

$$X_{normalized} = \frac{X - X_{min}}{X_{max} - X_{min}}$$

Equation 1: Equation 1 represents the general formula used for minimum to maximum normalization of library community (age under 5 population only), library coverage and library usage variables.

The Case of Socioeconomics

Median Household Income and High School Completion Population are socioeconomic variables used to address community need within a library service area[12,13,14,15]. To ensure the model captured library service area community profiles correctly, the minimum and maximum normalization procedure was reversed for median household income and high school completion population (Equation 2). Doing this normalized the lowest incomes and lowest high school completion population counts to a value of 1 and the highest, to a value of 0 (Table 1). This allows for greater refinement of the regional model for areas with lower income levels and lower educational attainment.

Equation 2: Maximum to Minimum Normalization

$$X_{normalized} = \frac{X_{max} - X}{X_{max} - X_{min}}$$

Equation 2: Equation 2 represents the general formula used for maximum to minimum normalization of library community, median household income, and high school completion population variables.

[12] Lantz PM, Pritchard A. Socioeconomic indicators that matter for population health. Prev Chronic Dis. 2010 Jul;7(4):A74. Epub 2010 Jun 15. PMID: 20550832; PMCID: PMC2901572.

[13] Braveman PA, Cubbin C, Egerter S, Williams DR, Pamuk E. Socioeconomic disparities in health in the United States: what the patterns tell us. Am J Public Health. 2010 Apr 1;100 Suppl 1(Suppl 1):S186-96. doi: 10.2105/AJPH.2009.166082. Epub 2010 Feb 10. PMID: 20147693; PMCID: PMC2837459.

[14] Moss JL, Johnson NJ, Yu M, Altekruse SF, Cronin KA. Comparisons of individual- and area-level socioeconomic status as proxies for individual-level measures: evidence from the Mortality Disparities in American Communities study. Popul Health Metr. 2021 Jan 7;19(1):1. doi: 10.1186/s12963-020-00244-x. PMID: 33413469; PMCID: PMC7792135.

[15] Nutakor JA, Zhou L, Larnyo E, Addai-Danso S, Tripura D. Socioeconomic Status and Quality of Life: An Assessment of the Mediating Effect of Social Capital. Healthcare (Basel). 2023 Mar 3;11(5):749. doi: 10.3390/healthcare11050749. PMID: 36900754; PMCID: PMC10001315.

Table 1: Minimum to Maximum vs. Maximum to Minimum Normalization

Profile Index	Profile Value	Min-Max Normalized	Max-Min Normalized
1	2	0	1
2	4	0.25	0.75
3	6	0.5	0.5
4	8	0.75	0.25
5	10	1	0

Table 1: Table 1 depicts an example of minimum to maximum and maximum to minimum normalized data based on profile values. Minimum to maximum normalized values range from 0 to 1 with the lowest profile value equaling 0 and the largest profile value equaling 1. Alternatively, in maximum to minimum normalized values range from 1 to 0 with the lowest profile value equaling 1 and the largest profile value equaling 0.

Analytical Strategy Part 3: Weighting and Building the Index

Weighting & Scoring

The three data elements (community need, library coverage, and library usage) were weighted based on Library staff subject matter experts and varied based on the model in question. We established three main library regional models based on the general model equation outlined in Equation 3. First is the community need model which assigns greater importance (weight = 50%) to community-based socioeconomic data indicative of community needs within a library's service area. Second, the library usage model assigns greater importance (weight = 50%) to community-based usage of library facilities and programming. The third, equal weighting model treated all data points the same giving no greater weight to any one metric (weight = 33.3%) (Table 2).

Equation 3: General Library Scoring Formula

$$Score = (\sum Community\ Need\ * Weight) + (\sum Library\ Coverage * Weight) + (\sum Library\ Usage * Weight)$$

Equation 3: Equation 3 represents the generalized formula used for regional library ranking. Library ranks are calculated as the sum of weighted community, coverage, and library usage variable elements, where individual variables within each element are multiplied by their relative importance, and combined to produce a final score.

Table 2: Regional Library Models

Model	Community Need Weight	Library Coverage Weight	Library Usage Weight
Community Need Model	50%	20%	30%
Library Usage Model	30%	20%	50%
Equal Weighting Model	33.3%	33.3%	33.3%

Table 2: Table 2 demonstrates the three regional library models defined. The community need model assigns greater weight (50%) to community need variables. The library usage model assigns greater weight (50%) to library usage variables. All variables are equally weighted in the equal weighting regional model.

Composite scores were generated for each library based on the weighted sum of community need, library coverage, and library usage statistics. Following, libraries were assigned to their corresponding geographical region and within-region sorted in descending order based on finalized composite scores.

Results & Conclusion

Figure 2 demonstrates the spatial distribution of libraries and the seven service regions statistically distributed by population. Regional populations range between 165,723 residents in the North to 198,731 residents in the Southwest. Flagship libraries identified by Dallas Public Library staff are denoted with green icons and include Fretz Park in the North, Bachman Lake in the Northwest, Vickery Park in the Northeast, Hampton-Illinois in the West and Pleasant Grove in the Southeast library region. The East and Southwest library regions do not have a defined flagship library.

Table 3 summarizes regional results across the community need, library usage, and equal weighting models. In the North region, Timberglen consistently ranked as the highest-scoring library, while Renner Frankford ranked lowest across all three models. In the Northeast region, Audelia Road ranked highest under the community need and library usage models, while Forest Green ranked highest under the equal weighting model; Preston Royal consistently ranked lowest across all models. In the Northwest region, Park Forest ranked highest under the library usage and equal weighting models, while Grauwyler Park ranked highest under the community need model, with Oak Lawn ranking lowest under the community need and equal weighting models and Grauwyler Park ranking lowest under the library usage model.

In the East region, Lochwood consistently ranked highest across all three models, while Lakewood ranked lowest under the community need and equal weighting models and Skillman Southwestern ranked lowest under the library usage model. In the West region, Dallas West consistently ranked highest and North Oak Cliff consistently ranked lowest across all models. In the Southeast region, Prairie Creek and Skyline ranked highest and lowest, respectively, across all models. Similarly, in the Southwest region, Lancaster-Kiest consistently ranked highest and Mountain Creek ranked lowest across the community need, library usage, and equal weighting models.

Figure 2: City of Dallas Libraries and Regional Map

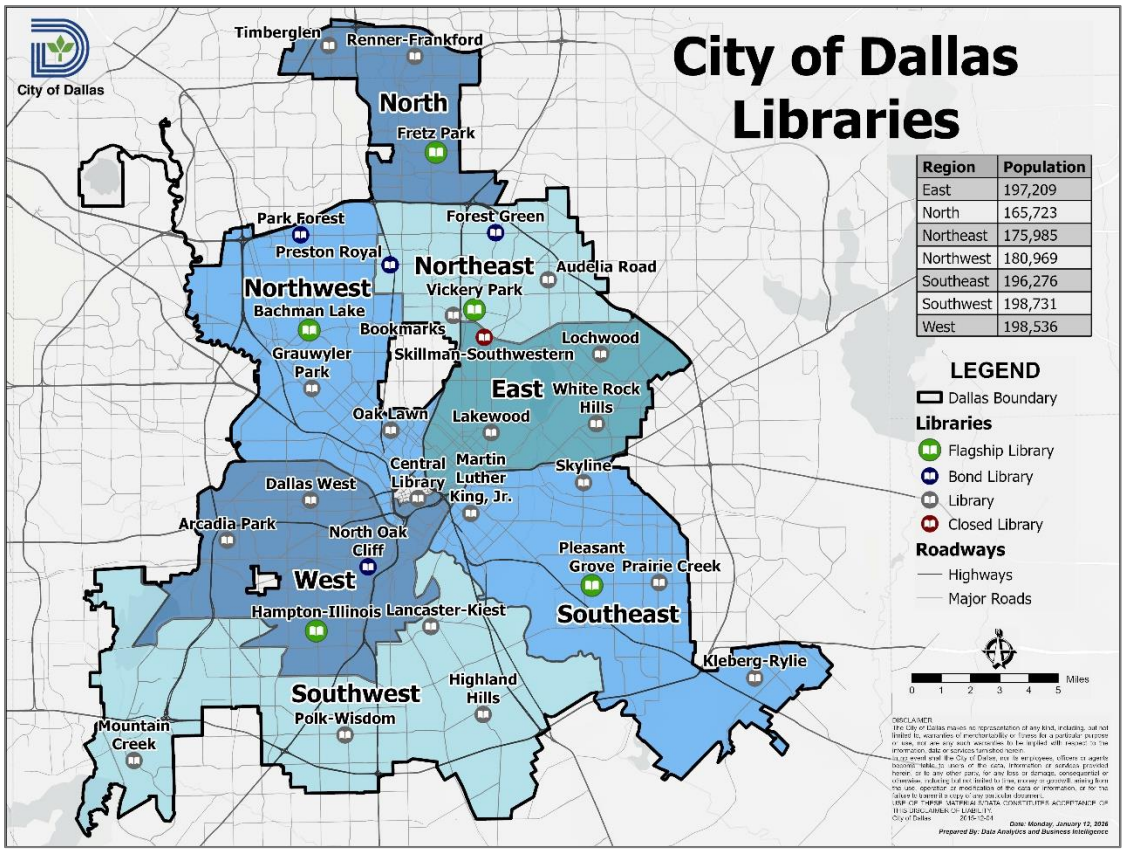

Figure 2: Figure 2 demonstrates the 7 library regions and their associated population counts. Flagship libraries are denoted by green points on the map and were identified by Dallas Public Library staff. Bond funded libraries are denoted as navy blue points on the map. Closed libraries are denoted by magenta points on the map. All other libraries are denoted with gray points on the map.

Table 3: Regional Library Assessment

	Community Need Model *(Community Need* 50% + Library Usage* 30% + Library Coverage * 20%)*		**Usage Model** *(Library Usage* 50% + Community Need* 30% + Library Coverage * 20%)*		**Equal Weighting Model** *(Community Need* 33.3% + Library Coverage * 33.3% + Library Usage* 33.3%)*	
Region	***Library Name***	***Rank***	***Library Name***	***Rank***	***Library Name***	***Rank***
North	Fretz Park	Flagship	Fretz Park	Flagship	Fretz Park	Flagship
	Timberglen	1	Timberglen	1	Timberglen	1
	Renner Frankford	2	Renner Frankford	2	Renner Frankford	2
Northwest	Bachman Lake	Flagship	Bachman Lake	Flagship	Bachman Lake	Flagship
	Grauwyler Park	1	Oak Lawn**	1	Park Forest*	1
	Park Forest*	2	Park Forest**	2	Grauwyler Park	2
	Oak Lawn	3	Grauwyler Park	3	Oak Lawn	3
Northeast	Vickery Park	Flagship	Vickery Park	Flagship	Vickery Park	Flagship
	Audelia Road	1	Audelia Road	1	Forest Green*	1
	Forest Green*	2	Forest Green*	2	Audelia Road	2
	Preston Royal*	3	Preston Royal*	3	Preston Royal*	3
East	Lochwood	1	Lochwood	1	Lochwood	1
	White Rock Hills	2	White Rock Hills	2	White Rock Hills	2
	Lakewood**	3	Lakewood	3	Lakewood**	3
	Skillman Southwestern**	4	Skillman Southwestern	4	Skillman Southwestern**	4
West	Hampton-Illinois	Flagship	Hampton-Illinois	Flagship	Hampton-Illinois	Flagship
	Dallas West	1	Dallas West	1	Dallas West	1
	Arcadia Park	2	Arcadia Park	2	Arcadia Park	2
	North Oak Cliff*	3	North Oak Cliff*	3	North Oak Cliff*	3
Southeast	Pleasant Grove	Flagship	Pleasant Grove	Flagship	Pleasant Grove	Flagship
	Prairie Creek	1	Prairie Creek	1	Prairie Creek	1
	Martin Luther King Jr.	2	Martin Luther King Jr.	2	Martin Luther King Jr.	2
	Kleberg-Rylie	3	Kleberg-Rylie	3	Kleberg-Rylie	3
	Skyline	4	Skyline	4	Skyline	4
Southwest	Lancaster-Kiest	1	Lancaster-Kiest	1	Lancaster-Kiest	1
	Polk-Wisdom**	2	Polk-Wisdom	2	Highland Hills	2
	Highland Hills**	3	Highland Hills	3	Polk-Wisdom	3
	Mountain Creek	4	Mountain Creek	4	Mountain Creek	4

Table 3: Table 3 demonstrates the results of the regional - community need, library usage and equal weighting models. Within region ranks are provided in the "rank" column. Rank values of "Flagship" denotes a flagship library which were identified by Dallas Public Library staff. In the East library region, Skillman Southwestern library location is currently closed. Library names with; *, denotes the library has allocated bond funding. Library names with; **, this table is different than the one shown at Quality of Life, Arts, and Culture committee on January 20, 2026, due to a correction in the measurement in median household income.

Discussion

The purpose of this paper is to outline the process and methodologies employed by the Office of Data Analytics and Business Intelligence in assisting the Dallas Public Library develop a framework for the assessment of branches and transition to a regional model. The results of this analysis alone did not result in any recommendations but were reviewed by the subject matter experts from the Dallas Public Library.

This methodology produces a framework for understanding how libraries serve Dallas residents using three data elements (community need, library coverage and library usage) to derive regional models. By integrating standardized data, consistent weighting and multiple modeling perspectives, the outlined methodology balances community need, library access and observed service utilization to produce comparable and relevant results. This approach allows Dallas Public Library decision makers to assess patterns across regions, understand performance and use findings to inform planning and prioritization of future library investments.

For additional information, please see accompanying City of Dallas, Quality of Life, Arts and Culture committee meeting published agenda item for the meeting date of January 20, 2026.

Appendix

The appendix was prepared by the Office of Data Analytics and Business Intelligence at the City of Dallas, published January 30, 2026.

Background

In January 2026, the Office of Data Analytics and Business Intelligence (DBI) published the Dallas Public Library Regional Model Transition Data and Methodology white paper. The white paper provides a detailed walk-through of the data sources, methodologies and frameworks utilized by DBI to assist the Dallas Public Library in building out a regional library system. This appendix provides the data used to derive the regional model framework. Below is a description of the tables in the appendix.

Appendix Table Description

- Table A1 provides the raw data values for community need, library coverage and library usage variables for each library included in the analysis. Based on Dallas Public Library staff, the Dallas Central Library and Northpark Bookmarks locations were not included in the analysis.
- Table A2 demonstrates the normalized data values for community need, library coverage and library usage variables for each library included in the analysis. Dallas Public Library defined flagship libraries are excluded in the normalization step and further downstream analysis.
- Table A3 demonstrates the final library composite scores, using the community need model; derived from community need, library coverage and library usage variables for each library included in the analysis.

Table A1: Raw Library Data

Library Name	Median Household Income	High School Completion Population	Age of Under 5 Population	Drivetime - 15 min	Area (sq. ft.)	Checkouts	Computer Sessions	Programs	Program Attendance
Arcadia Park	$46,667	10,548	2,453	123.36	19,000	20,826	3,390	784	4,237
Audelia Road	$67,790	32,404	5,237	103.01	17,350	157,516	8,115	437	14,777
Bachman Lake	$82,084	22,874	4,270	103.69	20,018	31,938	8,897	320	2,041
Dallas West	$56,904	12,959	3,090	134.08	16,605	24,400	11,931	584	6,313
Forest Green	$57,311	28,982	3,773	134.21	19,881	65,153	14,206	590	7,292
Fretz Park	$77,012	25,064	3,573	135.52	19,500	189,931	12,089	851	26,422
Grauwyler Park	$57,167	8,310	371	122.37	12,500	10,603	3,885	284	2,696
Hampton-Illinois	$56,962	30,329	5,614	119.1	26,288	70,842	13,756	637	9,778
Highland Hills	$46,259	14,747	1,843	170.59	19,600	12,082	12,212	365	4,450
Kleberg-Rylie	$55,245	8,239	1,822	183.47	10,861	17,588	3,458	371	3,982
Lakewood	$93,398	46,602	4,454	88.04	10,600	170,759	10,679	299	8,673
Lancaster-Kiest	$36,975	26,963	5,333	129.26	17,950	10,105	11,731	667	4,886
Lochwood	$80,420	20,318	3,289	93.29	20,200	118,663	7,499	489	17,330
Martin Luther King Jr.	$35,577	13,707	1,995	166.7	13,532	18,769	16,806	851	6,918
Mountain Creek	$74,671	18,302	2,937	152.53	12,729	25,091	4,711	489	4,759
North Oak Cliff	$63,961	22,279	2,504	136.43	15,562	56,039	9,970	302	5,989
Oak Lawn	$109,707	48,000	1,611	121.11	12,900	92,470	11,334	245	4,725
Park Forest	$135,000	27,294	3,334	163.59	10,986	47,234	5,031	427	4,144
Pleasant Grove	$59,052	13,040	3,166	134.91	20,200	16,054	7,100	642	15,158
Polk-Wisdom	$48,216	29,875	4,761	160.41	16,900	19,003	15,682	346	3,912
Prairie Creek	$57,301	23,276	5,854	117.37	18,420	27,268	14,260	945	11,717
Preston Royal	$150,208	31,593	1,716	180.51	12,400	171,752	2,851	464	10,393
Renner Frankford	$91,223	50,189	4,035	147.17	15,193	106,544	8,230	673	4,815
Skillman Southwestern	$78,539	19,721	1,099	97.89	13,200	115,848	6,060	378	5,719
Skyline	$58,089	15,504	2,762	121.72	12,037	20,289	8,814	244	2,295
Timberglen	$59,335	29,349	2,434	181.63	18,500	59,129	10,880	760	6,730
Vickery Park	$45,505	14,317	2,614	107.52	18,000	27,524	17,964	943	17,251
White Rock Hills	$66,352	25,979	4,161	100.41	18,000	59,035	8,235	836	10,466

Table A1: Table A1 represents the raw data values for community need, library coverage and library usage variables for libraries included in the analysis (Dallas Central Library and NorthPark Bookmarks locations are not included in the analysis). Data comes from the 2023 United States Census Bureau - American Community Survey. Drive Time is derived using the ESRI ArcGIS Online, Generate Travel Areas tool. Library metrics were collected and provided to the Office of Data Analytics and Business Intelligence by Dallas Public Library staff.

Table A2: Normalized Library Data

Library Name	Median Household Income	High School Completion Population	Age of Under 5 Population	Drivetime - 15 min	Area (sq. ft.)	Checkouts	Computer Sessions	Programs	Program Attendance
Arcadia Park	0.903	0.945	0.380	0.370	0.875	0.066	0.039	0.770	0.129
Audelia Road	0.719	0.424	0.887	0.157	0.703	0.912	0.377	0.275	0.830
Dallas West	0.814	0.887	0.496	0.482	0.626	0.088	0.651	0.485	0.267
Forest Green	0.810	0.506	0.620	0.484	0.967	0.341	0.814	0.494	0.332
Grauwyler Park	0.812	0.998	0.000	0.360	0.198	0.003	0.074	0.057	0.027
Highland Hills	0.907	0.845	0.268	0.865	0.938	0.012	0.671	0.173	0.143
Kleberg-Rylie	0.828	1.000	0.265	1.000	0.027	0.046	0.043	0.181	0.112
Lakewood	0.496	0.086	0.745	0.000	0.000	0.994	0.561	0.078	0.424
Lancaster-Kiest	0.988	0.554	0.905	0.432	0.766	0.000	0.636	0.603	0.172
Lochwood	0.609	0.712	0.532	0.055	1.000	0.672	0.333	0.350	1.000
Martin Luther King Jr.	1.000	0.870	0.296	0.824	0.305	0.054	1.000	0.866	0.307
Mountain Creek	0.659	0.760	0.468	0.676	0.222	0.093	0.133	0.350	0.164
North Oak Cliff	0.752	0.665	0.389	0.507	0.517	0.284	0.510	0.083	0.246
Oak Lawn	0.353	0.052	0.226	0.347	0.240	0.510	0.608	0.001	0.162
Park Forest	0.133	0.546	0.540	0.792	0.040	0.230	0.156	0.261	0.123
Polk-Wisdom	0.890	0.484	0.801	0.758	0.656	0.055	0.919	0.146	0.108
Prairie Creek	0.810	0.642	1.000	0.307	0.815	0.106	0.818	1.000	0.627
Preston Royal	0.000	0.443	0.245	0.969	0.188	1.000	0.000	0.314	0.539
Renner Frankford	0.515	0.000	0.668	0.620	0.478	0.597	0.385	0.612	0.168
Skillman Southwestern	0.625	0.726	0.133	0.103	0.271	0.654	0.230	0.191	0.228
Skyline	0.804	0.827	0.436	0.353	0.150	0.063	0.427	0.000	0.000
Timberglen	0.793	0.497	0.376	0.981	0.823	0.303	0.575	0.736	0.295
White Rock Hills	0.732	0.577	0.691	0.130	0.771	0.303	0.386	0.845	0.543

Table A2: Table A2 shows the minimum to maximum and maximum to minimum (in the case of median household income and high school completion population) normalized values for community need, library coverage and library usage variables for libraries included in the analysis. Defined flagship libraries were removed from further downstream analysis. Data comes from the 2023 United States Census Bureau - American Community Survey. Drive Time is derived using the ESRI ArcGIS Online, Generate Travel Areas tool. Library metrics were collected and provided to the Office of Data Analytics and Business Intelligence by Dallas Public Library staff.

Table A3: Regional Library Assessment Scores and Ranking (Community Need Model)

Region	Location	Community Need (Weight = 50%)	Library Usage (Weight = 30%)	Library Coverage (Weight = 20%)	Total Score	Weighted Score	Rank
North	Fretz Park (Flagship)						
	Timberglen	0.833	0.573	0.361	1.767	100	1
	Renner Frankford	0.591	0.528	0.220	1.340	75.8	2
Northwest	Bachman Lake (Flagship)						
	Grauwyler Park	0.905	0.048	0.112	1.065	100	1
	Park Forest	0.609	0.231	0.166	1.007	94.6	2
	Oak Lawn	0.316	0.384	0.117	0.817	76.7	3
Northeast	Vickery Park (Flagship)						
	Audelia Road	1.015	0.718	0.172	1.906	100	1
	Forest Green	0.968	0.594	0.290	1.852	97.2	2
	Preston Royal	0.344	0.556	0.231	1.131	59.4	3
East	Lochwood	0.927	0.706	0.211	1.844	100	1
	White Rock Hills	1.000	0.623	0.180	1.803	97.8	2
	Lakewood	0.663	0.617	0.000	1.280	69.4	3
	Skillman Southwestern	0.742	0.391	0.075	1.208	65.5	4
West	Hampton-Illinois (Flagship)						
	Dallas West	1.099	0.447	0.222	1.768	100	1
	Arcadia Park	1.114	0.301	0.249	1.664	94.2	2
	North Oak Cliff	0.903	0.337	0.205	1.445	81.7	3
Southeast	Pleasant Grove (Flagship)						
	Prairie Creek	1.226	0.765	0.224	2.216	100	1
	Martin Luther King Jr.	1.083	0.668	0.226	1.977	89.2	2
	Kleberg-Rylie	1.047	0.115	0.205	1.367	61.7	3
	Skyline	1.033	0.147	0.101	1.281	57.8	4
Southwest	Lancaster-Kiest	1.223	0.424	0.240	1.886	100	1
	Polk-Wisdom	1.087	0.368	0.283	1.739	92.2	2
	Highland Hills	1.010	0.300	0.361	1.670	88.5	3
	Mountain Creek	0.944	0.222	0.180	1.345	71.3	4

Table A3: Table A3 demonstrates the final scores for all libraries included in the regional community need model.