

“Community Planning and the Public Library Geographic Database: (PLGDB): Using Geographic Information and Government Data to Market Your Library”

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Federal Library Conference Meeting
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Federal Depository and Government Information Librarians & Specialists can serve as a vital resource for administrative and system-wide demographic and community planning research, initiatives and projects.

**Case Study:
Community Study Process
King County Library System
[Public Library, WA]**

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What?

- Use digital data and mapping software to create administrative and system maps, demographic spreadsheets & charts

Why?

- Support Community Study & Assessment Process for KCLS Community Libraries with emphasis on Reading, Children's and Education initiatives
- System-wide population and demographic data to support ESL and literacy initiatives and grant proposals

Primary Areas of Interest for KCLS

Determine Library Service Area

- Where are library customers coming from – who are we serving?
- Produce ArcView® Circulation and PC Bookings maps to help Library Manager and Associate Director determine Library Service Area boundaries [use selected Census Tracts and City Boundaries, if applicable; unincorporated areas still exist in King County]

Primary Areas of Interest for KCLS

Census, Education & Local Data

- Racial, ethnic and immigration make-up of community
- Foreign-born and Languages Spoken at Home
- Number of children 0-17
- Number of adults 65+
- Transportation barriers to community libraries
- K-12 school test scores & demographics

Community Study Products

- Demographic spreadsheets & charts
- Education data spreadsheet
- Library Service Area maps (ArcView®)

Demographic Spreadsheets & Charts

- Comprehensive demographic profile (SF1 & SF3 tables)
- Summary demographic profile (selected tables from Comprehensive Profile)
- Demographic charts – Age, Race, Language Spoken at Home

Burien Library Service Area Demographics

Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

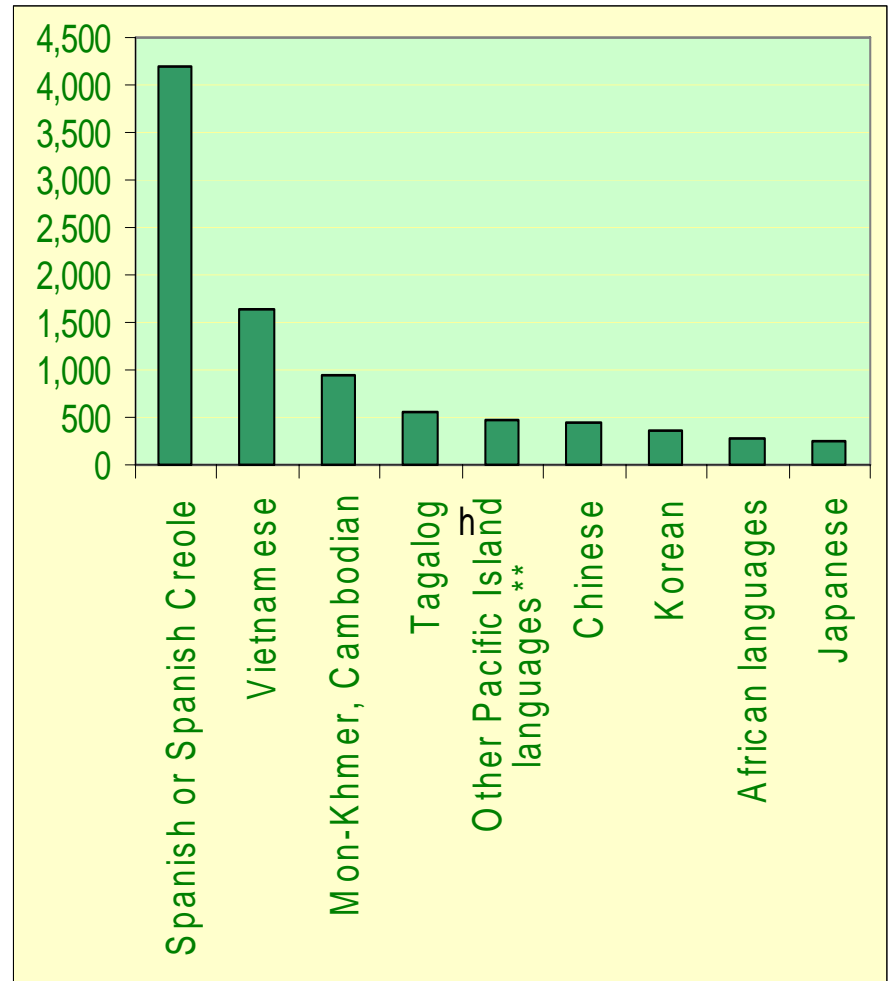
	60%											Service Area Total	City of Burien	King County
	267	268.02	270	274	275	276	278	279	280	285	286			
TOTAL POPULATION (P1)	3,367	5,117	3,228	4,980	4,578	4,168	3,396	6,373	3,392	3,587	6,298	48,484	31,881	1,737,034
MEDIAN AGE BY SEX (P13)														
Both sexes	37.8	31.8	34.4	35.9	39.1	36.7	46.5	40.1	33.3	38.1	45.0	38.1	38.4	35.7
Male	37.2	31.5	33.7	35.6	37.8	35.2	45.7	38.5	32.4	37.5	44.7	37.3	37.3	34.9
Female	38.4	32.1	35.2	36.3	40.4	38.0	47.5	41.5	34.5	38.5	45.2	38.9	39.4	36.6
AGE (P12)														
Total:	3367	5,117	3,228	4,980	4,578	4,168	3,396	6,373	3,392	3,587	6,298	48,484	31,881	1,737,034
Under 5 years	216	413	237	332	295	289	160	307	236	199	287	2,971	1,932	105,321
5 to 9 years	253	427	224	348	291	325	184	333	225	236	389	3,235	2,080	111,162
10 to 14 years	244	364	261	381	281	257	207	394	197	208	486	3,280	2,047	109,992
15 to 19 years	220	424	228	359	287	273	185	364	245	223	404	3,212	2,007	108,261
20 to 24 years	163	354	202	286	210	279	83	358	254	193	200	2,582	1,754	116,597
25 to 34 years	437	827	491	692	619	559	224	890	631	540	432	6,342	4,347	294,443
35 to 44 years	600	1,181	693	978	829	838	307	1,248	885	733	632	8,924	6,101	411,040
45 to 54 years	561	668	473	767	662	584	647	1,051	460	540	1,122	7,535	4,895	259,136
55 to 59 years	169	225	158	225	220	207	267	367	144	195	451	2,628	1,703	83,442
60 to 64 years	124	173	107	179	184	159	193	271	107	145	337	1,979	1,267	58,085
65 to 74 years	240	243	170	286	1,066	950	334	421	163	213	585	4,671	2,138	88,884
75 to 84 years	153	132	94	193	309	211	316	384	112	176	510	2,590	1,756	68,348
85 years and over	35	36	24	39	148	52	64	117	32	28	139	714	491	24,540
17 years and under	848	1,483	857	1,292	1038	1023	662	1,252	786	782	1,447	11,470	7,261	390,646
%	25.2%	29.0%	26.5%	25.9%	22.7%	24.5%	19.5%	19.6%	23.2%	21.8%	23.0%	23.7%	22.8%	22.5%
18 years and older	2,518	3,634	2,371	3,688	3,540	3,145	2,734	5,121	2,606	2,805	4,851	37,013	24,620	1,346,388
%	74.8%	71.0%	73.5%	74.1%	77.3%	75.5%	80.5%	80.4%	76.8%	78.2%	77.0%	76.3%	77.2%	77.5%
65 years and older	428	411	288	518	782	573	714	922	307	417	1,234	6,594	4,385	181,772
%	12.7%	8.0%	8.9%	10.4%	17.1%	13.7%	21.0%	14.5%	9.1%	11.6%	19.6%	13.3%	13.8%	10.5%
RACE (P3)														
Total:	3,367	5,117	3,228	4,980	4,578	4,168	3,396	6,373	3,392	3,587	6,298	48,484	31,881	1,737,034
Population of one race:	3215	4,843	3,036	4,758	4,377	4,009	3,324	6,139	3,171	3,425	6,126	46,423	30,517	1,666,535

Burien Library Service Area Demographic Summary

2000 Census - 100% Data: Summary File 1	Library Service Area	City of Burien	King County
Population	55,689	31,881	1,737,034
Average household size	2.58	2.36	2.39
Median age	37.6	38.4	35.7
Under 18 years	23.7%	22.8%	22.5%
65 and over	13.1%	13.8%	10.5%
White	72.0%	75.7%	75.7%
Black	4.8%	5.1%	5.4%
Asian	10.0%	7.0%	10.8%
Hispanic	10.7%	10.7%	5.5%
American Indian and Alaskan	1.4%	1.3%	0.9%
Native Hawaiian and Other Pacific Islander	1.6%	1.2%	0.5%
Owner occupied housing	60.4%	59.2%	65.0%
Renter occupied housing	39.6%	40.8%	35.0%
2000 Census - Sample Data: Summary File 3			
Median household income	\$ 46,410	\$ 41,577	\$ 53,157
Median home value	\$ 190,266	\$ 175,100	\$ 236,900
Educational attainment - high school graduate or higher	82.8%	84.8%	90.3%
Educational attainment - bachelor's degree or higher	21.0%	21.2%	40.0%
Foreign born	17.8%	15.2%	15.4%
Language other than English	22.8%	19.5%	18.4%

2000 Census - Language Spoken at Home

LANGUAGE (other than English) SPOKEN AT HOME FOR THE POPULATION 5 YEARS AND OVER (PCT 10)*	Burien Library Service Area	
Spanish or Spanish Creole	4,183	8.0%
Vietnamese	1,630	3.1%
Mon-Khmer, Cambodian	940	1.8%
Tagalog	546	1.0%
Other Pacific Island languages**	483	0.9%
Chinese	449	0.9%
Korean	369	0.7%
African languages	272	0.5%
Japanese	253	0.5%



*This list represents the 9 highest language population (except English) from table PCT 10 (SF3)

** Other Pacific Island languages include Chamorro, Hawaiian, Ilocano, Indonesian and Samoan
 Summary File 3, Technical Documentation, Page B-31.

Education data

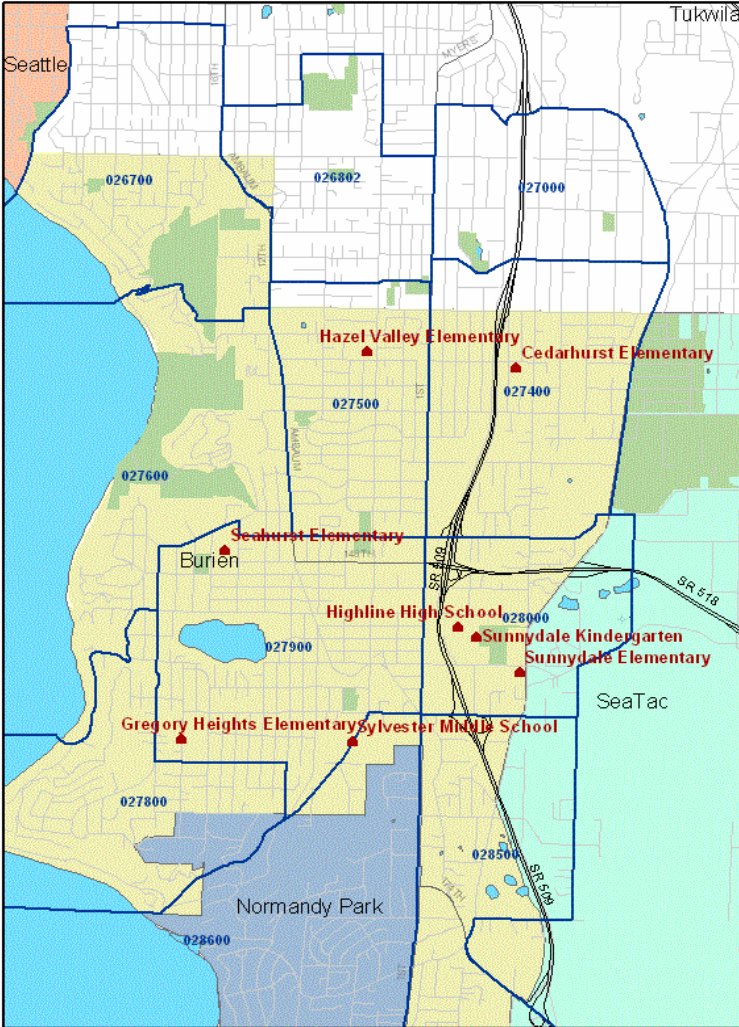
- Create education data spreadsheet for K-12 schools served by Community Library staff & services

2002-2003 School Year													
Burien Library Community Study School Statistics	School District	Enrollment*	Grades	Free/Reduced Lunch*	Ethnicity					Library Materials Budget	PTSA and other funds - Library Materials	ITBS/ITED Scores 2002- 2003 (Core Total or Composite)	WA Assessment 2002- 2003 (Overall % Meeting Standards in 4 Subjects)
					Black*	Asian or Pacific Islander*	American Indian or Alaska Native*	Hispanic*	White*				
Elementary School													
Cedarhurst	Highline	330	K-6	56.0%	7.3%	21.8%	1.5%	19.7%	49.7%			47.0%	24.4%
Gregory Heights	Highline	401	K-6	28.9%	7.5%	8.0%	2.5%	13.5%	68.6%	\$ 1,704	\$ 2,500	56.0%	28.6%
Hazel Valley	Highline	362	K-6	67.0%	18.8%	15.2%	6.1%	28.5%	31.5%			39.0%	9.1%
Marvista	Highline	463	K-6	4.3%	1.3%	10.2%	0.9%	2.8%	84.9%	\$ 4,592	\$ 2,200	73.0%	78.6%
Mount View	Highline	475	K-6	72%	9.7%	36.8%	3.6%	26.3%	23.6%			28.0%	10.3%
Olympic Intermediate	Highline	314	4-6	60.3%	12.1%	15.0%	0.6%	18.2%	54.1%			42.0%	17.0%
Salmon Creek	Highline	380	K-6	78%	8.4%	38.4%	2.6%	26.8%	23.7%			38.0%	12.5%
Seahurst	Highline	583	K-6	62.3%	13.7%	11.1%	1.4%	36.2%	37.6%	\$ 5,677	\$ 2,617	52.0%	19.7%
Shorewood	Highline	360	K-6	37%	6.9%	17.8%	1.7%	10.3%	63.3%			66.0%	44.9%
Southern Heights	Highline	319	K-6	60%	9.4%	22.3%	0.6%	24.1%	43.6%			39.0%	25.5%
Sunnydale	Highline	485	K-6	56.4%	18.8%	14.0%	2.1%	28.7%	36.5%	\$ 6,522		44.0%	13.5%
Middle/Jr. High School													
Cascade	Highline	709	7-8	59.2%	13.8%	29.9%	3.0%	14.4%	38.9%			NA	12.7%
Sylvester	Highline	737	7-8	44.0%	11.7%	12.9%	3.5%	14.5%	57.4%	\$ 3,838	\$ 880	NA	20.8%
High School													
Highline	Highline	1,529	9-12	34.3%	8.2%	12.4%	2.0%	16.0%	61.5%	\$ 8,247		46.0%	30.0%
Evergreen	Highline	1,183	9-12	53.6%	12.5%	34.3%	2.1%	16.4%	34.7%			44.0%	26.2%
SeaTac Occupational Skills Center	Highline	119	11-12	**	9.2%	22.7%	0.8%	15.1%	52.1%			NA	NA
Private Schools													
St. Bernadette		55	7-8.										
St. Francis of Assisi		460	K-8								\$1,500		
J.F.K. Memorial High		875	9-12.								\$15,000		
Three Tree Montessori		45	K-6										
Glendale Lutheran		35	K-3										
Registered Home School Users (Name) School District													
		310											
Total in Service Area		6,713											
*OSPI Internet site 2002-2003 school year													
** No data found on OSPI website													
5/13/2004													

Library Service Area Maps

- Circulation
- PC Bookings
- Census tracts
- K-12 Schools and School Districts
- Orthophoto

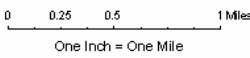
Burien Library Service Area Schools



Legend

- ▲ Burien Library Schools
 - 2000 Burien Census Tracts
 - Freeway
 - Streets
 - Parks
 - Water
 - Unincorporated
- CITY NAME**
- Burien
 - Normandy Park
 - SeaTac
 - Seattle

KCLS 03/04



Hardware

- PC w/17-inch screen
 - 2003 Minimum Technical Requirements for Public Access Workstations in Federal Depository Libraries
http://www.access.gpo.gov/su_docs/fdlp/computers/mtr.html
- Color Printer – HP DeskJet 950C
- Networked to Plotter in Community Relations Department – HP DesignJet 500PS 42

GIS Desktop Software

- ESRI ArcView® 9 (ArcGIS® 9 product)
- Single-User License
w/maintenance/support

Data Sources - Demographics

- American FactFinder: select data tables and download SF1 and SF3 .csv files - export into MS Excel spreadsheet
- State, County or City data (City data usually published in 'Legislated' Washington State Comprehensive Plans and on Internet)
- Puget Sound Regional Council population & housing estimates

<http://www.psrc.org/datapubs/data/>

Data Sources - Education

- Washington State Office of Superintendent of Public Instruction K-12
<http://reportcard.ospi.k12.wa.us/Default.aspx>
 - School demographic profiles
 - Enrollment
 - % students receiving free/reduced lunch
 - Race/Ethnicity %
 - ITBS/ITED & WASL school test score averages
 - School Library materials budget
 - Registered home school users in each School District

Data Sources – Maps

- King County GIS ArcInfo-formatted ‘Shapefile’ data (CDs, updated quarterly). Includes census geography and points of interest shapefile layers such as County boundary, conflated* census tracts, street addresses, parks, schools, and water bodies.
- Tiger boundary files also at <http://www.census.gov/geo/www/cob/index.html>

**map conflation can be defined as combining two or more map data sets from different sources to form a new spatial data set with a unique representation and consistency – in this case Census Tiger + King County GIS data*

Data Sources – Maps

- Purchase orthophoto map for Community Library Service Area (USGS King County quads too old for rapid level of growth in King County).

Produce KCLS Circulation and PC Bookings Maps

- Create map in ArcMap with basic King County boundaries, feature layers and service area census tracts.
- Create new Circulation and PC Bookings address map layers with geocoding tool in the ArcMap application of ArcView®. Patron addresses display as points on map.

Geocoding: Produce Circulation .dbf Files

- .dbf data files are needed for geocoding and displaying address points on a map within ArcView®.
- Extract & 'clean-up' circulation .csv file from patron account address and zip data for a library's patrons who checked out materials during a given time period (protect patron confidentiality). Convert .csv address & zip file to .dbf format [required by ArcView® software].

Geocoding: Produce PC Bookings .dbf Files

- Public Computer workstations at KCLS have Telus PC Bookings timing software. Extract report of barcode numbers for patrons who have used the PCs on a given day. These barcodes are matched with patron address and zip information in the patron account database and a .csv file is extracted and converted to .dbf.

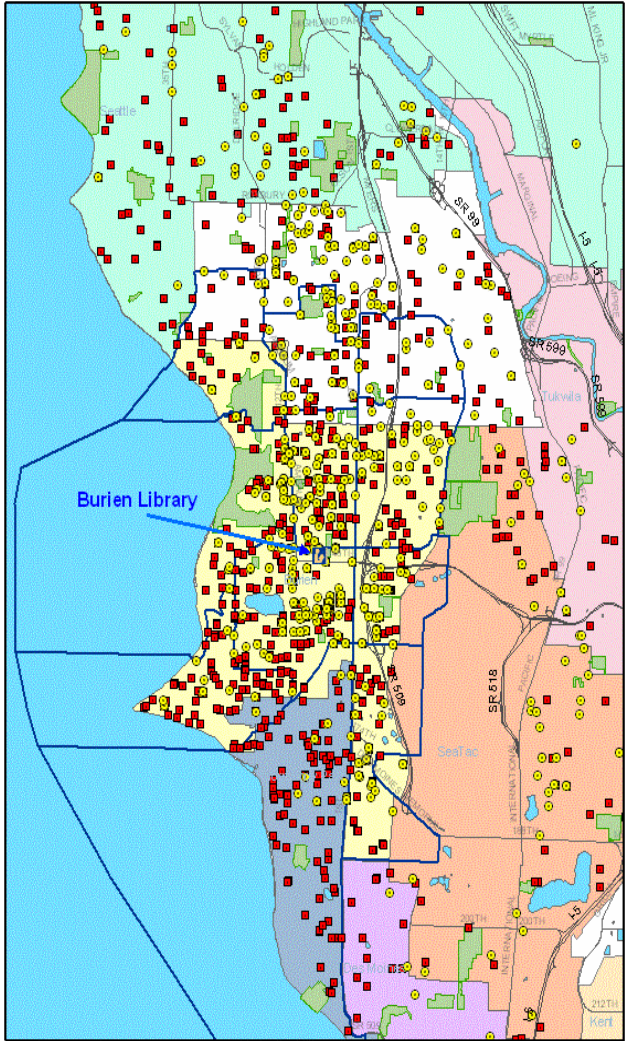
Geocode Addresses as Points on Map

- Geocoding process matches KCLS patron addresses to King County street addresses and displays the matched addresses as points on a map.
- Open map. Select geocoding tool within ArcMap application. Choose patron .dbf file and address locator for King County street addresses.
- A new map layer will be added to the map and address points will be displayed on the map.

Plot Addresses as Points on Map

- Patron addresses that do not match with King County addresses can be individually plotted on the map. For example, there may be new construction in the Library Service Area or a new school that is not a part of King County Shapefile data yet.

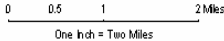
Burien Library Circulation & PC Bookings, April 25-27, 2004



Legend

- burien circ 2004
- burien circ 2004
- burien circ 1004
- burien pobook 42504
- burien pobook 42504
- burien pobook 42704
- 3000 Burien Census Tract
- Freeway
- Primary Arterial
- Parks
- Water
- Cities**
- Unincorporated
- Burien
- Des Moines
- Heat
- Normandy Park
- SeaTac
- Seattle
- Tukwila

KCLS 0404



Community Studies: Getting Started

- Market service to Administration.
- Volunteer to help with community planning, needs assessment projects.
- Stress the cost –effectiveness of purchasing or upgrading hardware and software – there IS a monetary impact, but it is NOT as expensive as hiring a consultant.

Community Studies: Getting Started

- GIS has a high learning curve.
- Take advantage of any and all training sessions & local expertise; vendor classes are expensive, but seek funding for one class a year, if possible.
- Only person in system using GIS?
Purchase maintenance/support.
- Not a geographer or urban planner?
Download or purchase GIS data products, coverages or shapefiles.

Community Studies: Getting Started

- Seek help from staff in your IT Department.
- Time factor – make sure these duties are recognized as a vital part of your job; don't expect to create maps while you are helping the public on the desk or phone!

Is it Worth It? Yes!

- You are providing a valuable service to administrators and staff. They love this!
- Added-value for Depository Librarian. Market your expertise.
- Market demographic, census and government data sources and the FDLP.
- Increase job satisfaction for FDLP and government information staff.
- It's fun!