



# Boise Library Campus Health Impact Assessment: Library Site Visit & The 7 Dimensions of Health

Phase I Final Report, December 2018

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NOTE new sections in this version of the report:

- Preliminary interior assessment: Page 18-21
- Universal design & emerging technologies: Page 22
- Background research on libraries and their health impacts: Page 27 (in Appendix)

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# 1. Introduction & Purpose

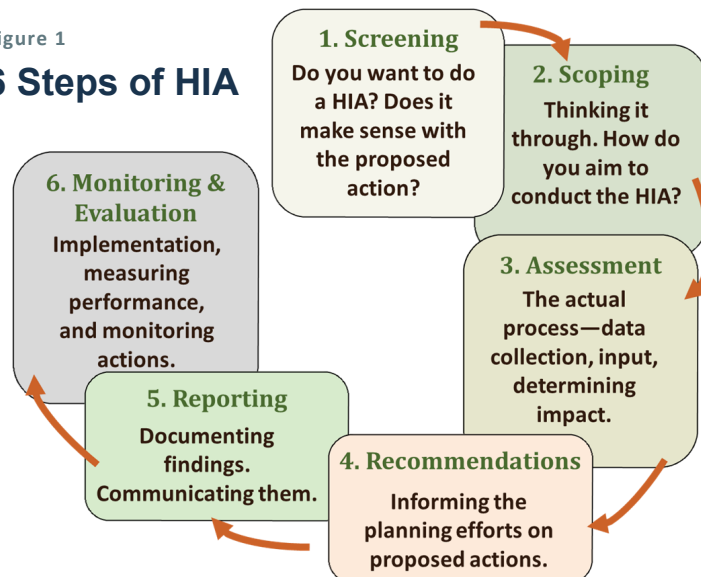
The Health Impact Assessment (HIA) for the Boise Library Campus is a comprehensive evaluation of the likely health impacts of the facilities—its site design, transportation network linkages, and program offerings—on the health of the population of the City of Boise.

The HIA is developed around the six steps of HIA (Figure 1) in order to conform to accepted international standards for the practice. The City of Boise and its project consultants, as of March 2018, are already past the Screening phase and are now in a combined Scoping and Assessment phase tied to the preliminary site design concepts for the campus site located along the Boise River between Capitol Boulevard and 8th Street in downtown Boise.

This report summarizes Phase I of the HIA, generally called a Health Conditions Assessment. More details will emerge through this initial concept phase as the Scoping and Assessment steps are completed leading up to the selection of a preferred site concept plan—an effort led by the lead library campus consultant Safdie Architects and the City of Boise. The HIA will inform the various steps of this design process with the goal of compiling recommendations that lead to further enhancement of site design features and potential mitigation steps for any negative health impacts that may result in site design, construction, or future campus operations. Figure 2 shows the exterior site plan from the Safdie Architects site plan, which were the subject of this phase and into which the results of Phase I provided input into site-specific elements.

Figure 1

## 6 Steps of HIA



## Health Conditions Assessment

This Health Conditions Assessment (HCA) report provides a snapshot of prevailing City of Boise and Ada County population health conditions, as well as a review of relevant City of Boise planning documents with themes linking the campus site to health topics. It also includes the preliminary

When complete, the HCA will form the first phase of Assessment and provide a mechanism by which site design concepts are evaluated for their likely impacts in comparison to one another in addition to the existing library campus. The result

Figure 2

## New Main Library Campus—Exterior Program



Source: City of Boise, Safdie Architects



of this HIA will be used for stakeholder discussions and public outreach.

The health data related to specific City of Boise neighborhoods (at the Census tract level) will help better understand which areas may be most in need of library campus services to improve health. The location of these populations may also reveal transportation network gaps and needs.

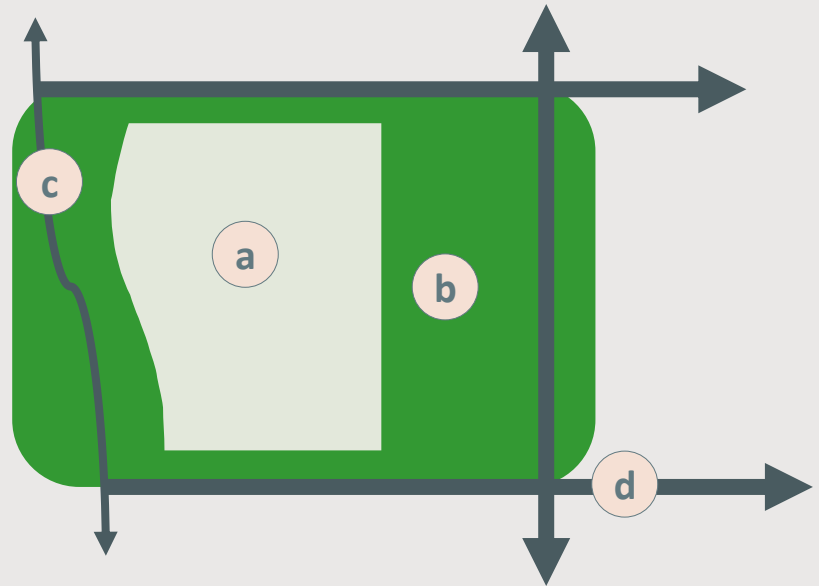
Ada County-level data, as well as some regional data that includes Canyon and Gem Counties, comes primarily from a regional health assessment. Given the existing library's function as a one-of-a-kind facility within the region, there may be functions that improve the overall health of residents beyond the Boise City limits.

More than 50 individuals and organizations were key informants to the Phase I Health Conditions Assessment portion of the HIA. Input was provided via two workshops—March and November 2018—with other one-on-one interviews throughout the process.

Next steps include more integration of key stakeholders, as well as continued assessment to wrap up evaluation of the exterior elements of the site, and a focus on interior elements. These next steps will complete the HIA and delve deeper into health impacts of interior features, evaluating final site plans for impacts to accessibility, and universal design components of interior spaces to reflect an all ages and abilities approach to both improving health and providing access to library functions.

Figure 3

## HIA for the Boise Library Campus



- a** Assess interior site design, use, and program offerings with regard to current and emerging library campus functions.
- b** Assess exterior space design, use, and program offerings with regard to activated spaces and relationship to interior functions.
- c** Assess active transportation networks, off-site linkages, and building access, with focus on enhancing the experience and improving safety.
- d** Assess motorized transportation networks, off-site linkages, and building access, with focus on minimizing negative influences on active transportation connectivity and safety.



Boise Library Campus - Design Vision  
View from Greenbelt and Anne Frank Memorial

Source: City of Boise, Safdie Architects

## 2. Health Data

The residents of Boise, Ada County, the Treasure Valley and beyond will patron the City’s new main library, performing arts and history center. For generations to come, the multipurpose campus will directly and indirectly impact the health of visitors. It is therefore essential to understand the current and trending prevailing health conditions so the architects and designers of the spaces can consider the conditions in the design process. This summary is intended to depict what some of those conditions are and how they can inform the campus design process.

To this end, a review was conducted inclusive of several document and data sources. Those reviewed include:

- St Luke’s Community Health Needs Assessment (CHNA)
- United Way Community Health Needs Assessment
- United Way ALICE Report
- CDC’s 500 Cities data
- US Census

While common themes emerge among these many efforts, the scale of the data varies greatly due to the type of organization conducting the study or based on the type of data available for some geographies such as county, city or Census tract.

Community Health Needs Assessments (CHNA) are a tool by which organizations, primarily non-profit hospitals and community health departments, use to determine current prevailing health conditions across the population. They are generally targeted at a region served by the hospital or health department and include county-specific data as the smaller available geography.

CHNA’s utilize common datasets available through the Census, CDC, and County Health Rankings. Census data contains indicators of health conditions related to health determinants—which are the overlapping social structures and economic systems that research has shown are responsible for most health inequities. Factors such as race, income, and age are considered health determinants. CDC and County Health Rankings data stem from the Behavioral Risk Factors Surveillance System (BRFSS) is the world’s largest telephone-based health survey, organized by the CDC and managed by state health departments.

Both the Census and BRFSS data is available at county and Census tract levels, which helps identified more discreet community health needs for places like the City of Boise. While Census data is commonly used, BRFSS data has historically been limited to state and county-level data. In 2016, CDC released BRFSS data at the Census tract level for the 500 largest cities by population. For Idaho, this includes Boise, Meridian, and Nampa.

The variety of data sources allows the Boise Library HIA to determine a variety of health conditions, recognizing that what we know will vary by geography based on the datasets. This section attempts to link those relevant datasets to the regional health priorities and the common health themes most likely influenced by the Boise library campus.

## Regional Health Priorities

Considerable data, interviews, and sources of health information were reviewed, vetted, and prioritized with public health officials throughout the Valley in the 2016 CHNA conducted by St Luke’s hospital system. The priorities are identified in Figure 4 for Health Behaviors and Clinical care.

For Health Behavior, numerous health challenges exist but two in particular rose to the top: obesity and mental health. In both cases, prevention was one of the key strategies in addressing these public health crises in the Boise region. These are health priorities for which the library campus may help influence.

Under Clinical, access to care for people in poverty, availability of behavioral services, and chronic disease management were some of the top priorities.

Other conditions that ranked high in either the St Luke’s assessment or the United Way assessments include access to health care, overall poverty, preventative treatments such as exams, tests, or treatments, and education attainment.

Figure 4

### Priority Community Health Needs

#### Health Behavior

Identified Community Health Needs	Related Health Factors and Outcomes	Populations Affected Most*	Total Score
Weight management programs	Obese/Overweight adults	Income <\$75,000, Hispanic, No college degree	20.9
	Obese/Overweight teenagers	Income <\$35,000, Hispanic	19.9
Wellness and prevention programs	Obesity	Income <\$75,000, Hispanic, No college degree	21
	Diabetes	Income < \$50,000, No high school diploma	19.6
	Mental illness		20
	Suicide		20
Substance abuse services and programs	Illicit drug use	Unemployed, incomes <\$50,000, males < 34 years old	19.2
Wellness and prevention	High blood pressure	Income < \$35,000, No college, Overweight, Age 65 +	18

#### Clinical Care

Identified Community Health Needs	Related Health Factors and Outcomes	Populations Affected Most*	Total Score
Affordable care for low income individuals	Children in poverty	Income < \$50,000, Age < 19	20.1
Affordable health insurance	Uninsured adults	Income < \$50,000, Hispanic, No college	21
Availability of behavioral health services (providers, suicide hotline, etc)	Mental health service providers	Income < \$50,000	21.1
Chronic disease management programs	Diabetes	Income < \$50,000, No high school diploma	20.6
Chronic disease management programs	High blood pressure	Income < \$35,000, No college, Overweight, Age 65 +	18.6
Integrated, coordinated care (less fragmented care)	No usual health care provider		18.2

Source: St. Luke’s Community Health Needs Assessment



## Boise Comparisons

Health data for use in comparing Boise to the two other largest cities in Idaho—Meridian and Nampa—is readily available from the Centers for Disease Control and Prevention, as well as the Census. The tables below (Figure 5) contain the comparison of conditions for Boise related to Nampa and Meridian,

as well as the State of Idaho and the United States. These datasets were selected based on their relationship with other library/campus-related influences. Overall Boise, compares favorably to Nampa, the state of Idaho, and the United States, and is on-par with Meridian in many categories.

Figure 5

### How Boise Compares to Meridian, Nampa, Idaho, and the United States



Boise rates better than



Boise has same or similar rates



Boise rates worse than

Boise compared to...	Individuals Below Poverty Level	Transit Access Score	No Healthcare Coverage	Adult Physical Inactivity	High Blood Pressure	Adult Obesity	Mental Health
Meridian							
Nampa							
Idaho		N/A					
United States		N/A					

Place	Individuals Below Poverty Level	Transit Access Score	No Healthcare Coverage	Adult Physical Inactivity	High Blood Pressure	Adult Obesity	Mental Health
Boise	14.1%	3.9	13.9%	17.2%	27.8%	26.6%	10.8%
Meridian	9.3%	0.4	13.1%	16.9%	26.6%	26.9%	10.6%
Nampa	22.4%	1.5	23.1%	27.5%	28.6%	34.0%	13.2%
Idaho	15.2%	N/A	14.1%	21.2%	31.2%	28.6%	15.3%
United States	15.1%	N/A	10.8%	26.2%	30.9%	29.8%	16.5%

**Individuals Below Poverty Level:** Percent of population based on Census data that has income below the poverty level.

**Households with No Vehicle Access:** Households reporting no access to a motor vehicle.

**No Healthcare Coverage:** Estimates for current lack of health insurance among adults aged 18–64 years

**Adult Physical Inactivity:** Estimates for no leisure time physical activity for adults aged 18 and older.

**Adolescent Physical Activity:** Were not physically active at least 60 minutes per day on 5 or more days, youth in grades 9 through 12.

**High Blood Pressure:** Rates among adults aged 18 and older who were told they have high blood pressure.

**Adult Obesity:** Rates among adults aged 18 and older.

**Adolescent Obesity:** Had obesity, based on body mass index ratings, youth in grades 9 through 12.

**Mental Health:** Greater than or equal to 14 days per year reporting mental health as not good among adults aged 18 and older.

Source: CDC Behavioral Risk Factors Surveillance System, 2015; US Census American Community Survey, 2016; Center for Neighborhood

## Obesity & Physical Inactivity

Obesity has become the nations number one affliction and is attributable to most chronic diseases, which have dwarfed communicable diseases as the top killers in the nation and throughout the world for most nations. Americans have largely selected diets rich in carbohydrates including sugar, and continually move less as auto-centric land uses and transportation systems, reliance on technology, and reduced passive physical activity participation continue to permeate a majority of peoples lives.

Data demonstrates obesity and the many ailments related to it continue to rise throughout Idaho and the Treasure Valley.

Figure 6 shows over the last ten years, adult obesity has risen nearly 50% from 19% in 2003 to 28% in 2013. Worth noting, this is obesity, not overweight. Obese is defined as a Body Mass Index over 30, whereas overweight is defined as a BMI over 25. As of 2015, the estimates in Ada County are 24.4% and 30.7% of adults in Canyon County, are considered obese.

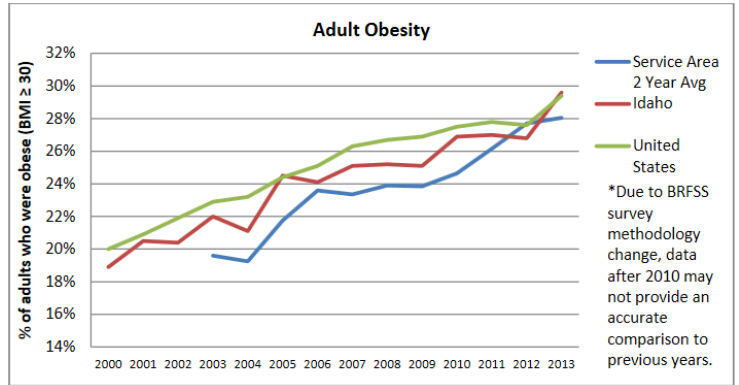
Youth obesity is also showing signs for concern (Figure 67). Although the 10-17 year old overweight/obese measure are ranked very low compared to other states (Idaho is 7th best), something happens into the high school years as high school obesity rates do not fare as well, with Idaho ranking 33 out of 50 states.

Within Boise, no Census tract has a population base with less than 23% of people rating as obese (Figure 8). The East End and Southeast Boise show the best rates, as do other neighborhoods that abut the Foothills. The Census tract level obesity data indicates widespread concerns, with Downtown

Figure 6

## Ada & Canyon County Obesity

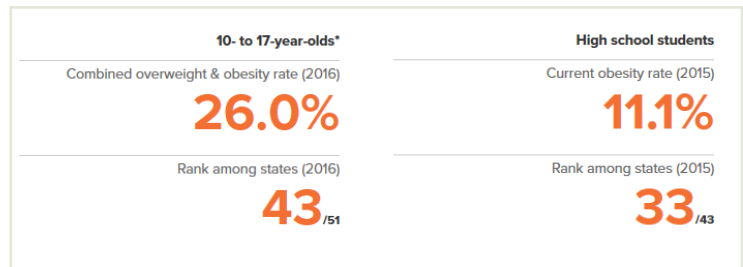
Service Area represents the two county combined rates



Source: St. Luke's Community Health Needs Assessment

Figure 7

## Idaho Youth Obesity Rates & Rank



Source: The Trust for America's Health

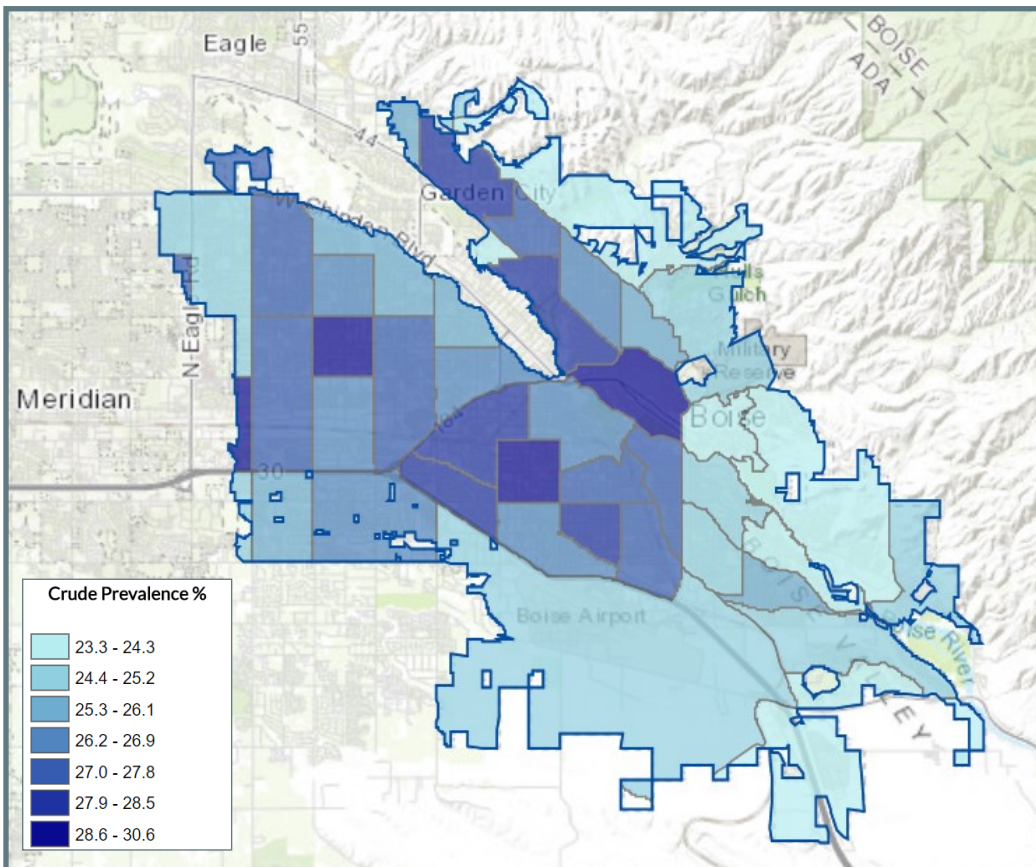


Figure 8

## Obesity

Model-based estimates for obesity among adults aged 18 years and older – 2015

### Areas of Concern

- Downtown
- Central Bench
- West Valley

Source: CDC 500 Cities Data



(where the library campus is located), the Central Bench and West Valley neighborhoods indicating high levels of concern.

Other health conditions like high blood pressure, high cholesterol, and colorectal cancer, all generally affiliated with weight management have either risen year over year, or remain at elevated levels. Figure 9 includes rates of change since 2003 for High Cholesterol and High Blood Pressure in Ada and Canyon Counties. (St Luke's CHNA)

Further, when ranked against the other US states, Idaho residents came in 38th in terms of "having good health and enough energy to get things done daily". This despite being ranked 4th on how strongly they felt about their overall community and 17th for feeling like they have purpose. (ALICE report). These two measures are significantly far apart and suggests a real disconnect with perceptions of "quality of life".

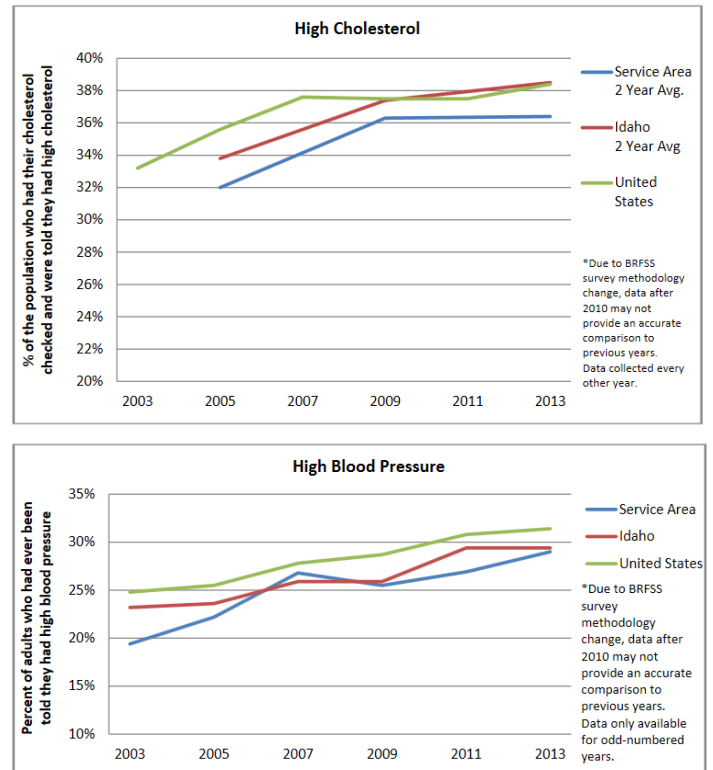
Boise-specific data is available at the Census tract level of High Blood Pressure (Figure 10), which provides an indicator of which geographic areas of the city have the highest rates of hypertension. The neighborhoods showing higher rates are more widespread than the Obesity data, with Southeast Boise showing the best rates among other city neighborhoods, as with the Boise State University campus. Area of concern are shown alongside the map in Figure 10.

Figure 11 (next page) shows overall rates of Physical Inactivity as it relates to BRFSS survey subjects that reported no leisure-time physical activity. The highest rates were reported again in the Downtown neighborhood where the library campus is located, as well as in the Central Bench, Borah, Liberty Park, and West Bench neighborhoods.

Figure 9

## Ada & Canyon Counties High Cholesterol & High Blood Pressure

Service Area represents the two county combined rates



Source: St. Luke's Community Health Needs Assessment

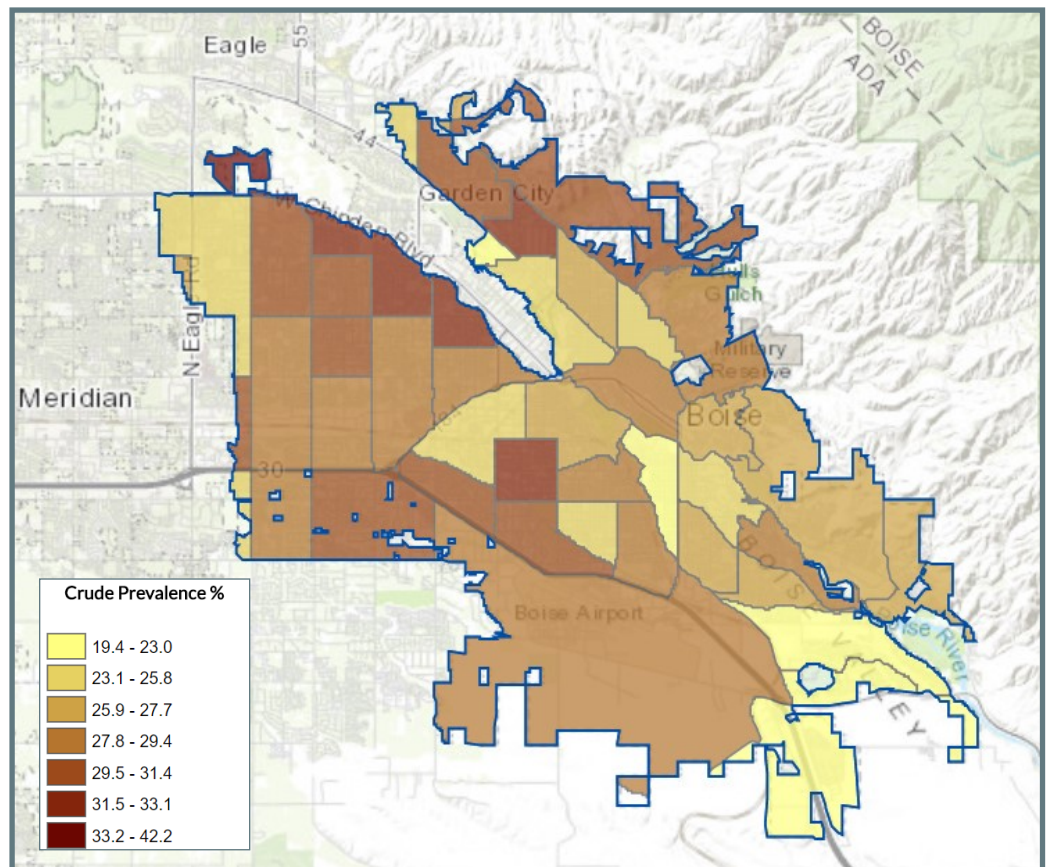
Figure 10

## High Blood Pressure

Model-based estimates for high blood pressure among adults aged 18 years and older – 2015

### Areas of Concern

- Central Bench
- Glenwood Rim
- West Bench
- West Valley
- Collister



Source: CDC 500 Cities Data

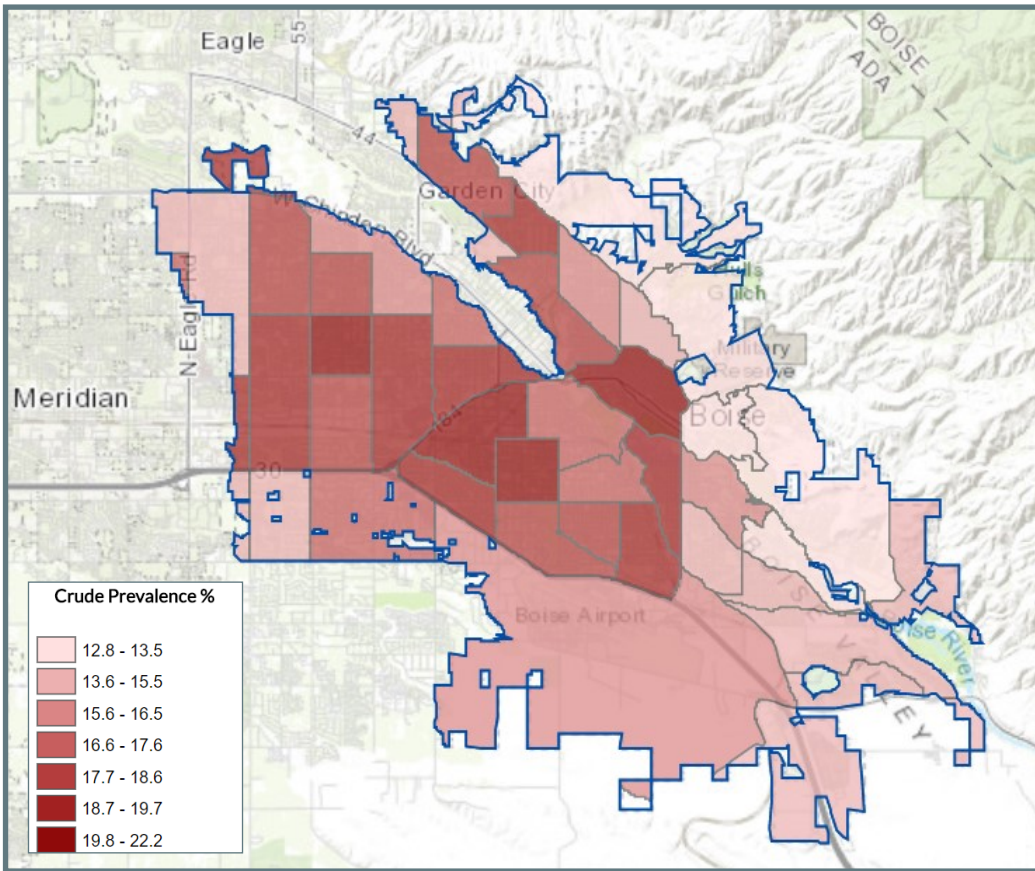


Figure 11

## Adult Physical Inactivity

Model-based estimates for no leisure-time physical activity among adults aged 18 years and older – 2015

### Areas of Concern

- Downtown
- Central Bench
- Liberty Park
- Borah
- West Valley

Source: CDC 500 Cities Data

## Campus Implications

Weight management is largely about maintaining a healthy diet and achieving basic physical activity. The library campus can help patrons achieve both health needs through a mixture of design, offerings and programming.

The immediate geographic impact of the library may help the Downtown neighborhood area, which flagged for the highest rates of Obesity and Physical Inactivity. Access to the library campus from other outlying neighborhoods will be important to understand how those populations may utilize the library campus offering.

### Outdoor Spaces

Specifically to design (programming recommendations will be made in subsequent deliverables) encouraging and even virtually forcing people to move is essential. The campus should be laid out in a way that makes people walk, bike, and climb stairs. This is achieved in multiple ways.

First, from the outside of the site, making walking, bicycle riding, and transit usage (which equates to walking and bicycling) is critical. Streets designed for people without cars is a must. This means wide and spacious sidewalks with significant enhancements like street trees, furniture, lighting, curb extensions at intersections, high visibility crosswalks and possible signal devices, and an engaging and involved space with building fronts. From a bicyclist perspective, protected bicycle facilities that attract all riders at all times is a must or conflicts will occur from riders choosing to ride on sidewalks instead. For transit riders needs, include comfortable and safe shelters, and minimal street crossings.

Once at the campus, patrons should be able to freely move among the indoor and outdoor spaces as the spaces should interact with each other. Allowing someone traveling by bicycle along the Boise Greenbelt, then directly to a major entrance of the library campus, then inside with little work, uncertainty, or trepidation of being in the right place or interacting the correct way, ought to be maximized. What registers with residents of Boise and Idahoans in general, is the appreciation of the outdoors. Using glass, large open doors that allow freedom of movement, perhaps indoor atriums and trees like that of the Idaho Power headquarters, outdoor seating and gathering places, water features that connect the site to the river, and other elements of nature, encourage people to move, be active, and immerse themselves in a healthy space.

### Indoor Spaces

In terms of the interior spaces, movement can be achieved through a number of features. Long, engaging, and interesting open spaces will help people forget they are even walking. Separating utilitarian spaces like restrooms, study areas, and lecture rooms from the circulation areas is important. Placing elevators in more obscure areas and instead making staircases that are exciting and maybe even interactive, would be ideal. Prompting patrons to experience all of the location is also essential. By adding features that change with staff actions, outdoor light, or seasons, can spur users to move more with each visit so as to be sure not to miss the changes.



# Mental Health

The second priority for the area is in the realm of mental health. Mental health is a very broad term that describes everything from depression to PTSD and more.

A strong and capable mind is essential to living a happy and productive life. Unfortunately, Idaho has high rates of mental and behavioral health issues which includes suicide rates.

These high rates coupled with a lack of professional counselors and treatment options have been identified as a lack throughout the state. The reports show the Boise area and the state as having suicide rates well above national averages. Suicide is the 2nd leading cause of death for Idahoans age 15-34 and for males age 10-14, according to the Idaho Department of Health and Welfare.

Beyond the high rates of suicide, overall general poor mental health state is also common. In the Boise area, the number of people who have stated they experience bad mental health days for at least one week out of the last month, has remained steady at about 16% of the surveyed population (Figure 12) . This is above the Idaho rate and nearly equal with national rates.

Based on CDC 500 Cities health data (Figure 13), the pockets of the City of Boise with the highest documented concerns related to mental health are the Downtown neighborhood, Boise State campus, South Boise Village, and the Central Bench.

The St. Lukes' Community Health Needs Assessment identified improving the prevention, detection, and management of

Figure 12  
**Mental Health in the Region**

Seven or More Days of Bad Mental Health in the Past 30 Days					
	2011	2012	2013	2014	2015
Boise City–Nampa MSA	16.8%	16.7%	16.6%	14.4%	16.1%
Idaho	16.7%	16.7%	17.0%	15.0%	15.3%
U.S.	17.2%	17.4%	16.5%	16.3%	16.5%

Source: Behavioral Risk Factor Surveillance System

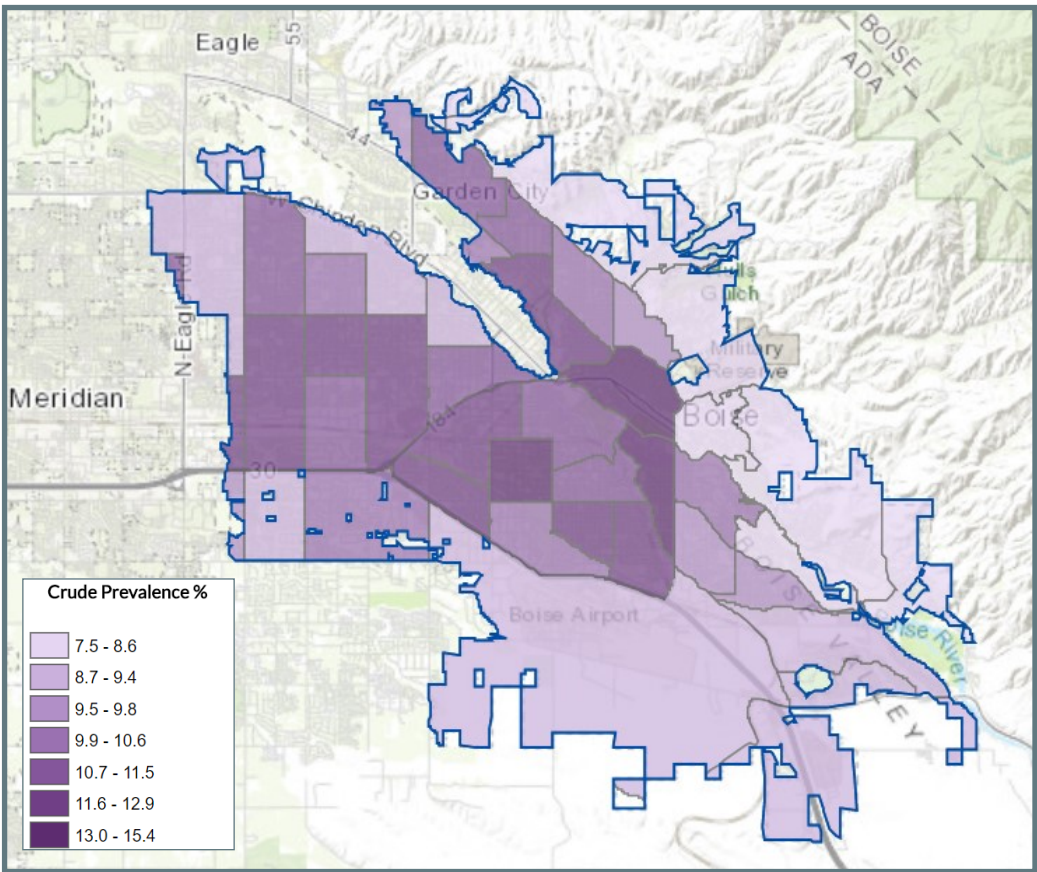
Source: United Way Community Health Needs Assessment

Figure 13  
**Mental Health**

% of population reporting than or equal to 14 days per year reporting mental health as not good among adults aged 18 and older.

## Areas of Concern

- Downtown
- Boise State campus
- South Boise Village
- Central Bench



Source: CDC 500 Cities Data

mental illness and reduced suicide as a “significant health need” for the Boise region. They specifically identified working with the community to not only improve treatment, but reduce the stigma and find ways to better promote physical activity and reduce obesity.

## Campus Implications

Certainly a library and campus like what is being proposed in Boise is not directly tied to the more conventional approaches to mental health such as psychotherapy. The space can however address mental health through less obvious and more preventative measures.

### Nature

As was described on the previous page, nature and the environmental world are proven to possess healing powers that shape mental health. For some patrons, the city setting is the only exposure to nature they get. It is imperative that the spaces work with the natural surroundings or that elements of nature be brought into the library space to expose visitors to a setting known to improve state of mind.

The easier natural context to use is of course the Boise River and all that it means to residents. The water, the fish, the water fowl, the sound, the cool air that settles along the greenbelt, and the many other elements should be brought into the design as much as possible. However, another natural environment that means equally as much to area residents in the Boise Foothills.

The rolling hills north of Boise mean so much that residents have continued to purchase property through the City’s bond program. The hills with respect to view shed, shape, and textures should also be incorporated into the design where possible. This could mean rooftop viewing areas, it could also mean contours of the building itself to mimic the foothills. This could also mean using the hills to inspire indoor features like the frames of building glass, even elevation changes inside that could have undulations to them that mirror a nearby trail.

### Workspaces

Key in the discussion of mental health is that of library campus staff. The library will be their workplace, not just their occasional destination. A balance should be struck between allowing staff a quiet space for typical duties and the social interaction and emotional support that comes with a positive work environment.

Offices that capture natural light and views of natural spaces is key. Beyond that, having common areas within work spaces that can be used for gathering places that promote physical activity, casual conversations, maybe a room for quiet reflection, or even places away from library patrons that allow staff members to truly take a mental break, are key.

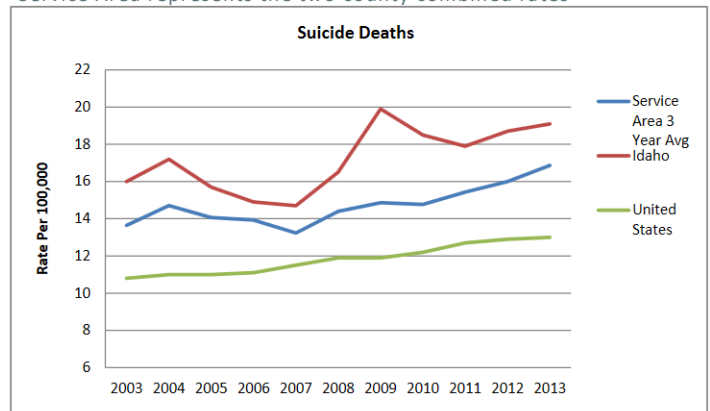
**“Our aim is to work with our community to reduce the stigma around seeking mental health treatment, to improve access to mental health services, increase physical activity, and reduce obesity especially for our most affected populations.”**



Figure 14

## Suicide Deaths in Ada & Canyon Co.

Service Area represents the two county combined rates



Source: St. Luke's Community Health Needs Assessment



# Access to Care

Healthcare dominates the conversation about health in the United States. While the majority of the money we spend on health as a country goes to healthcare, the influence that healthcare has on community health is less impactful than designs and programs that promote healthy behaviors.

Where access to care becomes crucial is when someone is in dire need of care. Largely influenced by socioeconomic status, the United Way CHNA data shows that the Boise region (inclusive of Canyon and Gem Counties) has an access to care rate similar to the state of Idaho, but notably lower than the United States (Figure 15).

The CDC 500 Cities data shows tract-level health insurance access in terms of adults ages 18 to 64 that lack health insurance. The Downtown neighborhood, Boise State campus, and neighborhoods in the West Bench show the highest rates of adults lacking health insurance (Figure 16).

# Campus Implications

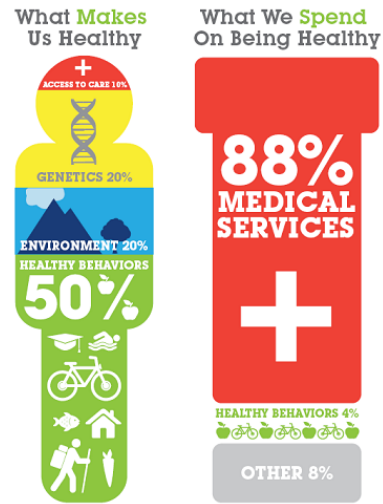
On the surface, the relationship between access to care and libraries may not seem evident, however, the research conducted for the Bown Library HIA revealed that low incomes individuals rely on libraries for internet access to help them sign-up for federal income-based healthcare programs. They also utilize library resources to seek information on competing rates of health insurance companies. Additionally, some agencies are starting to co-locate some health and social service programs—either episodically or permanently—at libraries since co-locating these services helps with access for low income people.

Figure 16  
Healthcare Coverage

Model-based estimates for current lack of health insurance among adults aged 18–64 years – 2015

## Areas of Concern

- Downtown
- Boise State campus
- South Boise Village
- Liberty Park
- Borah
- Central Bench



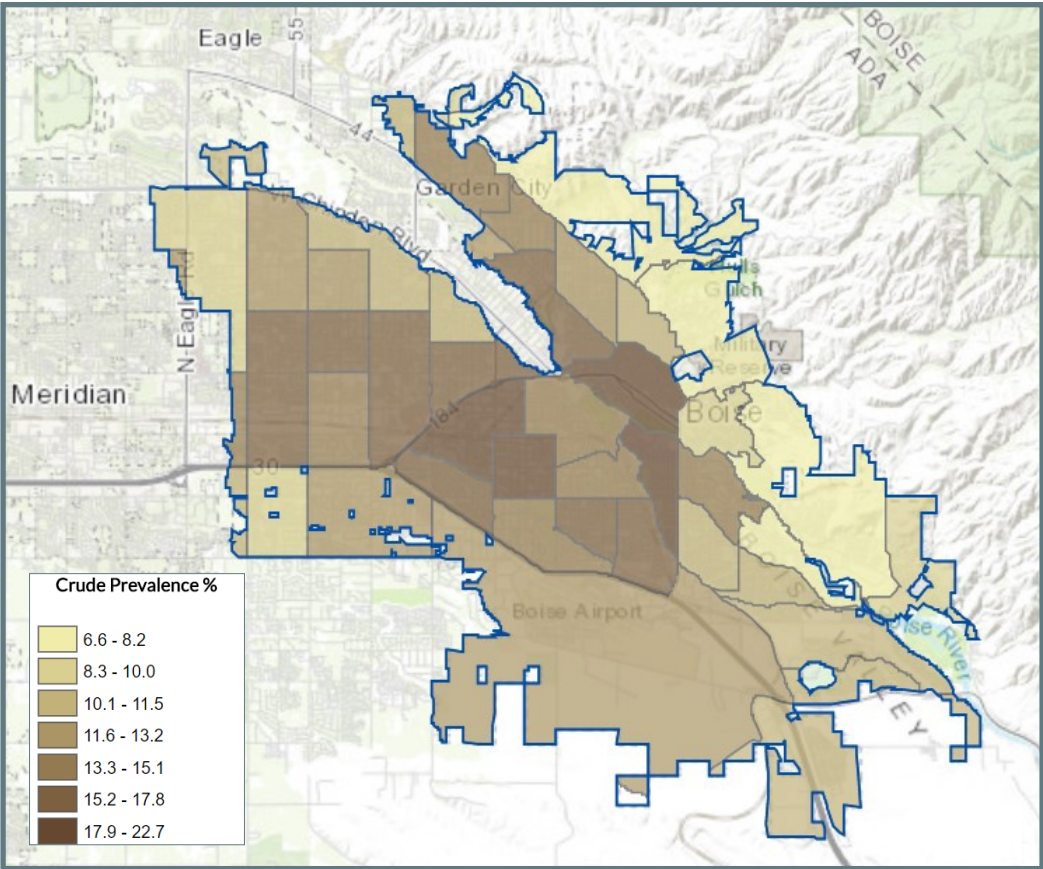
Source: Bipartisan Policy Center

Figure 15  
Access to Care

Percentage of People with a “Medical Home” or Regular Place for Health Care					
	2011	2012	2013	2014	2015
Boise City-Nampa MSA	73.1%	69.8%	71.5%	69.9%	72.8%
Idaho	73.0%	71.7%	71.9%	70.7%	73.0%
U.S.	77.9%	77.9%	76.3%	77.2%	78.6%

Source: Behavioral Risk Factor Surveillance System

Source: United Way Community Health Needs Assessment



### 3. Key Findings

This report is comprised of key findings ascertained from site visits to main libraries in Salt Lake City, Bozeman and Calgary, as well as site observations at Boise’s existing library. A key informant workshop was held on Friday, March 23, 2018, at the Boise library.

The Salt Lake City library visit was specifically scoped into the HIA due to its proximity, function within the state and region, and likely similarities to the eventual design—building and site—to the Boise library. The Bozeman and Calgary visits were ancillary to the effort and were visited as Vitruvian Planning staff were in those cities for other purposes.

The key informant workshop was attended by groups such as AARP Idaho, St. Luke’s Health Foundation, St. Alphonsus Foundation, United Way of Treasure Valley, Idaho Department of Health and Welfare, and others. The workshop included a forum for discussions on local health conditions as presented in the Health Conditions Assessment, as well as a walk around the site and within the library space to discuss opportunities for improved health related to site design and site access.

In general, the Boise library’s location at the hub of regional active transportation networks and within or adjacent to Census tracts with a high level of indicators of poor health, offers an opportunity to help maximize the potential for health improvement on the site, while also serving as a community feature that embodies the theme of public health and serves as an example for how the site and building design can be an example to others—developers, cities, and other institutions.

The Table below summarizes key findings from the site visits and workshop as it relates to key elements of the Health Conditions Assessment. The organization of ideas is geared toward addressing both library patrons and library staff.

The purpose of this information is to bridge those health conditions with what types of design features can be incorporated to promote better health or mitigate likely features or constraints that may negatively affect health. These features may eventually complement programmatic features of the library as well as functions of the performance space and history/cultural center.

Figure 17

#### Health Themes for Boise Library Site Design

	TRANSIT & ACTIVE ACCESS	ACTIVE SPACE, INSIDE AND OUT	PARKING & MOTORIZED ACCESS	HOMELESS POPULATION
Patrons	<ul style="list-style-type: none"> <li>Ample, shaded, convenient bike parking near main entries.</li> <li>Bus stops with covered shelter and direct walk routes.</li> </ul>	<ul style="list-style-type: none"> <li>Limit opportunities for sedentary use of the library, such as standing desks at computers.</li> <li>Shaded outdoor spaces to encourage use and optimize programming potential.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce or eliminate conflicts with active modes.</li> <li>Provide on-site handicap and senior-priority parking rather than from parking structure across the street.</li> </ul>	<ul style="list-style-type: none"> <li>Accommodate the homeless population for vital library functions, such as internet access.</li> <li>Consider areas for the homeless to store their belongings.</li> </ul>
Staff	<ul style="list-style-type: none"> <li>Secured, indoor bike parking along with bike fix-it supplies or outdoor station.</li> <li>Shower facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Standing stations for staff at reference desks and office/cubicle areas.</li> </ul>	<ul style="list-style-type: none"> <li>Allow for drop-offs by staff.</li> <li>Incentivize transit, bicycle and walking commutes equivalent to parking value.</li> </ul>	<ul style="list-style-type: none"> <li>Work with other organizations to serve homeless needs not related to the library function, so staff can focus on their job duties.</li> </ul>
Other Measures	<ul style="list-style-type: none"> <li>Direct connection/access for active modes to library &amp; limited vehicle intrusion on 8th Street north to Fulton.</li> <li>Bus passes or bus fare discounts equivalent to validated parking value to provide an equitable means of access.</li> </ul>	<ul style="list-style-type: none"> <li>Standing desks for youth activities, such as computer areas and classes.</li> <li>Pilot active dwelling areas with things such as treadmills, recumbent bikes, etc.</li> </ul>	<ul style="list-style-type: none"> <li>The placement of the main parking structure north of River will allow for better on-site access for active transportation, as well as more opportunities to reduce hardscape on-site.</li> </ul>	<ul style="list-style-type: none"> <li>Emulate the Salt Lake library with an open floor plan that reduces places for people to dwell out of sight of other patrons and staff.</li> <li>Design restrooms to discourage use for non-restroom purposes.</li> </ul>



## Library Site Visits

A site visit to the Salt Lake City main library was conducted in late March. The visit included interviews with library leadership and librarians, along with observations during the afternoon, evening, and morning hours. The purpose of the visit was to better understand how the scale of a library similar to the one currently proposed in Boise may impact public health, positively and negatively.

The site visit was conducted under the auspices of two principal community health issues identified in the Health Conditions Assessment phase of the HIA: Physical health related to obesity, and mental health issues specific to prevention, treatment and access to care.

### Physical Health

Transportation access was identified as a major physical health contributor. In Salt Lake City, the library is in the downtown core next to City Hall, with a light rail transit stop across the street. The stop is within free fare downtown zone, which was identified as a positive feature for access.

Bicycling was another critical piece, as the library plaza is part of a locally-designated bike route. Library staff noted there is not enough bicycle parking at the site, what is there is inconvenient in terms of placement, and more should be added in locations near the main entry points.

Lastly, ADA access from the parking garage is problematic as no ramps were built from the parking garage to the library.

### Design Implications

- **Access:** Ensuring bus stops near the library are fully sheltered, accessible, and accommodating is essential for transit riders. Ensuring ample bicycle parking is available, near entrances, covered, with a bike fix-it station and tools like common inner tubes, flat patches, and free or low cost bike lights is ideal given the Boise library's location at the hub of many walking and bicycling routes of



The Salt Lake City Library is located in the downtown core along a cross-city bicycle route and adjacent to the light rail station.

regional significance. For employees, bike lockers and showers can improve physical activity and reduce parking burdens.

- **Sedentary Sites:** Physical exercise was mentioned by staff members as being desirable. Staff mentioned getting little activity during their day due to the type of jobs they perform. Sedentary positions were observed consistently and mentioned by librarians as being problematic for their own energy and activity. For patrons, physical activity while inside the library was virtually non-existent. Nearly everyone in the library spaces were sitting, many sleeping, with little to no movement. For many of the homeless population, isolated sitting areas and very comfortable seating often translated into hours of sitting and sleeping without any offerings from the library evident.
- **Seating:** The most important design consideration to promote physical activity may just be to reduce or eliminate



The main floor of the Calgary library has no spaces for patrons to sit; rather they have standing bistro tables and standing computer desks. Library staff (bottom left) are given the option of having a standing desk.



the abundance of seating. The proposition of making the library space somewhat uncomfortable to sit for long hours may seem antithetical to the traditional view of a library. However, other than calorie consumption, sitting is viewed as the most critical variable for obesity. Standing or adjustable height desks and computer monitors, chairs that are not so comfortable that they nearly replicate a couch or bed, charging stations that are standing height and not sitting height, even spaces to read with treadmills, recumbent and upright bikes can help limit sitting. Lastly, kids are most likely to be active and areas should be designed and built away from study rooms. Outdoor play areas may even be necessary to respect library functions yet accommodate activity.

- **Outdoor Features:** Unfortunately, physical activity was not being had in certain locations due to several design factors. Outdoor spaces which were envisioned as gathering places and places for interaction have not materialized as hoped due to environmental exposure. Lack of shade trees has translated into a lack of use during summer months. Additionally, exterior water features which also encourage outdoor activity have succumbed to heat and algae issues and are currently being renovated.
- **Shade/Heat Island:** Even though the Boise library site is near the river and greenbelt, it is far enough removed and elevated that existing trees are likely not enough to provide necessary shade. With summer months reaching 100+ degrees like Salt Lake, adding several large canopy shade trees is essential to optimizing the investment in exterior spaces and increase physical activity rates.

## Mental Health

Everyone interviewed exuded overt pride in the Salt Lake library. Recognizing the library as a valuable community asset, a place where people can let down their guard, converse free from a hostile environment, and inviting to all walks of life, was expressed repeatedly. Because of this level of comfort,

those with severe mental health issues or diagnosed conditions like Autism, are often patrons. Though there are rarely any issues with anyone visiting the library, events do occur.

As much as physical health, mental health issues were front and center throughout the interviews and observations. The most significant element of conversations were the numbers of suicides that have occurred at the Salt Lake site. To date, seven people have taken their lives at the Salt Lake City library including many inside the building. Every incident was due to jumping from high places. Each occurrence was traumatic for patrons and staff who witnessed such tragedies. One reason cited for people participating in such actions was a sense of comfort with the library itself. As people with mental health issues continue to battle mental health challenges, the library and its staff were comfortable places, inviting and freeing. Because of this, it was felt that those who leapt from high places felt that committing suicide in friendlier confines was appropriate.

**Catwalks & Rooftop Areas:** As mentioned, each person who committed suicide jumped from high and accessible places both exterior and interior to the space. From a design perspective this would mean making spaces accommodating for viewing, but discouraging and difficult to scale for such purposes. Using higher walls and railing, making surfaces difficult to climb, using cameras and sensors to monitor people in such locations, strategically placed netting, or other tactics is key.

**Meeting Space:** Staff in Salt Lake noted that meeting spaces, including study rooms do not offer the privacy sought by many. Glass walls and windows do not connect to the ceilings, which allows sound to easily transfer into and out of these spaces. This means groups talking about sensitive subjects either have to be extra quiet at all times or may not use the library at all. Correspondingly, it was noted that those with conditions like Autism or Tourette Syndrome, who may not be aware of the noises they make or how loud they are speaking are unable to use the rooms as all noises can be heard outside the spaces.



The interior entrance to the Salt Lake City Library includes prominent, convenient stairways rather than placing them in difficult to find or see locations. Ideally, this helps promote use of the stairs for those who are able to use them.



Senior-priority parking at the Bozeman library aligns with feedback from AARP Idaho to provide convenient, direct access to the library for older adults.



Calming environments are best for most anyone but especially with any form of mental or behavioral health conditions. Designing dedicated spaces for quiet reflection, exposure to natural features like water or plants, and quasi-private spaces that can be used as a temporary sanctuary are recommended. Meeting spaces are particularly challenging as plain glass allows clear views into rooms, while solid walls may promote illicit behaviors. Having open spaces with some degree of privacy is ideal.

### Other Health Issues

Homeless populations in the Salt Lake City area are regular guests of the library. This was also evident in Bozeman. Library staff noted that the general homeless population who visit the site are welcomed guests like anyone else. However, they also note that with such a population comes challenges not typical or other patrons.

Those challenges include bringing large backpacks with belongings, using restrooms for bathing, concerns with on-site grooming, drug use, and panhandling. In Salt Lake, they noted that when the library first opened, there was a push to keep the homeless population at bay. As time went on and lessons learned about how to better address the population, the approach changed. Volunteers of America has a permanent presence and offices within the Salt Lake Library to work with the homeless population and their needs.

Staff in both the Bozeman and Salt Lake libraries felt that the desire to provide very comfortable seating areas tended to promote more dwelling by the homeless population. In contrast to one another, staff in Bozeman felt the library design had “too many places to hide” or areas that allowed the homeless population to dwell in corners, meanwhile the Salt Lake staff appreciated the open floor plans that made the presence of everyone more visible to other patrons as they moved about the facilities.

**Design Implications:** Several recommendations were made to better manage the homeless population. This included bathroom design with common wash areas so bathing and grooming was not taking place behind closed doors. A desire for temporary locker facilities was also noted, as well as offices for intervention counseling and crisis intervention. Both library’s staff noted that inclement weather resulted in an increased presence of the homeless population.

### Strategic Partner Interviews

A two hour workshop was held on March 26th at the main library. The purpose of the workshop was to collect the thoughts of area stakeholders on the relationship between existing public health concerns and the design of the new library campus.

Approximately 30 people attended the discussion representing the State Department of Health and Welfare, Central District Health, Saint Alphonsus and St. Luke’s hospital groups, AARP, Boise State University, the Lusk Neighborhood Association, the American Heart Association and many more.

The format of the workshop included a presentation of findings to that point, an exterior walk around the library to dis-



The stakeholder workshop include a walk around the existing library site to identify opportunities to improve health.



The group felt that keeping 8th Street between the Greenbelt and Fulton open and convenient to bicyclists and pedestrians, with limited vehicle intrusion, was important to keeping active transportation convenient and safe.

cuss external design, and an internal walk to discuss layout and internal design. The discussion was fruitful and insightful. The results of the workshop are included in this section.

### Physical Health

The group identified a number of ideas to enhance the library space for purposes of either being physically active or encouraging activity that impacts physical health in some way. Those ideas are summarized below for outdoor and indoor areas.

#### Outdoor Considerations

- Natural outdoor playground space, respecting the river surroundings so kids can play without being a distraction inside the building.
- Designing a main entrance from river as many residents will be using bicycles or walking to access the buildings.
- Café like space to be able to enjoy a drink or snack while reading, using a laptop, or tablet.



- Access for older adults from priority parking areas respectful of limited mobility.

## Indoor Considerations

- Dedicated space for nursing mothers is important to consider for the health of both mother and baby.
- Buffered space between user areas that allows group discussions and activity, yet away from more quiet spaces intended for more traditional activities.
- Different seating heights to encourage standing or short stints of sitting, which is problematic for activity.
- Particularly in kid space, to encourage movement, include embedded floor tiles for interaction.
- Physical play space located inside that allows activity in inclement weather or to maintain parental monitoring.
- Exposed and interesting staircases were suggested to attract patrons rather than elevators.

## Mental Health

The group discussed mental health issues facing the area population and considered the implications of the library design both inside and outside when making the following suggestions.

## Outdoor Considerations

- The river has a calming effect on visitors and bringing the trees, water, plants, river stones, and driftwood towards the library to make a more direct connection was suggested to bring a calming and serene environment to visitors.
- Construct a meditation garden where individuals or classes can be taught while facing the river.

## Indoor Considerations

- Meeting places for groups of 10-15 to gather is important

as there were reported to be few in the area, especially for more sensitive discussions or activities like AA or others.

- Serenity can also come from views. Specifically, the group mentioned the prospect of views of the Boise foothills as being important to improving mental health.

## Boise Library Observations

Over the course of a week, the team observed activities inside and outside the main library campus. The library was busy as spring break was in session.

In addition to observing patrons and their activities, the team conducted interviews with librarians, visitors, and people walking along the periphery of the library site. There were a number of commonalities between what was observed at the Boise Library compared with what the team witnessed at the Salt Lake library, Bozeman library and Nampa library.

One of the more unique aspects that separates the Boise library from others in the proximity to a major river and green-belt as only the Bozeman library had anything similar, though much more modest in size than Boise.

## Physical Health

The presence of bicycles at the library was high despite weather conditions that were cool and cloudy. This coupled with the Salt Lake staff claiming summer is by far their busiest season spells a significant increase in bicycle traffic. Adequate and secure bike parking, shaded, and visible, as suggested previously, will be required to avoid bikes being locked to trees, railings, or other fixed objects.

Like each of the other libraries, patrons sitting for long periods of time is readily obvious. Whether teens playing video games, adults reading, groups meeting and conversing, virtually no one was standing unless seeking a book off a shelf. One notable exception to this was observed at the Boise library—virtual reality. The single VR booth was busy and those participating



The Bozeman Library has elements that integrate the nearby trail network and park into the site. The east side of the building (left) serves as a trailhead for the area's Main Street to the Mountains Trail System. Utility boxes (below) on trails accessing the library have book-themed wraps, similar to what has been done on traffic signal controller boxes throughout downtown Boise.

in the technology were active, moving, and seemingly enjoying themselves immensely.

This may indicate that the use of technology such as VR, can be increased and promoted to capture more participants should they chose. As suggested, there are a number of ways visitors can be promoted to move more and sit less through external and internal design features.

One less obvious observation and claim made was the height and type of shelving used in the Boise library. Several people indicated that the current configuration makes some uncomfortable as shelves are taller than all patrons and can limit sight lines. This translates into a sense of discomfort, especially in evening hours. If people are intimidated or fearful of others, they may not visit the library or limit their interactions with the spaces.

### Mental Health

People repeatedly mentioned the desire to have more natural light in the library spaces. The current spaces are dark due to the limited opportunities available when the old warehouse was retrofitted for the library function. However, natural lighting combined with views of the Capitol, Boise River, foot-

hills, are all desired by patrons.

An appreciation for music is also obvious in the library as the section was largely occupied with patrons throughout the week. Through interviews it was discovered that the library has a recording studio but that it is not available unless staff is present. Having dedicated areas where music is playing, available to play by scanning CD's, and recording it with staff help would be a valuable edition.

### Other Health Implications

External to the library, one of the most apparent observations was the popularity of the Anne Frank Memorial. Throughout the week, the memorial was consistently being visited by people of all ages. This indicates a clear connection with such tasteful and important memorials coupled with the location near the river. The library space has an opportunity to duplicate this type of memorial though perhaps with Boise or Idaho specific topics. An interpretive trail around the perimeter of the campus for example could be an attraction that fits the spirit of the library, honors the historic and cultural elements of the space, and promote both physical and mental health.

Figure 2

## Natural Lighting & Scenic Vistas

### Salt Lake City



Looking south toward the Wasatch Front from an upper floor.



Natural lighting is prevalent throughout.

### Bozeman



Looking north toward Main Street and distant mountain ranges on the 2nd floor.



Natural lighting is prevalent on the main floor.

## Assessing Interior Concepts

The first round of interior spaces input was conducted in a workshop at the Boise Main Library on Friday, November 2, 2018. A dozen people from organizations such as St. Luke's, Boise State University, United Way, and AARP attended.

The goal was to receive input on interior site features and ask how the participants felt they contributed to the two main HIA themes of physical activity and mental health. Each table was assigned a different floor of the Library and given a poster-size drawing of the floor's concept.

Level One—Greenbelt level and Level Two—Main level garnered the most input, which makes sense given those floors are the hub of the interactive spaces, with Levels Three and Four consisting primarily of library stacks, research rooms, and other traditional library functions.

There was also discussion on how these interior spaces interface the exterior experience, as well as access to the Main and Greenbelt levels.

The following pages contain a floor-by-floor summary of input received from workshop participants as well as additional insights from the HIA consultant team. Key themes are listed below.

### Key Themes

- In general, the interior spaces are purposely designed to be interactive, and with that promote physical and mental well-being.

- As witnessed and experienced through the evaluation of the Salt Lake City Main Library, the proposed interior concepts for the Boise Main Library have similar themes, all of which received positive reviews from Salt Lake Library staff and affirmed through Boise workshop participants.
- The southeast corner “Greenbelt access” may not address access needs for a majority of Greenbelt users who are coming to the library, since the main movements off the Greenbelt are on the southwest side of the building. The Capitol Boulevard sidewalks receive notably less use than the two Greenbelt access points to 8th Street.
- A desire for more refined considerations of universal accessibility was expressed, including, designing all-inclusive ramps instead of stairs and ramp combinations, where possible. Another suggestion was to consider performance spaces so people with disabilities are allowed to choose locations from which to view the performance, in front or in back of the crowd.
- The Library offers an opportunity to incorporate new technologies for digital wayfinding in both the exterior and interior spaces. This digital wayfinding serves all users and is especially important for people with disabilities who may use smartphone technologies to interact with digital wayfinding to better navigate and access the building and campus.

Figure 18

## New Main Library Building—Interior Cross-Section



Source: City of Boise, Safdie Architects



## Level One—Greenbelt Level

The ground floor of the library is to be located below grade and serve as the operational hub for the site. Additionally, the level will include children spaces, a recording room, the lower lobby, truck docks, extension services, arts & history archives, and many other features. The entry points on the ground level are on the eastern, northern, and western sides of the building but are intended for staff or emergency exit purposes.

### Potential Impacts

#### Physical Health

- Indoor bicycle parking protects personal property and eliminates bicycles from exposure to weather events.
- Play space for children provides opportunities for them to move as well as dwell to read or attend programs.

#### Design Influence Suggested by Attendees:

- Attendees suggested a direct, yet secure access from the kids play area to the greenbelt.
- A single use restroom within the children's library for immediate access, changing stations, nursing mothers who choose a private location, and other family related issues was suggested.

- Dedicated space for art projects and programming within children's library.
- Install "soft landing" flooring throughout children's play area.
- Maximum awareness is necessary for the mixing of greenbelt traffic and loading dock operations as trucks will be backed up into spaces.

#### Mental Health

- Natural light elements for staff including offices and meeting spaces viewed as positive.
- Dedicated children's library on ground floor allows quite spaces throughout balance of site.

#### Design Influence Suggested by Attendees:

- Consider adding co-mingling areas or features in children's library so parents and/or guardians can stay with children ie. parent reading space or computer kiosks.

Figure 19

## Level One—Greenbelt Level Floor Plan



Source: City of Boise, Safdie Architects

## Level Two—Main Level

The main floor of the library campus is intended to be a grand entry into the structure, include open airy spaces, views of the river, and a number of features indicative of what the modern library has become. A learning lab, café, bookstore, teen center, black box theater, art gallery, and maker space are many of the dedicated spaces on the main floor. The site will be accessible by one public entrance on the southeastern edge of the building near Capital Boulevard and the main entrance located on the northern quadrant from the River Street area and plaza fountain.

### Potential Impacts

#### Physical Health

- A possible second access from Boise Greenbelt would enhance experiences for walkers and bicyclists and eliminates conflict in parking lots. However, an entrance only located on the southeast side rather than the southwest side is not central to main Greenbelt traffic flows.
- The southwest corner would be more convenient to users, which are much greater than users of the Capitol Boulevard bridge. The southeast corner requires notable out-of-direction travel for 9<sup>th</sup> Street bridge users and is not convenient for users of the proposed people with disabilities and older adult parking lot on the west side of 8<sup>th</sup> Street.
- Accommodating limited mobility individuals with an entry ramp useful for all patrons should be considered in lieu of

stairs and ramps from northern parking areas.

- Prominence of the staircase, combined with features to make it experiential, can promote physical activity.

#### Design Influence Suggested by Attendees:

- Add protected, covered bicycle parking on greenbelt side of site near entrances.
- Ensure maker or creative space is accessible and has equipment for all abilities.

#### Mental Health

- The natural environment features and framing by the space is viewed as positive for patron's mental health.
- Social features and spaces in design promote patron interaction, emotional health benefits.
- Entry plaza complete with outdoor seating opportunities and water features can promote patrons to experience environmental and social health benefits.

#### Design Influence Suggested by Attendees:

- Ensure foothill views are maintained from the lobby space as much as practical.
- Terrace space is adjacent to teen area and above outdoor children's play space, monitoring of terrace to prevent potential antagonistic behavior from teens towards children may be needed.
- Plaza space can get hot during summer, adding shade sails, misters, or other features will help ensure use.

Figure 20

## Level Two—Main Level Floor Plan



Source: City of Boise, Safdie Architects



## Level Three

The third floor of the library campus is where the open air concepts can be seen from above. Several locations on the floor overlook the main and ground floors and add to the open space feel sought in the design. Reading spaces are a major feature of the floor and are either separated from circulation areas or part of the non-fiction section. The floor has several training rooms, staff areas, a maker room, and visible ASRS system.

### Potential Impacts

#### Physical Health

- Reading from the galleries will promote modest physical activity to access such spaces.
- Elongated design of spaces can promote walking.

#### Design Influence Suggested by Attendees:

- Consider allowing a continual pathway around the perimeter of the space, unimpeded for indoor walking activities, especially in winter months.
- Adding some interactive lighting to some of the stairway steps could boost physical activity.
- The addition of walking treadmills or recumbent bikes overlooking the entrance for additional activity space would be unique and innovative.

## Level Four

The top floor of the campus is the fourth floor. This floor offers much of the same as the third floor for patrons and staff, but also adds a rooftop garden and outside seating area. Beyond that, the two floors are largely identical in layout though there is more square footage for library staff space including offices, a break area, and meeting rooms.

### Potential Impacts

#### Physical Health

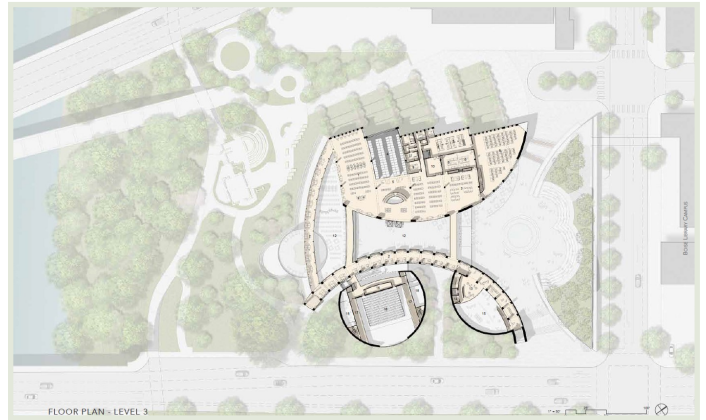
- Given many of the attributes as the third floor, similar physical and mental health benefits will be achieved on the fourth floor.

#### Design Influence Suggested by Attendees:

- Consider similar walking track concept by making loop accessible.
- Enhance outdoor spaces with elements such as drinking fountains, trash receptacles, electrical outlets for devices, and space for all ages and abilities are provided.

Figure 21

## Level Three—Floor Plan



Source: City of Boise, Safdie Architects

#### Mental Health

- Digital wayfinding is an element worth considering as it is helpful for the mobility impaired that ensures access to all elements of the campus.
- River view shed from reading galleries allow patrons to see the natural environment from typically inaccessible heights.

#### Design Influence Suggested by Attendees:

- Consider small cantilevered reading area on both catwalks, oriented towards the foothills.

#### Mental Health

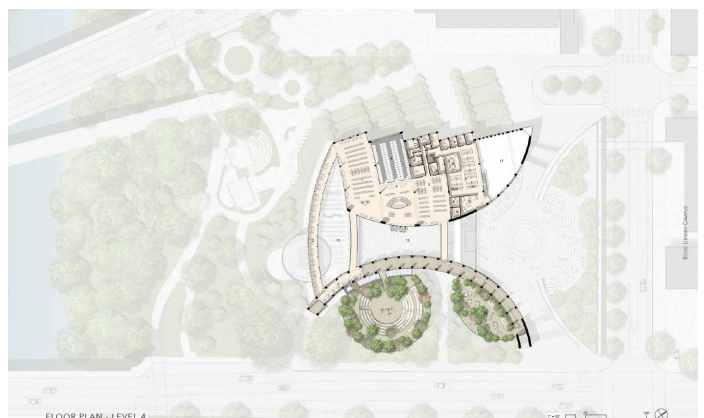
- Promote rooftop garden to all patrons and regularly check on patron safety with security staff and cameras.

#### Design Influence Suggested by Attendees:

- Ensure easterly view sheds from outdoor spaces are maintained which will include Table Rock and Lucky Peak.

Figure 22

## Level Three—Floor Plan



Source: City of Boise, Safdie Architects



## Universal Design

The Americans with Disabilities Act requires all interior and exterior spaces to be accessible to persons with disabilities. Much of the emphasis on this is accounted for in building design requirements and public rights-of-way. While meeting the minimum standards to fulfill these requirements may be acceptable under the law, the role that a main library serves for people of the City of Boise suggests a higher level of consideration should be made for community members with disabilities. This recognizes universal design concepts not only create a better experience for people with disabilities, but also ensures other library patrons of all ages can enjoy the library from many vantage and access points.

During the workshops, the discussions focused on how the new Library campus could be a model for increased consideration for the people with disabilities and serve as an example for other public and private developments on how to incorporate emerging technologies into its design.

**Exterior Space and Access:** There is demand for more refined considerations of universal design and accessibility throughout the campus in both interior and exterior areas. This includes going beyond the required minimum dimensions in ADA or the requirements to create a comparable experience.

Some concepts include:

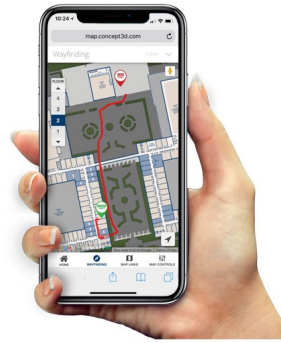
- Build all-inclusive ramps instead of stairs and ramp combinations.
- Design performance spaces so people with disabilities are allowed to choose locations from which to view the performance, in front or in back of the crowd, rather than relegating them to the easiest flat area.
- Ensuring that access from parking spaces is secure and convenient. Of specific note is the disconnect created in the existing site plan that places accessible parking southwest of the terminus of 8th Street with the exterior Greenbelt access being on the southeast corner rather than the southwest corner of the building.

**Digital Tools and Wayfinding:** Two emerging technologies, digital wayfinding and technology-based assistance system for people who are blind or visually impaired, enhance people's experiences and offer opportunities for the new Library to be a technology showcase in both exterior and interior spaces.

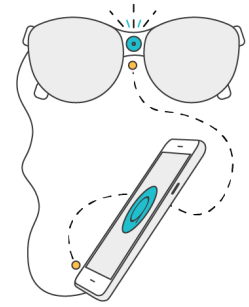
Digital wayfinding refers to a collection of technology interfaces to help people better navigate the library space. Interactive electronic displays that show daily event schedules and have audible capabilities for the blind and visually impaired are more common. The latest technology integrates smart phones into the wayfinding system so persons with disabilities can better navigate and access the building and campus. The digital wayfinding will help people navigate the open floor plan of the library, which makes it more difficult to find waypoints within the build.

The capabilities of digital wayfinding technologies include:

- Digital maps and guidance for walking routes to/from parking spaces, transit stops, the Greenbelt, and on-campus.



**Left: Digital wayfinding through smart phone technology will allow users to make real-time decisions on how to navigate the library.** *Image: Concept3D*



**Right: Aira smartglasses allow blind people to interface with an online agent to guide them through spaces and help them experience the space.** *Image: Aira*

- Drag-and-drop pins that allow people to customize routes through the smart phone interface.
- Maps and guidance for walking and driving directions
- The ability to customize maps for printing or digital observation in preparation for a visit.
- Point-to-point directions for the campus that can be sent through text message, email, or real-time interaction with mobile phone apps.
- Interior building space navigation, including navigation to specific offices or other spaces.

Digital glasses and real-time streaming navigation and information services, currently offered through companies like Aira, provide people who are blind or visually impaired with sight assistance to navigate spaces such as a library. The technology links the person to a live assistant who is viewing the person's surroundings through digital glasses or the smartphone's camera.

For existing Aira subscribers, agents can assist the person by looking at Google Maps and the Library's program for the day. For example, the opportunity exists to integrate a complete trip to help a person get from the downtown ValleyRide bus station to the Library campus, find the entrance, find reference desks, reach a room to attend a program, and then use the agent to narrate PowerPoint slide or zoom using the camera to take a picture of the presentation or artwork.

For people with low vision who may not subscribe to Aira, the Boise Library could have glasses a person could check out for the person to use while at the Library. This would allow them to sit down and read a magazine or interact with the space.

Services like Aira are already linked to other services and apps such as Uber and Lyft, so the potential exists to link to other apps. A company that manufactures braille products and employs those who are blind or visually impaired has integrated their digital factor map with Aira's technology to help them guide employees through the facility. This opportunity may arise with the Library to provide the same specialized service in lieu of an agent navigated the online site map and information.

## 4. The 7 Dimensions of Health

Addressing health should be a holistic endeavor focused on the whole person and the whole community. Health is made up of many interconnected components that must all be achieved individually in order to obtain overall health.

These components can be easily organized into what is known as *The Seven Dimensions of Health and Wellness*: physical; social; economic/occupational; environmental; spiritual; emotional; and intellectual (Figure 18). These dimensions are inter-related and each has the ability to strongly influence the others.

The construction of a new library campus has many potential linkages of the seven dimensions. This includes the direct functions of the library and associated campus uses, which relate primarily to intellectual, social, and physical health. The exterior campus space, in addition to intellectual and social health, relates to spiritual, physical and environmental health. Access to and from the campus relates to physical and economic health. Some of the features noted in the library visits related directly to these dimensions.

The overall HIA for the library campus will address the impacts of the campus through the lens of the seven dimensions, recognizing that some dimensions are and will continue to be more applicable than others.

For purposes of the Health Conditions Assessment report, available local data was compiled based on these seven dimensions. However, data is limited for many of these dimensions as it relates to local population health. This is common as the prevailing datasets from the US Census, the Centers for Disease Control and Prevention, and other sources, address physical, social, and environmental health aspects.

The HIA, as it progresses, will attempt to link this data to the seven dimensions but more importantly unveil evidence-

based research that points to likely health impacts of a library campus with its events and history/cultural center related to the seven dimensions. In this phase, area destinations near the library site were evaluated for how they address these dimension (Figure 19).

The previous HIA conducted for the Bown Branch Library found, for example, that modern libraries contribute to physical health if users take advantage of programs, proximity and special events. The interaction by individuals and groups contributes to social health, as would spaces like the event center and history/cultural center.

Economic health can be enhanced at the individual level as libraries provide access to tools and technologies so people can pursue jobs and sign-up for healthcare services. They can also generate economic development around the campus as they serve as a type of “anchor tenant” and activity center for downtown areas.

Regarding the environmental dimensions, on-site design treatments such as innovative stormwater management treatments can contribute to environmental health, as can the linkage to the green space and parks along the Boise River.

Emotional health can be improved with self-help courses, such as programs on coping skills, mental exercises and behavioral strategies are also a likely library function. Similar programs may also help promote spiritual health, as can the design of the surrounding outdoor campus spaces.

Finally, the intellectual dimension is likely the dominant dimension that is improved by the collective design and uses of the campus. The historic functions of a library greatly contribute to intellectual health by serving as a hub of knowledge. The additional cultural and historical spaces also improve the intellectual health of individuals and a community.

Figure 23

### The 7 Dimensions of Health & Wellness

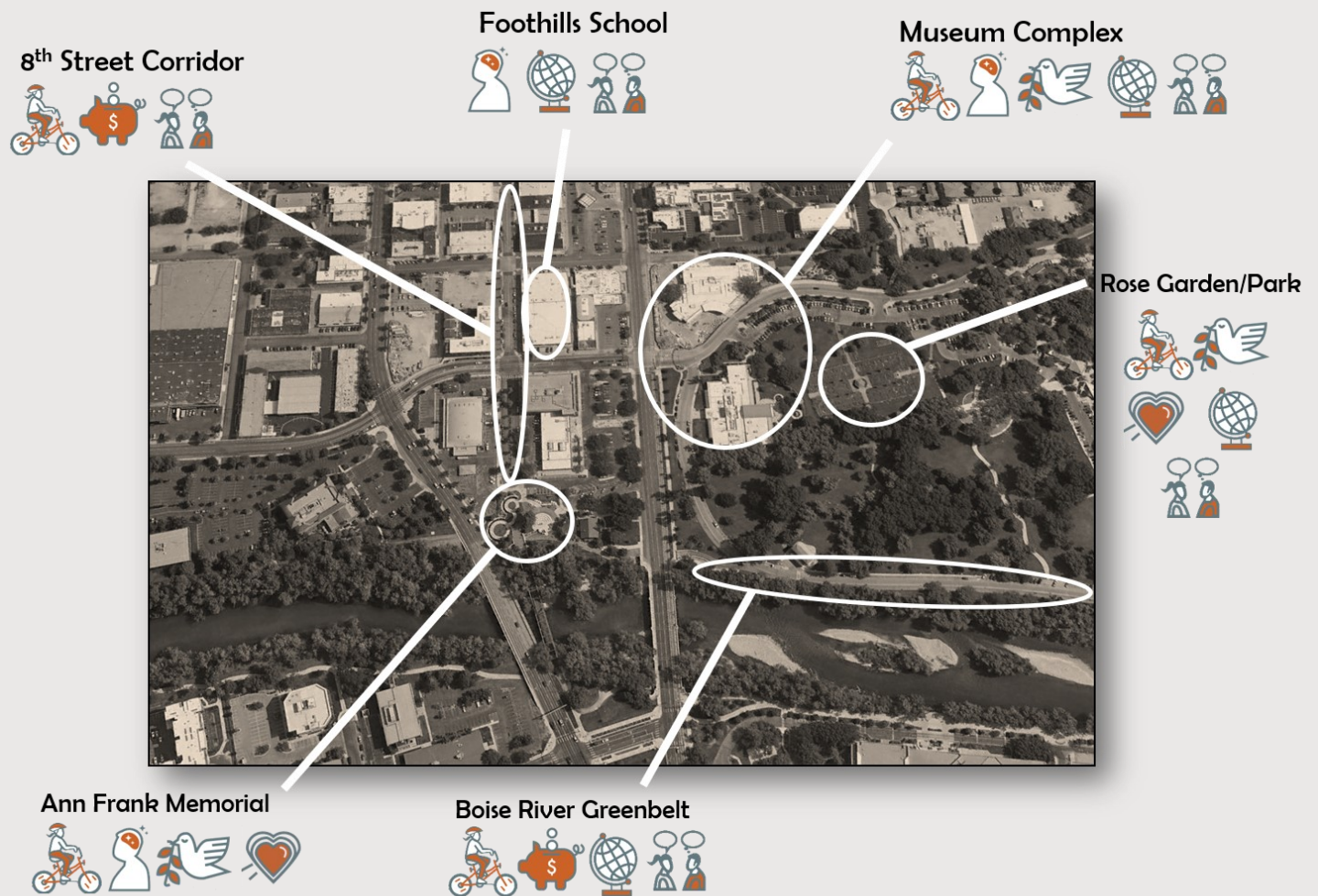
- **Physical:** The ability to maintain a healthy quality of life that allows us to get through our daily activities without undue fatigue or physical stress.
- **Social:** The ability to relate to and connect with other people in our world.
- **Economic & Occupational:** The ability to get personal fulfillment from our jobs or our chosen career fields while still maintaining balance in our lives.
- **Environmental:** The ability to recognize our own responsibility for the quality of the air, the water and the land that surrounds us.
- **Intellectual:** The ability to open our minds to new ideas and experiences that can be applied to personal decisions, group interaction and community betterment.
- **Emotional:** The ability to understand ourselves and cope with the challenges life can bring.
- **Spiritual:** The ability to establish peace and harmony in our lives.



Figure 24

## 7 Dimensions & the Library Area

By identifying those places in close proximity that meet the various measures of health, design considerations, programming, and other ways to connect to these facilities may be made. Taking such an approach closer ties our community assets together and helps to embody what we envision when we strive for great cities, neighborhoods and places.





## 5. Plans Review

### Blueprint Boise

The City's Comprehensive Plan is meant to be a vision document that includes general goals, objectives and standing policies. Each of the chapters, sub sections, and specific implementation steps took significant time and energy to compile. The document continues to be updated as new changes are necessary such as adopting map changes and neighborhood plans.

8th Street is consistently mentioned in this and other plans as a key north-south bicyclist and pedestrian corridor bookended by Bannock Street and the Greenbelt.

The review was done to determine what sections, goals, and objectives pertain to the library campus site, immediate neighborhood, or are overarching and intended for citywide implementation. Several of those found are listed below:

#### Humanities

- Reinforce the role of visual and performing arts and history within the community;
- Support the development of public spaces that promote community gatherings and cultural events;
- Create public spaces where people can experience art in their daily lives.
- Design studio spaces to allow members of the public to visit, observe and participate in the creative process;

#### Knowledge

- Promote quality schools to serve the community;
- Support institutions of higher education that meet the changing needs of Boise's residents and business community;
- Provide high-quality library services for city residents;
- Develop the Boise Main Library into an education center with a strong outreach to special populations such as refugee groups, at-risk youth, seniors, and others;

#### Health

- Promote active living and healthy lifestyles;
- Design sites and orient buildings with an emphasis on the character and safety of the pedestrian realm;
- Bring buildings close to the street;
- Place parking behind or to the side of buildings;
- Avoid development of mega-structures on superblocks that create either real or perceived barriers to connectivity;

#### Transportation

- Provide clear pedestrian connections with generous sidewalk widths, low-level lighting, and outdoor gathering spaces.
- Reduce Vehicle Miles Traveled (VMT)

Figure 25

### Library Campus Area



Source: Blueprint Boise

### CCDC River Street & Myrtle Street Plan

CCDC's River Street and Myrtle Street Plan (2004) includes the main library campus and the immediate area. The plan doesn't say much specifically about the library site itself. However, it does talk extensively about the transportation system and design elements worth pursuing.

The plan calls out 8th street and Capitol Boulevard for specific treatments. For the 8th Street corridor, the plan envisions a "Primary Pedestrian Street". This reinforces every other document reviewed calling for an active corridor that promotes walking, bicycling, and transit use.

### Campus Implications

All of the objectives found in Blueprint Boise and the River Street Myrtle Street Plan suggest that strong consideration for physical health and mental health related elements are spot on. Notably however, the comprehensive plan also has numerous other goals that relate to subjects such as economic vitality, environmental stewardship, and access to community resources which in many ways also align with both physical and mental health.

Ensuring not only access to the Library campus via 8th Street, but also protecting the safety and function of people who walk and bike 8th Street is important. Avoiding increased conflicts with motorized vehicles should be a priority of the site design, its ingress/egress patterns, and traffic management strategies.

## Transportation Action Plan

Preventive efforts to curb obesity can be indirectly found in transportation plans and policies. One such effort that addresses this topic is the City of Boise *Transportation Action Plan*. The recently completed plan has several pages and sections dedicated to transportation and attempts to change the street system in ways that move people by means other than a vehicle and instead uses active transportation like walking and bicycling, especially in locations like downtown Boise.

Walking and biking are not only a significant focus for the City, but also one that is recommended by health professionals as the simplest way to achieve accumulated levels of daily physical activity. "Creating active streets and a pedestrian-friendly environment" as well as supporting Boise Green Bike and all age bicycle infrastructure are essential ingredients to the final street product in Downtown Boise. Other features of the plan include transit access, which also promotes walking and bicycling in order to get to and from the bus stop are present.

Virtually every element of the examples given on what the ideal downtown street and building environment look like have active transportation considerations built into them. From dedicating space for walkers and bicyclists, to active storefronts meant to interest people and entice them to venture the city by foot. The plan indirectly addresses how to prevent obesity through and through.

Figure 26

## Boise Transportation Action Plan Focus Areas

### Downtown

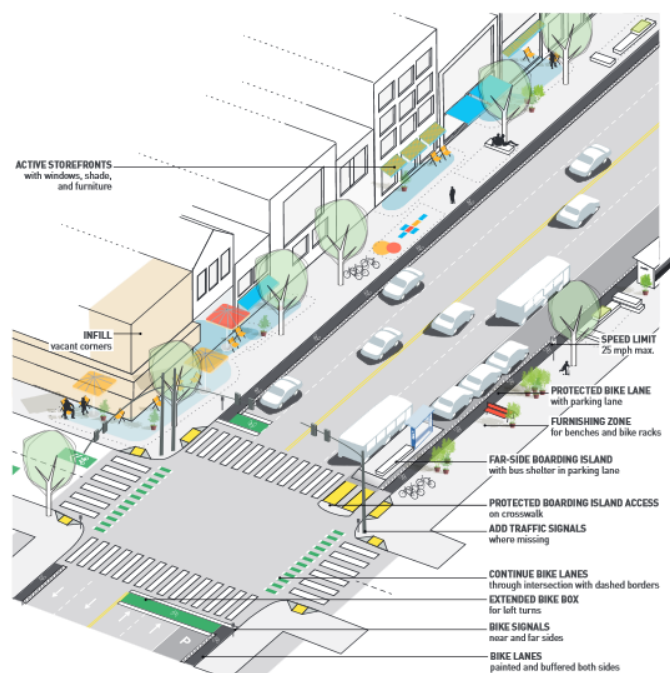
With its historic buildings, mix of uses and vibrant diverse civic life, Boise's Downtown has the conditions to be Boise's most walkable sector. The high density of jobs and commuters, increases the need to prioritize alternatives to the automobile for trips within the Downtown.

Focus on walking and biking!



### Illustrative example for Downtown:

With its walkable street grid, historic buildings, and diverse street life, Boise's Downtown is already a vibrant center. This vision builds on the quality of Downtown by enhancing the pedestrian experience and balancing mode share.



4 / ACTIONS

## Move 5: Park Once

Regional Activity Centers such as Downtown Boise and Boise Towne Square Mall have reach and influence beyond the immediate neighborhood. Today, visitors from the region drive to these centers and many use their cars to move within it. The goal of this move is to ensure that visitors don't need a car once they arrive at these destinations—it will be safe, comfortable, and enjoyable to walk, bike, or take transit within them.



### Infrastructure

**Focus Areas:** Initially, this Move will apply to Downtown and Boise Towne Square Mall. Over time it could be extended to other activity centers.

- Create active streets and a pedestrian-friendly environment.** Streets should prioritize pedestrian safety and provide visual interest. Build pedestrian plazas, ped-only streets, shared streets, and passos. Add street furniture, wayfinding, wide sidewalks, street trees, pedestrian lighting, etc. [See Move 1]
- Continue to support Boise Green Bike** for trips within Downtown. Consider expanding the network of bike stations.
- Provide All Ages bike infrastructure and secure bike parking** with U-racks at visible locations near the main destinations.
- Enhance transit service to Downtown and the mall** providing park and ride lots, and exploring opportunities to provide express service.
- Provide shuttles or a circulator** that runs a fixed loop and connect main parking areas to key destinations within Park Once locations.

### Programs

- 1 Manage parking availability.** On-street parking should be priced and managed to be available for short-term users such as retail customers. Longer term parking can be provided on parking structures.
- 2 Implement a Parking Benefit District** and use funds to finance sidewalk and circulation improvements.
- 3 Provide incentives and enforce compliance with Blueprint Boise and the Boise Citywide Design Standards.** Encourage planning and zoning for diverse businesses, services, institutions, and neighborhood-scale retail.
- 4 Partner with property owners, tenants and developers** to enhance the design and pedestrian experience.
- 5 Encourage infill on existing parking lots** and reduce parking minimums.



## 6. Appendix

### Background Research on Health Impacts of Libraries

Vitruvian Planning conducted a scan of research relevant to the health impacts of libraries, with a focus on the physical activity and mental health aspects of them. This section summarizes the results of that effort. The detailed works cited are at the end of this section.

Public libraries today serve as a place that belongs to everyone (McCabe & Kennedy, 2003) where traditional bound volumes interact with the digital age of today. Primarily centers to access information, public libraries also function as meeting and work spaces in the digital age.

#### Physical Health

The architecture and interior of public libraries has changed over time, with strategies to replace traditional dark, isolated environments to open-concept, welcoming spaces for the public to interact. Sedentary behavior has increased in the United States as technology plays an increasing role in work and leisure time, there are opportunities to increase physical activity in the library while retaining features patrons require in order to read or work.

#### Furniture

Aside from library programming to impact physical health, the physical design of the library can play a role. In today's digital world, Americans spend approximately 7.7 hours of their waking day sedentary (Matthews et al., 2008). Most adults work on computers in sedentary positions, with little opportunity during the work day to increase their physical activity levels. Sufar, Talib, and Hambali (2012) found that three aspects of physical design can positively impact physical health of library patrons: sit-stand desks, moveable furniture, and collaborative work environments.

Utilizing sit-stand workstations allows patrons to use their electronic devices and offers an opportunity to be less sedentary. Sit-stand workstations are a key target for sitting reduction (Gilson, Straker, & Parry, 2012; Thorp et al., 2012). Gilson, Straker, and Parry (2012) and Thorp et al., (2012) found that when office workers were offered sit-stand workstations, they were more likely to utilize them and seek other ways to improve their physical health. This same trend is seen in academic libraries on college campuses and can be utilized in public libraries.

The traditional library design encourages sedentary behavior. Current digital-age libraries are utilizing light, easy to move furniture in large, open spaces (Sufar, Talib, and Hambali, 2012). Library users are more likely to engage in physical activity while working if they have control over the work environment. Patrons want the opportunity to manipulate their work environments with options of sitting, standing, and moveable tables and chairs. Sit-stand workstations and movable furniture allows this flexibility.

Chau et al. (2014) reported that participants felt less bodily

aches and pains when they switched to sit-stand work stations. Participants also reported that they were more likely to leave their workstations to communicate with other employees, rather than utilizing email, when at a sit-stand workstation, thereby increasing their physical activity levels during the workday. (Chau et al. 2014).

Young people utilizing public libraries require flexible workstations and spaces. They prefer spaces in which they can work in open space with freedom to move around and engage with one another but retain the ability to work in solitary (Sufar, Talib, and Hambali, 2012). Library design must offer this flexibility. Anandasivam & Cheong (2008) found that the largest challenge to modern libraries are getting young adults and teenagers to the physical site of the library itself; offering flexible individual space and meeting spaces helps the library become a "cool" place to meet and work (Anandasivam & Cheong, 2008), thereby also increasing library utilization while meeting the needs of the public.

#### Walking and biking accessibility

Another method found to impact physical health of library patrons related to the physical design of a library are the walking and bicycling opportunities. Cities in the United States that have safe walking and bicycling trails to and around the public library see more patrons choosing those methods of transportation than libraries that do not have safe walking and bicycling opportunities.

Designated bicycle parking is also a factor that encourages patrons to use bicycling as their method of transportation. Safe crosswalks and limited interaction with traffic and busy streets increases the likelihood of patrons walking and bicycling. Temporary bike locks and well-lit bicycle parking also increase youth bicycling and offers a safe, indoor space for youth to gather.

#### Mental health

A growing body of research demonstrates the importance of environmental psychology and mental health, and how the built environment impacts mental health. It is well documented that natural landscapes and time spent outdoors positively impacts mental health, but Americans spend 90% of their time indoors. The importance of indoor space and its ability to impact mental health cannot be ignored.

#### Exposure to natural light

One building design element that plays an impact on mental health are windows and exposure to natural light. Even though libraries are, by necessity, indoors, having large windows allows patrons to be exposed to natural light while remaining indoors and utilizing the library. Natural light positively impacts health outcomes related to mood disorders and seasonal affective disorder (Beauchemin, & Hays, 1996; & Wallace-Guy, Kripke, Jean-Louis, Langer, Elliott, & Tuunainen, 2002).

In winter months when outdoor time and sunlight are decreased, patrons can use the library as a place to gather and work. Exposure to natural light impacts mood, cognitive performance, and overall well-being (Boubekri, Cheung, Reid,

Wang, & Zee, 2014). Boubekri et al (2014) found that increased exposure to natural light resulted in increased quality of life, longer sleep duration, and improved sleep quality (Boubekri et al., 2014). Yao and Li (2014) and Yang (2017) found that utilizing natural lighting in libraries reduces physical fatigue but also increases efficiency of work and study. Exposure to natural light through windows and skylights utilizes building design of the library to impact the mental health of the community without requiring programming from staff.

## Community resources

A growing trend in United States public libraries is to design space for mental health professionals, social workers, or volunteers to establish themselves as a resource for those in need (Luo, Estreicher, Lee, Thomas C, & Thomas G, 2012). Public libraries already function as a meeting place in the community and establishing a center with staff who can connect those in need with resources is an effective use of space.

Many modern libraries in the United States design office spaces and meeting rooms for programming events that offer mental health and substance abuse resources, as well as office spaces dedicated to staff that can provide mental health, housing, or low-income referrals in the community. Luo et al. (2012) found that utilizing public libraries for free, convenient, and equal access to social support services positively impacted the mental health of those in the community who are disadvantaged and do not either the knowledge or ability to connect to these resources alone.

Libraries that are designed with these programming goals in place see an increased use of these resources (Cathcart, 2008; Knight, 2010).

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## List of Stakeholder Workshop Attendees

Workshops in March and November 2018.

Name	Affiliation
Francoise Cleveland	AARP Idaho Associate State Director for Advocacy
Jeremy Maxand	Idaho Access Project
Shawn Wilson	City of Boise
Kent Hanway	CSHQA
Lance Davisson	TV Canopy Network
Drew Alexander	BSU/Lusk Neighborhood
Tim Maguire	Ecosystem Sciences
Rebecca Lemmons	Saint Alphonsus
Madeline Donfro	CATCH
Maria Gronsdahl	St. Luke's
Ashley Havlicek	United Way
Katie Lamansky	Idaho Department of Health and Welfare
Alexis Pickering	Central District Health
Corey Surber	Saint Alphonsus