

# AZAVEA SUMMER *of* MAPS

## 2018 Nonprofit Project List

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# Arts & Culture

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## DataArts

### THE SOCIAL GEOGRAPHY OF ARTS AND CULTURE

<http://www.culturaldata.org/>

#### **Spatial Analysis Project:**

In addition to standard geographic breakdowns, recent projects from think-tanks and academics have highlighted socially or culturally-defined geographies in the U.S. - for example, looking at small rust-belt cities, classic downtowns, “gayborhoods”, working-class communities, and “Golden Zip Codes” (America’s wealthiest zip codes). We would like to build geospatial files (layers, shapefiles, a geodatabase) that correspond to seven to ten social geographies and to examine the 120,000+ arts and cultural organizations in the U.S. to see how they “fit” into these geographies.

Additionally, we would like to have these instruments in such a form that we can integrate them into our systems. Our current platform automatically calls out, through APIs, latitude and longitude for each organization with which we work. We would like this project to enable us to know, when a new organization joins DataArts, whether it is located in a downtown, an African-American neighborhood, and/or a gayborhood, etc.

#### **Data Available:**

- IRS 990 dataset of all 501c3 arts and cultural organizations
- DataArts dataset of detailed financial and programmatic data on select organizations
- Reports mentioned above with definitions of the socially or culturally-defined geographies (defined by municipal boundaries in some cases, by zip codes in others, etc.)

Here are references to three such studies as examples of recent work on socially or culturally-defined geographies:

- Revitalizing America’s Smaller Legacy Cities: Strategies for Postindustrial Success from Gary to Lowell, Torey Hollingsworth and Alison Goebel, Lincoln Institute of Land Policy, 2017.
- The Wealthiest ZIP Codes in America, Washington Post Wonkblog, 2015.
- There Goes the Gayborhood?, Amin Ghazani, Princeton University Press, 2014.

#### **Maps and Reports that will be created:**

We would like to see a set of finished maps and statistics that highlighted results from three or four of the socially or culturally-defined geographies. For example, an analysis of the prevalence (or lack thereof) of arts organizations in working-class communities, or a comparison of different “classic downtowns” in the U.S. and the organizations located therein (are the organizations older? are they more or less likely to own their space?), etc. would be welcome additions to discussions and debates in the arts and cultural sector.



As noted above, we would also like to have the finished data files provided in such a way that we can integrate them into our current data systems (these are MySQL, PHP, and R systems).

**How the maps and reports will be used:**

Maps, reports, and their accompanying data files will help DataArts provide better data analysis and comparison reporting for arts and cultural organizations in the U.S. Organizations in DataArts use our comparison reporting system and advocacy reporting system to better understand themselves and their communities.

Currently, advocates for all the theaters in a city or all the arts within a particular city council district can use our system to aggregate data for that district and bring that report to their legislator(s). However, we do not have a way for arts supporters in San Francisco's Castro district or for the PA Downtown Center to advocate on behalf of their constituents.

Understanding and analyzing data according to socially or culturally-defined geographies will add a welcome dimension to our understanding of arts and culture in the U.S.



# Community & Economic Development

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## Jane Place Neighborhood Sustainability Initiative

### MAPPING NEW ORLEANS HIDDEN EVICTION CRISIS

<http://www.jpnsi.org>

#### **Spatial Analysis Project:**

New Orleans is facing a growing displacement crisis; as the city becomes more expensive, many low income families are struggling to find stable, affordable housing. Over the last 10 years, rents have risen 40% while incomes have stagnated, creating significant rent burdens for working class residents. Neighborhoods are transforming, racially and economically, as they become prohibitively expensive for the majority of our city's residents. Aspects of the crisis remain hidden as poverty and housing issues are de-prioritized politically. In particular, data about the eviction rate in New Orleans and its' geographic impact on neighborhoods has never been publicly available or analyzed. Davida Finger, a lawyer with Loyola University's Community Justice Section Law Clinic, has built a dataset through public records requests that seeks to answer questions about evictions in New Orleans, including how many evictions are occurring, where they are geographically concentrated, and why individuals and families are being evicted.

#### **Data Available:**

Data surrounding the evictions in New Orleans and its' impacts on individuals and neighborhoods has never been analyzed on a comprehensive, case-by-case basis, leaving housing advocates, policy makers, and community members in the dark regarding the true impact of evictions on our city. Court records were buried in individual case files, making it hard to analyze trends. Ms. Finger's dataset, which includes information on over 11,000 individual court cases, offers the first opportunity for advocates and policy-makers to truly understand where and why evictions are occurring in Orleans Parish. Jane Place will use this data set in conjunction with historic red-lining maps of New Orleans, data sets from the American Community Survey, datasets of rent increases, and additional information from the Housing Authority of New Orleans to complete this mapping project, creating a robust series of maps showing the housing precarity underlying the transformation and gentrification of our city.

#### **Maps and Reports that will be created:**

We are interested in mapping and reporting on the following:

- Evictions ordered by zip code/neighborhood, alongside poverty and gender ACS data to show the race, gender, and class dynamics of evictions
- In cases where evictions were caused by non-payment of rent, mapping the monthly rent amount and amount in dispute
- Overlaying the eviction data with data around substandard housing conditions



- Overlaying the eviction data with data around rent increases
- Overlaying the eviction data with data around transportation access
- Overlaying the eviction data with historical maps showing redlining of historically Black neighborhoods, identifying the relationships between past divestment and current high rates of eviction.

Beyond mapping, we plan to issue a report on how various interventions might improve eviction outcomes for tenants, including comparing and contrasting different legal systems to demonstrate specific ways tenants could have better outcomes.

**How the maps and reports will be used:**

Evictions can cause lasting damages to individuals and families that stretch far beyond the initial crisis, and can plunge individuals and families deeper into poverty and stress. Studies show that evictions can lead to job-losses, health crises, and limit future housing options due to negative impacts credit scores. In order to develop and advocate for policies that will protect tenants and prevent an escalation of the eviction crisis, we need to better understand how, where, and why evictions occur. The ability to identify the number of evictions occurring, identify neighborhoods where families are most at-risk, and analyzing what is driving evictions will help community advocates and policy-makers design better interventions to prevent unnecessary evictions and support tenants most in need with appropriately targeted programs that address root causes of the eviction crisis.



# Education

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## The Urban Alliance

### NETWORK ANALYSIS TO SUPPORT URBAN ALLIANCE'S HIGH SCHOOL INTERNSHIP PROGRAM

<https://theurbanalliance.org/>

#### **Spatial Analysis Project:**

The High School Internship Program (HSIP) at Urban Alliance (UA) provides paid internships to high school seniors in DC, Northern Virginia, Baltimore, and Chicago. Pre-work, the first stage of HSIP, is a professional development training course hosted at a local high school, college, or community center. After pre-work, interns are placed at jobsites for their internship experience. During both stages, some interns have low attendance rates or drop out of the program. One theory is that the geographical distances among school, the jobsite, and home may contribute to attendance issues from some interns.

#### **Data Available:**

UA has location data for the past three years in Salesforce, which will be unidentified and shared with the Summer of Maps Fellow. The intern information includes the address of their school, home address, and assigned jobsite address. In addition, there is data on their pre-work attendance, jobsite attendance, and if they dropped out of the program. Finally, the pre-work locations addresses are available for each region.

#### **Maps and Reports that will be created:**

1. The first analysis would use GIS and spatial statistical analysis to determine if there is a correlation between (1) travel time and intern attendance and (2) travel time and drop outs during both the pre-work and internship phases of the program.
2. If travel time and attendance are related, the second round of analysis would use location-allocation network analysis to determine the best pre-work locations in each region. Typically, there is only one pre-work location in each city, but this analysis could reveal that if a second pre-work location was added, then it would then significantly reduce travel time for many interns.
3. The final phase of the project would be for the Summer of Maps Fellow to develop a protocol for ranking jobsite placements based on the total travel time of the interns from school to the jobsite and then home.



### **How the maps and reports will be used:**

The report and corresponding maps relating travel time and attendance will be used by UA to determine if travel time plays a role in attendance. UA believes there are many factors that may led to low attendance rates or dropping out of the program, but we have never delved deeply into travel time. The first step would be to identify a travel time threshold – over which interns are significantly more likely to have poor attendance or drop out of the program. If that is true, then the second phase would help identify pre-work locations to reduce, as much as possible, the travel time for most interns. The final phase would allow UA to continue using GIS and network analysis for jobsite placement of future interns. The travel time ranking of jobsite placements would be used in addition to other factors for determining the best placement for each intern.





# Elections & Civil Rights

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## Thurgood Marshall Institute

### PRISON GERRYMANDERING AND THE DEMOCRATIC PRINCIPLE OF 'ONE PERSON, ONE VOTE'

<https://www.tminstituteldf.org/>

#### **Spatial Analysis Project:**

The explosion of prison populations since the 1980s had profound effects on the political geography of the United States. One impact stems from the Census Bureau's policy of counting incarcerated people as residents of their jail cell, rather than their home community. The result is 'prison gerrymandering' which inflates voting strength of constituents in the prison district, deflates the voting strength of constituents in other districts, and creates 'ghost constituent' inmates with no accountable political representation.

The proposed project is designed to visualize and quantify impacts of prison gerrymandering. The analyses will explore gerrymandered state congressional districts, identify impacted voters, and quantify the degree of inflated or deflated voting strength. While not possible to allocate prisons to their home communities, it is possible to quantify the vote strength of 'ghost constituents' at the national scale. The latter will call attention to lack of data available for these types of analyses.

#### **Data Available:**

This project relies on free and open data. The US Census Bureau provides demographic data, district shapefiles, and prison locations at the Census block level.

The Prison Policy Institute provides prisoner demographic data, and shapefiles with prison locations and details on the over 6,000 detention centers in the United States.

#### **Maps and Reports that will be created:**

Although expectations are defined below, we leave room for the creativity inherent in spatial analyses and invite the fellow will bolster these products with additional ideas.

1. Shapefile/s (or other spatial file) consolidating data used by and produced for this project.
2. A report containing:
  - a. a series of maps exploring the geography of prison gerrymandering illuminating the degree of vote inflation/deflation, and the demographics (e.g. race, income, rural) of impacted voters in gerrymandered districts;
  - b. a chart or series of charts exploring the potential voting bloc of 'ghost constituents' at the national level, and a cartogram or cartogram .gif showing where those ghost constituents are locked up; and



- c. written explanations where appropriate. (While not the focus of the project, the written component is expected to be sufficient to explain findings, point out anomalies, and suggest future research.)
3. A simple interactive web-based map focused on the vote inflation/deflation.

### **How the maps and reports will be used:**

Internally, project results will be used to inform our policy, organizing and educational outreach, and litigation strategies around prison gerrymandering. This is particularly critical right now as we are in the run-up to the 2020 Census and redistricting, during which time the bulk of our work in this arena is most effective.

Externally, we'll publish the report as part of our body of research to share with the public and educate on the topic. The interactive web-based map will be bundled with the report for these purposes but is intended for visitors who aren't inclined to read the full report. We'll use statistics and maps generated from the report as social media fodder to spotlight the full project and report, and generate further dialogue around the issue.



## The Committee of Seventy

### EXPLORING HOW PHILLY ELECTIONS WORK

<http://www.seventy.org>

#### **Spatial Analysis Project:**

This project would endeavor to illustrate some of the patterns in Philadelphia electoral politics that are occasionally covered in the media but rarely quantified. This includes the circulation of political contributions from local candidates to the city parties and ward committees (neighborhood-level partisan organizations) and ward endorsements which carry significant value in low-profile elections. An analysis could help reveal any relationships between the flow of money, ward endorsements, election results and voter turnout. Turnout is frequently highlighted in political campaigns as a measure of civic health, but is very expensive to increase. Consequently, campaign contributions may correlate with turnout but only because endorsements are more valuable where people vote. In short: visualizing these variables – campaign contributions, endorsements, election results and voter turnout – and determining the degree to which they're related would be a helpful start in understanding Philadelphia elections.

#### **Data Available:**

Ample election and campaign finance data is readily available online through local and city government websites. Information necessary for this project includes election results and voter turnout available from the Philadelphia City Commissioners (PhiladelphiaVotes.com), campaign spending from the Board of Ethics, and map boundaries from OpenDataPhilly.org. Voter registration by ward (needed to calculate turnout) will be collected from either the city or state. Three of the four variables assumed to have a significant impact on turnout – education, income and race – will be pulled from the 2010 Census or annual American Community Survey. Finally, broad and reliable samples of Philadelphia ward endorsements have only been attempted in 2015 and 2017; Philadelphia Weekly reporter Max Marin's survey of District Attorney endorsement during the May 2017 primary is the most thorough available.

#### **Maps and Reports that will be created:**

The proposed interactive web-based map would allow users to parse through and visualize geographically: voter turnout, campaign contributions, ward endorsements and election results (for the 2017 District Attorney election only). The map would overlay Philadelphia's wards and include the expected turnout in each ward (based off of education, income, race, and past turnout), the actual turnout (ballots cast for the highest-profile office divided by voter registration) relative to the expected turnout, how much money each Philadelphia ward spent in the most recent primary election, the reported ward endorsements, and election. In addition to the visualization, a regression analysis could be performed to estimate the relationship between the socioeconomic variables, campaign dollars spent, and ward-based turnout.

Together, the map and the report would seek to better understand how local campaigns in Philadelphia are financed, who pays for them, and who benefits from them, and what are the impacts on election outcomes.



### **How the maps and reports will be used:**

The primary purposes of this project will be to: 1) Demonstrate the value and need for further collection and analysis of data to understand how Philadelphia elections work (e.g. new efforts to systematically collect for public viewing all endorsements pushed on Election Day); 2) focusing more attention on how money influences local elections and, consequently, the quality of government; and 3) spurring discussion around voter turnout and what ward committees are (and are not) doing to encourage voter participation. PhillyWardLeaders.com, a Code for Philly project from 2015, is already in the midst of being redeveloped and may be a prime hub for this type of analysis and insight.



# Environment & Ecosystems

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## Audubon Alaska

### ECOLOGICAL ANALYSIS OF THE ARCTIC NATIONAL WILDLIFE REFUGE

<http://ak.audubon.org/>

#### **Spatial Analysis Project:**

The Arctic National Wildlife Refuge coastal plain was recently opened to oil development. This change in management brings a greater need to report and publicize the environmental resources at stake. This project will create an atlas of maps that will inform a broad audience including agency decision-makers, scientists, Congressional staff, and environmental groups. The maps will become part of a synthesis report detailing the biological and cultural resources of the Arctic Refuge coastal plain. The intern will organize, analyze, and map geospatial data on cultural, recreational, and biological resources including the distribution of fish, birds, and mammals. To the extent possible, we will overlay energy resources, climate change projections, and development scenarios to evaluate pressures on areas of ecological significance, and make recommendations about conservation areas to be avoided by industrial development.

#### **Data Available:**

We have extensive biological and physical datasets to support this project. Audubon Alaska hosts and stewards the best-available bird database for Alaska, tracking over 40 years of observation and abundance surveys of bird species from American Golden-Plovers to Yellow-Billed Loons. In addition, Audubon has already collected spatially explicit data on a wide range of taxa from polar bear denning sites to caribou seasonal habitat use. For physical data, our geodatabases include a suite of climate change variables (such as rate of permafrost melt and projected change in length of growing season), 2.5m-resolution ortho-imagery, and local and regional hydrology.

#### **Maps and Reports that will be created:**

The fellow will bring together a wide range of disparate data into a cohesive and informative atlas of maps, using skills that emphasize an understanding of ecology, spatial analysis/modeling, and cartography. The analyst will assess additional data needs and work with agencies and academics to access those data. Data gaps are a challenge in this remote area, and many of the available data are observational survey locations or broad-scale distributions of varying quality. This project will require creating mid-scale data that will be useful for planning across a region approximately 1.5 million acres in size. The analyst will perform spatial analysis and species distribution modeling to create, reformat, or downscale datasets. They will integrate species distributions with climate projections and spatial estimates of technically recoverable oil and gas to assess threats and stressors. The analyst will document metadata, mapping and analysis methods, data sources, and relevant scientific publications and reports.

#### **How the maps and reports will be used:**



After completion of the project, the maps produced by the analyst will be integrated into a larger report describing the biological and cultural resources of the Arctic Refuge coastal plain. The report will describe the maps showing the resources at stake in this undeveloped Arctic ecosystem. The report will highlight key features of the region (e.g. 300,000+ migrating Snow Geese, the highest density of denning polar bears in Alaska) to inform development decisions and encourage the least impactful management alternatives. This will inform comments on leasing, permitting, and developing the coastal plain. In a future, more conservation-friendly political environment, the report and maps will be used to advocate that lawmakers reverse the opening of the Refuge to drilling, and to designate Wilderness for the coastal plain. This will be Audubon's go-to report to support our advocacy efforts for the Arctic National Wildlife Refuge.



## National Aquarium

### IDENTIFYING PATTERNS IN MID-ATLANTIC MARINE DEBRIS

<http://aqua.org/>

#### **Spatial Analysis Project:**

This project analyzes spatial patterns in marine debris composition in the mid-Atlantic region to better inform and target future reduction efforts. Understanding the types of marine debris most commonly found in our local ecosystems (e.g. single-use plastics) and their spatial patterns will tell us what types of products and geographical areas on which the National Aquarium and its partners can most effectively focus our reduction efforts. We can then relate the debris data to the surrounding factors that contribute to the identified patterns, including population size, land use, economic factors, degree of urbanization, and existence of debris-related legislation. Displaying these correlations visually on a map will elucidate their relationships (or lack thereof) and help determine where reduction efforts would be most effective, helping partners to make the most efficient use of limited resources.

#### **Data Available:**

The National Aquarium is the state coordinator for all International Coastal Cleanup (ICC) events in Maryland. The ICC, organized by Ocean Conservancy, has the largest collection of item-specific and spatially explicit marine debris data (including number of each debris type and their geographical coordinates) available over time displayed in their Ocean Trash Index. Similarly, the National Oceanic and Atmospheric Administration tracks marine debris items removed through its Marine Debris Tracker program. To understand factors that are related to patterns in marine debris, we can utilize GIS datasets on population, economic factors, land use and urbanization freely available from federal and state agencies including USGS, Census bureau, EPA, Maryland DNR's Coastal Atlas and the Chesapeake Bay Program. Our staff experts can assist with gathering the data about current legislation related to debris (e.g. bans on single-use plastic), and guide GIS data compilation and spatial analysis.

#### **Maps and Reports that will be created:**

As a result of this project, we would like to see a regional map of the mid-Atlantic as well as a more localized map for Maryland and DC showing the amount and type of single-use plastic marine debris removed, and what factors of the surrounding area may contribute to the composition of marine debris present. Surrounding factors may include population size, land use, local legislation, and extent of urbanization. Expected outputs from this project includes maps depicting the spatial patterns in marine debris, and probable correlation between any of these factors and the type of marine debris (e.g. composition of the single-use plastic debris) removed from the area. A brief analysis regarding the findings of this data should accompany the maps created. The analysis may include what factors proved to be the most connected to the type of marine debris (e.g. single-use plastic debris) most commonly removed from an area.

#### **How the maps and reports will be used:**

The maps and reports generated from this project will assist many organizations, including National Aquarium, by providing a clear view of the areas that are most in-need of marine debris outreach and what



factors need to be addressed in that outreach. We and many of our partners are interested in using this data to create targeted outreach programs or behavior change campaigns addressing marine debris, especially single-use plastics. Our efforts will be more effective if we have these maps to reveal the patterns in marine debris and the local factors that affect them. We can target our efforts to address the most impactful factors. In addition, information from this project will strengthen grant proposals to fund marine debris reduction efforts. Legislators and environmental organizations advocating for legislation that will reduce marine debris at its source can use these maps to create a stronger case for marine debris legislation.





## Sierra Streams Institute

### **PRIORITIZING RESTORATION PROJECTS IN A SIERRA NEVADA, CA WATERSHED: USING SUITABILITY ANALYSIS AND PRIORITIZATION MODELS.**

<http://www.sierrastreamsinstitute.org/>

#### **Spatial Analysis Project:**

Sierra Streams Institute (SSI) is a non-profit based in Nevada City, California. Currently, SSI is working in the Bear River Watershed completing a Disturbance Inventory and drafting a Restoration Plan. In the Restoration plan document, we outline the primary issues of concern in the Bear River Watershed and define potential restoration projects.

The work proposed for the Summer of Maps fellow will support identifying, prioritizing and developing potential restoration projects within the Bear River Watershed. These projects will address the watershed's many pressing demands, which include coordination of land management, cleanup of legacy mining contamination, improvements to water quality, restoration of ecologically important habitat, and addressing climate change and wildfire pressures. While completing the Disturbance Inventory, numerous datasets were collected and several informational maps were developed. The Summer of Maps fellow would be responsible for conducting suitability analyses and developing models to inform and develop restoration projects.

#### **Data Available:**

Currently, data on watershed and subwatersheds boundaries, basic hydrology, groundwater basins and subbasins, groundwater quality monitoring, groundwater elevation monitoring, California Statewide Groundwater Elevation Monitoring (CASGEM) groundwater basin priorities, wetland locations, active, inactive, underground and surface mines, surface water quality monitoring, 303(d) listed areas, elevation and topography, slope steepness, vegetation communities, soil classification, special-status flora and fauna species, threatened and endangered flora and fauna species, permitted toxic release and cleanup sites, disadvantaged and severely disadvantaged community boundaries, human population density, land ownership, land use and crops, major roads, county planning designations, county parcel boundaries is available for the Summer of Maps fellow. Additionally, overlay maps combining specific datasets above were developed to provide initial prioritization of restoration sites. Information from literature reviews will be provided on species of concern and habitat types to support suitability analyses.

#### **Maps and Reports that will be created:**

The fellow will be responsible for producing maps and ModelBuilder accompanied with a brief written summary to address the following tasks:

1. Identify endangered plant, animal, and habitat (i.e. giant garter snakes, tricolored blackbirds, black rails, western pond turtles, coast horned lizards, Scadden Flat checkerbloom, Pine Hill flannelbush, Stebbins' morning glory, vernal pools) locations needing protection within the Bear River Watershed by conducting suitability analyses with species distribution and habitat data, along with literature review information.



2. Create a prioritization model that utilizes user defined inputs (slope, land use, ect.) to rank potential projects and project areas that fit the user's needs based on the project's feasibility and necessity.

We are excited to have discussions with Azavea and the project fellow about how we might further utilize models produced through the project.

### **How the maps and reports will be used:**

The final product will be a series of maps and models that will help guide stakeholders in developing restoration projects, identifying project areas, and prioritize projects. This deliverable will synthesize and translate the information discussed in the disturbance inventory to help develop a comprehensive restoration plan with ready to implement project plans, prioritized list of projects and possible project collaborators. Spatial analysis will help address emergent challenges including examining the ecological diversity represented within the watershed as a whole, the larger scale and scope of projects resulting from this sub-watershed diversity as well as consequences and/or future mitigation of a controversial proposal to build a major dam on the Bear River. Additionally, maps and models developed will support grant applications by providing data to identify the importance and anticipated effect of the proposed restoration work. Overall, this will guide future restoration work forward in the most logical and strategic manner.



## Southeast Alaska Land Trust

### CONSERVATION PRIORITIZATION OF KETCHIKAN, ALASKA

<http://www.southeastalaskalandtrust.org>

#### **Spatial Analysis Project:**

Create a conservation priority analysis of public and private property (non-federal land) within the Ketchikan Alaska watershed (8-digit Hydrologic Unit Code (HUC) #19010102). The goal of this project is to identify private, native corporations/tribal, municipal, and state land on which the Southeast Alaska Land Trust (SEAL Trust) could potentially hold conservation easements, deed restrictions, or purchase as fee-simple conservation properties.

This conservation prioritization analysis will enable SEAL Trust to take a more strategic approach in exploring additional conservation opportunities within the Ketchikan watershed. In addition, SEAL Trust will be able to use this prioritization to quickly and objectively assess the conservation values of a potential project within Ketchikan, identify the most significant parcels for conservation, and present and defend property acquisitions to funders.

The project objectives include:

- Define resource values that contribute to SEAL Trust's definition of 'conservation value'
- Use resource values to rank the conservation value of non-federal lands

#### **Data Available:**

SEAL Trust and the Southeast Alaska GIS Library have many available datasets that could be useful for this project:

- Land Ownership
- Protected Areas
- National Wetlands Inventory
- Hydrography Database
- Floodplains
- Streams (including Anadromous Streams)
- Karst data
- Presence of clear-cut or 2nd growth forest

#### **Maps and Reports that will be created:**

A final prioritization shapefile/geodatabase that can be used by SEAL Trust staff when assessing potential conservation projects within the Ketchikan watershed.

A final report that will include an overview of the project goals and objectives, methods used, results, discussion, and major conclusions. Report maps could include the following:

- Ketchikan HUC Context Map



- Ketchikan HUC Protected Area Map
- Ketchikan HUC Land Ownership Map
- Overview of Ketchikan HUC Prioritization
- Map(s) of Highest Priority Areas

**How the maps and reports will be used:**

The prioritization data, report, and maps will be used by SEAL Trust staff in order to take a more proactive and strategic approach in pursuing conservation opportunities within the **Ketchikan watershed**.

The prioritization data, report, and maps will be used to quickly and objectively assess the conservation values of a potential project within the Ketchikan watershed, identify the most significant parcels for conservation, and present and defend property acquisitions to funders.



# Health

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## The Legal Clinic for the Disabled

**ANALYZING HEALTH STATUS, INCOME, AND SOCIAL DETERMINANTS OF HEALTH ACROSS PHILADELPHIA**

<http://www.lcdphila.org>

### **Spatial Analysis Project:**

LCD seeks to create visualizations of the correlations between health status, income status, legal and social needs, and geography of low-income individuals in the Philadelphia region. By combining the substantial quantity of de-identified client data from its five innovative Medical-Legal Partnerships with publicly available data sets on income, employment, household status and other demographic measures, LCD will offer a unique perspective on the role that socio-economic factors have on the well-being of low-income individuals. By analyzing multiple socio-economic factors and social issues, LCD will examine the potential domino effect that issues can create and will tailor efforts and outreach to address compounding issues. Given the interdisciplinary nature of LCD's work, the analysis will draw upon and help inform elements of public health, legal advocacy, public policy and geographic information systems.

### **Data Available:**

LCD will provide de-identified data on thousands of low-income clients in the Philadelphia region. This data includes address, age, disability/health status, and legal need(s). This data will be combined and compared with publicly available data sets from entities such as the U.S. Census Bureau, the Public Utilities Commission, the U.S. Department of Agriculture, and the Philadelphia Department of Health to provide a unique snapshot of the needs of low-income individuals in Philadelphia.

### **Maps and Reports that will be created:**

Examples of products sought:

- combining maps of disability/health status with maps of legal needs to establish correlations
- mapping the relationship between income, health status and food insecurity in Philadelphia neighborhoods.
- mapping the relationship between income, health status and utility insecurity in Philadelphia neighborhoods.
- combining maps of food insecurity and utility insecurity to examine potential correlation between the issues
- identifying locations for public outreach where unmet legal needs likely exist based on the profiles created from current data



**How the maps and reports will be used:**

The products will serve as extremely versatile tools for LCD. The maps will inform LCD advocacy and outreach strategy so that we can more efficiently tailor efforts to address the issues that most impact LCD's clients. LCD will utilize these visualizations to support the value of the Medical-Legal Partnership approach to addressing the social determinants of patient health. LCD, as a nonprofit organization, is completely reliant on foundation and donor support to sustain its programs. As such, the maps will be a powerful tool to help increase awareness about the need for LCD outreach and legal services.



# Transportation

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## The Bicycle Coalition of Greater Philadelphia

### DEVELOPING A BICYCLE TRAVEL DEMAND MODEL TO GROW MODE SHARE AND PRIORITIZE INFRASTRUCTURE IMPROVEMENTS

<http://BicycleCoalition.org>

#### **Spatial Analysis Project:**

The City of Philadelphia's 2015 Pedestrian and Bicycle Plan sought to increase bicycle mode share from 1.6% to 6.5% by 2020. With mode share currently estimated to be 2.2%, it is clear that the City is not on track to meet this goal. The Bicycle Coalition believes that creating a bicycle travel demand model to identify areas where new or improved infrastructure could best lead to growth in bicycle mode share is a critical next step in achieving 6.5% mode share.

The Bicycle Coalition has proposed a "Hub and Spoke" network of high quality bicycle infrastructure which we believe is needed to triple mode share. At the same time, the City of Philadelphia has planned both to build 30 miles of protected bike lanes and improve its existing bicycle lane network. To date, neither of these proposals have been validated, necessitating the development of a bicycle travel demand model.

#### **Data Available:**

- Commute mode by Census Block (US Census, American Community Survey)
- Existing bicycle infrastructure (City of Philadelphia)
- DVRPC bicycle counts (24 hour counts, seasonally adjusted)
- Bicycle Coalition bicycle counts (rush hour, fall commute)
- DVRPC vehicular traffic counts
- CCD vehicular and bicycle counts traffic counts
- DVRPC bicycle level of stress map and connectivity
- Commercial and residential density proxies (land use & building height)
- SEPTA transit stops and routes
- Vision Zero High Injury Network (City of Philadelphia)
- Bicycle Crashes (PennDOT)

#### **Maps and Reports that will be created:**

Bicycle travel demand model based upon:

- Existing commute mode share
- Existing bicycle travel volumes
- Vehicular travel volumes
- Philadelphia's High Injury Network



- Existing bicycle infrastructure & level of stress and connectivity
- Transit access
- Commercial and residential densities

Report outlining bicycle infrastructure improvements needed to increase commute mode share to 6.5%, prioritized by forecast demand

**How the maps and reports will be used:**

The travel demand model and report on infrastructure improvements needed to reach 6.5% mode share will be used to inform governmental agencies (Office of Transportation and Infrastructure Systems, Streets Department, Finance & Budget Department, and the Philadelphia City Planning Commission), Business Improvement Districts such as Center City District or University City District), City Council, and the region's Metropolitan Planning Organization, the Delaware Valley Regional Planning Commission about where bicycle infrastructure investment is needed to accelerate the growth in bicycle commuting mode share.

Ultimately, deliverables will be used in the Bicycle Coalition's advocacy efforts to make bicycling a safe and fun way for anyone to get around Philadelphia.





## PlanPhilly

### MAPPING OUT PHILADELPHIA'S MOST DANGEROUS INTERSECTIONS FOR PEDESTRIANS. 2015 AND NOW.

<http://planphilly.com>

#### **Spatial Analysis Project:**

We would like to revisit our 2015 Summer of Maps project, looking at the most dangerous locations for pedestrians in Philadelphia. Have we seen changes in the number of accidents and fatalities since 2015 due to persistence from orgs such as Feet First, Bicycle Coalition, and 5th Square and with the adoption alternative transit projects such as parklets and the protected bike lane in West Philly? In addition to looking at council districts, it would be very interesting to see it by Phila2035 planning districts.

#### **Data Available:**

- City crime data for accidents/crashes
- Council district map
- Planning Commission planning district map
- Existing OTIS bike lanes
- Existing traffic calming interventions by city and improvement districts (parklets, capital projects like UCD's curb bulb out)

#### **Maps and Reports that will be created:**

- Map showing all the accidents in the city (dots per accident)
- Heat map emphasizing most dangerous intersections (if dots show concentration)
- Overlay with council and planning districts
- Overlay with traffic calming interventions (dots for parklets and bulb outs)
- Overlay with city bike lanes (protected, shared lanes, regular bike lane)
- Comparative charts showing number of accidents per top 25 most dangerous intersections in 2015 and 2018

#### **How the maps and reports will be used:**

The maps and reports will be used primarily for our transportation coverage, especially on pedestrian fatalities (recent articles on Roosevelt Blvd and 16th/JFK), as well as a tool for our readers if they choose to advocate to their neighbors, friends, or elected officials.

