

Selecting A Second Site for Prince George's County Animal Shelter

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URSP688L: Planning Technologies
The University of Maryland – College Park
Fall, 2017



PALS - Partnership for Action Learning in Sustainability
An initiative of the National Center for Smart Growth

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Executive Summary

Our PALS project team worked with Prince George’s County Animal Control to identify potential sites for a second animal shelter. After reading a 2016 feasibility study and meeting with Chief Rodney Taylor and other stakeholders, our team developed a hierarchy of site selection criteria. These included zoning, parcel size, transit access, and more. We then utilized GIS mapping and data analysis to draft a short list of approximately 30 possible sites. After this, we went through the options and eliminated any sites with prohibitive topography or accessibility issues. In the end, we were left with four potential sites. We presented these four options to the county on December 14, 2017. At this meeting, we also discussed potential research opportunities for the second semester of this project.

Background

Prince George’s County Animal Control completed a feasibility study in December 2016 regarding the need for a second animal shelter. Currently, the county only has one facility which provides adoption, intake, and veterinary services. This facility is supported by a combination of ancillary local animal shelters and animal control wardens in five northern municipalities.

A second animal shelter is needed. The current facility is located in a less dense portion of the county--somewhat removed from the suburbs around Washington, D.C. Because of this, the facility is not attracting as many potential adopters as it could be. A second location could help change this by closing the geographic gap between the pets and the people who want them. Comparably sized counties often have more than one animal shelter, and it is clear that Prince George’s County is in need of another one as well.

The feasibility study included a lot of useful information. Not only did it include design details and data on the current shelter, but it also included guidelines for the new facility. The feasibility study proposed three options for a second site. The options varied in size, construction costs, and operating costs. These three options were:

- **Option 1:** An adoption center only.
- **Option 2:** An adoption center with limited intake capabilities
- **Option 3:** A full-service second facility

Note: All sites could be constructed with an additional “vet module” which would offer low-cost spay and neuter, vaccination, and veterinary services to members of the community.

In addition, the study included a community survey which asked county residents about their support for a second facility, the types of services they would like it to offer, and most importantly how many minutes they would drive to access the facility. Respondents strongly supported a second location and generally favored an adoption center within a 15-minute drive of their home.

With this feasibility study in mind, our team met with Chief Taylor and other department staff on October 12, 2017 to discuss the project. During this meeting, our team asked numerous questions regarding the opportunities and constraints for the second facility. It quickly became clear; we would be looking for a site for Option 1--an adoption center--in the northern portion of the county.

Research Questions

Our central research question was simple: where should Prince George's County Animal Control locate its second facility?

However, along with this straightforward central question came several more complicated subsidiary questions. These included the following:

- **Zoning:** Which current zones allow for animal shelters and how might upcoming changes in Prince George's County zoning regulations impact any sites we suggest?
- **Transportation:** If residents would increase their use of shelter services based on proximity, what and where are key transportation elements? Should mass transit be considered?
- **Parking and Total Lot Size:** How many parking spaces would the shelter need to provide under current and proposed zoning, and how does this impact the amount of land required? The feasibility study clearly stated that an adoption center's building footprint would be approximately 9,871SF. How would parking impact this figure?

Our team needed to answer both the central question and these subsidiary questions in order to find potential sites.

Methodology

Site Selection Criteria and Ranking

Based on the research questions mentioned above, several site selection criteria were developed. After thorough discussion, we decided on an order by which to rank the criteria. In order of importance, we considered a viable site to be: (1) county owned, (2) vacant, (3) correctly zoned, (4) of sufficient size, (5) located in the northern portion of the county, (6) accessible by interstate/parkway, (7) in an attractive location, and (8) accessible by mass transit.

In the following sections, we will discuss our reasonings and research methodologies for each criteria in greater detail.

County-Owned Land

In order to develop a map of county-owned land, our team downloaded ArcMap shapefiles from the Prince George's County data portal. This included a file of all parcels in the county and a second layer just for publicly owned land--thereby giving us our map of county-owned land.

The underlying data tables were exported from ArcMap to Excel spreadsheets for analysis. Unfortunately, the publicly owned land files did not include all the information we needed to narrow down the parcels and lacked information such as square footage and improved/unimproved, so additional steps were taken throughout the process.

Vacant

After meeting with Chief Taylor, it was clear that costs are a primary concern for this project. Animal shelters can be expensive to build. They require very particular structural components regarding materials, HVAC systems, layouts, etc. As such, retrofitting an existing structure would be difficult. Demolishing it could be equally costly. Thus, our team only considered sites with less than \$10,000 developed value. These sites were considered effectively vacant and would thus be best suited for new construction.

Our team was able to classify vacant, publicly owned land by merging the publicly owned land files with the Public Land spreadsheet via the v-lookup function.

Correctly Zoned

In the existing Prince George's County zoning code, there are two types of zones where an animal shelter can be constructed. The first type includes all zones where an animal shelter can be constructed *without a permit*. This includes zones I-1 (light industrial), I-2 (heavy industrial), and U-L-I (urban light industrial). All three of these zones allow the construction of an animal shelter without a permit.

The second type includes all zones where an animal shelter can be constructed *with a special exception permit from the county*. This includes zones R-O-S (Reserved Open Space), O-S (Open Space), R-A (Residential-Agricultural), R-E (Residential Estate), R-R (Rural Residential), M-U-TC (Mixed Used Town Center), C-S-C (Commercial Shopping Center), and C-M (Commercial Miscellaneous). All eight of these zones allow for the construction of an animal shelter with a special exception permit from the county.

Our team considered both types of zones. In order to do so, our team downloaded the Prince George's County zoning files and filtered out the infeasible zoning categories. This left our team with a map of correctly zoned land.

The Proper Parcel Size (Including Parking)

The feasibility study included estimates for the size of the second facility. This gave our team a good starting point. According to the study, an adoption only facility would be approximately 9,871 square feet with 4,392 square feet of kennel space. However, unfortunately, this estimate did not include parking. As such, our team needed to calculate how much parking this facility would need.

In order to do this, our team examined the Prince George's County zoning regulations. Based on the current Prince George's County regulations (Sec. 27A-568), an adoption-only facility of 9,871 square feet with 4,392 square feet of kennels would need 37 parking spaces. These 37 parking spaces would require an additional 11,840 square feet based on an average of 320 square feet per space.

Thus, in order to accommodate both the 9,871 square foot facility and the 11,840 square feet of parking, the site would need to be at least 21,750 square feet. Our team used this information to filter out any county-owned parcels which did not meet this minimum lot size requirement.

Note: These figures may change dramatically under Prince George's County's proposed new zoning code. Under the new zoning code's regulations, the facility would only need 10 spaces. If we assume the same 320 square feet per space, this would only add an additional 3,200 square feet to the project versus the current zoning code's 11,840 square feet. Thus, the selected site would only need to be 13,100 square feet in order to accommodate both the parking and the building. Less restrictive lot size requirements would open up more potential sites. (Detailed parking calculations under both the current and proposed zoning regulations are included in the appendix.)

The Remaining Criteria

The remaining considerations were largely informal. They impacted our analysis but were not quantified in the same way as the previous criteria.

First, we considered whether the site was in the northern portion of the county. Per Prince George's County Animal Control's request, this was defined as any point north of the current shelter site. After compiling all of our maps, we simply cropped our view in order to only consider points north of the current shelter.

Second, we considered interstate or parkway access. This was informally analyzed using Google Maps to estimate driving routes. We selected sites that were 5-10 minutes from a major interstate or parkway.

Third, we considered how attractive a site was. This was largely subjective and took surrounding uses into account. For example, a site in an industrial park was not deemed attractive because people would not want to spend time there.

Last, our team considered access to public transportation. This was largely accomplished via Google Maps, which we used to view any nearby metro lines or bus stops. We tried to select sites with nearby transit lines. However, this was a much lower priority criteria since local metro and bus services do not permit the transport of pets (except for service animals).

Research Interpretation

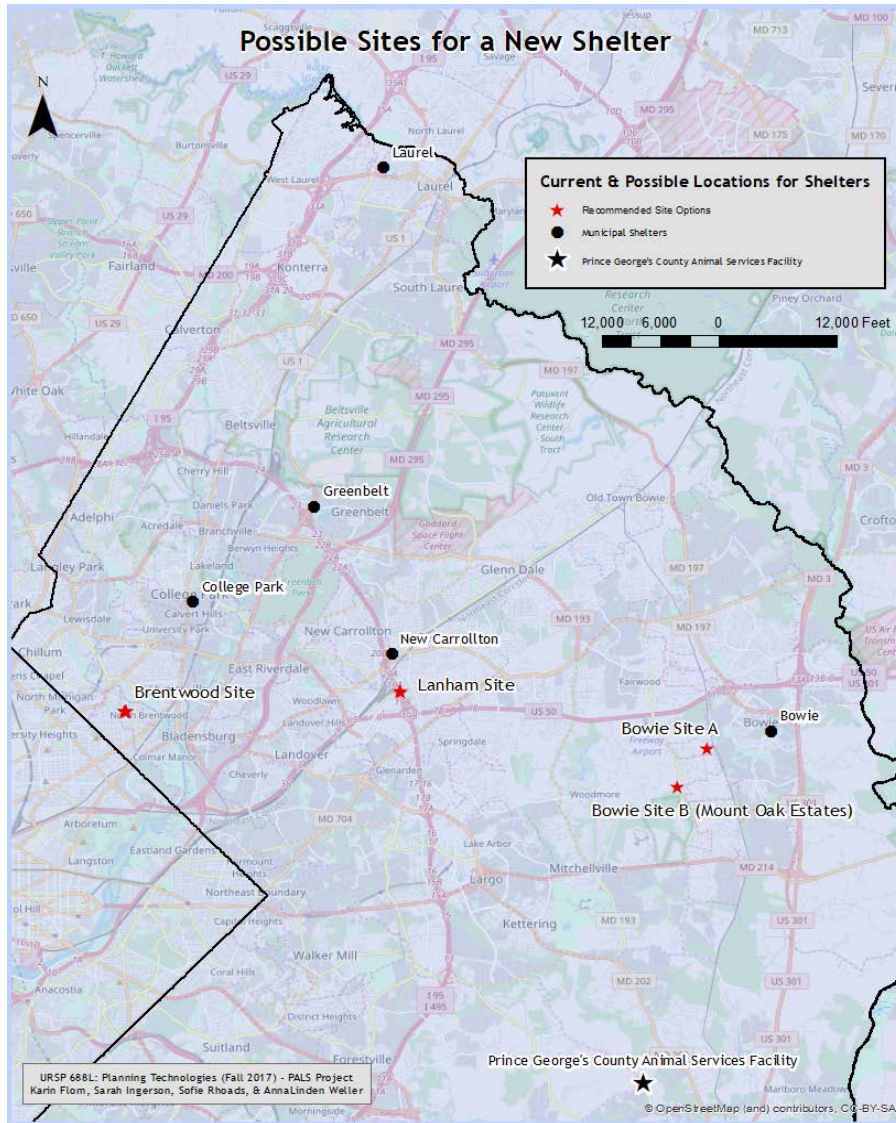
Potential Sites

After applying our mapping criteria to land in Prince George's County, we were left with 14 potential sites for a new adoption site. These sites all met the ownership, zoning, size, location, and other requirements established by the eight criteria above. However, of these 14 potential sites, ten were eliminated. The reasons for this varied. Some sites were inaccessible; some were currently being used for drainage ponds; some were located in residential cul-de-sacs. The specific reasons varied, but ten sites were immediately filtered out of the running. Thus, we were left with four potential sites.

Recommended Sites

Based on our mapping work, we found four sites where we recommend a new adoption center could be built. The best of these was located at 4603 Timber Lane in Lanham, MD. This parcel is over an acre in size and located close to both Interstate 495/95 and Route 50 as well as the New Carrollton Metro stop. Our second recommendation was a site in Bowie, MD at the intersection of Church Road and Mount Oak Road. This parcel was also over an acre in size and had excellent road access, but it was more distant from major highways and parkways and not as accessible to the northwestern portions of the County. Our third recommendation was a site in Brentwood, MD, at Windom Road. This site was located in a residential-commercial area with good connections to public transportation and local roads including Route 1. However, the site was smaller than the first two at 21,000 square feet. It may also require further permitting due to its zone and negotiating with the local community. Our last recommendation was another site in Bowie, also on Church Road, with a parcel size of 1.59 acres; however, this site is subdivided by the road itself, and might require some creative work in building the shelter.

The following map shows the location of each potential site in its relationship to the current shelter and to municipal shelters:



Recommendations

While all the recommended sites have potential, the County might find even more suitable sites if it expanded its selection criteria. For example, looking only at vacant county-owned land greatly limited our team’s analysis. By expanding this criteria to include non-county owned parcels or parcels with existing structures, our team would have many more sites to analyze and the County would have many more options.

Ultimately, whichever site is chosen, we highly recommend that the budget include a marketing campaign to advertise this new location. In the original feasibility study, 40% of survey respondents did not know

where the current facility is located. This second facility is intended to augment the County's adoption efforts, but it can only do this if people know about it. To ensure people know about the new facility, we recommend a marketing campaign.

Opportunities for Future Research

Zoning Code

There are several opportunities for future research beyond this report. Firstly, future researchers could consider the impact of future zoning changes. Prince George's County is currently rewriting its zoning code, and these changes are likely to go into effect before the acquisition of a parcel is complete. These changes could impact this project. For example, the new zoning code simplifies land use categories and may offer new opportunities for siting an animal shelter in additional zones. In addition, the new zoning code may alter parking requirements, thereby altering the minimum lot size requirements for the second animal shelter. A larger or smaller site may be needed. In either of these scenarios, the list of potential parcels may change. As such, once the new zoning maps and regulations are finalized, future groups should run another GIS map analysis.

Key Partners

Site selection may be further refined by considering the relationships between the current facility and its key partners including animal fostering organizations, municipal shelters, etc. Where are these key partners located? How will they work with the new shelter? A coordination plan between representatives from Prince George's County Animal Control, the municipal shelters, and partner organizations could help to place the new site in a location which is of maximum benefit to the operations of everyone.

Future analysis could focus on the creation of a heat map showing how animals and resources are shared between these partners. This would facilitate the selection of centrally located site.

Population Growth

Although Prince George's County is forecasted to grow at a slower rate than many of the surrounding counties, it is still forecasted to grow. Will this growth be funnelled into a particular location? What will be built to house these newcomers? Will it be single-family homes, condos, or apartments? How this will impact the type of animals being adopted, and therefore the size and type of kennels needed? Further researches could examine all of these questions. They could analyze growth projection in order to select a site which considers the County's current *and* future needs.

Alternate Models

This report focused on finding a site for an adoption center. However, the feasibility study included additional options such as an add-on veterinary clinic, an adoption center with limited intake capabilities, or a full-service shelter. If Prince George’s County Animal Control decided to select one of the other models, a new study of available, appropriately-sized parcels would need to be conducted.

Task Coordination

Our group divided tasks in order to most efficiently complete the project.

Sofie Rhoads served as our policy lead. She was responsible for background research regarding Prince George’s County resources, applicable laws, detailed review of the existing feasibility study, etc. She also researched and calculated the parking requirements for the site so we could determine a minimum lot size for the adoption center.

Karin Flom served as our technical lead. She was responsible for data management and analysis. She compiled and analyzed all of the spreadsheets underlying the ArcGIS components of the project.

AnnaLinden Weller served as our mapping lead. She was responsible for creating all of the layers and maps which underpin our analysis. AnnaLinden also researched the county’s zoning regulations in order to determine where animal shelters could be built.

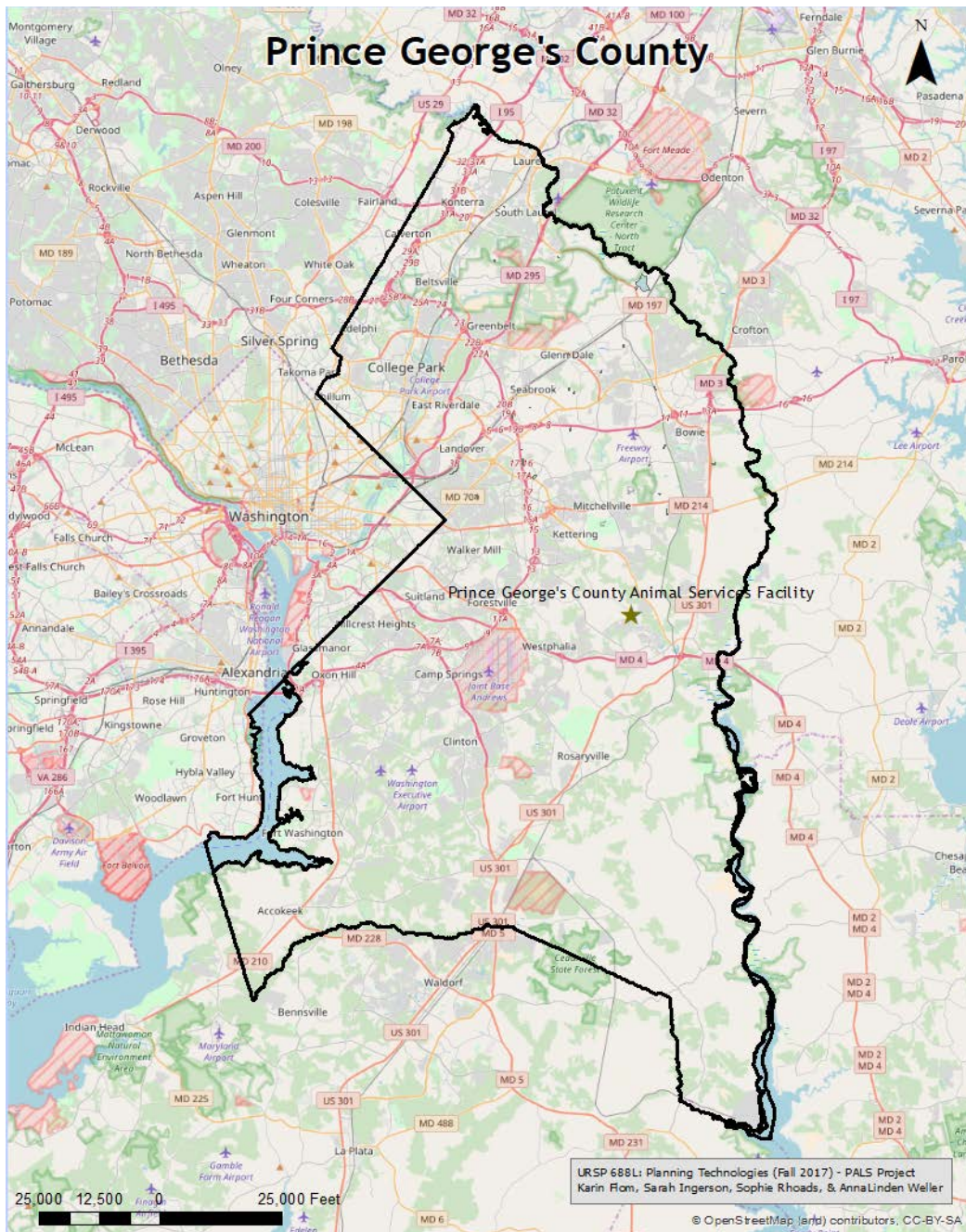
Sarah Ingerson was originally intended to serve as the team leader. However, since the team worked together so well, an official leader was not necessarily needed. As such, Sarah served as the group’s floater. She assisted as needed with research, content creation, and writing/editing. She provided a macro point of view to the project to ensure connectivity between the team members’ work.

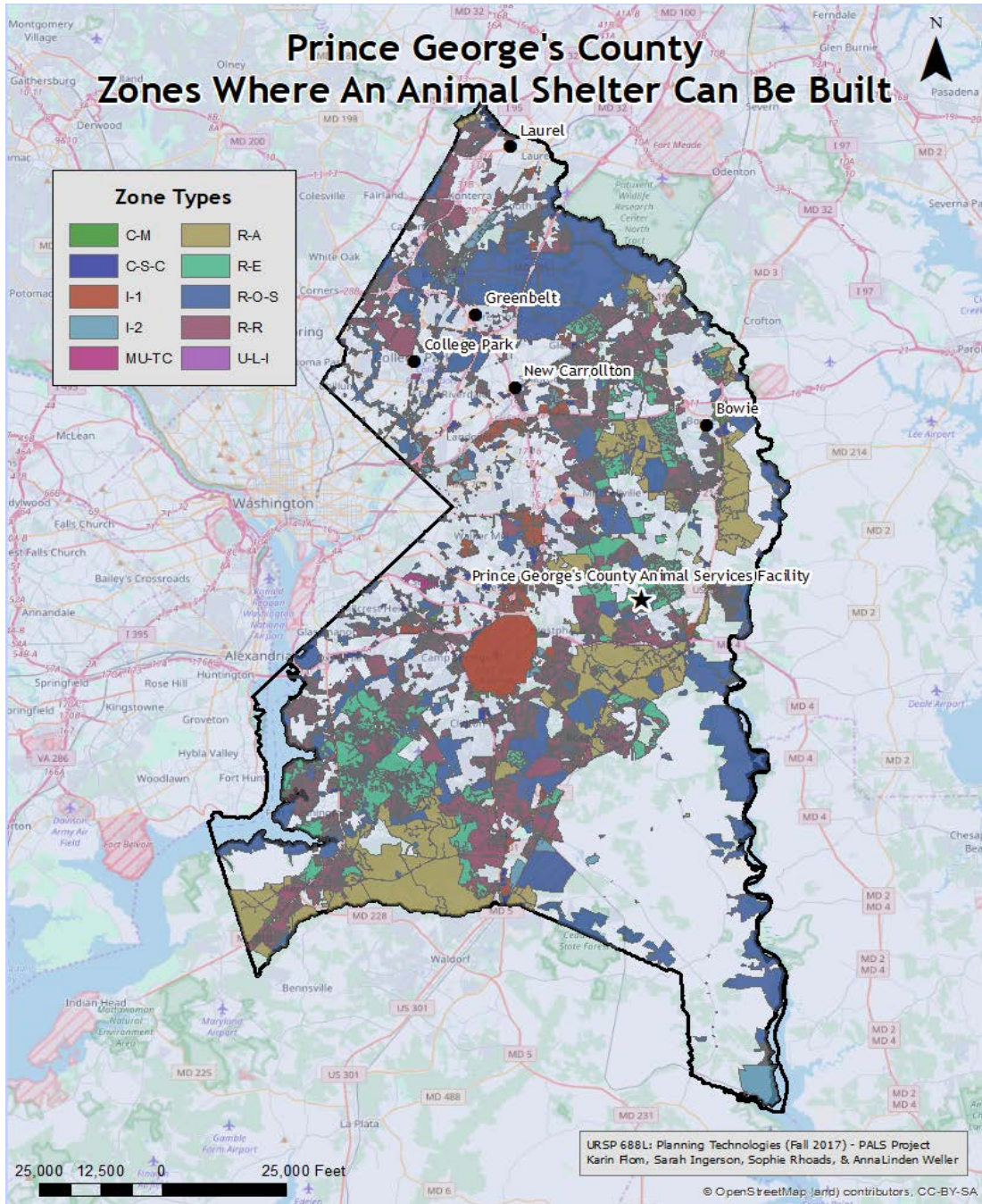
Note: All team members assisted with the writing of this report. Sections were divided according to team members’ original responsibilities.

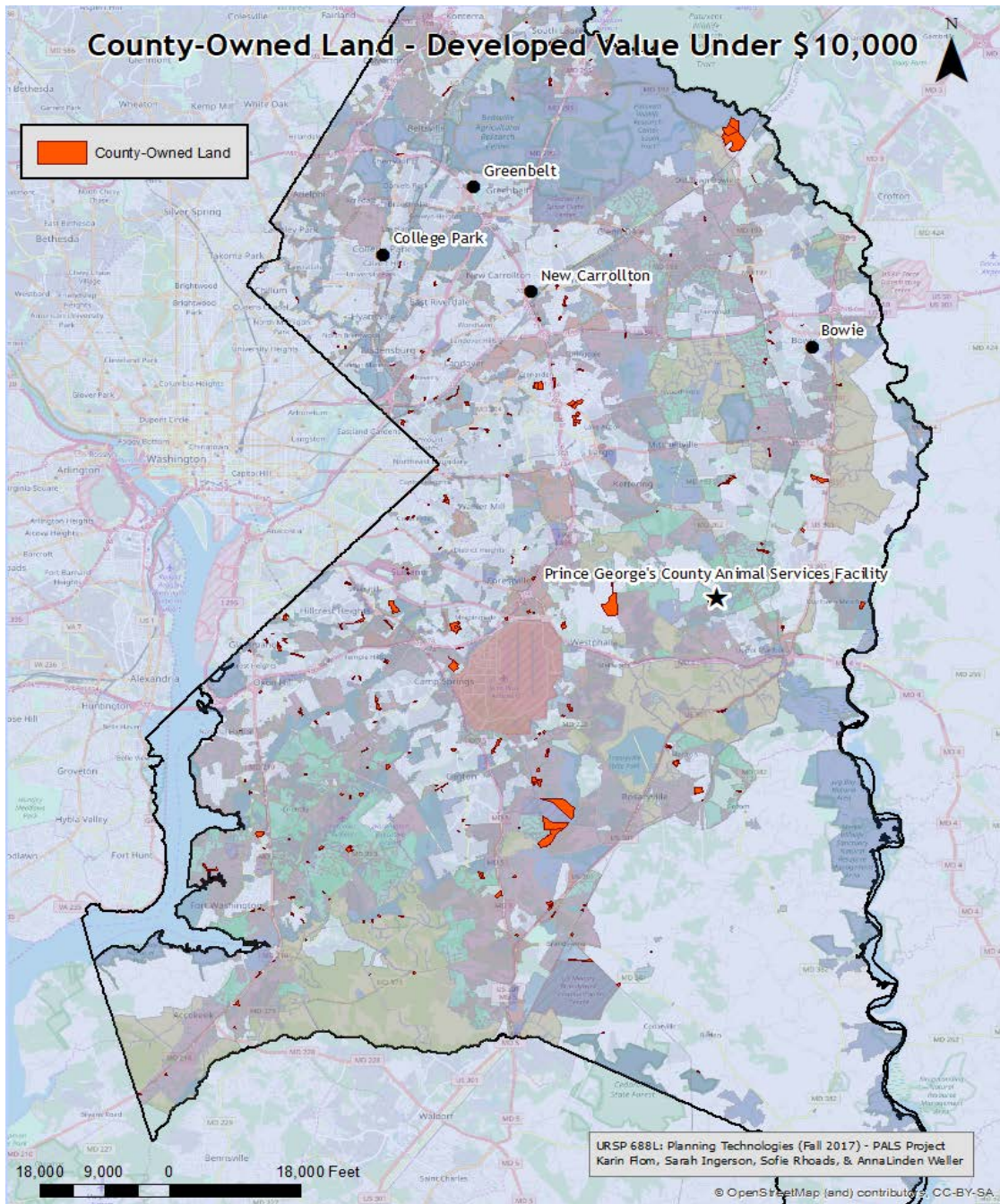
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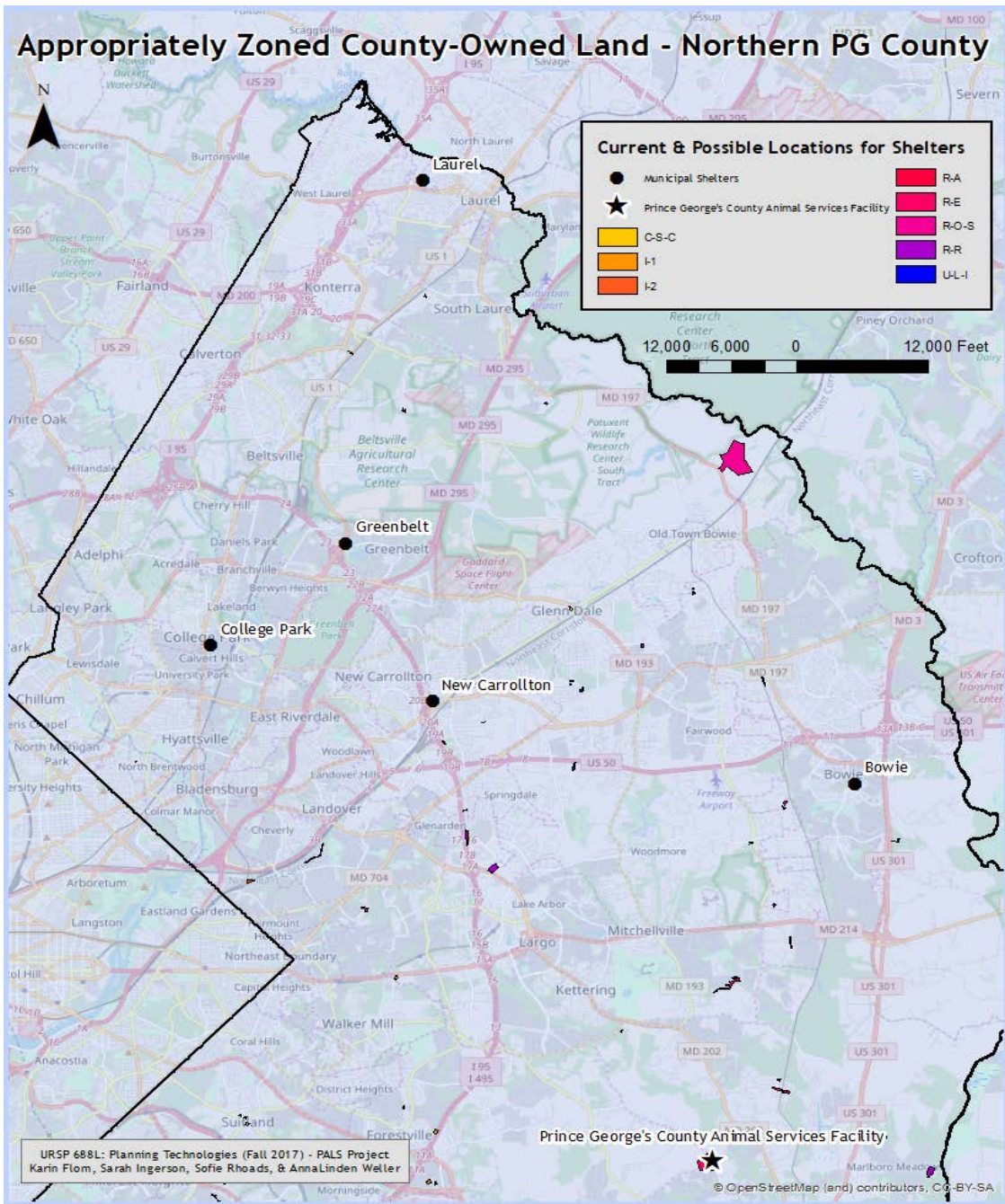
Maps Showing Applied Selection Criteria

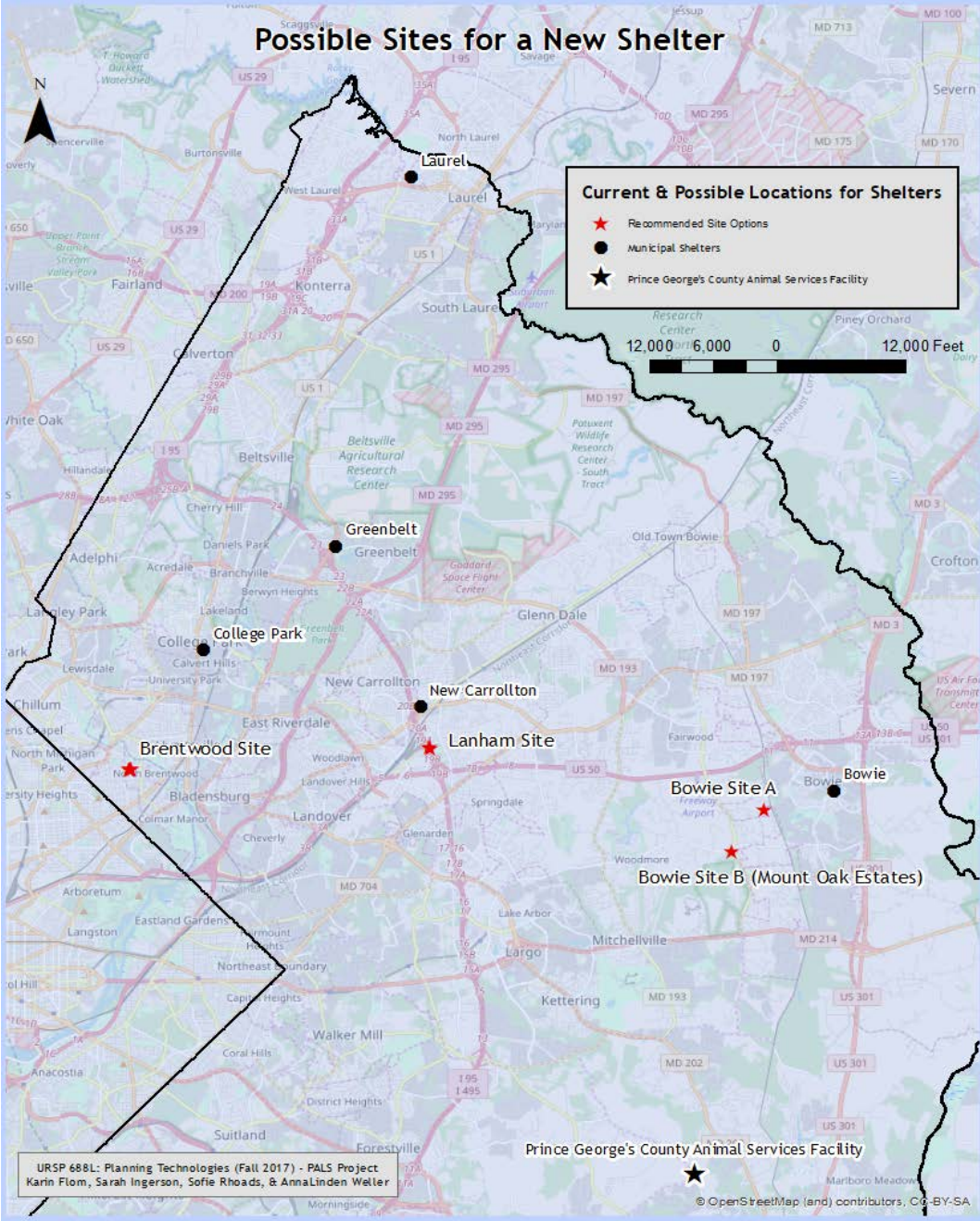
The following maps show the sequential analysis of GIS data which allowed us to come up with our recommendations.











Parking Requirement Calculations

Per the Prince George’s County Zoning Code, an animal hospital, or anywhere where there is veterinary service, must have 1 parking space per 500 square feet of kennel area, plus one additional parking space for every 200 square feet of other floor area.

Per the feasibility study, the adoption center would be broken down into the following square footage:

- Canine Feature 160
 - Feline Feature 160
 - Canine Adoption 3496
 - Feline Adoption 360
 - Small Animal Adoption 108
 - Avian/Reptile Adoption 108
- | | |
|-----------------|----------------------------------|
| Total sq. ft. | 4,392 sq. ft. for kennel space |
| Overall sq. ft. | 9,871 sq. ft. for whole building |

Thus, the parking is calculated as follows:

- $4,392 \text{ sq. ft. kennel area} / 500 = 8.78$ parking spaces required for kennel area
- $9,871 \text{ total sq. ft.} - 4,392 \text{ sq. ft. kennel area} = 5,479 \text{ sq. ft. remaining} / 200 = 27.4$ parking spaces for all other floor area
- $9 + 28 = \mathbf{37 \text{ parking spaces required}}$
- Assuming 20 sq. ft. per space = $37 \times 200 \text{ sq. ft} = \mathbf{11,840 \text{ sq. ft. for parking}}$

Per the proposed Zoning Code (which is available online), the facility would require one parking space per 1000 square feet. Thus, the parking would be calculated as follows:

- $9,871 \text{ total sq. ft.} / 1000 = \mathbf{9.8 \text{ parking spaces required}}$
- Assuming 20 sq. ft. per space = $37 \times 200 \text{ sq. ft} = \mathbf{3,200 \text{ sq. ft. for parking}}$