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**JPA AND FRY SPRINGS AREA**

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## **Abstract**

Our team is focused on JPA and Fry Springs area. Our main objective is to analyze the area and assess its relative sustainability. However, because it may be difficult to assess if the entire space taken into consideration is sustainable as a whole, we will focus on particular locations in this district and analyze what characteristics of sustainability they present. This will help us compare different environments and sustainable characteristics to evaluate why some implementations work in some areas and why they do not in others. We have decided to establish a middle point on Jefferson Park Avenue and then move on opposite directions, selecting sections to carefully consider. Our middle point is located at the intersection of Shamrock and JPA. Moving north we selected a section of Stadium Road, and further north a section of Alderman Road. Opposite those we will move south and west, focusing on a part of Robertson Road to the south, and on the shopping area of Fry Springs to the west. These points were not chosen without reason; JPA/Shamrock Intersection was chosen because we think it serves as an accurate middle point to the entire JPA area and it could be considered the most dense portion of the district with respect to traffic, pedestrian activity, and the built environment. Our choice of the Fry's Spring portion was because it is the only commercial area on JPA. The Alderman Road part of our analysis was chosen because of its proximity to first year dorms, and thus its direct contact with the University of Virginia's student body. Finally, we chose the Stadium Road and Robertson portions because we believe they represent a different kind of residential community that are not necessarily UVA students.

Since sustainability is a broad term, we will target specific points that we find important regarding the area. To begin with, being that this district mainly serve a university community, it is essential to evaluate how safe they are. In particular, we are considering the lighting of the streets and the criminal activity that is reported. At the same time, we are working on examining the livability of these areas with a focus on the ecology. This means that we are looking at the spaces in terms of green areas and how appealing the buildings appear to those who inhabit the area. This last point also leads us to the analysis of walkability in the area and the variety of transportation it offers (sidewalks, bike lane, bus lane, traffic lane). This walkability is also related to block length and proximity to major destinations such as UVA, the Corner, and the Health Center.

With these tools we have evaluated portions of JPA on terms of sustainability and we have constructed the following report using all the information gathered so that this analysis can be delivered to the PLACE Design Task Force to inform them of the current state of the area.

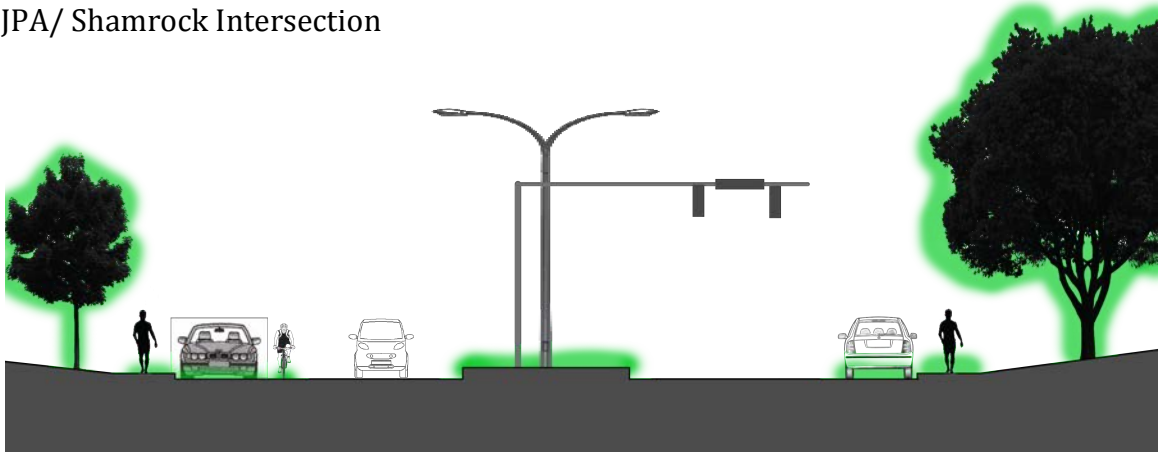
# Map

## JPA DISTRICT

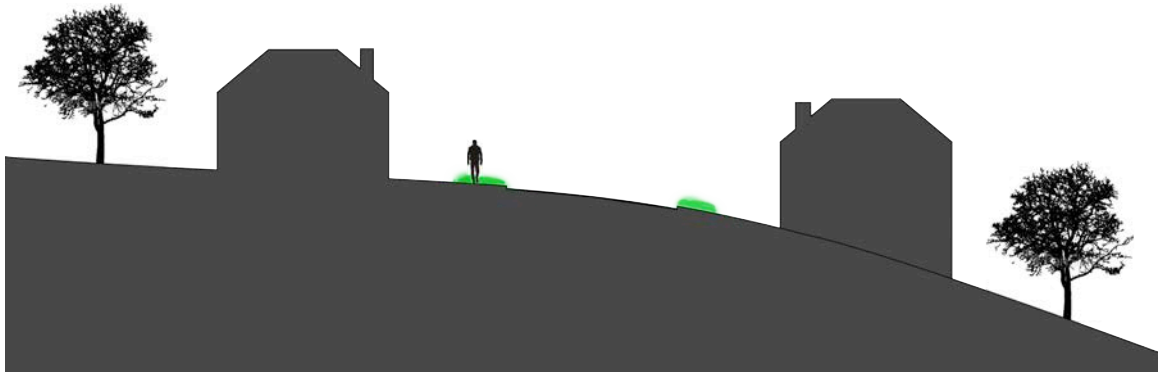


## Section views of researched areas

JPA/ Shamrock Intersection



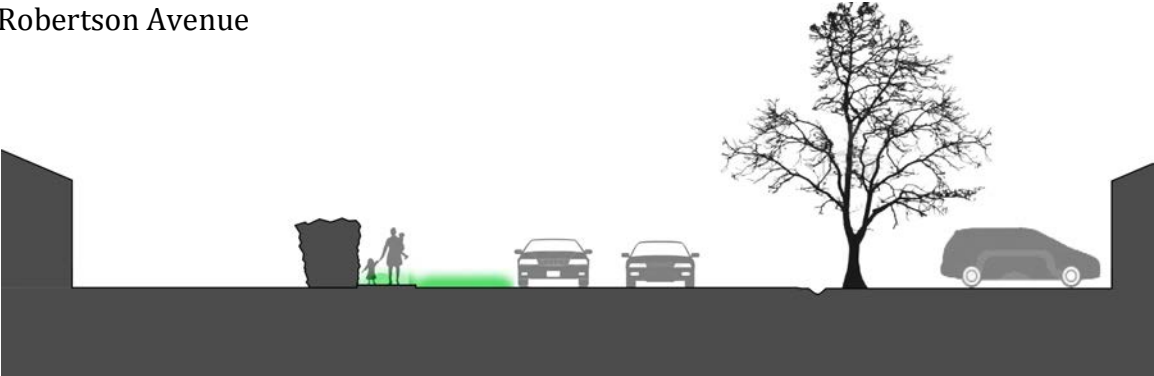
Stadium Road



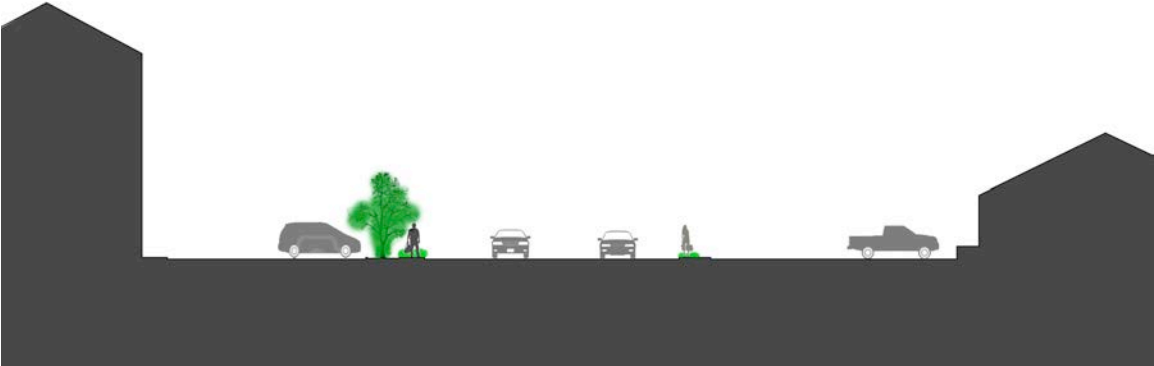
Alderman Road



Robertson Avenue



Fry Spring Area



### Sustainability of JPA and Fry's Spring District

This group will be working on the analysis of sustainable places in Charlottesville, with particular focus on Jefferson Park Avenue (JPA) and Fry's Spring district. The process of this project involves evaluating several sites along JPA, as well as in neighborhood areas nearby in the Fry's Spring district. These sites will be analyzed for their sustainable, and unsustainable qualities in the hopes of creating opportunities for improvement.

There are many facets of sustainability, but this project will be concentrated on analyzing what a sustainable place is. A truly sustainable place is surrounded by dense activity giving the area a culture and an identity of its own that appeals to people as a destination rather than a travel route. In addition to this, a sustainable place should have an appeal to its inhabitants that makes it possible to inhabit for a long period of time. This stems from working with the PLACE Design Task Force of the City of Charlottesville. The Task Force serves as an advisory board to the City of Charlottesville in matters of places making and urban planning and development. In working to inform the PLACE Design Task Force this evaluation must focus on human aspects of walkability and safety rather than the more scientific focuses of sustainability as a whole. The goal in providing such information is to give current analysis on which to base future development the Task Force may be planning. It is our hope that providing that kind of information on the JPA and Fry's Spring area will promote future place making in that area. That area is populated largely by University of Virginia students and any improvements would have a positive impact on the University environment as a whole. Improvement on the area of the JPA and Fry's Spring area can create a more sustainable place to occupy.



In this project, we have evaluated the walkability and the safety of the JPA and Fry's Spring area on many attributes. Walkability has been broken into greenery, presence of shade and sun during respective seasons, public disposal, and block length. For safety we have focused on the metrics of zebra crosswalk availability, street dimensions, lighting, speed limit, and lanes of traffic. We determined these things to be paramount importance for the sustainability of a place.

Safety is one of the most important requirements for deeming a roadway sustainable. A road is only truly safe when it implements sufficient precautions. We have found speed limit, sidewalks, lane size, bike and parking lanes, crosswalks and lighting to be of prime importance for safety. The fundamental precaution of a road is the speed limit. The speed at which traffic flows has such a leading role in all aspects of interacting with the road. With a faster speed limit there is greater opportunity for accidents such as automotive collisions or hit and runs. In addition to the speed limit, the width of the sidewalk is also very important. This is because the sidewalk is what keeps pedestrians out of the road and away from cars so that people do not get in the way of vehicles. The width of a sidewalk makes it a more pleasant walk for pedestrians because on a wide sidewalk there is room for foot traffic in both directions and therefore it allows easier travel. Not only is having a wide sidewalk is important but it is also important to have a wide street. Having a wide-lane street, just like the sidewalk, allows for drivers to feel more comfortable and safe because they do not have to get so close to other vehicles, which could cause a driver to get nervous and make a mistake that could possibly hurt himself or herself someone else. Also the wide roads keep the vehicles further away from the pedestrians that use the sidewalk for foot travel. Another aspect of street safety is having both parking and bike lanes on each side of

the road. Having these lanes creates a barrier between the street and sidewalk that makes it that much more difficult for an accident or mistake to happen by both drivers of vehicles and pedestrians. Despite the usefulness of a parking lane, however, the same purpose can be served better by a tree line buffer. A characteristic that many do not think about is the idea of lighting. During the day, lighting is not such a big deal, but at night streetlights are needed for both drivers and foot traffic. With street lighting drivers have better vision at night, and pedestrians are safer from criminal activity and do not have to be scared as they travel the roadway. The last way to make a street safe is the addition of crosswalks at places that need them. These crosswalks make a safe crossing for pedestrians because they allow drivers to clearly see where people could possibly be entering the street, thus allowing them to be better prepared to stop. All of these characteristics together make a safe road under our terms. Therefore for the road to be sustainable it must have these safety precautions. We evaluated the safety of JPA and Fry's Spring Area by focusing on the qualities such as lighting, crime rates, traffic, and sidewalks. Based on crime statistics from Charlottesville (<http://charlottesville.va.crimeviewcommunity.com/default.aspx>) there are lower incidents of assaults but high incidents of vandalism, theft, and some hit and run.

Walkability of an area is the ability to safely and comfortably travel along a space. This is very important when figuring out whether or not a place is sustainable. Thereby we evaluated the dimensions of the street, the proximity of the sidewalk to the road, the presence of greenery, and block length. Walkability is one of the main factors that determine if a place is desirable or undesirable. A pedestrian route of travel is useless if it is not walkable. For example, if a walk is unsafe, whether from crime or traffic, residents will choose other, less sustainable methods of travel. In extreme cases residents might move

away to get to a better walking situation. In addition to safety, the prospect of a hard walk is prohibitive to pedestrian travel. Dimensions of a street can have a profound effect on walkability. Streets that are too skinny, or lack buffers between vehicle lanes and sidewalks are intimidating. Streets that are too wide are difficult to cross, and generally have higher speed limits, which is equally intimidating. Proximity of the walking path to the road is also important. Buffers, like parking lanes, bike lanes, and tree arcades contribute immensely to creating a more walkable path. Greenery like tree arcades is significant as well. A tree buffer can block road noise, and create a physical barrier between pedestrians and housing, and motor vehicle traffic. Having deciduous trees next to the street creates a comfortable and shady microenvironment for pedestrians during the summer, and a sunlit condition during the winter. Finally, block length affects walkability in a way often found in suburban areas. Long uninterrupted block lengths make for boring, testing walks. Block length should be kept shorter to prevent monotonous stretches occurring. A walkable road must take these qualities into account to promote comfortable pedestrian traffic.

Jefferson Park Avenue is a surprisingly sustainable street under the perimeters of our definition. The avenue is subject to very high volumes of traffic on a daily basis. This traffic is a combination of pedestrian, bicycle, personal vehicles, and public transportation. The traffic is a result of JPA's multifariousness, and contributes to the relative sustainability of the area. It features deciduous greenery along the majority of the street, which provides a beautiful walk as well as a shaded walk during the summer. Also the street has wide sidewalks, separated from the automotive traffic lane by both a parking lane and a bike lane, making it safer for pedestrian travel. The walk along JPA is not unpleasant in terms of block length easier, featuring short to moderately long blocks. Twelve-foot traffic lanes

make the street very safe for automotive travel along with a fifteen-foot median separating different directions of travel. Multiple crosswalks, primarily found at intersections and streetlights, allow for easier pedestrian travel, as well as slowing down the dense traffic. Slowing traffic is an important issue on JPA due to the thirty-five miles per hour speed limit set. This is the one aspect of JPA that we have deemed unsustainable, as the speed limit is too fast for the dense residential development and frequent pedestrian travel.

Stadium road also shows some characteristics of sustainability that go along with the metrics we are using. The most important sustainable aspect on Stadium Road is the lower speed limit it has (25 mph compared to JPA's 35 mph). This lower speed limit is much more fitting for a residential area with a constant pedestrian traffic flow because it makes it safer for those who walk around the area. Another aspect that makes this section sustainable is the fact that it contains sidewalks and two crosswalks to ease travel for pedestrians. In addition to these characteristics, this area is densely forested, providing a canopy from the sun under which both vehicles and pedestrians may travel. A tree-lined street is a more enjoyable environment in which to walk rather than a street lined with buildings and it also helps prevent the air from becoming polluted. On the other hand, we did find some unsustainable aspects on Stadium Road. The grade of the topography is steeper than JPA, which discourages pedestrian traffic. In addition it is not as well lit at night, which can make the area unsafe for pedestrians from both crime and traffic. Lastly, the road has no bike lane, buffer, or median to help separate the different types of traffic from one another, making it more prone to accidents.

Alderman road also has some of our aspects of sustainability. The speed limit on this road is 25 mph, the same as stadium, which is safer than JPA's 35 mph. Alderman road also

has wide sidewalks, and a bike lane. These attributes make the street safer because pedestrians aren't forced to be right on the roads edge when walking, separating them from vehicular traffic. Also, the roadway is well lit, has crosswalks, and features a decent tree canopy. Some things that this road is missing is a median separating lanes and the presence of parking lane or tree-line buffer to create a barrier between the sidewalks and road. In addition, the block length is very long making the route somewhat monotonous and thus less walkable.

Robertson road has about half of our characteristics we have chosen to analyze for sustainability. The speed limit on this road is 25 mph and there are speed humps that encourage vehicles to travel the road at a speed of 15 mph. Robertson also features a tremendous amount of greenery along the road for a well shaded and peaceful walk. Lastly, while the road doesn't have designated parking lanes yet there is parking on both sides of the road, which creates a barrier between sidewalk and road for pedestrians. On the other hand there are some very unsustainable aspects of this road. One is that there is a basic sidewalk on only one side of the road. Therefore pedestrians are forced to walk on one side of the road and there are no crosswalks for when they need to cross the street. There are also no bike lanes, although the low traffic level of the road makes this less of a problem. Lastly, the lighting of this road is not so great, and the road is not as safe as it could be at night.

Fry's spring also seems to be half and half with our sustainable aspects. It is well lit, has wide sidewalks, wide lanes, and ample crosswalks. However, this area features almost no greenery. Lack of greenery makes the area seem bland or industrial because only buildings inhabit the site. Also this street doesn't have a median to separate traffic or any

type of bike lane or parking lane. And lastly, like JPA it has a speed limit of 35 mph, which is fast for a traffic dense area.

The JPA / Fry's Spring area is doing quite well for being a sustainable place to live and occupy. On the other hand there are always things that can be done to make a place just that much greener and sustainable to create a more beautiful community. Now that we have compiled this information and analysis hopefully the PLACE Design Task Force can use it to make our area more sustainable, and a more enjoyable place.

Even though a large part of the research has been done, and this report can serve as a reference for the JPA and Fry Spring area sustainability analysis, there are still certain aspects of this project that remain to be accomplished. As a group, we still need to polish our analysis and determine if our information is sufficiently accurate before handing this report to the PLACE Design Task Force. In order to do this, we will have to visit the site more times and re-examine all of data.

After we accomplish that, the next step will have to be taken by our partner and the entire Charlottesville community. This is because with the information we provide there will be more of basis to determine which areas are unsustainable and how to act upon them. Also, it will be the job of future Global Sustainability Place groups working on this project to edit any information that is subject to change through time.

As a group, the principal resource we need to fulfill our goals is time because we are not going to implement or develop any kind of project. However, PLACE Design Task Force, or any other organization that wishes to improve the current state of the area will require financial resources for the implementation of programs or developments to increase the level of sustainability in these districts.

Our deadline to have the report ready and accurate is by May 4, 2013. By this date, all the information must be compiled and revised and to be handed to the PLACE Design Force. On the other hand, we cannot specify a time line for any other action take forward because we do not know how this information is going to be used. Any determination of dates on any program designed for making these places more sustainable will be done by the organization that decides to take the responsibility.

Through our analysis of these areas we have learned that it is very hard to characterize a large area as sustainable or unsustainable, instead, it is better to focus on particular portions of the considered districts in order to have a more accurate resolution. We believe that this was a very useful lesson because it made it easier for us to precisely study the different elements of sustainable living.

## Appendix

Chart

	Speed Limit	Median	Bike/Parking	Bus Stop	Side/Cross walk	Trees
<b>(1) JPA/ Shamrock Intersection</b>	35 mph	Wide sloped median	Bike and parking lanes for both on either side of road	Eight throughout the entire road	Sidewalks on both sides; cross walks at every light/ intersection	Non- continuous tree lines on both sides
<b>(2) Stadium Road</b>	25 mph	None	Neither	One total along street	Non- continuous Sidewalks on both sides; one crosswalk total	Heavily treed on both sides of street
<b>(3) Alderman Road</b>	25 mph	None	Bike lanes on either side of road; No street parking lane	Four throughout road	Sidewalks on both sides; multiple crosswalks	Fairly treed on both sides of street
<b>(4) Robertson Avenue</b>	15 mph	None	No bike lane; Parking on one side only	None	One sidewalk only – same side as parking lane	Non- continuous trees on both sides of street
<b>(5) Fry's Spring</b>	35 mph	None	Neither	None	Sidewalks on both sides; multiple crosswalks	Little to no trees on either side of street



To support our analysis, we surveyed people on JPA to know how pedestrians feel about the area.

Survey sample:

1) Do you live in JPA?

- a. Yes
- b No

1.1) If you do, why did you choose JPA?

- a. It has a good location
- b. The housing is appealing
- c. Price of housing is affordable
- d. It is a safe place with a good environment
- e. Other reason: \_\_\_\_\_

1.2) If you do not, why are you utilizing JPA?

- a. It is pedestrian-friendly
- b. You feel safe when walking down JPA
- c. It is the best route that takes you to your desired destination
- d. Your destination is on JPA.
- e. Other reason: \_\_\_\_\_

1.3) Why don't you live on JPA?

- a. It does not have a good location
- b. Housing buildings are not appealing
- c. Price of housing is not affordable
- d. It is not a safe place
- e. Other reason: \_\_\_\_\_

1.4) If you had the opportunity to live on JPA, would you?

- a. Yes
- b. No

2) Are you a UVA student or staff?

- a. Yes
- b. No

3) Do you like walking on long or short blocks? (short blocks have more intersections)

- a. Short blocks
- b. Long blocks

4) Do you feel safe crossing JPA, or would you prefer crossing over a bridge?

- a. I feel safe
- b. I would prefer a bridge

5) Would you characterize JPA as a pedestrian-friendly area?

a. Yes b. No

Survey results:

-Total survey population: 13 people

1) Do you live on JPA?	6 people said yes		7 people said no
<b>If you do:</b>			
1.1) Why did you choose JPA?	4 people said it has a good location		2 people said the housing is affordable
<b>If you do not:</b>			
1.2) Why are you utilizing JPA?	1 person said he feels safe walking on JPA	1 person said their destination is on JPA	5 people said it is the best route that takes them to desired destination
1.3) Why don't you live on JPA?	7 people said different reasons	Some were first years, others had found other deals, others simply did not have the chance.	
1.4) If you had the opportunity to live on JPA, would you?	3 people said yes	4 people said no	
2) Are you a UVA student or staff?	10 people said yes	3 people said no	
3) Do you like walking on long or short blocks?	6 people said short	7 people said long	
4) Do you feel safe crossing JPA or would you prefer a bridge?	9 people said they feel safe	4 people would prefer a bridge	
5) Would you characterize JPA as a pedestrian-friendly area?	9 people said yes	4 people said no	