

Title page: The logical path of the FPL transmission line between Manatee and Sarasota County

Hello, my name is Reese LeForce, and this is my final project analysis for “The logical path of the FPL transmission line between Manatee and Sarasota County”. This is for the graduate class GIS5050 with the lab and the date is 10/11/2024.

Introduction

For the introduction-

With my project, our problem is to analyze the FPL transmission line. As you saw in the title the area we are going to look at is the area between Sarasota County and Manatee County. Which leads me to our objectives for this analysis. Basically we want to find the impacts on the path of the transmission line will have on the land, homes, and schools in these counties. Also why do we want to use GIS? Well, with Geographic information systems we use, they provide invaluable statistical and geographical information that may be overlooked by workers and companies. I would know, as Florida Power and Light have a history of not stabilizing their solar farm sites.

Study site

As you can see here, this is our base map for our study site. (we have eugh-) As you can see on this base map, this is our study area. We have our counties projected, where we are in Florida, compared to other counties, as well as the major roads that go through this area.

Other Information

Other information-

On this slide, you can see the cartographic model I made for this analysis. It shows I approached the project problem, with dividing the areas that need analysis into their own sections. As all sections do require land, road, parcel, and county data, which has been provided by UWF. However, the school data has been made by me. The aims of each objective are to make a map and show the results of them. Where with schools and homes it's to show the proximity of the transmission line. With land it is to show the acres in the transmission line, and to get the percentage of wetland and dryland, and highlight the areas impacted. However, for the transmission line, it was optional for this analysis, and for times sake we will not be going over it in this project. The only concerns I do have with the given data is my ability to obtain and present my results effectively..

Impacts on land in and near the transmission line.

On this slide, this is the impact of the environment near the transmission line, for the conservation lands and wetlands impacted. As you can see most- there is a good bit of wetlands in the preferred corridor that we were given. As well, with the yellow here on the conservation lands impacted. There are some here and here, there is also a bit here that can't be seen by the roads and everything overlapping. But there is a good amount there. However due to time constraints and difficulties with ArcGIS, I was unable to properly obtain and provide sufficient

data of conservation land and wetland affected. Basically, in ArcGIS we can use statistics and analysis to get the acre percentage. However, there was some difficulty with that, and I was unable to obtain the correct data that I should have provided for the results.

Impacts on homes in and near the transmission line.

Now onto homes and parcels impacted, as you can see in this map, we have a good fair bit of homes and parcels within the projected area. Manatee parcels are in yellow, sarasota parcels are in red. As you can see, there is a good amount in here, and each dot represents- The green dots represent homes inside the corridor, and the purple dots represent homes within the 400 ft buffer. We will go over this more in the results section.

Impacts on schools in and near the transmission line.

And lastly, schools impacted. As you can see within our study area, there are only 5 schools. And none of them are within the 400 ft buffer from the preferred corridor. So there have been no schools impacts at all concerning this analysis.

Results

Onto the results. For map one, there is a fair bit of land in the transmission line area. Obviously, was not able to get the correct results needed to provide suitable results. But was able to clip everything out and analyze what was affected. Obviously fault on me for not doing it, but just how it ended up in the end. Moving to the second objective, there are at least 66 homes affected by the transmission line. 24 being inside the (projected area) preferred corridor area and 42 within the 400ft buffer area. There are also 255 parcels that have been affected by the transmission line. With 30 Sarasota County parcels and 132 Manatee County parcels within the transmission line area. There is also being 23 Sarasota County parcels and 70 Manatee County parcels within the 400-ft buffer area. With the final map objective, which we just saw a second ago, I found there were zero schools within 400ft of the transmission line, but at least 4 schools from Manatee County and 1 school from Sarasota County in the study area.

Conclusion

In conclusion, we can now see the logical path of the transmission line. Where it does show there is some impact on the conservation lands and homes of Sarasota and Manatee County. There also where conservation lands and wetlands are inside the transmission line area. There are less than 100 homes inside of the transmission line area. There being no schools within proximity of the transmission line. From the results I can gauge it is a suitable example of not affecting much of the environment but also it being a useful study for future use in other sites. (For example I feel-) For my results I do feel confident with them. I could have vastly done better on the first objective but I will learn from my mistakes. The other objectives I felt I had a bit better grasp on. I want to say, personally, I think this project was a good litmus test of what was learned from intro to GIS.