Spatially thinking has great potential for solving disease related problems. This is especially true of Chagas disease in South America. Chagas disease is spread to humans through bug vectors (*Trypanosoma cruzi)*. Numerous factors affect the rate of transmission of Chagas disease. However, many of these factors are not well understood. The purpose of this project is to see if a correlation exists between the risk level of a house and distance from a main road. In addition, this study compares actual infestation status of a house to distance from a road.

In this study, a map was made to better understand the effect of distance from a road on the risk level of a house in the town of ElCarrizal, Guatemala (Figure 3 for reference). The map showed the relative distance from roads and also the risk level of each house (Figure 2). In addition, a Chi squared test was done on infestation levels verses the distance from a main road (Table 3.)

The map shows a range of risk levels for all distances with no obvious trend (Figure 2). However, looking at infestation levels (Table 2) it is clear there is a correlation between distance from the road and infestation of a house. In the closest buffer, 150 meters from the road, 61% of the houses are infested. In the other buffer distances there is only one other house with a positive infestion status. A Chi squared analysis of this data shows that distance from a road has a significant effect on infestation levels in houses (Table 3).

The implications of this research have large potential. This information could help medical workers determine effective strategies to help treat Chagas disease. Also, this information could be used to plan new towns or cities to help prevent Chagas disease from spreading.