

# Shelbyville Fire Department



## Shelbyville Fire Department Fire Station Planning

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Municipal Technical Advisory Service  
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## Introduction and Scope of Work

The staff of the University of Tennessee Municipal Technical Advisory Service (UT-MTAS) strives daily to meet its consensus mission. As an agency of the University of Tennessee and in collaboration with the Tennessee Municipal League, MTAS leverages the resource of the university to improve the lives of the people of Tennessee with technical consulting, research, and training for municipal governments. This study works toward UT MTAS's mission and was conducted at the request of Chief Matt Doak, Fire Chief for the City of Shelbyville. The purpose of this study is to analyze potential locations to relocate fire station 1.

The University of Tennessee Municipal Technical Advisory Service (UT MTAS) will provide the final version of this report to the Shelbyville Fire Department, in an electronic format.

## Background

Shelbyville is a municipality located in central region of and the county seat of Bedford County. Shelbyville is geographically located between the cities of Murfreesboro and Fayetteville. Shelbyville is located entirely in Bedford County. Fire protection and public safety is a local policy issue. A community must balance available local resources against what is determined to be acceptable risk. The Shelbyville Fire Department provides public safety fire services to an estimated population of just over 23,500 residents, based on the 2020 United States census.



## Fire Department-Description

### Organizational Overview

The fire department is municipal department led by Fire Chief Matt Doak. The municipality is governed by a Mayor/Council form of government with a professional city manager. The department is made up of approximately 45 career firefighters that provide for all-hazards responses within the municipal boundaries. The department further provides mutual aid services throughout Bedford County when requested.

Shelbyville's Insurance Services Office (ISO) Public Protection Classification (ISO rating) is currently a Class 3/3x. The Class 3/3x ISO rating places Shelbyville in the upper tier of the percentages of communities in Tennessee (Figure 1) as well as well as in the upper tier percentage of communities across the nation (Figure 2) in terms of fire protection. This

rating indicates that the department’s leadership with the support of city staff and elected officials has made good decisions in the past. As Shelbyville looks to the future, efforts must be made to enhance the municipality’s ISO classification; not jeopardize it.

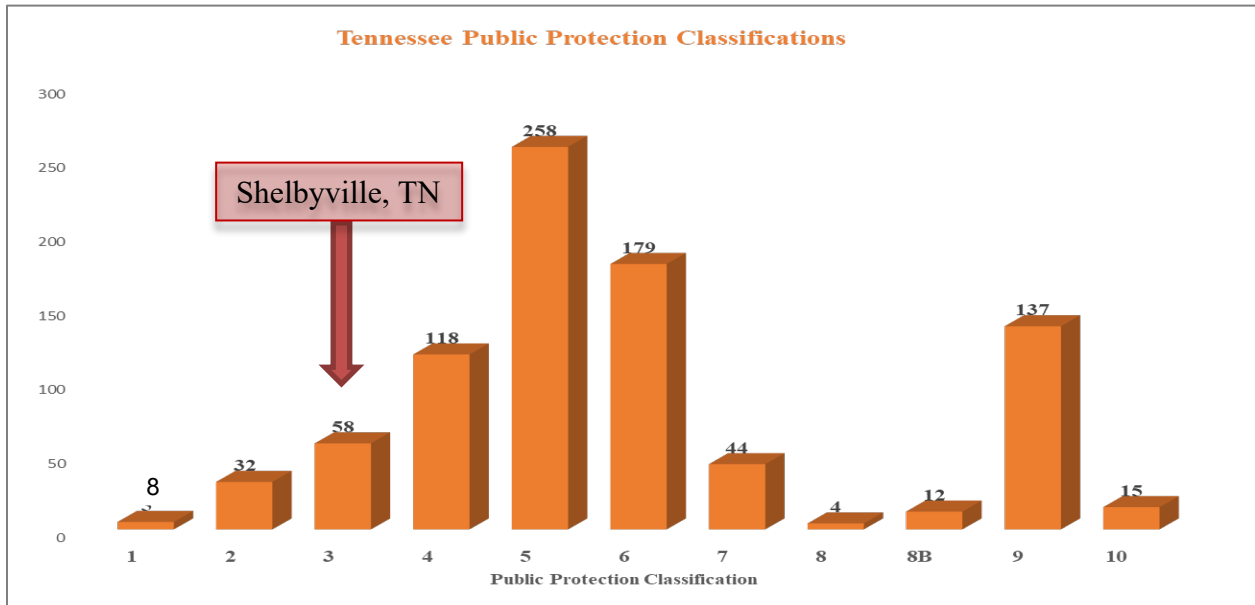


Figure 1-Public Protection Classifications in Tennessee

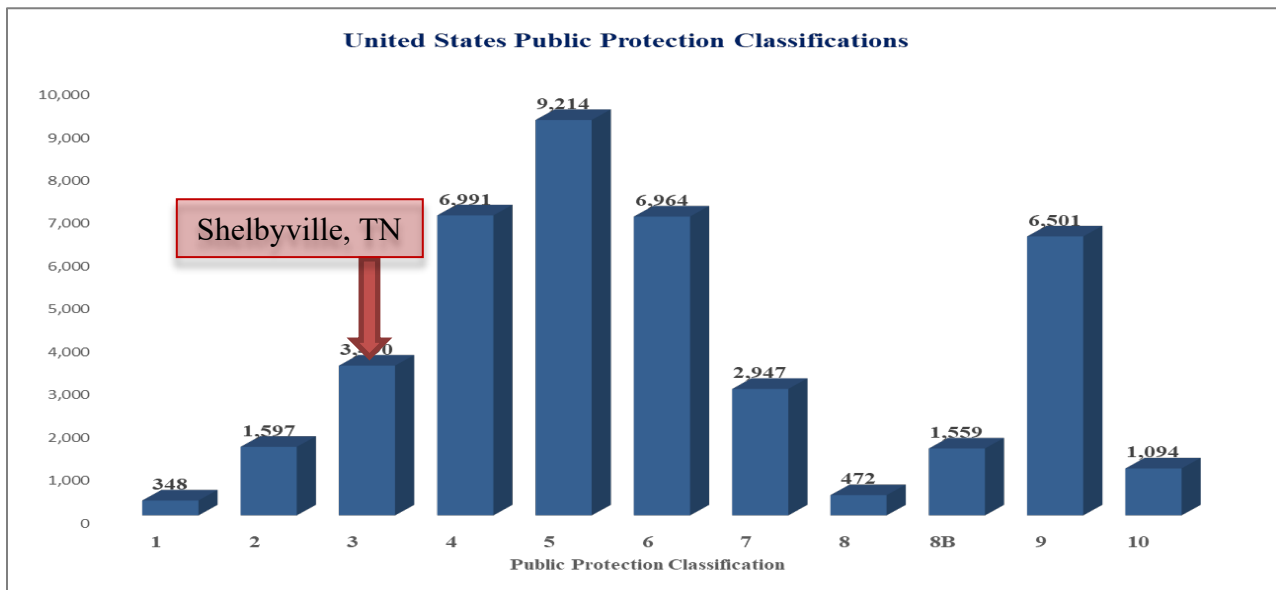


Figure 2-Public Protection Classifications in USA

Shelbyville’s ISO “3” is the classification assigned to the community for one and two-family occupancies located within five (5) road miles of a fire station and within 1,000 feet of a fire

hydrant. The “3X” classification is assigned to the community for structures located within five (5) road miles of a fire station but not within 1,000 feet of a fire hydrant.

### Current Fire Station Locations

As we reflect on the current location of Shelbyville fire stations and the need to relocate and replace station 1, we use the other existing facilities as a reference to reduce the total capital improvement needs of the fire department. The department currently operates out of three strategically located fire stations:

- Station 1-111 Lane Parkway



- Station 2-North Hillcrest Drive



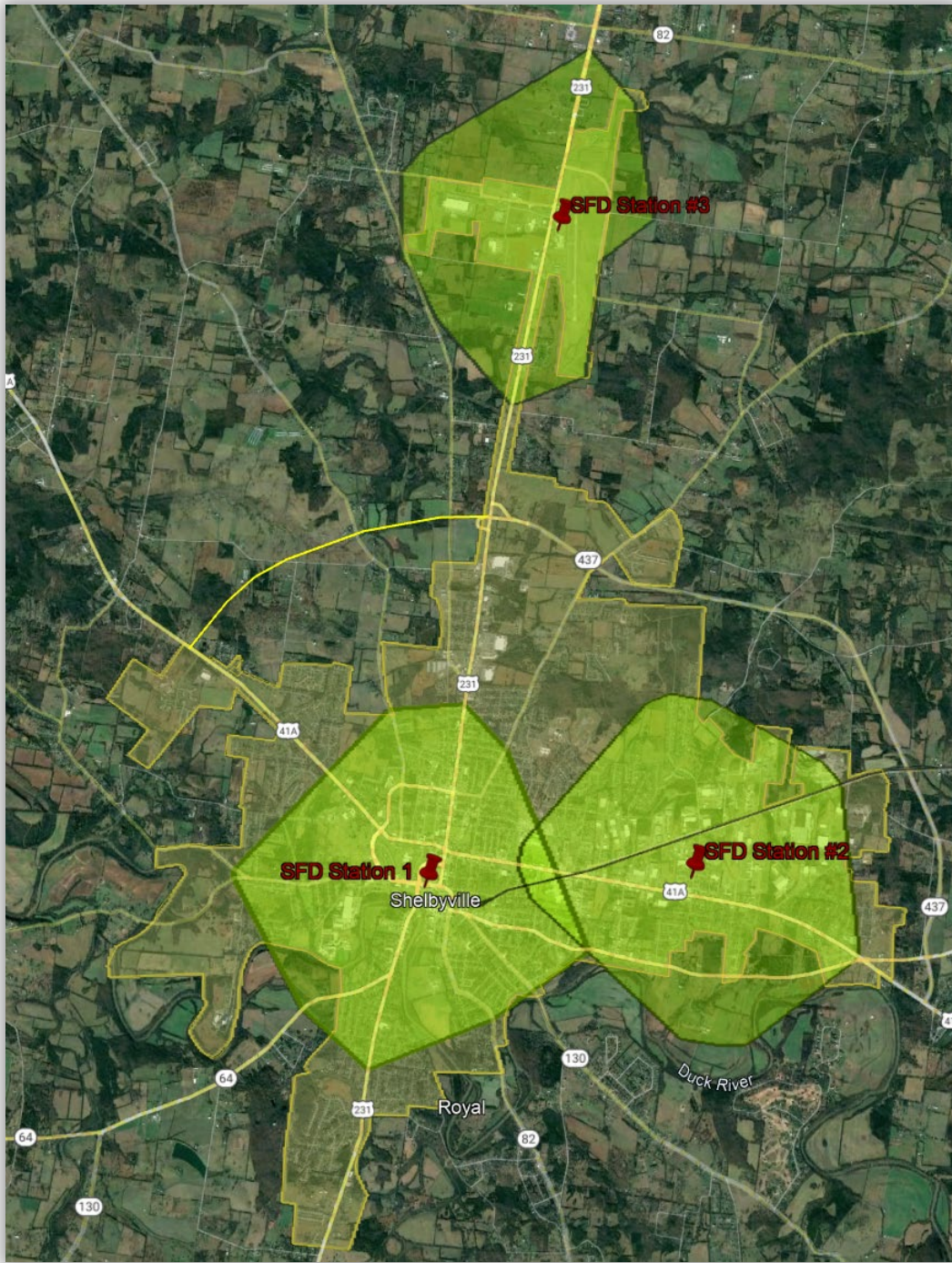
- Station 3-US 231 at the municipal airport



The fire department should plan fire station locations so that a fire apparatus credited as a engine/pumper should be within 1.5-road miles of as many structures as practical. The fire department should also take into consideration of the need for fire apparatus credited as ladder apparatus. This type of apparatus should be located within 2.5-miles of structures greater than 32-feet in height or have a 3,500 gallon per minute needed fire flow requirement.

### **Current Fire Station Coverage**

Shelbyville fire stations are currently strategically located to serve the most densely populated areas of the municipality. As the municipality continues to grow in population and geographic area, the demand for public safety services is predicated to increase. Figure 3 is a graphic depiction of the primary coverage area of each station.



*Figure 3-Current Fire Station 1.5-Mile Coverage Area*



## Station 1-Relocation

Station 1 serves as an emergency response fire station as well as the administrative offices of the fire department. The design and construction of a fire station and fire administration facility is a large capital investment. Shelbyville should plan the location to continue to be able to serve the heart of the municipality as has been accomplished in the past. As we plan for the new facility, it makes sense to plan in a collaborative way. The fire chief expressed an interest in the fire and police sharing a common administrative facility. This could save the municipality capital dollars by the two departments being able to share parts of the same facility.

## Potential Relocation Sites

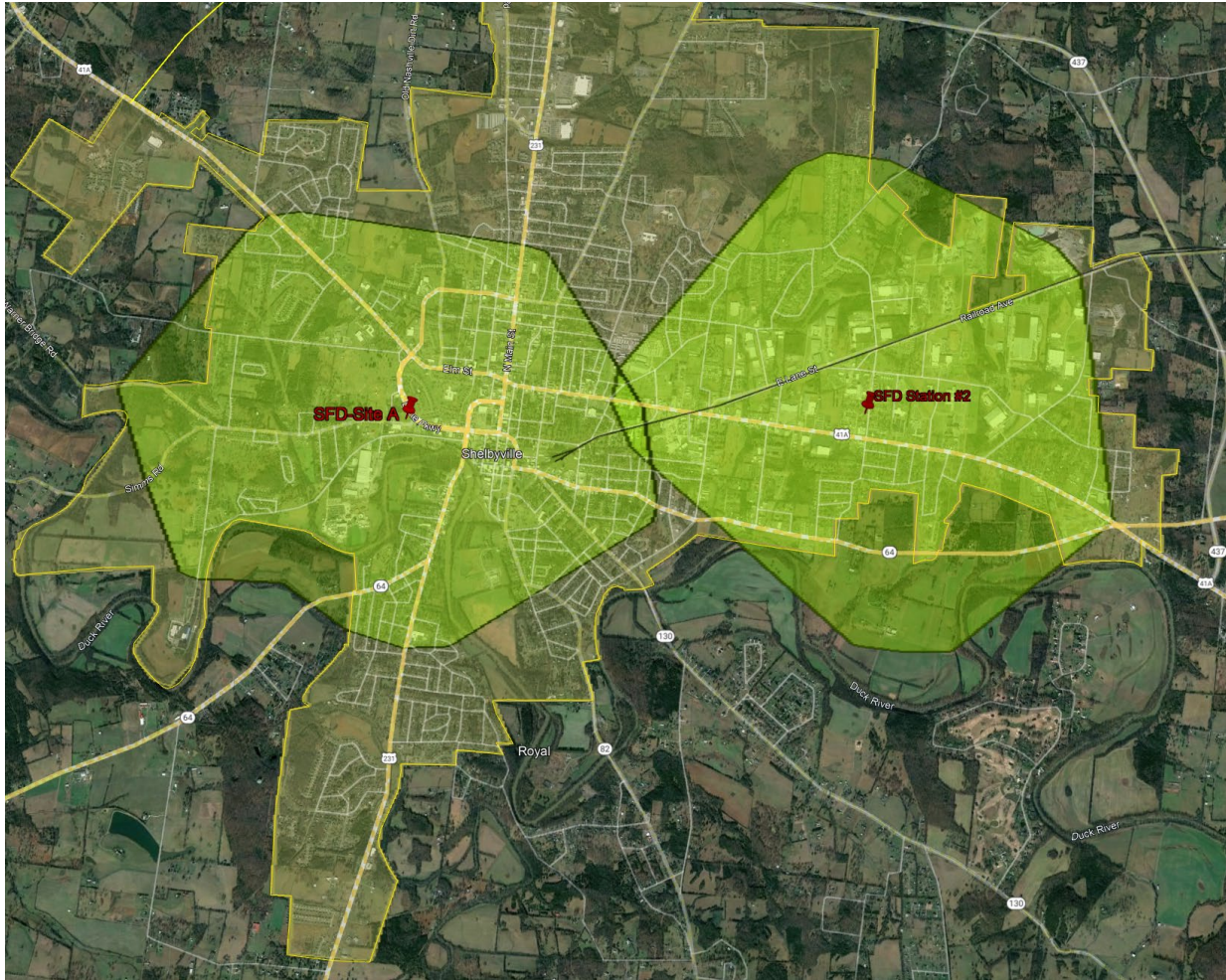
The municipality is considering four potential sites to relocate the fire department and possibly even the police department. As stated earlier, both agencies need common areas like meeting space, training space, fitness space, etc. that could be incorporated into one facility for both agencies to use.

### Option 1-Site A

Site A is located at the corner of West Lane Street and Lane Parkway. Of the four options evaluated, this property is the best suited for this project due to its size, layout, and strategic location relative to fire station 2. It is approximately 0.10-miles from the current station 1 location. The parcel encompasses approximately 3.60 acres per the state property records. The size of the property makes it well suited to develop for a project like this. There is room for the needed fire and police administrative offices as well as fire station facilities and a fire/police training center. Figure 4 is a graphic of the property that was analyzed.



*Figure 4-Site A West Lane Street and Lane Parkway*

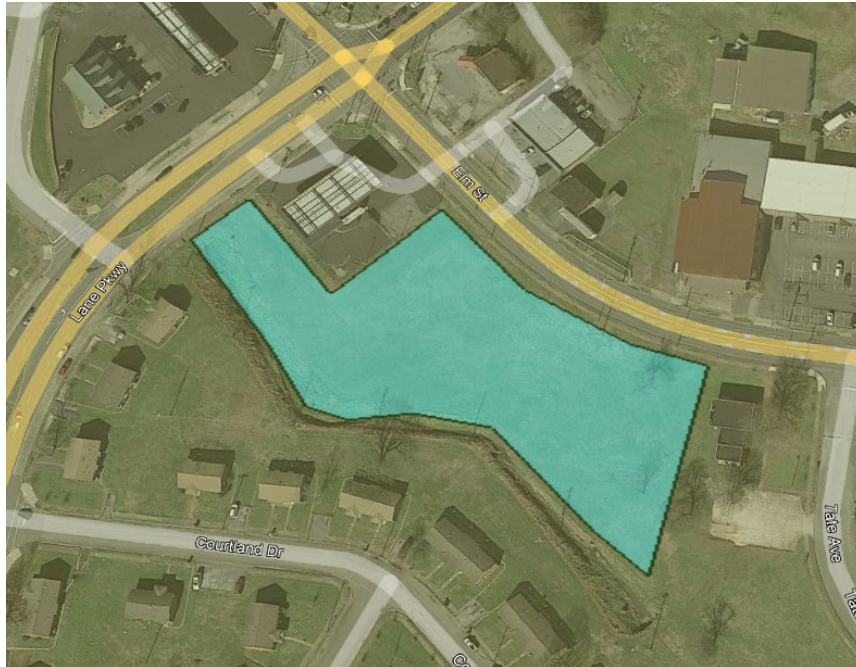


*Figure 5-Site A Coverage Area With Station 2*

The coverage zones for Stie A and Station 2 are depicted in Figure 5. It is noted that most of the central and southern portions of the municipality have an engine within 1.5-miles and a ladder apparatus with 2.5-miles of this location. Station 1 and Station 2 zones have very minimal overlap giving Shelbyville the best coverage for their investment.

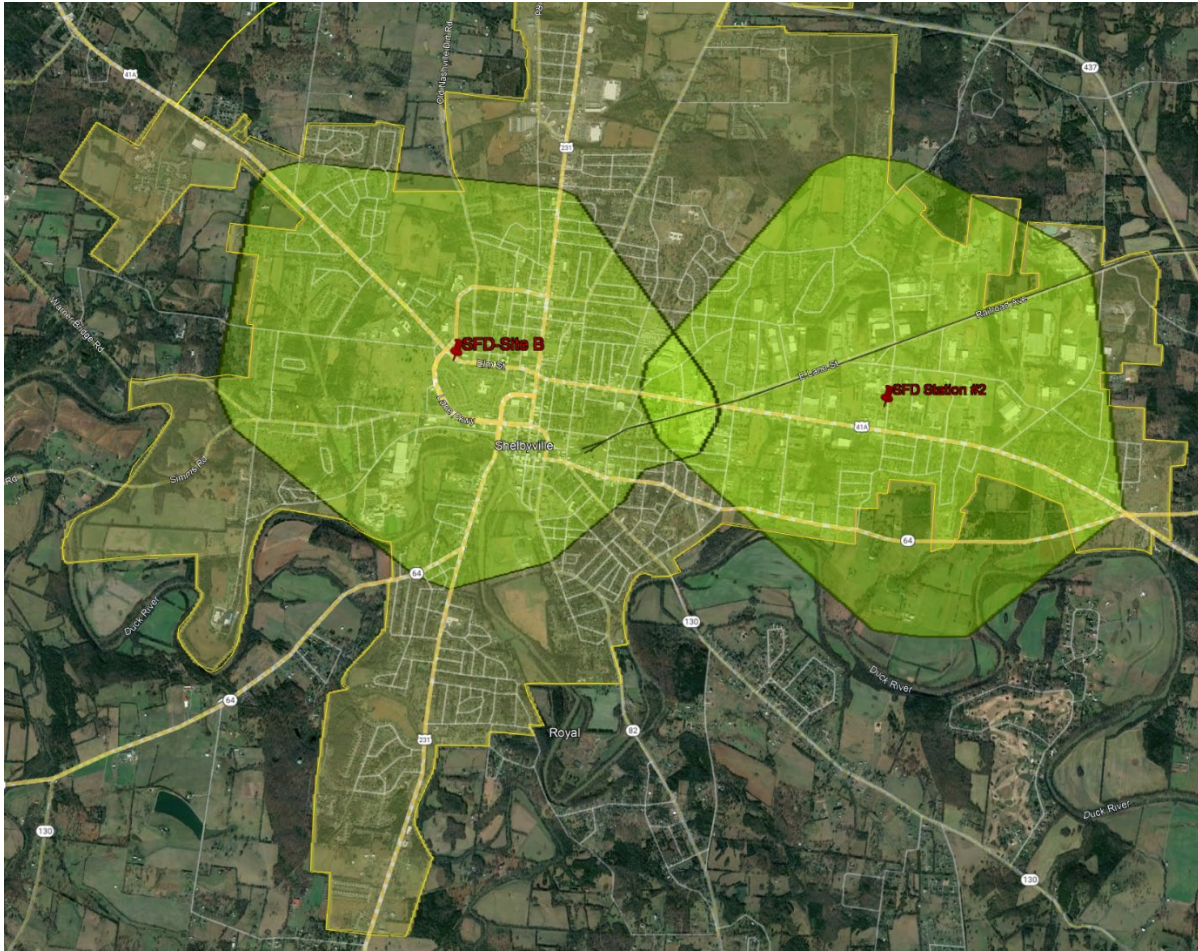
## Option 2-Site B

Site B is located on the Shelby Housing Authority property at the corner of Elm Street and Lane Parkway. Analysis of this property estimated approximately 2.25 acres in an irregular shape. The property being irregular in shape and situated in a primarily residential space does not lend itself to this project as good as site A. However, the property is located in a strategic area and may assist fire and police foster community relations with the neighborhood. Figure 6 is a graphic of the property that was analyzed.



*Figure 6-Site B Lane Parkways and Elm Street*

The coverage zones for Stie A and Station 2 are depicted in Figure 7. It is noted that most of the central and lesser of southern portions of the municipality have an engine within 1.5-miles and a ladder apparatus with 2.5-miles of this location. Station 1 and Station 2 zones have additional overlap reducing the total square miles of primary coverage for the investment.



*Figure 7-Option 2 and Station 2 Primary Coverage Area*

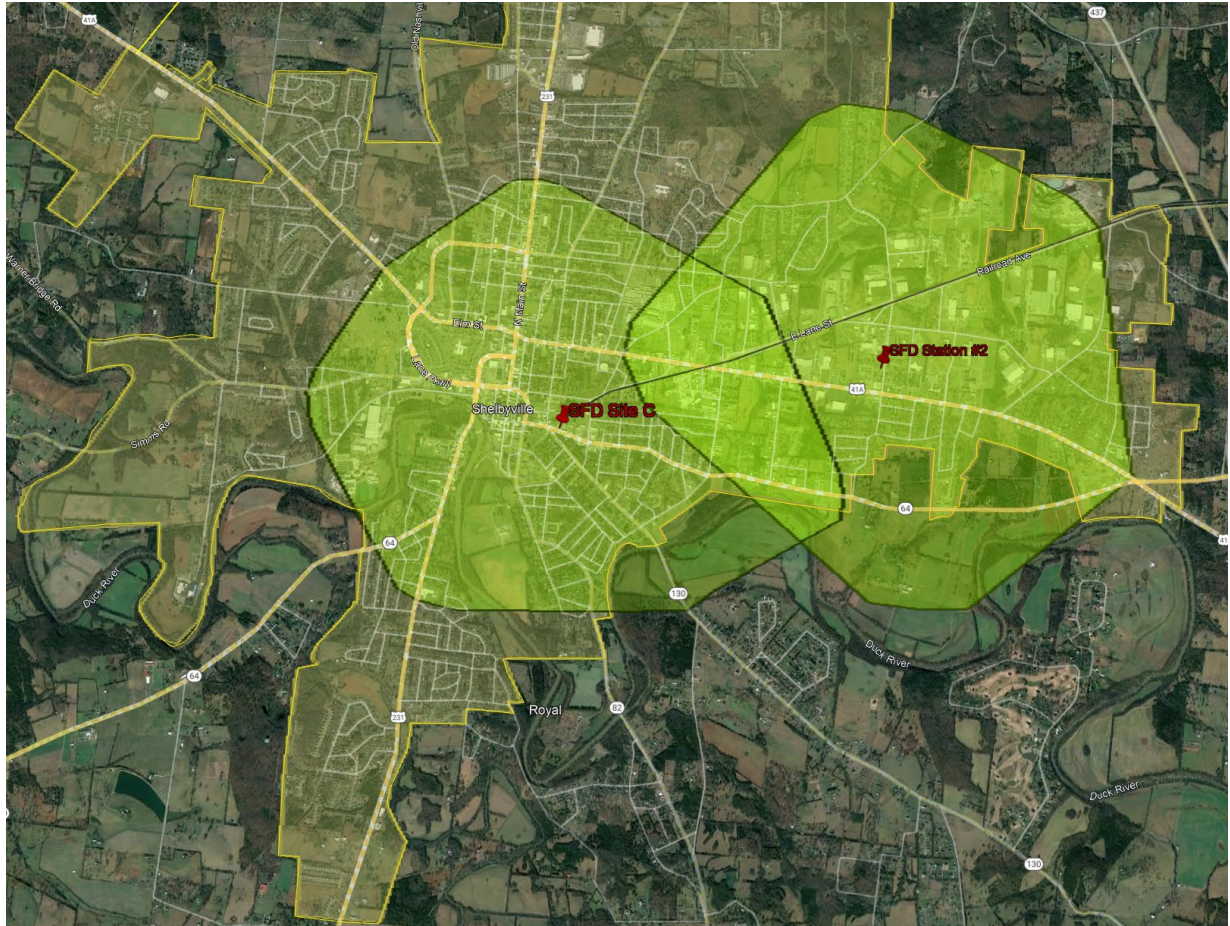
### Option 3-Site C

Site C is located at 409 East Depot Street. This property encompasses approximately 5.6 acres in an irregular shape. There are several structures that would require demolition. Site D is not strategically located with fire station 2. The response zone from this location creates excessive overlap between station 1 and station 2 response areas. Figure 8 is a graphic of Site C layout.



*Figure 8-Site C East Depot Street*

The coverage zones for Stie C and Station 2 are depicted in Figure 9. It is noted that most of the central and lesser of southern portions of the municipality have an engine within 1.5-miles and a ladder apparatus with 2.5-miles of this location. Station 1 and Station 2 zones have considerable overlap reducing the total square miles of primary coverage for the investment.



*Figure 9-Site C with Station 2 Coverage*

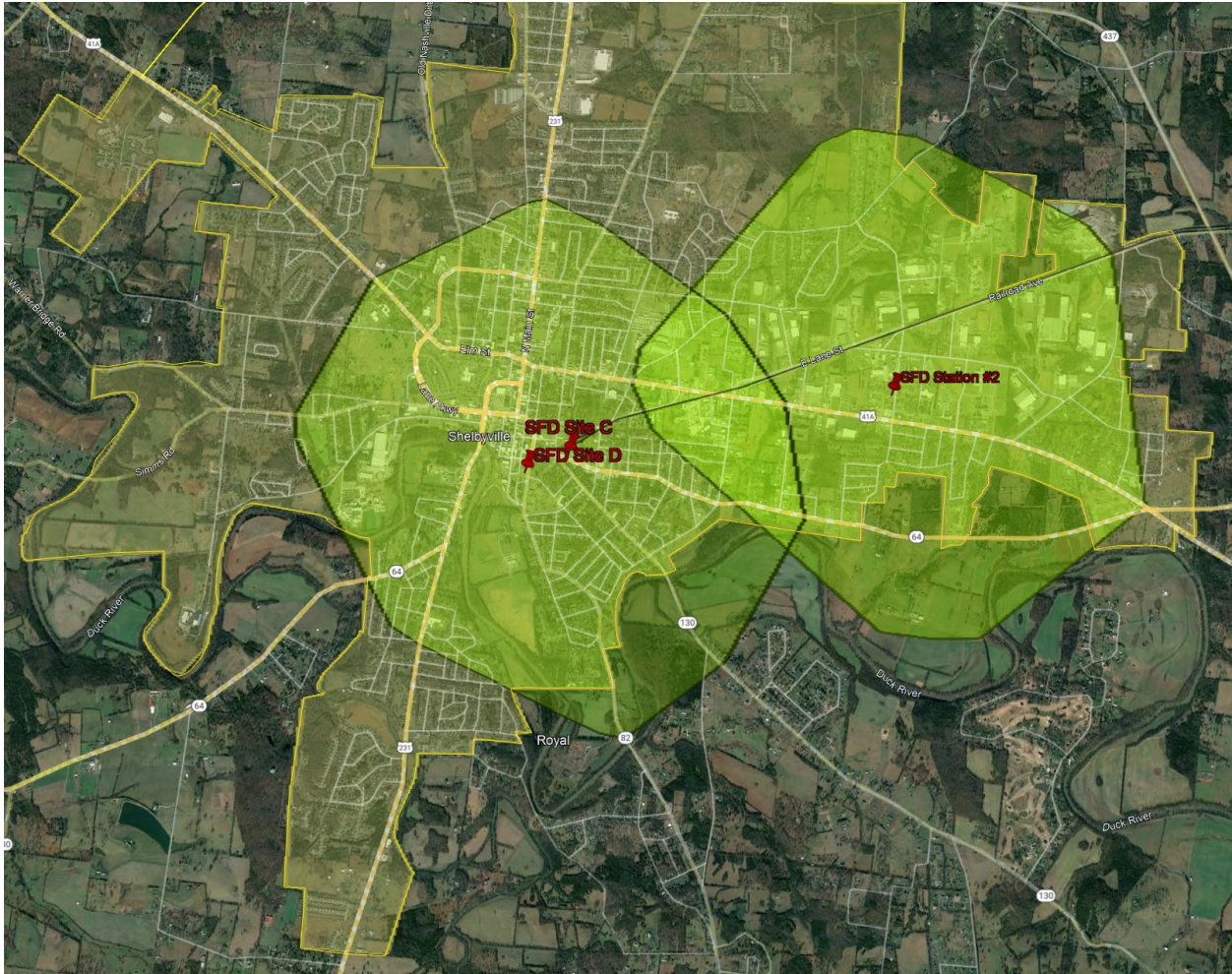
#### **Option 4-Site D**

Site D is a property of approximately 2.25 acres located at the corner of Elliott Street and South Jefferson Street. This property is irregularly shaped, does not appear to have sufficient acreage for this scope of project, and is not strategically located. A fire station located here will create excessive overlap of response zones with fire station 2. Figure 10 is a graphic of the property layout.



*Figure 10-Site D Elliott Street and South Jefferson Street*

The coverage zones for Site D and Station 2 are depicted in Figure 11. It is noted that most of the central and lesser of west and northwest portions of the municipality have an engine within 1.5-miles and a ladder apparatus with 2.5-miles of this location. Station 1 and Station 2 zones have considerable overlap reducing the total square miles of primary coverage for the investment.

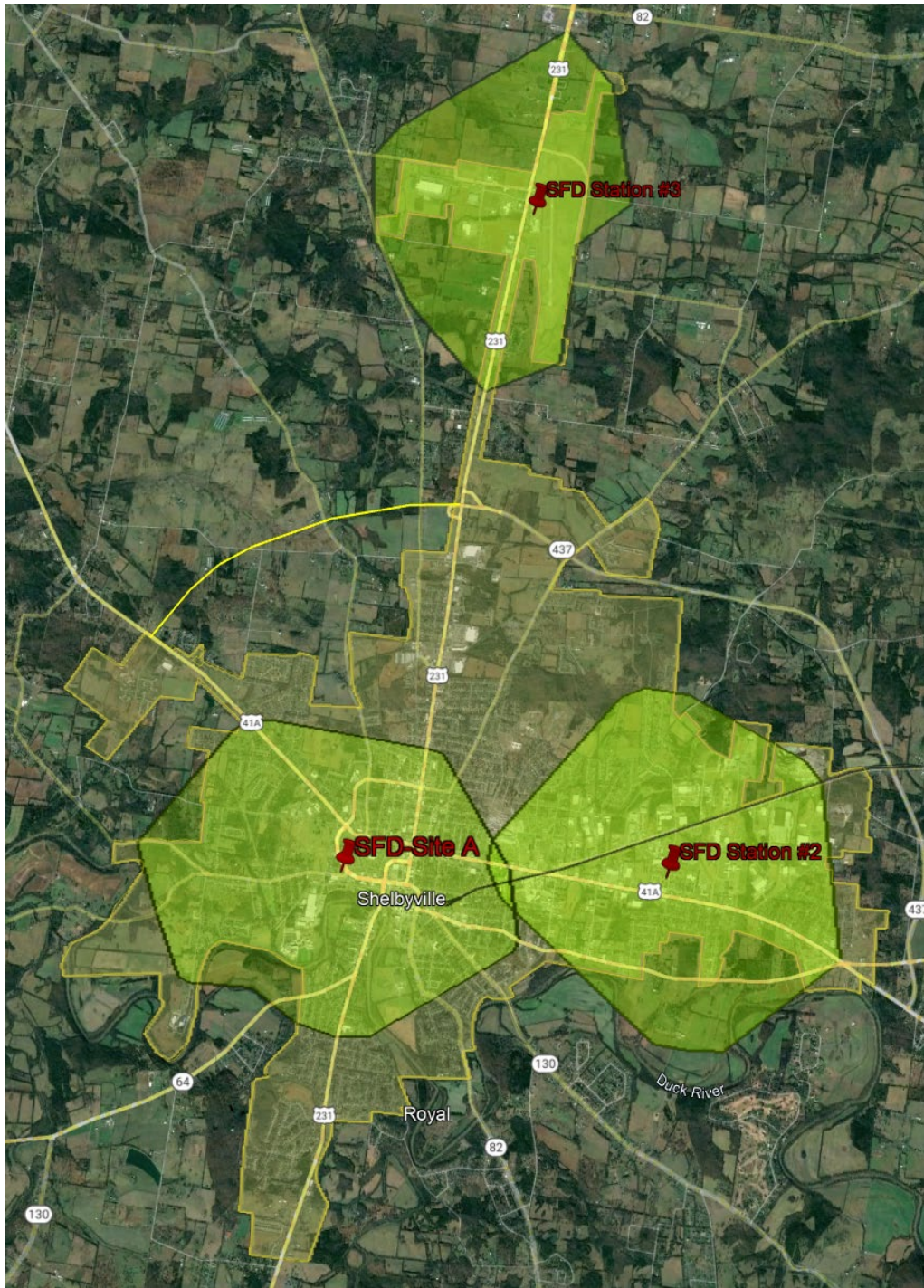


*Figure 11-Site D with Station 2 Coverage Area*

## Recommendations

The most efficient and cost-effective way for the municipality to provide for all-hazards fire service delivery programs that addresses community risks and needs is a complex endeavor. Proper planning saves public resources and provides for more efficient and safer services. Analyzing the four properties being considered to relocate fire administration with fire station 1 and potentially collaborate with the police department, Option 1-Site A appears to have all the attributes of a property for a project of this scope. It is located on a major through highway, the public has access to see their tax dollars at work and it adds value the municipal gateway. It is in a strategic location to augment and compliment fire station 2 response area. As your review Figure 12, you can visually see how Option 1-Site A-fire station 1, fire station 2, and fire station 3 will provide strategic locations to provide public safety fire services from.

Analysis of the four sites suggests that the priority would be as follows: Site A, Site B, Site D, and Site C to relocate fire station administration and fire station 1.



*Figure 12-Fire Coverage Three Stations*

Shelbyville must prepare for additional growth along the Highway 231 corridor north of the municipality. The municipality has addressed fire services in the downtown area with fire station 1 and fire station 2. The municipality has further addressed growth in the Highway 231 area near the airport with fire station 3. With the probable extension of the Highway 437 Bypass, the municipality must consider future planning for a fire station 4. This area of the

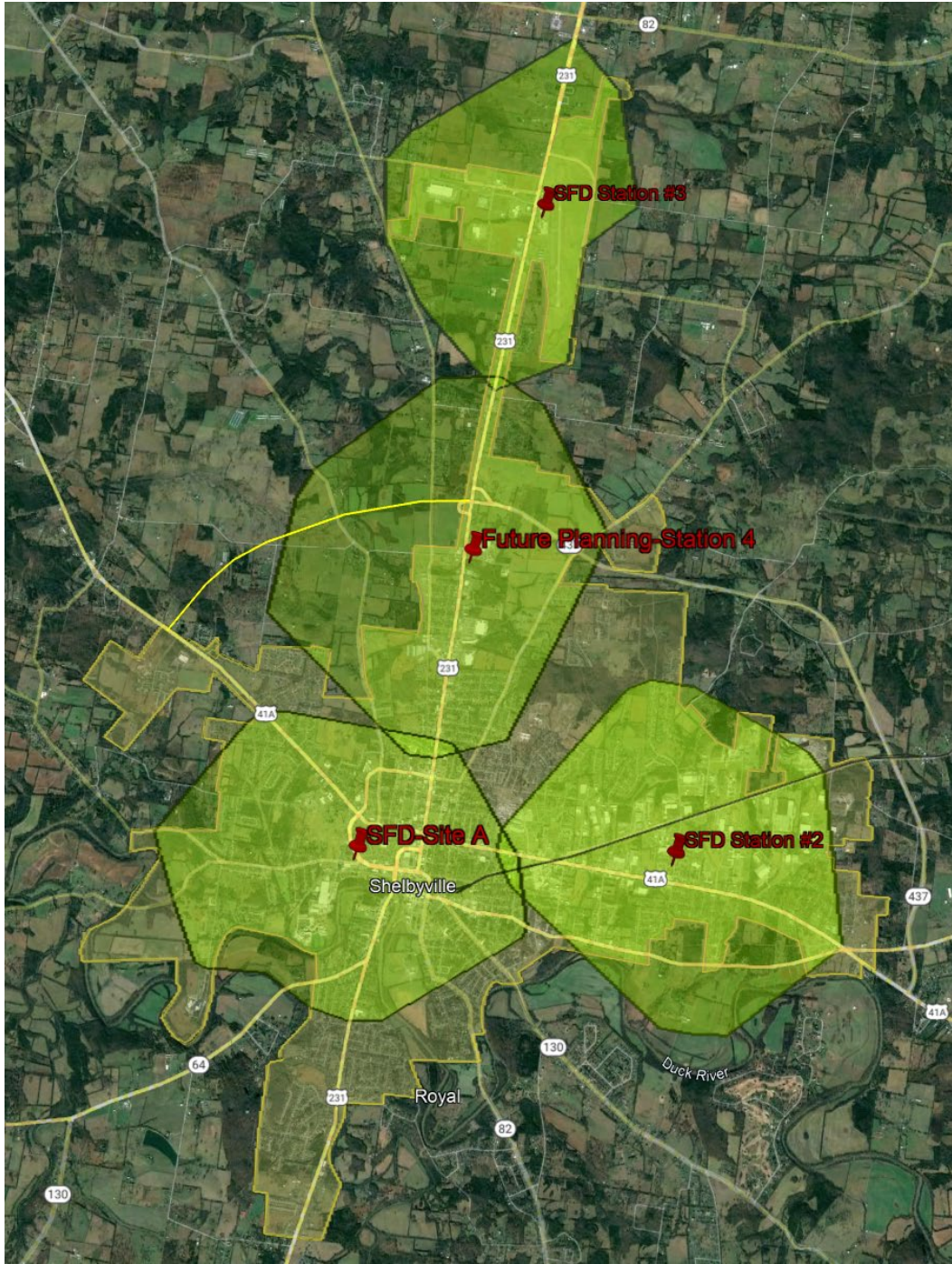


municipality is and will continue to experience growth. With growth comes public risk to be mitigated. Figure 13 graphically depicts a strategic location to consider for fire station 4. This location will fill in the space between downtown and the airport as well as give very good access to the bypass to serve other areas of the municipality.



*Figure 13-Future Planning-Station 4 Location*

Figure 14 is a graphic depiction of Shelbyville with four fire station coverage using proper planning techniques.



*Figure 14-Fire Coverage Four Stations*

## Collaborative Public Safety Services Facility-Concept

The design and construction of a collaborative project with police and fire demonstrates the collaborative culture noted in Shelbyville.



*Figure 15-Police-Fire Facility Concept*

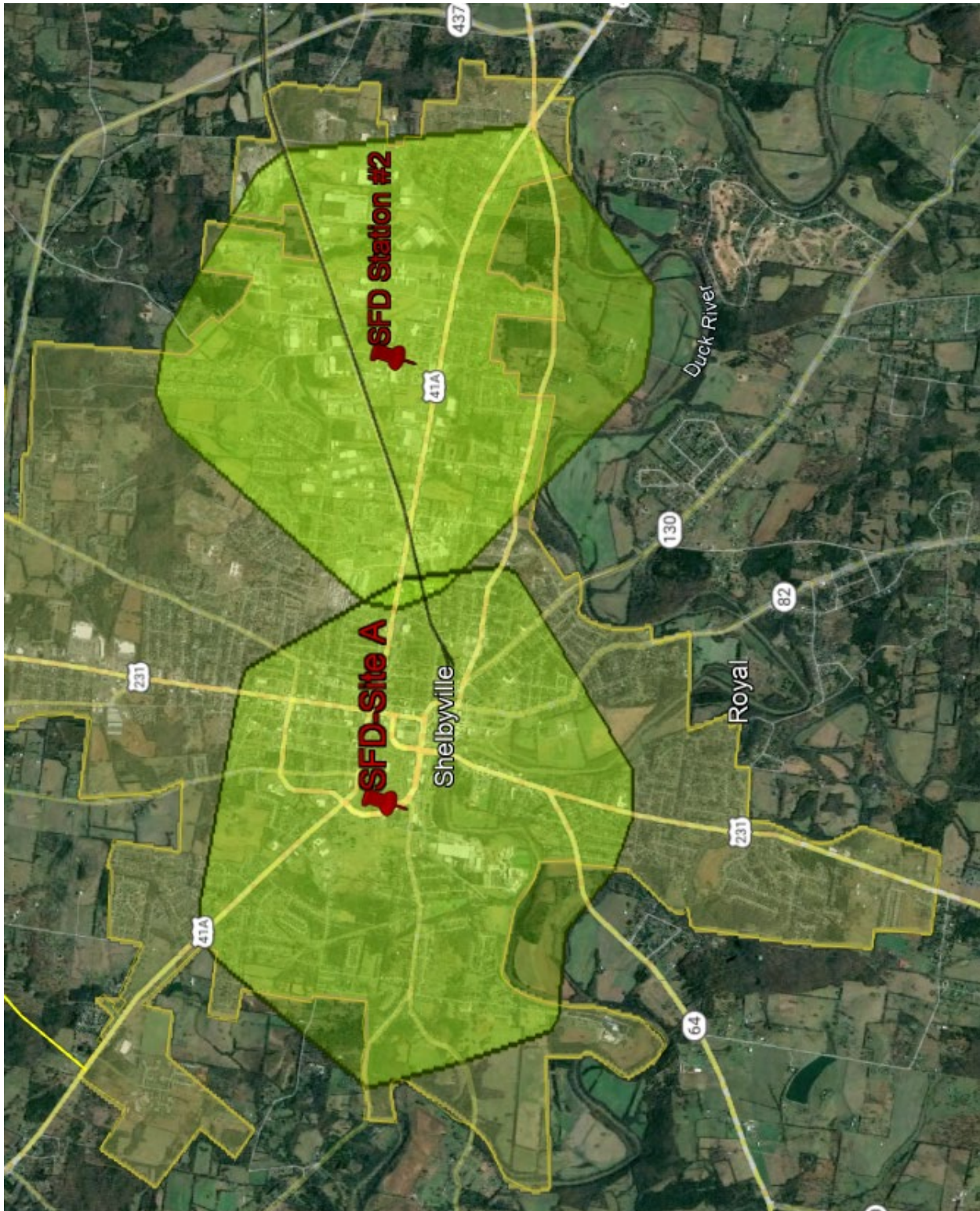
## References

Insurance Services Office. (2017). *Fire Protection Rating Schedule*. Jersey City, NJ: Insurance Services Office (ISO).

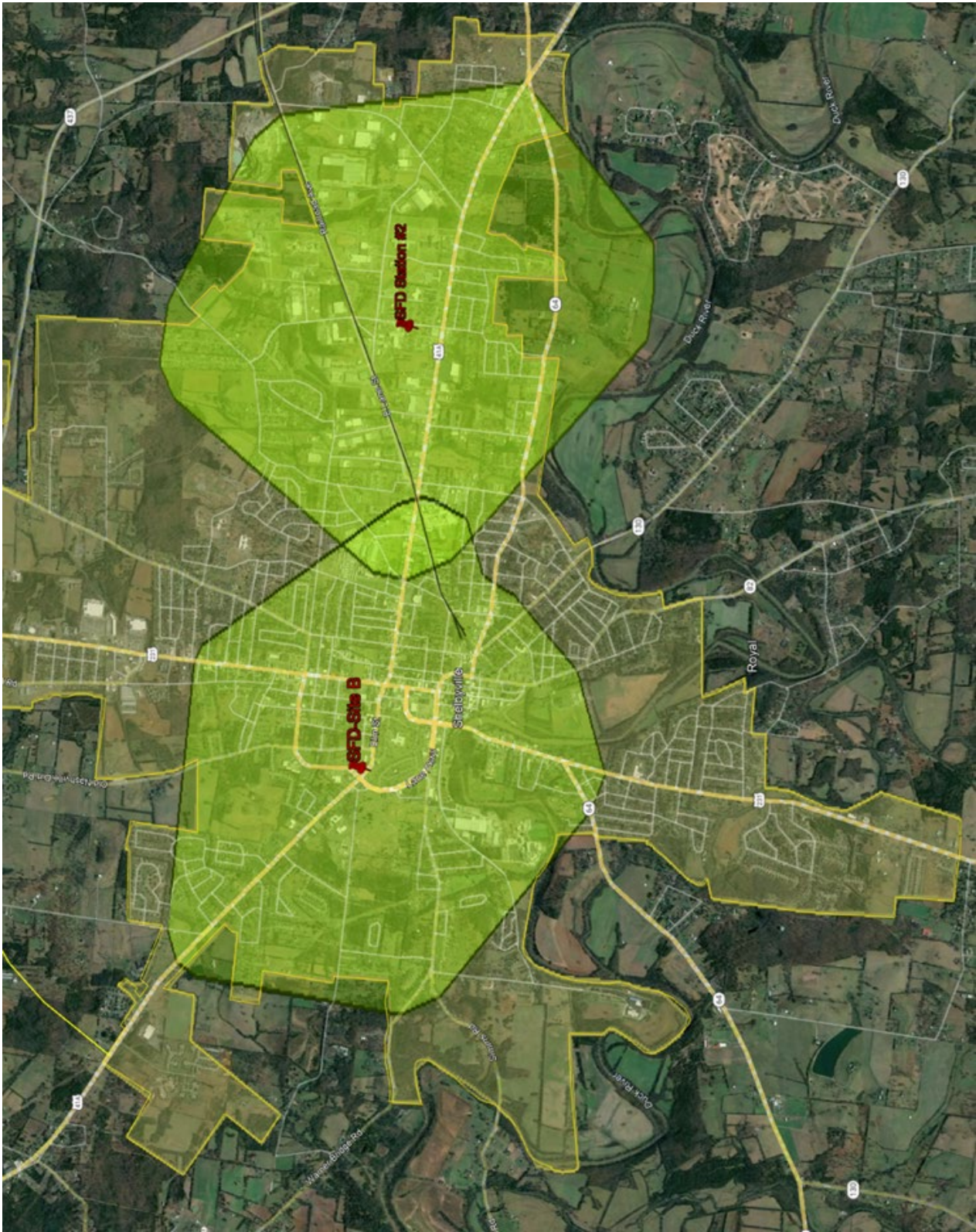
City Data: <http://www.city-data.com/city/Shelbyville-Tennessee.html>

Appendixes

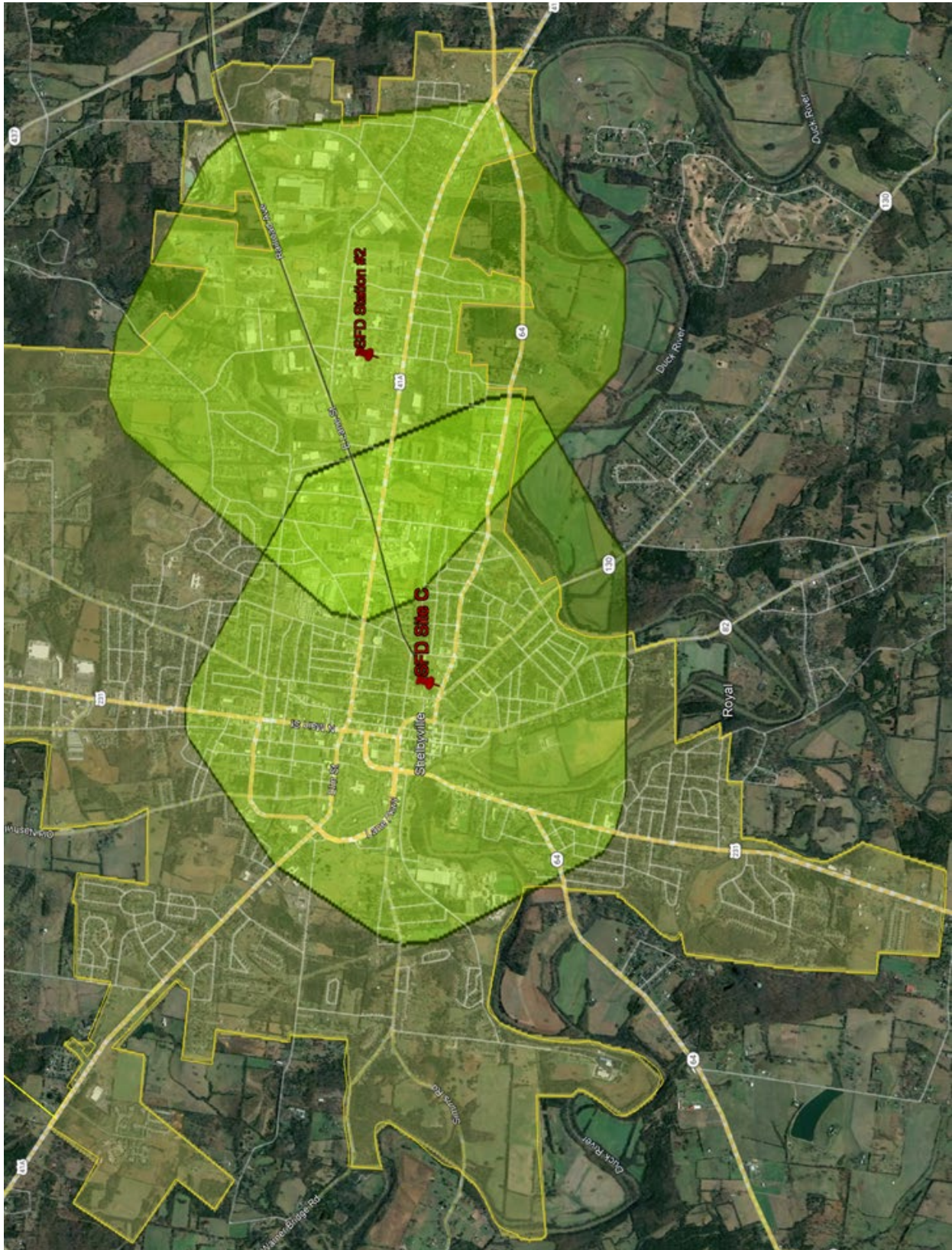
Appendix A-Option 1-Site A Relocation of Fire Station 1



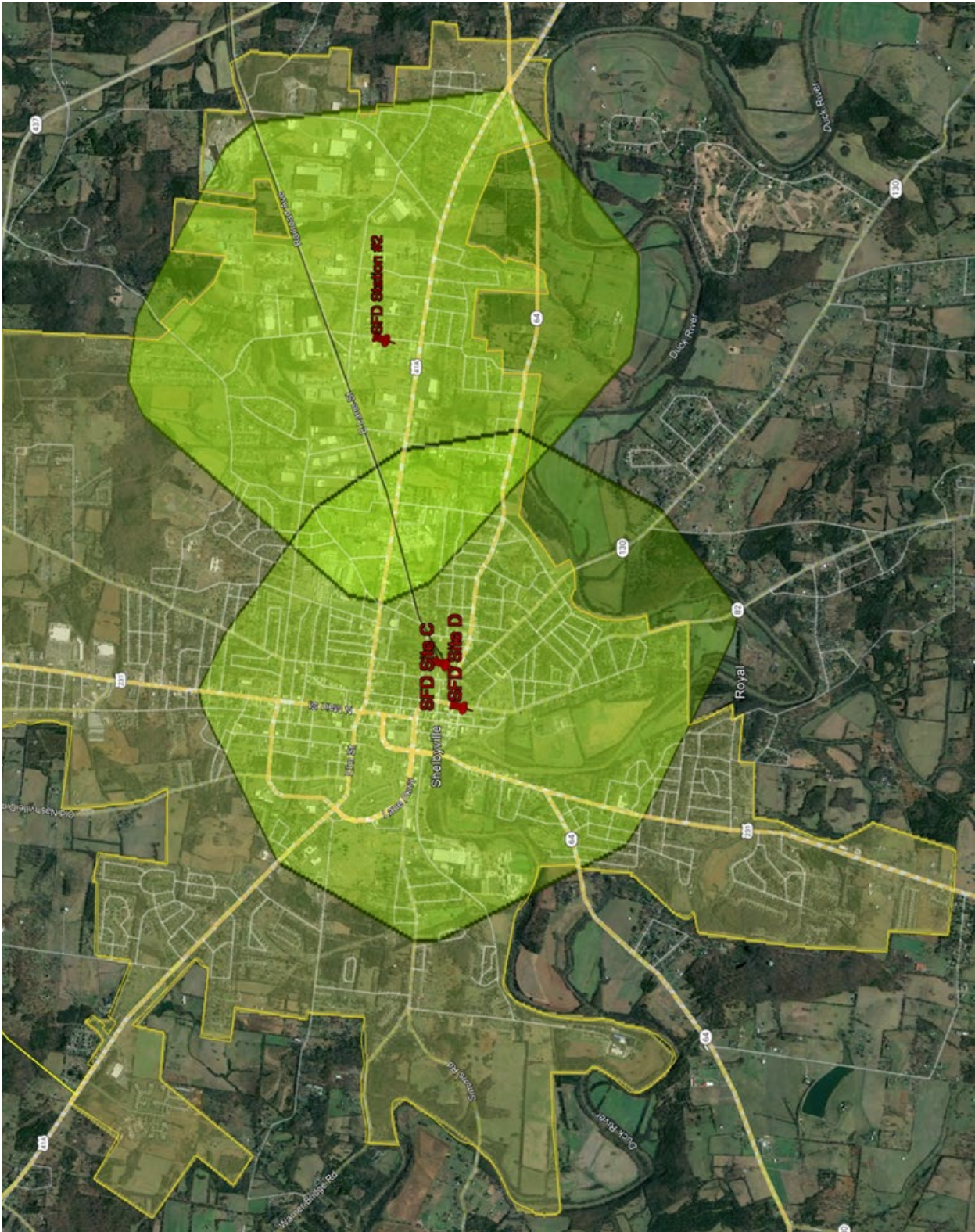
Appendix B-Option 2-Site B



Appendix C-Option 3-Site C

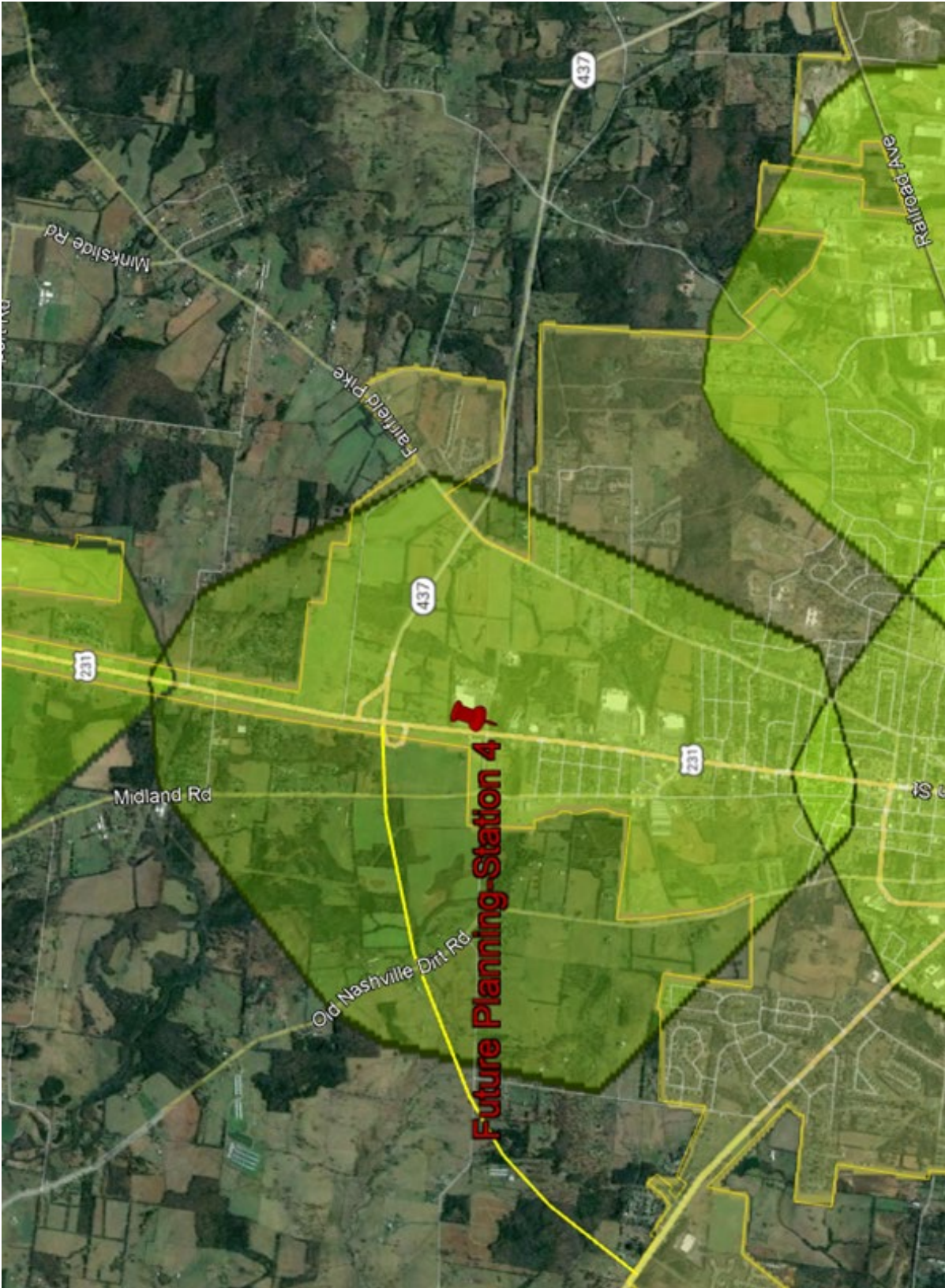


Appendix D-Option 4-Site D

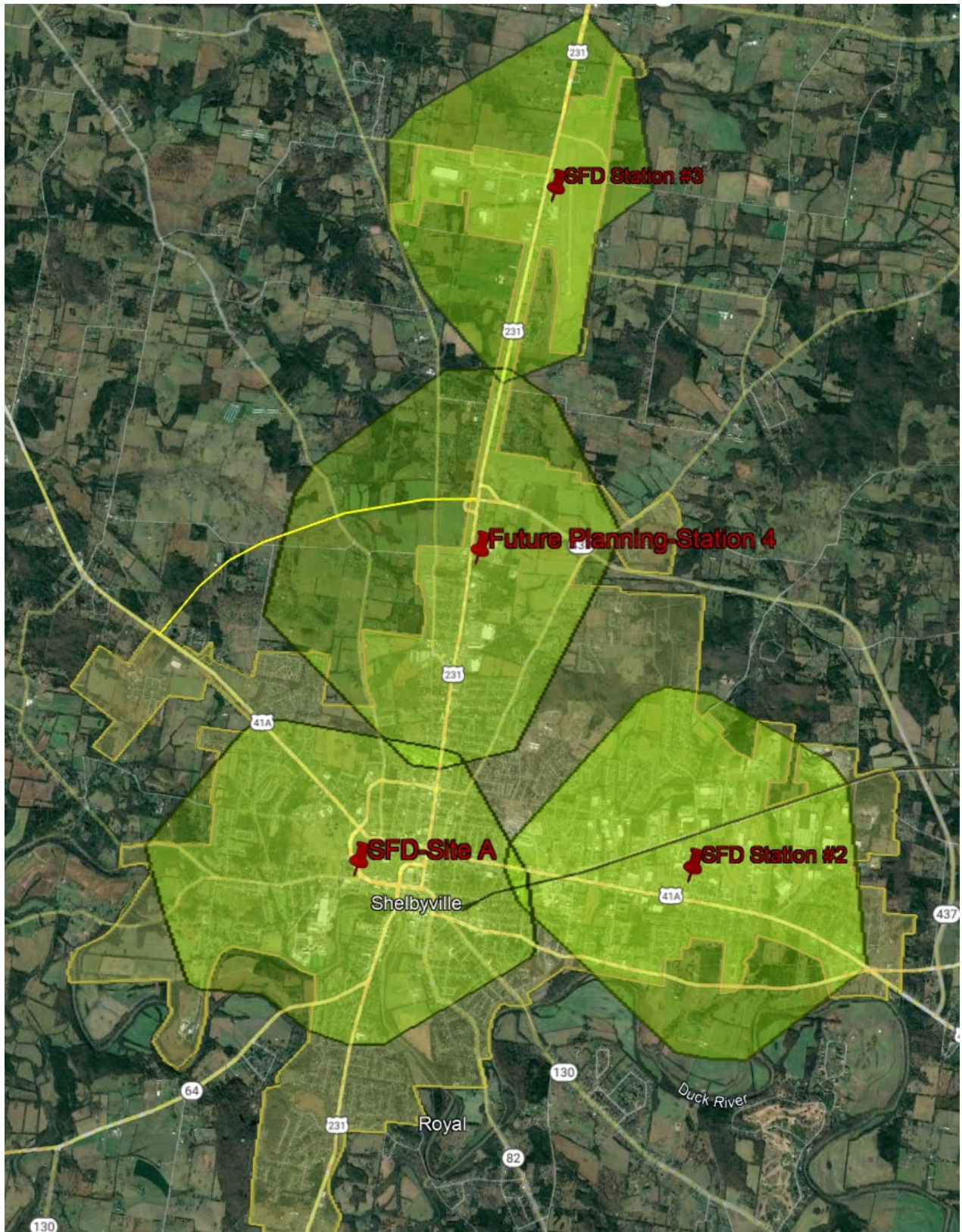




Appendix E-Future Planning Station 4



Appendix F-Option 1 with Station 2, 3, and future Station 4 Coverage



Appendix G-Police-Fire Facility Concept





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