



# I-94 Removal in the Twin Cities

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An Exploratory Analysis

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# Abstract

This project dives into the changes in service area and length of several points before and after the removal of I-94. This is how far someone can get from one point or how far someone can be away to reach a point. This presentation will summarize the methods used to build the network dataset and service area analysis layers. It will then show the results and compare the differences in service areas before and after the removal of the freeway. Next, this presentation will validate the results by comparing the network to ESRI's network dataset and will discuss the results and any lessons learned.

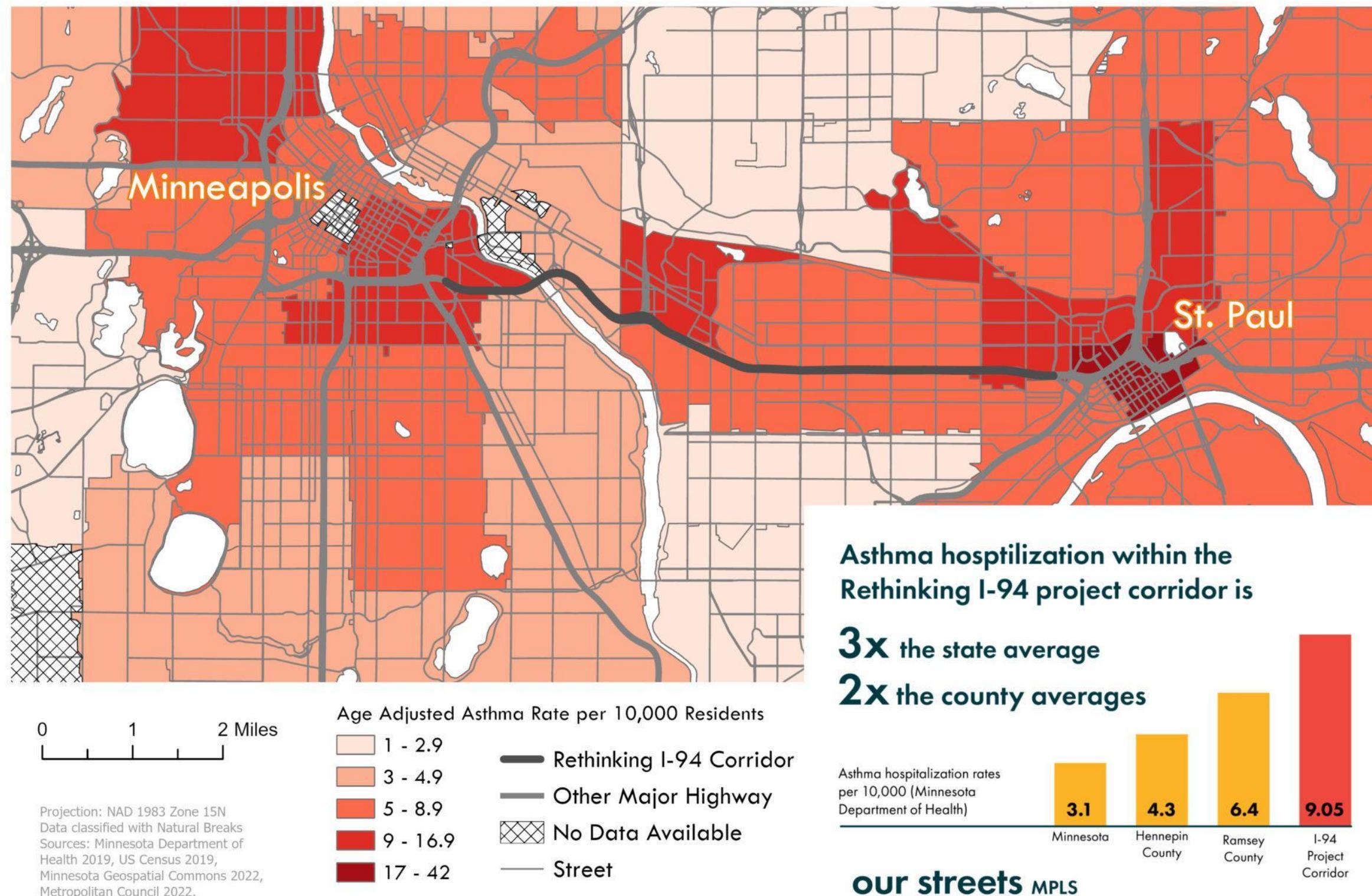
# Problem Statement

Urban freeway removal is becoming a relevant topic for transportation departments, governments, and community stakeholders. One of MnDOT's alternatives for I-94 is the removal of the freeway between the two downtowns and replacing it with urban development. One argument against this is increased travel time and loss of convenience. This project explores how great this difference is.

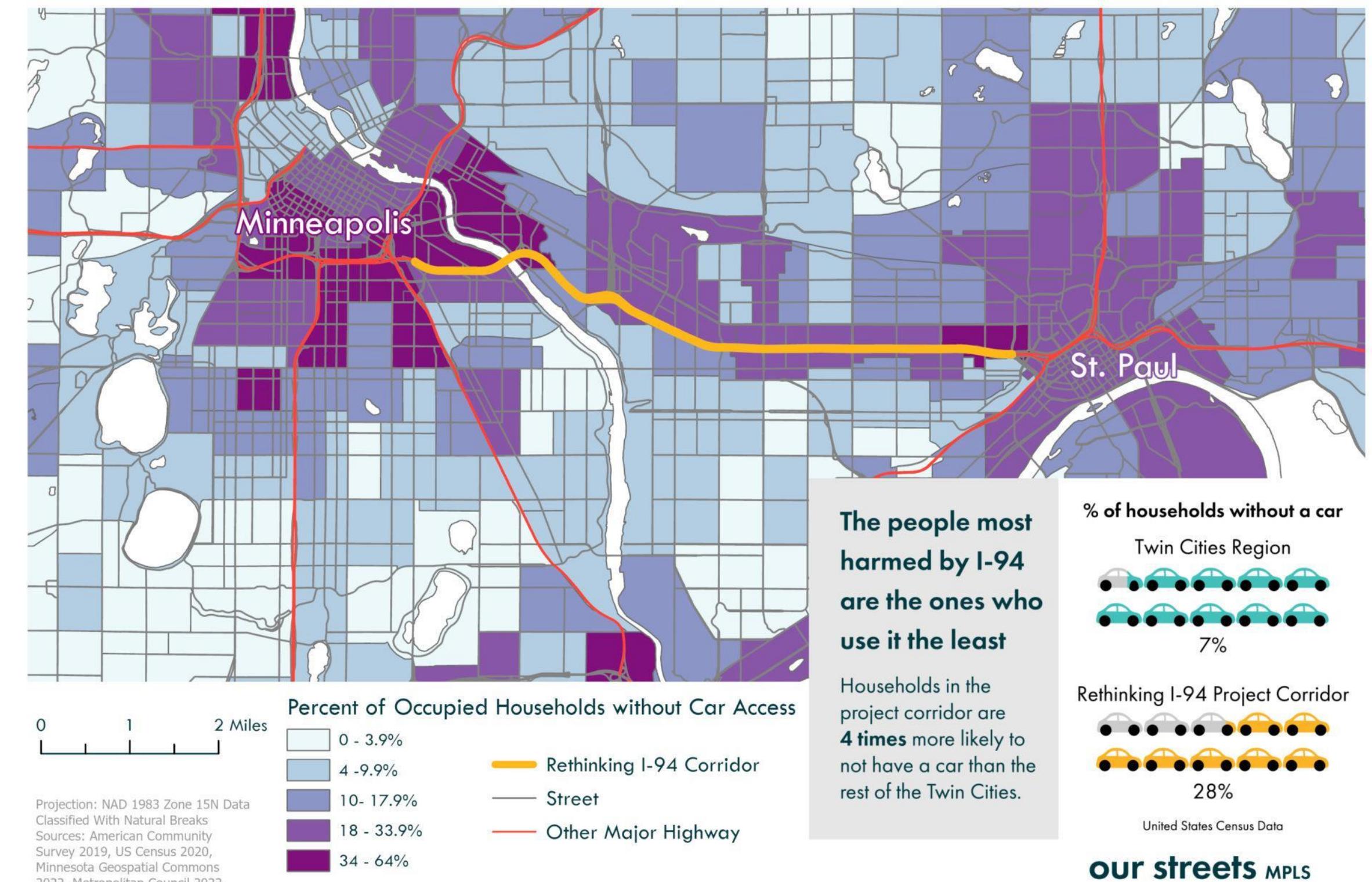


# Problem Statement

Asthma Hospitalization Rate by Zip Code 2015-2019



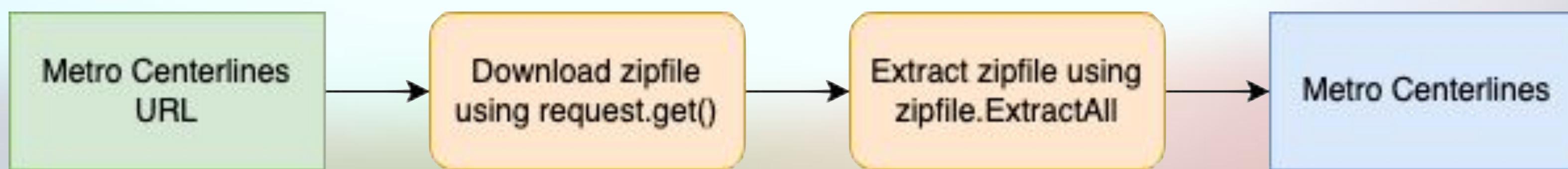
Households Without Car Access by Census Tract 2019



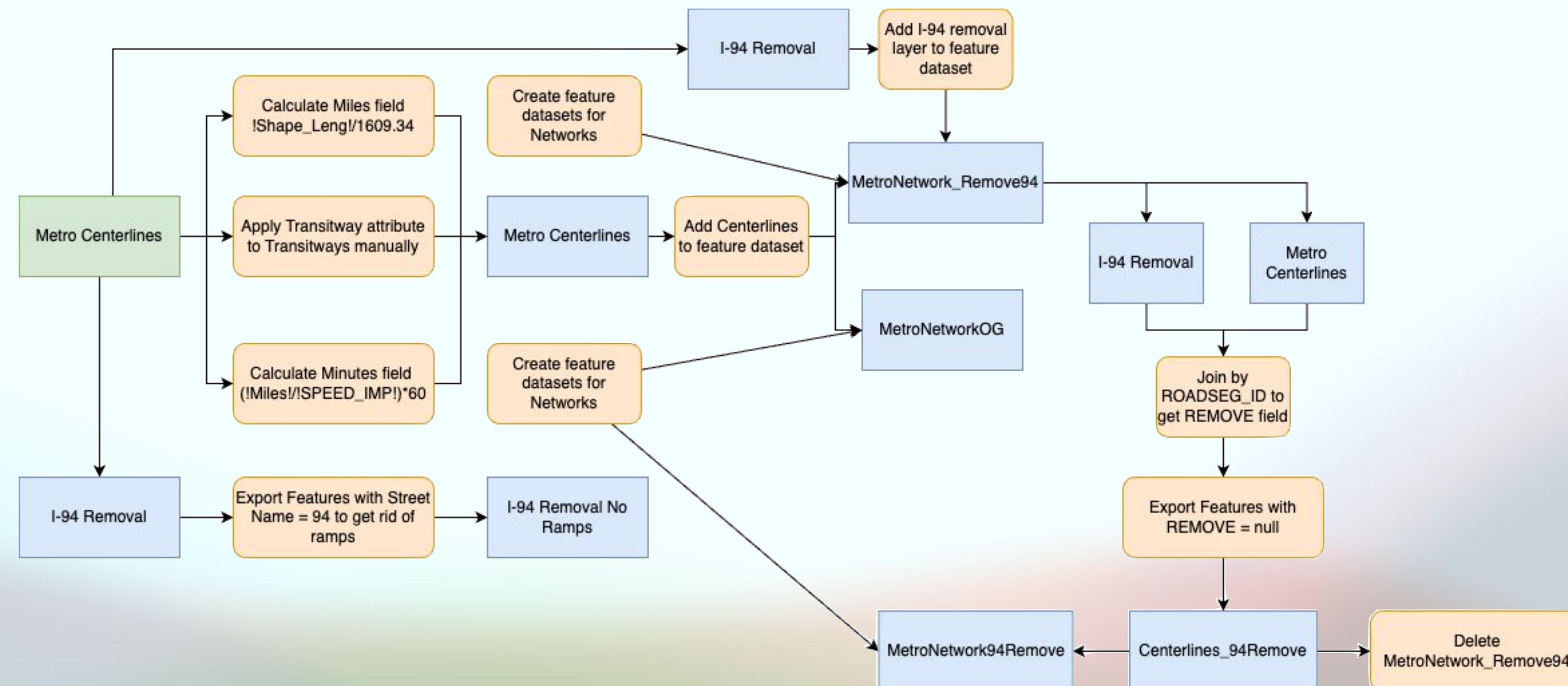
# Input Data

#	Title	Purpose in Analysis	Link to Source
1	Road Centerlines (Geospatial Advisory Council Schema)	Raw input dataset for creating network dataset from MetroGIS	<a href="#"><u>Mn GeoSpatial Commons</u></a>
2	I-94 Removal	Line feature used to represent how I-94 will be removed.	Created locally

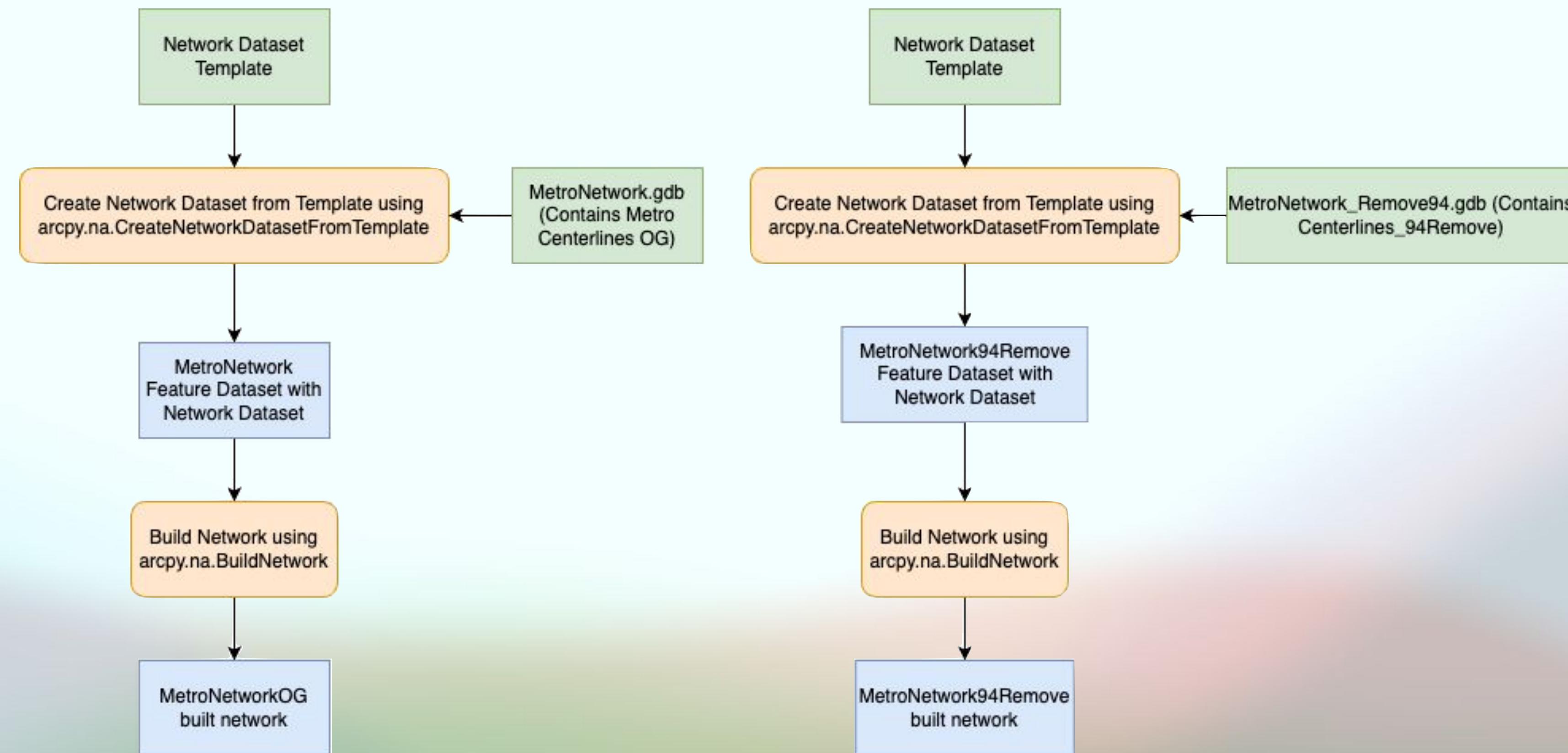
# Methods



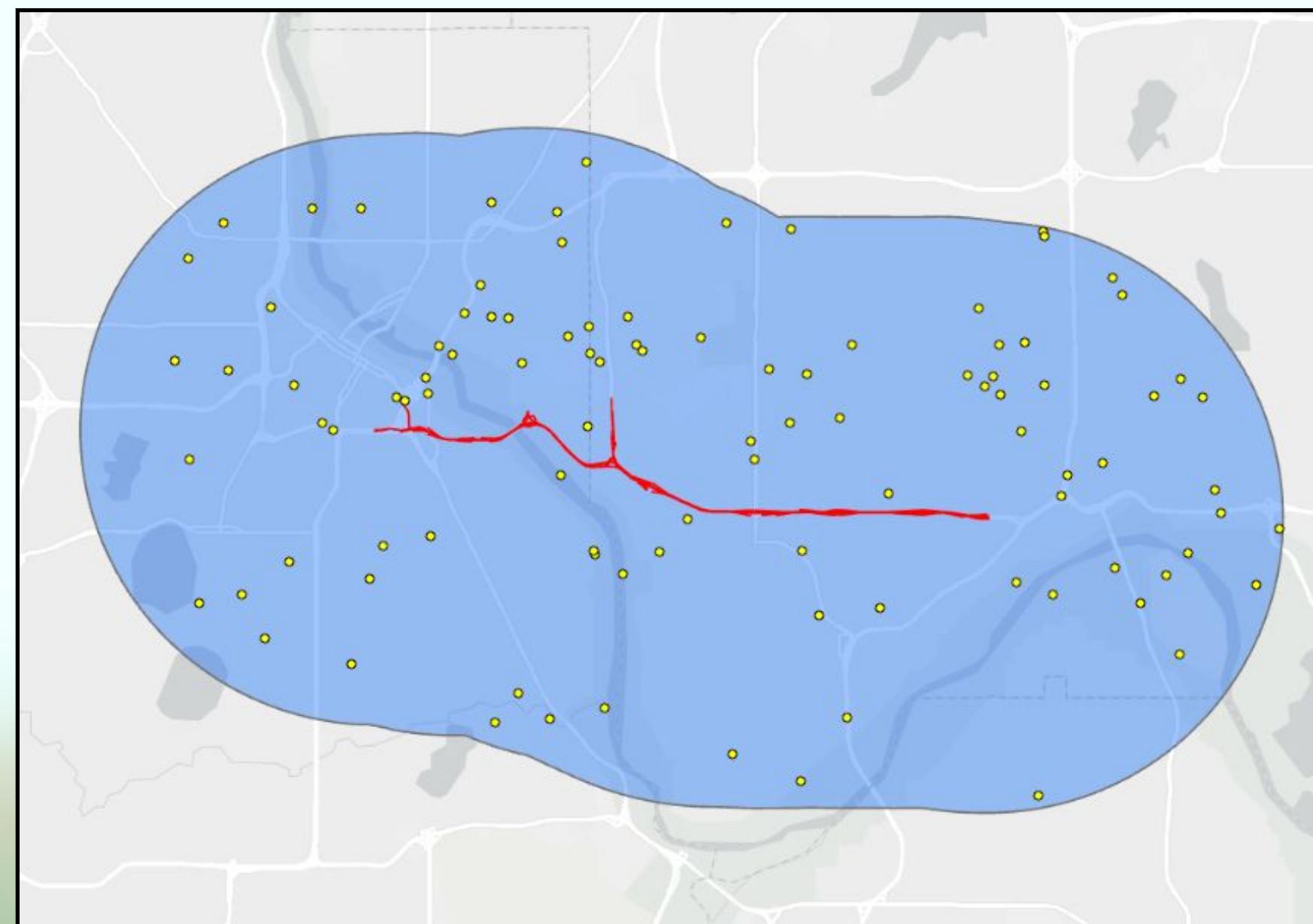
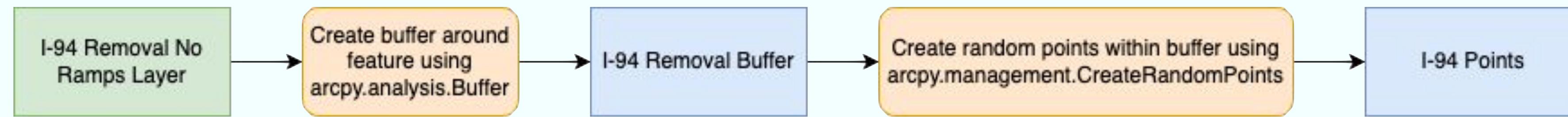
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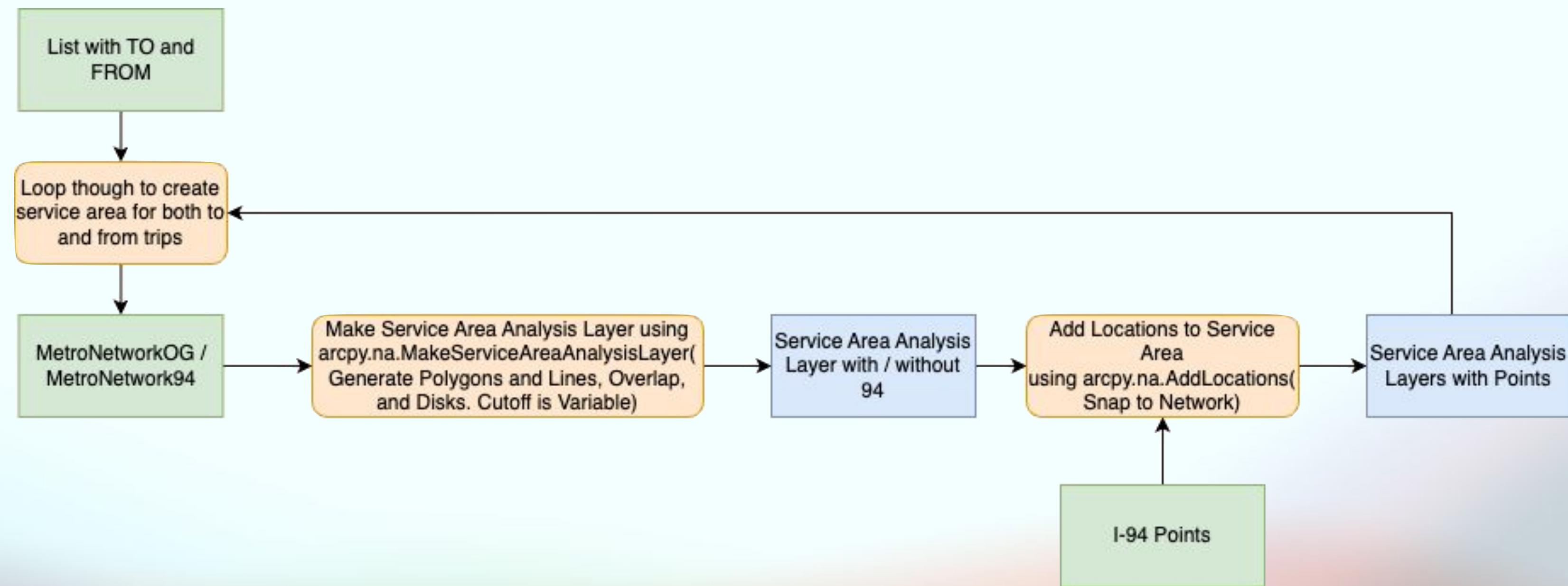
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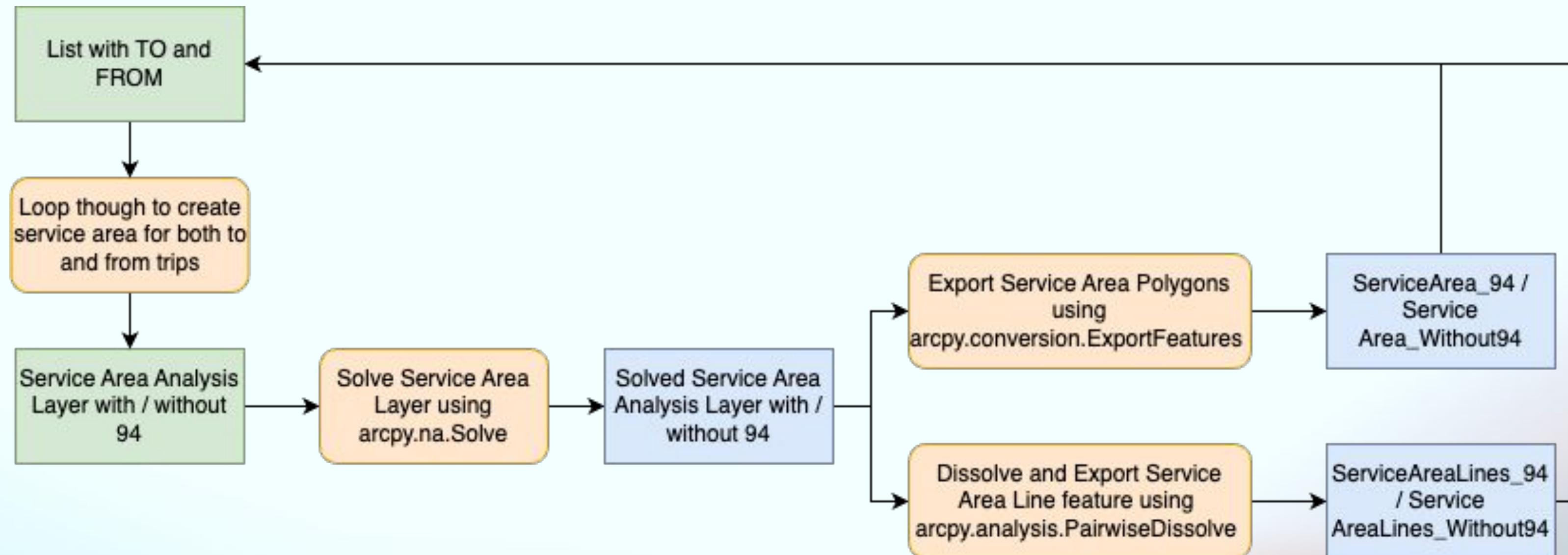
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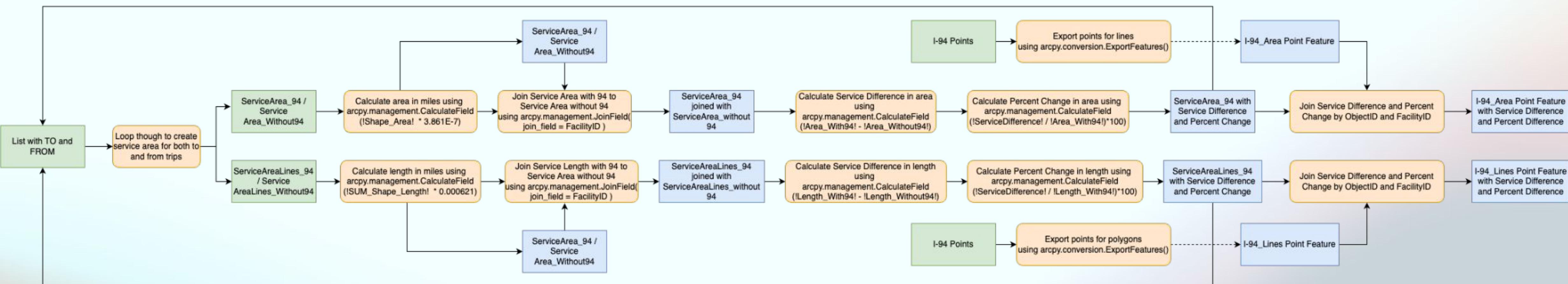
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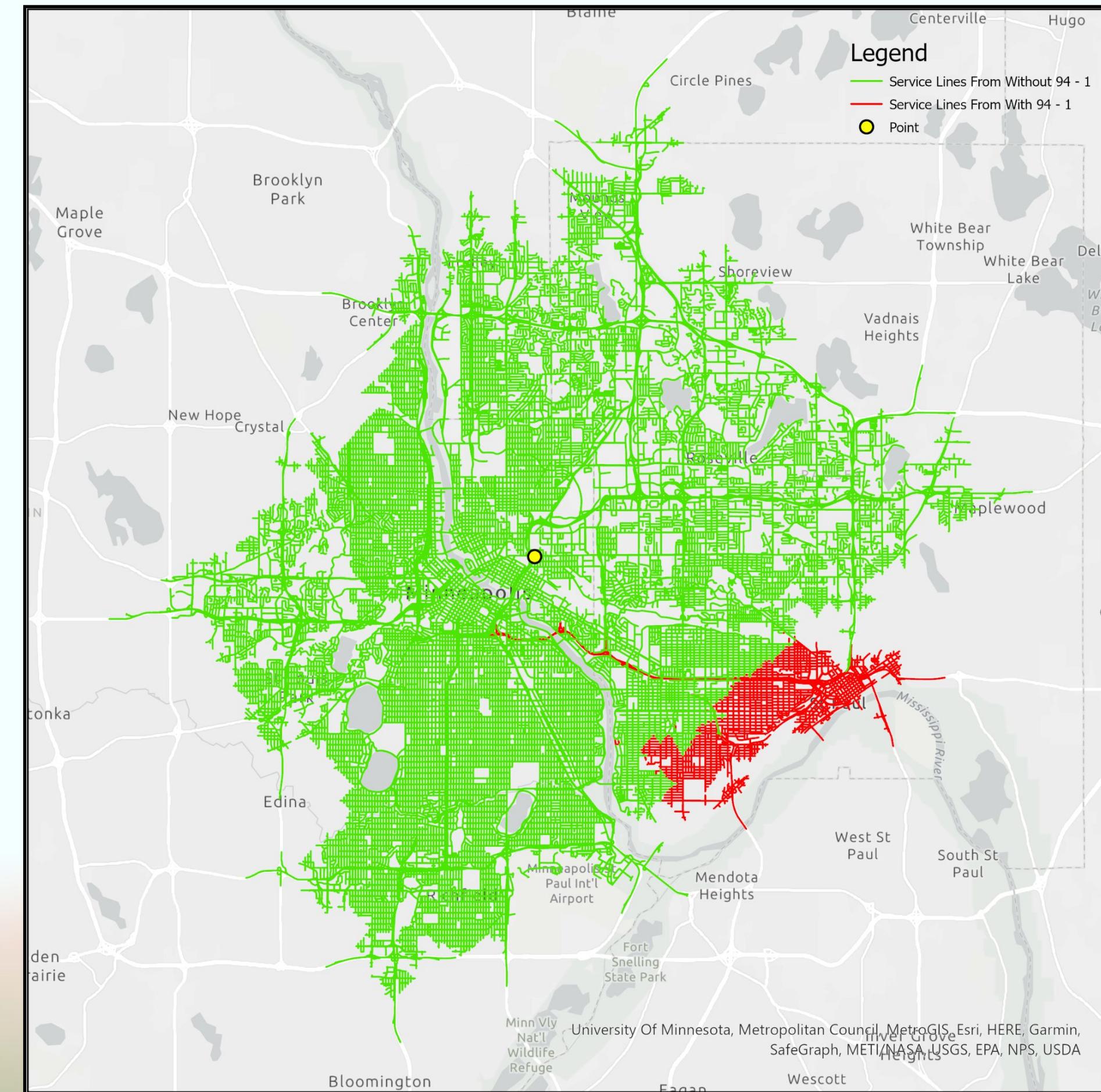
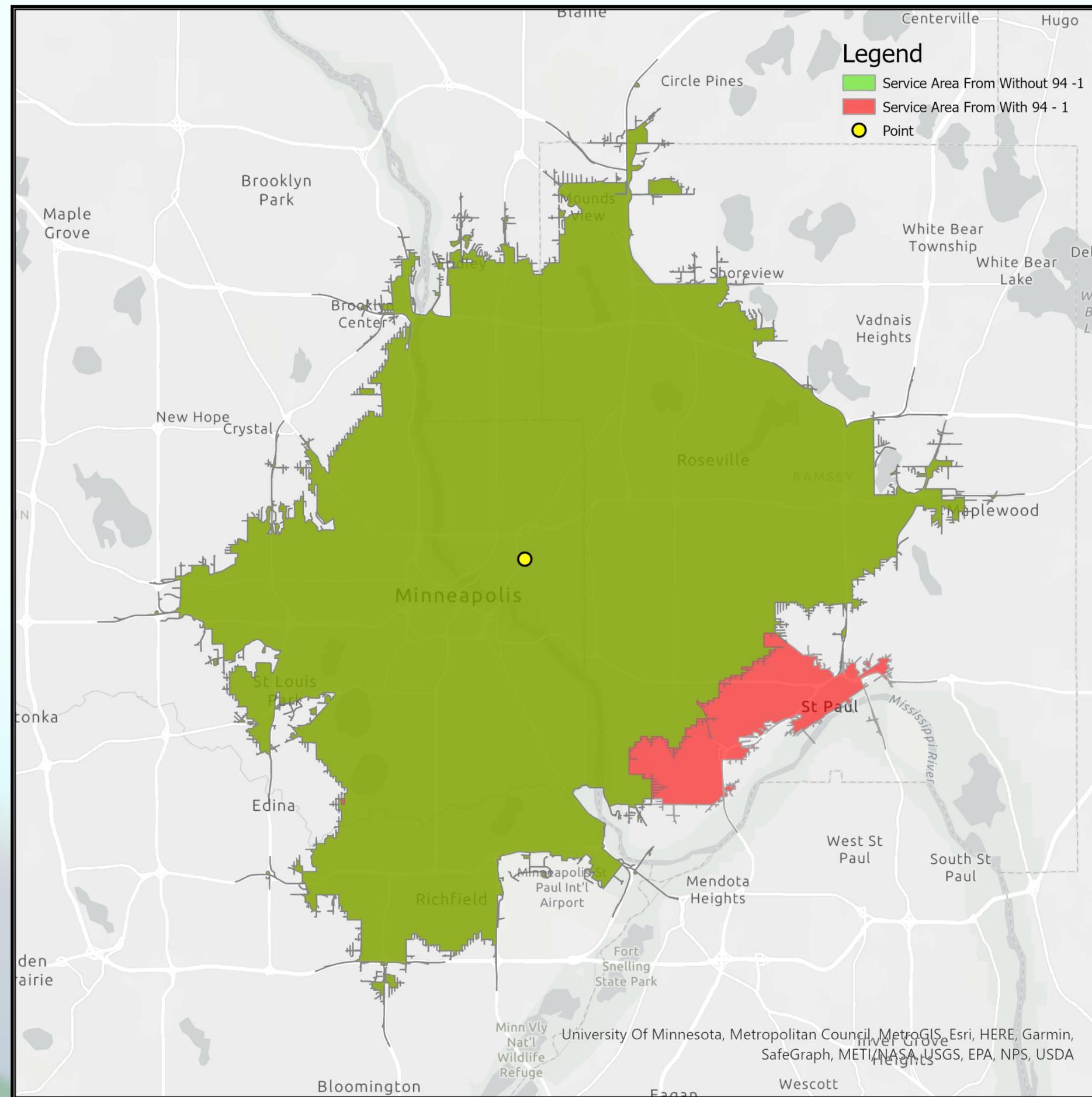
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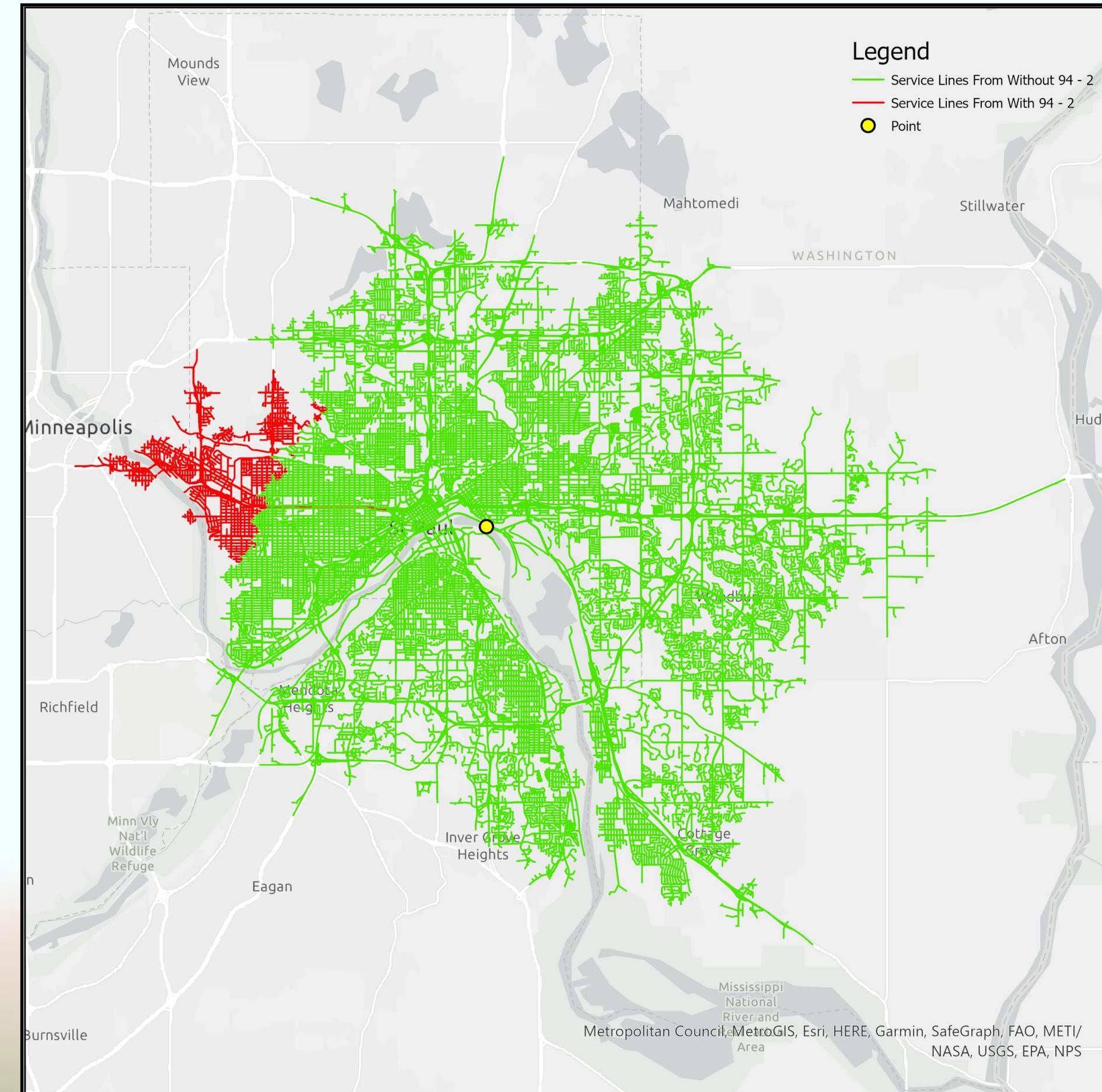
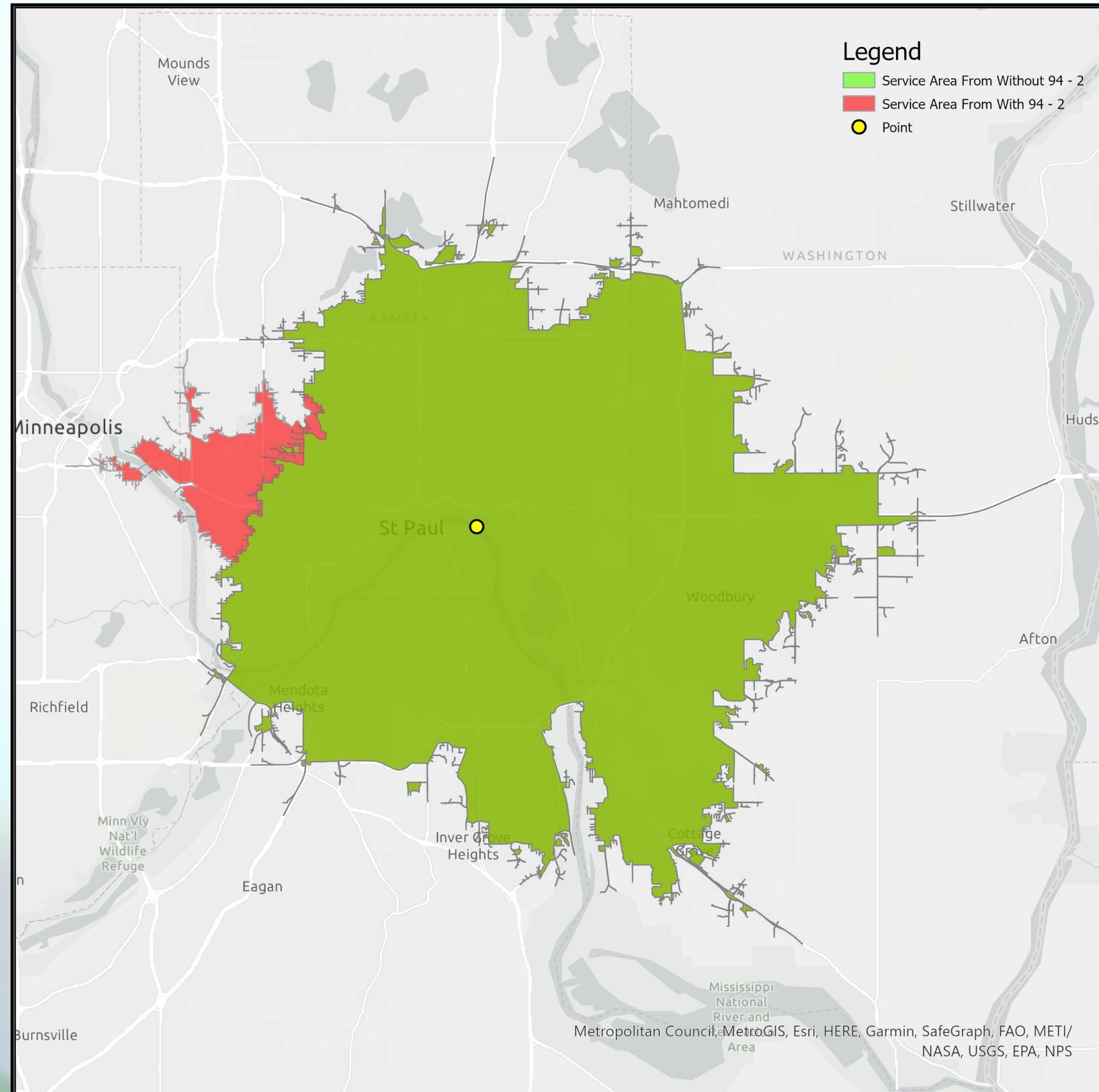
# Methods



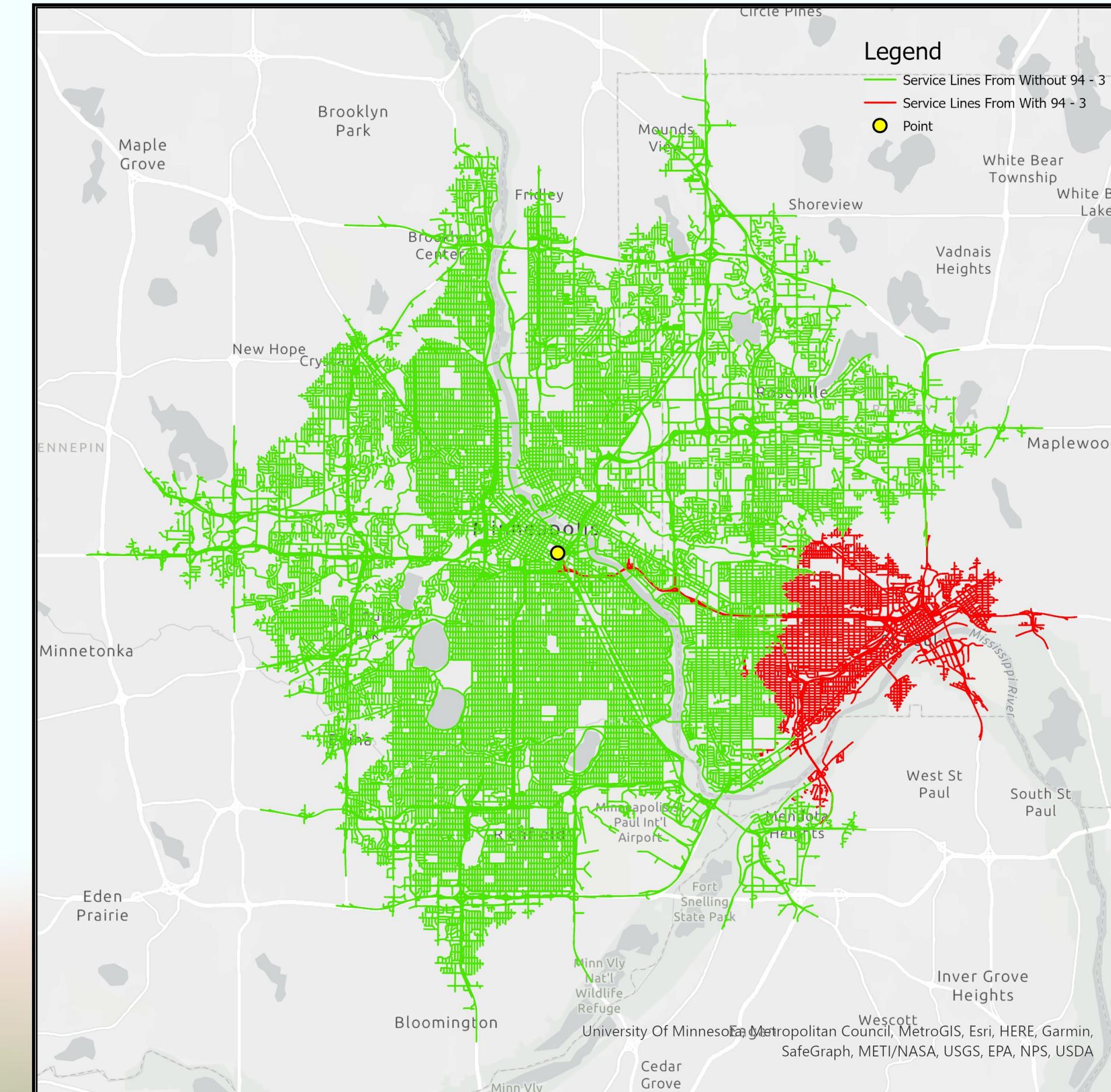
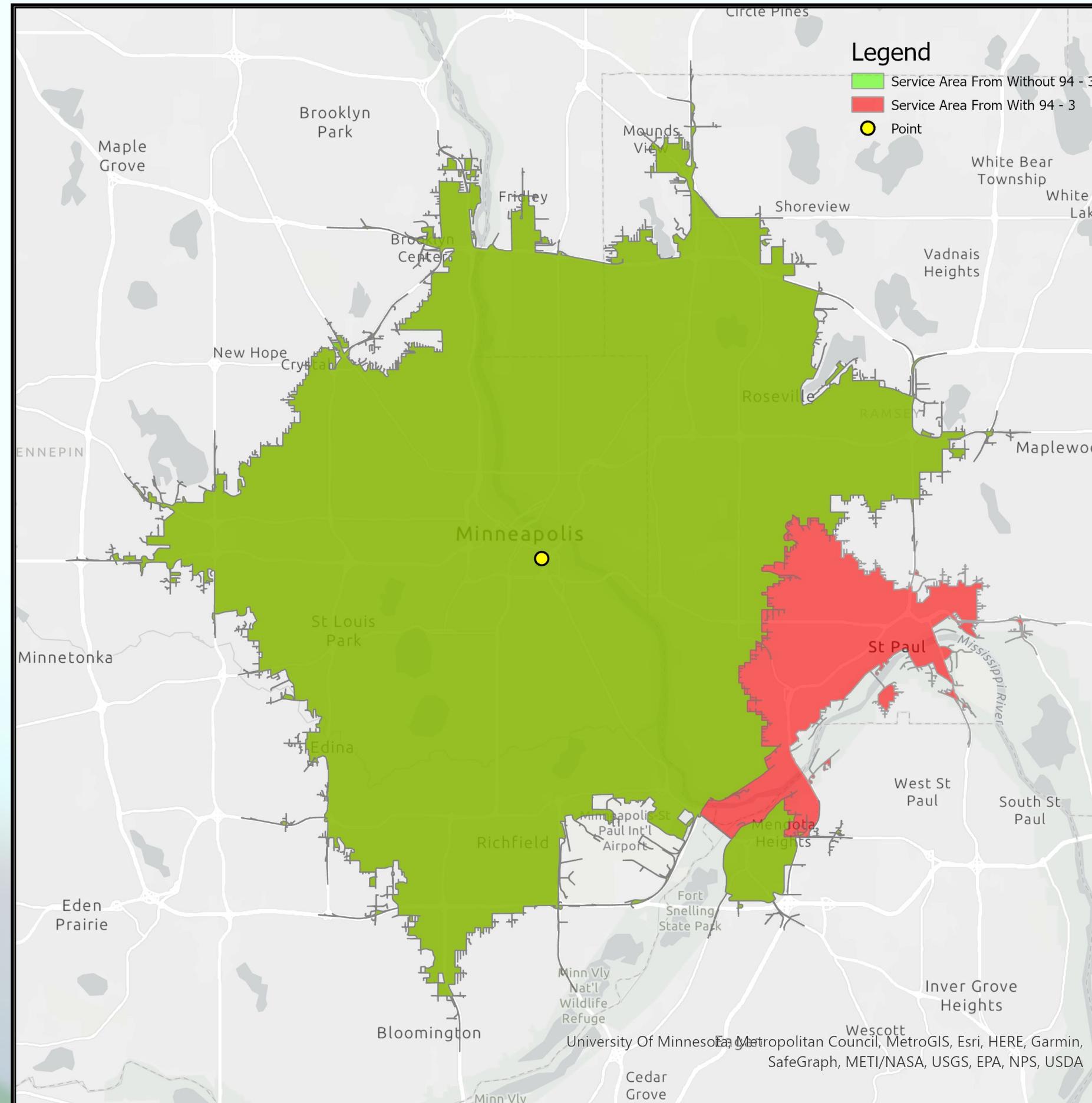
# Results



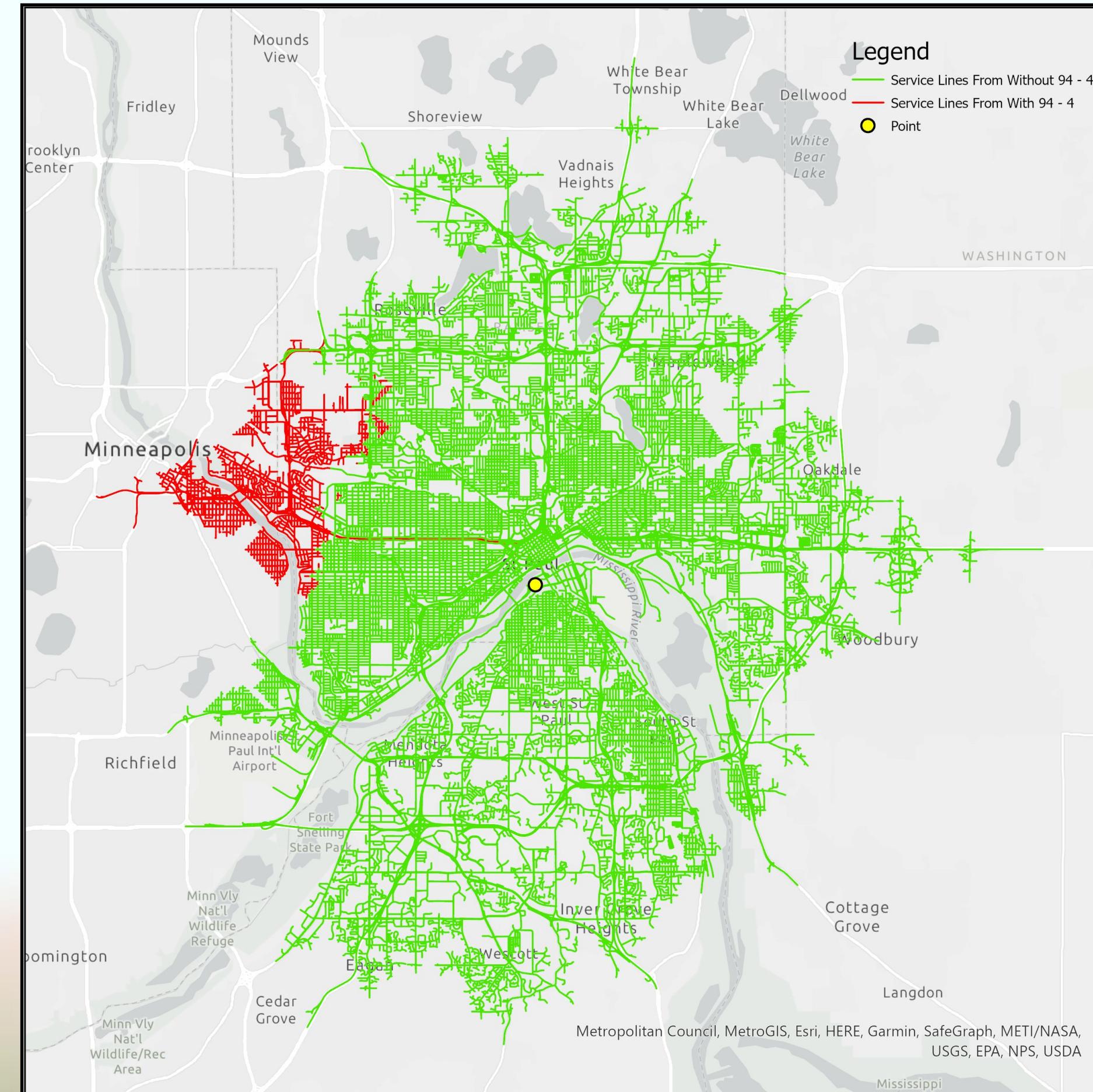
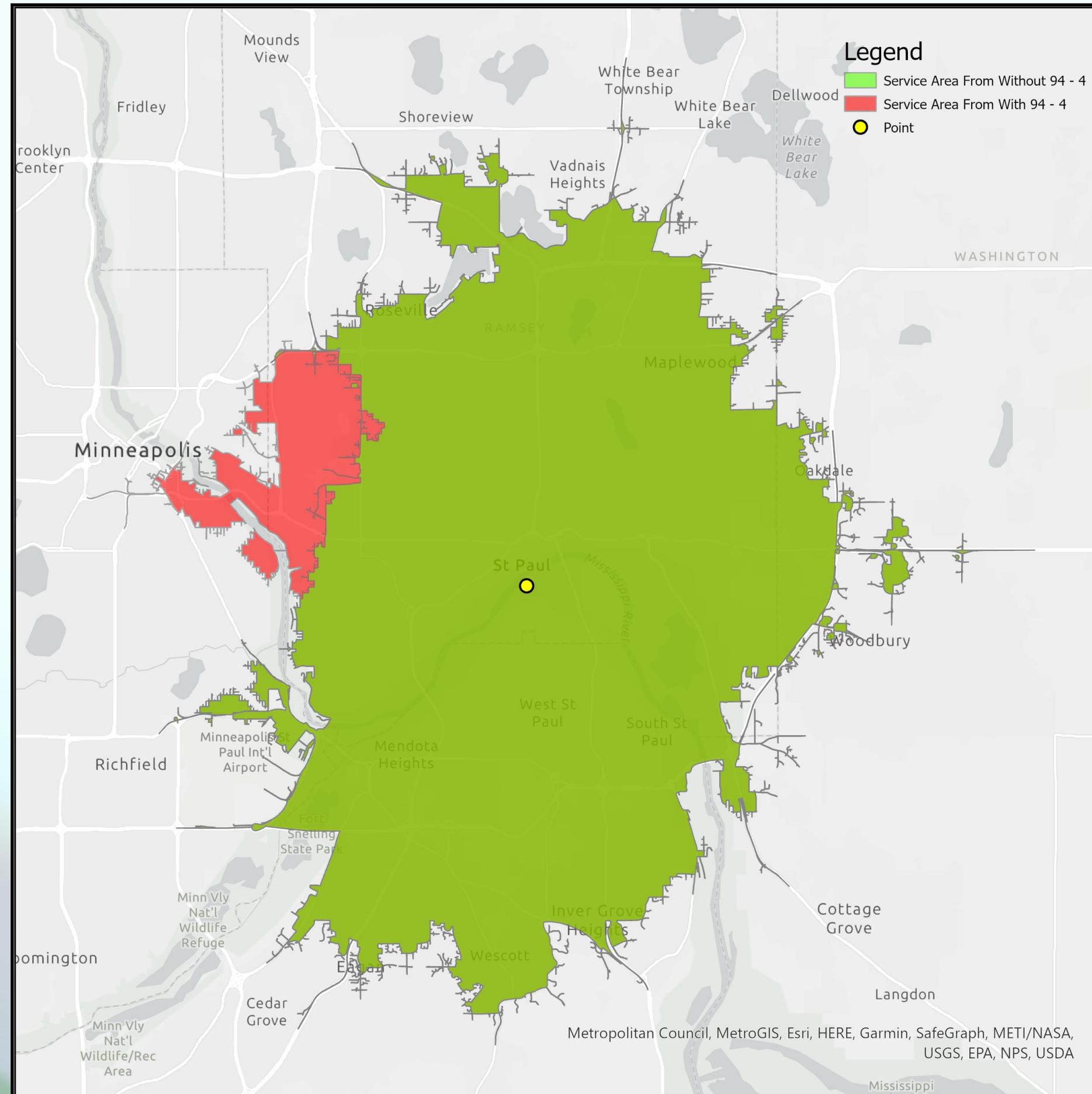
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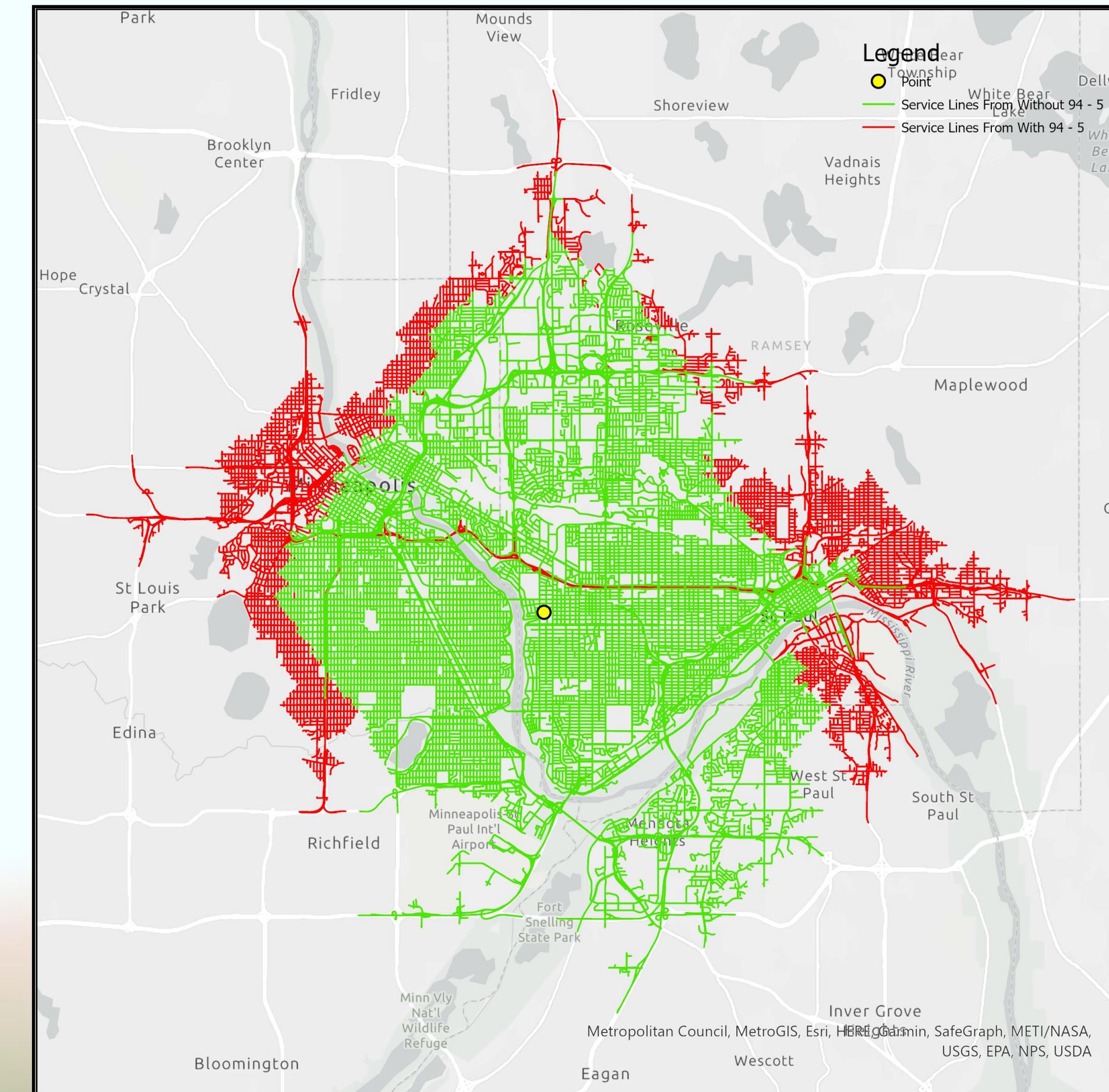
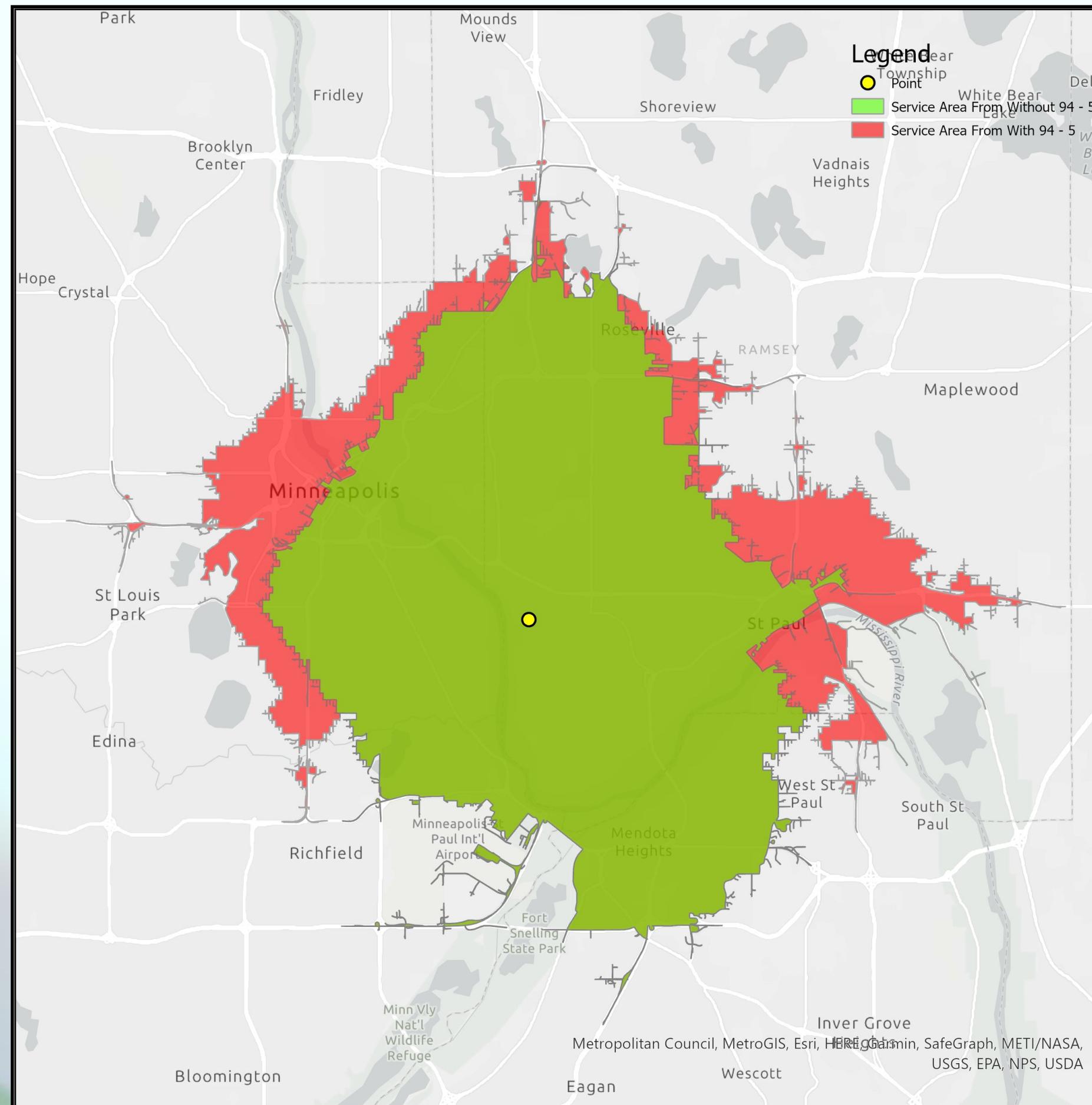
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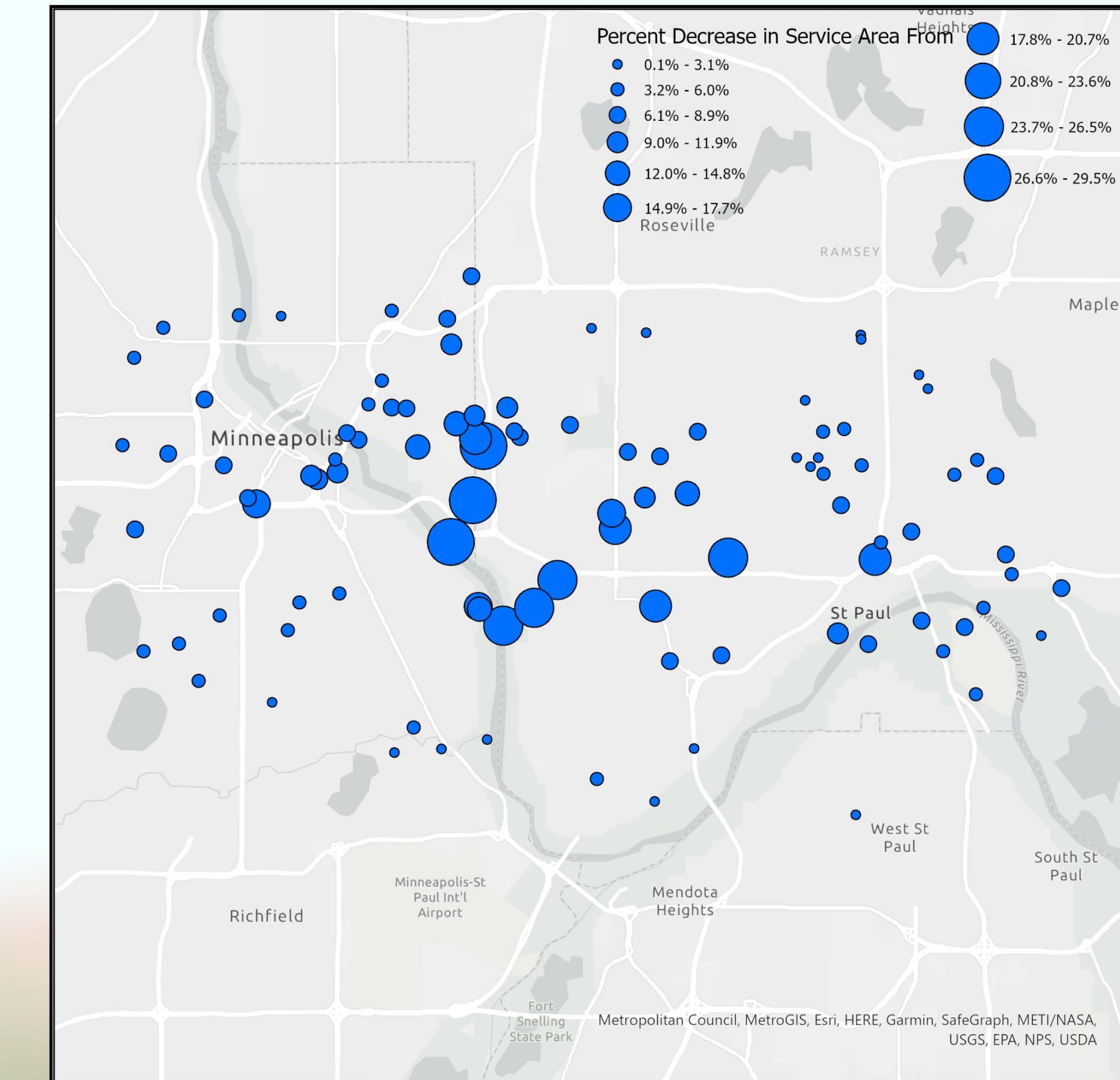
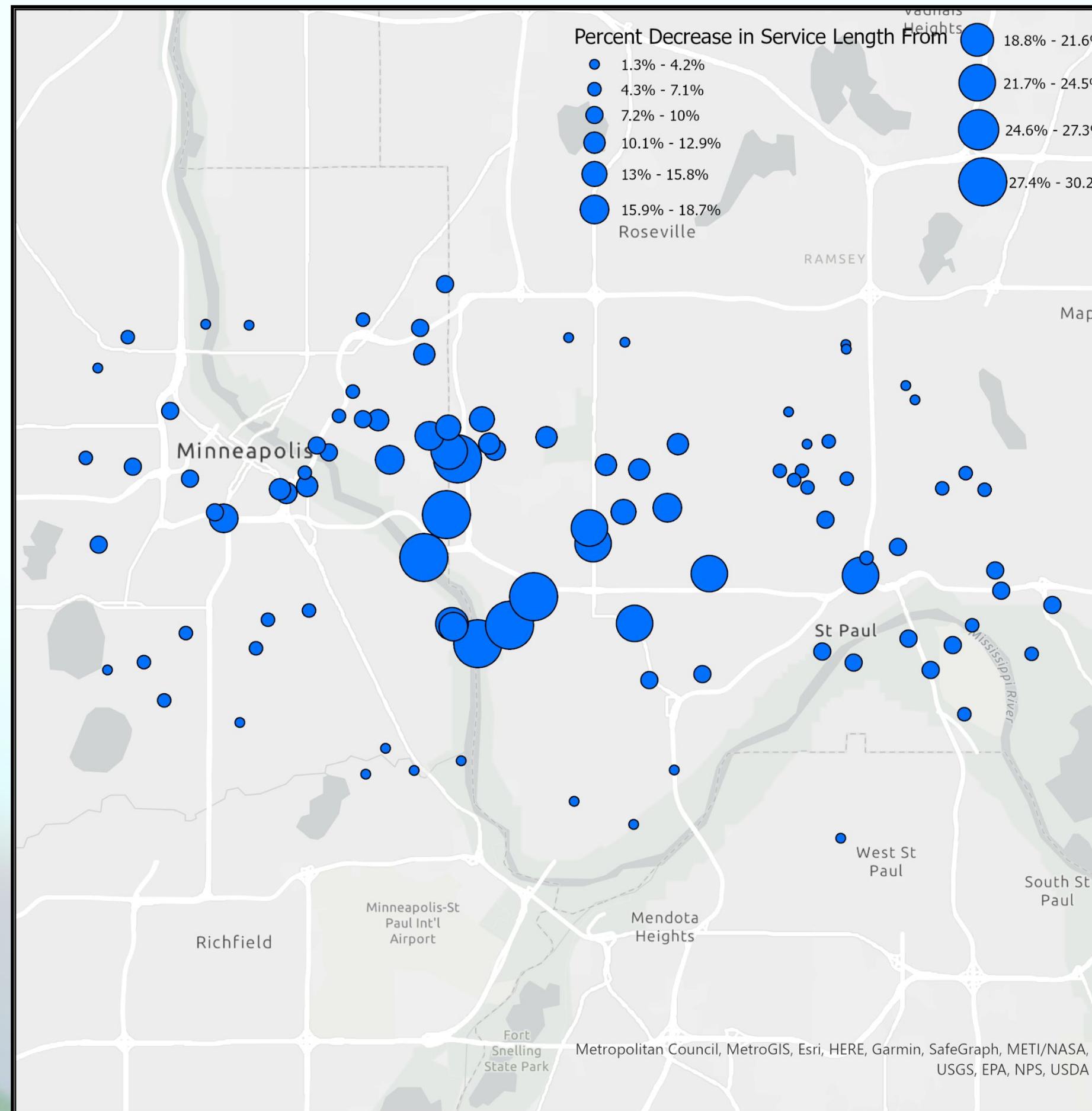
# Results



# Results



# Results



# Results

From

Average loss in the service area:  
**22.16** square miles.

Average loss in service length:  
**376.87** miles.

Average percent change:      **7.86%**  
decrease in service area and **9.73%**  
decrease in service length.

To

Average loss in the service area:  
**22.15** square miles.

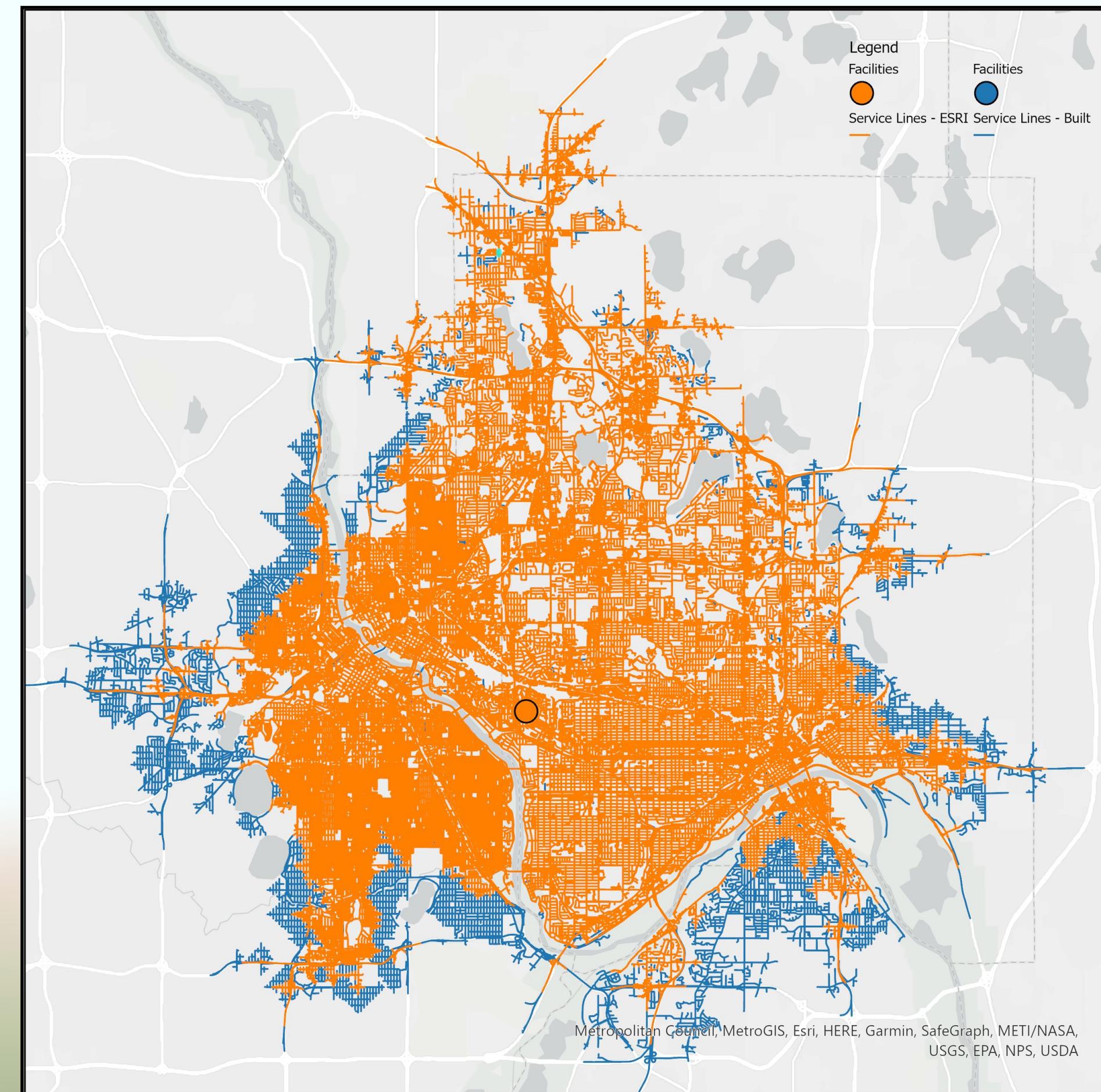
Average loss in service length was  
**368.69** miles.

Average percent change:  
**7.81%** decrease in service area and  
a **9.42%** decrease in service length.

# Results Verification

Compare 15 minute time for ESRI versus built network

Changing Speed Limits on Local Roads



# Conclusion & Future

This project produced results similar to what I expected when I set out to do this project. There will be a decrease in the service area and length for destinations or endpoints within 5 miles of the I-94 removal. I am surprised that the decrease is not higher. The highest decrease, 9.73% was for the length travelling from the points. This value not even reaching 10% is surprising to me, considering the heavy use I-94 receives today.

In the future, it would be interesting to model traffic changes and time of day. This would require more time and modeling a hypothetical traffic situation. It would also be interesting to explore different buffers and travel times.

# References

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