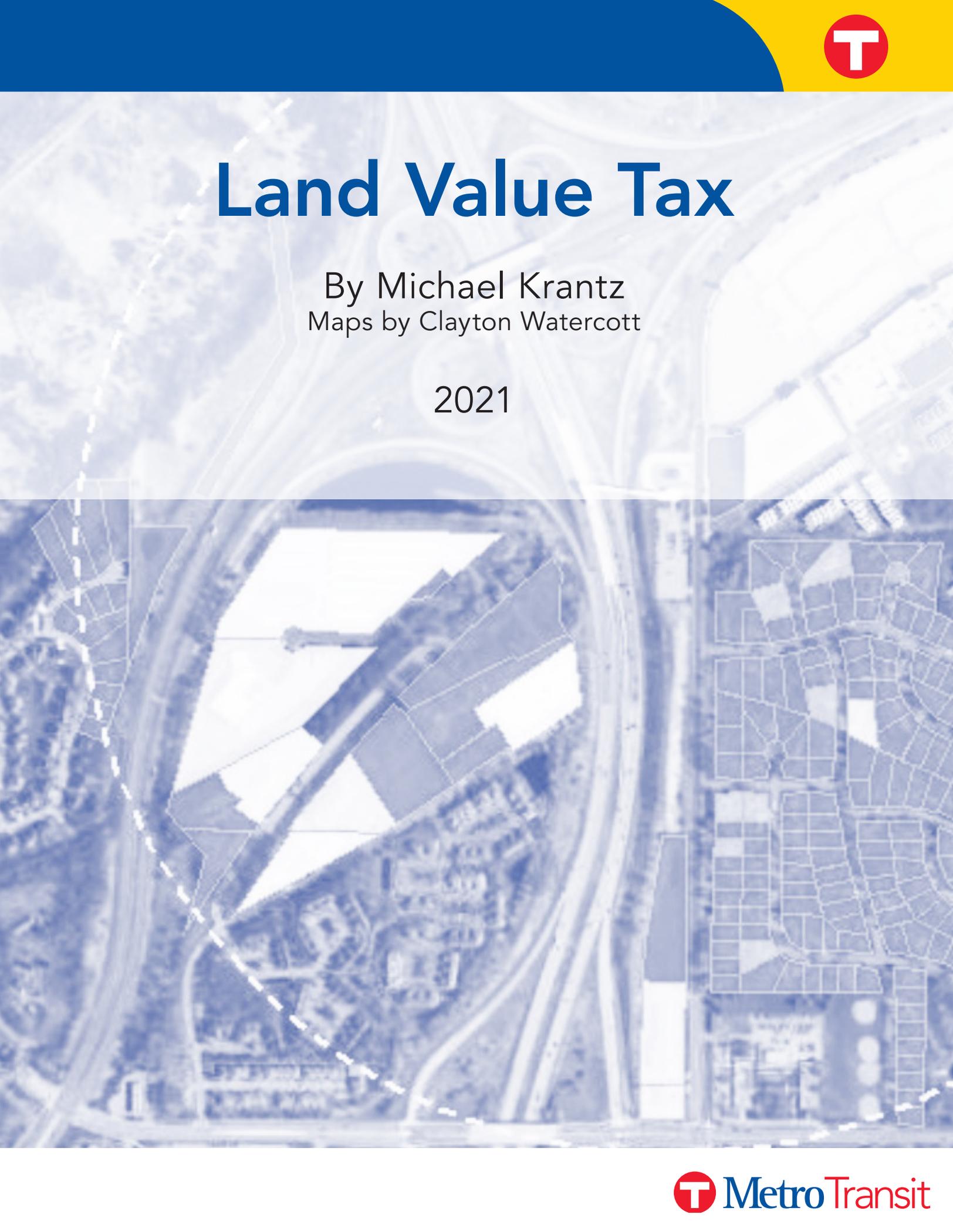




# Land Value Tax

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## Abstract

A bill (HF 338) is under consideration by the Minnesota Legislature that would permit Minnesota cities to establish land value tax districts. The bill would allow cities to shift property taxes from improvements (buildings) to land while maintaining tax revenue from the subject district. This white paper summarizes the anticipated impacts of a land value tax and examines local case studies.

The intent of a land value tax is to increase job and housing opportunities through development, improve the financial stability of local government, and improve the efficiency of infrastructure investment.<sup>1</sup> This is accomplished by reducing the taxes on development and increasing the holding costs for land speculation. In a land value tax district, landowners with the greatest incentive to develop are those that own undeveloped or under-developed land near high quality infrastructure. High quality infrastructure increases land value and therefore land value taxes. A land value tax implemented in an area with high quality infrastructure (e.g. light rail) would improve the efficiency of that investment. The strong positive relationship between land value taxes and infrastructure investment can improve the financial stability of local government.

Several cities in Pennsylvania have implemented a hybrid land value tax. In this system, the tax on improvements is lower than the tax on buildings. The cities that implemented the land value tax saw an increase in development activity relative to peers that did not implement the tax. These cities also weathered economic downturns better than peer cities. Similarly, San Francisco implemented a land value tax after an earthquake destroyed a significant portion of the city in 1906. The city quickly rebuilt in a compact form even without federal disaster relief.<sup>2</sup>

To evaluate the impact of a land value tax locally, several sample districts were studied. These districts include transit served areas in Minneapolis, Hopkins, Brooklyn Center, Coon Rapids, Maplewood, Woodbury, Cottage Grove and

Cedar Grove. In each of these case studies, the land value tax was implemented using the methodology proposed by the Minnesota legislature. We made the following observations from these case studies:

1. A land value tax would incentivize a more productive use of vacant and under-developed parcels.
  - a. Taxes increase most on underutilized parcels.
  - b. Taxes decrease most on parcels with a high ratio of building value to total value (total value = land value + building value).
2. A land value tax encourages a more efficient use of public infrastructure investments.
  - a. Land value is highest near high quality public infrastructure and amenities.
3. The land value tax could improve equity.
  - a. In Case Study #1, property taxes generally decrease in areas of concentrated poverty.
  - b. The land value tax paired with the Minneapolis affordable housing policy could have the effect of encouraging the development of new affordable housing.

Several factors need to be considered before a land value tax is implemented. First, land values should be updated to reflect the fair market value for land. New Zealand, which allows most local governments to levy land value taxes, has established a model for determining the value of land. In the current tax system, the allocation of value to buildings and land does not matter since the tax rate is applied equally to both. Municipalities should also consider the impact of a district on industrial and single-family residential development.

1 "Assessing the Theory and Practice of Land Value Taxation, Dye, Richard F, and Richard W England. "Land Value Taxation: Theory, Evidence, and Practice, Edited by Richard F. Dye and Richard W. England." Lincoln Institute of Land Policy: Policy Focus Report, 2010. [lincolninst.edu/sites/default/files/pubfiles/assessing-theory-practice-land-value-taxation-full\\_0.pdf](http://lincolninst.edu/sites/default/files/pubfiles/assessing-theory-practice-land-value-taxation-full_0.pdf).

2 "Land Value Tax" (Strong Towns), accessed July 14, 2020, [strongtowns.org/landvaluetax](http://strongtowns.org/landvaluetax).

## Land Value Tax Benefits

The intent of a land value tax is to encourage the development of job and housing opportunities, improve the financial stability of local government, and improve the efficiency of infrastructure investment. This is accomplished by reducing the tax “penalty” associated with improving property while increasing the holding costs for land speculation.

The current property tax system in Minnesota (and in most jurisdictions across the country) involves appraising the value of land and improvements on a lot and applying a tax rate uniformly to both the land and improvements. In this system, the property taxes collected on a vacant or underutilized parcel are relatively low while the property taxes on an adjacent parcel with equal land value and significant improvements would be much higher (see Figure 1 below). A drawback of this system is that it penalizes and discourages development by increasing

taxes when a property is improved. The properties paying the highest taxes are also the properties that tend to provide the most job and housing opportunities. The properties paying the lowest tax provide little or no job or housing opportunities, but they still benefit from proximity to the same infrastructure investment. This system can discourage the productive use of land and infrastructure.

Figure 1 provides a scenario with four adjacent parcels of equal size and value and with equal access to quality infrastructure. In this scenario, lots 1 and 2 are vacant and have no building value. Lots 3 and 4 have significant building value relative to land value. Consequently, Lots 3 and 4 pay significantly higher taxes even though each lot benefits from equal access to infrastructure investment. In this way, lots 3 and 4 are subsidizing the costs of the infrastructure investment for lots 1 and 2.

LOT 1		LOT 2	
Land Value	\$10,000	Land Value	\$10,000
Building Value	\$0	Building Value	\$0
Land Tax Rate	10%	Land Tax Rate	10%
Building Tax Rate	10%	Building Tax Rate	10%
Tax	\$1,000	Tax	\$1,000
LOT 3		LOT 4	
Land Value	\$10,000	Land Value	\$10,000
Building Value	\$40,000	Building Value	\$90,000
Land Tax Rate	10%	Land Tax Rate	10%
Building Tax Rate	10%	Building Tax Rate	10%
Tax	\$5,000	Tax	\$10,000

*Figure 1: This figure provides an example of how the current tax system would apply taxes to four comparable lots of equal size and with equal access to infrastructure. The parcels with higher building value pay higher taxes.*

In a land value tax district, improvements may not be taxed at all. Instead, all tax revenue could be derived from the value of the land. The vacant parcel would incur a higher tax than it does under the existing system and

the parcel with improvements would incur a lower tax. In aggregate, the city would still receive the same tax revenue from the four lots.

LOT 1		LOT 2	
Land Value	\$10,000	Land Value	\$10,000
Building Value	\$0	Building Value	\$0
Land Tax Rate	42.5%	Land Tax Rate	42.5%
Building Tax Rate	0%	Building Tax Rate	0%
Tax	\$4,250	Tax	\$4,250
LOT 3		LOT 4	
Land Value	\$10,000	Land Value	\$10,000
Building Value	\$40,000	Building Value	\$90,000
Land Tax Rate	42.5%	Land Tax Rate	42.5%
Building Tax Rate	0%	Building Tax Rate	0%
Tax	\$4,250	Tax	\$4,250

*Figure 2: This figure provides an example of how a land value tax district would apply taxes to the lots described in Figure 1. The tax liability for each parcel is equal based on equal land value.*

This land value tax system discourages land speculation by increasing the holding costs of land and by reducing taxes associated with development. This encourages landowners and developers to make productive use of valuable land near high quality infrastructure, which creates a positive feedback loop between infrastructure

investment and tax revenue. A further advantage of this system is that land cannot be relocated. High taxes on building value may encourage a developer to relocate a development to a jurisdiction with lower taxes. This displacement of development does not happen in a land value tax system.

## Methodology

The process for evaluating a land value tax district as established by the proposed legislation can be very simple. Cities may determine if and where to establish land value tax districts and they may elect to exclude land uses as necessary. Cities also have some discretion regarding how to reallocate property taxes within the district. For the sake of simplicity, this white paper assumes property taxes are derived entirely from the land value. A more detailed description of calculations can be found in the Appendix B. The process can be quickly performed for most districts in the Twin Cities region with existing county parcel records.

Per the proposed legislation, the revenue collected from a land value tax district must equal the revenue that would be collected if the land value tax district did not exist. This condition establishes the following steps for determining the new land value tax for each parcel.

1. Sum the current property tax revenue from every parcel in the district. (Total Property Tax Revenue)

2. Sum the assessed land value from every parcel in the district. (Total Land Value)
3. Divide the Total Property Tax Revenue by the Total Land Value. (Land Value Tax Rate)
4. Multiply the assessed land value for each parcel by the Land Value Tax Rate.

The case studies in Appendix A show the impact land value tax district would have on the property taxes for each parcel. This impact was determined with the following calculations.

1. Subtract the current property tax for each parcel from the anticipated land value tax for each parcel. (Property Tax Change)
2. Divide the Property Tax Change for each parcel by the current property tax for each parcel. (Percent Property Tax Change)

# Results

Based on the findings of the case studies, the proposed land value tax district system has the potential to affect multiple outcomes. Most notably, the proposal has the potential to encourage economic development, which is the primary intent of the policy. It also has the potential to

maximize infrastructure investment and advance equity. The scope of these secondary impacts is influenced by the way a land value tax district is implemented. See Appendix A for an exhibit of each of the land value tax district case studies.

## 1. Encourage Economic Development

In every case study, property taxes on parcels with little or no building value increase while parcels with significant building value experience a decrease in property taxes. As discussed above, this will incentivize the owners of vacant

and under-developed parcels to develop those parcels or sell them to a developer by increasing the holding costs of land and decreasing taxes associated with development.



Figure 3: This exhibit provides an example of parcels from Case Study 7. The parcel shown in green has relatively high building value and would incur a reduced property tax in a land value tax district. The parcel shown in red has zero building value and would incur an increased property tax in a land value tax district.

The chart below shows the relationship between the land value tax impact (increase/decrease) and the ratio of building market value to total market value on a parcel for

the high frequency transitways in Minneapolis. As building value becomes a smaller percentage of total value (land value + building value), taxes increase.

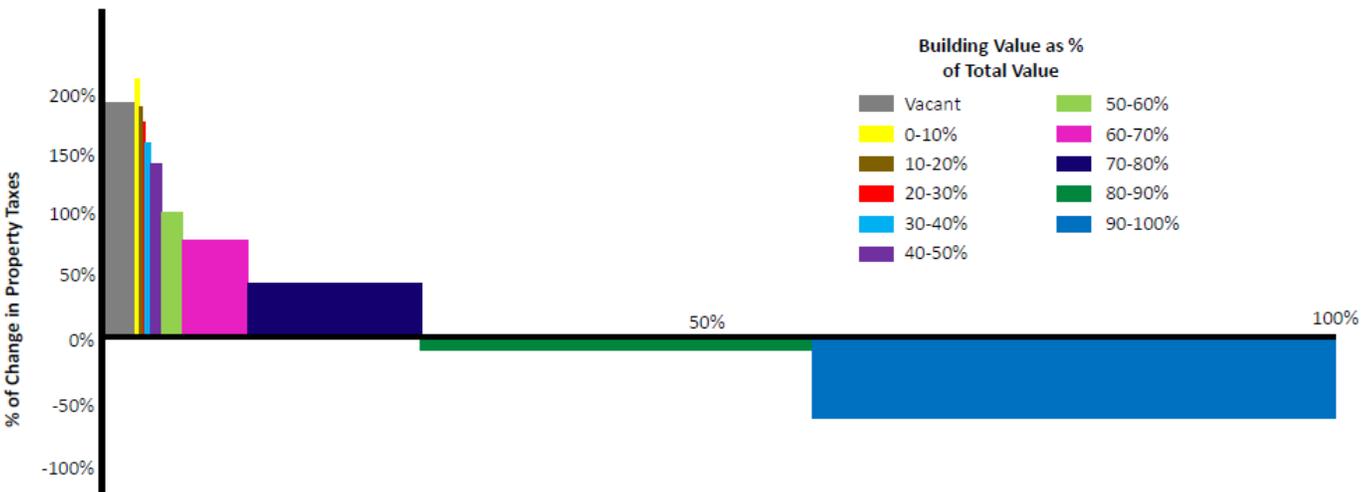


Figure 4: This figure depicts the relationship between building value as a percent of total value and the percent change in property taxes from Case Study 1. Properties are divided into categories based on the ratio of building value to total value (land + building). The width of each category reflects the proportion of parcels that fall in that category. As is evident from the chart, building value accounts for over 80% of total value for most parcels and most parcels will experience a reduction in property taxes.

## 2) Maximize Infrastructure Investments

Land values tend to be highest in areas adjacent to high-quality amenities and infrastructure, which means that land value taxes in these areas will be higher as well. Development pressure will also be greatest on

vacant and under-developed parcels near high-quality infrastructure, which will result in a more efficient use of this infrastructure over the long-term. The exhibit below shows how land values vary by location in Minneapolis.

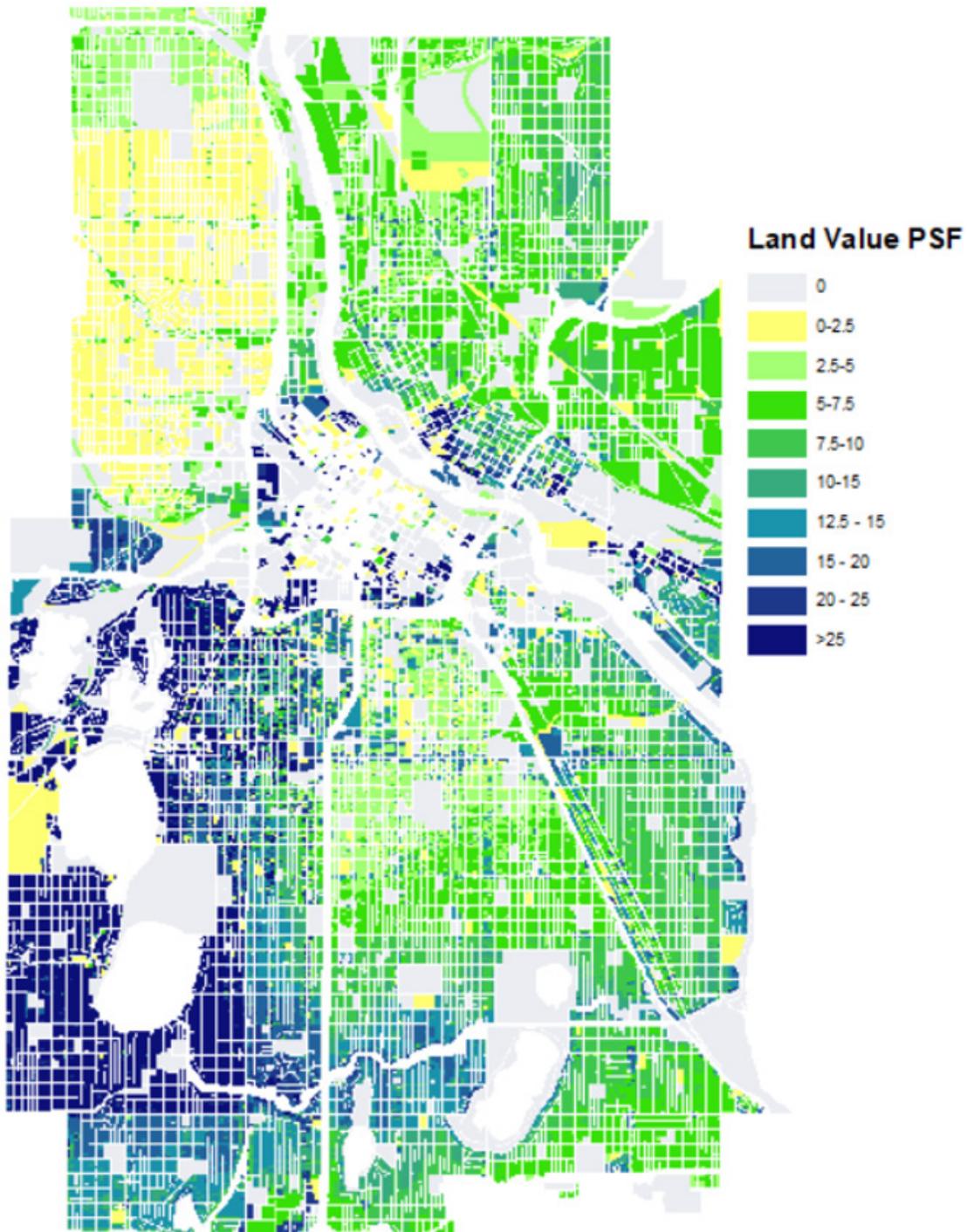


Figure 5: This figure depicts estimated land value per square foot in Minneapolis. Land values tend to be higher near amenities and infrastructure.

Importantly, public assessors may need to develop a new approach to land valuation for a land value tax to work effectively and equitably. In several case studies, assessed land values appear to be divorced from location and size.

See the Implementation Considerations section below for additional details. New Zealand has developed an effective model for accurately determining land value.

### 3) Advance Equity

In some cases, land value tax districts can be a tool for advancing equity. The figure below highlights neighborhoods in Minneapolis that have been designated as areas of concentrated poverty.

These areas tend to have high building-to-land value ratios and could therefore experience a reduction in property taxes within a land value tax district. (See Figure 7)

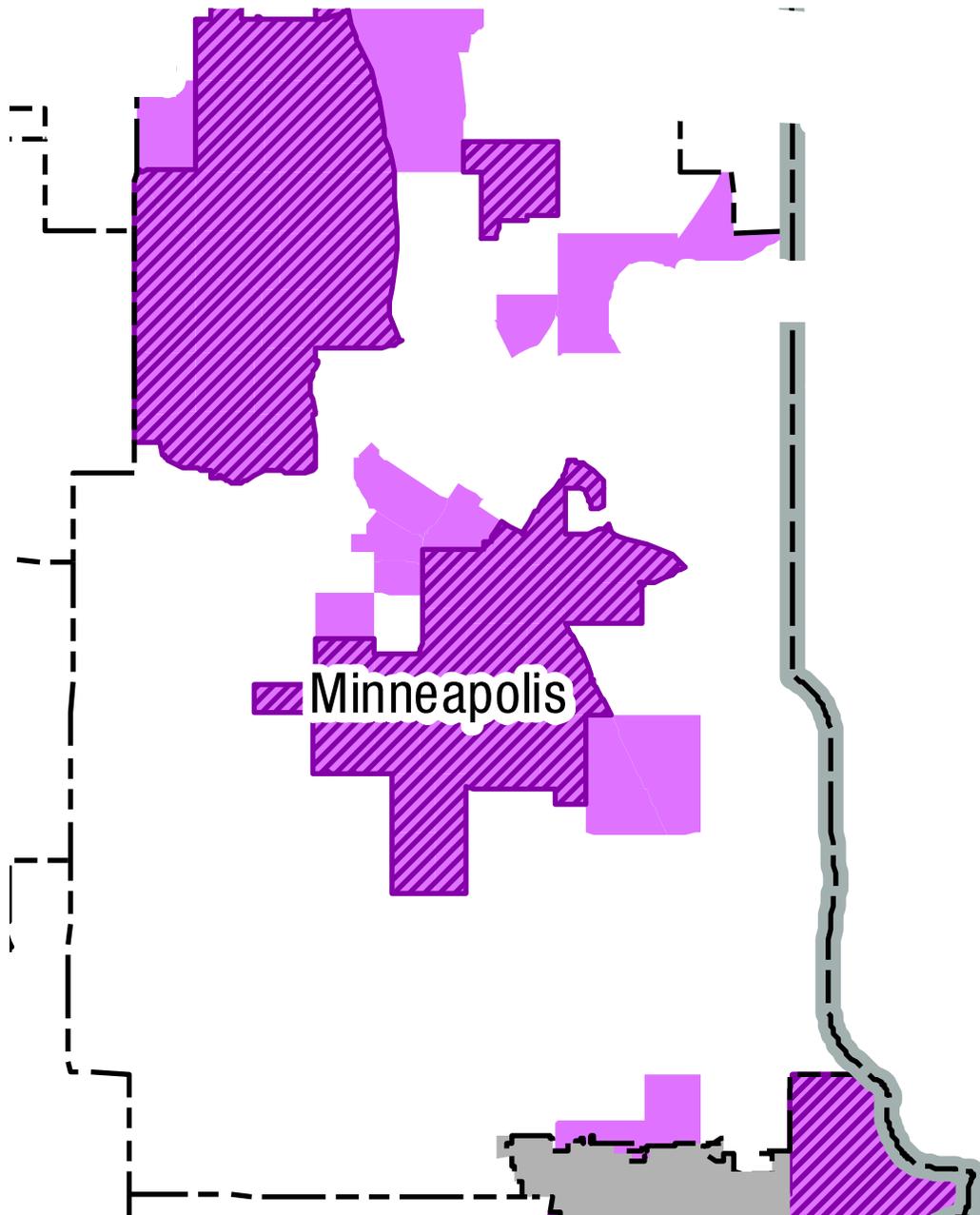


Figure 6: This figure depicts areas of concentrated poverty in Minneapolis.

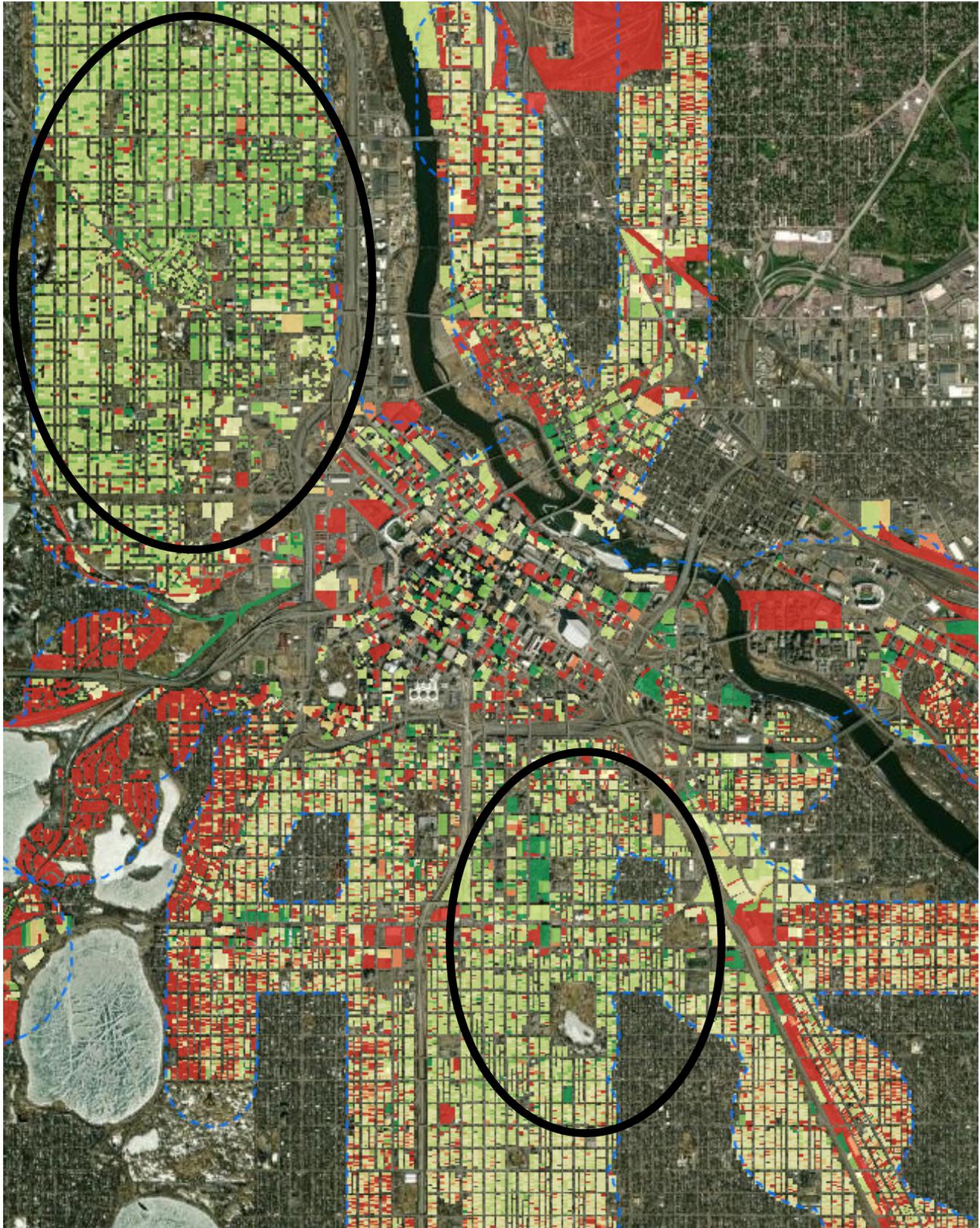


Figure 7: The areas outlined in black correspond with two areas of concentrated poverty identified in Figure 6. These areas could generally see a reduction in property taxes under a land value tax system. See Case Study 1 for more detail.

Land Value Taxes also have the potential to improve the financial feasibility of multi-family housing that is required to comply with inclusionary housing policies like the Unified Housing Policy adopted by the City of Minneapolis.

The 2020 data provided in Figure 8 is from a luxury multi-family development located in Minneapolis. Apartments in this building achieve some of the highest average rents in the region. Existing developments like this are not required to comply with the current Unified Housing Policy, but new developments are. If a new development comparable to this development were built in a land value tax district like Case Study 1, the revenue reduction due to affordable rents could be less than the property tax savings achieved from implementation of a land value tax district. As can be seen in the figure below,

if a new development comparable to this development lowered their rents to meet affordable rent at 60% AMI for 8% of their units as required by the Uniform Housing Policy they would collect \$250,000 less in rent each year. However, if a land value tax district were implemented like the district considered in Case Study 1 below, the property tax liability for a development comparable to this development would decrease by over \$400,000. Thus, implementation of a land value tax district may allow developers to satisfy inclusionary housing requirements and achieve market returns with no public subsidy. Importantly, this scenario only applies to developments entitled after the current Unified Housing Policy was adopted. Pre-existing developments like this development are not required to comply with the current Unified Housing Policy.

	# Units	Average Effective Rent	Affordable rent (60% AMI)	Average Annual Discount for 1 Unit	# Affordable Units (8% of Units)	Annual Rent Discount for Affordable Units by Size
<b>Studio</b>	100	\$1,529	\$1,086	\$5,316	8	\$42,528
<b>1 Bed</b>	100	\$2,320	\$1,164	\$13,872	8	\$110,976
<b>2 Bed</b>	74	\$3,033	\$1,396	\$19,644	5	\$98,220
<b>3 Bed</b>	6	\$5,036	\$1,613	\$41,076	0	–
					<b>Total Annual Discount</b>	<b>\$251,724</b>

Figure 8: This table depicts the rent discount that a new development would be required to provide for affordable housing units to comply with the Minneapolis Unified Housing Policy. These values reflect 2020 rents for an existing luxury development in Minneapolis. Existing developments are not required to comply with the Unified Housing Policy.

## Implementation Considerations

Several factors must be considered before a land value tax district is implemented. These factors may influence the ultimate impact of a district.

### 1. Land Value Assessments

In every local case study, questions arose regarding the accuracy of the land value assessments.

In some case studies, a uniform land value was assigned to parcels regardless of parcel size or location.



*Figure 10: This figure provides an example of land values that appear to be independent of property size and location. Many similar examples can be found across the Twin Cities region. A new method of appraising land may be required in order to effectively implement a land value tax district. Because the current tax system applies taxes equally to land and buildings, the allocation of value between buildings and land is not important.*

Implementation of a land value tax district may require a new approach to the assessment of land value. Without this, a land value tax district will not distribute

taxes equitably and it may not encourage economic development or effective use of infrastructure investment.

## 2. Industrial Development Displacement

Case Study 1 includes multiple areas zoned for industrial development. A land value tax district had the general effect of increasing property tax liability in some industrial areas within this district. This may encourage industrial developments to relocate away from the district,

which may have a negative effect on municipal goals. Importantly, a land value tax district does not have a uniformly negative impact on industrial land uses. Not all industrial areas were negatively impacted by land value tax district.



*Figure 11: This figure depicts the potential impact of implementing a Land Value Tax District on industrial land uses from Case Study 1 in Minneapolis. The parcels outlined in black are generally designated as an industrial land use and many of these parcels may experience a significant increase in property taxes if a land value tax district is created like the district considered in Case Study 1.*

First, a municipality should update their land assessments to confirm these values reflect fair market values. If the updated values continue to raise concerns that industrial development may be displaced, a

municipality may elect to exclude industrial land uses from the district. In this scenario, industrial parcels would continue to pay taxes under the conventional tax system or within an industrial specific land value tax district.

### 3. Single Family Displacement

In those case studies with a single-family zone adjacent to a high-value commercial zone, it was observed that taxes for the single-family lots generally increased while

property taxes for the commercial parcels decreased. This could cause the displacement of single-family residents.



Figure 12: This figure depicts the potential impact of implementing a Land Value Tax District on a single-family residential zone adjacent to a high-value commercial district in Cedar Grove (Case Study 10). In this land value tax district, the property taxes on the commercial parcels would diminish and the property taxes on the single family lots would increase significantly.

First, a municipality should update their land valuations to confirm these values reflect fair market values. If the updated values continue to raise concerns that single family residents may be displaced, a municipality may elect to create two

land value tax districts that bifurcate the commercial and residential zones. Alternatively, a municipality may elect to explore larger and more comprehensive districts more evenly distribute the impact on property taxes.

### 4. Other Impacts

Implementation of a land value tax district may cause additional impacts that are not reflected above. In each case, the land values should be reviewed and updated if

necessary before evaluating the potential impact of a land value tax district.

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## CONCLUSION

Land value tax districts can encourage economic development within the district. As is evident from the case studies, a land value tax district increases property taxes on parcels with low or no building value and reduces property taxes on property improvements, which is likely to encourage development on underdeveloped parcels. These districts can also advance equity and improve the effectiveness of infrastructure investment in certain conditions.

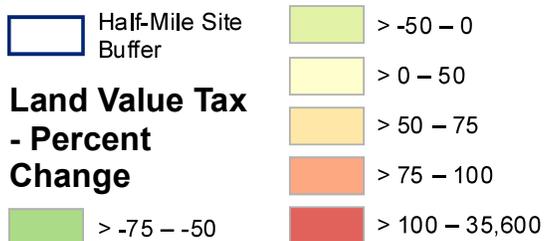
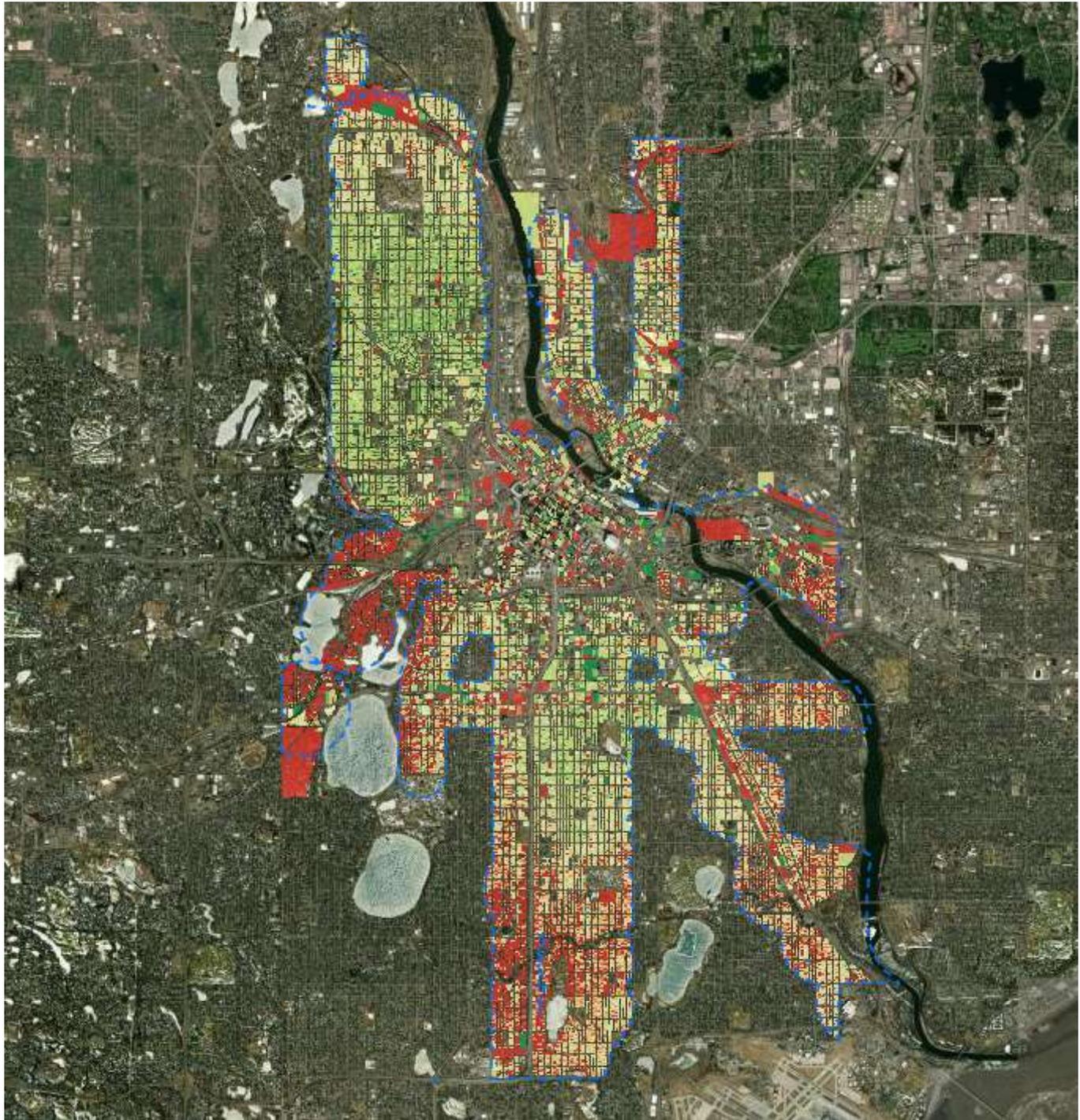
When exploring implementation of a land value tax district it may be necessary to develop a new method

for assessing land. In the current system, the allocation of value between buildings and land is relatively unimportant. It is important that land assessments be accurate in order for a land value tax district to be effective. New Zealand has developed a model for accurately assessing the value of land.

It is also important that potentially negative impacts to industrial development and single-family residential areas are considered before a district is implemented. These negative impacts can be mitigated by adjusting the limits of a district or by excluding certain land uses.

## Appendix A: Case Studies

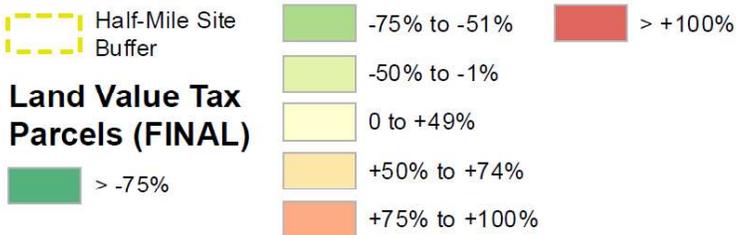
### Case Study 1: High-Frequency Transit Minneapolis



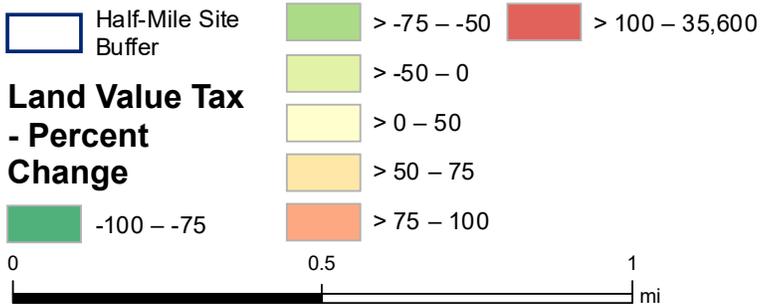
## Case Study 2: Downtown Minneapolis



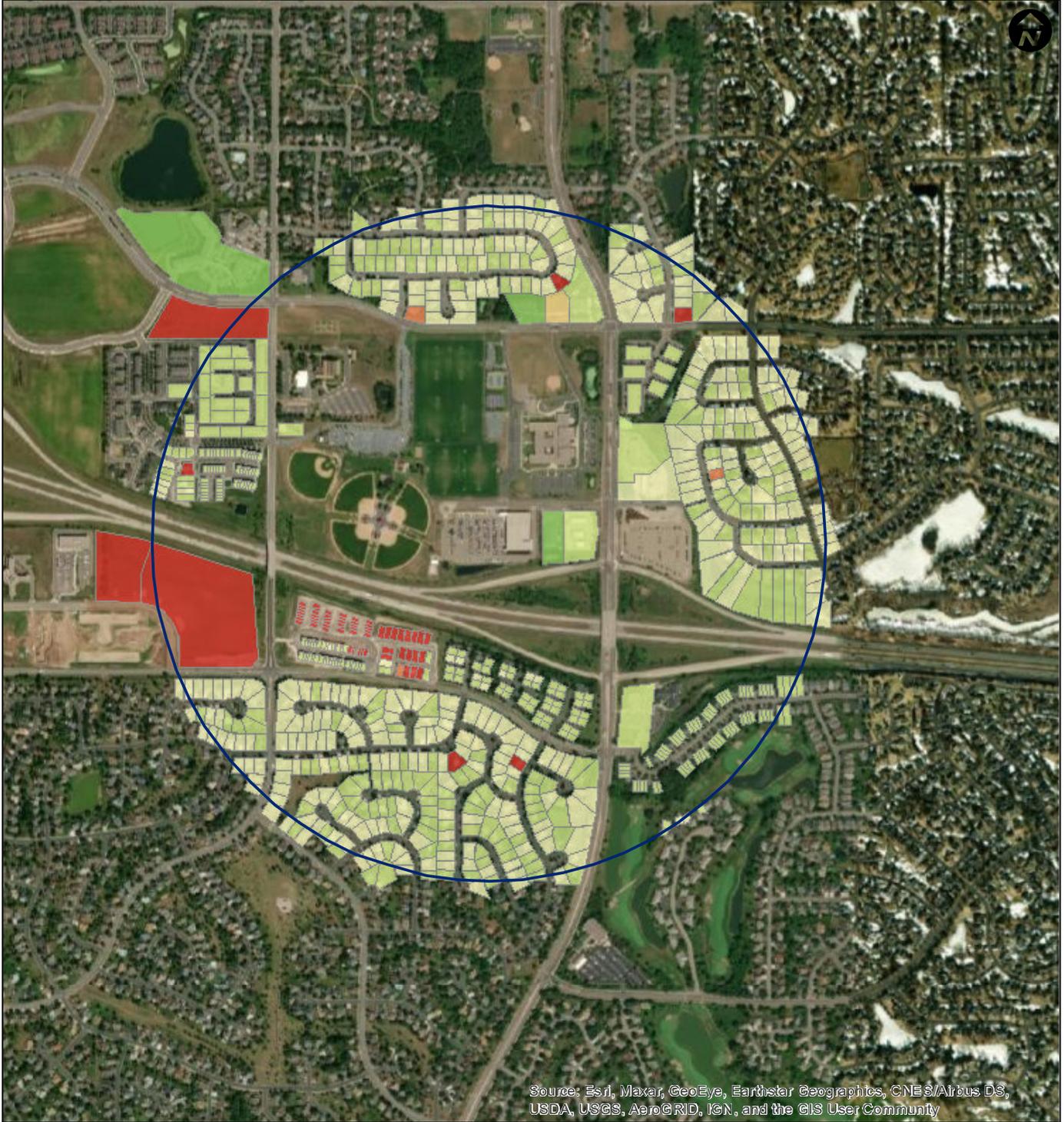
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



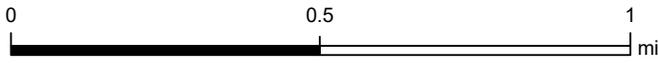
### Case Study 3: Coon Rapids-Riverdale Station



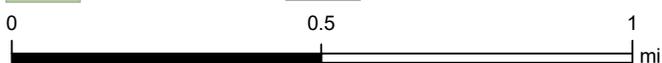
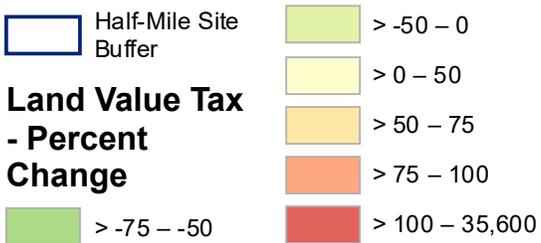
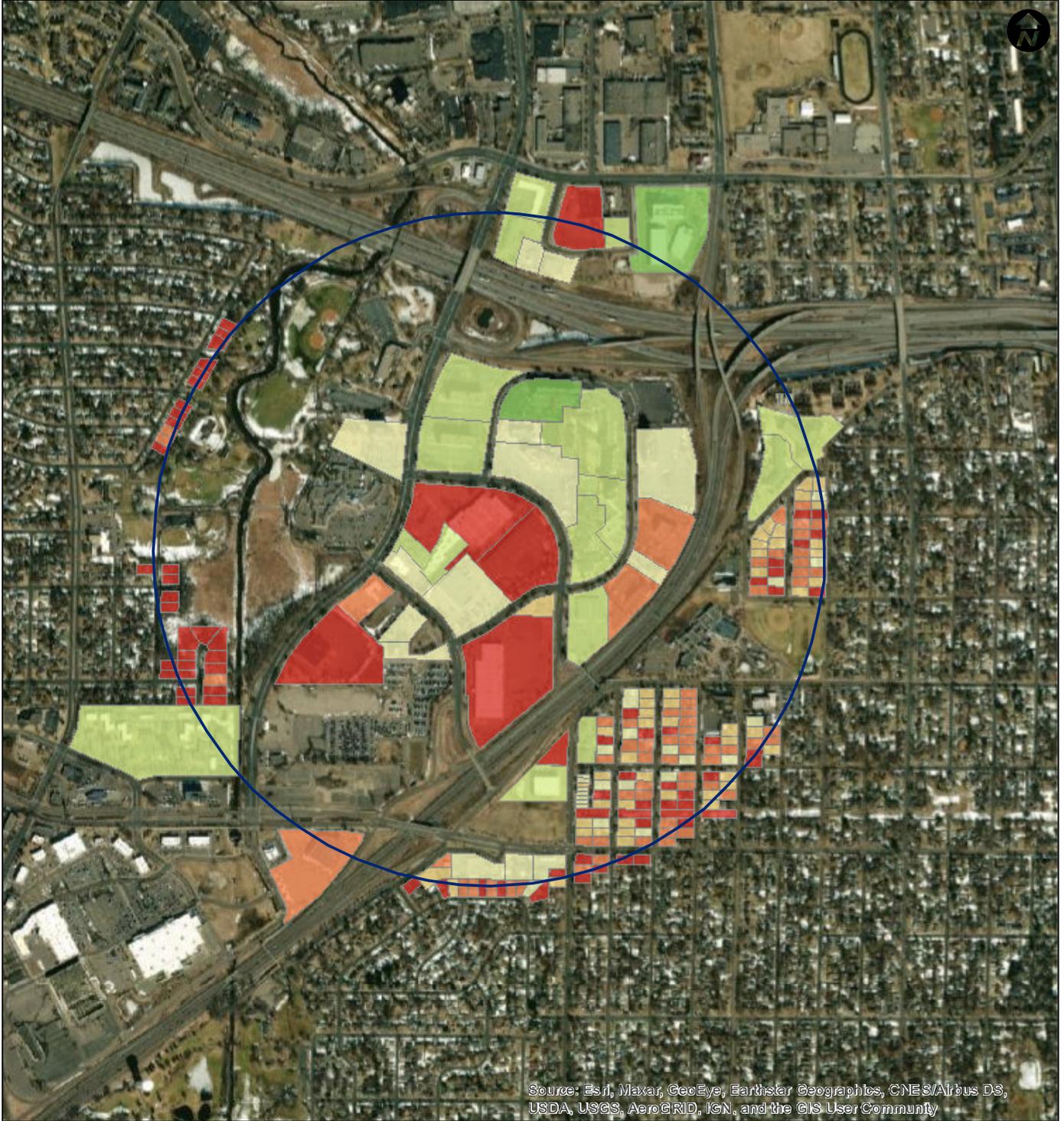
# Case Study 4: Hwy 610 and Noble Pkwy P&R



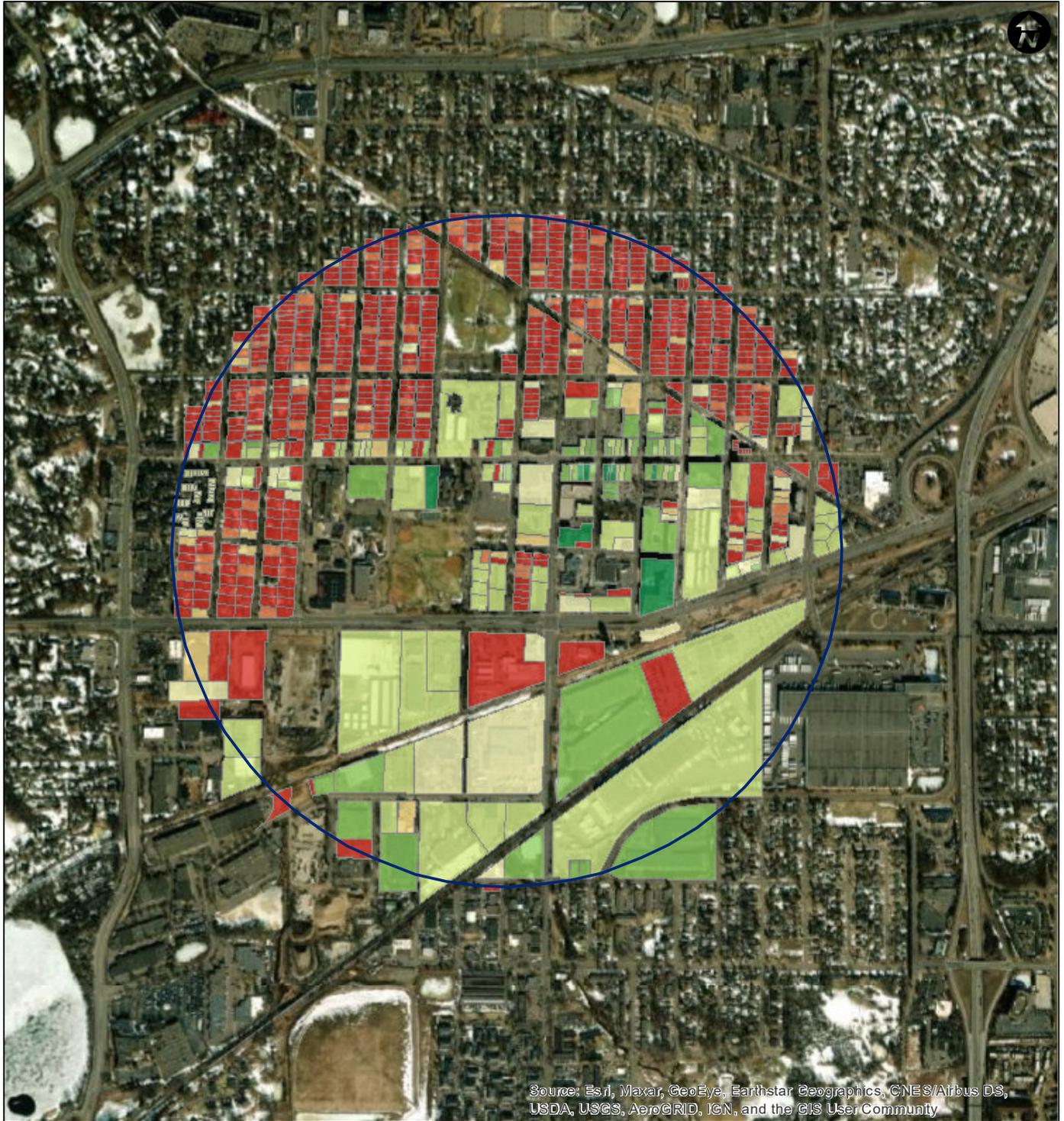
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



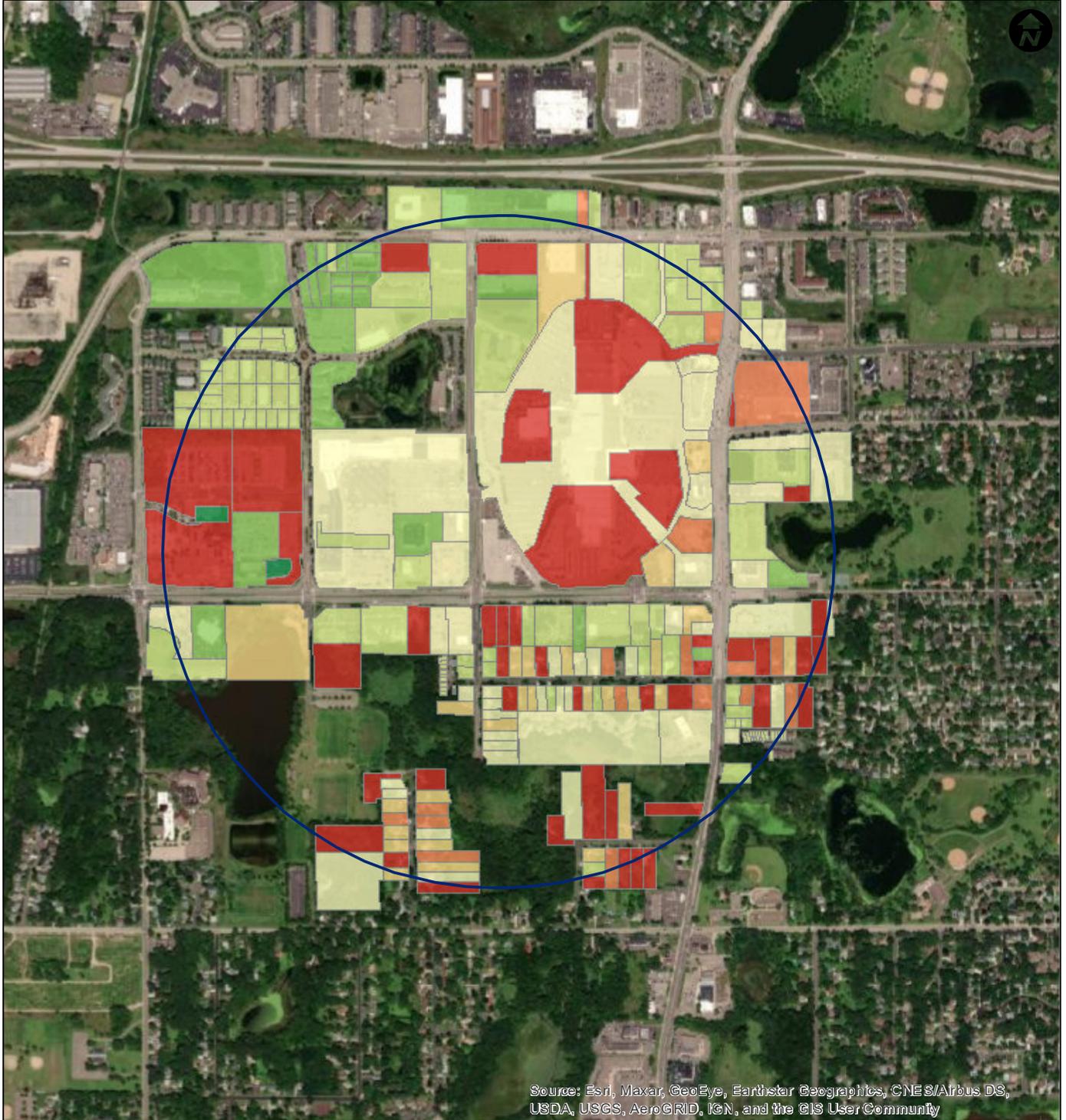
# Case Study 5: Brooklyn Center Transit Center



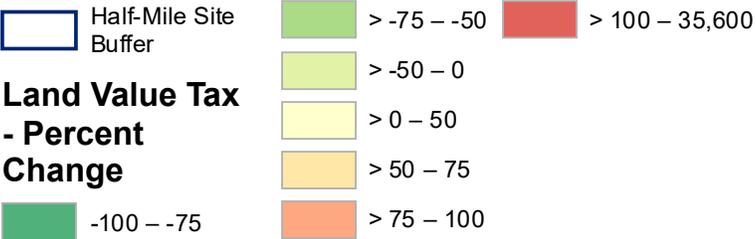
## Case Study 6: Downtown Hopkins



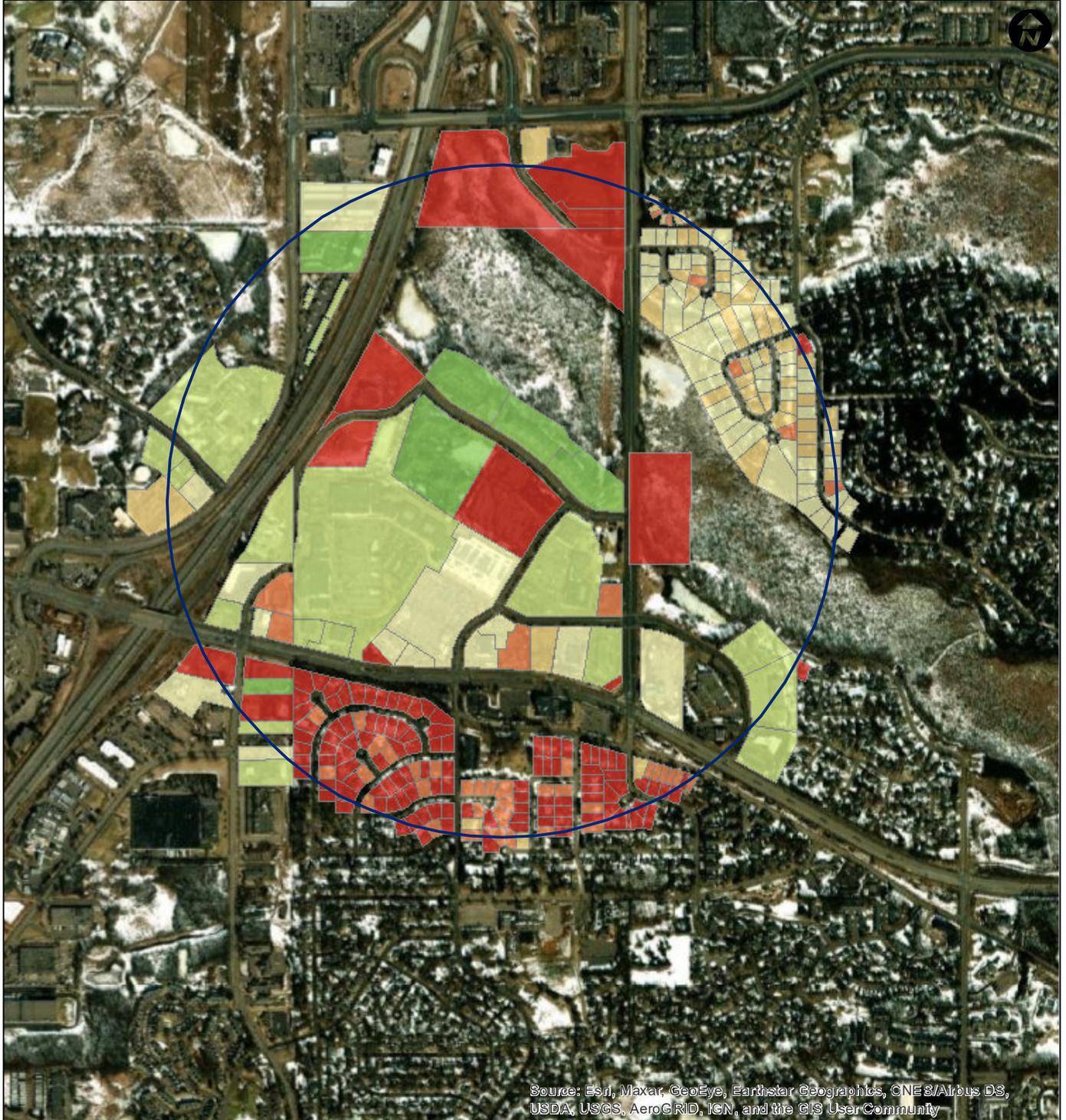
# Case Study 7: Maplewood Transit Center



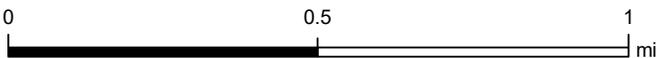
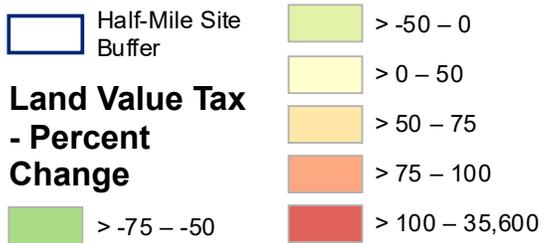
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



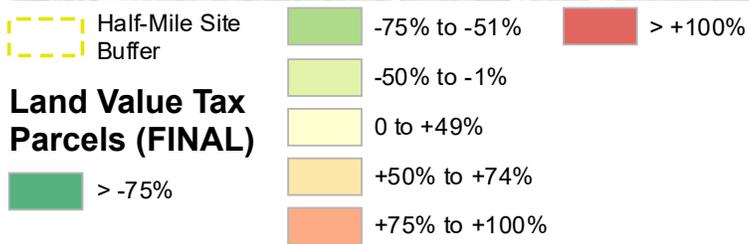
# Case Study 8: Woodbury Theater P&R



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



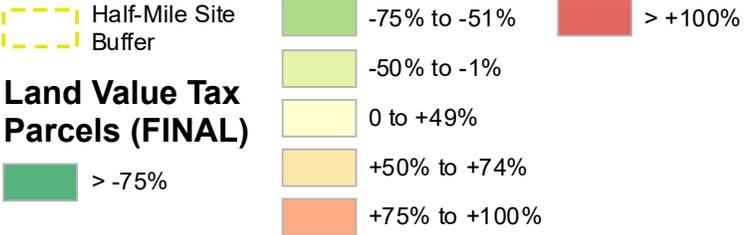
# Case Study 9: Cottage Grove P&R



# Case Study 10: Cedar Grove Transit Station



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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## Appendix B: Land Value Tax Rate Methodology

Per the proposed legislation, the revenue collected from a land value tax district must equal the revenue that would be collected if the land value tax district did not exist.

$$\text{Tax Revenue}_{\text{DISTRICT, CURRENT}} = \text{Tax Revenue}_{\text{DISTRICT, LAND VALUE TAX}}$$

This calculation assumes that taxes within the land value tax district are derived entirely from the value of land after the district is created. This approach results in the simplest tax system. A city may elect to implement a hybrid system, which would result in a different calculation.

$$\text{Tax Revenue}_{\text{DISTRICT, LAND VALUE TAX}} = \sum \text{Land Value}_{\text{DISTRICT}} * \text{Land Value Tax Rate}_{\text{DISTRICT}}$$

This allows us to establish the following formula:

$$\text{Tax Revenue}_{\text{DISTRICT, CURRENT}} = \sum \text{Land Value}_{\text{DISTRICT}} * \text{Land Value Tax Rate}_{\text{DISTRICT}}$$

In this formula, we know the current tax revenue from the potential land value tax district (whatever district that might be) and the assessed value of the land within the district. Using this information, we can calculate the necessary Land Value Tax Rate within the district:

$$\text{Land Value Tax Rate}_{\text{DISTRICT}} = \frac{\text{Tax Revenue}_{\text{DISTRICT, CURRENT}}}{\sum \text{Land Value}_{\text{DISTRICT}}}$$

Once the land value tax rate has been calculated, we can calculate the new tax for each lot in the land value tax district using the formula below:

$$\text{Tax Revenue}_{\text{PARCEL}} = \text{Land Value}_{\text{PARCEL}} * \text{Land Value Tax Rate}_{\text{DISTRICT}}$$