

## Section 02

# Transportation

Currently in Edina:



**41.1%**

of City-Wide GHG emissions in 2019 are from transportation



**581,109,000**

Vehicle Miles Driven in 2019



**78%**

Commuters drive alone



**3.3%**

Commuters use public transit



**357**

Electric vehicles currently registered



[Click here to return to TOC](#)

# Transportation and Land Use

Moving ourselves and our goods and services from place to place is very energy intensive while the vehicles we use for that mobility are very material resource intensive. In addition to transportation vehicles, off-road construction, recreational and lawn equipment also consume significant amounts of fossil fuels for their operation.





Equipment and transport systems have significant impacts on the environment, accounting globally for 20% to 25% of world energy consumption and carbon dioxide emissions. In Edina, the transportation and land use sector accounts for 40.9% of citywide GHG emissions and are projected to increase as the electricity sector moves to more renewable energy sources.

Many options exist for improving the sustainability of our transportation systems while improving quality of life and equity. Increasing shared transportation while decreasing use of single-occupancy vehicles significantly reduces the environmental impacts of transportation. Alternative transportation modes like bicycles, eBikes, and scooters can also increase opportunities for exercise while reducing air pollution. Lastly, studies indicate that recent advances in electric vehicles, car-sharing technologies and the potential for self-driving vehicles underline a much more sustainable usage of car assets that could remove up to 90% of the vehicles from the streets while enhancing mobility options.

## Equity Considerations

- Increased opportunities for public transit and active transportation can help address health disparities for many at-risk populations.
- Affordable and reliable mobility options for people with special transportation needs can significantly improve transportation equity. Populations with special transportation needs include older adults, youth, persons with disabilities, and persons with reduced incomes.
- Some neighborhoods in Edina have fewer housing and transportation options than others. This can limit people’s choices in where they live and how they get to work or other activities. Households that rely on public transit service or who rent their home will be limited in where they may find housing that meets both needs.

## Sector Goals

	Edina Transit Use	Vehicle Miles Traveled	Population / Acre	Electric Vehicles
Today <sup>9</sup>	 3.3%	 581 million	 8.8 people/acre	 01%
2030 Targets	6.6%	540 million	9.2 people/acre	25%



The strategies on the following pages guide our path in meeting our climate goals for the Transportation and Land Use sector. Each strategy is supported by a series of detailed actions to be explored and undertaken in order to carry out the vision and goals. See Section 10 Implementation for all supporting actions.

# Transportation and Land Use

Strategy  
TL 1

## Decrease community wide VMT by 7% by 2030.

As outlined in the chart to the right, the total vehicle miles traveled (VMT) in Edina in 2019 was 581 million miles. This is an increase of 80.2 million miles, or 12.7% increase over the seven year span. Edina has also seen a steady trend in commuter modes with 78% commuters driving alone. Decreasing commuters driving alone by 6% to match the county-wide average would decrease vehicle miles traveled by up to 10 million miles. Increasing opportunities and safety of bike and walking routes to schools, retail nodes, and recreation centers can support reduced vehicle use for other types of daily trips.

See Section 10 Implementation for supporting actions.

Strategy  
TL 2

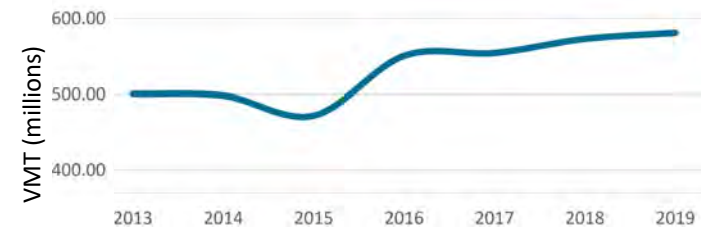
## Double public transit commuter ridership from 3.3% to 6.6% by 2030.

The map to the right illustrates the community area served by transit options and the corresponding “Performance Score”<sup>1</sup>. Areas of lighter color have higher performance scores which represent a mixture of overall trips per week, number of jobs accessible, number of weekly commuters using the transit options, and equity of transit system. Efforts to improve efficiency, convenience, frequency, and reliability of bus service, particularly in areas less well served can increase public transit ridership.

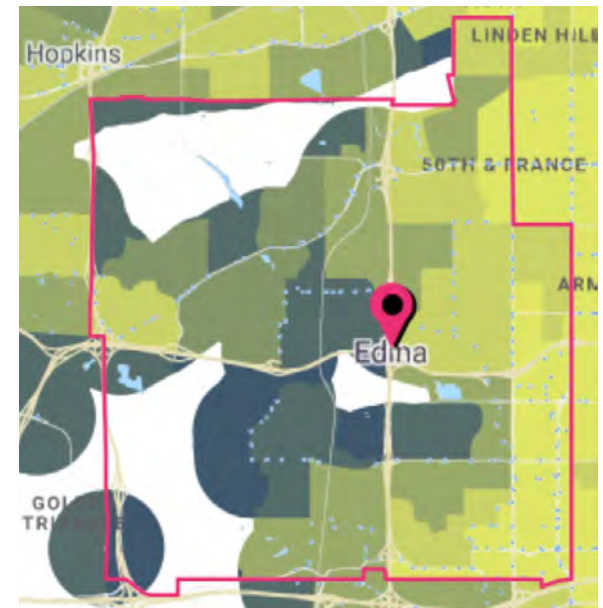
The average commute in Edina is 19.1 minutes, or approximately 16 miles. Meanwhile, AAA estimates that the cost per mile for operating a vehicle is \$0.74. Consequently, every 1% increase in commuter utilization of public transit in Edina may decrease vehicle miles traveled by 1.6 million miles, saving an estimated \$1.25 million.

See Section 10 Implementation for supporting actions.

Edina Vehicle Miles Traveled History



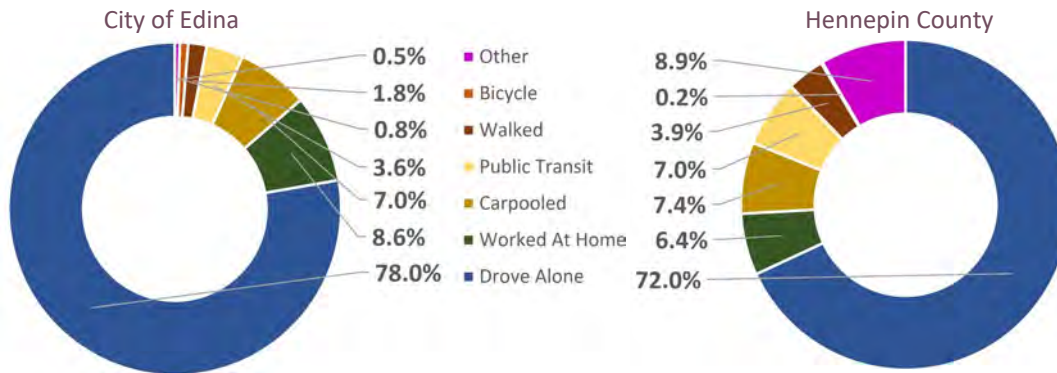
Public Transit Performance Map



Overall transit score rating at connectivity, access to jobs, and frequency of service (Source: AllTransit)



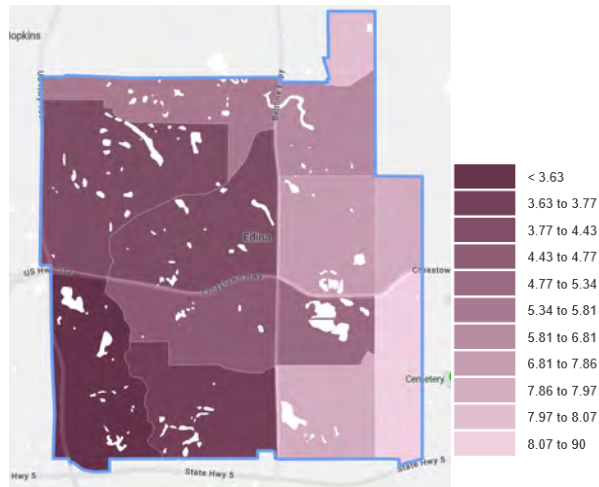
Commuter Transport Share by Mode 2018<sup>8</sup>





# Transportation and Land Use

Edina Residential Density



Strategy  
TL 3

## Increase average population per developed acre by 4% by 2030.

The city's residential land use totals 5,896 acres—57.7% of the total area of the city. This land supports a population of 51,746 for an average of 8.8 residents per residential land use acre. The city's community wide density, including all zoning districts is 5.06 residents per acre. The City of Edina may see a population increase of up to 16% by 2030. Studies have found that for every 1% increase in population-weighted urban density, household travel CO<sub>2</sub> emissions reduce by 0.12% to 0.48%<sup>2,3</sup>. Based on these, establishing zoning ordinances and incentives guiding future growth into options which increase the density of existing developed land will have positive impact on decreasing total community wide emissions per household.

See Section 10 Implementation for supporting actions.

Strategy  
TL 4

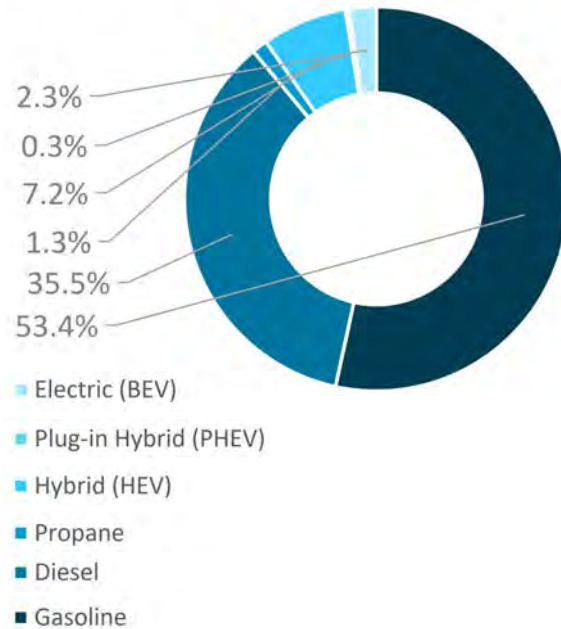
## Increase battery electric vehicle (BEV) utilization to 25% of community wide rolling stock.

(from approximately 357 vehicles to 8200 vehicles community-wide)

According to the US Census data there are an estimated 36,600 vehicles total in the city<sup>4</sup>. As of April 2020, Edina had 357 battery electric vehicles (BEV), and 112 plug-in electric vehicles (PHEV)<sup>5,6</sup>. Transitioning this rolling vehicle stock from fossil fuel combustion to low and no emission alternative is critical in meeting significant long-range emissions reductions in this sector. For every 1% of vehicles converted to EV 2,750 metric tons of GHG emissions can be eliminated annually (including emissions associated with increased electricity consumption)<sup>7</sup>.

See Section 10 Implementation for supporting actions.

City of Edina Vehicle Fleet by Fuel Type



Strategy  
TL 5



## Convert municipal operations gasoline and e10 gasoline vehicles and equipment within municipal fleet to EV's. Achieve 40% by 2030 and 100% by 2040.

As of March 2021, the City of Edina has a municipal vehicle fleet of 307 cars and trucks. Over 88% of the fleet are gasoline or diesel internal combustion engine (ICE) vehicles while 9.8% are electric vehicles including hybrid electric (HEV), plug-in hybrid electric (PHEV) and battery electric (BEV). In 2019, the fleet consumed 90,700 gallons of gasoline and 47,900 gallons of diesel. For every 1% of the fleet that is transitioned to EV over 122 metric tons of greenhouse gas will be eliminated<sup>7</sup>. City currently has 72 vehicle replacements planned by 2025 providing an opportunity to increase the share of electric vehicles in the fleet by as much as 6% per year.

See Section 10 Implementation for supporting actions.

# Transportation and Land Use

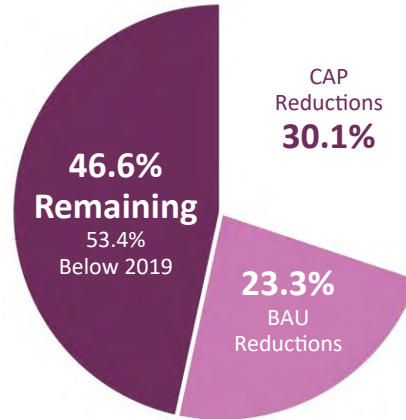
## Planned Sector Emission Reductions Through 2030

The strategies and actions included in this section of the Climate Action Plan are projected to reduce the city's annual GHG emissions by 89,186 metric tons (MT) annually by 2030 - a 30.1% reduction over 2019 levels. Changes in business-as-usual impacts over the same period are anticipated to reduce an additional 68,952 metric tons. The result is a total community wide Transportation sector reduction of 53.4% over 2019 levels.

When compared to 2019 emissions, this is equivalent to eliminating 19,396 cars from the road, or **1.7 billion** cubic feet of man-made greenhouse gas atmosphere annually by 2030.

## Sector Emissions Reduction below 2019 by 2030

The total change to sector emissions include CAP Plan reductions and business-as-usual (BAU) emission changes as follows:



## Estimated Cumulative Economic Savings

Implementing many of the measures in this plan, such as reduction of single-occupancy auto use, can save money for the community. The estimated community savings of the goals for this section include:

Decrease VMT by 7%:

**\$221,028,599** +  
**\$4,182**  
per capita

Increase EV utilization to 25% of VMT

**\$102,090,705** =  
**\$1,931**  
per capita

Estimated Cumulative Savings Potential\*

**\$323,119,304\***  
**\$6,113**  
per capita

\* Allowances for expenses for EV purchase, and public transit passes are included in calculations. (see Appendix for more)

## Transportation and Land Use Carbon Reduction Pathway

