



Water Infrastructure Millage Funding Options Comparison

Project Funding Options Overview

The water infrastructure project will cost about \$850,000 annually to complete over the course of 30 years. The ready to serve flat charge component of the utility bill was increased over the three years from 2018 to 2020 to provide about \$228,000 of additional annual funding, leaving a gap of about \$622,000 of annual funding. The water rate increase from 2020 to 2021 was sufficient to raise the additional \$622,000.

This document outlines several of the options considered to fund the water infrastructure project.

The millage, if approved, would provide about \$622,000 of annual revenue. It is important to note that if the millage is approved it will provide about 73% of the revenue to complete the infrastructure project while the flat rate ready to serve charge will continue to provide about 27% of the revenue to complete the project.

What Will the Various Options Cost Me?

We have a list of what the cost increase for each residential household will be under each of the three options discussed in this document. The City Commission did not want to publish everybody's information publicly, but we will be happy to provide you with your estimated cost increases upon request. There are two ways you can find out what each option will cost you:

1. Call City Hall at 248-541-2901 and talk to Jim, Amy, or Kersten.
2. Email citymanager@cityofpleasantridge.org

Funding Sources

There are three sources of funding for the water infrastructure millage:

- **Ready To Serve Charge.** This is the flat charge that is part of the utility bill. Every water customer pays the same amount for the ready to serve charge. The ready to serve charge provides funding for infrastructure maintenance and capital improvements.
- **Water Usage Rate.** This is the rate that customers pay for each unit of water consumed.
- **Water Infrastructure Millage.** If approved, the water infrastructure millage would provide funding for capital improvements to the water system and replacement of lead service lines. The amount each household would pay is based on the taxable value of the property (the average taxable value is \$145,300).

The project is being funded for the current year (July 1, 2021 through June 30, 2022) through the water usage rate of \$106.15 and the \$82.50 per-bill ready to serve charge. The other two options for funding the project are the millage option, and a flat fee option recently advocated for during public discussions where all water customers would pay an equal flat rate to fund the infrastructure project.

The following table shows how the funding sources compare under each option:

	2021 Water Rate Option	3.5 Mill Property Tax Option	Flat Fee Option
Ready To Serve Charge (per bill)	\$82.50	\$42.50	\$127.75
Combined Water Usage Rate	\$106.15	\$78.75	\$78.75
Millage Amount	0	3.5	0
Total funding from usage rate	\$263,000	\$0	\$0
Total funding from millage	\$0	\$622,000	\$0
Total funding from flat RTS charge	\$587,000	\$228,000	\$850,000
% Funding from usage rate	31%	0%	0%
% Funding from millage	0%	73%	0%
% Funding from flat RTS charge	69%	27%	100%
Average Cost ¹	\$509	\$523	\$526
Median Cost ²	\$471	\$470	\$526
Households at or above \$526	394	435	0
Households below \$526	695	654	0

Measuring Cost Impact

There are two ways of assessing the impact of the funding options on each household – the total dollar cost increase over the 2020 baseline, and the percentage increase.³ The cost impact on each household will be somewhat different under each of the three options. The charts on the following pages show the results of the modeling for each of the three rate options.

- The **Millage Option** results in a larger spread of dollar cost increase, but it results in the lowest percentage increase. The households with the highest dollar cost increases are the households with the highest baseline cost, and the highest taxable values.
- The **Flat Fee Option**, which has been suggested by some residents, results in the same dollar cost increase, but it results in the largest spread for percentage increase. Households with lower taxable values have a lower baseline cost, and the flat fee increase results in a higher percentage increase.
- The **2021 Water Rate Option** falls somewhere in between. The cost impact of this option is more correlated with water usage.

The box plots on the following page show the distribution of cost increases on residential properties in the City. The plots break the data into quartiles in both dollar value and percent cost increase terms.

The areas within the colored boxes represent the middle two quartiles, in other words, 50% of households will see an increase between the bottom and top lines of the orange boxes. The lines above and below the boxes show the upper and lower quartiles. Almost all households will see a cost increase that falls somewhere between the top and bottom line on the plot. Outliers representing 3.5% of the total data set have been excluded in the interest of legibility.

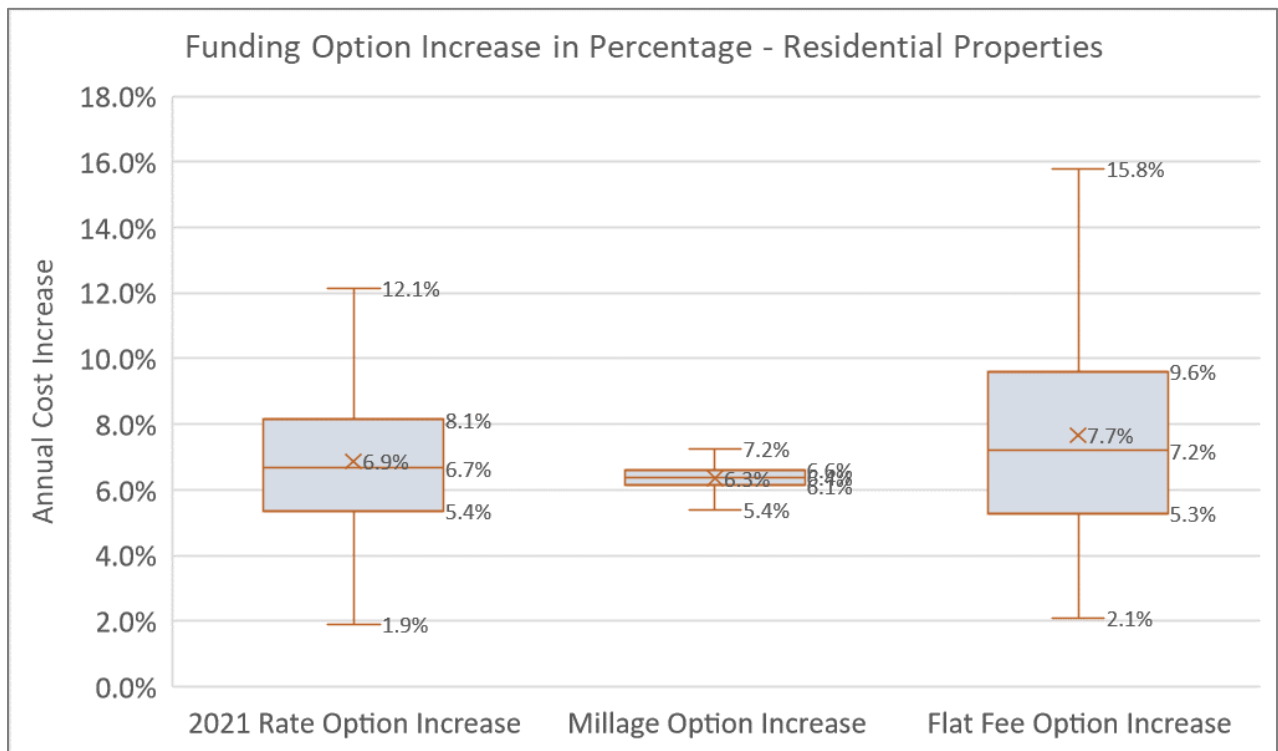
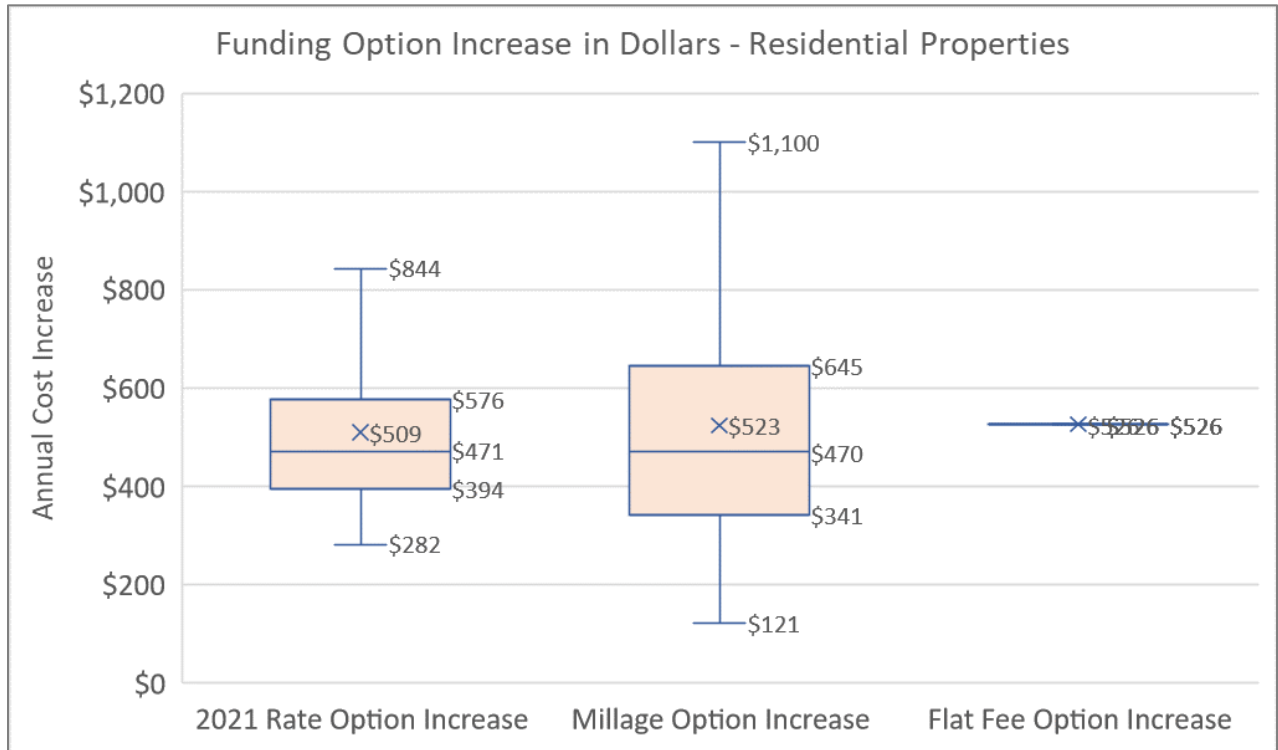
The line in the middle of the orange box is the median, and the X in the orange boxes is the average.

¹ The average cost differs under each option because non-residential water users are excluded from the analysis. Those users have higher water usage than residential users which slightly impacts the overall numbers, particularly under the water rate option.

² The median is the middle value in the data set – half of households will pay more, and half will pay less than the median.

³ The total cost increase is based on property taxes paid using the total homestead millage rate including all taxing jurisdictions – 46.219 mills in 2021, and the total annual utility bill cost.

For example, nearly all households will see a cost increase between \$282 and \$844 in the water rate scenario, and 50% of households will see an increase between \$394 and \$576. The upper 25% of households will see an increase between \$576 and \$844, while the lowest 25% of households will see an increase between \$282 and \$394. The median value is \$471, so half of households will see an increase lower than \$471, and half will see an increase higher than \$471.



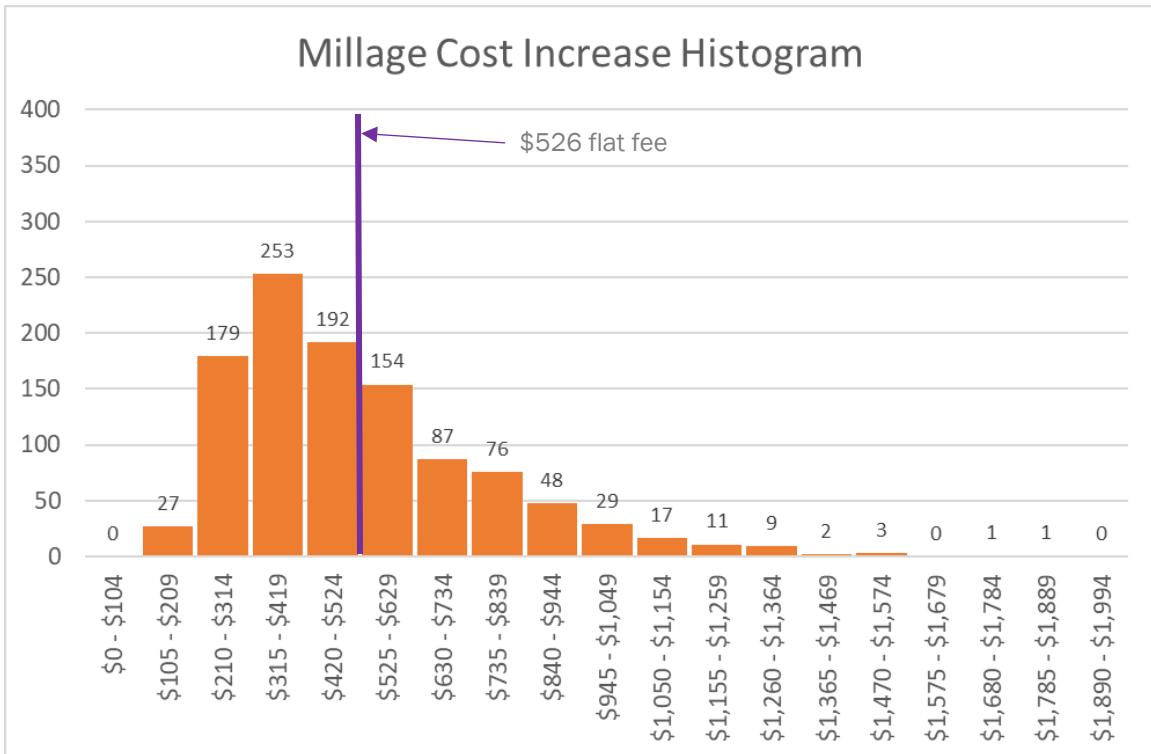
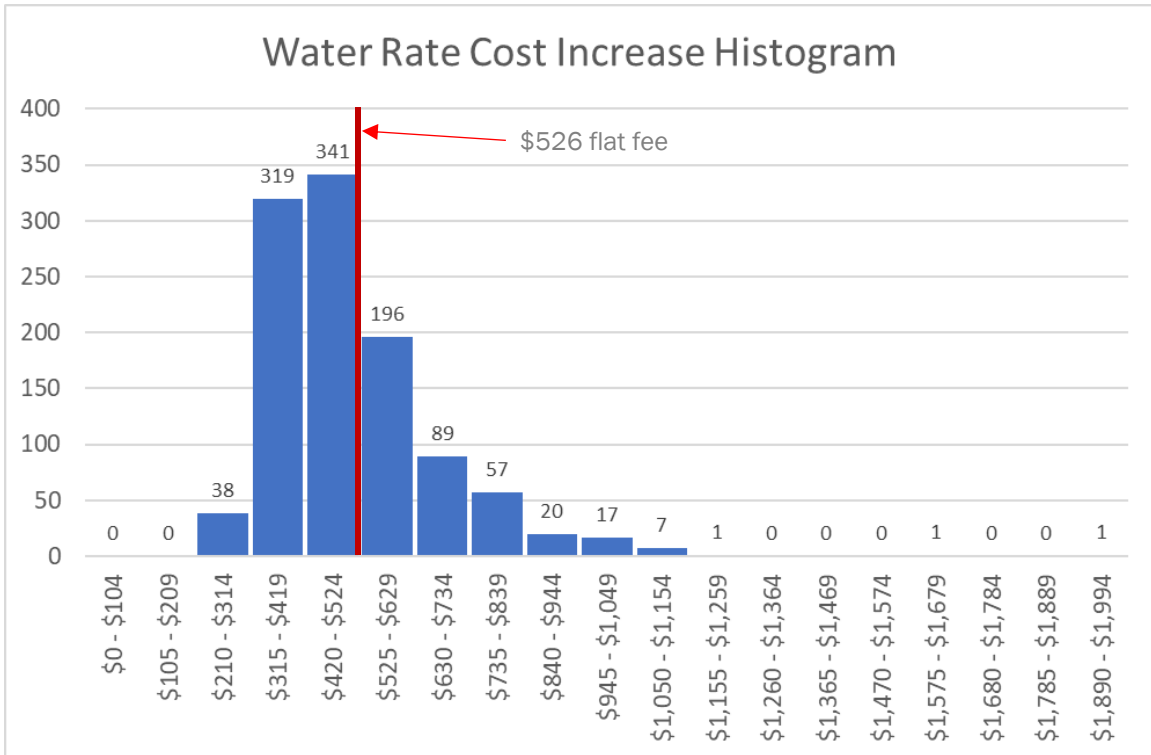
The charts on the previous page show that:

- The millage option has the highest spread in dollar cost for households, but the lowest spread in the percentage cost increase. This is because of the spread in taxable values in the City. A millage is assessed as a percentage of taxable value. The millage option is most equal in the fact that all households will see about a 6% cost increase over the 2020 baseline.
- The flat fee option has the lowest spread in dollar cost for households, but the highest spread in percentage cost increase. The flat fee option results in a greater percent increase for households with lower taxable values, and a lower percent cost increase for properties with a higher taxable value. The flat fee option is the most equal in the fact that all households will see a \$526 annual increase over the 2020 baseline.
- The 2021 Rate option falls in between the other two options. Part of the funding in this option comes from the water usage rate, so the amount of water each household uses influences their total cost increase. Water usage is not a variable that influences the millage or flat rate option.

Histogram Charts

The **histogram charts** on the following page show the cost increase for households grouped into bins. Each bin covers a span of \$104, so for example, all households that will see a cost increase between \$210 and \$314 are grouped into a bin and then the size of that bin is shown on the chart. These charts are a way of visualizing the distribution of cost impacts.

There are histogram charts shown for the dollar cost increase for the water rate option and the millage option. There is not a histogram for the flat fee option because there would be only one bin at \$526 with everybody in it. Instead, the red line on the histogram charts shows where the \$526 flat fee would fall within the distribution. On each chart the bins to the left of the vertical flat fee line would pay more under the flat fee option, and the bins to the right would pay less.



Are There Other Options?

If the millage passes, the City Commission can choose to levy less than 3.5 mills. For example, the City Commission could choose to raise 50% of the revenue needed for the project from a 2.4 mill levy and the other 50% from a \$69.80 flat ready to serve charge on the utility bill. Or, 25% of the project revenue could be raised from a 1.2 mill levy and 75% from a flat \$98.65 ready to serve charge.

The cost for each household will vary depending on the mix of funding sources, but in general, lowering the millage levy and increasing the ready to serve charge moves a household's annual cost increase closer to \$526 from whatever their cost would be under the 3.5 mill option. Some residents would see a relative cost increase, others would see a relative cost savings if the millage were reduced and water rates and/or ready to serve charge increased.