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The Time and Cost Savings of Avoiding a Long Commute

Recently the Palo Alto city council reviewed a proposal for a privately funded 44-unit housing project for low-and-moderate income residents with a right of first refusal for teachers and staff of the Palo Alto Unified School District. The project followed HUD area median income guidelines for rents. Some council members were concerned that the rents seemed high to them and they wondered if the project would be attractive to many teachers and staff.

I spoke at the meeting about the time and cost savings of avoiding long commutes will affect what kind of rents people find attractive. After the meeting, I developed an example in an [interactive spreadsheet](#) (Excel file, 13 Kb) and this memo explains the assumptions and results of my example, which was oriented to potential teacher commutes but is relevant to other situations as well.

Here are my example assumptions:

Commute cost savings

	Commute Costs
Miles each way	50
Time each way (minutes)	60
IRS allowance for business use (\$ per mile) *	0.655
* 65.5 cents is probably low for Bay Area as our gas prices are far above the national average	
https://www.irs.gov/newsroom/irs-issues-standard-mileage-rates-for-2023-business-use-increases-3-cents-per-mile	
Gasoline cost (\$ per gallon)	5
Miles per gallon	20
Tolls per day (\$)	7
Commute days per month **	17

** Most months have 21 or 22 weekdays and I used 17 days as a rough estimate to account for holidays and personal time

Below are the monthly savings from avoiding this 50-miles-each-way commute calculated as \$65.50 a day for 17 days for the IRS estimate of driving costs; \$25 a day for gasoline savings (100 miles at 20 miles a gallon and \$5 a gallon); and \$119 for toll savings (\$7 a day for 17 days):

IRS estimate of driving costs per month	\$1,113.50
Gasoline costs per month	\$425
Toll costs per month	\$119

Value of time savings

Many workers are willing to trade money for less commuting. For example:

- <https://www.businessinsider.com/us-remote-workers-would-take-pay-cut-to-keep-wfh-2023-5>
- <https://www.businessnewsdaily.com/15004-survey-toll-of-commute.html>
- <https://www.fool.com/the-ascent/banks/articles/cheaper-home-or-shorter-commute-heres-how-to-decide>

Part of this is saving on car costs as described above and part is valuing the time saved that can be used for personal or family time.

Some sources (like the last link above) say to use 100% of the wage rate for the value of travel time saved.

The U.S. and CA departments of transportation use 100% for business travel and 50% for personal travel. I used 50% and used a wage/salary rate of \$40/hour roughly equivalent to \$80,000 a year. So that equals \$20 an hour of time saved.

<https://www.transportation.gov/sites/dot.gov/files/docs/USDOT%20VOT%20Guidance%202014.pdf> (refer to page 15)

<https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/data-analytics-services/transportation-economics/cal-bc/2022-cal-bc/guides/cal-bc-81-parameter--guide-v1-a11y.pdf>

This is actually the reverse case of workers willing to take a pay cut to continue working from home. In this example, workers are willing/able to pay more in rent to avoid the time and costs of commuting.

Here are my assumptions for valuing the time savings:

Hourly wage	\$40
% counted as value of time saved	0.5
Commute hours	2
Commute days	17

Value of time saved per month	\$680
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So, if you save 2 hours a day for 17 days a month this comes to \$680 a month using \$20 an hour as the value of time saved.

Adding commute cost savings and time value savings results in substantial savings to an individual who no longer needs to commute 50 miles a day each way.

Assumptions like these are used regularly in evaluating the cost-benefit analysis of transportation projects. In my example they apply to the people interested in avoiding a long commute. Many workers currently live close to their jobs and some/many commuters prefer the commute in exchange for the benefits they see living where they are now.

But from a societal perspective, we can and should count the reduction in GHG emissions, pollution, congestion and potentially new highway construction costs from housing that helps people avoid long commutes.