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Basic Info and Assumptions (lots of assumptions):

1. This example assumes two married 23-year old teachers with Bachelor's degrees starting their first year of teaching. Assume they earn their Master's degree by age 25 and have one child at age 26. Assume they will complete 15 hours of credit every 3 years after achieving their Master's degree to advance on the salary schedule (start at MA + 0, move to MA + 15 after 3 years, then MA + 30 after 6, etc. until maxed out at MA + 90).
2. Assuming they have no savings and no debt, so starting at zero. Also assuming they can live on a reasonable amount of money and avoid significant lifestyle creep (although numbers can be adjusted to provide more spending money at the expense of less optimization). See columns for "net amount to live on" estimates (and adjacent column for fixed 2020 dollars). Choices (how much to put into 457/401k/taxable, etc.) can be tweaked along the way, just went with what seemed to make sense.
3. Salary Schedule and Insurance numbers are based on current Littleton Public Schools salary schedule and insurance numbers. Since "starting" this in 2020, inflated salary on salary schedule by 2.5% and insurance premiums by 5% each year.
4. School year - and teacher salaries and benefits - do not match up with calendar tax years. For simplicity sake, spreadsheet assumes they do.
5. Assuming inflation of 2.5% per year.
6. Assuming investment returns of 7.5% per year (100% equities). For calculation simplicity, assuming no investment gains in the year new money is invested (e.g., act like it was invested at the end of the calendar year on December 31st). (Also has the effect of making the numbers a bit more conservative.)
7. PERA contributions are in the process of increasing (in increments over the next 3 years, plus a possible auto adjust provision). Calculated with 10% contribution in first year and 10.5% after that.
8. For this scenario, assumes they are hired after July 1, 2019, which means their PERA contributions are based on gross income, so Section 125 plans do not come out pre-PERA. This means higher PERA deductions throughout their career, but does mean they can continue to take those pre-tax even during their last five years without affecting their HAS.
9. Assume salary schedule increases by inflation (2.5%) each year. (Teachers automatically move one step per year of experience, and can also move horizontal "lanes" based on additional education.)
10. Assume a small amount of side hustle income, some PERA covered, some Social Security covered. (Teachers can make extra by coaching, sponsoring activities, working athletic events, etc. - those are all PERA includable income, and of course they can do all the other side hustles that are available, especially during the summer.) Assume side hustle income (both PERA and SS) increases by half of inflation (1.25%) each year.
11. Took current insurance premiums for two teachers in LPS (two employee only, then one employee only and other employee and child starting at age 26), then assume 5% (inflation plus 2.5%) increase in premiums each year.
12. Assume HSA limits increase by half of inflation (1.25%) each year. Assume employer contribution remains fixed.

13. Assume 5 years of day care until the child is school age, so \$5000 into dependent care spending account. Assumes no after school care is needed once starts elementary school but, if so, could always add in whatever amount to dependent care account (currently assumes \$0 once they start school).
14. Assume current \$19k limits for 401k/403b/457 increase by \$500 every 3 years due to inflation adjustment.
15. Assume standard tax deduction increases by inflation minus .5% (so 2%) each year. Assume \$250 teacher deduction (times two) remains fixed for duration of their teaching careers.
16. Assume tax brackets increase by inflation minus .5% (so 2%) each year, as well as capital gains brackets.
17. Assume child tax credit remains at \$2000 (with \$1400 refundable).
18. Assume savers credit remains for at least the next 7 years, with income limits indexed for inflation (currently if between \$41K and \$64k AGI, can take a credit of 10% of your contributions).
19. Assume the American Opportunity Tax Credit is still around when the child hits college and remains fixed.
20. Periodically do Capital Gains Tax Harvesting in taxable accounts at 0% to reset cost basis as needed.
21. Assume don't touch the money in HSA and just let it grow (although could tap it as emergency fund as needed, save receipts). Eventually spend as needed.
22. Assume Colorado state taxes remain at 4.63% and are calculated the same way as they are now.
23. Added columns in case they want to contribute to a 529 college savings plan and put in some token amount examples.
24. Assumes purchasing 0 years of PERA credit.
25. Assuming retire at 45, start living off taxable accounts and 457 withdrawals until about age 65, at which point pension also kicks in. Lots of cap gains harvested along the way at no tax to reset cost basis.
26. As will all projections, this one will quickly become "wrong". This is not intended to be exactly what it would look like. Some years investment returns will be better than expected, others worse. Some years raises will be less than inflation, some more. The idea is to lay out a plausible path and be flexible and adjust along the way as necessary.

Spreadsheet Key - By Column

- A: Current age
- B: Year in plan (assumes 2020 start year)
- C: PERA earned service credit years
- D: Position on LPS salary schedule (for reference)
- E: Rate of inflation (assuming 2.5% right now)
- F: Rate of investment return (assuming 7.5% long term return for 100% equity portfolio)
- G: Salary, combined for both teachers (assumes increases each year by 1 step on salary schedule, get Master's by age 25, plus 2.5% COLA each year to salary schedule, plus 1 lane on salary schedule every 3 years after Master's)
- H: Additional PERA includable income (coaching, sponsoring, working athletic events, etc.), combined for both teachers. Assumes increases by ½ of inflation each year.
- I: Social Security Covered Salary (\$0 since both teachers, but placeholder for other scenarios)
- J: Side Hustle income covered by social security (work in the summer, coaching not paid through school, tutoring, other side hustles), combined for both teachers. Assume increases by ½ of inflation each year.
- K: PERA Pension income, combined for both teachers
- L: Insurance that comes out pre-tax but not pre-PERA since hired after July 1, 2019, combined for both teachers.
- M: Employee contribution to HSA account, combined for both. Assumes HSA limit increases by ½ of inflation each year and employer contribution remains fixed. Assumes continue with HDHP plan after retiring and continuing to contribute to HSA.
- N: Employer contribution to HSA account, combined for both. Based on current LPS plan.

- O: Dependent Care FSA. Assume contribute max (\$5k) until child is school age, then no additional care needed. If before/after school care after that point, could contribute more.
- P: 401k contribution, combined for both teachers. Assumes current \$19k limit increases in \$500 increments every 3 years.
- Q: 457 contribution, combined for both teaches. Assumes current \$19k limit increases in \$500 increments every 3 years.
- R: PERA Contribution, combined for both teachers. Assumes 10% in 2020, 10.5% thereafter.
- S: Adjusted Gross Income, combined. Formula adds all the earned income columns (PERA, PERA Side Hustle, SS, SS Side Hustle), plus any Roth IRA conversions and any withdrawals from 401k or 457 plans. It then subtracts pre-tax insurance premiums, HSA employee contributions, Dependent Care Spending Account contributions, 401k contributions, 457 contributions, PERA contributions)
- T: Medicare Taxable Income. Formula adds all earned income and subtracts off employee HSA contributions.
- U: Medicare Contributions: 1.45% of Medicare Taxable Income
- V: Social Security Contributions: 6.2% of combined SS salary and SS Side Hustle
- W: Standard Tax Deduction: Assumes current \$24,400, adjusted by inflation minus .005 each year, plus \$500 teacher deduction for as long as they teach.
- X: Taxable Income: Adjusted Gross Income minus Standard Tax Deduction
- Y: Cap Gains Room Below 15% Bracket: Calculates how much room is left before moving out of the 0% long term capital gains bracket. Assumes Cap Gains bracket increases by inflation minus .005 each year. Formula already includes any realized capital gains from columns AJ5 and AK5).
- Z: Room Below 22% Tax Bracket: For reference for optimization, calculates current room until hit 22% tax bracket. Assumes brackets increase by inflation minus .005.
- AA: 10% Tax Bracket Limit: For reference and calculations. Assumes brackets increase by inflation minus .005 each year.
- AB: 12% Tax Bracket Limit: For reference and calculations. Assumes brackets increase by inflation minus .005 each year.
- AC: 22% Tax Bracket Limit: For reference and calculations. Assumes brackets increase by inflation minus .005 each year.
- AD: Federal Tax Owed: Calculates tax based on taxable income. Formula assumes they never exceed 24% bracket.
- AE: Child Tax Credit: Currently \$2000 per child with \$1400 refundable.
- AF: Savers Credit: Currently can claim up to \$4k each year, depending on your contributions and your adjusted gross income. Assumes with their adjusted gross incomes the first few years they will be able to claim 10% of their contributions up to the max of \$4k. Assumes that AGI limit adjusts each year so around year 7 will exceed the limit and will no longer get Savers Credit.
- AG: Other Tax Credits: Could be others you could factor in, but primarily here to account for American Opportunity Tax Credit if/when child goes to college.
- AH: Total Federal Tax Credits: adds up previous 3 columns
- AI: Realized Cap Gains Tax Harvesting 1: Based on return assumptions, harvest long term cap gains periodically in order to step up cost basis and still pay \$0 in capital gains taxes.
- AJ: Realized Cap Gains Tax Harvesting 2: Based on return assumptions, harvest long term cap gains periodically in order to step up cost basis and still pay \$0 in capital gains taxes. Reason for the two accounts is simplicity in calculation to ensure that all gains are long-term cap gains.
- AK: Conversion to Roth IRA: Column to take into account any possible Roth conversions from 401k/457 to Roth IRA. Could make sense under certain conditions for long term tax efficiency and/or estate planning.
- AL: Contributions to Roth IRA: Any yearly contributions to Roth IRA.

- AM: Total in Roth IRA: Adds any contributions and any conversions to any existing balance. Existing balance earns investment rate of return each year. Subtracts any withdrawals.
- AN: Withdrawals from Roth IRA.
- AO: Federal Tax Owed: Subtracts any tax credits from calculated federal tax owed. Up to \$1400 of this is refundable for child tax credit
- AP: Additions to Taxable Account 1: After tax contributions to Taxable Investment Account 1
- AQ: Additions to Taxable Account 2: After tax contributions to Taxable Investment Account 2
- AR: Total in 401k: Adds any contributions from that year to 401k to previous year's balance. Assumes previous year's balance earns that year's investment returns. Formula subtracts any eventual withdrawals from 401k.
- AS: Withdrawals from 401k
- AT Total in 401k in constant 2020 dollars: Adjusts current 401k balance for inflation.
- AU: Total in 457: Adds any contributions from that year to 457 to previous year's balance. Assumes previous year's balance earns that year's investment returns. Formula subtracts any eventual withdrawals from 457.
- AV: Withdrawals from 457 account
- AW: 457 Total in Constant 2020 Dollars: Adjusts column AU for inflation.
- AX: Total in HSA: Adds in employee and employer contributions each year to previous year's balance. Assumes previous year's balance earns investment rate of return.
- AY: Withdrawals from HSA
- AZ: HSA Total in Constant 2020 Dollars: Adjusts column AX for inflation.
- BA: Total in Taxable Account 1: Adds in any yearly contributions to previous year's balance. Assumes previous year's balance earns investment rate of return. Subtracts off any withdrawals from Taxable Account 1.
- BB: Taxable Account 1 in Constant 2020 Dollars: Adjusts column BA for inflation.
- BC: Taxable Account 1 Unrealized Capital Gains: Calculates any unrealized capital gains assuming earns investment rate of return each year. Formula then subtracts any cap gains when they are realized in order to step up cost basis (column AI6)
- BD: Withdrawn From Taxable Account 1: For when drawing down to pay for living expenses
- BE: Total in Taxable Account 2: Adds in any yearly contributions to previous year's balance. Assumes previous year's balance earns investment rate of return. Subtracts off any withdrawals from Taxable Account 2.
- BF: Taxable Account 2 in Constant 2020 Dollars: Adjusts column BE for inflation.
- BG: Taxable Account 2 Unrealized Capital Gains: Calculates any unrealized capital gains assuming earns investment rate of return each year. Formula then subtracts any cap gains when they are realized in order to step up cost basis (column AJ6)
- BH: Withdrawn From Taxable Account 2: For when drawing down to pay for living expenses
- BI: Colorado State Tax Owed: Calculates state tax owed based on taxable income and current 4.63% state tax rate. Formula includes any realized capital gains (not positive how Colorado taxes this, but this assumes the "worst").
- BJ: Net to Live On: Calculates yearly amount available to live on after subtracting all contributions to 401k, 457, HSA, Dependent Care Spending, pre-tax Insurance premiums, taxable accounts, etc. Note that during the years that the insurance premiums are coming out pre-tax, this is the net to live on after paying insurance premiums. Once insurance premiums are not coming out pre-tax, then this column is before paying insurance premiums.
- BK: Net to Live On in Constant 2020 Dollars: Adjusts column BJ for inflation.
- BL: Monthly Net to Live On: Divides column BJ by 12 to give idea of how much available to spend monthly.

- BM: Percent Increase From Previous Year: Calculates the percentage increase (or occasionally decrease) in net to live on from previous year (not adjusted for inflation)
- BN: Monthly Net to Live On in Constant 2020 Dollars: Same, but in constant inflation-adjusted dollars.
- BO: Possibly 529 Plan Contribution: If they want to contribute to Colorado's 529 College Savings Plan, this column takes into account a yearly contribution.
- BP: Total in 529 Plan: Adds each year's contribution to previous year's balance, assumes previous year's balance earns investment rate of return. Formula takes into account eventual withdrawals.
- BQ: Withdrawals from 529 Plan
- BR: Total in 529 Plan in Constant 2020 Dollars: Adjusts column BP for inflation
- BS: Net to Live On If Contribute to 529 Plan: Adjusts to subtract any contributions to 529 plan but add in Colorado State Tax break for those contributions
- BT: Net to Live On If Contribute to 529 Plan in Constant 2020 Dollars: Adjusts column BS for inflation
- BU: Monthly to Live On if Contribute to 529 Plan: Column BS divided by 12
- BV: Percent Increase if Contribute to 529 Plan: Calculates the percentage increase from previous year's net to live on, not adjusted for inflation.
- BW: Monthly to Live On If Contribute to 529 Plan in Constant 2020 Dollars: Divides column BT by 12.

Year by Year Description

- **Year 1**

Both are starting their first year of teaching with salary at BA+0. Salary is \$41,864 each (will increase for inflation each year). Earn an additional \$3000 in PERA-includable salary (e.g., coaching, sponsoring, working athletic events, etc.) and an additional \$3000 in social security includable salary (side hustles during the year and/or over the summer). (Will increase both additional amounts by one-half of inflation each year.)

Medical and dental insurance premiums (could add in vision as well) totals \$1,118 for the year - those are taken out pre-tax but not pre-PERA since hired after July 1, 2019. Enrolled in HDHP so district contributes \$1500 to HSA ($\62.50×2) and teachers contribute \$5500 to max out (using current \$7K max, will adjust for one-half of inflation going forward). HSA money comes out pre-tax and pre-FICA, but not pre-PERA. Put \$20,000 (\$10,000 each) into 457 plan - this comes out pre-tax but not pre-PERA. PERA-includable income is \$86,730 so contributions are \$8,673 (using 10% employee contribution rate) - these come out pre-tax.

Adjusted Gross Income is \$54,437. Medicare taxable income is \$84,228, giving a medicare contribution of \$1,221. Social Security income is \$3000, so social security contribution is \$186. Tax deductions are \$24,900 (using the current standard deduction of \$24,400 plus \$250 deduction each for teacher expenses. Will increase standard deduction for inflation minus .005 going forward). Taxable income is \$29,537 which would mean a federal tax owed of \$3,149. Will get a Savers Credit of \$2,000 (with current AGI can take a credit of 10% of retirement plan contributions), so the Federal Tax owed is \$1,149. Colorado state taxes owed of \$1,368.

Contribute \$3,000 in after-tax money to taxable account invested in total stock market index fund. This leaves a net amount to live on of \$47,513 or \$3,959 each month. (Note that this amount reflects that insurance premiums are already paid.) (If want to contribute to a 529 college savings plan, see additional columns in spreadsheet.)

- **Year 2**

Both are starting their second year of teaching with salary at BA+0. Salary is \$44,840 each (moved one step on salary schedule and salary schedule increased by inflation). Earn an additional \$3038 in PERA-includable salary (e.g., coaching, sponsoring, working athletic events, etc.) and an additional \$3038 in social security includable salary (side hustles during the year and/or over the summer). (Both increased by one-half of inflation.)

Medical and dental insurance premiums (could add in vision as well) totals \$1,174 for the year (increased by 5%) - those are taken out pre-tax but not pre-PERA. Enrolled in HDHP so district contributes \$1,500 to HSA and teachers contribute \$5,588 to max out (assumes HSA limit increased by one-half of inflation). HSA money comes out pre-tax and pre-FICA, but not pre-PERA. Put \$21,000 (\$10,500 each) into 457 plan - this comes out pre-tax but not pre-PERA. PERA-includable income is \$92,705 so contributions are \$9,735 (using 10.5% employee contribution rate - assumed auto adjust kicked in once) - these come out pre-tax.

Adjusted Gross Income is \$58,259. Medicare taxable income is \$90,169, giving a medicare contribution of \$1,307. Social Security income is \$3038, so social security contribution is \$188. Tax deductions are \$25,388 (increased the standard deduction by inflation minus .005, plus \$250 deduction each for teacher expenses). Taxable income is \$32,871 which would mean a federal tax owed of \$3,541. Will get a Savers Credit of \$2,100 (assuming savers credit limit increased by inflation, AGI is still low enough can take a credit of 10% of retirement plan contributions), so the Federal Tax owed is \$1,441. Colorado state taxes owed of \$1,522.

Contribute \$4,000 in after-tax money to taxable account invested in total stock market index fund. Assuming investment return growth on previous year's contribution (and no growth yet on this year's contribution), will have \$225 in unrealized capital gains so account balance is \$7,044. (Note, for simplicity, ignoring any tax owed on taxable dividends, will have a relatively small impact on taxes owed.) This leaves a net amount to live on of \$49,801 or \$4,150 each month (a 4.81% increase from previous year). In constant 2020 dollars, that's \$48,556 and \$4,046. (Note that these amounts reflect that insurance premiums are already paid.) (If want to contribute to a 529 college savings plan, see additional columns in spreadsheet.)

Assuming investment return growth on previous year's 457 balance (and no growth yet on this year's contribution), will have \$1,500 in unrealized capital gains and a balance of \$42,500 (\$41,438 in constant 2020 dollars).

- **Year 3**

Both are starting their third year of teaching with salary at BA+20. Salary is \$49,952 each (moved one step and one lane on salary schedule and salary schedule increased by inflation). Earn an additional \$3075 in PERA-includable salary (e.g., coaching, sponsoring, working athletic events, etc.) and an additional \$3075 in social security includable salary (side hustles during the year and/or over the summer). (Both increased by one-half of inflation.)

Medical and dental insurance premiums (could add in vision as well) totals \$1,233 for the year (increased by 5%) - those are taken out pre-tax but not pre-PERA. Enrolled in HDHP so district contributes \$1,500 to HSA and teachers contribute \$5,676 to max out (assumes HSA limit increased by one-half of inflation). HSA money comes out pre-tax and pre-FICA, but not pre-PERA. Put \$23,000 (\$11,500 each) into 457 plan - this comes out pre-tax but not pre-PERA. PERA-includable income is \$102,980 so contributions are \$10,813 (using 10.5% employee contribution rate) - these come out pre-tax.

Adjusted Gross Income is \$65,334. Medicare taxable income is \$100,380, giving a medicare contribution of \$1,456. Social Security income is \$3,075, so social security contribution is \$191. Tax deductions are \$25,886 (increased the standard deduction by inflation minus .005, plus \$250 deduction each for teacher expenses). Taxable income is \$39,448 which would mean a federal tax owed of \$4,322. Will get a Savers Credit of \$2,300 (assuming savers credit limit increased by inflation, AGI is still low enough can take a credit of 10% of retirement plan contributions), so the Federal Tax owed is \$2,022. Colorado state taxes owed of \$1,826.

Contribute \$6,000 in after-tax money to taxable account invested in total stock market index fund. Assuming investment return growth on previous year's contribution (and no growth yet on this year's contribution), will have an account balance is \$13,767. (Note, for simplicity, ignoring any tax owed on taxable dividends, will have a relatively small impact on taxes owed.) This leaves a net amount to live on of \$53,839 or \$4,487 each month (an 8.11% increase from previous year). In constant 2020 dollars, that's \$51,181 and \$4,265. (Note that these amounts reflect that insurance premiums are already paid.) (If want to contribute to a 529 college savings plan, see additional columns in spreadsheet.)

Assuming investment return growth on previous year's 457 balance (and no growth yet on this year's contribution), will have a balance of \$68,688 (\$65,296 in constant 2020 dollars).

- **Year 4**

Both are starting their fourth year of teaching with salary at MA+0 (assumes they've both earned their Master's). Salary is \$57,404 each (moved one step and to MA column and salary schedule increased by inflation). Earn an additional \$3,114 in PERA-includable salary (e.g., coaching, sponsoring, working athletic events, etc.) and an additional \$3.114 in social security includable salary (side hustles during the year and/or over the summer). (Both increased by one-half of inflation.)

Medical and dental insurance premiums (could add in vision as well) totals \$7,187 for the year (increased by 5%, added in the child, for simplicity sake assumed all 12 months) - those are taken out pre-tax but not pre-PERA. Enrolled in HDHP so district contributes \$1,770 to HSA (\$85 + \$62.50) and teachers contribute \$5,496 to max out (assumes HSA limit increased by one-half of inflation). HSA money comes out pre-tax and pre-FICA, but not pre-PERA. Fund Dependent Care Spending Account (for day care expenses for one child) with maximum of \$5000 - that comes out pre-tax but not pre-PERA. Put \$24,000 (\$12,000 each) into 457 plan - this comes out pre-tax but not pre-PERA. PERA-includable income is \$117,924 so contributions are \$12,382 (using 10.5% employee contribution rate) - these come out pre-tax.

Adjusted Gross Income is \$66,971. Medicare taxable income is \$115,540, giving a medicare contribution of \$1,675. Social Security income is \$3,114, so social security contribution is \$193. Tax deductions are \$26,393 (increased the standard deduction by inflation minus .005, plus \$250 deduction each for teacher expenses). Taxable income is \$40,577 which would mean a federal tax owed of \$4,449. Will get a child tax credit of \$2000 and a Savers Credit of \$2,400 (assuming savers credit limit increased by inflation, AGI is still low enough can take a credit of 10% of retirement plan contributions), so the Federal Tax owed is \$49. Colorado state taxes owed of \$1,879.

Contribute \$8,000 in after-tax money to taxable account invested in total stock market index fund. (Note: used separate column for this to help keep cap gains separate to assure they are long term cap gains. Could do this by using two or more accounts/funds, or could simply use one account/fund and identify the particular shares you are selling to assure they are long-term cap gains.) Assuming investment return

growth on previous year's contribution (and no growth yet on this year's contribution), will have \$1,799 in unrealized capital gains so account balance is \$14,799 in first "account" and \$8,000 in second "account". (Note, for simplicity, ignoring any tax owed on taxable dividends, will have a relatively small impact on taxes owed.) This leaves a net amount to live on of \$60,174 or \$5,015 each month (an 11.7% increase from previous year). In constant 2020 dollars, that's \$55,773 and \$4,648. (Note that these amounts reflect that insurance premiums are already paid.) (If want to contribute to a 529 college savings plan, see additional columns in spreadsheet.)

Assuming investment return growth on previous year's 457 balance (and no growth yet on this year's contribution), will have a balance of \$97,839 (\$90,683 in constant 2020 dollars).

- **Year 5**

Both are starting their fifth year of teaching with salary at MA+0. Salary is \$61,486 each (moved one step on salary schedule and salary schedule increased by inflation). Earn an additional \$3,153 in PERA-includable salary (e.g., coaching, sponsoring, working athletic events, etc.) and an additional \$3,153 in social security includable salary (side hustles during the year and/or over the summer). (Both increased by one-half of inflation.)

Medical and dental insurance premiums (could add in vision as well) totals \$7,546 for the year (increased by 5%) - those are taken out pre-tax but not pre-PERA. Enrolled in HDHP so district contributes \$1770 to HSA (\$85 + \$62.50) and teachers contribute \$5,587 to max out (assumes HSA limit increased by one-half of inflation). HSA money comes out pre-tax and pre-FICA, but not pre-PERA. Fund Dependent Care Spending Account (for day care expenses for one child) with maximum of \$5000 - that comes out pre-tax but not pre-PERA. Put \$29,000 (\$14,500 each) into 457 plan - this comes out pre-tax but not pre-PERA. PERA-includable income is \$126,123 so contributions are \$13,243 (using 10.5% employee contribution rate) - these come out pre-tax.

Adjusted Gross Income is \$68,902. Medicare taxable income is \$123,692, giving a medicare contribution of \$1,794. Social Security income is \$3,153, so social security contribution is \$195. Tax deductions are \$26,911 (increased the standard deduction by inflation minus .005, plus \$250 deduction each for teacher expenses). Taxable income is \$41,991 which would mean a federal tax owed of \$4,611. Will get a child tax credit of \$2000 and a Savers Credit of \$2,900 (assuming savers credit limit increased by inflation, AGI is still low enough can take a credit of 10% of retirement plan contributions, but probably getting close), so the Federal Tax owed is -\$289. Because the child tax credit is refundable up to \$1400, will get \$289 "refund" on federal taxes. Colorado state taxes owed of \$2,079.

Contribute \$9,000 in after-tax money to taxable account invested in total stock market index fund. Assuming investment return growth on previous year's contribution (and no growth yet on this year's contribution), will have \$2,909 in unrealized capital gains in "account 1", which we will then sell and re-buy to step up the cost basis - this will be taxed at 0% cap gains tax. Will have \$600 in unrealized cap gains in "account 2". The account balance is \$15,909 in first "account" and \$17,600 in second "account". (Note, for simplicity, ignoring any tax owed on taxable dividends, will have a relatively small impact on taxes owed.) This leaves a net amount to live on of \$61,124 or \$5,094 each month (a 1.5% increase from previous year). In constant 2020 dollars, that's \$55,237 and \$4,603. (Note that these amounts reflect that insurance premiums are already paid.) (If want to contribute to a 529 college savings plan, see additional columns in spreadsheet.)

Assuming investment return growth on previous year's 457 balance (and no growth yet on this year's contribution), will have a balance of \$134,177. That's \$121,254 in constant 2020 dollars. The total in the HSA is \$41,613 (assuming investment return and not withdrawing any along the way, but paying for any out of pocket from regular accounts).

Now that you have the idea of the details for each year, from here on out will only note any notable changes about each year.***

- **Year 6:** Increase 457 contribution to \$34k total (will continue to increase until max out, then start contributing to 401k as well), continue to contribute (and increase as possible) to taxable accounts.
- **Year 7:** move to MA+15 on salary schedule, perhaps last year AGI is low enough to receive Savers Credit.
- **Year 8:** Realize \$6421 in cap gains at 0% tax (cap gains harvesting)
- **Year 9:** child in school so assuming no child care expenses so no dependent care spending account (if before/after school care, could contribute needed amount). Maxed out 457 so first year also contributing to 401k.
- **Year 10:** assume move to MA+30, realize \$11,152 in cap gains at 0%.
- **Year 11:** nothing notable
- **Year 12:** Realize \$15,969 in cap gains at 0% tax
- **Year 13:** Move to MA+45
- **Year 14:** Realize cap gains
- **Year 15:** Realize cap gains
- **Year 16:** move to MA+60 on salary schedule, realize cap gains
- **Year 17:** Realize cap gains
- **Year 18:** Realize cap gains
- **Year 19:** Move to MA+90
- **Year 20:** Child tax credit drops to \$500
- **Year 21:** American Opportunity Tax Credit if child attending college
- **Year 22:** Last year of teaching (if you desire)
- **Year 23:** no longer working but not yet receiving PERA pension. \$90,000 in realized cap gains at 0% tax, \$19,000 converted from 401k to Roth IRA at 12% tax rate, \$62,000 withdrawn from 457 and \$83,000 withdrawn from taxable account 1 for living expenses. Assume continue with HDHP plan so can continue to contribute to HSA until reach age 65 and on Medicare. Assume no withdrawals from HSA along the way, although could if needed to.
- **Year 24:** \$90,000 in realized cap gains at 0% tax, \$19,000 converted from 401k to Roth IRA at 12% tax rate, \$65,000 withdrawn from 457 and \$85,000 withdrawn from taxable account 2 for living expenses.
- **Year 25:** \$74,436 in realized cap gains at 0% tax, \$20,000 converted from 401k to Roth IRA at 12% tax rate, \$70,000 withdrawn from 457 and \$85,000 withdrawn from taxable account 1 for living expenses.
- **Year 26:** \$83,679 in realized cap gains at 0% tax, \$20,000 converted from 401k to Roth IRA at 12% tax rate, \$75,000 withdrawn from 457 and \$85,000 withdrawn from taxable account 2 for living expenses.
- **Similar up to about Year 38**
- **Year 38:** Start withdrawing from Roth IRA once turn 59.5 in addition to 457.
- **Year 43:** Start Medicare, can no longer contribute to HSA. PERA Pension starts when they each turn 65, but don't include in this year for simplicity.
- **Year 44:** PERA pension is included.