

What is the Lowest Cost to Grand Chute Residents To Fund Roads?

A Road Funding Study

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Introduction

How to fund road projects on an ongoing basis is a subject that prior Grand Chute Town Boards have not addressed with respect to what the lowest cost to residents is to fund road improvements and we still do not have a satisfactory answer. The recent road funding survey in the Town of Grand Chute is a good example. What has been left out of the recent road funding survey conducted by the Town is “What is the lowest cost to the residents to fund road projects.” This is an entirely different question from what was asked in the recent road funding survey and it needs to be answered and that is the purpose of this study.

The Town of Grand Chute has seen multiple lawsuits just recently alleging the misuse of special assessments for road funding and the Town today relies on debt financing to fund roads which this study will demonstrate is the most expensive way for residents to pay for roads.

The purpose of this study is to demonstrate that the use of a Dedicated Road Fund results in the lowest cost to residents in order to fund road projects.

What is the Lowest Cost to Residents to Fund Roads?

A Road Funding Study

Background

The Town of Grand Chute recently conducted a resident road funding survey mainly supported by Supervisors Gehring, English, and Bantes. The objective of the survey was to obtain residents opinions regarding the best way to fund the roads in the Town using the current **Pay As You Go** funding model. The **Pay As You Go** funding model refers to the funds required by the Town directly from residents property tax each year, through debt financing, or some combination of the two in order to pay for the road project costs planned for that year.

The survey asked the residents to select between three **Pay As You Go funding options**; to pay for the road costs through the property tax each year; pay for the roads by issuing debt each year; pay for roads by special assessment with a cap of \$5,000 plus debt for the remainder of the road cost. **The survey did not present a dedicated road fund option which is the purpose of this study. A dedicated road fund option collects its revenue from residents each year as the residents use the road and invests it until the funds are needed for road improvement projects.**

The Town presented information, for the residents to consider in making their choice, that was based upon the current road situation in the Town and that information also included the results from all past Town Board decisions both good and bad. The information on the roads, their conditions and costs, vary as the result of past Town Boards doing or not doing work as well as changing policy decisions from full urbanization, to some urbanization, to no urbanization. The information presented by the Town was a mixture of road conditions and policies against which asking residents to make a road funding decision on the best way for residents to select a **lowest cost road funding method** is difficult. **The survey's design to gather feedback on how to fund the "Pay As You Go funding model" is a completely different question from asking "What is the lowest cost funding model for residents in order to pay for roads going forward."** These are two different questions. To answer the second question, the methodology required is to perform a clean sheet analysis of a Dedicated Road Fund and the survey funding options.

Clean Sheet Analysis

The methodology required to determine the true financial impact to residents resulting from three road funding options - A dedicated road fund; debt financing; special assessments with a cap plus debt - is to perform a **Clean Sheet Analysis**.

A clean sheet analysis sets up a road funding case with facts that apply to all three options and then applies each of the three funding options to that case and evaluates the results. A clean sheet analysis removes any legacy decisions and current constraints that do not impact the analysis (analytically know as The Sunk Cost Fallacy) and provides an understanding of the clear impact of each of the road funding options based upon the same set of facts and their cost to residents. The presentation below is such an analysis.

Road Funding Case

The Town of Anytown accepted a new road in a new development and the Town engineer advised the Town that the road will require reclaim and repaving in 20 years at an estimated future cost of \$300,000 and will need to be rebuilt in year 40 at a cost estimated future cost of \$700,000. The Town of Anytown wants to determine which of the three funding methods is the lowest cost to the residents to cover the estimated \$300,000 when it is needed in 20 years and the estimated \$700,000 in year 40. The Town's long term return on its investments is 4% and its long term cost of debt is 5%. Tax receipts are received at the end of each year. It had been the policy of the Town to use debt financing for roads. **Debt financing automatically increases the tax rate to citizens without their approval.**

An end of period calculator is used for each option.

Reclaim and Repave Year 20

This scenario assumes that the Town of Anytown decides to just do the reclaim and repave in year 20 and then see how the road does afterwards before making any future decision about replacing the road. In this case, the Town only need to determine the amount of tax revenue needed for the 20 year period in each option.

Option1: Property Tax Method - Dedicated Road Fund

The Town of Anytown needs to determine the total annual tax revenue that it needs to collect from the residents at the end of each year in order to grow in a fund for 20 years earning 4% interest in order to accumulate the \$300,000 needed to complete the road work. Exhibit A shows the calculation and schedule. The required annual tax revenue required from the residents of Anytown is \$9,999. At the end of the 20 years, the residents will have paid into the road fund \$199,980 and the road fund will have earned \$100,072.41 in interest income for a total of \$300,072.41. In effect, the compound interest over the 20 years will pay for about a third of the road costs.

In this method, the residents are paying for the road as they use it over time.

Option 2: Town Debt Method - Pay as you go

The 20 years go by and the Town of Anytown issues a \$300,000 10 year bond at 5% to cover the cost of the now required road work. Bonds work as a form of loan where an investor lends money to an issuer, such as a government or corporation, in exchange for periodic interest payments and the return of the principal amount at maturity. The issuer agrees to pay a fixed interest rate, known as the coupon rate, at specified intervals until the bond matures, at which point the investor receives the bond's face value.

The Town of Anytown needs to determine the annual tax revenue required to cover the annual interest payments and to accumulate funds in a sinking fund account that earns 4% to pay the principal of \$300,000 at the end of the 10 years. The interest cost each year is \$15,000 (\$300,000 bond principal at 5% interest rate). Exhibit B shows the calculation and schedule for the tax revenue required each year in order to accumulate \$300,000 in 10 years at 4% interest earned - \$24,920 each year paid into a sinking fund - i.e. an interest bearing account solely dedicated to paying the bond principal when due. The tax revenue cost to the residents over the 10 years is the interest of \$150,000 and the principle of \$249,200 for a total cost to the residents of \$399,200. The residents in this case may or may not be the ones who used the road over the 20 years depending on how long they lived in the town.

Option 3: Special Assessment Method with Debt - Pay as you go

The Town of Anytown has a special assessment policy that caps assessments at \$5,000. The residents have an option when assessed to pay the assessment in full; finance it over 10 years at 7%; or pay it off at anytime in between. How this will work out in the real world between these special assessment options is unknown. For the purpose of this analysis, it will be assumed that all the affected residents pay their special assessment in full when they are assessed.

The assessment amount is also an unknown. For the purpose of this analysis, the special assessment amount will be assumed to be one third of the amount or \$100,000. The balance of \$200,000 will be financed as Town debt over 10 years at 5% interest with principal payments being paid into a sinking fund. Exhibit C shows the calculation and schedule for the \$200,000 debt portion. The annual tax revenue required to fund the principle due in 10 years is \$16,605 for a total cost to the residents for the debt portion of \$166,050. The balance of the \$200,000 principle comes from the compound interest of \$33,998.31. The total cost to the residents is the \$100,000 special assessment plus the debt of \$166,650 or a total cost for the road of \$266,050. This would be the lowest cost to the residents for the special assessment option. It was assumed that no resident financed their \$5,000 special assessment. Residents who would choose to finance their special assessment would add their interest cost to the total making it more than the \$266,650.

In this method only some residents who live on the road are required to pay along with the future debt payments from residents who may or may not have used the road over its life depending upon how long that they may have lived on the road or in the Town.

Summary Table of Costs to Residents - Reclaim and Repave:

Option 1: Property Tax in a dedicated road fund at interest	\$199,980
Option 2; Debt to pay for the road - Pay as you go	\$399,200
Option 3; Special assessment plus debt - Pay as you go	\$266,050

Rebuild the Road in Year 40

In this scenario, the Town of Anytown decides to plan to do both the reclaim and repave in year 20, and to rebuild the road in year 40. In order to do both, the road fund needs tax revenue that will allow the Town to withdraw \$300,000 in year 20 and then have \$700,000 in year 40 to rebuild the road with a uniform tax revenue beginning at the first year and going for the entire 40 years.

Option 1: Property Tax Method - Dedicated Road Fund

The Town of Anytown will need to receive uniform tax receipts over the 40 years in order to withdraw \$300,000 in year 20 to do the reclaim and repave and still have the fund grow to \$700,000 in year 40 to rebuild the road. When the \$300,000 is withdrawn in year 20, it is composed of \$199,980 from the residents tax receipts and \$100,072.40 of compound interest income. Exhibit D shows that the Town must receive tax receipts of \$13,863.67 each year for the 40 years. When the road is rebuilt, the residents will have paid in tax receipts of \$354,567 or 50.7% of the road cost and the compound interest income will have contributed \$345,381 of the cost of the road or 49.3% of the cost.

In this method, the residents pay for the road as they use it.

Option 2: Town Debt Method - Pay as you go

The 40 years go by and the Town of Anytown issues a \$700,000 10 year bond at 5% to cover the cost of the now required rebuild of the road. Bonds work as a form of loan where an investor lends money to an issuer, such as a government or corporation, in exchange for periodic interest payments and the return of the principal amount at maturity. The issuer agrees to pay a fixed interest rate, known as the coupon rate, at specified intervals until the bond matures, at which point the investor receives the bond's face value.

The Town of Anytown needs to determine the annual tax revenue required to cover the annual interest payments and to accumulate funds in an account that earns 4% to pay the principal of \$700,000 at the end of the 10 years. The interest cost each year is \$35,000 (\$700,000 bond principal at 5% interest rate). Exhibit E shows the calculation and schedule for the tax revenue required each year in order to accumulate \$700,000 in 10 years at 4% interest. The Town needs to receive \$58,103.50 each year and paid into a sinking fund - i.e. an interest bearing account solely dedicated to paying the bond principal when due. The tax revenue cost to the residents over the 10 years is the interest of \$350,000 and the principle of \$581,035 for a total cost to the residents of \$931,035 to rebuild the road. The residents in this case may or may not be the ones who used the road over the 40 years depending on how long they lived in the town.

Option 3: Special Assessment Method with Debt - Pay as you go

The Town of Anytown has a special assessment policy that caps assessments at \$5,000. The residents have an option when assessed to pay the assessment in full; finance it over 10 years at 7%; or pay it off at anytime in between. How this will work out in the real world between these special assessment options is unknown. For the purpose of this analysis, it will be assumed that all the affected residents pay their special assessment in full when they are assessed.

The assessment amount is also an unknown. For the purpose of this analysis, the special assessment amount will be assumed to be \$200,000. The balance of \$500,000 will be financed as Town debt over 10 years at 5% interest paid into a sinking fund. Exhibit F shows the calculation and schedule for the \$500,000 debt portion. The annual tax revenue required to fund the principle due in 10 years is \$41,503 for a total cost to the residents for the debt portion of \$415,030. The balance of the \$500,000 principle comes from the compound interest of \$84,976.32. The total cost to the residents is the \$200,000 special assessment plus the debt of \$415,030 or a total cost to rebuild the road of \$615,030. This would be the lowest cost to the residents for the special assessment option since it was assumed that no resident financed their \$5,000 special assessment. Residents who would choose to finance their special assessment would add their interest cost to the total making it more than the \$615,030.

In this method only some residents who live on the road are required to pay along with the future debt payments from residents who may or may not have used the road over its life depending upon how long that they may have lived on the road or in the Town.

Summary Table of Costs to Residents - Rebuild the Road:

Option 1: Property Tax in a dedicated road fund at interest	\$354,567
Option 2; Debt to pay for the road - Pay as you go	\$931,035
Option 3; Special assessment plus debt - Pay as you go	\$615.030

Road Study Summary

By looking at the road funding table below from the clean sheet analysis, It is clear that the Board of the Town of Anytown would exercise best their fiduciary responsibility to the residents by establishing a pay as you use **Dedicated Road Fund** as by doing so results in the least cost for the residents to pay for future required road improvement costs. A **Dedicated Road Fund** adds the revenue from the compound interest to residents tax receipts and that significantly lowers the future cost to residents of road improvements.

Road funding method	20 yr.	40 yr.	Total
Dedicated Road Fund	\$199,980	\$354,567.	\$554,547
Debt to pay for the road	\$399,200.	\$931,035.	\$1,330,235
Special assessment w/ Debt.	\$266,050.	\$615,030.	\$881,080

The **Pay As You Go** funding option involving a combination of Capped Special Assessment and debt has an associated cost that is 59% higher than the cost of a Dedicated Road Fund (\$881,080 as opposed to \$554.547). The **Pay As You Go Debt only** funding option is 140% more costly than a Dedicated Road Fund (\$1,330,235 as opposed to \$554,547).

This same analysis applies to Grand Chute.

Presently a substantial portion of the Town debt is for past and present road improvements. As with the clean sheet analysis above, every resident of the Town of Grand Chute is paying substantially more for roads than would have been necessary had any prior Town Board, any prior Town Board member, or Town Administrator ever created a study to determine “ What is the lowest cost to the residents to fund roads projects?” Every time that the Town of Grand Chute issues debt for road improvements, instead of receiving the revenue benefit of compound interest revenue, the residents must pay the higher interest cost on the debt and that adds significantly to the future cost of road improvements to every Town resident and it automatically raises the property tax rate without having any taxpayer approval to do so.

Exhibit A

Savings Calculator

Initial deposit

Annual contribution

increase % /year

Monthly contribution

increase % /year

Interest rate %

Compound

Years to save years

Tax rate %

Calculate **Clear**

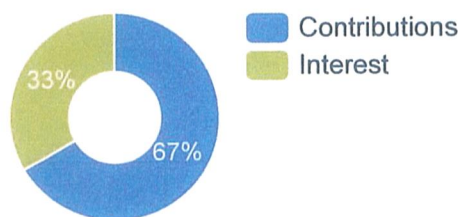
Results

End balance **\$300,052.41**

Total contributions **\$199,980.00**

Total interest earned **\$100,072.41**

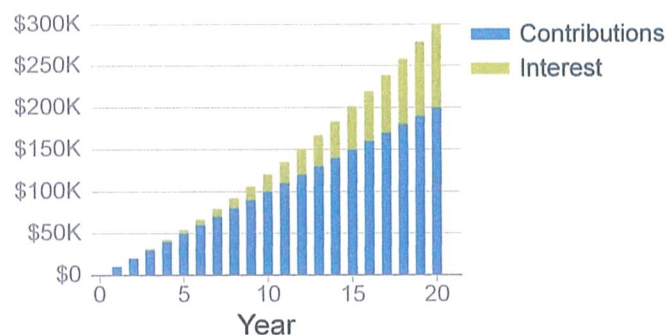
* interest rate of 4% compound monthly is equivalent to annual rate of 4.074%



Accumulation Schedule

Annual Schedule [Monthly Schedule](#)

Year	Deposit	Interest	Ending balance
1	\$9,999.00	\$0.00	\$9,999.00
2	\$9,999.00	\$407.37	\$20,405.37
3	\$9,999.00	\$831.35	\$31,235.72
4	\$9,999.00	\$1,272.59	\$42,507.31
5	\$9,999.00	\$1,731.81	\$54,238.13
6	\$9,999.00	\$2,209.74	\$66,446.87
7	\$9,999.00	\$2,707.15	\$79,153.02
8	\$9,999.00	\$3,224.82	\$92,376.84
9	\$9,999.00	\$3,763.57	\$106,139.41
10	\$9,999.00	\$4,324.28	\$120,462.69
11	\$9,999.00	\$4,907.84	\$135,369.53
12	\$9,999.00	\$5,515.16	\$150,883.69
13	\$9,999.00	\$6,147.23	\$167,029.93



14	\$9,999.00	\$6,805.06	\$183,833.98
15	\$9,999.00	\$7,489.68	\$201,322.66
16	\$9,999.00	\$8,202.20	\$219,523.86
17	\$9,999.00	\$8,943.74	\$238,466.60
18	\$9,999.00	\$9,715.50	\$258,181.10
19	\$9,999.00	\$10,518.70	\$278,698.79
20	\$9,999.00	\$11,354.62	\$300,052.41

* This calculator assumes the contributions are made at the end of each period.

by Calculator.net

Savings Calculator

Initial deposit

Annual contribution

increase % /year

Monthly contribution

increase % /year

Interest rate %

Compound

Years to save years

Tax rate %

Calculate  **Clear**

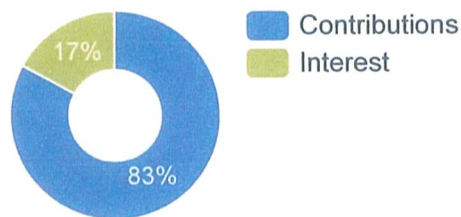
Results

End balance **\$300,223.05**

Total contributions **\$249,200.00**

Total interest earned **\$51,023.05**

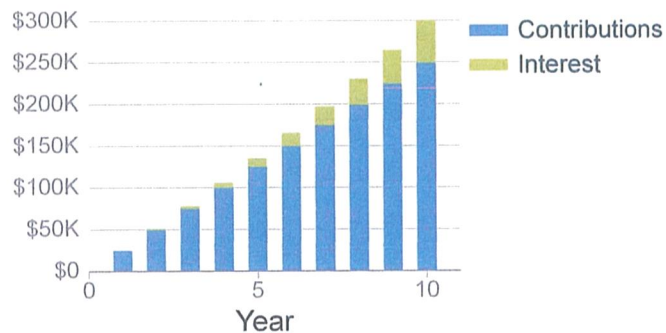
* interest rate of 4% compound monthly is equivalent to annual rate of 4.074%



Accumulation Schedule

Annual Schedule Monthly Schedule

Year	Deposit	Interest	Ending balance
1	\$24,920.00	\$0.00	\$24,920.00
2	\$24,920.00	\$1,015.28	\$50,855.28
3	\$24,920.00	\$2,071.92	\$77,847.20
4	\$24,920.00	\$3,171.62	\$105,938.82
5	\$24,920.00	\$4,316.11	\$135,174.93
6	\$24,920.00	\$5,507.24	\$165,602.16
7	\$24,920.00	\$6,746.89	\$197,269.05
8	\$24,920.00	\$8,037.05	\$230,226.10
9	\$24,920.00	\$9,379.77	\$264,525.86
10	\$24,920.00	\$10,777.19	\$300,223.05



* This calculator assumes the contributions are made at the end of each period.

by Calculator.net

Exhibit C

Savings Calculator

Initial deposit

Annual contribution

increase % /year

Monthly contribution

increase % /year

Interest rate %

Compound

Years to save years

Tax rate %

Calculate  **Clear**

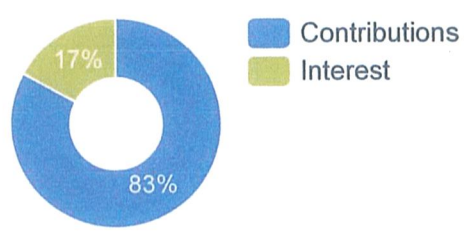
Results

End balance **\$200,048.31**

Total contributions **\$166,050.00**

Total interest earned **\$33,998.31**

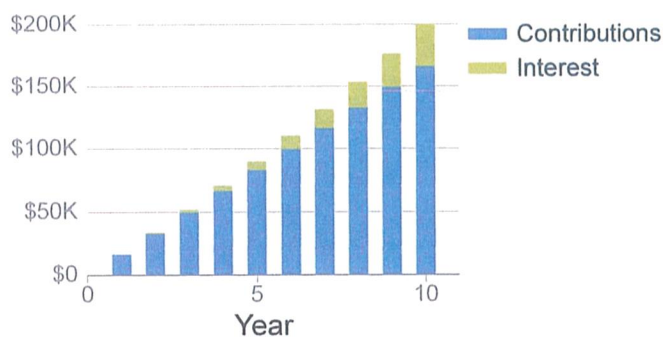
* interest rate of 4% compound monthly is equivalent to annual rate of 4.074%



Accumulation Schedule

Annual Schedule [Monthly Schedule](#)

Year	Deposit	Interest	Ending balance
1	\$16,605.00	\$0.00	\$16,605.00
2	\$16,605.00	\$676.51	\$33,886.51
3	\$16,605.00	\$1,380.59	\$51,872.10
4	\$16,605.00	\$2,113.35	\$70,590.45
5	\$16,605.00	\$2,875.96	\$90,071.42
6	\$16,605.00	\$3,669.65	\$110,346.06
7	\$16,605.00	\$4,495.67	\$131,446.73
8	\$16,605.00	\$5,355.34	\$153,407.08
9	\$16,605.00	\$6,250.04	\$176,262.12
10	\$16,605.00	\$7,181.19	\$200,048.31



* This calculator assumes the contributions are made at the end of each period.

by Calculator.net

Grand Chute Road Funding Analysis

Compound Period : Monthly

Nominal Annual Rate : 4.000 %

CASH FLOW DATA

Event	Date	Amount	Number	Period	End Date
1 Deposit	12/31/2025	13,863.67	1		
2 Deposit	12/31/2026	13,863.67	1		
3 Deposit	12/31/2027	13,863.67	1		
4 Deposit	12/31/2028	13,863.67	1		
5 Deposit	12/31/2029	13,863.67	1		
6 Deposit	12/31/2030	13,863.67	1		
7 Deposit	12/31/2031	13,863.67	1		
8 Deposit	12/31/2032	13,863.67	1		
9 Deposit	12/31/2033	13,863.67	1		
10 Deposit	12/31/2034	13,863.67	1		
11 Deposit	12/31/2035	13,863.67	1		
12 Deposit	12/31/2036	13,863.67	1		
13 Deposit	12/31/2037	13,863.67	1		
14 Deposit	12/31/2038	13,863.67	1		
15 Deposit	12/31/2039	13,863.67	1		
16 Deposit	12/31/2040	13,863.67	1		
17 Deposit	12/31/2041	13,863.67	1		
18 Deposit	12/31/2042	13,863.67	1		
19 Deposit	12/31/2043	13,863.67	1		
20 Deposit	12/31/2044	13,863.67	1		
21 Deposit	12/31/2045	13,863.67	1		
22 Withdrawal	12/31/2045	300,000.00	1		
23 Deposit	12/31/2046	13,863.67	1		
24 Deposit	12/31/2047	13,863.67	1		
25 Deposit	12/31/2048	13,863.67	1		
26 Deposit	12/31/2049	13,863.67	1		
27 Deposit	12/31/2050	13,863.67	1		
28 Deposit	12/31/2051	13,863.67	1		
29 Deposit	12/31/2052	13,863.67	1		
30 Deposit	12/31/2053	13,863.67	1		
31 Deposit	12/31/2054	13,863.67	1		
32 Deposit	12/31/2055	13,863.67	1		
33 Deposit	12/31/2056	13,863.67	1		
34 Deposit	12/31/2057	13,863.67	1		
35 Deposit	12/31/2058	13,863.67	1		
36 Deposit	12/31/2059	13,863.67	1		
37 Deposit	12/31/2060	13,863.67	1		
38 Deposit	12/31/2061	13,863.67	1		
39 Deposit	12/31/2062	13,863.67	1		
40 Deposit	12/31/2063	13,863.67	1		
41 Deposit	12/31/2064	13,863.67	1		
42 Withdrawal	12/31/2064	700,000.00	1		

Grand Chute Road Funding Analysis

AMORTIZATION SCHEDULE - Normal Amortization

	Date	Deposit	Withdrawal	Interest	Net Change	Balance
Deposit	12/31/2025	13,863.67			13,863.67	13,863.67
2025 Totals		13,863.67	0.00	0.00	13,863.67	
Deposit	12/31/2026	13,863.67		564.83	14,428.50	28,292.17
2026 Totals		13,863.67	0.00	564.83	14,428.50	
Deposit	12/31/2027	13,863.67		1,152.67	15,016.34	43,308.51
2027 Totals		13,863.67	0.00	1,152.67	15,016.34	
Deposit	12/31/2028	13,863.67		1,764.46	15,628.13	58,936.64
2028 Totals		13,863.67	0.00	1,764.46	15,628.13	
Deposit	12/31/2029	13,863.67		2,401.17	16,264.84	75,201.48
2029 Totals		13,863.67	0.00	2,401.17	16,264.84	
Deposit	12/31/2030	13,863.67		3,063.82	16,927.49	92,128.97
2030 Totals		13,863.67	0.00	3,063.82	16,927.49	
Deposit	12/31/2031	13,863.67		3,753.48	17,617.15	109,746.12
2031 Totals		13,863.67	0.00	3,753.48	17,617.15	
Deposit	12/31/2032	13,863.67		4,471.23	18,334.90	128,081.02
2032 Totals		13,863.67	0.00	4,471.23	18,334.90	
Deposit	12/31/2033	13,863.67		5,218.22	19,081.89	147,162.91
2033 Totals		13,863.67	0.00	5,218.22	19,081.89	
Deposit	12/31/2034	13,863.67		5,995.64	19,859.31	167,022.22
2034 Totals		13,863.67	0.00	5,995.64	19,859.31	
Deposit	12/31/2035	13,863.67		6,804.74	20,668.41	187,690.63
2035 Totals		13,863.67	0.00	6,804.74	20,668.41	
Deposit	12/31/2036	13,863.67		7,646.81	21,510.48	209,201.11
2036 Totals		13,863.67	0.00	7,646.81	21,510.48	
Deposit	12/31/2037	13,863.67		8,523.18	22,386.85	231,587.96
2037 Totals		13,863.67	0.00	8,523.18	22,386.85	
Deposit	12/31/2038	13,863.67		9,435.25	23,298.92	254,886.88
2038 Totals		13,863.67	0.00	9,435.25	23,298.92	
Deposit	12/31/2039	13,863.67		10,384.48	24,248.15	279,135.03
2039 Totals		13,863.67	0.00	10,384.48	24,248.15	
Deposit	12/31/2040	13,863.67		11,372.39	25,236.06	304,371.09
2040 Totals		13,863.67	0.00	11,372.39	25,236.06	

Grand Chute Road Funding Analysis

	Date	Deposit	Withdrawal	Interest	Net Change	Balance
Deposit	12/31/2041	13,863.67		12,400.55	26,264.22	330,635.31
2041 Totals		13,863.67	0.00	12,400.55	26,264.22	
Deposit	12/31/2042	13,863.67		13,470.59	27,334.26	357,969.57
2042 Totals		13,863.67	0.00	13,470.59	27,334.26	
Deposit	12/31/2043	13,863.67		14,584.23	28,447.90	386,417.47
2043 Totals		13,863.67	0.00	14,584.23	28,447.90	
Deposit	12/31/2044	13,863.67		15,743.24	29,606.91	416,024.38
2044 Totals		13,863.67	0.00	15,743.24	29,606.91	
Deposit	12/31/2045	13,863.67		16,949.48	30,813.15	446,837.53
1	12/31/2045		300,000.00	0.00	300,000.00-	146,837.53
2045 Totals		13,863.67	300,000.00	16,949.48	269,186.85-	
Deposit	12/31/2046	13,863.67		5,982.39	19,846.06	166,683.59
2046 Totals		13,863.67	0.00	5,982.39	19,846.06	
Deposit	12/31/2047	13,863.67		6,790.95	20,654.62	187,338.21
2047 Totals		13,863.67	0.00	6,790.95	20,654.62	
Deposit	12/31/2048	13,863.67		7,632.45	21,496.12	208,834.33
2048 Totals		13,863.67	0.00	7,632.45	21,496.12	
Deposit	12/31/2049	13,863.67		8,508.23	22,371.90	231,206.23
2049 Totals		13,863.67	0.00	8,508.23	22,371.90	
Deposit	12/31/2050	13,863.67		9,419.70	23,283.37	254,489.60
2050 Totals		13,863.67	0.00	9,419.70	23,283.37	
Deposit	12/31/2051	13,863.67		10,368.30	24,231.97	278,721.57
2051 Totals		13,863.67	0.00	10,368.30	24,231.97	
Deposit	12/31/2052	13,863.67		11,355.55	25,219.22	303,940.79
2052 Totals		13,863.67	0.00	11,355.55	25,219.22	
Deposit	12/31/2053	13,863.67		12,383.02	26,246.69	330,187.48
2053 Totals		13,863.67	0.00	12,383.02	26,246.69	
Deposit	12/31/2054	13,863.67		13,452.35	27,316.02	357,503.50
2054 Totals		13,863.67	0.00	13,452.35	27,316.02	
Deposit	12/31/2055	13,863.67		14,565.24	28,428.91	385,932.41
2055 Totals		13,863.67	0.00	14,565.24	28,428.91	
Deposit	12/31/2056	13,863.67		15,723.48	29,587.15	415,519.56
2056 Totals		13,863.67	0.00	15,723.48	29,587.15	

Grand Chute Road Funding Analysis

	Date	Deposit	Withdrawal	Interest	Net Change	Balance
Deposit	12/31/2057	13,863.67		16,928.91	30,792.58	446,312.14
2057 Totals		13,863.67	0.00	16,928.91	30,792.58	
Deposit	12/31/2058	13,863.67		18,183.45	32,047.12	478,359.26
2058 Totals		13,863.67	0.00	18,183.45	32,047.12	
Deposit	12/31/2059	13,863.67		19,489.09	33,352.76	511,712.02
2059 Totals		13,863.67	0.00	19,489.09	33,352.76	
Deposit	12/31/2060	13,863.67		20,847.94	34,711.61	546,423.63
2060 Totals		13,863.67	0.00	20,847.94	34,711.61	
Deposit	12/31/2061	13,863.67		22,262.14	36,125.81	582,549.44
2061 Totals		13,863.67	0.00	22,262.14	36,125.81	
Deposit	12/31/2062	13,863.67		23,733.96	37,597.63	620,147.07
2062 Totals		13,863.67	0.00	23,733.96	37,597.63	
Deposit	12/31/2063	13,863.67		25,265.75	39,129.42	659,276.49
2063 Totals		13,863.67	0.00	25,265.75	39,129.42	
Deposit	12/31/2064	13,863.67		26,859.94	40,723.61	700,000.10
2	12/31/2064		700,000.00	0.10	700,000.10	0.00
2064 Totals		13,863.67	700,000.00	26,859.84	659,276.49	
Grand Totals		554,546.80	1,000,000.00	445,453.20	0.00	
Subtract						
Exhibit A		<199,980>		<100,072.40>		
Rebuild Road		<u>354,567</u>		<u>345,381</u>		
		50,796		49,307		

* The computation for the \$300,000 withdrawal in year 20 did not also subtract the total tax revenue receipts and related accrued compound interest as shown in Exhibit A from the total computation. In order to arrive at the total tax receipts and accrued compound interest associated only with the \$700,000, it is necessary to deduct the values from Exhibit A as shown in the above calculation.

Exhibit E

Savings Calculator

Initial deposit

Annual contribution

increase % /year

Monthly contribution

increase % /year

Interest rate %

Compound

Years to save years

Tax rate %

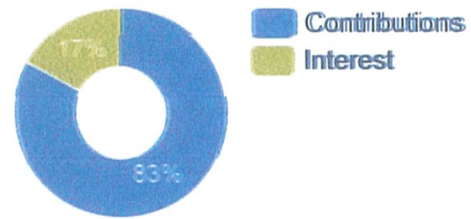
Results

End balance \$700,000.41

Total contributions \$581,035.00

Total interest earned \$118,965.41

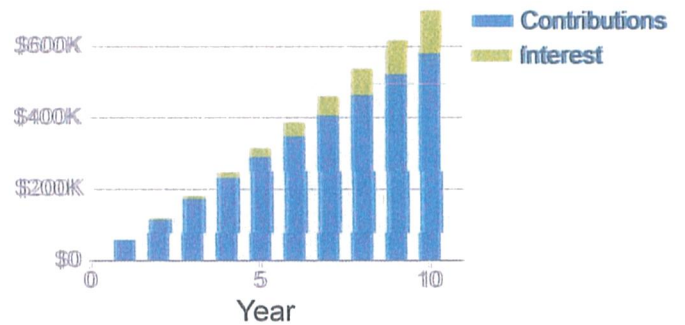
* interest rate of 4% compound monthly is equivalent to annual rate of 4.074%



Accumulation Schedule

Annual Schedule Monthly Schedule

Year	Deposit	Interest	Ending balance
1	\$58,103.50	\$0.00	\$58,103.50
2	\$58,103.50	\$2,367.23	\$118,574.23
3	\$58,103.50	\$4,830.90	\$181,508.62
4	\$58,103.50	\$7,394.94	\$247,007.06
5	\$58,103.50	\$10,063.45	\$315,174.01
6	\$58,103.50	\$12,840.68	\$386,118.19
7	\$58,103.50	\$15,731.05	\$459,952.74
8	\$58,103.50	\$18,739.18	\$536,795.42
9	\$58,103.50	\$21,869.87	\$616,768.80
10	\$58,103.50	\$25,128.11	\$700,000.41



* This calculator assumes the contributions are made at the end of each period.

by Calculator.net

EXhibit F

Savings Calculator

Initial deposit

Annual contribution

increase % /year

Monthly contribution

increase % /year

Interest rate %

Compound

Years to save years

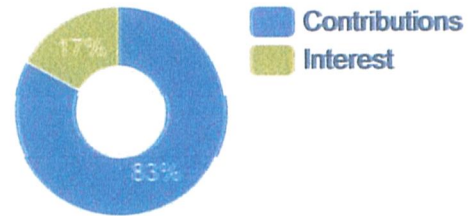
Tax rate %

Calculate Clear

Results

End balance \$500,006.32
 Total contributions \$415,030.00
 Total interest earned \$84,976.32

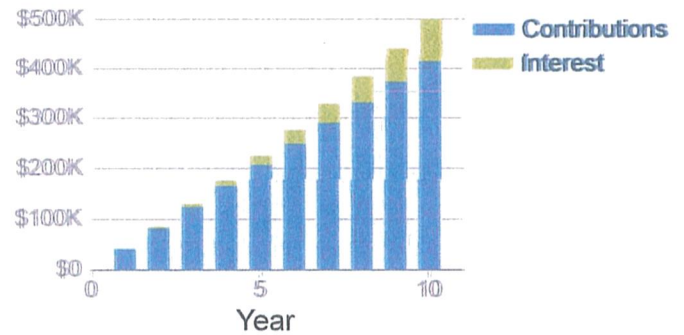
* interest rate of 4% compound monthly is equivalent to annual rate of 4.074%



Accumulation Schedule

Annual Schedule Monthly Schedule

Year	Deposit	Interest	Ending balance
1	\$41,503.00	\$0.00	\$41,503.00
2	\$41,503.00	\$1,690.90	\$84,696.90
3	\$41,503.00	\$3,450.68	\$129,650.58
4	\$41,503.00	\$5,282.16	\$176,435.74
5	\$41,503.00	\$7,188.26	\$225,127.01
6	\$41,503.00	\$9,172.02	\$275,802.03
7	\$41,503.00	\$11,236.60	\$328,541.63
8	\$41,503.00	\$13,385.29	\$383,429.92
9	\$41,503.00	\$15,621.53	\$440,554.45
10	\$41,503.00	\$17,948.87	\$500,006.32



* This calculator assumes the contributions are made at the end of each period.

by Calculator.net