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# Town of Paradise Valley (AZ)

***Presentation to Town Council***
***Cash and Pension Liability Management Options***

9 May 2019

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# Comparison of Funding Options[1]

## Four options for applying contemplated FY2020 $12 million cash surplus to repay pension UAAL and/or fund CIP

| | OPTION 1. STATUS QUO | OPTION 2. ACCELERATED CASH PAYMENTS | OPTION 3. $6M TAX-EXEMPT CIP BONDS | OPTION 4. $12M TAXABLE PENSION BONDS |
|---|---|---|---|---|
| *Description* | • Apply cash surplus in equal annual installments<br>• FY2020: $6M to PSPRS<br>• FY2021: $6M to PSPRS | • Pay additional $3M to PSPRS on 6/30/2019<br>• FY2020: $6M to PSPRS<br>• FY2021: $3M to PSPRS | • Apply $12M cash surplus to PSPRS on 7/2/2019<br>• Issue $6M tax-exempt bonds for CIP | • Issue $12M taxable pension bonds for UAAL<br>• Retain $12M cash surplus for payment fund @ 2.70% |
| *Benefits* | • Expedites repayment of UAAL currently accruing @ PSPRS' assumed rate of return of 7.40%<br>• Projected FY2021 UAAL of $696,980 | • Faster UAAL repayment relative to OPTION 1; reduces UAAL balance to which the PSPRS 7.40% rate of return is applied, thereby reducing the amount of required future UAAL payments<br>• Projected FY2021 UAAL of $384,552 | • Repays UAAL upfront, allowing PSPRS to earn 7.40% on $12M<br>• Projected FY2020 UAAL of $62,056<br>• Interest on bonds payable @ 2.01%, relative to 7.40% PSPRS assumed rate<br>• Upfront funds available for capital projects | • Repays UAAL upfront, 100% funding on 7/2/2019<br>• Replaces UAAL currently growing @ PSPRS rate of 7.40% with POB debt @ 3.13%<br>• Retains $12M cash surplus for ongoing earnings ($6.7M)<br>• All debt repaid by FY2025 |
| *Opportunity Cost* | • Lost investment earnings on cash surplus (up to $6.4M from 2020-2037)<br>• Other capital projects that could be funded<br>• Remaining UAAL still needs to be repaid until FY2037 | • Lost investment earnings on cash surplus (up to $6.6M from 2020-2037)<br>• Other capital projects that could be funded<br>• Remaining UAAL still needs to be repaid until FY2037 | • Lost investment earnings on cash surplus (up to $6.7M from 2020-2037)<br>• New outflow of debt service expense<br>• Modest remaining UAAL that needs to be amortized | • New outflow of debt service expense<br>• Taxable borrowing rate higher than tax-exempt |
| *Net Earnings (Inflow)* | ($6,412,509) (Inv. loss) | ($6,563,743) (Inv. loss) | ($6,715,905) (Inv. loss) | $0 (Inv. loss) |
| *Net Payments (Outflow)* | ($22,458,743) (UAAL gain) | ($23,030,904) (UAAL gain) | ($23,617,330) (UAAL gain)<br>($6,994,700) (TE D/S) | ($23,735,149) (UAAL gain)<br>($13,218,428) (Txbl D/S) |
| *Net Budget Impact* | $16,046,234 | $16,467,161 | $9,906,725 | $10,516,721 |
| *PV Budget Impact* | $8,208,737 | $8,362,748 | $3,208,895 | $2,043,621 |
| *Upfront Funds* | -- (Cash Surplus Depleted) | -- (Cash Surplus Depleted) | $6,000,000 (Bond Proceeds) | $12,000,000 (Cash Surplus) |
| *Net Present Value* | $8,208,737 | $8,362,748 | $9,208,895 | $14,043,621 |

1. *Based on current actuarial valuation data as provided by Town. Market conditions as of April 30, 2019. Stifel does not commit to underwrite at these levels. Please see pension risk disclaimer in Appendix.*

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# Comparison of Funding Options[1]

| | BASE: DO NOTHING | | OPTION 1. STATUS QUO | | | | OPTION 2. ACCELERATED CASH PAYMENTS | | | | OPTION 3. $6M TAX-EXEMPT CIP BONDS | | | | | OPTION 4. $12M TAXABLE PENSION BONDS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY | A: Inflow Cash Earnings | B: Outflow Budget UAAL Payts | A1 Cash Earnings | B1 Budget UAAL Payts | (A1-A) – (B1-B) Net Budget Impact | PV Impact | A2 Cash Earnings | B2 Budget UAAL Payts | (A2-A) – (B2-B) Net Budget Impact | PV Impact | A3 Cash Earnings | B3 Budget UAAL Payts | B3 Debt Service | (A3-A) – (B3-B) Net Budget Impact | PV Impact | A4 Cash Earnings | B4 Budget UAAL Payts | B4 Debt Service | (A4-A) – (B4-B) Net Budget Impact | PV Impact |
| 2020 | 300,000 | 947,949 | 175,000 | | 822,949 | 766,247 | 100,000 | | 747,949 | 696,414 | 0 | | 135,400 | 512,549 | 477,234 | 300,000 | | 164,488 | 783,461 | 729,480 |
| 2021 | 307,500 | 985,442 | 29,375 | | 707,317 | 613,204 | 2,500 | | 680,442 | 589,905 | 0 | 5,095 | 1,383,850 | (711,004) | (616,401) | 307,500 | | 2,610,553 | (1,625,111) | (1,408,882) |
| 2022 | 315,188 | 1,026,646 | 5,109 | 60,106 | 656,461 | 529,903 | 2,563 | 33,163 | 680,858 | 549,596 | 0 | 5,308 | 1,373,700 | (667,550) | (538,854) | 315,188 | | 2,608,984 | (1,582,338) | (1,277,281) |
| 2023 | 323,067 | 1,077,533 | 5,237 | 63,085 | 696,618 | 523,573 | 2,627 | 34,807 | 722,286 | 542,865 | 0 | 5,571 | 1,370,250 | (621,355) | (467,007) | 323,067 | | 2,609,901 | (1,532,368) | (1,151,718) |
| 2024 | 331,144 | 1,122,962 | 5,368 | 65,745 | 731,441 | 511,868 | 2,692 | 36,274 | 758,236 | 530,620 | 0 | 5,806 | 1,368,250 | (582,238) | (407,454) | 331,144 | | 2,612,783 | (1,489,820) | (1,042,587) |
| 2025 | 339,422 | 1,152,771 | 5,502 | 67,490 | 751,360 | 489,579 | 2,760 | 37,237 | 778,871 | 507,504 | 0 | 5,960 | 1,363,250 | (555,862) | (362,194) | 339,422 | | 2,611,720 | (1,458,949) | (950,636) |
| 2026 | 347,908 | 1,193,117 | 5,640 | 69,852 | 780,996 | 473,826 | 2,829 | 38,540 | 809,497 | 491,117 | 0 | 6,169 | | 839,040 | 509,041 | 347,908 | | | 1,193,117 | 723,857 |
| 2027 | 356,606 | 1,234,876 | 5,781 | 72,297 | 811,754 | 458,554 | 2,899 | 39,889 | 841,280 | 475,233 | 0 | 6,385 | | 871,885 | 492,521 | 356,606 | | | 1,234,876 | 697,572 |
| 2028 | 365,521 | 1,278,097 | 5,925 | 74,827 | 843,674 | 443,747 | 2,972 | 41,285 | 874,262 | 459,836 | 0 | 6,608 | | 905,967 | 476,512 | 365,521 | | | 1,278,097 | 672,241 |
| 2029 | 374,659 | 1,322,830 | 6,073 | 77,446 | 876,798 | 429,395 | 3,046 | 42,730 | 908,487 | 444,914 | 0 | 6,840 | | 941,332 | 460,999 | 374,659 | | | 1,322,830 | 647,830 |
| 2030 | 384,025 | 1,369,129 | 6,225 | 80,157 | 911,172 | 415,483 | 3,122 | 44,226 | 944,000 | 430,452 | 0 | 7,079 | | 978,024 | 445,967 | 384,025 | | | 1,369,129 | 624,306 |
| 2031 | 393,626 | 1,417,049 | 6,381 | 82,963 | 946,841 | 402,000 | 3,200 | 45,774 | 980,849 | 416,438 | 0 | 7,327 | | 1,016,096 | 431,403 | 393,626 | | | 1,417,049 | 601,635 |
| 2032 | 403,467 | 1,466,645 | 6,540 | 85,866 | 983,852 | 388,933 | 3,280 | 47,376 | 1,019,083 | 402,860 | 0 | 7,583 | | 1,055,595 | 417,294 | 403,467 | | | 1,466,645 | 579,788 |
| 2033 | 413,553 | 1,517,978 | 6,704 | 88,872 | 1,022,257 | 376,271 | 3,362 | 49,034 | 1,058,753 | 389,704 | 0 | 7,849 | | 1,096,576 | 403,626 | 413,553 | | | 1,517,978 | 558,735 |
| 2034 | 423,892 | 1,571,107 | 6,872 | 91,982 | 1,062,104 | 364,001 | 3,446 | 50,750 | 1,099,911 | 376,958 | 0 | 8,123 | | 1,139,092 | 390,386 | 423,892 | | | 1,571,107 | 538,445 |
| 2035 | 434,489 | 1,626,096 | 7,043 | 95,201 | 1,103,449 | 352,114 | 3,532 | 52,527 | 1,142,613 | 364,612 | 0 | 8,408 | | 1,183,199 | 377,563 | 434,489 | | | 1,626,096 | 518,893 |
| 2036 | 445,352 | 1,683,009 | 7,219 | 98,534 | 1,146,344 | 340,598 | 3,621 | 54,365 | 1,186,914 | 352,652 | 0 | 8,702 | | 1,228,956 | 365,143 | 445,352 | | | 1,683,009 | 500,050 |
| 2037 | 456,485 | 1,741,915 | 7,400 | 101,982 | 1,190,847 | 329,442 | 3,711 | 56,268 | 1,232,873 | 341,068 | 0 | 9,006 | | 1,276,423 | 353,116 | 456,485 | | | 1,741,915 | 481,892 |
| | **6,715,905** | **23,735,149** | **303,396** | **1,276,406** | **16,046,234** | **8,208,737** | **152,162** | **704,245** | **16,467,161** | **8,362,748** | **0** | **117,819** | **6,994,700** | 9,906,725 | **3,208,895** | **6,715,905** | **0** | **13,218,428** | **10,516,721** | **2,043,621** |
| | | | **Upfront Cash Balance** | | | **0** | **Upfront Cash Balance** | | | **0** | **Upfront Cash Balance** | | | | **6,000,000** | **Upfront Cash Balance** | | | | **12,000,000** |
| | | | **Net Present Value** | | | **8,208,737** | **Net Present Value** | | | **8,362,748** | **Net Present Value** | | | | **9,208,895** | **Net Present Value** | | | | **14,043,621** |

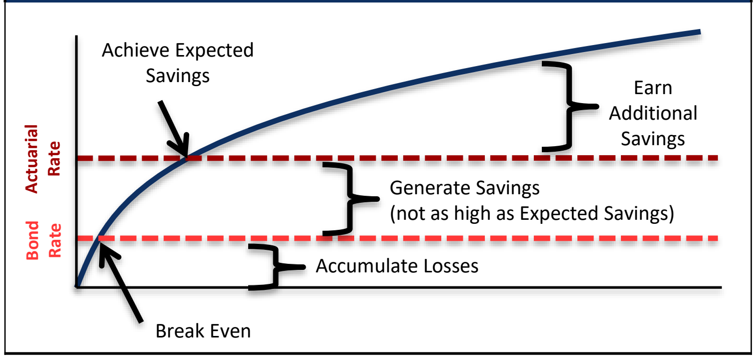
1. *Based on current actuarial valuation data as provided by Town. Market conditions as of April 30, 2019. Stifel does not commit to underwrite at these levels. Please see pension risk disclaimer in Appendix.*

# Pension Bond Risks



- Pension bonds carry three distinct types of risks: i) actuarial risk, ii) market risk, and iii) other risks
- **Actuarial Risk.** Any retirement system's independent actuaries calculate projections for plan assets and liabilities, and these projections are premised on a variety of assumptions such as investment returns, payroll increase, COLA, mortality, early retirement, and benefit payments
  - Annual employer contributions are calculated based on these assumptions
  - Any revision or variance from these assumptions will alter projections and required contributions, regardless of the issuance of pension bonds
  - Actuarial risk is inherent to all pension funds, and all projections of future contributions and payouts

**Savings Impact from Varying Investment Returns**




- **Market Risk.** The primary risk associated with pension bonds is long-term investment return performance
  - The bond rate is impacted by market risk at the time the bonds are sold, but is locked in after that
- **Other Risks.** Pension funding bonds have numerous risks including, but not limited to, variance from the anticipated investment return, payroll increase, COLA, mortality, early retirement, covered payroll and other assumptions contained in the actuarial reports, CAFR and other documents
  - All references to expected savings are for potential savings and are based on achieving rates assumed in actuarial reports, CAFR and other documents
  - Issuing pension bonds could result in savings that are greater or less than stated in the analysis, or could result in a loss
  - Potential savings vary from year to year; Actual savings or losses and the success of the pension bond transaction cannot be known until the amortization of the final pension bond maturity
- Additional risks may also exist

# Pension Risk Disclaimer and Engaged Underwriter Disclosure

Pension Obligation Bonds ("POBs") are a source of financing for unfunded actuarial liabilities of pension funds and can serve a valuable function. However, the success of a POB financing is dependent on a number of assumptions proving to be accurate, and the failure of any of these assumptions is a risk that a government issuing POBs should consider.

Among the assumptions that are important to a POB financing, and the risks associated with those assumptions providing to be inaccurate, are the following:

- Assumption: The investment yield on the POB proceeds once deposited in the pension fund will equal or exceed the yield on the POBs. **Risk: If the investment yield on the POB proceeds is less than the yield on the POBs, and the decline is not offset by positive changes in other assumptions, the issuance of the POBs may actually increase the unfunded actuarial liability.**
- Assumption: Payroll increases during the term of the POBs will be as anticipated when the unfunded actuarial liability was estimated at POB issuance. **Risk: If payroll increases during the term of the POBs exceed expectations, and the increases are not offset by positive changes in other assumptions, the POB proceeds will not suffice to cover the unfunded actuarial liability.**
- Assumption: Cost of living adjustments ("COLAs") will be as anticipated when the unfunded actuarial liability was estimated at POB issuance**. Risk: If COLAs exceed expectations during the term of the POBs, and the increases are not offset by positive changes in other assumptions, the POB proceeds will not suffice to cover the unfunded actuarial liability.**
- Assumption: Various assumptions used in calculating the unfunded actuarial liability -- such as mortality rates, early retirement incentives, types of payrolls covered by the pension fund -- will be as anticipated at the time of POB issuance. **Risk: If there are reductions in mortality rates, increases in early retirement incentives, expansions of the payrolls covered by the pension plan during the term of the POBs, and these changes are not offset by positive changes to other assumptions, the POB proceeds will not suffice to cover the unfunded actuarial liability.**

In addition to analyzing potential benefits that are based on achieving assumptions made in estimating the unfunded actuarial liability, we will also analyze potential budgetary benefits or losses based on various prospective levels of the pension systems' earnings to assist you in gauging the likelihood of success of a POB transaction. It should be noted that potential budgetary benefits vary from year to year. Actual benefits or losses and the success of the POB financing cannot be known until the POBs have been paid in full.

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