



Board of Directors

Finance Committee

March 18, 2020

Opening Comments



J.J. Eden

Executive Director

January Statistics

Triangle Expressway

- Transactions – 4.8 million
 - 5.0% year-over-year increase
- Revenue - \$5.1 million
 - 32.0% year-over-year increase

Monroe Expressway

- Transactions – 2.8 million
- Revenue - \$2.0 million

Transponders

- Over 24,000 distributed
- Over 789,000 distributed program-to-date as of January 31, 2020

Complete 540 Construction Update



Dennis Jernigan, P.E.
Director of Highway Operations

Complete 540 Design

R-2828

- 8.6 miles
- 314 design submittals, including final roadway design plans, hydraulics design plans, MOT plans, structure design plans
- Construction plans roughly 85% complete

R-2721B

- 4.9 miles
- 124 design submittals, including final roadway design plans, hydraulics design plans, structure design plans
- Construction plans roughly 70% complete

R-2721A

- 4.3 miles
- 157 design submittals, including final roadway plans, hydraulics design plans, culvert survey reports
- Construction plans roughly 60% complete

Complete 540 Right of Way

R-2721A

- 211 parcels
- 179 parcels settled
- 32 parcels remaining

R-2721B

- 221 parcels
- 180 parcels settled
- 41 parcels remaining

R-2828

- 212 parcels
- 83 parcels settled
- 129 parcels remaining



Colonial Pipeline at US 401



I-40



West Lake Road





School Principals in the Area

Presentations

INFRA Grant Support Letters

Resident Communications

Complete 540 Plan of Finance



David Roy

Director of Finance & Budget

David Miller

PFM Financial Advisors



Complete 540 TIFA Loan Bond Anticipation Note Overview

- ◆ NCTA is considering TIFIA BANs to be issued when all 2019 Bond proceeds have been expended (estimated to be Summer 2020), instead of drawing on TIFIA at that time
- ◆ TIFIA Bond Anticipation Notes are frequently used for the following reasons:
 - To avoid complications with multiple TIFIA Loan draws – TIFIA draws are limited to 33% of total costs, pro-rata with actual expenditures
 - To realize interest cost savings – The interest rate on short term BANs will likely be less than the TIFIA Loan rate of 2.27% which was set based on the 30-Year Treasury SLGS
 - Allowable arbitrage earnings – In today's yield curve environment NCTA could earn more on the BANs proceeds until spent on construction than the interest cost of the BANs



Benefits TIFIA Bond Anticipation Notes

◆ Potential interest savings

- Depending on market conditions, for the same amount of funded project costs, the Interim Funding/TIFIA BAN option and the TIFIA Loan option can incur different total interest payments due to the following factors:

| | Benchmark Rate | Credit Spreads | Interest Due |
|------------|-----------------------|----------------|-------------------------------|
| TIFIA BAN | Short-term tax exempt | Yes | Accrue on the entire issuance |
| TIFIA Loan | Long-term taxable | No | Accrue only on drawn amounts |

◆ Investment earnings

- Once the BAN is sold, its proceeds can be invested at or above the arbitrage yield to generate earnings during the spenddown period to pay construction
- The TIFIA loan option will not generate earnings as it is on a draw-as-you-go basis.

◆ Administrative procedure

- The TIFIA BAN option reduces NCTA's administrative burdens by drawing the loan once at BAN maturity vs. monthly as construction progresses.



Financing Assumptions and Scenarios

- Below is a table of assumptions for the BANs Analysis
- Markets have been volatile and are subject to change on a daily basis

| | 1.5 Year BAN | 2.5 Year BAN | 3.5 Year BAN | No BAN |
|-----------------------------|--------------|--------------|--------------|-----------|
| BAN Dated Date | 8/1/2020 | 8/1/2020 | 8/1/2020 | - |
| BAN Maturity Date | 1/15/2022 | 1/1/2023 | 1/1/2024 | - |
| TIFIA Draw Date | 1/15/2022 | 1/1/2023 | 1/1/2024 | 7/15/2020 |
| BAN Interest Rate Benchmark | AAA MMD | AAA MMD | AAA MMD | - |
| Spread | 0.35% | 0.40% | 0.45% | - |
| BAN Rate | 1.00% | 1.05% | 1.10% | - |
| Fund Earnings Rate | 1.40% | 1.05% | 1.10% | - |
| Capitalize Interest Through | 1/15/2022 | 1/1/2023 | 1/1/2024 | - |
| Final Project Draw Date | 1/15/2022 | 1/15/2022 | 1/15/2022 | 1/15/2022 |
| Substantial Completion | 7/1/2023 | 7/1/2023 | 7/1/2023 | 7/1/2023 |



TIFIA BANs Analysis Results – 3.5 Years

- The table to the right shows that issuing BANs maturing in 3.5 years results in a PV benefit of \$13.5 million
- The BAN interest rate is less than the locked in TIFIA Rate, resulting in reduced net debt service payments by approximately \$47.8 million
- The TIFIA BANs will be limited by the par amount of the TIFA Loan - \$499.4 million. Based on current rates, the premium from utilizing 5% coupons will not cover both the capitalized interest and issuance costs.
- NCTA will have to come up with the difference - \$16.3 million.
- Potential sources include reduced fuel reserve amount, project contingency, general reserve funds

| | 3.5 Year BAN | | | No BAN | | Benefit | |
|-------|--------------|------------|-------------|-------------|-------------|--------------|--------------|
| FY | TIFIA DS | PAYGO | PV | TIFIA DS | PV | Gross \$ | PV \$ |
| 2021 | - | - | - | - | - | | |
| 2022 | - | 16,250,985 | 15,727,919 | - | - | (16,250,985) | (15,727,919) |
| 2023 | - | - | - | - | - | | |
| 2024 | - | - | - | - | - | | |
| 2025 | - | - | - | - | - | | |
| 2026 | 5,880,396 | - | 5,177,916 | 6,251,649 | 5,504,818 | 371,253 | 326,902 |
| 2027 | 6,933,427 | - | 5,964,889 | 7,370,952 | 6,341,297 | 437,525 | 376,408 |
| 2028 | 9,093,450 | - | 7,650,135 | 9,667,348 | 8,132,942 | 573,898 | 482,807 |
| 2029 | 12,536,702 | - | 10,319,696 | 13,296,814 | 10,945,389 | 760,112 | 625,693 |
| 2030 | 12,525,352 | - | 10,081,503 | 13,285,464 | 10,693,308 | 760,112 | 611,805 |
| 2031 | 12,514,002 | - | 9,848,800 | 13,274,114 | 10,447,025 | 760,112 | 598,225 |
| 2032 | 12,502,644 | - | 9,621,020 | 13,262,756 | 10,205,940 | 760,112 | 584,920 |
| 2033 | 12,491,302 | - | 9,398,782 | 13,251,414 | 9,970,710 | 760,112 | 571,928 |
| 2034 | 12,479,952 | - | 9,181,815 | 13,240,064 | 9,741,049 | 760,112 | 559,234 |
| 2035 | 12,468,602 | - | 8,969,849 | 13,228,714 | 9,516,670 | 760,112 | 546,821 |
| 2036 | 12,954,422 | - | 9,112,081 | 13,714,534 | 9,646,740 | 760,112 | 534,659 |
| 2037 | 12,931,738 | - | 8,894,075 | 13,691,850 | 9,416,859 | 760,112 | 522,784 |
| 2038 | 12,909,038 | - | 8,681,395 | 13,669,150 | 9,192,575 | 760,112 | 511,180 |
| 2039 | 12,886,338 | - | 8,473,775 | 13,646,450 | 8,973,608 | 760,112 | 499,834 |
| 2040 | 12,863,622 | - | 8,270,715 | 13,623,734 | 8,759,432 | 760,112 | 488,717 |
| 2041 | 30,974,983 | - | 19,409,154 | 33,535,019 | 21,012,229 | 2,560,035 | 1,603,075 |
| 2042 | 49,006,031 | - | 30,123,544 | 53,359,743 | 32,799,729 | 4,353,711 | 2,676,185 |
| 2043 | 49,006,031 | - | 29,454,917 | 53,359,743 | 32,071,701 | 4,353,711 | 2,616,784 |
| 2044 | 49,006,031 | - | 28,800,251 | 53,359,743 | 31,358,874 | 4,353,711 | 2,558,623 |
| 2045 | 49,006,031 | - | 28,160,125 | 53,359,743 | 30,661,880 | 4,353,711 | 2,501,754 |
| 2046 | 49,006,031 | - | 27,535,079 | 53,359,743 | 29,981,304 | 4,353,711 | 2,446,225 |
| 2047 | 49,006,031 | - | 26,923,906 | 53,359,743 | 29,315,835 | 4,353,711 | 2,391,928 |
| 2048 | 49,006,031 | - | 26,325,494 | 53,359,743 | 28,664,260 | 4,353,711 | 2,338,765 |
| 2049 | 49,006,031 | - | 25,740,374 | 53,359,743 | 28,027,157 | 4,353,711 | 2,286,783 |
| 2050 | 22,755,607 | - | 11,687,066 | 22,755,607 | 11,687,066 | | |
| 2051 | 22,755,607 | - | 11,427,658 | 22,755,607 | 11,427,658 | | |
| 2052 | 22,755,607 | - | 11,173,666 | 22,755,607 | 11,173,666 | | |
| 2053 | 22,755,607 | - | 10,925,316 | 22,755,607 | 10,925,316 | | |
| 2054 | 22,755,607 | - | 10,682,816 | 22,755,607 | 10,682,816 | | |
| 2055 | 22,755,607 | - | 10,445,699 | 22,755,607 | 10,445,699 | | |
| 2056 | 22,755,607 | - | 10,213,532 | 22,755,607 | 10,213,532 | | |
| 2057 | 22,755,607 | - | 9,986,523 | 22,755,607 | 9,986,523 | | |
| 2058 | 11,377,804 | - | 4,909,603 | 11,377,804 | 4,909,603 | | |
| Total | 790,416,888 | 16,250,985 | 479,299,088 | 838,310,632 | 492,833,211 | 31,642,760 | 13,534,122 |



Full Scenario Analysis Results

| FY | 1.5 Year BAN | | | 2.5 Year | | | 3.5 Year BAN | | | No BAN | |
|--------------|--------------------|------------------|--------------------|--------------------|-------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|
| | TIFIA DS | PAYGO | PV | TIFIA DS | PAYGO | PV | TIFIA DS | PAYGO | PV | TIFIA DS | PV |
| 2021 | | | | | | | - | - | - | - | - |
| 2022 | | 3,699,199 | 3,580,134 | | 10,435,735 | 10,099,843 | - | 16,250,985 | 15,727,919 | - | - |
| 2023 | | | | | | | - | - | - | - | - |
| 2024 | | | | | | | - | - | - | - | - |
| 2025 | | | | | | | - | - | - | - | - |
| 2026 | 6,146,459 | | 5,412,194 | 6,014,453 | | 5,295,958 | 5,880,396 | - | 5,177,916 | 6,251,649 | 5,504,818 |
| 2027 | 7,247,135 | | 6,234,775 | 7,091,490 | | 6,100,872 | 6,933,427 | - | 5,964,889 | 7,370,952 | 6,341,297 |
| 2028 | 9,504,890 | | 7,996,270 | 9,300,755 | | 7,824,536 | 9,093,450 | - | 7,650,135 | 9,667,348 | 8,132,942 |
| 2029 | 13,081,439 | | 10,768,101 | 12,811,169 | | 10,545,626 | 12,536,702 | - | 10,319,696 | 13,296,814 | 10,945,389 |
| 2030 | 13,070,089 | | 10,519,955 | 12,799,819 | | 10,302,418 | 12,525,352 | - | 10,081,503 | 13,285,464 | 10,693,308 |
| 2031 | 13,058,739 | | 10,277,520 | 12,788,469 | | 10,064,812 | 12,514,002 | - | 9,848,800 | 13,274,114 | 10,447,025 |
| 2032 | 13,047,381 | | 10,040,205 | 12,777,112 | | 9,832,227 | 12,502,644 | - | 9,621,020 | 13,262,756 | 10,205,940 |
| 2033 | 13,036,039 | | 9,808,656 | 12,765,769 | | 9,605,298 | 12,491,302 | - | 9,398,782 | 13,251,414 | 9,970,710 |
| 2034 | 13,024,689 | | 9,582,591 | 12,754,419 | | 9,383,747 | 12,479,952 | - | 9,181,815 | 13,240,064 | 9,741,049 |
| 2035 | 13,013,339 | | 9,361,730 | 12,743,069 | | 9,167,299 | 12,468,602 | - | 8,969,849 | 13,228,714 | 9,516,670 |
| 2036 | 13,499,159 | | 9,495,246 | 13,228,890 | | 9,305,140 | 12,954,422 | - | 9,112,081 | 13,714,534 | 9,646,740 |
| 2037 | 13,476,475 | | 9,268,730 | 13,206,205 | | 9,082,846 | 12,931,738 | - | 8,894,075 | 13,691,850 | 9,416,859 |
| 2038 | 13,453,775 | | 9,047,734 | 13,183,505 | | 8,865,976 | 12,909,038 | - | 8,681,395 | 13,669,150 | 9,192,575 |
| 2039 | 13,431,075 | | 8,831,982 | 13,160,805 | | 8,654,258 | 12,886,338 | - | 8,473,775 | 13,646,450 | 8,973,608 |
| 2040 | 13,408,359 | | 8,620,956 | 13,138,090 | | 8,447,185 | 12,863,622 | - | 8,270,715 | 13,623,734 | 8,759,432 |
| 2041 | 32,809,641 | | 20,558,003 | 31,899,381 | | 19,988,005 | 30,974,983 | - | 19,409,154 | 33,535,019 | 21,012,229 |
| 2042 | 52,126,132 | | 32,041,440 | 50,578,104 | | 31,089,882 | 49,006,031 | - | 30,123,544 | 53,359,743 | 32,799,729 |
| 2043 | 52,126,132 | | 31,330,244 | 50,578,104 | | 30,399,806 | 49,006,031 | - | 29,454,917 | 53,359,743 | 32,071,701 |
| 2044 | 52,126,132 | | 30,633,896 | 50,578,104 | | 29,724,139 | 49,006,031 | - | 28,800,251 | 53,359,743 | 31,358,874 |
| 2045 | 52,126,132 | | 29,953,016 | 50,578,104 | | 29,063,479 | 49,006,031 | - | 28,160,125 | 53,359,743 | 30,661,880 |
| 2046 | 52,126,132 | | 29,288,174 | 50,578,104 | | 28,418,381 | 49,006,031 | - | 27,535,079 | 53,359,743 | 29,981,304 |
| 2047 | 52,126,132 | | 28,638,089 | 50,578,104 | | 27,787,603 | 49,006,031 | - | 26,923,906 | 53,359,743 | 29,315,835 |
| 2048 | 52,126,132 | | 28,001,578 | 50,578,104 | | 27,169,994 | 49,006,031 | - | 26,325,494 | 53,359,743 | 28,664,260 |
| 2049 | 52,126,132 | | 27,379,204 | 50,578,104 | | 26,566,104 | 49,006,031 | - | 25,740,374 | 53,359,743 | 28,027,157 |
| 2050 | 22,755,607 | | 11,687,066 | 22,755,607 | | 11,687,066 | 22,755,607 | - | 11,687,066 | 22,755,607 | 11,687,066 |
| 2051 | 22,755,607 | | 11,427,658 | 22,755,607 | | 11,427,658 | 22,755,607 | - | 11,427,658 | 22,755,607 | 11,427,658 |
| 2052 | 22,755,607 | | 11,173,666 | 22,755,607 | | 11,173,666 | 22,755,607 | - | 11,173,666 | 22,755,607 | 11,173,666 |
| 2053 | 22,755,607 | | 10,925,316 | 22,755,607 | | 10,925,316 | 22,755,607 | - | 10,925,316 | 22,755,607 | 10,925,316 |
| 2054 | 22,755,607 | | 10,682,816 | 22,755,607 | | 10,682,816 | 22,755,607 | - | 10,682,816 | 22,755,607 | 10,682,816 |
| 2055 | 22,755,607 | | 10,445,699 | 22,755,607 | | 10,445,699 | 22,755,607 | - | 10,445,699 | 22,755,607 | 10,445,699 |
| 2056 | 22,755,607 | | 10,213,532 | 22,755,607 | | 10,213,532 | 22,755,607 | - | 10,213,532 | 22,755,607 | 10,213,532 |
| 2057 | 22,755,607 | | 9,986,523 | 22,755,607 | | 9,986,523 | 22,755,607 | - | 9,986,523 | 22,755,607 | 9,986,523 |
| 2058 | 11,377,804 | | 4,909,603 | 11,377,804 | | 4,909,603 | 11,377,804 | - | 4,909,603 | 11,377,804 | 4,909,603 |
| Total | 824,740,402 | 3,699,199 | 488,122,302 | 807,710,898 | 10,435,735 | 484,237,316 | 790,416,888 | 16,250,985 | 479,299,088 | 838,310,632 | 492,833,211 |

| | | | |
|--------------------------------|------------------|------------------|-------------------|
| Benefit/(Cost) of BANs: | 4,710,908 | 8,595,895 | 13,534,122 |
|--------------------------------|------------------|------------------|-------------------|

Monroe Refunding Overview



David Roy

Director of Finance & Budget

David Miller

PFM Financial Advisors



Monroe Connector System State Appropriation Revenue Bonds, Series 2011

- ◆ \$95,005,000 of the Monroe Connector System State Appropriation Revenue Bonds, Series 2011 (the “Series 2011 Bonds”) are callable on 7/1/2021.
- ◆ When H.R.1 (the “Tax Cuts and Jobs Act”) was signed on December 22, 2017, tax-exempt advance refundings were eliminated as of December 31, 2017.
- ◆ Although traditional tax-exempt advance refunding bonds are no longer allowed, alternative* options remain:
 - **Tax-Exempt Current Refunding:** Wait out the call protection period and, if market conditions permit, execute a current refunding not more than 90 days before the bonds become subject to optional redemption. This alternative has interest rate risk.
 - **Taxable Advance Refunding:** If market conditions permit, execute an advance refunding using taxable bonds. Taxable interest rates are higher than tax-exempt, but spreads have narrowed.
 - **Forward Current Refunding:** Price the bonds before the call period, but wait until the call period to deliver the bonds. A forward settlement premium would be added to the tax-exempt interest rates, although forward premiums have been reduced by the flat yield curve.

**Additional alternatives not discussed include Forward-Starting Swaps, Hybrid Conversion Bonds, and Cash Optimization. These alternatives introduce additional risk and/or are not applicable to NCTA's 2011 Bonds at this time.*



General Assumptions

- Market has been volatile and assumptions are subject to change on a daily basis

| General Assumptions | |
|---|-------------------|
| Date Assumptions: | |
| <i>Assumed Dated and Delivery Date of Refunding/Defeasance:</i> | 4/2/2021 |
| <i>First Maturity Date:</i> | 7/1/2022 |
| <i>First Call date:</i> | 7/1/2031 |
| Escrow Securities Assumptions: | |
| <i>Escrow Security Yields Based on:</i> | SLGS |
| <i>Escrow Security Yields as of:</i> | 3/13/2020 |
| Taxable and Tax-Exempt Issuance Assumptions: | |
| <i>Taxable Yields Based on:</i> | US Treasury Rates |
| <i>Tax-Exempt Yields Based on:</i> | AAA MMD GO Rates |
| <i>Taxable and Tax-Exempt Yields as of:</i> | 3/12/2020 |
| <i>Tax-Exempt Yield Spread:</i> | 3 bps - 19 bps |
| <i>Taxable Yield Spread</i> | 45 bps - 139 bps |
| <i>Forward Premium</i> | 36 bps |



Refunding Analysis of Series 2011 Bonds

- The results of the refunding scenarios are summarized in the table below.
- Based on preliminary analysis, a Taxable Advance Refunding executed now produces higher savings than a Current Tax-Exempt Refunding executed within 90 days of the call date.
- Relative results between a Taxable Advance Refunding and a Forward Current Refunding have been changing with market volatility. We'd recommend keeping both alternatives open as long as possible.

| | Taxable Advance Refunding | Forward Tax-Exempt Current Refunding | Future Tax-Exempt Current Refunding |
|---------------------------------------|---------------------------|--------------------------------------|-------------------------------------|
| Rates Locked as of | 7/1/2020 | 7/1/2020 | 3/15/2021 |
| Delivery Date | 7/1/2020 | 4/2/2021 | 4/2/2021 |
| Refunding Par Amount | \$99,980,000 | \$79,700,000 | \$77,600,000 |
| Escrow Yield | 0.31% | 0.27% | 0.27% |
| Negative Escrow Arbitrage | \$1,924,390 | \$488,569 | \$403,597 |
| Forward Premium | 0 bps | 36 bps | 0 bps |
| All-In TIC | 2.36% | 2.97% | 2.67% |
| Arbitrage yield | 2.30% | 2.32% | 1.96% |
| Gross Savings (\$) | \$29,267,447 | \$24,227,766 | \$27,626,225 |
| NPV Savings (\$) | \$23,140,185 | \$18,859,431* | \$21,503,000* |
| NPV Savings (%) | 24.36% | 19.85% | 22.63% |
| Breakeven to Future Current Refunding | - | 36 bps | - |

* Net Present Value Calculated as of July 1, 2020 at 2.30%



Refunding Analysis of Series 2011 Bonds

- The graphic below shows the volatility in 10-year and 20-year tax-exempt interest rates over the past two years.



| | AA GO 10 Year | AA GO 20 Year |
|--------------------------|---------------|---------------|
| Avg: 3/12/2020 - Present | 2.12% | 2.65% |
| Current (3/12/2020) | 1.74% | 2.32% |
| Difference | 38 bps | 33 bps |

Thank You!

