

California Debt & Investment Advisory Commission **Municipal Debt
Essentials, Debt 1: Debt Basics, Session Three**
Riverside, CA

Current Short-Term Financing Options

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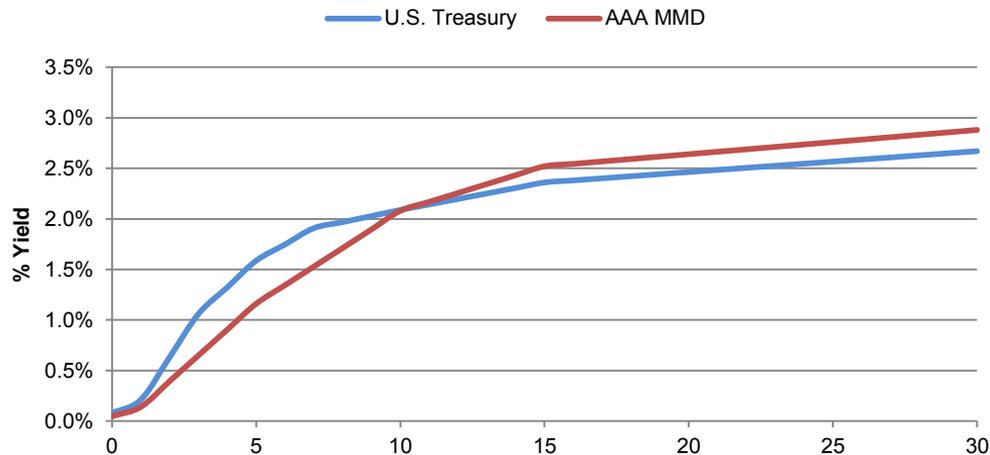
Introduction: Short-Term Financing Options

- **What is “short-term”?**
 - Short-term debt can have multiple meanings, but is most commonly viewed as debt that is money market fund eligible under SEC guidelines section 2(a)7.
- **For what purpose is short-term debt issued?**
 - Cash flow financing
 - Provide working capital to pay operating expenses
 - Examples: tax and revenue anticipation notes (TRANs), working capital notes
 - Bridge financings
 - Provide interim short-term financing for capital projects
 - Examples: bond anticipation notes (BANs), commercial paper (CP)
 - Permanent financings
 - Provide long-term project funding at short-term interest rates
 - Examples: variable rate demand obligations (VRDOs), floating rate notes

Short-Term Interest Rates Tend to Be Lower and More Efficient Over Time

Illustrative Yield Curve

AAA-rated Municipal Market Data (MMD) Index vs. U.S. Treasury
(As of February 24, 2015)



Illustrative Rates by Maturity

	MMA	UST	MMA:UST
1 year	0.19%	0.21%	90%
2 year	0.40%	0.63%	63%
5 year	1.12%	1.59%	71%
10 year	2.11%	2.09%	101%
30 year	3.05%	2.67%	114%
<i>SIFMA vs. U.S. government weekly repo</i>			20%
<i>SIFMA vs. 30-Day LIBOR</i>			12%

Source: Bond Buyer, Thomson Reuters, Municipal Market Advisors Research, and Bloomberg.

Why Issue Short-Term Debt?

- Issuing debt at the short end of the yield curve has historically produced the lowest interest cost over time
- Avoid locking-in long-term rates in unfavorable market conditions
- Align short-term or variable revenues with short-term or variable liabilities
- Increased flexibility relating to call features, par amount outstanding, and retaining a par valued structure
- Retain variable rate debt compatible with an outstanding swap
- Minimize negative arbitrage

Who Buys Short-Term Debt?

- **Money Market Funds**

- Tend to purchase securities that retain a NAV at par or a dollar price of \$1.00
 - Investors are typically willing to forego higher investment returns for the preservation of capital
- Seek high quality credits
- Regulations limit maturity or put feature to less than 397 days
 - Additional limits on credit quality and concentration of portfolio

- **Short-, Intermediate- and Long-Term Bond Funds**

- Have ability to purchase longer-dated maturities for particular funds
- Not subject to SEC Rule 2(a)7
- Preserve a fund's dollar price during periods of rising interest rates
- Increase liquidity

- **“Retail” Participation**

- Separately Managed Accounts (SMAs) act as retail aggregators
- Many short-term debt issues have \$100,000 denominations that limit direct participation

RANs, TRANs and GANs

- **Tax Revenue or Grant Anticipation Notes (RANs or TRANs or GANs)**
 - Purpose: Used for cash flow or capital projects
 - Benefit: Smooth out inconsistent revenue streams like property tax receipts or grants
 - Risks: Short-term and fixed repayment require careful forecasting of future cash flow
 - Interest rate: Fixed at time of note sale
 - Requirements: Government Code and federal tax requirements
- **Example:**
 - City relies heavily on property tax receipts due in December and April while expenses are fairly evenly spread throughout year
 - With diminished reserves in current economic climate, cash flow shortfall peaks after early December payroll payment
 - TRAN proceeds bolster cash position in July to cover peak deficits in fall; balances are restored and funds are set aside to repay TRANs throughout winter and spring, before June TRAN maturity
 - Credit rating is based on predictability of revenues, accuracy of projections, expected liquidity (and alternatives) at maturity and ability to withstand less favorable results

Commercial Paper

- **Commercial Paper (CP or TECP)**

- Purpose: may be used for capital projects or cash flow
- Benefit: offers flexibility to create template for borrowing program and then draw down project funds as needed with streamlined approvals
- Risks: rollover failure, interest rate fluctuations
- Maturity: less than 270 days; a true maturity
- Interest rate: set at time of CP draws
- Liquidity requirements: third-party (bank) liquidity or (rarely) self-liquidity

- ***Example:***

- Transportation authority with large capital program
- May use CP draws to fund interim, initial project funding
- One large, long-term financing issued to fund balance of project and pay off CP
- Credit rating based on credit quality of liquidity bank, not borrower

Bond Anticipation Notes

- **Bond Anticipation Notes (BANs)**
 - Purpose: capital projects
 - Benefit: can provide seed financing in advance of a planned long-term financing
 - Interest rate: fixed at time of note sale
 - Requirements: statutory and tax limits
 - Risks: subject to market conditions at time of sale, reissuance annually
- ***Example:***
 - Sales tax authorization approved by voters but revenue collections begin in 2 years
 - Transportation authority can issue BANs now to tap future debt capacity
 - BANs are repaid with long-term financing after collections begin
 - Credit ratings are based on expected terms of future take-out and assessment of future market access

Variable Rate Debt: VRDOs

- **Variable Rate Demand Obligations (VRDOs or VRDBs)**
 - Purpose: Used for capital projects
 - Benefit: Access rates on the short end of the yield curve, retain flexibility to pay off or restructure debt at any time
 - Maturity: Principal amortization may be scheduled over the life of the bonds, typically 30 years, or structured as lump sum term maturity
 - Interest rates: Variable rate may be reset daily, weekly, monthly or other periodic basis
 - Most VRDO debt issued has an investor 7 day optional put feature
 - Assuming 7-day reset mode, interest payments are made on a monthly basis
 - Remarketing agent resets the interest rate to achieve the lowest possible interest rate that preserves the \$1.00 price of the bonds
 - Liquidity requirements: Third-party (bank) liquidity or self-liquidity which is only accessed in the event that the VRDOs cannot be remarketed at any rate up to the maximum rate permissible
 - Risks: Bank liquidity provider downgrade or non renewal, subject to weekly interest rate fluctuations

VRDO Liquidity Requirements

- **Liquidity is necessary for traditional VRDOs**
 - VRDOs generally have a “demand” or “put” feature that is shorter than the final maturity date
 - Investors have the option to exercise a “put” on all or a portion of the VRDOs they own on any business day for settlement (typically) in 7 calendar days.
 - In addition to setting rates, the remarketing agent is responsible for attempting to find new investors to purchase the VRDOs when optional puts occur
 - If no investors can be found the liquidity facility will be drawn on to purchase the VRDOs that were unable to be remarketed or “failed”
 - Unremarketed VRDOs become bank bonds and are subject to principal acceleration and formulaic step up rates that can be significantly different from VRDO market rates
- **Standby purchase agreement (SBPA)**
 - Provides liquidity to repay an investor who wants to liquidate his/her holdings (exercise the “put”) when another investor can’t immediately be found
 - Can be terminated in certain circumstances if issuer’s credit deteriorates
- **Direct-pay letter of credit (LOC)**
 - Provides liquidity and credit enhancement to ensure repayment of debt service in certain circumstances
 - Irrevocable commitment through term of agreement

Update on the VRDO Bank Facility Market

Short-term market for credit enhancement is in transition

- The bank credit/liquidity facility market remains robust with many proposals being generated when an RFP processes occurs
- Basel III and other bank regulation may lead to higher bank facility pricing and availability in the near future
- The VRDO market has contracted in recent years: \$252 bn 4Q14 from \$279 bn 4Q13

Changing Credit Enhancement Landscape (by Sum of Outstanding Size)

Top 10 Credit Enhancers	2013	
	Total (\$ in mm)	Market Share
1 JP Morgan Chase	31,489.5	14.7%
2 Self Liquidity	31,489.5	10.8%
3 Fannie / Freddie / FHLB	23,147.6	9.9%
4 US Bank	21,113.6	9.6%
5 Wells Fargo	20,516.4	8.0%
6 Bank of America	17,018.0	7.6%
7 PNC Bank	16,174.8	3.1%
8 TD Bank	6,626.2	3.0%
9 Barclays	6,421.0	2.3%
10 Bank of NY Mellon	4,917.2	2.0%

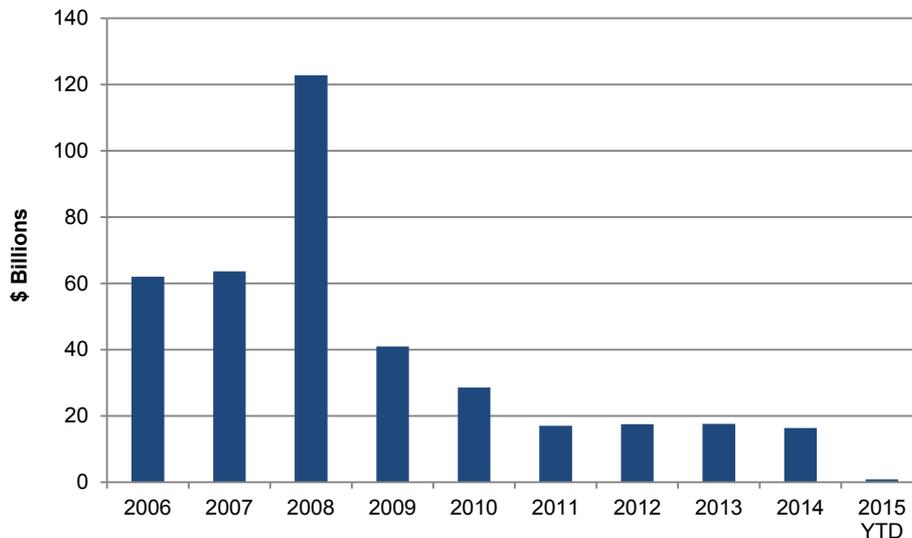
Top 10 Credit Enhancers	2014	
	Total (\$ in mm)	Market Share
1 JP Morgan Chase	25,823.9	12.8%
2 Bank of America	24,390.2	12.1%
3 Wells Fargo	15,054.0	7.5%
4 Fannie Mae	10,510.6	5.2%
5 US Bank	9,094.9	4.5%
6 Citibank	5,564.2	2.8%
7 State Street	5,035.5	2.5%
8 PNC Bank	5,020.0	2.5%
9 Dexia Group	4,969.8	2.5%
10 RBC Bank	4,357.2	2.2%

Source: Thomson Reuters (As of February 24, 2015).

Variable Rate Demand Obligations Issuance Volume

Diminished volume of issuance and outstanding variable rate debt.

**Municipal Variable Rate Issuance
2006-2015 (YTD)**



**2014 variable rate issuance
down 60% from the 2009 peak**

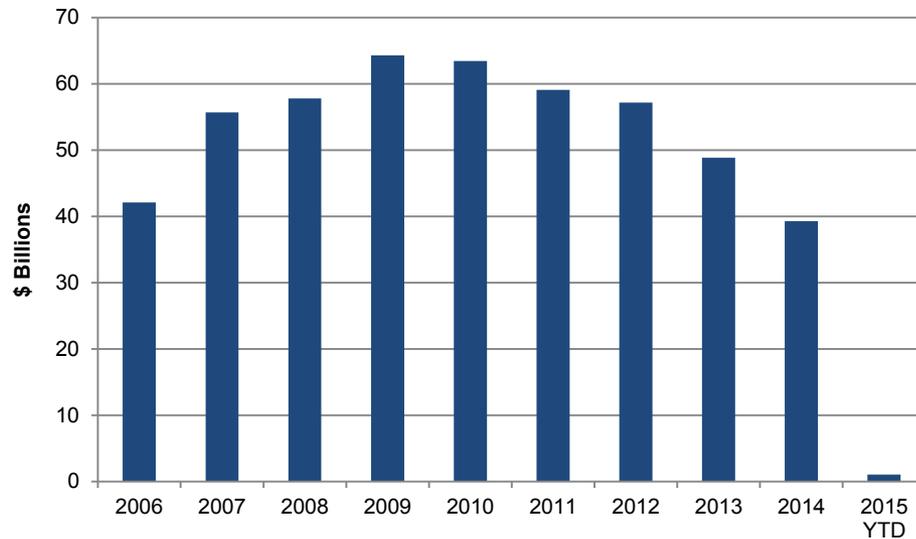
- ◆ 2015 YTD: \$0.77 billion of total issuances
- ◆ 2014: \$16.28 billion of total issuances
- ◆ 2009: \$40.90 billion of total issuances

Source: Bond Buyer (As of Feb. 10, 2015).

Note: Variable Issuance includes Variable Rate (Short Put) and Variable Rate (Long/ No Put). YTD as of end of January.

Fixed Rate Note Issuance Volume

**National Municipal Fixed Rate Note Issuance
2006-2015 (YTD)**



**2014 Issuance Volumes Down 39% from
2009 peaks**

- ◆ 2015 YTD: 116 issuances totaling \$1.01 billion
- ◆ 2014: \$39.28 billion of total issuances
- ◆ 2009: \$64.27 billion of total issuances

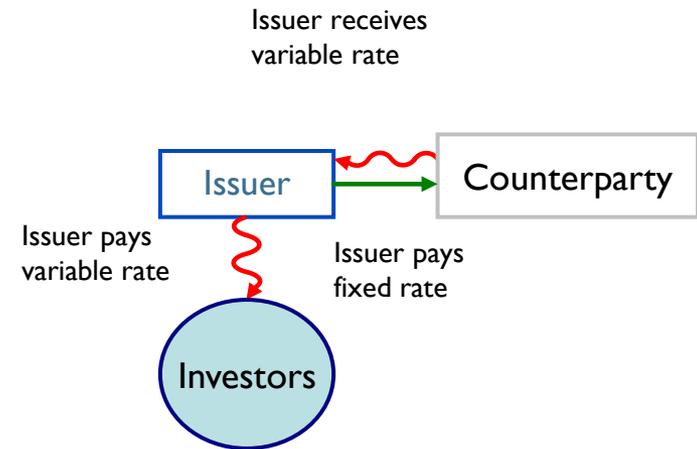
Source: Bond Buyer (As of Feb. 10, 2015).

Note: YTD as of end of January

Interest Rate Swaps

• Interest Rate Swaps

- Purpose: often used in combination with variable rate debt to limit interest rate risk, create a “synthetic” fixed interest rate
- Common structure: issuer issues variable rate debt, pays fixed-rate swap rate to counterparty, receives variable rate from counterparty
- Risks: Counterparty failure to perform, mismatch in basis of offsetting variable rate legs, liquidity renewal, termination events, etc.
- Termination: Typically requires payment to terminate swap
 - Termination payments can benefit either issuer or counterparty depending on value
 - Mark-to-market values and termination costs depend on swap terms and market conditions



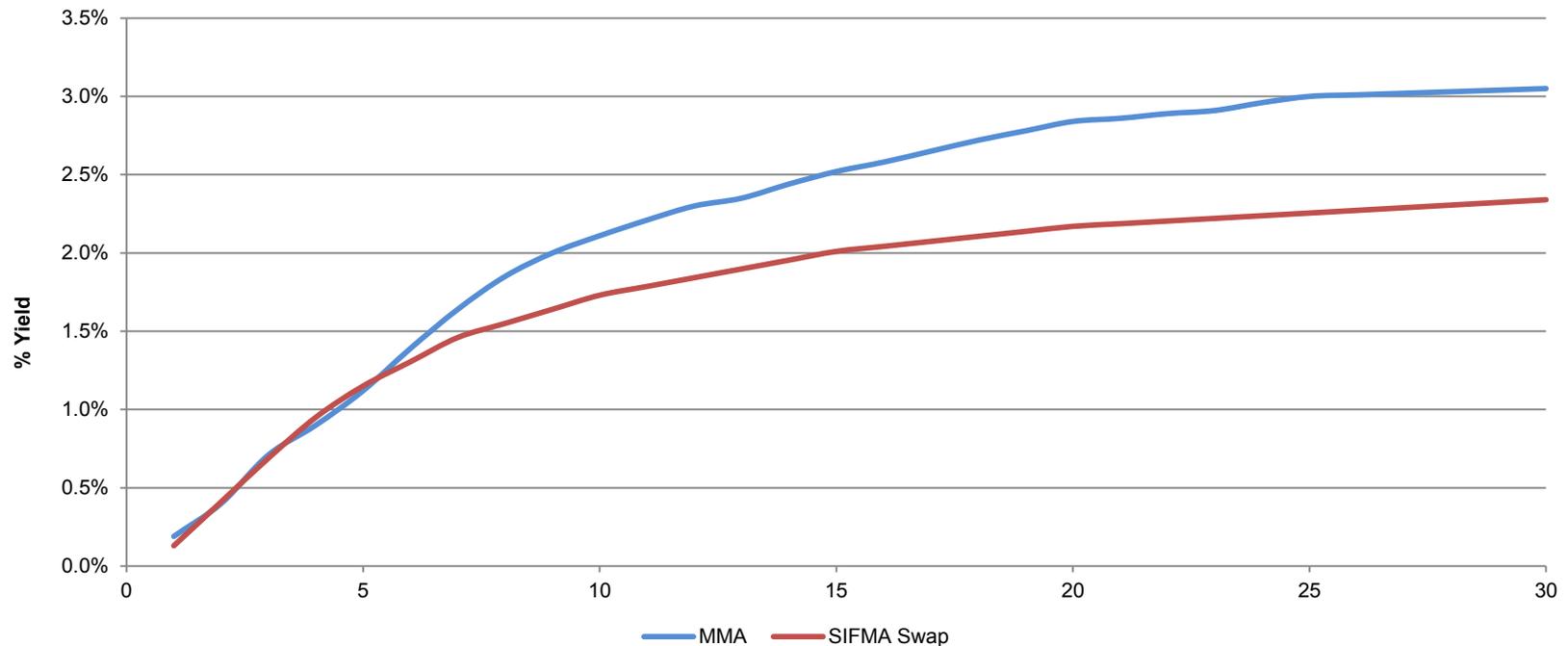
• Interest Rate Caps, Locks, Floors

- Purpose: varying tools to mitigate interest rate risk with variable rate debt

Traditional and Synthetic Fixed Rate Curves

The yield benefit of synthetic fixed structure is significant for longer dated debt.

For Illustrated Purposes Only: Traditional Fixed Rate Versus Synthetic Fixed Rate Curves



Source: MMA Research, Winters & Advisors (As of February 23, 2015).

Alternative Variable Structures

Floating rate notes often become more attractive when bank facility pricing increases.

- **Floating Rate Notes (FRNs)**

- Benefit: Can be used to create or retain variable rate debt without third-party bank liquidity
- Rollovers: Requires a reissuance on each maturity date that can be costly and time consuming for issuers
- Interest rates: Set at a fixed spread to variable weekly index (i.e. SIFMA or LIBOR)
- Liquidity requirements: No liquidity required, essentially “self-liquidity” until maturity or put date
- Risks: Exposure to future short-term yields, market access and interest rate risk at maturity
- Structuring considerations: Amortization, put timing, call features, target investors, matches well with swaps
- Price: May or may not trade at par in the secondary market which limits primary market demand when spreads contract
- Considerations: Most FRN demand is 3-years or shorter which compares to the length of most bank facilities

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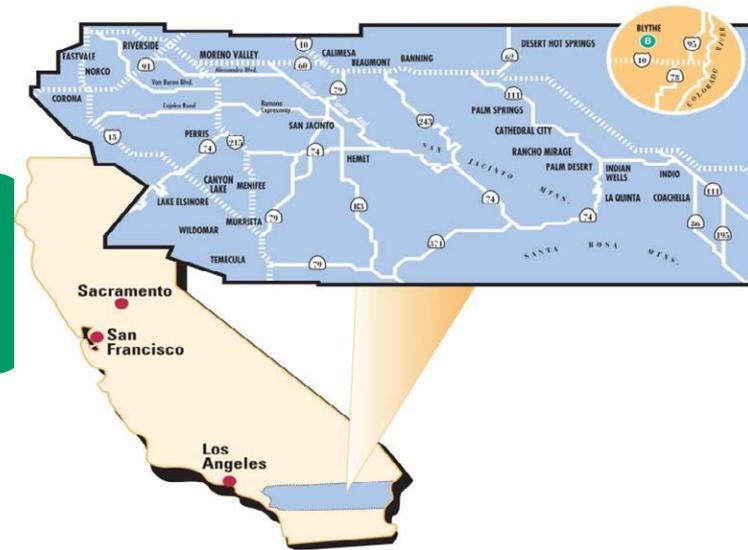
Short-Term Financings Case Study: Riverside County Transportation Commission (RCTC)

Created in 1976 by state law

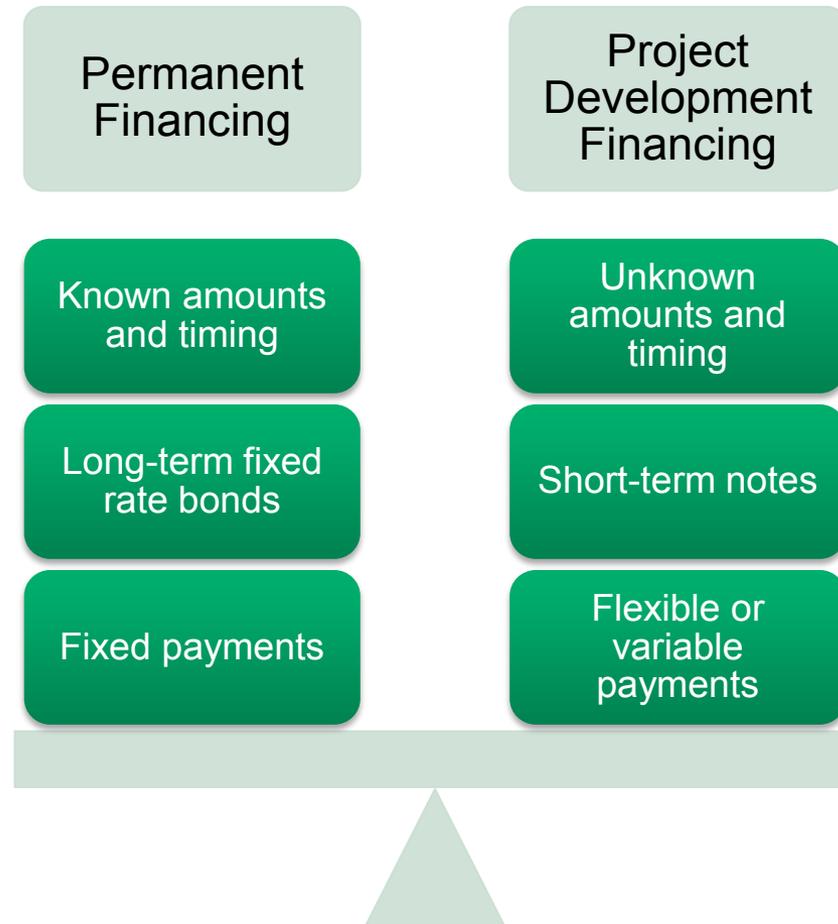
- Oversee funding and coordination of public transportation in Riverside County, CA

Administers and implements Measure A

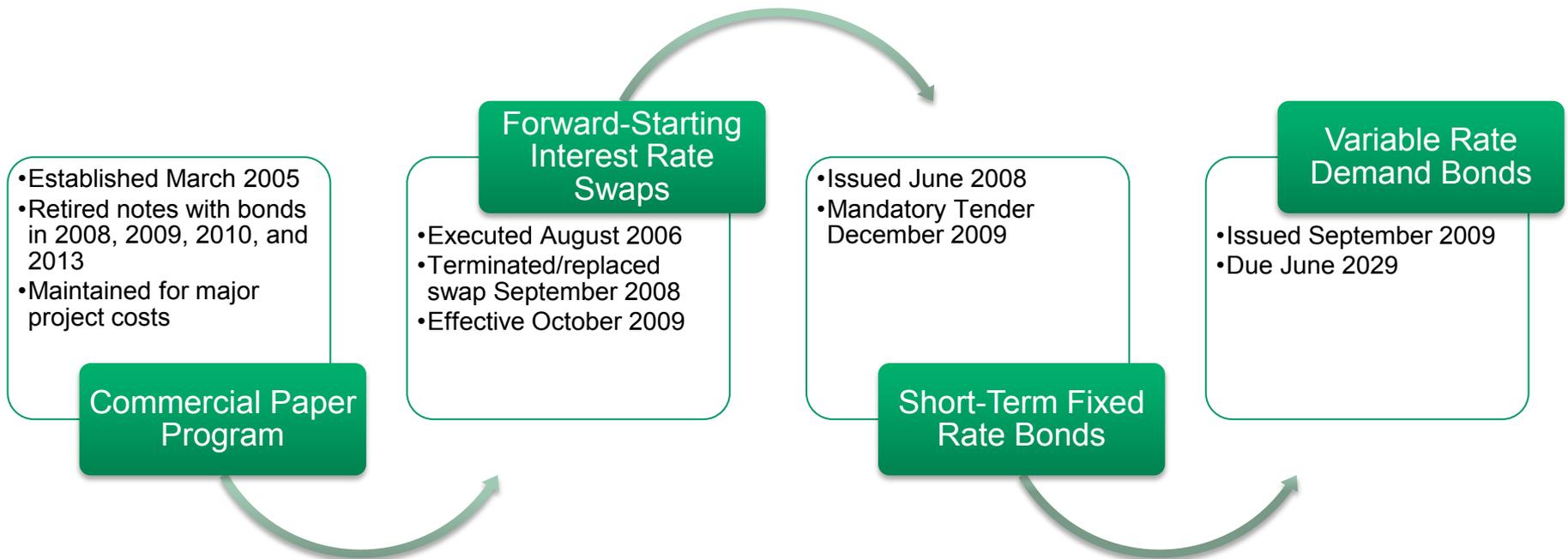
- ½ cent sales tax for transportation
- First authorized in 1988 (1989-2009)
- Renewed in 2002 (2009-2039)
- Debt limit increased from \$500 million to \$975 million in 2010



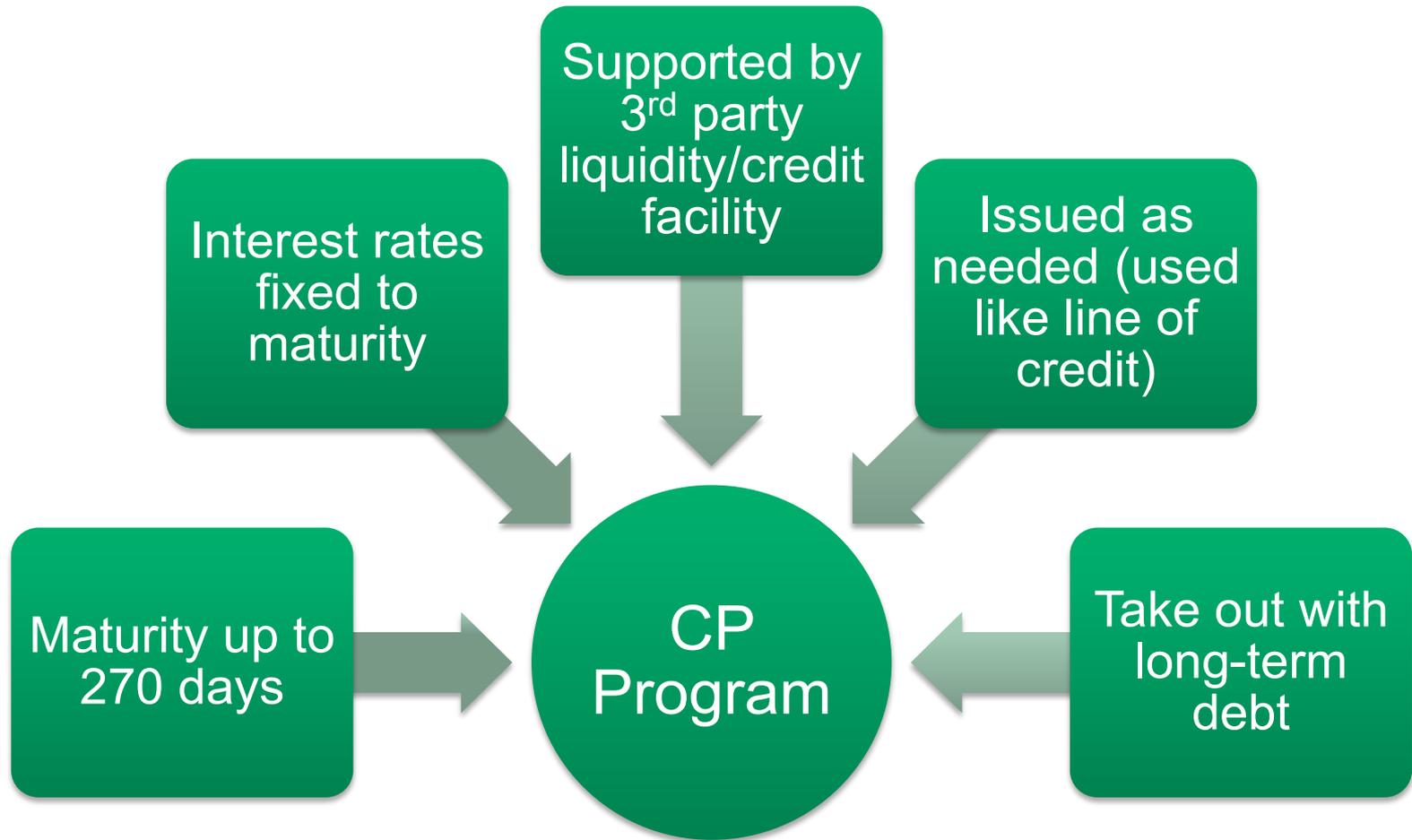
RCTC Financing Structure Considerations



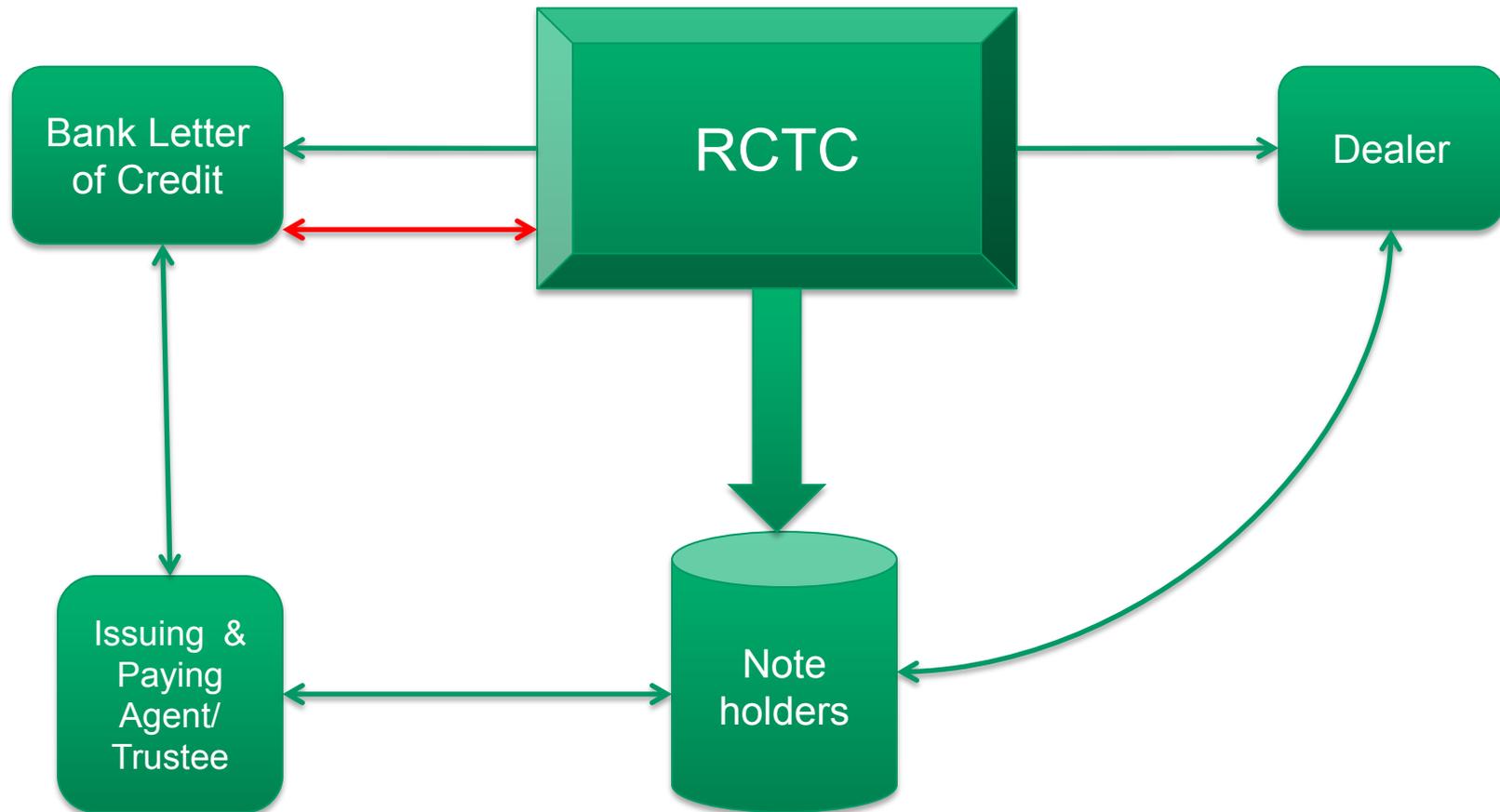
RCTC's Use of Short-term Financing



Commercial Paper Considerations



Commercial Paper Program: How Does It Work?



CP Program Transaction



Interest Rate Swap Considerations

Business decision to hedge against potential rate increases

- Not speculation

Contract to exchange cash flows

- May start at future date
- One party pays fixed interest rate
- Other party pays floating/variable interest rate

Payments based on notional amount

- Principal amounts not exchanged

Cash flows derived from reference to index rates

- London Interbank Offer Rate (LIBOR) — associated with taxable financings
- Securities Industry and Financial Markets Association (SIFMA) — related to tax-exempt financings

Caution: Swap Risks

Tax

Basis

Rollover

Liquidity

Termination

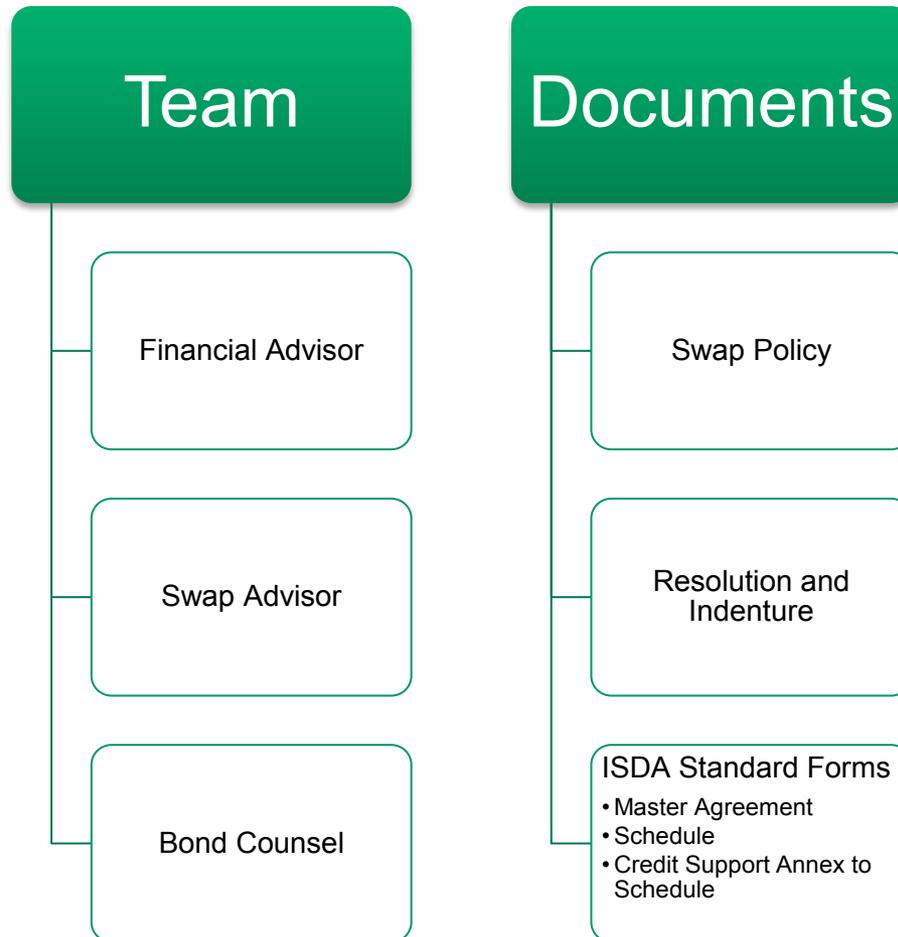
Counterparty

Interest Rate

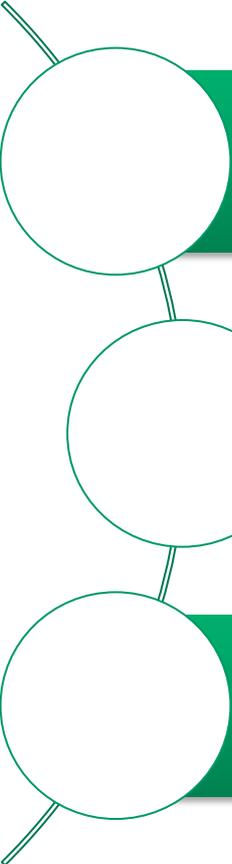
September
2008

- RCTC Counterparty bankruptcy caused “trigger event”
- Swap terminated at cost to RCTC of \$3.76 million
- New swap resulted in 47 basis point reduction

Swap Transaction



Short-Term Bonds



Refinance commercial paper for additional capacity

Fixed rate with mandatory tender date

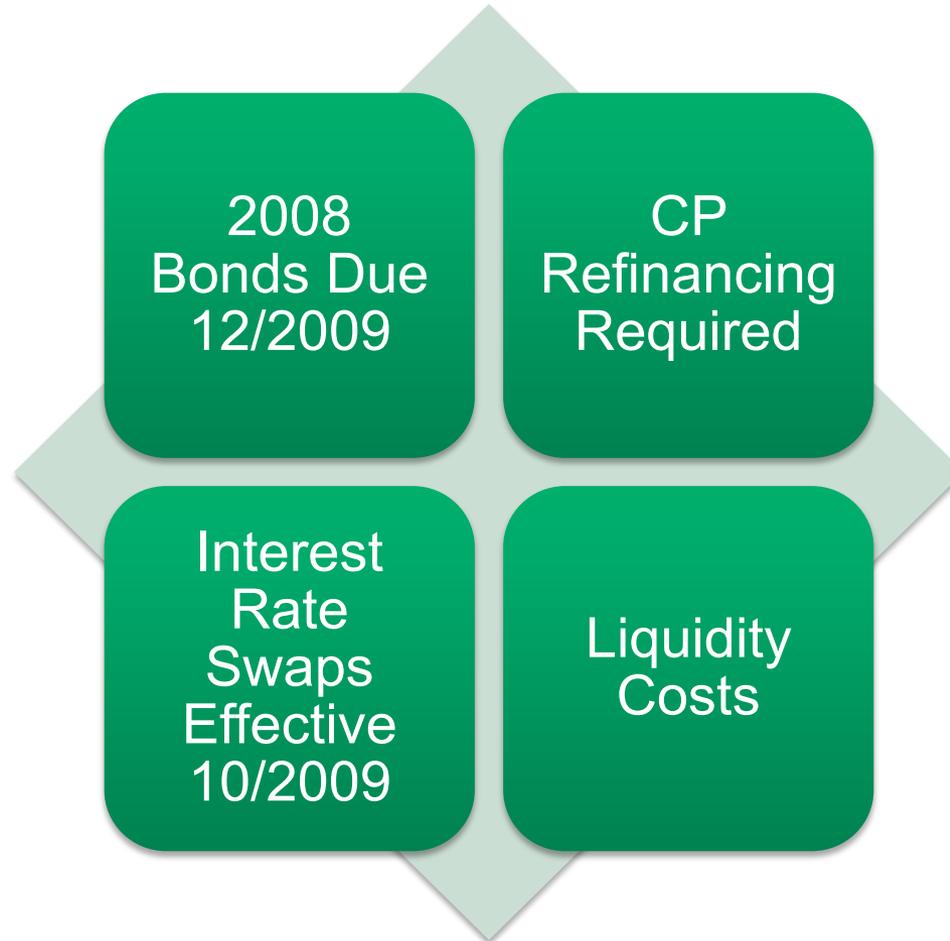
Potential risk of failed remarketing at tender date

- Maximum rate of 12% until RCTC able to refinance

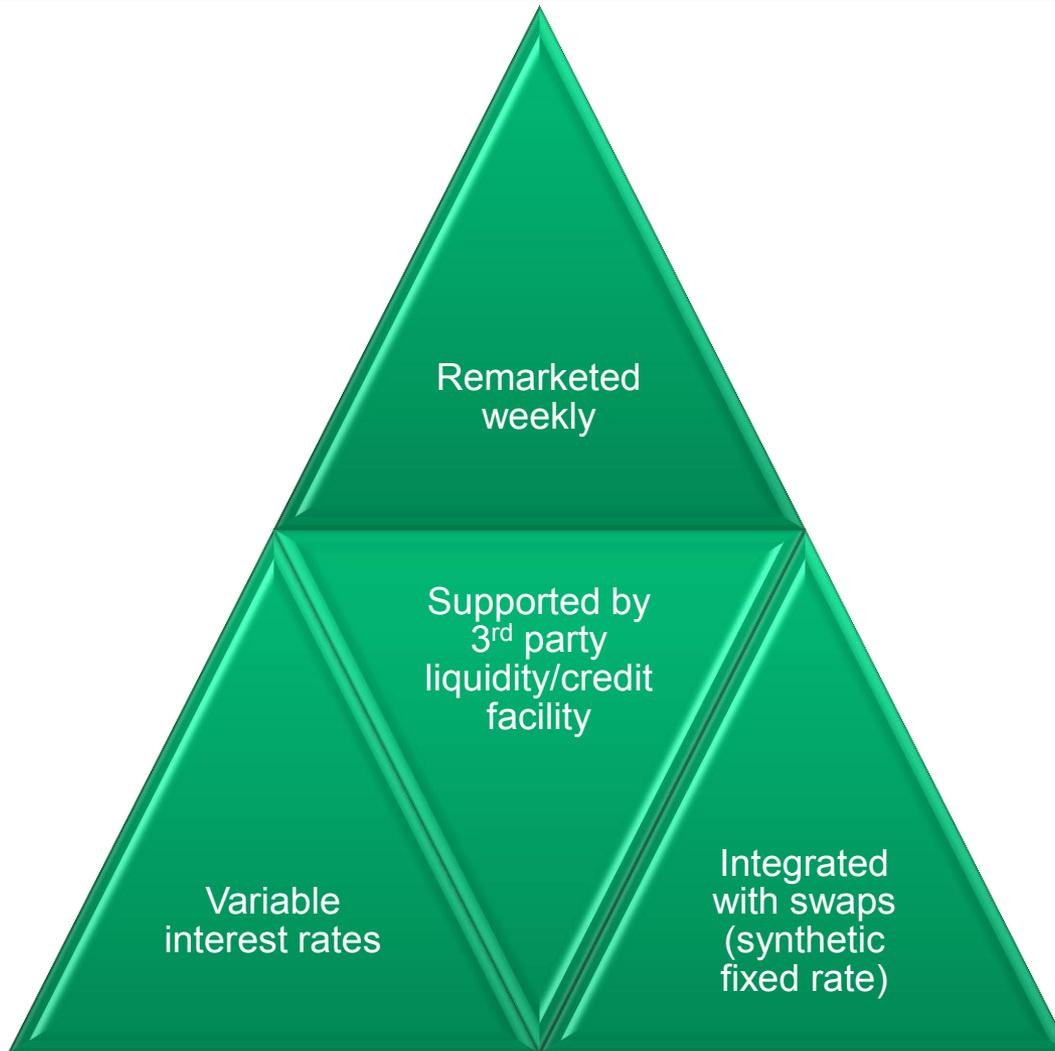
Short-Term Bonds Transaction



Variable Rate Demand Bonds Considerations



Variable Rate Bond Basics



Variable Rate Bonds: Remarketing and Liquidity

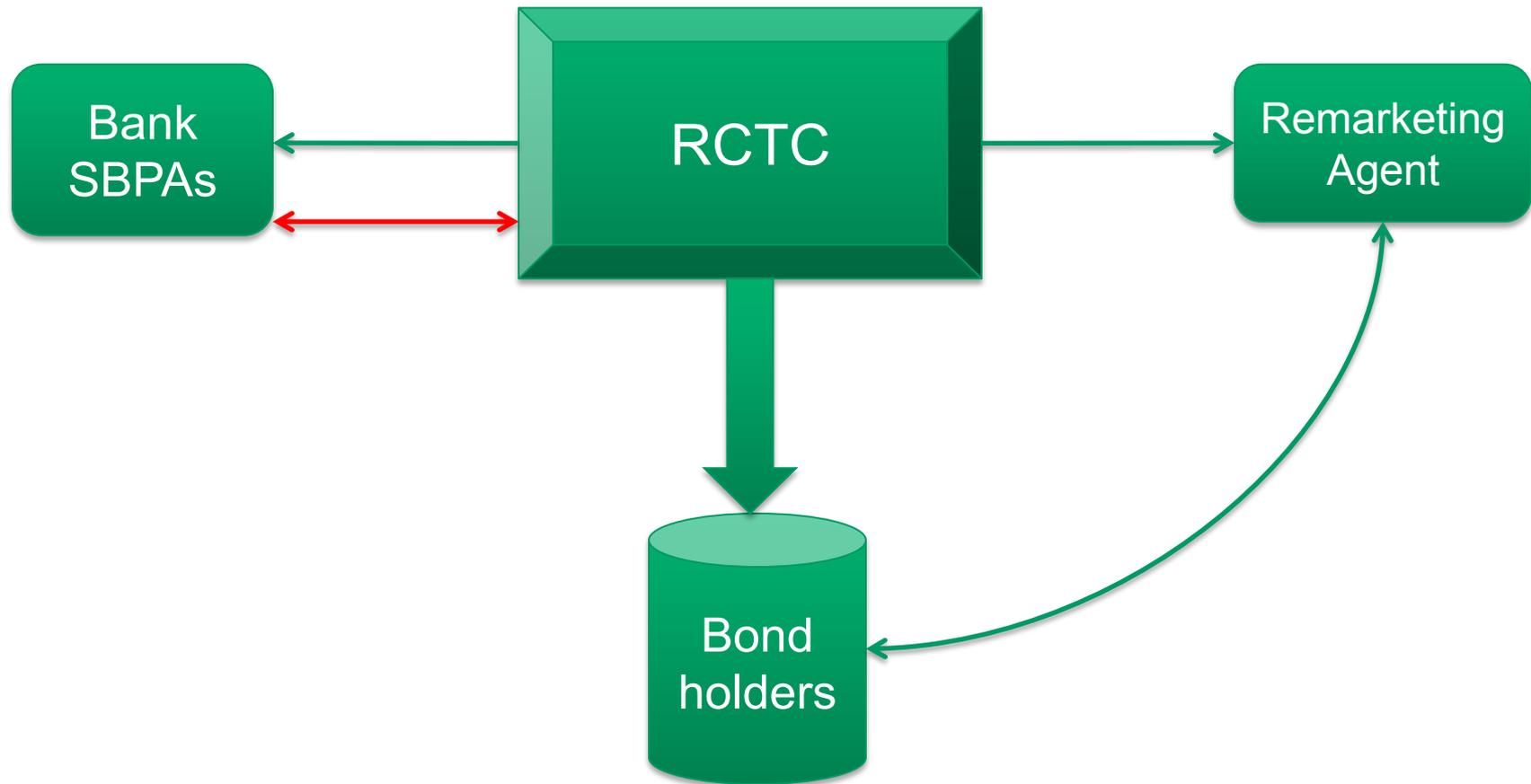
Remarketing

- Bondholders can tender VRDBs back to RCTC any business day
- Tendered bonds typically remarketed to new buyers
- If no new buyers, RCTC may not have funds available to purchase tendered bonds

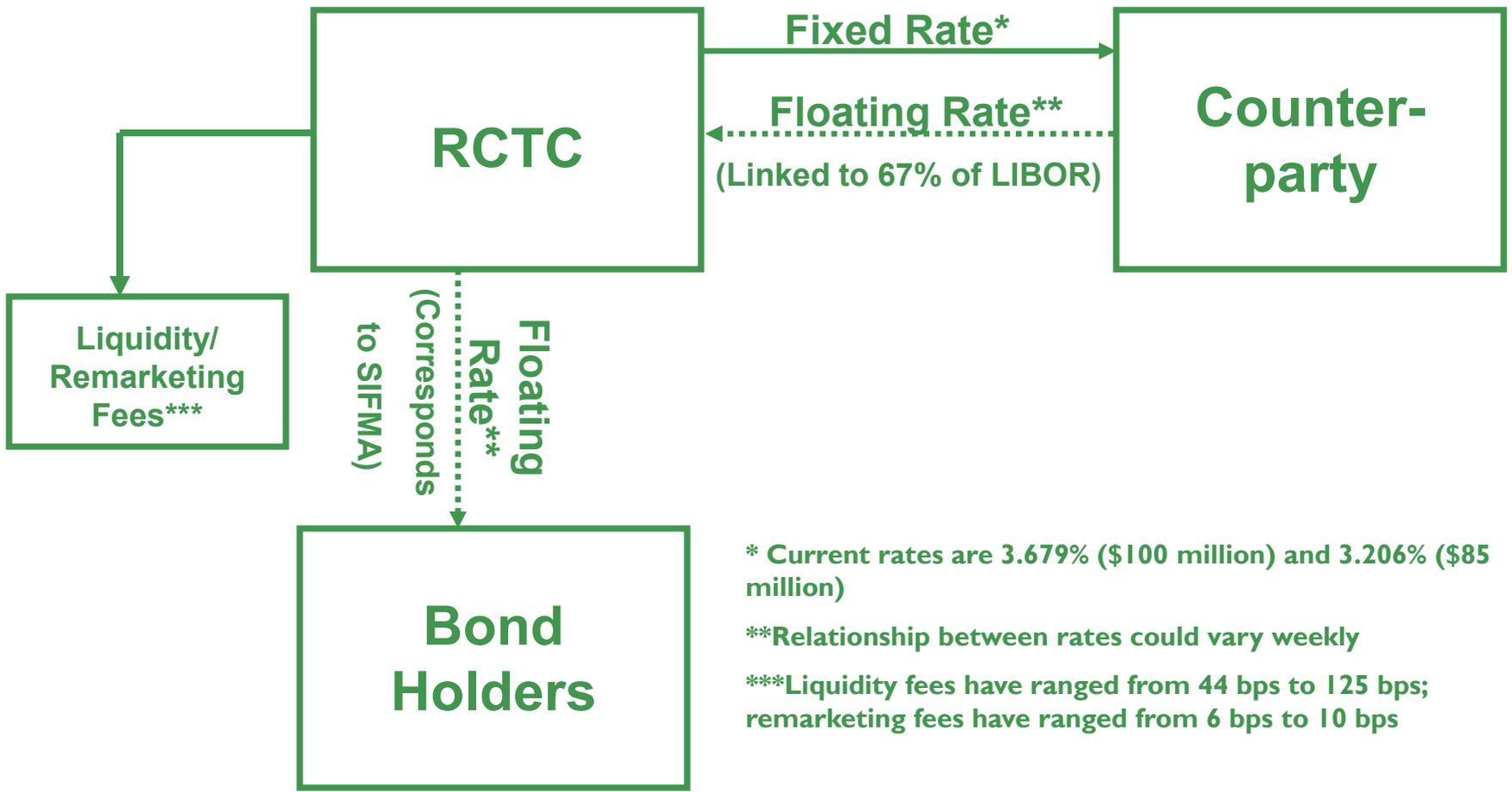
Liquidity

- Standby Bond Purchase Agreement (SBPA) provides bondholders with “buyer of last resort” if no new investors on remarketing date
- Bonds purchased under SBPA are “bank bonds”
- Interest rate on bank bonds higher than market

Variable Rate Debt Illustration



RCTC: Swap Integration=Synthetic Fixed Interest Rate



* Current rates are 3.679% (\$100 million) and 3.206% (\$85 million)

**Relationship between rates could vary weekly

***Liquidity fees have ranged from 44 bps to 125 bps; remarketing fees have ranged from 6 bps to 10 bps

LIBOR Swap Analysis Example

	RCTC Basis Gain	RCTC Basis Cost
RCTC receives 67% of LIBOR (floating)	0.11%	0.14%
RCTC pays SIFMA to bondholders (floating)	0.05%	0.15%
RCTC basis differential Gain (cost)	0.06%	(0.01%)
RCTC pays counterparty (fixed)	(3.42%)	(3.42%)
RCTC pays liquidity & remarketing fees (fixed)	(0.50%)	(0.50%)
RCTC net cost of funds (week)	(3.86%)	(3.93%)

Variable Rate Demand Bonds Transaction



Short-Term Debt Administration

CP

Requisitions

- Project costs
- Interest

Disclosure

- Terms

Tracking by Tranche

- IRS Form 8038G for each new issuance
- Supplemental tax certificates
- Arbitrage calculations

Swaps

Swap calculations

Disclosure

- Terms
- Credit risk
- Interest risk
- Basis risk
- Termination risk

VRDBs

Remarketing rates

Disclosure

- Debt service requirements
- Risk of nonrenewal or non replacement