



CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

INTRODUCTION TO MUNICIPAL BONDS

SESSION ONE: BOND CONCEPTS

FEBRUARY 12, 2019



CHRISTINA TURNER, CITY MANAGER
CITY OF MORGAN HILL

CRAIG HILL, MANAGING PRINCIPAL
NHA ADVISORS, LLC



TABLE OF CONTENTS

1. Introduction to Bonds
2. Process of Issuing Bonds
3. Basic Bond Math
4. Case Study

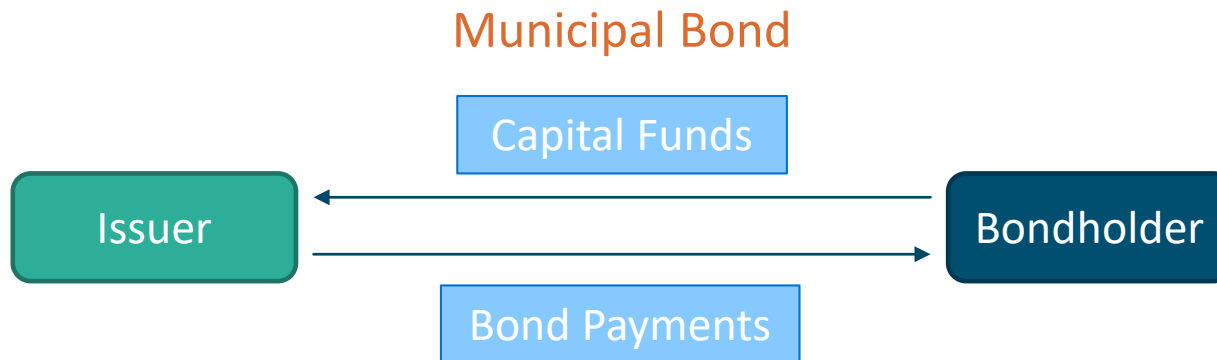


INTRODUCTION TO BONDS

BONDS

- **Bond:** Promise of a borrower (Issuer) to repay a lender (Bondholder)
- **Issuer:** Receives one-time funds and owes periodic payments at an agreed upon interest rate
- **Bondholder:** Receives future repayment of principal and interest

Municipal bonds are issued by public agencies including states, counties, cities, special districts and educational institutions



INTRODUCTORY VOCABULARY

- **Issuer:** Legal authority that develops and sells securities (borrower)
- **Principal:** Total amount borrowed (also known as **par value**)
- **Coupon:** Nominal interest rate charged on the principal
- **Interest:** Payment from a borrower to a lender for the right to borrow
 - Periodic Interest: $(\text{Outstanding Principal} \times \text{Coupon}) / \text{Period}$
- **Debt Service:** Principal and interest payments made on a bond
- **Maturity:** Date the principal amount is due
- **Bond Covenant:** Legally binding term of agreement between an issuer and bondholder that can:
 - Require the issuer to meet specific requirements
 - Forbid the issuer from undertaking certain activities

PURPOSE OF MUNICIPAL BONDS

- **Infrastructure** (e.g., water, sewer, streets, bridges, utilities)
- **Capital improvement projects** (e.g., libraries, fire/police stations, community centers, stadiums, parks)
- Issued as an alternative to cash or bank loans
- **Tax-exempt bonds** (exempt at state and federal levels) allow an issuer to raise capital at comparatively lower interest rates than with taxable bonds

Infrastructure



Source: <https://pixabay.com>

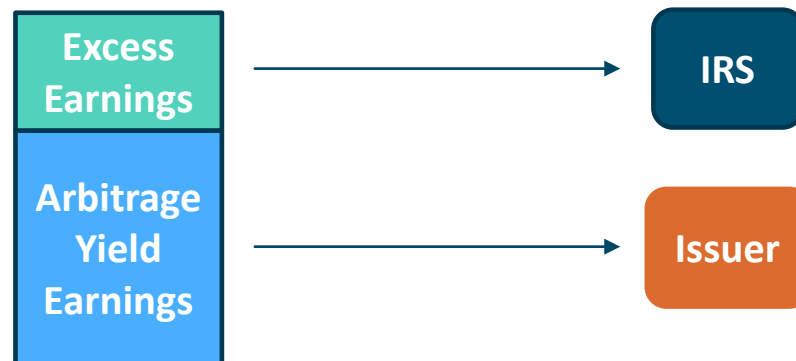
Capital Improvement Projects



Source: <https://pixabay.com>

TAX EXEMPT NATURE OF MUNICIPAL BONDS

- Majority of Municipal Bonds are **Tax-Exempt**
- Bondholders do not pay State or Federal income tax on interest earnings
 - Bondholders will purchase tax-exempt bonds at lower interest rate than taxable equivalent
 - Federal government (Internal Revenue Service) allows taxpayers to exempt income generated from interest payments on Municipal Bond as taxable income
- Issuers are not allowed to earn **arbitrage**
 - IRS defines “arbitrage” as the investment earnings on bond proceeds that exceed the calculated yield on the Municipal Bond (cost of borrowing)
 - Issuers allowed to invest bond proceeds until expended on intended projects
 - Issuer must “rebate” 100% of excess earnings on Bonds back to the IRS



WAYS TO FUND PROJECTS

Available Cash

- “Pay-As-You-Go”
- Small and recurring capital projects
- Projects built slowly over time
- Future Council flexibility
- Opportunity cost of funds
- Easiest source of money

Bond Financing

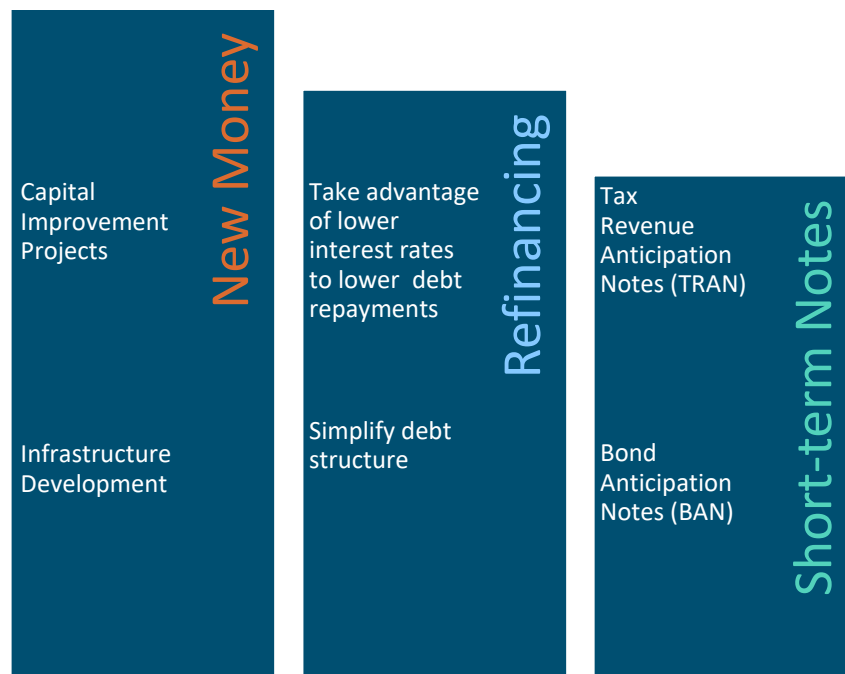
- Large capital expenditures
- Acquisition projects
- Future revenues from project available for debt service
- Interest and financing costs
- Staff resources required for financing

Federal & State Grants or Loans

- “Free” money with strings attached
- May require oversight or thorough review
- Application process can be drawn-out and competitive
- Timing of funds can be uncertain

COMMON OBJECTIVES FOR ISSUING BONDS

- **Project Funding (New Money)**
- **Restructuring/Refinancing Existing Debt**
 - Some bonds can be redeemed (“called”) prior to maturity
 - If current market interest rates are lower than when the bond was issued, there may be opportunity for significant savings by refinancing outstanding bonds at lower interest rates
 - Issuer may benefit from greater financial flexibility due to lower interest costs and restructured debt
- **Working Capital or Cash Flow Management (Short-term notes)**



BOND STRUCTURES

- Municipal bonds can be secured by different revenue sources
- Some require voter approval

Bonds Repaid With Dedicated Taxes

- General Obligation (Local level)
- Sales Tax Revenue
- Special Tax
- Assessment
- Tax Allocation

Bonds Repaid From General Fund

- Lease Revenue
- Certificates of Participation
- Pension Obligation
- General Obligation (State level)

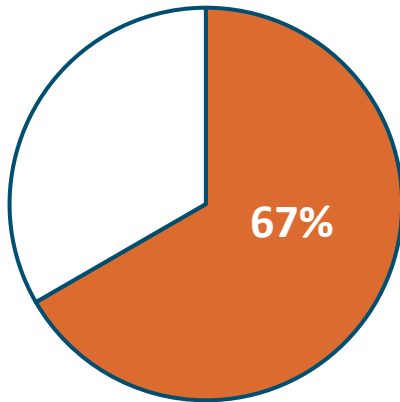
Special Revenue Fund Bonds

- Enterprise Revenue
 - Water/Sewer
 - Parking
 - Refuse
 - Airport
 - Golf Course

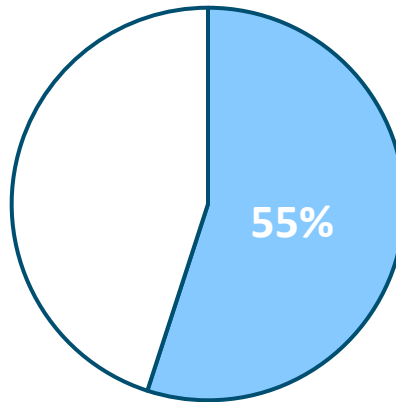
VOTER APPROVAL REQUIRED FOR CERTAIN TYPES OF BONDS

- Not all Issuers are treated equal
- Cities & Special Districts: 2/3 approval
- School Districts: 55% approval
- State: 50% approval + 1 vote (simple majority)

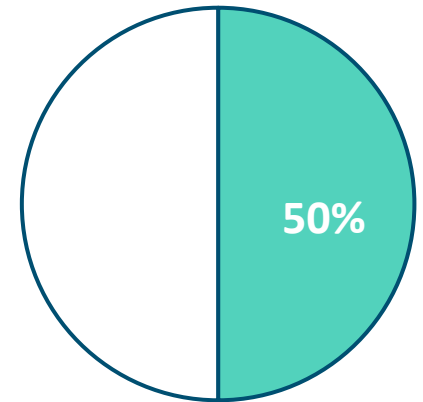
**REQUIRED VOTER APPROVAL:
LOCAL AGENCIES**



**REQUIRED VOTER APPROVAL:
SCHOOL DISTRICT BONDS**



**REQUIRED VOTER APPROVAL:
STATE BONDS**



MAJOR EXCEPTIONS TO VOTER APPROVAL REQUIREMENT

1. General Fund Lease Bonds

- Secured by lease payments for use of an asset
- Example: Financing Authority leases City Hall to City in exchange for “rent” payments which equal debt service on Bonds
 - Similar to equipment or vehicle lease

2. Special Revenue Funds

- Debt service is covered by specific revenue source (e.g., water system revenues)
- Utility rates may be subject to approval process (Prop 218)
- Example: Water, sewer, parking, refuse, airport, convention center and golf course

3. Obligation Imposed by Law

- Involuntary debt obligations, enacted by a court
- Example: Pension Obligation or Bankruptcy



PROCESS OF ISSUING A BOND

FROM START TO FINISH

FINANCING PLAN

Identify Project Needs and Cash Flow

- Timing of expenditures

Quantify Available Cash Resources to Apply towards Project

Project Repayment Resources for ongoing Debt Service

Develop Financial Model

- Sources of Project Funding (Bonds and/or Cash)
- Bond Debt Service
- Available Annual Revenues
- Coverage (Revenues/Debt Service)

DEBT POLICY CONSIDERATIONS

- Project Purpose
- Debt Service Reserve Coverage
- Available Cash on Hand
- Financing Structure
 - Limit financial exposure to critical services (General Fund)
- Financial Modeling Assumptions
 - Conservative revenue growth assumptions
 - Variance in debt coverage
 - Credit rating implications and impact on market interest rates
- Continuing Disclosure Obligation
- SB 1029 Compliance

ASSEMBLE FINANCING TEAM – PUBLIC OFFERING

- **Issuer/Borrower:** Public agency raising capital and responsible for meeting repayment obligations
- **Municipal Advisor:** Project manager who develops and implements financing plan on behalf of Issuer
- **Bond Counsel:** Legal representation regarding the tax-exempt status and legitimacy of the Bonds
- **Disclosure Counsel:** Legal representation to issuer & bondholders on disclosure of credit - Official Statement (OS)
- **Bond Underwriter:** Intermediary party to the issuer and bondholders; purchases and resells issuer bonds to investors
- **Trustee:** Performs administrative duties related to protecting bondholders including collecting payments from issuer and disbursement to bondholders
- **Rating Agency:** 3rd party firm that assesses the issuer's creditworthiness and ability to make timely payments on debt; assigns credit ratings

THE UNDERWRITING PROCESS

- The underwriter acts as an intermediary for the issuer and bondholders
 - Involved in bond pricing and determining market-appropriate interest rates
 - Solicits investor interest
- Buys bonds wholesale from the issuer and sells them on the market to investors
 - If Bonds are not all pre-sold, underwriter “holds” the balance for future resale
 - Makes an offer to the Issuer to purchase Bonds and resell to bondholders



THE UNDERWRITER ENGAGEMENT PROCESS

Competitive Sale

- Financing structure created with Issuer, Bond Counsel and Municipal Advisor
- Underwriter services bid like construction project
- Can be more optimal for traditional Bond structure or higher rated credits

Negotiated Sale

- Underwriter selected early in process to assist in development of financing structure
- Allows Underwriter to better understand the credit, educate sales and investors which improves sale of bonds
- Typically used for unique transactions involving:
 - Large Issuances
 - Weaker Credits
 - Unique Financing Terms
 - Innovative Structure
 - Newer Entity
 - Market Volatility
 - “Story” Bonds

BOND SOURCES AND USES

■ Sources

- **Principal/Par Amount** – Total obligation amount (face value of bond)
- **Purchase Premium/(Discount)** – Amount generated from bondholders when coupon is higher than market rate for similar maturity

■ Uses

- **Project Fund** – Project cost allocation
- **Capitalized Interest Fund** – Proceeds used to make interest payments while Project is under construction
- **Debt Service Reserve Fund** – Proceeds set aside in trust account as security for bondholders to receive debt service payments if issuer is unable to make a payment
 - Reserve fund balance typically the least of:
 1. Maximum annual debt service
 2. 10% of par value
 3. 125% of average annual debt service
- **Costs of Issuance:** Financing costs for bond & disclosure counsel, municipal advisor, rating agency, trustee, surety reserve and title/property insurance
- **Underwriter's Discount:** Fee paid to underwriter for purchasing bonds from the issuer for resale to investors

Sources	
Bond Principal	\$10,000,000
Purchase Premium	<u>\$500,000</u>
Total Proceeds	\$10,500,000

Uses of Funds	
Project Fund	\$8,000,000
Capitalized Interest	\$1,500,000
Debt Service Reserve	\$800,000
Costs of Issuance	\$150,000
Underwriter Discount	<u>\$50,000</u>
Total Proceeds	\$10,500,000

SERIAL AND TERM BONDS

- **Serial Bonds:** Each bond has distinct interest rate and maturity
- **Term Bonds:** Single bond with partial annual redemption of principal
 - **Sinking Fund Provision:** Requires the issuer to retire a portion of the term bond annually
 - Issuer deposits money into an account on a regular basis to repay the bond when it matures
- Interest Rate is actual amount paid to investor
- Yield is effective return to investor when taking purchase premium or discount into consideration

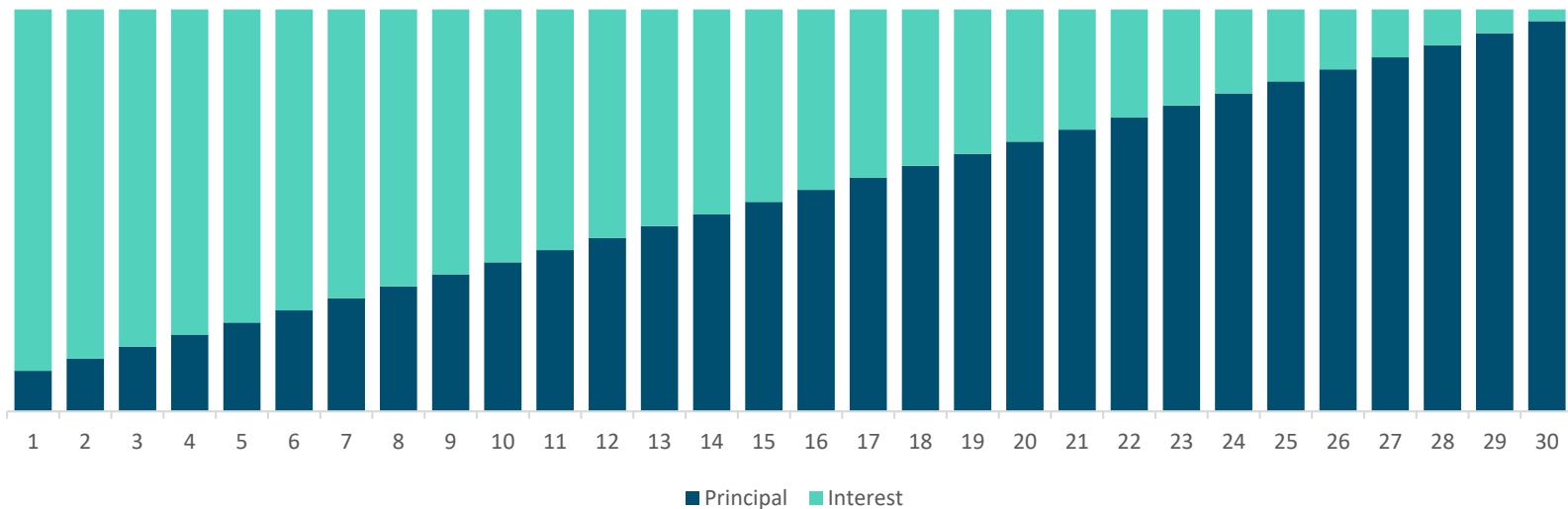
	<u>Maturity Date (May 1)</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Yield</u>
Serial Maturities	2019	\$615,000	3.000%	1.830%
	2020	255,000	4.000	1.980
	2021	265,000	4.000	2.080
	2022	275,000	5.000	2.210
	2023	290,000	5.000	2.310
	2024	305,000	5.000	2.410
	2025	320,000	3.000	2.500
	2026	330,000	5.000	2.610
	2027	345,000	5.000	2.720
	2028	365,000	5.000	2.840
	2029	385,000	5.000	2.930*
	2030	400,000	5.000	3.040*
	2031	420,000	5.000	3.150*
	2032	445,000	5.000	3.200*
	2033	465,000	3.375	3.640
	2034	480,000	3.500	3.750
	2035	495,000	3.625	3.820
	2036	515,000	3.625	3.870
2037	535,000	3.750	3.910	
2038	555,000	3.750	3.930	
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> \$3,110,000 4.000% Term Bonds due May 1, 2043 Yield: 4.070%; \$3,785,000 4.000% Term Bonds due May 1, 2048 Yield: 4.090%; </div>				
Sinking Fund Maturities	<u>Sinking Account Redemption Date (May 1)</u>	<u>Principal Amount to be Redeemed or Purchased</u>		
	2039	\$575,000		
	2040	600,000		
	2041	620,000		
	2042	645,000		
2043*	670,000			

* Yield to optional redemption of May 1, 2028 at par.

DEBT STRUCTURING

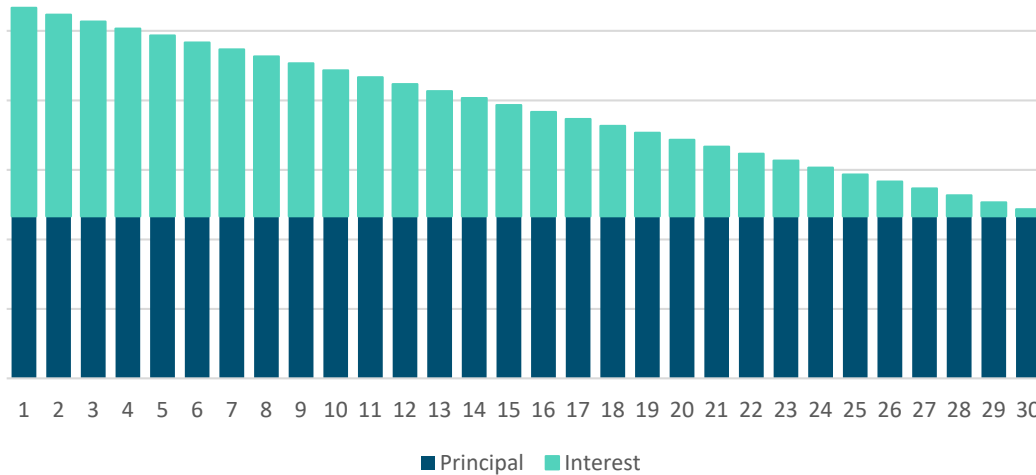
- Objective is to structure debt service in accordance with the unique needs and situation of the project
- **Amortization:** Payment of principal and interest due on the outstanding Principal balance each year
- **Level Debt Service:** Constant overall debt service characterized by increasing principal payments and an offsetting decrease in Interest payments over time
- **Current Interest Bonds** pay semi-annual Interest throughout the life of the bond
- **Capital Appreciation Bonds** pay accrued Interest at maturity (**Zero Coupon**)
- Part of the financing costs can be defrayed using investment earnings on bond proceeds (with restrictions)

Level Debt Service Schedule



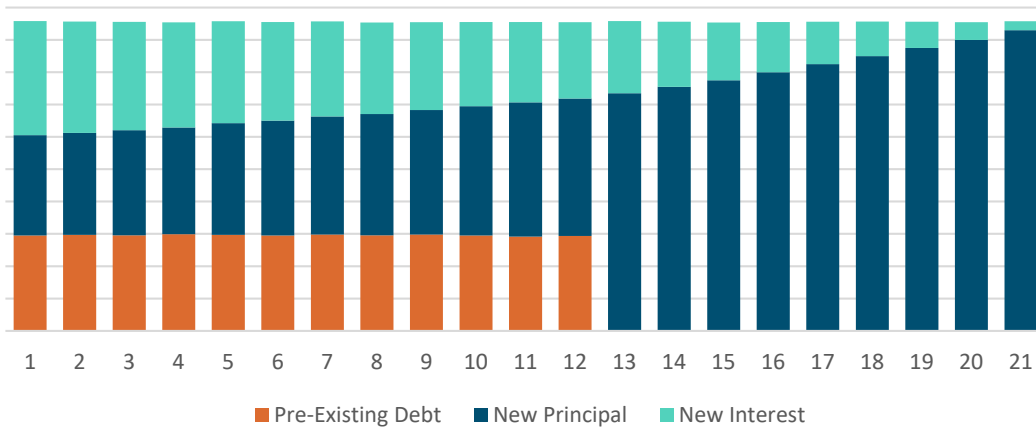
ALTERNATIVE DEBT STRUCTURES

Level Principal Debt Schedule



- Level principal payments
- Periodic interest payments decrease over time as principal is paid off

“Wrap Around” Debt Structure



- New debt “wraps” around pre-existing debt
- Creates overall level debt service structure 22

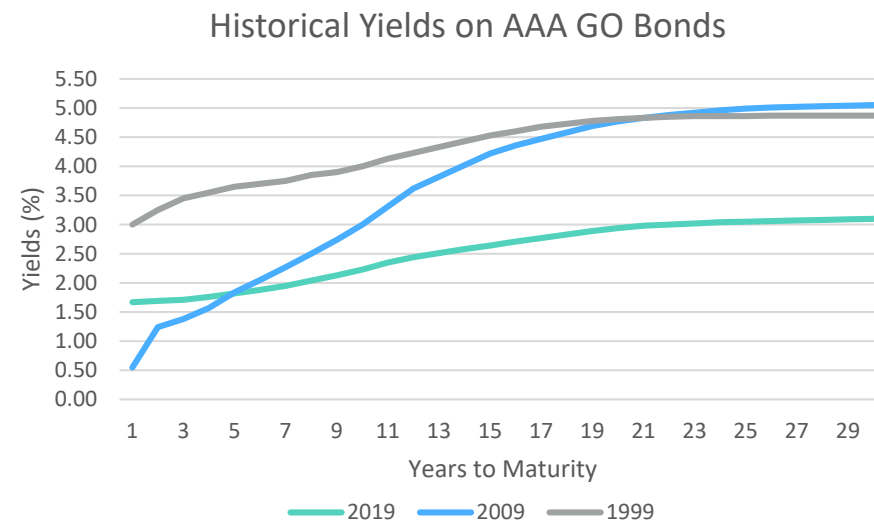
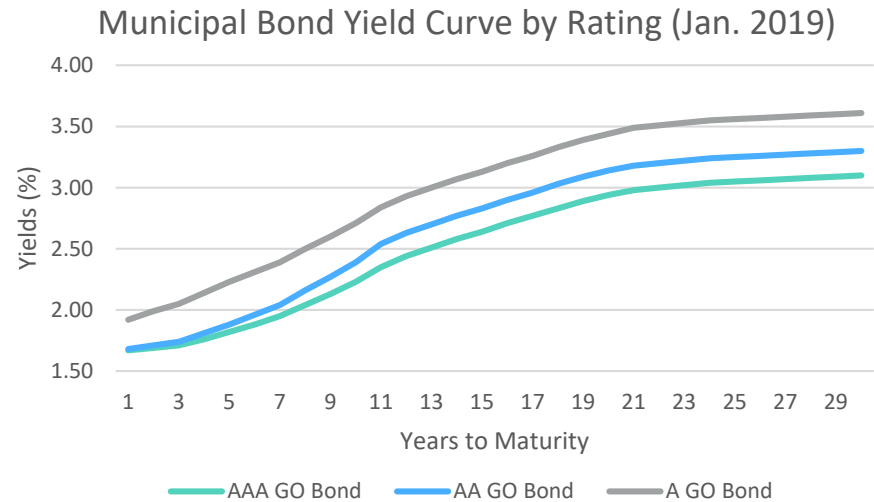
CREDIT RATING AGENCIES

- “Big Three” agencies are 3rd party assessors of credit quality
 - Standard & Poor’s
 - Moody’s Investors Service
 - Fitch Ratings
- Credit rating reflects likelihood that the Issuer will repay Bond
 - Rating reflects the security of the bond and the ability of the issuer to make debt service payments
 - Higher rated Bonds are considered safer and will have lower required interest rates
 - “AAA” rated agencies like Beverly Hills can issue Bonds at lower rates than “A” rated agencies
- Municipalities may issue non-rated bonds as an alternative to paying for a credit rating
 - Investor require higher interest rate
 - If the issue is small or if the municipality expects a sub-BBB rating, a non-rated bond may be the financially wiser option

S&P	Moody's	Fitch	
AAA	Aaa	AAA	Investment Grade
AA+	Aa1	AA+	
AA	Aa2	AA	
AA-	Aa3	AA-	
A+	A1	A+	
A	A2	A	
A-	A3	A-	
BBB+	Baa1	BBB+	
BBB	Baa2	BBB	
BBB-	Baa3	BBB-	
BB+	Ba1	BB+	Non-Investment Grade
BB	Ba2	BB	
BB-	Ba3	BB-	
B+	B1	B+	
B	B2	B	
B-	B3	B-	
CCC+	Caa1	CCC+	
CCC	Caa2	CCC	
CCC-	Caa3	CCC-	
CC	Ca	CC+	
C	-	CC	
-	-	CC-	
D	D	D	In Default

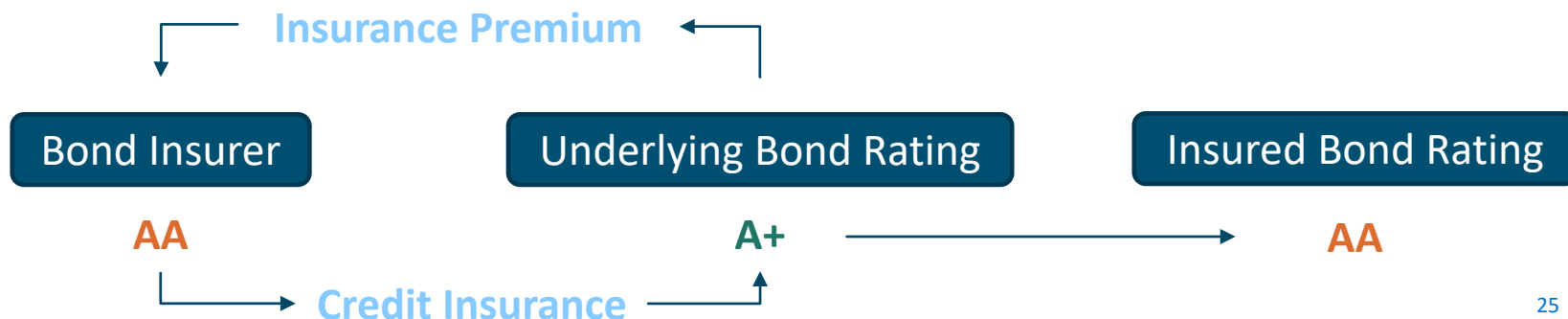
CREDIT RATINGS AND YIELDS

- Currently, the spread between a 30-year “A” rated GO bond and a “AAA” GO bond with the same maturity is about **0.50% (50 basis points)**
 - Compensates investors for the higher potential risk of purchasing a bond with a lower credit rating (i.e., a higher chance of default)
 - An issuer that attains bond insurance can effectively increase its perceived rating to a “AA” insured rating and realize interest rate savings
- From a historical perspective, current yields on GO bonds are among the lowest seen over the past 30 years
 - Potential for refinancings to save issuers material dollar amounts on outstanding interest payments



CREDIT ENHANCEMENTS

- Bond insurance companies can “credit wrap” an issuer’s bonds
- Guarantees the bondholder/investor additional protection in the event the issuer cannot make the payment
- Issuer pays a one-time premium to bond insurer for “insured rating”
 - Rating agencies assign rating to bond insurance companies based on financial reserves, credit exposure
- **Issuer bond’s rating takes on bond insurance company’s rating**
 - Premium paid can be offset by lower interest cost on bonds, enhancing savings
 - Insured rating could change over time if financial position of the bond insurer improves or becomes weaker



MARKET INTEREST RATES

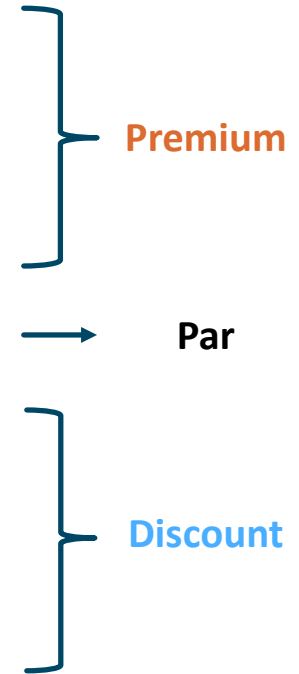
- Market rates based on bond rating, issuer credit quality and current market yields
- Principal amount can also influence investor interest
 - Institutional investors may have smaller appetite for lower par issuances
- Market transparency facilitates bond issue comparisons (database tools)
- Special Bond Characteristics
 - Green Bonds: Earmarked for climate and environmental projects
 - Bank Qualified – Smaller issuers provide traditional banks with tax credits if invested in “Bank Qualified Bonds” – typically under \$10,000,000 in a single year

12/10/2018 \$391,200,000 Tax Exempt AA			
Maturity	Par	Coupon	Yield
2019	\$2,480,000.00	5.000	1.450
2020	\$2,605,000.00	5.000	1.530
2021	\$2,750,000.00	5.000	1.580
2022	\$2,890,000.00	5.000	1.660
2023	\$3,045,000.00	5.000	1.730
2024	\$3,200,000.00	5.000	1.800
2025	\$3,375,000.00	5.000	1.890
2026	\$3,550,000.00	5.000	2.000
2027	\$11,285,000.00	5.000	2.150
2028	\$11,880,000.00	5.000	2.220
2029	\$12,510,000.00	5.000	2.360
2030	\$13,165,000.00	5.000	2.470
2031	\$13,860,000.00	5.000	2.570
2032	\$14,590,000.00	5.000	2.670
2033	\$29,080,000.00	5.000	2.760
2034	\$44,850,000.00	5.000	2.850
2035	\$55,155,000.00	5.000	2.910
2036	\$22,150,000.00	5.000	2.960
2037	\$23,320,000.00	5.000	3.010
2038	\$24,545,000.00	5.000	3.060
2039	\$20,890,000.00	5.000	3.090
2040			
2041			
2042			
2043	\$45,025,000.00	5.000	3.200
2044			
2045			
2046			
2047			
2048	\$25,000,000.00	5.000	3.250

PRICING THE BONDS

- **Reoffering Yield:** Return to Bondholder after adjusting Coupon for initial purchase premium or discount
 - “Return on investment” from the perspective of the investor.
 - As price increases, yield (return) decreases
- **Premium Bonds**
 - Coupon higher than the current market rates; Purchase price > 100
 - Generally less sensitive to interest rate movements but have higher risk of being called in future
- **Par Bonds**
 - Coupon rate matches current market rates; Purchase price = 100
- **Discount Bonds**
 - Coupon lower than the current market rates; Purchase price < 100
 - Discount Bonds less likely to be called

Maturity Date	Coupon	Market Yield	Price
12/1/2021	5.00%	4.00%	104.452
12/1/2022	5.00%	4.25%	103.316
12/1/2023	5.00%	4.50%	102.195
12/1/2024	5.00%	4.75%	101.090
12/1/2025	5.00%	5.00%	100.000
12/1/2026	5.00%	5.25%	98.925
12/1/2027	5.00%	5.50%	97.865
12/1/2028	5.00%	5.75%	96.819
12/1/2029	5.00%	6.00%	95.788



CALCULATING PURCHASE PREMIUMS

- Purchase premium is a function of the difference between the Underwriter's purchase price and the re-offer price to the public
 - It depends on yields, bond maturity, and coupon rates
 - Total premium is an aggregate of premiums on individual issues

Maturity	Par Amount	Coupon	Market Yield	Underwriter Purchase Price	Reoffering Price	Premium
12/1/2019	\$100.00	5.00%	4.75%	\$99.00	\$100.24	\$1.24
12/1/2020	\$100.00	5.13%	5.00%	\$99.00	\$100.23	\$1.23
12/1/2021	\$100.00	5.25%	5.13%	\$99.00	\$100.34	\$1.34
12/1/2022	\$100.00	5.25%	5.25%	\$99.00	\$100.00	\$1.00
12/1/2023	\$100.00	5.25%	5.50%	\$99.00	\$98.93	-\$1.07
					Total Premium	\$4.74

EFFECT OF PRICE ON BOND SIZE

- Issuing a premium bond can decrease need to issue as many bonds
 - Increasing the coupon by 100 basis points (bps), or 1.00%, can have a large effect on bond price
- In the example below, both the premium and discount bond structures raise the same amount of money – the distinction lies in the number of bonds issued



As price
increases

Size of the
issue
decreases

Example

Issue \$10M in 30-yr bonds; Market Yield = 3.50%

1. **Premium** bonds issued at 4.50% coupon;
\$118.39 price per bond

$$\text{\$10M} / \text{\$118.39} \approx \text{8,500 bonds}$$

2. **Par** bonds issued at 3.50% coupon;
\$100 price per bond

$$\text{\$10M} / \text{\$100} = \text{10,000 bonds}$$

3. **Discount** bonds issued at 2.50% coupon;
\$81.61 price per bond

$$\text{\$10M} / \text{\$81.61} \approx \text{12,250 bonds}$$

THE OFFICIAL STATEMENT

- Document created by Disclosure Counsel
- Securities document required to educate bondholders prior to purchasing Bond
- Preliminary Official Statement (POS) must include:
 - Issuer Profile and Legal Authority
 - Tax-Exempt or Taxable Bond Status
 - Principal Amount, Maturity Dates
 - Redemption/Call Provisions
 - Source of Repayment/Security for Bondholders
 - Remedies of Delinquency
 - Issuer Credit and Community Demographics and Description
 - Risk Factors
 - Credit Enhancement/Bond insurance Information (if applicable)
 - Finance Team
 - Continuing Disclosure Requirements
- Final Official Statement (FOS)
 - Will include final principal amounts and interest rates/coupons

CONTINUING DISCLOSURE REQUIREMENTS

- Continuing Disclosure Certificate in the Official Statement (OS) requires the issuer to
 1. Post financial information and operating data to MSRB's EMMA system annually
 - Generally due 9 months after end of public agency's fiscal year
 2. Provide notices of significant events
 - Principal and interest payment delinquencies
 - Unscheduled draws on Debt Service Reserve Fund
 - Unscheduled use of Credit enhancement
 - Substitution of credit/liquidity providers
 - Rating changes
 - Adverse tax opinions by IRS
 - Bond calls and tender offers
 - Defeasances
 - Bankruptcy, insolvency, receivership
- Continuing Disclosure Certificate is legally binding
- SEC has heightened scrutiny of Continuing Disclosure compliance
- Failure to comply could lead to SEC action against issuer and/or underwriter

BOND COVENANTS

Promise to repay principal and interest

Promise to take necessary action to ensure payment

Promise to maintain appropriate debt service coverage levels

Promise to maintain tax exempt status

Promise to maintain insurance on asset

- These promises commit the municipality to take action to preserve investor interests
- Underscores the importance of maintaining documentation at the Issuer level to assure that these covenants are being honored.



BASIC BOND MATH

BOND PRICE

YIELD TO MATURITY (YTM)

TOTAL INTEREST COST (TIC)

DEBT SERVICE PAYMENTS



TOOLS & FUNCTIONS

- Municipal Finance Professionals typically use customized financial software or complex Excel spreadsheets to make their calculations
- Excel functions provide a fairly accurate approximation
 1. Bond Price
 2. Yield to Maturity
 3. Annual Debt Service Payments
 4. True Interest Cost

BOND PRICE

- **Bond Price:** Price at which the bond is sold to investors

- **Equation:**

$$\text{Bond Price} = \frac{C}{(1+i)} + \frac{C}{(1+i)^2} + \dots + \frac{C}{(1+i)^n} + \frac{M}{(1+i)^n}$$

- **C** = Coupon payment
 - **i** = Interest rate (required yield)
 - **M** = Value at maturity
 - **n** = Number of payments
- **Excel 'PRICE' Function:**
 - =PRICE(delivery date, maturity date, coupon, yield, value at maturity, frequency of coupons, day count basis)

Excel Example:

Delivery Date: 3/1/2019

Maturity Date: 3/1/2029

Coupon: 5.00%

Yield: 4.50%

Maturity Value: \$100

Coupon Payments per Year: 2

Day Count Basis: 0 (0 = 360 days/year)

Price: **\$103.99**

YIELD TO MATURITY

- **Yield to Maturity (YTM):** Total return anticipated on a bond if held until maturity

- **Equation:**

$$\text{Bond Price} = \frac{\text{Cashflow 1}}{(1 + \text{yield})^1} + \frac{\text{Cashflow 2}}{(1 + \text{yield})^2} + \dots + \frac{\text{Last Cashflow}}{(1 + \text{yield})^n}$$

- Back-solves bond price equation to determine yield, given bond price and coupon:

- **Excel 'YIELD' Function:**

=YIELD(delivery date, maturity date, coupon, price, value at maturity, coupon payments per year, day count basis)

Excel Example:

Delivery Date: 3/1/2019

Maturity Date: 3/1/2029

Coupon: 5.00%

Purchase Price: \$110

Maturity Value: \$100

Coupon Payments per Year: 2

Day Count Basis: 0 (0 = 360 days/year)

YTM:

3.789%

TRUE INTEREST COST

- **True Interest Cost (TIC):** Rate necessary to discount the amounts payable on the bond to the purchase price received
 - Effective borrowing rate on Bond inclusive of P&I and all costs associated with Bond issuance
 - Proxied by internal rate of return (IRR)
- **Excel 'IRR' function:**

=IRR(values, guess)

- Values: Series of payments (first cash inflow must have negative value)
- Guess: Gives Excel a place to start solving

Excel Example

\$10,000,000 Bond with a 10 year maturity. Knowing the Debt Service Schedule, what is the TIC?

Principal and Interest Payment Date	Annual Debt Service Amount
Issue Bonds	\$ (10,000,000)
12/1/2017	\$ 1,050,000
12/1/2018	\$ 1,050,000
12/1/2019	\$ 1,050,000
12/1/2020	\$ 1,050,000
12/1/2021	\$ 1,150,000
12/1/2022	\$ 1,150,000
12/1/2023	\$ 1,150,000
12/1/2024	\$ 1,250,000
12/1/2025	\$ 1,250,000
12/1/2026	\$ 2,250,000

TIC: **3.727%**

CALCULATING DEBT SERVICE PAYMENTS

- If public agency needs to issue Bonds to pay for a police station, knowing the expected cost of the station, how can you approximate the yearly debt service?

- Excel Function

=PMT(Interest rate, Number of Periods, Present Value, Future Value, Payment Due Period)

Excel Example:

Bond Issue Size: \$25,000,000

PV: \$25,000,000

FV: \$0

Coupon: 3.500%

Years to Maturity: 30

Payment Due Period: 0 (0= end of period)

Approximate Annual Debt Service:

\$1,359,283



CASE STUDY

CITY OF GILROY
2009 & 2010 GO BONDS
(COMMUNITY LIBRARY PROJECT)

GILROY COMMUNITY LIBRARY: PROJECT OVERVIEW

Background

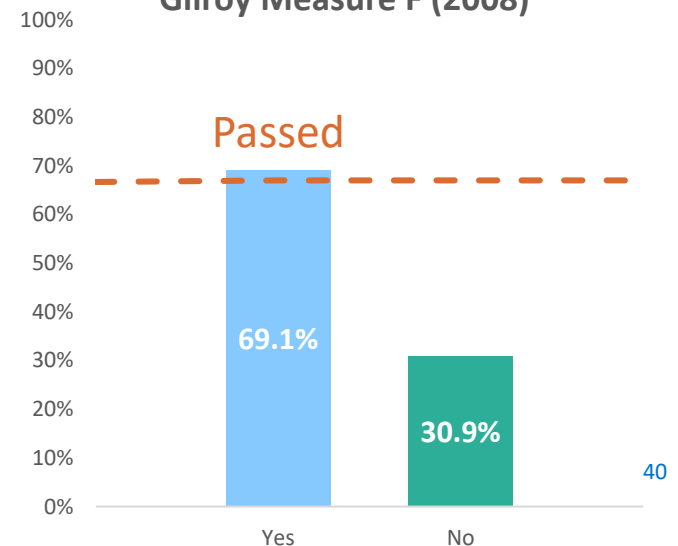
- November 2008: Voters of the City of Gilroy passed ballot Measure F for construction of public library improvements
- Measure F provided for the authorization to issue up to \$37 million in general obligation (GO) bonds



Project Details

- 52,000 sq. ft. library adjacent to City Hall
 - LEED-certified building design
 - Centrally located and accessible by public transit
- Two-issue bond financing
 - 2009 GO Bonds: \$10.5 million
 - 2010 GO Bonds: \$23.5 million

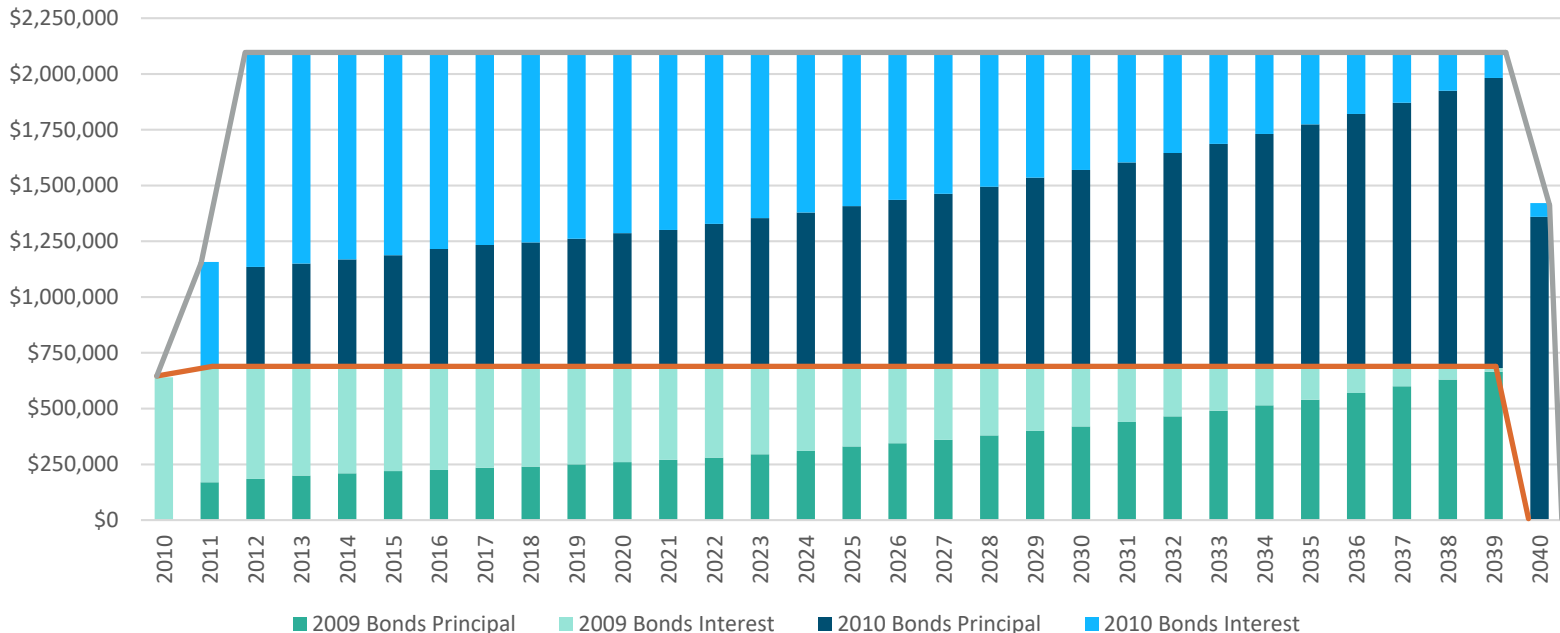
Gilroy Measure F (2008)



GILROY COMMUNITY LIBRARY: BOND FINANCING

- Bond proceeds allowed City to access \$34 million to finance project construction costs while preserving City's General Fund balances
- Debt service on bonds payable from ad valorem property taxes levied by the City on all properties
- Level debt structure with step-up, characterized by early principal deferral

Gilroy 2009 & 2010 GO Bonds: Level Debt Service



GILROY COMMUNITY LIBRARY: TIMELINE & SUMMARY

Project Timeline

- **November 2008:**
Passed Ballot Measure F to authorize \$37 million GO bonds issuance
- **May 2009:**
Issued 2009 GO Bonds
- **August 2010:**
Issued 2010 GO Bonds
- **April 2012:**
Library construction completed

Measure F Ballot Measure

“To replace the overcrowded, outdated Gilroy Library building, with a larger Library that meets current earthquake safety standards, located near public transit, City Hall and the Senior Center; provide services for a growing population; accommodate double the number of library books/materials; shall the City of Gilroy issue 37 million dollars in general obligation bonds at legal interest rates, subject to independent audit and citizens oversight with no money for administrators' salaries?”

Project Summary

- Purpose: Construct modern library to accommodate growing community
- Authorization: Measure F authorization for GO bonds issuance
- Financing Strategy: Issue two GO bonds to finance construction upfront
- Debt Structure: Level debt service payments over term of the bonds



SUMMARY OF PRESENTATION

- Bond Basics
- Developing Financial Plan for Project
- Adopting Debt Policies and Procedures to Guide Process
- Finance Team and Bond Issuance Logistics
- Continuing Disclosure Requirements
- Case Study – City of Gilroy

CONTACT INFORMATION

- Christina Turner, City Manager
 - City of Morgan Hill
 - 408.776.7382
 - Christina.Turner@morganhill.ca.gov

- Craig Hill, Managing Principal
 - NHA Advisors, LLC
 - 415.785.2025
 - Craig@NHAadvisors.com

