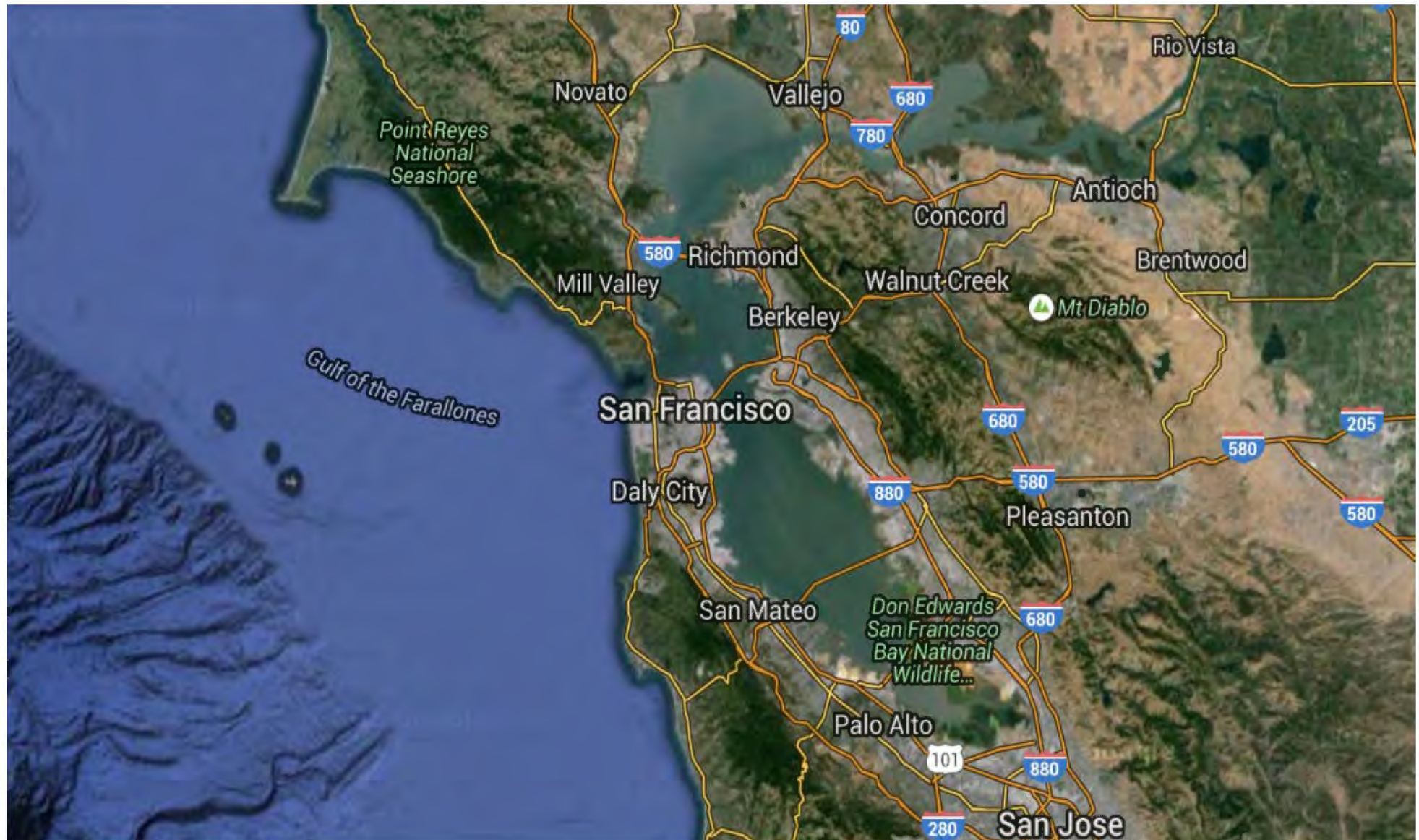


Board Presentation Follow-up



October 26, 2016

Executive Summary

Agenda

1

Infrastructure Bank

2

Century Bonds

3

Earthquake Bonds

4

FTA Securitization

5

Refinancing MTC's Unfunded Pension Obligation

1. Infrastructure Bank

What is an Infrastructure Bank?

An Infrastructure Bank is an Entity Designed to Leverage Existing Funds to Accelerate or Enhance Project Delivery Through:

- **Revolving Loans – Project lending**
- **Bond Purchases – Invest directly in project financings**
- **Credit Enhancement – Credit “back-stop”**
- **Conduit Financing – Assist with capital market access**
- **Grant Securitization – Securitize FTA (and other) grants**
- **Policy Priorities – Set through criteria such as local match, private sector role, innovations in technology and social or environmental benefits**

Unlike a State infrastructure bank, a regional infrastructure bank will focus on Bay Area transportation priorities

Why Do We Need a Regional Infrastructure Bank?

MTC and BATA have a history of nearly \$400 million in regional project support
Regional Infrastructure Bank formalizes process MTC/BATA have performed on ad-hoc basis

Agency	Project	Transaction	Principal	Status
BART	SFO Extension	MTC loan	\$60 million	Paid
State GO	Highway projects	BATA purchase	\$190 million	Paid
WETA	WETA infrastructure	BATA purchase	\$10 million	Paid
Air District	Office Purchase	BATA purchase	\$30 million	Outstanding
TJPA	Transbay Terminal	BATA purchase	\$100 million	In process

Creates another tool for project funding/delivery

- Source of project funding
 - State and Federal gas taxes not raised since early 1990's
 - "Self-help" for Bay Area
- Expands Commission project selection authority
- I-Bank funding does not federalize projects



What Local Projects can Benefit from an I-Bank?

Examples of Bay Area Projects that Could Benefit from a Regional Infrastructure Bank



- SR 37
- SR 152
- Express Lanes
- Caltrain Downtown Extension / TBT Phase 2
- Diridon Station
- Transit Extensions & Capacity Improvements
- Multimodal Joint Development Projects

Project Eligibility Criteria would Include:

- Source of repayment
- Delivery mechanism
- Economic impact
- Other criteria

I-Bank would assist projects across the regions

Who has an Infrastructure Bank?

State Infrastructure Banks (SIBs) were Created by Congress in 1995

- Currently 38 State Infrastructure Banks
- National Highway System Designation Act established SIBs in 10 States
- 1997 legislation expanded to all states included \$150 million Federal funding
- In 2005 SAFETEA-LU enabled states to use 10% of Title 23 and Title 49 funds in SIBs
- The purpose was to encourage innovation in project financing

California Infrastructure and Economic Development Bank

- Created in 1994
- Initial funding approximately \$162 million in General Fund transfer
- Eligible projects include transportation and infrastructure
- Approximately \$500 million in loans approved
- Primarily a conduit bond issuer, so limited impact on transportation funding shortfalls

What Project Processes do Other Infrastructure Banks Use?

Example – Georgia Transportation Infrastructure Bank

The screenshot shows the Georgia Transportation Infrastructure Bank (GTIB) website. The header includes the SRTA logo and navigation links: ABOUT SRTA, PEACH PASS, GTIB BANK, PROGRAMS AND PROJECTS, and DOING BUSINESS WITH SRTA. A search bar is located on the left. The main content area is titled "Georgia Transportation Infrastructure Bank (GTIB)" and describes the bank's mission and financial reporting. Below this are three circular icons: "APPLICATIONS & GUIDELINES" (with the Georgia state seal), "PROJECT LISTING" (with a bridge image), and "ANNUAL REPORT" (with a dollar sign icon). A "PROJECT SPOTLIGHT" section highlights a project in Gwinnett County, Georgia, for CID Main Street Improvement, with a GTIB award of \$800,000. Social media links are provided in the bottom left. Annotations in green text and arrows highlight specific features: "Clear credit guidelines" points to the "Application Date" and "Objectives" links in both the loan and grant application sections; "Clearly defined goals" points to the bank's mission statement; "Transparent Process" points to the "ANNUAL REPORT" icon; and "Marketing of I-Bank through 'Project Spotlight'" points to the project spotlight section.

Georgia Transportation Infrastructure Bank (GTIB)

The Georgia Transportation Infrastructure Bank (GTIB) provides financial assistance for transportation projects that improve mobility, sustain development and enhance communities throughout the state and is managed by the State Road and Tollway Authority (SRTA).

Each fiscal year, GTIB financials are provided in the State Road and Tollway Authority's Audit Report. For FY15, the GTIB Annual Report is listed below. Previous GTIB financial information can be found in SRTA's annual audit reports.

APPLICATIONS & GUIDELINES

PROJECT LISTING

ANNUAL REPORT

PROJECT SPOTLIGHT
Click here to read the Project Profile featured in the Project Spotlight

COUNTY
Gwinnett County (Lilburn, Georgia)

PROJECT
CID Main Street Improvement

GTIB AWARD
\$800,000

Clear credit guidelines

Clearly defined goals

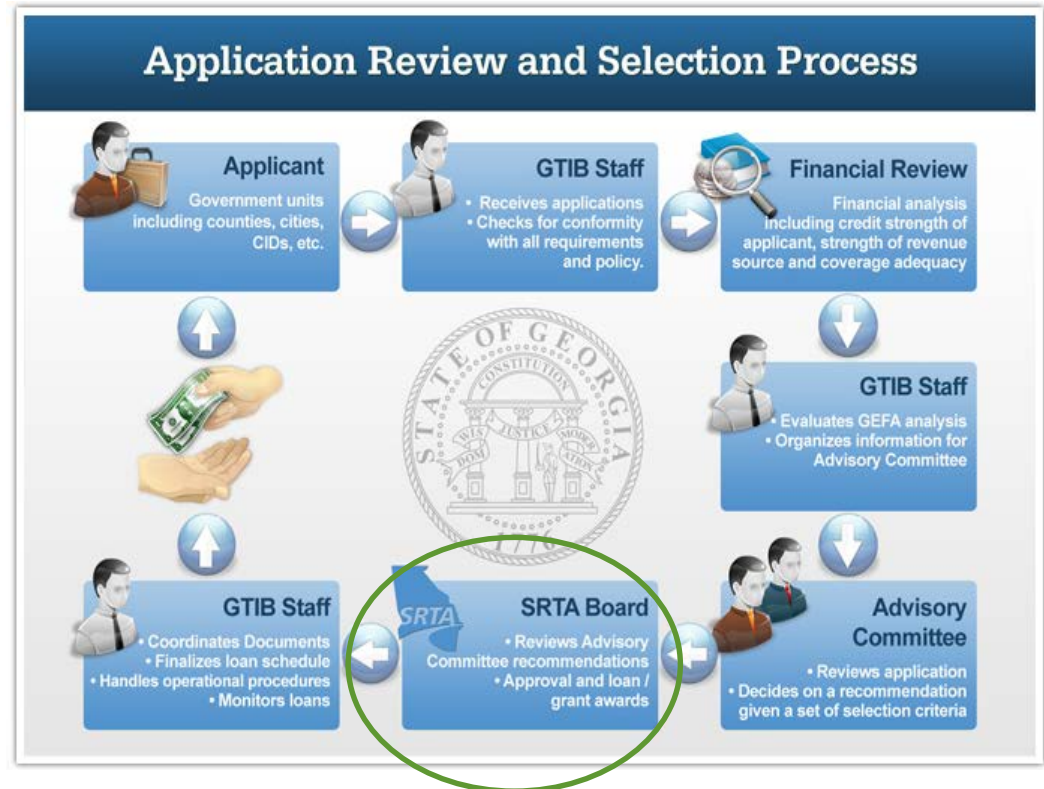
Transparent Process

Marketing of I-Bank through "Project Spotlight"

What is the Governance Structure and Project List?

Example – Georgia Transportation Infrastructure Bank

- Georgia's State Road and Tollway Authority ("SRTA") runs the Georgia Transportation Infrastructure Bank ("GTIB") and shares a common board that sets policy and governance
- Leveraged \$50 million in grants/loans to support \$200 million in projects
 - Local road projects
 - Bridge rehabilitation
 - Highway improvements
 - Loans/grants range from \$165,000 to \$4 million



Are there Local Infrastructure Banks?

One Non-State I-Bank Example – Dauphin County Infrastructure Bank

DAUPHIN COUNTY
P E N N S Y L V A N I A

Search this site...

Citizen | Business | **Government Services**

Dauphin County > Government Services > Community & Economic Development > DCIB

Dauphin County Infrastructure Bank

Dauphin County Industrial Development Authority
112 Market Street, 7th Floor
Harrisburg, PA 17101-1295
(717) 780-6250 **Phone**
(717) 780-6258 **Fax**

Well-defined goals

For more than 30 years, Dauphin County has responsibly invested its Liquid Fuels funds to replace, improve, and maintain the County's bridges. As a result of this stewardship, the County is in a unique position to invest its surplus Liquid Fuels allocation funding in support of a new program to assist communities and private entities with financing surface transportation improvement projects that support economic development.

Established through a unique partnership with the Pennsylvania Department of Transportation (PennDOT), the Dauphin County Infrastructure Bank (DCIB) would be established to finance county surface transportation projects at very favorable terms compared to alternative sources of funding. The DCIB is a revolving loan program that could grow to as much as \$30 million over the next several years.

Pre-determined credit and project guidelines

- 2016 DCIB FAQs
- 2016 DCIB PROGRAM GUIDELINES
- 2016 DCIB PROGRAM OVERVIEW
- 2016 DCIB SCHEDULE OF IMPORTANT DATES

Transparency & marketing through detailed website

2014 ACHIEVEMENT AWARD WINNER

County News

- 10/04/2016 - Work by Dauphin County DA and Commissioners to make Narcan available to police, first responders save 50 lives in past year
- 09/28/2016 - More senior citizens receiving meals and being protected from crime thanks to cost saving measure by Dauphin County Commissioners
- 09/27/2016 - Dauphin County to offer free Medicare open enrollment counseling sessions

County Events

- 10/05/2016 - Migration Bird Walk
- 10/08/2016 - Volunteer Work Day
- 10/08/2016 - Storytime

County Forms

Government Services

- About the County
- Publicly Elected Officials
- County Offices
- Community & Economic Development
- Industrial Development Authority
- Board Information
- Small Business Loan Program
- Gaming Advisory Board
- Infrastructure Bank**
- Economic Development Corporation
- Redevelopment Authority
- Land Bank Authority
- Hospital Authority
- Tax Collection
- Quick Facts
- Online Forms
- Resources
- Projects
- Court Departments
- Criminal Justice
- Elections & Voter Registration
- Human Resources

Source: <http://www.dauphincounty.org/government/Community-Economic-Development/Pages/DCIB.aspx>

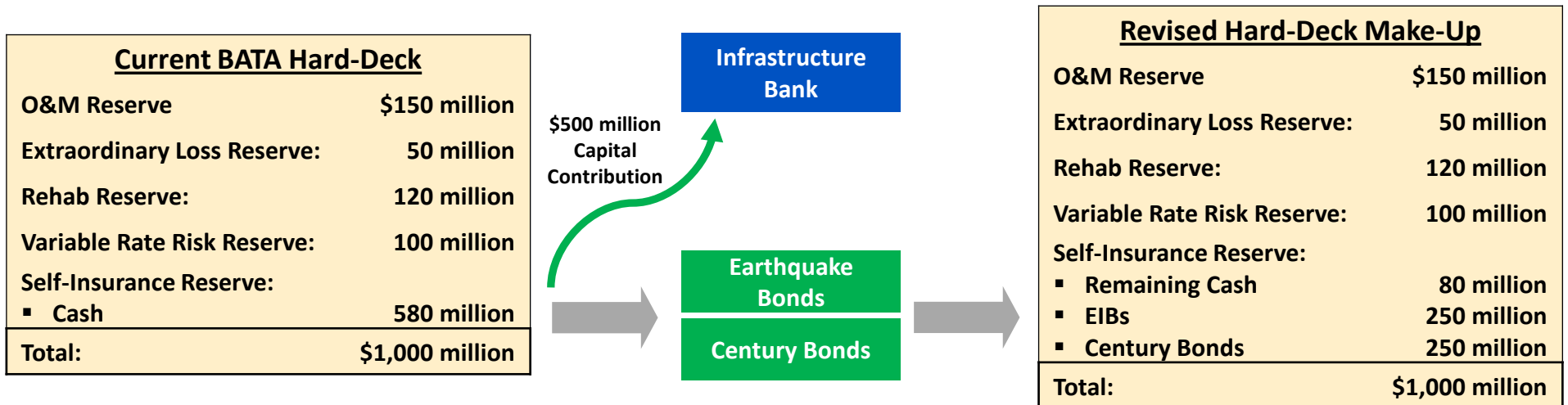
How are Infrastructure Banks Funded?

Funding for Infrastructure Banks Comes from Many Different Sources

<u>I-Bank</u>	<u>Funding Source</u>
Alaska Municipal Bond Bank	\$2.5 million federal funding; bond proceeds
California Infrastructure and Economic Development Bank	Original funding \$162 million General Fund \$ 3 million federal funds
Dauphin County Infrastructure Bank	Surplus Liquid Fuel fund allocation funds collected over past 30-years
Georgia Transportation Infrastructure Bank	\$50 million State motor fuel sources
Kansas DOT	\$130 million State and federal funds
Oregon Transportation Infrastructure Bank	\$1 million State and \$9 million federal funds
Texas DOT	\$171 million federal funds; state funding
South Carolina Transportation Infrastructure Bank	\$3 million federal funds; state funding

How Could a Regional Infrastructure Bank be Funded ?

BATA has Resources that can be Repurposed to Fund an Infrastructure Bank



Allows BATA to maintain its current \$1 billion minimum reserves, while freeing up resources to provide I-Bank funding

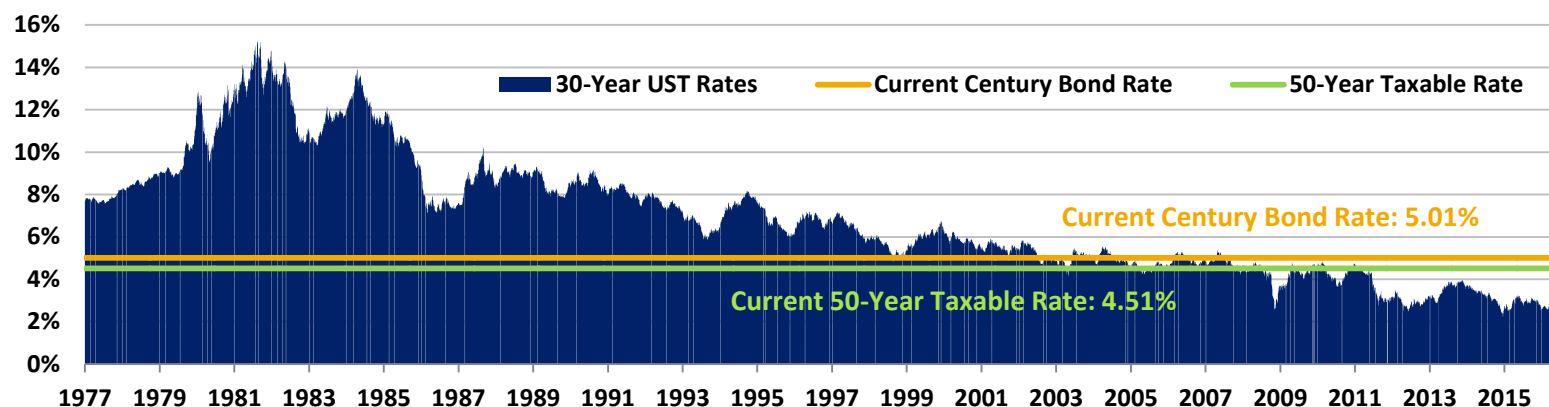
2. Century Bonds

What are Advantages of Taxable Bonds?

BATA has a history dealing with taxable bonds having issued \$3.6 billion (Build America Bonds)

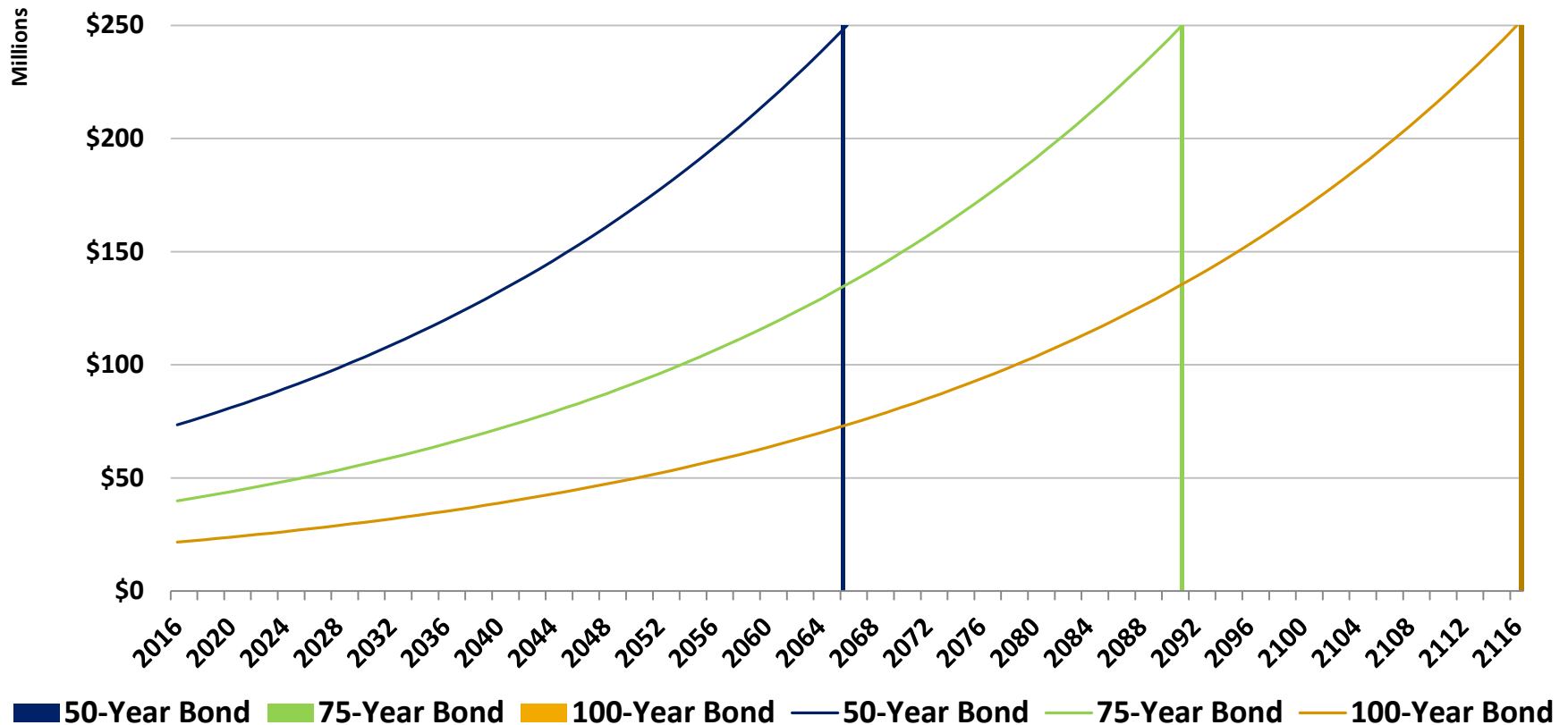
- **No restrictions on expenditure or timing**
 - Advance fund projects
 - Fund reserves
 - Flexibility to change use of proceeds at any time
- **No restrictions on interest earned**
 - Earnings are not capped
 - No burdensome proceeds tracking
 - If interest rates increase, bond proceeds may have the potential for positive earning
- **Does have higher initial cost: 1% of par amount tax-exempt vs. 2% taxable**

Long-Dated Taxable Bond Rates are Historically Attractive



Taxable Structure Allow BATA to Retire Principal

Investing and Compound Interest can Repay Bonds at Maturity



- \$73 million invested at 2.50% for 50 years generates \$250 million
- \$40 million invested at 2.50% for 75 years generates \$250 million
- \$22 million invested at 2.50% for 100 years generates \$250 million

What are Risks and Mitigations of Century Bonds?

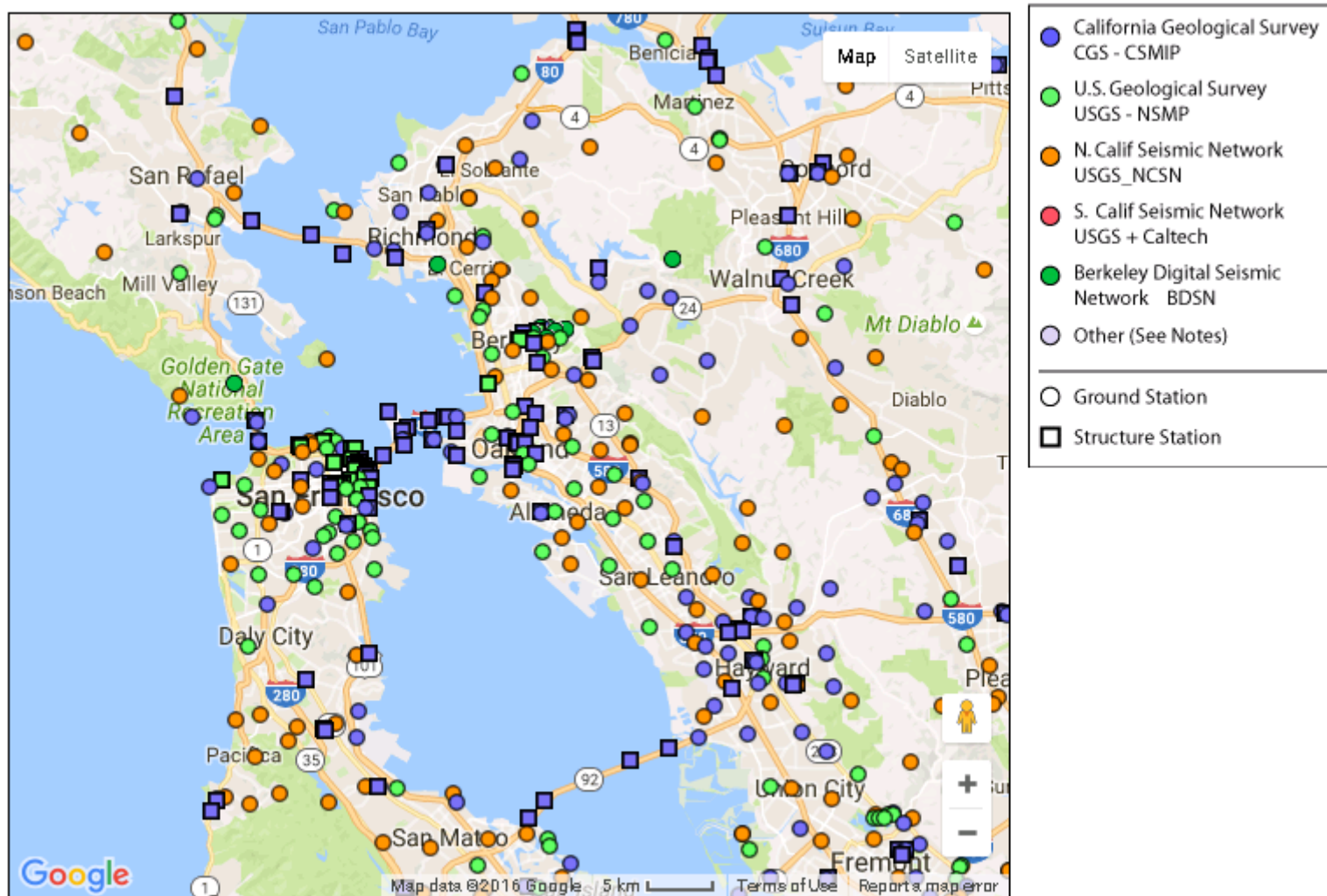
Risk	Mitigation
Non-Callable	Issuing at historically low rates reduces need for economic refundings; legal defeasance will be possible through an escrow 30-years prior to maturity or through a tender purchase at any time
Reinvestment rate risk for duration of bonds	A historically low cost of funds can help minimize negative arbitrage
Aged assets may be more susceptible to catastrophic events before maturity of the bonds	Continuation of the BATA hard-deck and the rehabilitation program will mitigate risk to the actual assets as well as the revenue stream
Legal structure or authority to issue bonds may change prior to maturity	Bonds can be redeemed through a tender purchase at any time

3. Earthquake Bonds

How do BATA's Insurance Options Compare?

	Continue to Self-Insure	Traditional Insurance Market	Earthquake Bond Market
Description	BATA retains earthquake risk	Transfer risk to commercial insurance market	Transfer risk to the capital markets
Scope of Coverage	Damage / tolls	Physical damage to activate	- Parametric - Loss of revenue / business interruption
Credit Risk Exposure	None	Exposure to commercial insurance companies	Collateralized protection
Term	Not Applicable	Traditionally one-year	- Typically 3-5 years - Parametric transactions may be longer
Recovery	Simple / immediate	Loss development period and claims review process to prove actual damages	- No need for claims review process 60 days on parametric triggers - Proceeds in collateralized trust
Pricing / Cost	- No additional premium paid - Keep current reserves to self-insure - Incur costs to replenish the reserves post event - Annual cost equivalent to \$0.10 toll	Highly negotiated contracts/pricing	- All-in pricing of 4-6% \$300k feasibility study - Collateralized trust - Annual cost equivalent to \$0.09 toll

How does “Parametric” Trigger Work?



Examples of Transportation Authorities Using the Earthquake Bond Market



Amtrak

- In 2012, Superstorm Sandy caused over \$1 billion in losses to Amtrak
- Resulted in a lengthy and contentious litigation process between Amtrak and its primary insurers over the recovery, which was ultimately settled after three years
- In addition, Amtrak experienced a significant increase in insurance premiums post event

In 2015, Amtrak obtained parametric insurance coverage through the insurance-linked bond market

- Transaction: PennUnion Re Limited Series 2015-1
- Issuance Size: \$275 million
- Trigger Type: Parametric
- Tenor: Approximately 3 years and 2 months
- Covered Events: Storm Surge, Wind, Earthquake
- Modeled Annual Expected Loss: 2.05%



Metropolitan Transportation Authority (MTA)

- In 2012, Superstorm Sandy caused almost \$5 billion in losses to the MTA
- The MTA experienced funding constraints and sought additional funding due to timing delays in the receipt of proceeds from their traditional insurers post event
- Post event insurance coverage became difficult to obtain, and busy tunnels were shut down for repair

In 2013, the MTA obtained parametric insurance coverage through the insurance-linked bond market

- Transaction: MetroCat Re Limited Series 2013-1
- Issuance Size: \$200 million
- Trigger Type: Parametric
- Tenor: 3 years
- Covered Events: Storm Surge
- Modeled Annual Expected Loss: 1.71%

Examples of California Entities Using the Earthquake Bond Market



Kaiser Permanente

- With \$20+ billion of physical assets, a majority of which are located in California, Kaiser Permanente sought different approaches to protect against potential losses in the event of a catastrophe
- While purchasing a significant amount of traditional earthquake insurance coverage, traditional supply was inadequate to meet Kaiser Permanente's risk transfer and financial objectives

In 2015, Kaiser Permanente obtained parametric insurance coverage through the earthquake insurance bond market

- **Transaction:** Acorn Re Limited Series 2015-1
- **Issuance Size:** \$300 million
- **Trigger Type:** Parametric
- **Tenor:** 3 years
- **Covered Events:** Earthquake
- **Modeled Annual Expected Loss:** 0.74%



Vivendi Universal (Universal Studios)

- Through Vivendi Universal's acquisition of Seagram, Vivendi Universal became the owner of Seagram's Universal Studios including both the theme park and studio assets in Southern California
- Vivendi Universal sought to purchase earthquake coverage focusing on business interruption post major events

In 2002, the Vivendi Universal obtained parametric insurance coverage through the earthquake insurance bond market

- **Transaction:** Studio Re Limited
- **Issuance Size:** \$150 million¹
- **Trigger Type:** Parametric
- **Tenor:** 3.5 years
- **Covered Events:** Earthquake
- **Modeled Annual Expected Loss:** 0.65%

Source: Trading Risk, Thomson Reuters, Wall Street Journal, Company Press Releases, as of October 2016

¹ Total size of \$175 million including \$25 million of preference shares.

What is the Financial Impact on BATA?

- **Base Case – Current situation; no Earthquake Bonds; no Century Bonds**
- **Case 1 – No Earthquake Bonds; \$250 million of Century Bonds**
- **Case 2 – No Earthquake Bonds; \$500 million of Century Bonds**
- **Case 3 – \$250 million of Earthquake Bonds; \$250 million of Century Bonds**

BATA model results (FY 2017 – 2021)

	<u>Base Case</u>	<u>Case 1</u>	<u>Case 2</u>	<u>Case 3</u>
Earthquake Bond Issuance	-	-	-	250,000,000
Century Bond Issuance	-	250,000,000	500,000,000	250,000,000
Total Capital Expenditures	1,842,141,600	1,842,141,600	1,842,141,600	1,842,141,600
Additional Annual Cost/Debt Service	-	8,338,098	16,676,195	27,925,598
Minimum Fixed Charge Coverage	1.23 x	1.20 x	1.17 x	1.18 x

Century Bonds and Earthquake Bonds have no material impact on project delivery

Next Steps for I-Bank Development

- **Conduct peer review of I-Bank concept**
- **Evaluate issuance of Century Bonds, Earthquake Bonds, or both**
 - **If Century Bonds, seek board approval through issuance resolution**
 - **If Earthquake Bonds:**
 1. **Perform risk assessment feasibility study**
 - **Performed by specialist 3rd party modeling firm**
 - **Assesses BATA risk and vulnerabilities**
 2. **Perform legal and tax analysis**
 - **Legal Counsel with expertise in earthquake bonds**
 - **Explore optimal structure for BATA**
 3. **Return to Board with more precise information and specific recommendations**
- **Review potential governance changes to BAIFA to accommodate I-Bank**
- **Return to Board with recommendations regarding formation of I-Bank**

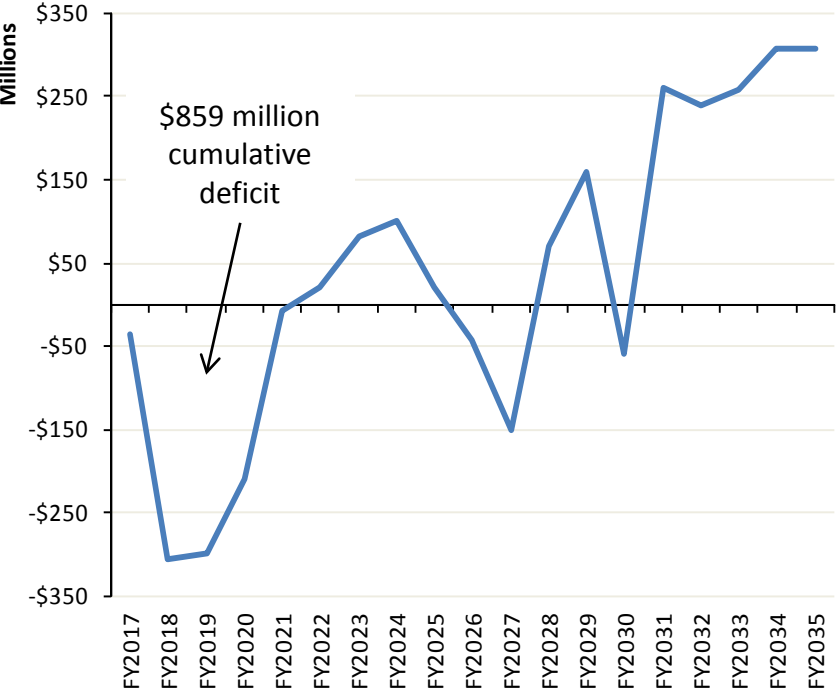
4. FTA Securitization

Why do an FTA Securitization?

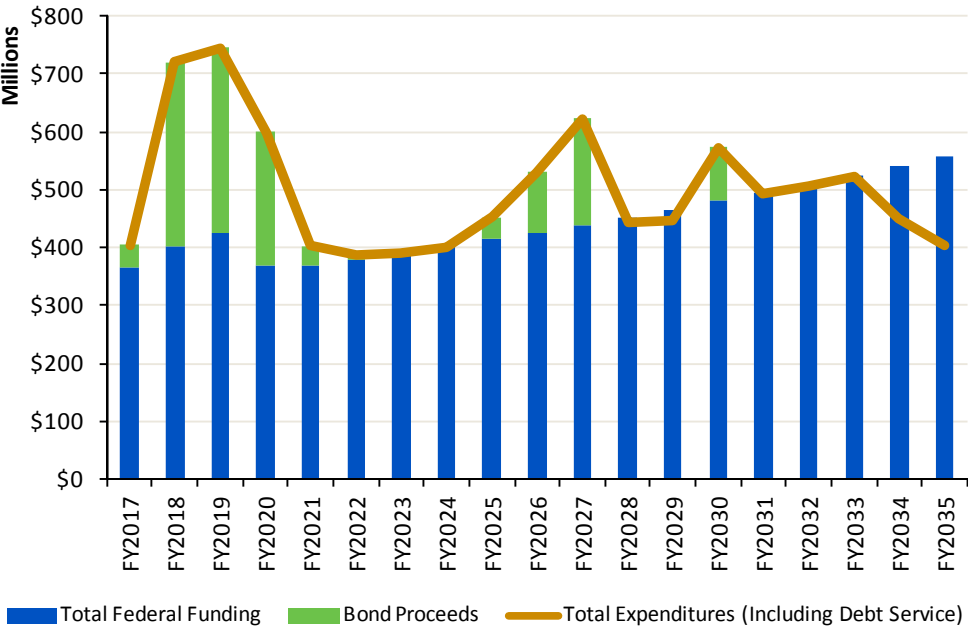
Strategic Financing will Resolve Funding Gaps

- There is a mismatch between Federal Formula Fund payments and project expenditures, creating funding gaps
- Current plan has \$859 million deficit over next five years
- Issuing \$920 million of bonds over the next three years can close the funding gap

Funding Deficit – Current Plan



Funding after Grant Financing



How Will FTA Securitization Work?

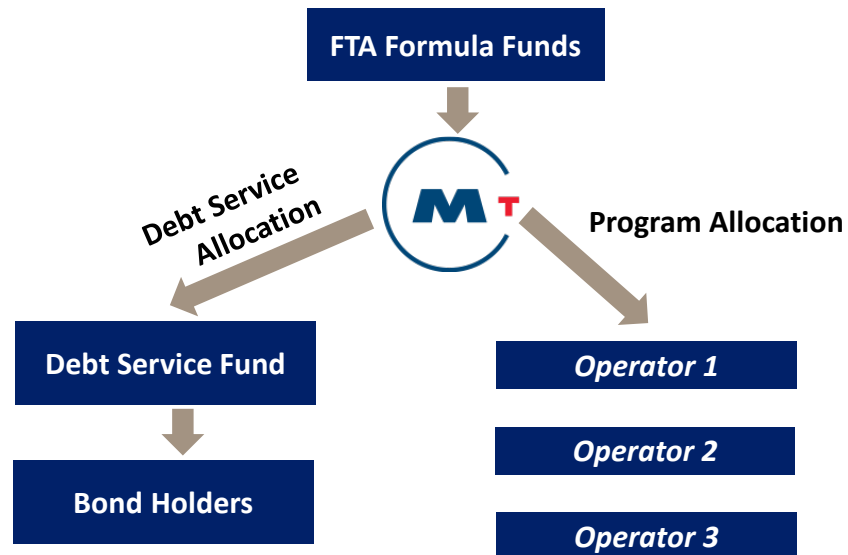
MTC Remains in Control of Allocation Process

Benefits

- MTC continues to allocate funds
- Match resources with expenditures
- Accelerate project delivery

Risks

- Federal funding is reduced
- Reauthorization is delayed
- Reliance on negotiations and actions of operators



Implementation Steps

- BAIFA can issue the bonds
- Draft legal documents
- Gain FTA approval of funding plan
- Partner with regional transit operators to determine needs
- Initial funding planned for 2017

5. Refinancing MTC's Unfunded Pension Obligations

Why Issue Pension Obligation Bonds?

Prefunding Retirement Liability to Protect Against Future PERS Increases

- MTC PERS liability is \$34.6 million
- PERS estimate to retire liability is \$61 million
 - 7.5% over 30 years
- Prefunding can save \$30 million
 - 3.0% over 10 years
- ABAG has liability of \$13.7 million (\$39.1 million amortized)
 - Similar structure should work with proper transition structure

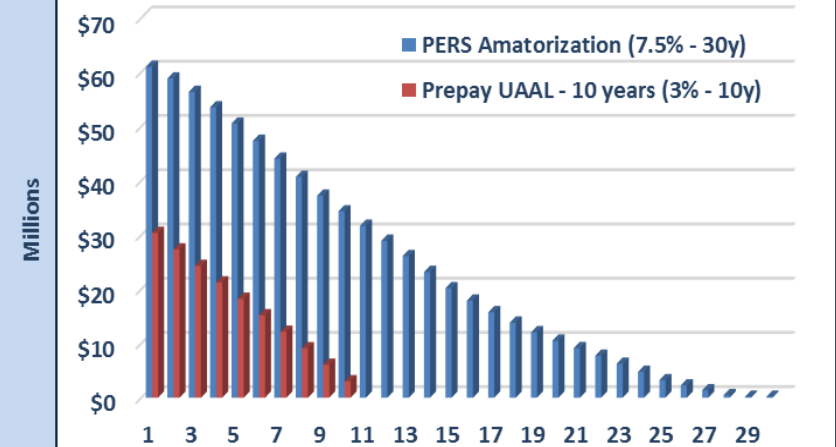
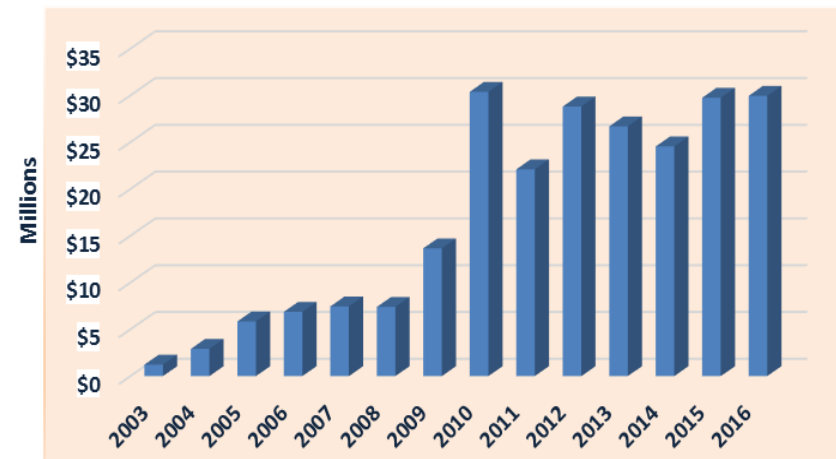
Risks

- Actuarial assumptions are 2015
- Actuarial assumptions can change
- Planned investment returns are not realized
- MTC still pays normal costs (10% of payroll)

Implementation Steps

- MTC can enter into a loan or issue special limited obligation
 - Taxable public offering
 - Direct bank placement
- Security for debt obligation is pledge all of MTC's non-Federal Fund revenues
- Develop and approve MTC documents

Unfunded Pers Liability



Next Steps for Commission

