Principles for Responsible Investment

Massachusetts Bay Transportation Authority

THEMATIC BONDS

PART 1: THE ISSUER PERSPECTIVE

SIGNATORY TYPE	**N/A – Issuer**
OPERATING REGION	**US**
ASSETS UNDER MANAGEMENT (AUM)	**N/A**
FIXED INCOME AUM	**N/A**
AUTHOR	**Paul Brandley, Chief Financial Officer and Treasurer**

Home to the first subway tunnels, underground streetcars and mobile ticketing, the Massachusetts Bay Transportation Authority (MBTA) is North America's oldest mass transit system. In October 2017, the MBTA finance team issued the first tax-exempt sustainability bonds in the US, testing the hypothesis that issuing impact-focused bonds as opposed to traditional bonds results in lower borrowing costs.

THE ISSUANCE PROCESS

Sustainability bonds exclusively finance green and social projects. They are governed by the International Capital Market Association (ICMA) through clear guidelines for project selection, use of proceeds and reporting. We drafted a Sustainability Bond Framework to align with the ICMA's guidelines, seeking input from impact investment firms, the academic community and peer issuers. Each year, we will produce a Sustainability Progress Report detailing allocations to each eligible project, qualitative performance indicators and, where feasible, quantitative impact measures. Our Sustainability Progress Report will detail greenhouse gas emissions (T), pollutant offsets (lbs), energy savings (kWH), power savings (kW), water savings (gal), and other impact measures. It will also confirm that the use of proceeds adhered to requirements described in the Sustainability Bond Framework.

As a new endeavour, our decision to issue sustainability bonds involved significant internal discussion as well as consultation with external stakeholders, including peer agencies, private sector issuers, academic institutions, investment bankers, consultants and impact investors. We wanted to understand the economic and reputational risks associated with the transaction and learn about best practices for impact-focused issuance. Ultimately, we felt that sustainability bonds best reflected the social and environmental attributes of our underlying capital projects.

The PRI's Fixed Income Case Study series highlights examples of interesting and innovative approaches to responsible investment. Written by fixed income practitioners from around the world, the case studies cover topics such as ESG integration, negative and positive screening, thematic investment and engagement.

Sharing these examples will enable investors to collectively build a concept of emerging good practice. The PRI aims to publish these on an ongoing basis. If you would like to learn more or contribute your own case study, please contact us.

We identified 74 projects within our 2018-2022 capital investment plan that fit our strict definition of sustainability, with each project fulfilling an MBTA social or environmental priority. These projects aim to make our transportation system more resilient to climate change, more energy efficient and more accessible. They also reduce pollution, enhance safety and improve workplace conditions. Projects include the construction of a $60 million seawall in Charlestown, Massachusetts, to protect a key bus facility, the purchase of 150 hybrid buses to replace ageing diesel vehicles, and the installation of a critical safety technology, called Positive Train Control, across our commuter rail system.

While our marketing effort focused primarily on the creditworthiness of the MBTA, we also geared our presentations towards municipal bond investors that seek environmental and social impact in addition to strong financial returns. We hosted an electronic roadshow, as well as conference calls and in-person investor events to market our bond offering.

Figure 1: MBTA Sustainability Bond Framework. Source: MBTA

	MBTA PRIORITY	PRIORITY DESCRIPTION	EXAMPLE
Social	Affordability	Balancing the needs of customers, particularly low-income riders, with the financial constraints of the organisation.	Efficiency-focused upgrades, such as installation of LED lighting in stations, result in operating budget savings and can temper the magnitude of biennial fare increases.
	Accessibility	Operating an inclusive system with facilities that accommodate a diverse customer base.	Replacement and modernisation of elevators and escalators make the system more accessible to people with disabilities.
	Availability	Ensuring that communities within the service area are within reasonable, equitable reach of the public transportation system.	Better Bus Project includes expansion of the existing bus fleet and inclusion of new routes with an emphasis on serving low-income communities.
	Equity	Offsetting social and environmental burdens experienced by populations or communities within the service area.	Technology advancements in Automated Fare Collection 2.0 will allow for potential fare structure changes and new fare products.
	Safety	Protecting the well-being of passengers, operators and the general public.	Investment in Positive Train Control will prevent derailments and collisions on 394 miles of MBTA commuter rail lines.
	Workplace environment	Maintaining a safe, empowering, and satisfying workplace environment.	New work platforms at Riverside maintenance facility as well as improvements to lighting, fire protection and ventilation improve the workplace experience.
Environmental	Built environment	Respecting, protecting and improving the built environment, and enhancing travel quality experience.	Renovation of the 118-year-old Government Center Station enhanced accessibility and included a new head house with adequate natural light.
	Capacity	Reducing emissions from personal vehicle trips by increasing capacity to carry passengers.	Purchase of multi-level coaches will increase capacity on commuter rail lines and new locomotives will improve reliability.
	Carbon, energy and climate resilience	Reducing carbon emissions and preparing for the potential impacts of climate change and extreme weather.	Construction of Charlestown seawall protects $140 million of system assets, including an essential bus facility.
	Natural environment	Respecting, protecting and enhancing the natural environment and its contribution to quality of life.	Repair and replacement of drawbridges to improve traffic flow, promote marine safety, and preserve historical significance as well as the natural landscape.
	Noise mitigation	Managing and controlling transport-related noise and vibration.	Replacement of hundreds of buses with a more fuel-efficient and quieter hybrid fleet.
	Pollution prevention	Proactively managing activities to minimise pollution.	Groundwater remediation at Back Bay station removes pollutants and improves air quality for passengers and employees.
	Resource management	Using resources (including water) wisely and minimising waste.	Reconditioning of 155 buses to improve mileage and efficiency thus extending their useful life and reducing waste.

To finance the projects that did not meet our minimum threshold for environmental and social impact, we issued traditional tax-exempt bonds. An example of a project that did not meet the criteria is system-wide radio upgrades. This parallel issuance enabled us to compare sustainability bonds and traditional bonds, which were nearly identical. They were both tax-exempt given the MBTA's status as a government agency; they were issued against the MBTA's sales tax lien, thus having the same credit rating (AA/Aa3); they had matching average lives (20.15 years); and they had large maturity size, priced within minutes of one another. The two series even shared the same Official Statement, with sustainability bond credentials detailed in the application of funds section. Through a competitive pricing process, we were able to A/B test the hypothesis that impact-focused issuance results in a lower cost of capital.

These were the results:

1. More banks participated in the sustainability bond offering (nine) than the traditional bond offering (eight).
2. Six of the eight banks that participated in both offerings submitted more aggressive bids on the sustainability bonds than the traditional bonds. Bids from these banks were 0.5 basis points to 2 basis points lower on an all-in TIC (Total Interest Cost) basis than their bids on the traditional bonds.
3. The MBTA's borrowing cost ended up being lower for its sustainability bonds than its traditional bonds. This translates into lifetime interest savings of approximately $2.60 per $1,000 issued. Since the MBTA already tracks project spending on a dollar-for-dollar basis to comply with federal and state regulations, the ongoing surveillance and reporting of costs associated with the issuance are negligible.

Figure 2: MBTA sustainability issuance – demand and pricing dynamics. Source: MBTA

NEXT STEPS

As with our subway tunnels and mobile ticketing, we expect that our tax-exempt sustainability bonds will be the first of many in the US. ICMA lists 47 member issuers of sustainability bonds in Europe, Asia and Africa. The number of impact-seeking investors is also larger in these regions. Nevertheless, we believe that the new breed of US-based investors who supported our sustainability issuance will continue to do so. For example, research increasingly suggests that incorporating environmental, social and governance (ESG) considerations into fixed income portfolios mitigates risk and results in more stable financial returns[1].

We carefully considered the costs and benefits before moving forward with our tax-exempt sustainability bonds. We were cognisant of the reputational impact to the MBTA should our methodology be poorly received by the market, as well as the economic risk of an undersubscribed deal. We knew that the due diligence process would be challenging and time-intensive, particularly without third-party help. We wanted to build the issuance framework and reporting capability ourselves, and as a caretaker of public funds, we sought to minimise advisory costs. Ultimately, the benefits outweighed any costs and our investment proved to be worthwhile.

The benefits of green and social projects extend beyond the MBTA's borrowing costs. Property insurance underwriters have responded to our investment in climate resiliency with favourable renewal terms. Federal oversight boards have commended our safety initiatives. We have attracted talented employees to the finance department that may not have otherwise joined the organisation. And we have enjoyed positive coverage in the media. Most importantly, local constituents have rewarded our commitment to customer experience and enhanced quality of life with their ridership.

1 CFA Institute and PRI (2018). ESG Integration in the Americas: markets, practices and data.

Principles for Responsible Investment

Breckinridge CAPITAL ADVISORS

THEMATIC BONDS

PART 2: THE INVESTOR PERSPECTIVE

SIGNATORY TYPE	**Investment Manager**
OPERATING REGION	**US**
ASSETS UNDER MANAGEMENT (AUM)*	**$36.5 billion**
FIXED INCOME AUM*	**$36.5 billion**
AUTHORS	**Rob Fernandez, Director of ESG Research** **Andrew Teras, Senior Vice President**

FIRMWIDE ESG INTEGRATION PROCESS

We have fully integrated environmental, social and governance (ESG) criteria into our research process to potentially discover risks that may not be obvious from bond issuer financial statements. Our approach to ESG investing puts additional rigour on our credit assessments.

We integrate ESG factors into our investment decisions by embedding criteria into bottom-up research on the corporate and municipal bond issuers that we consider for purchase. For each bond issuer analysed, we aggregate metrics from ESG research providers and other third-party sources. These metrics are complemented with qualitative ESG research performed by Breckinridge credit analysts to inform an overall view of sustainability. ESG performance could alter the analyst's overall credit opinion of the issuer, which may affect our traders' decision on whether to purchase the bond.

In addition to our traditional strategies, we offer a range of sustainable strategies that emphasise ESG factors. For our sustainable municipal portfolios, we determine whether the use of proceeds is inherently beneficial to communities and/or whether the bond backs a sustainable essential public-purpose project. If that is the case, that bond could potentially be included in a sustainable portfolio; otherwise, it is only included if we determine that the issuer's sustainability performance meets our criteria on a best-in-class basis[2].

THE ROLE OF THEMATIC BONDS

Bonds that are labelled as thematic (green, social or sustainable) undergo the same bottom-up credit research as all other bonds we evaluate. We may buy thematic bonds for traditional and sustainable portfolios, and we continue to monitor thematic bond issuance closely. However, we do not change our investment process when purchasing thematic bonds. Similarly, our sustainable portfolios include bonds that are and are not thematic.

PRICING

We will not forgo returns to invest in a thematic bond, as we aim to generate market returns across all our strategies, including sustainable portfolios. Several market participants have researched the potential premium required to purchase a municipal thematic bond. Outcomes have been inconclusive, however, largely because of the short pricing history. The Commonwealth of Massachusetts sold its $100 million green bond – the first ever by any state or local government in the US – in 2013. With a lack of clarity on the premium, it is challenging to isolate the thematic label as a driving factor behind demand or pricing.

For example, Barclays found no premium evident for US municipals in a report comparing green and traditional municipal bonds issued from January 2017 to mid-2018[3]. However, this finding is at odds with a 2018 academic paper

* As of 12/31/2018

2 The CFA Institute defines best-in-class selection as preferring issuers with better or improving ESG performance relative to sector peers.

3 Barclays Municipal Credit Research, as of 27 June 2018.

concluding that yields for tax-exempt green municipal bonds are, on average, 6 basis points below yields for equivalent traditional municipal bonds[4].

In a broader sample of US dollar and euro-denominated green bonds (municipal and corporate), green bonds were found to have more yield compression during the issuance process and experience greater investor interest than traditional bonds, a recent report from the Climate Bonds Initiative found. However, none of the green bonds in the report exhibited a premium.

In summary, we regularly review thematic bonds at new issue, but investments are only made when they meet our standards for structure, pricing and credit quality, among other considerations.

STANDARDS

We also note that discussions are still taking place on what qualifies as a thematic bond. Many investors rely on certifications from organisations such as the International Capital Market Association (ICMA)[5]. However, these certifications are mostly voluntary for issuers.

Some third-party research firms, such as Sustainalytics, perform green bond assessments. Other funds and issuers have created their own definitions and standards of green bonds[6]. This lack of standardisation reinforces why we should look beyond labels and perform our own evaluation when purchasing bonds.

NEXT STEPS

While we do not automatically invest in thematic bonds, they can benefit the fixed income market and serve as a starting point for investors seeking sustainable issuers. Additionally, rising demand for green bonds is a salient indication of the growing enthusiasm for sustainable fixed income investing.

We continue to monitor the market's progress. Last year, we participated in a roundtable at the Green Bond Symposium held by the Milken Institute and the State of California Treasurer's Office, aimed at expanding the green bond market and create funding for US infrastructure. Tangible recommendations from the event are detailed in a 2018 report.

However, we believe that further standardisation will help investors to better evaluate and monitor thematic bonds, with greater confidence that the issuance provides corollary benefits.

4 Malcolm Baker, Daniel Bergstresser, George Serafeim and Jeffrey Wurgler, (2018). Financing the Response to Climate Change: The Pricing and Ownership of U.S. Green Bonds.

5 Breckinridge is an investor member of the Green, Social and Sustainability Bond Principles administered by ICMA.

6 JP Morgan, as of 1 June 2018.