Massachusetts Bay Transportation Authority

Energy Hedge – FY24

Christina Marin, Assistant Treasurer

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Diesel Fuel Hedge Background

- MBTA has historically hedged the costs of its diesel fuel to minimize expenditure volatility and to provide greater certainty in budgeting.
- Since 2001, the hedging of fuel costs has been through the use of derivative contracts rather than a cap within the vendor contract.
- To diversify risk among counterparties and ensure competitive bids, the MBTA has historically put in place a master hedge for specific amounts and terms.

Past counterparties include

JP Morgan

Citibank

Bank of America – Merrill Lynch

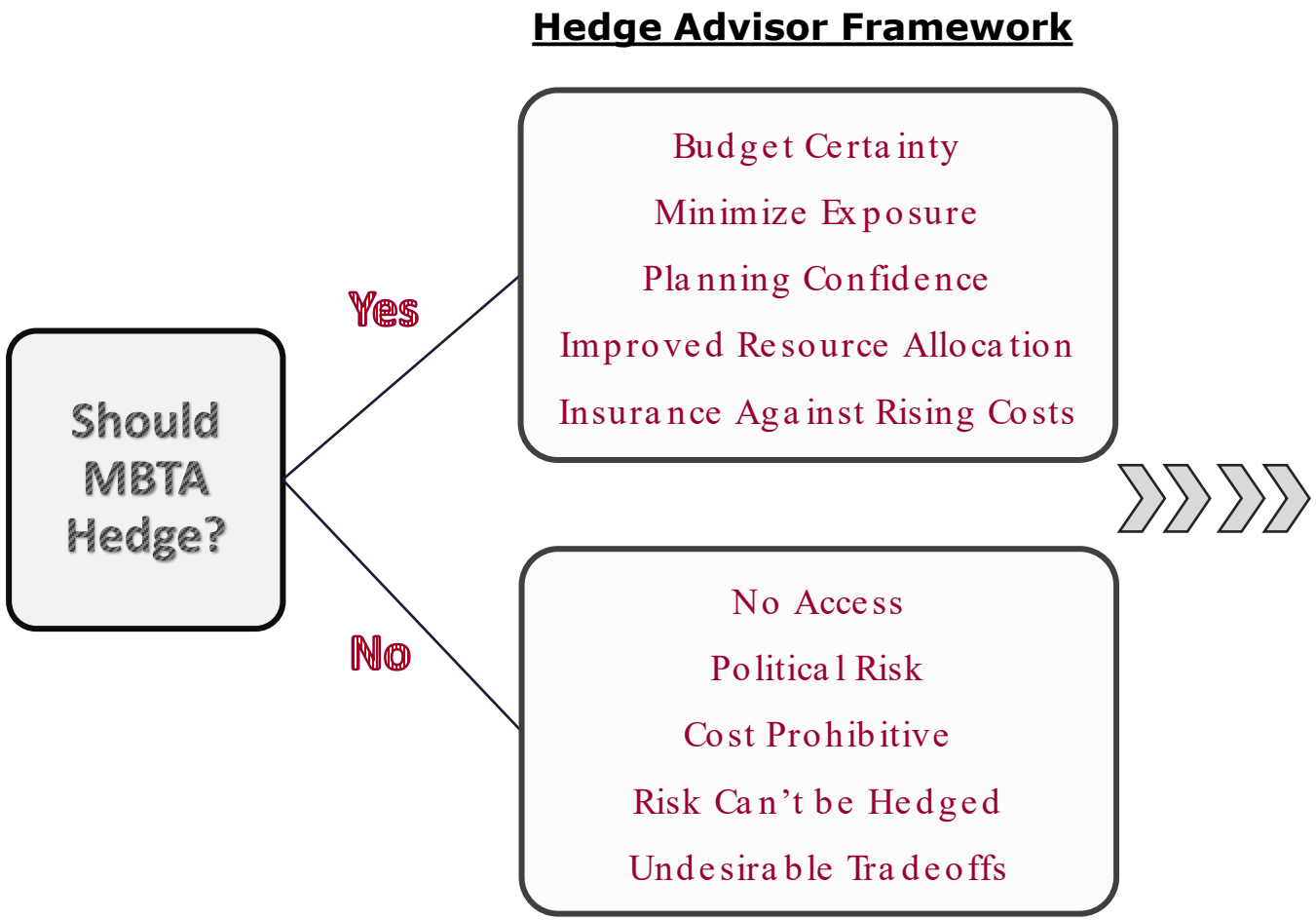
Morgan Stanley

Goldman Sachs

Wells Fargo

WHAT A FUEL HEDGE IS	WHAT A FUEL HEDGE IS NOT
✓ A method of reducing budgetary uncertainty	✗ An opportunity for MBTA to outsmart the market
✓ A tool to protect MBTA finances from fuel price volatility	✗ A tool to take advantage of market conditions
✓ A win-win *(If fuel prices go down, we win at the pump. If fuel prices go up, we win on the hedge.)*	✗ A gamble with the banks

Should MBTA Hedge?



MBTA Checks the Boxes for Hedging

- ✓ A desire for budget certainty and planning confidence
- ✓ A desire to minimize exposure to volatile prices
- ✓ Limited nonfinancial resources to be allocated
- ✓ A need to insure against rising costs
- ✓ Diesel prices are volatile, and the market is accessible
- ✓ Supportive counterparties
- ✓ Net beneficial tradeoffs between certainty and cost

How a Hedge Works

PHYSICAL DELIVERY

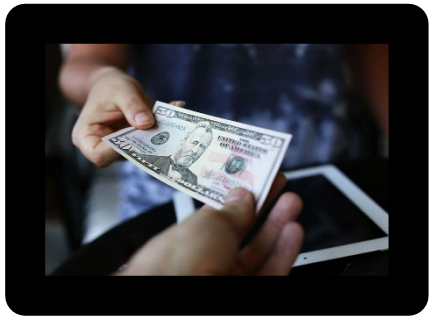
$4 a gallon
Price falls to $3.85

$0.05 Distribution Cost

$4.05 a gallon
Price now $3.90
($0.15 savings)

HEDGE

Lock in rate at $4 a gallon



If price goes up, Bank pays MBTA
If prices go down, MBTA pays Bank

Futures decline to $3.85
(MBTA pays difference)

Price drops $0.15 at pump

-$0.15 + $0.15 = $0

The result of changes in the price of Oil Futures

Current Market Conditions

How did we get here?

- From Dec. 2021 to Dec. 2022 diesel prices rose >$1 to $3.17
- The forward curve sloped downward
- Both moderated during 4Q 2022
- Volatility jumped and remains high

Where are we now?

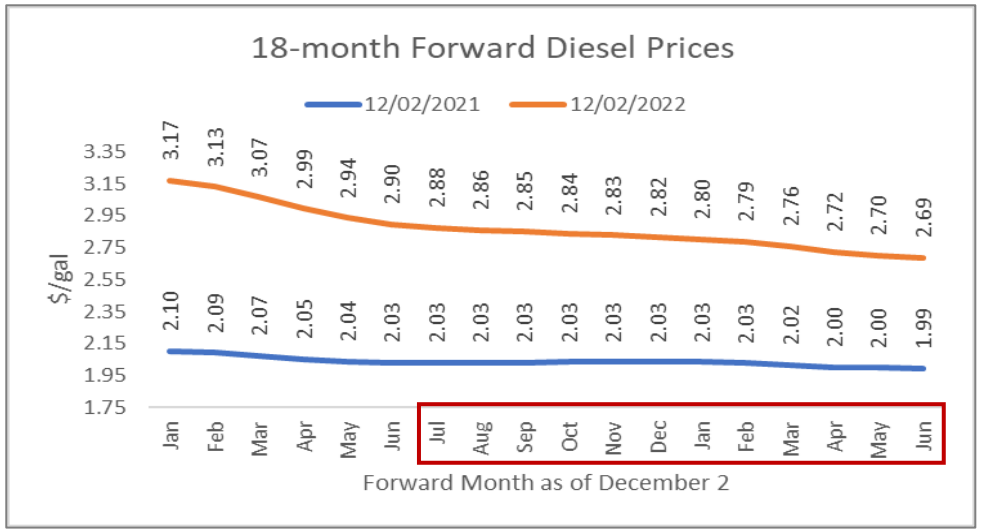
- Prices recovering from war risk premium, but still high
- Fundamentals normalizing, evidenced by inventory
- Downside risk = Recession, Upside risks = Supply Disruption

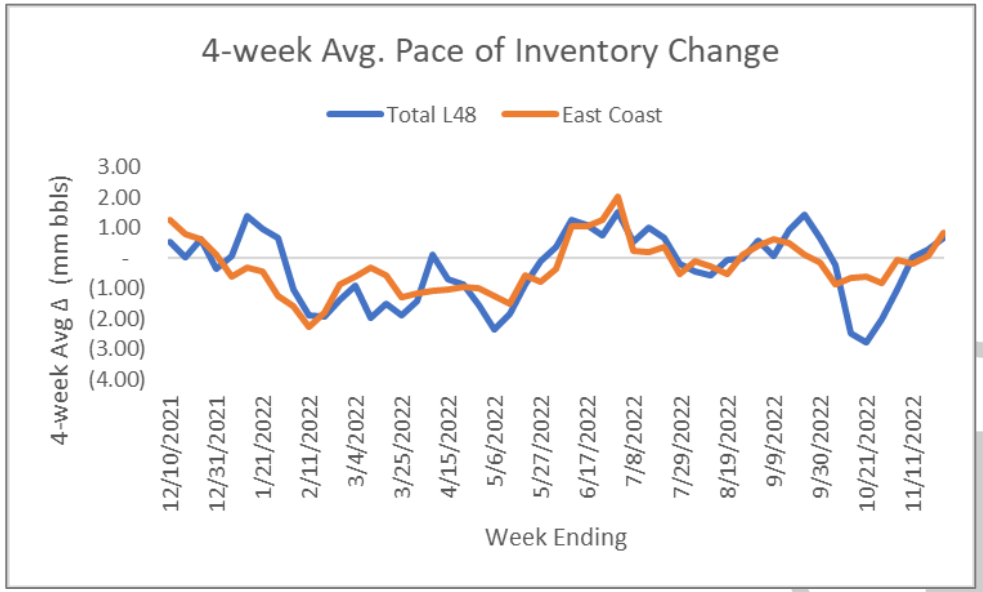
What does this mean for MBTA?

- Higher Prices + High Volatility = Higher Potential Variability
- 2023 expected volatility is ~40% or higher,

≥$24M in possible budget variance

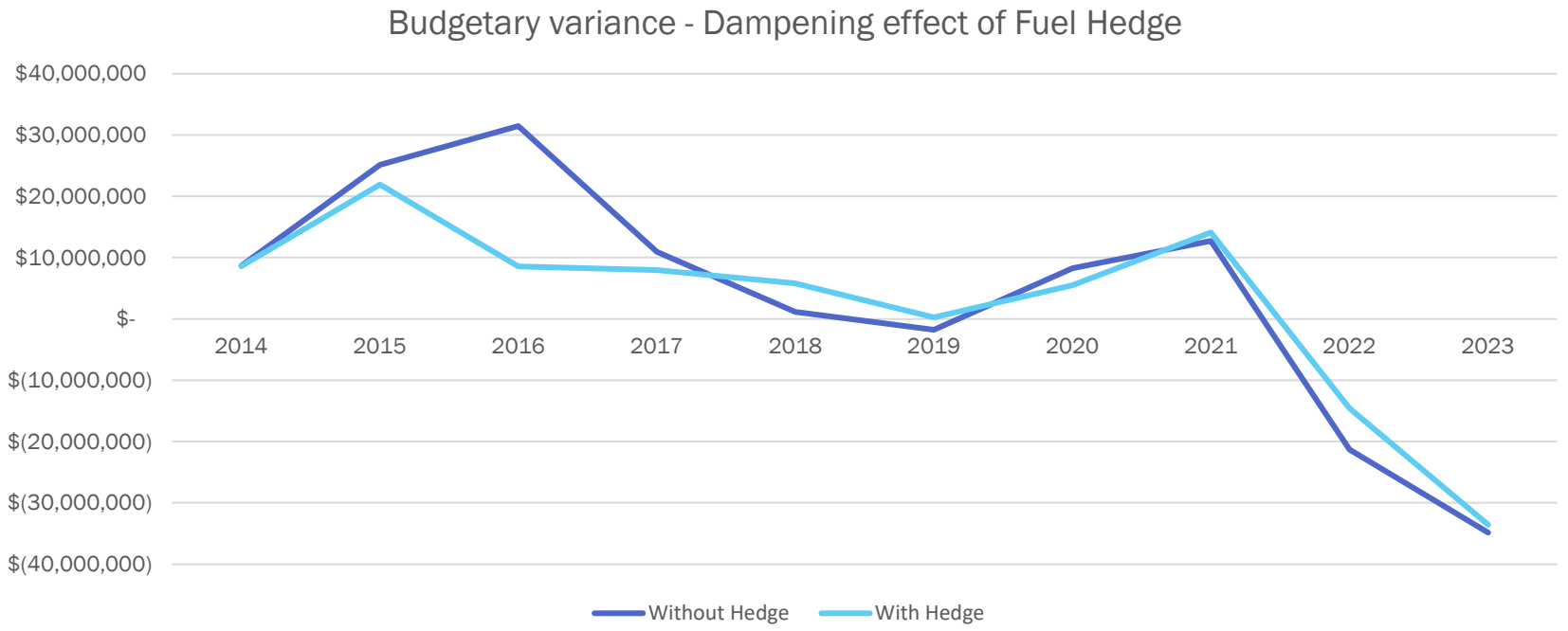
- Risk skewed to upside -$0.25 priced the same as +$0.35
- Curve slope allows MBTA to hedge ~$0.20 below spot price (Jul 23-Jun 24 avg price = ~$2.80)





Recent Hedging

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Targeted percentage hedged	90%	75%	50%	37%	50%	50%	50%	50%
Gallons hedged	18.7 million	15.7 million	10.3 million	8.1 million	8.8 million	9.9 million	8.8 million	9.95 million
Providers	Citi, Morgan Stanley, Bank of America	Citi, JP Morgan	Citi, Morgan Stanley	Goldman	Goldman	Wells Fargo	Morgan Stanley	Morgan Stanley, Citi, Goldman
Hedged Price Per Gallon	$2.50	$1.79	$1.51	$1.71	$1.85	$1.29	$1.99	$3.24

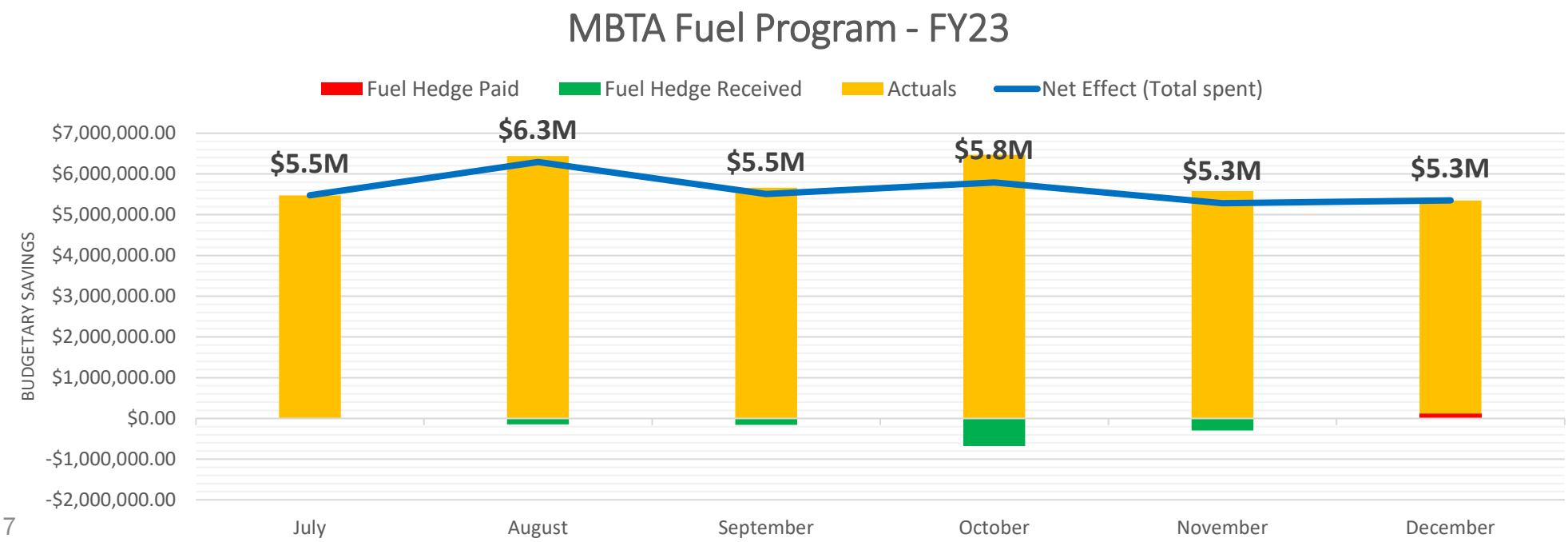


- **The MBTA hedges its diesel usage every year. The amount hedged varies each year, but the hedge must be for a specific volume of fuel for a specific term.**
- **In some years, the MBTA enters into agreements with multiple providers.**

FY23 Fuel Hedge

- August 2022 through June 2023 fuel hedge contract
- Hedged roughly 50% of projected usage during normal times during 10-month period (9.9M Gallons)
- Entered a hedge with Morgan Stanley, Citi and Goldman Sachs for a weighted average of $3.24 per gallon
- **Energy hedge has resulted in a net payments from our counterparties to the MBTA YTD of $1.16 million.**

MBTA Fuel Hedge VS Pump Price Variance (August 2022- December 2022)



Yellow is what was paid at the pump (actual)
Red/green represents fuel hedge. Red is a payment we made to the counterparty.
Green is a payment we received from the counterparty.
Blue line represents what MBTA actually paid on fuel (hedge and pump prices combined)

Proposed FY24 Fuel Hedge

Recommendation

- Execute a forward-starting hedge so that the hedge and budgeted amount are determined at the same time.
- Based on historic usage, adjusted for lower ridership, the MBTA is budgeting for 18.85 million gallons in fuel purchases between its commuter rail and bus in FY24
- The MBTA is targeting a 50% hedge of its budgeted usage (9.4 million gallons), but is requesting approval for up to 70% hedge to allow for some flexibility. Unhedged the MBTA could be exposed to $24 million in budgetary volatility based on expected volatility
- A 50% hedge would reduce potential budgetary volatility to $8.5-$17 million (one-to-two standard deviations)
- A 50% hedge performs when price per gallon increases. The remaining 50% unhedged portion performs when price per gallon decreases.

Next Step

After MBTA receives board authorization, MBTA will enter into a competitive bid process run by Blue Lacy (MBTA's hedge advisor). The bank will be chosen based on price and the provider's credit rating.

Requested Vote

VOTED:

To recommend that the Board of Directors authorize either the Chief Financial Officer or Treasurer of the Massachusetts Bay Transportation Authority ("MBTA"):

- to enter into one or more hedges, with terms expiring no later than June 30, 2024, as determined to be necessary or appropriate, to hedge the MBTA's financial risks related to the price of diesel fuel, provided that such hedges shall be procured via competitive bid process and shall hedge not more than 13.20 million gallons; and

- to execute any and all documents, certificates and other instruments necessary or desirable to effectuate the transactions contemplated by the foregoing vote.