Utah Transit Authority
Fuel Price Management Strategy

Brad Armstrong
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Introduction

- Current UTA Fuel Price Management Strategy
- A short primer on fuel price hedging using financial markets
  - What it is, how and where it's done, what a fuel price financial hedging strategy is
  - Who hedges
  - What it costs
- Alternatives to financial fuel hedging
  - Fixed-Price supply hedging
  - Not hedging
- Public Agency fuel hedging
  - Pros and cons
- Conclusions
  - Survey results

UTA Current Fuel Usage

2019 UTA Budget for fuel

- Diesel Fuel
  - 6.4 million gallons (2019 budget $16 million)
- Gasoline
  - 437,000 gallons (2019 budget $1.1 million)
- Compressed Natural Gas (CNG)
  - 390,000 DGE (Diesel Gallons Equivalents) (2019 budget $0.5 million)

Fuel Costs account for about 6% of UTA's 2019 Budget

- Expense can move significantly based on local, national and international events

UTA Current Fuel Price Management Strategy

UTA Has several fuel price management strategies:

- Fuel price reserves. Funds set aside to absorb sudden increases in fuel price
  - Currently amount: $1.9 million dollars
- Fare surcharges. Fares change if diesel price exceeds a certain point
  - Currently invoked if diesel price exceeds $4.00/gallon
- Diversification of fleet fuel sources.
  - Use of CNG, hybrid and (soon) electric vehicles
  - Price of alternative fuels usually do not move in synch with diesel price (e.g. recent drop in diesel and increase in CNG expense helping offset price moves by one type of fuel

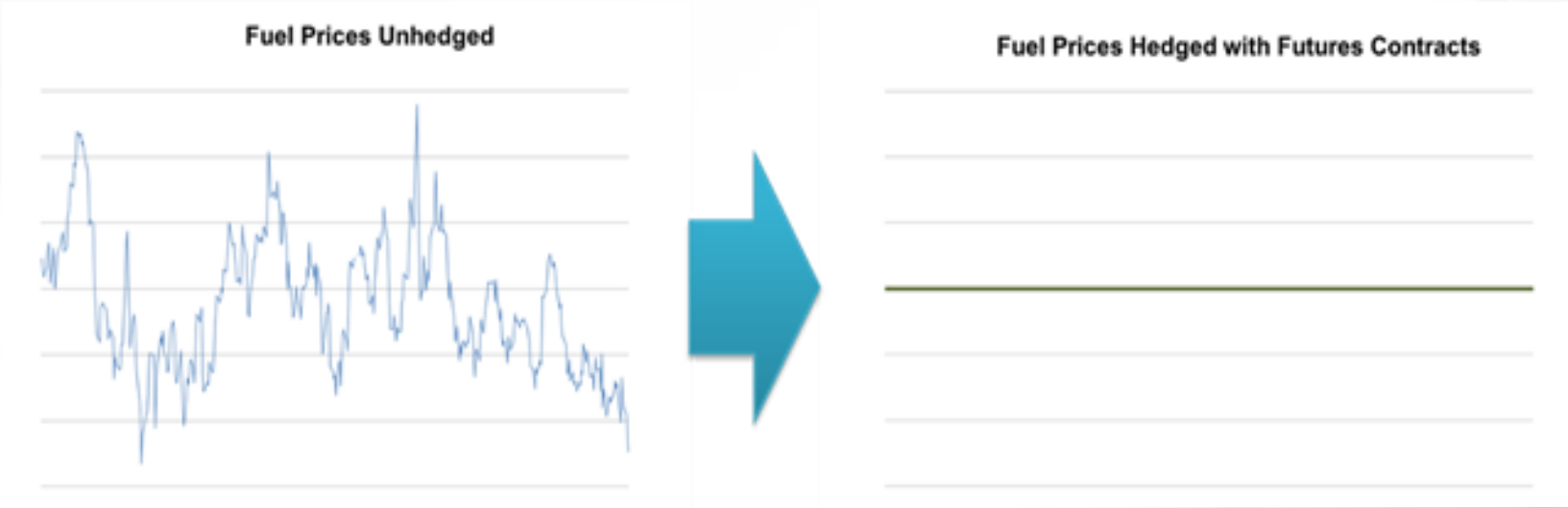
What is fuel price hedging?

- Hedging is a risk management technique designed to reduce the risk of adverse price movements in an asset by taking an offsetting position in a related financial instrument
- Fuel hedging reduces the risk of adverse fuel price movement through purchase of futures contracts, options or other methods
  - From an fuel seller's perspective, a hedge against an unanticipated (large) decline in prices
  - From a buyer's perspective, a hedge against an unanticipated (large) increase in prices

*Some of the material in this section adapted from a presentation by Michael Canes given at an US Association for Energy Economics conference in 2016

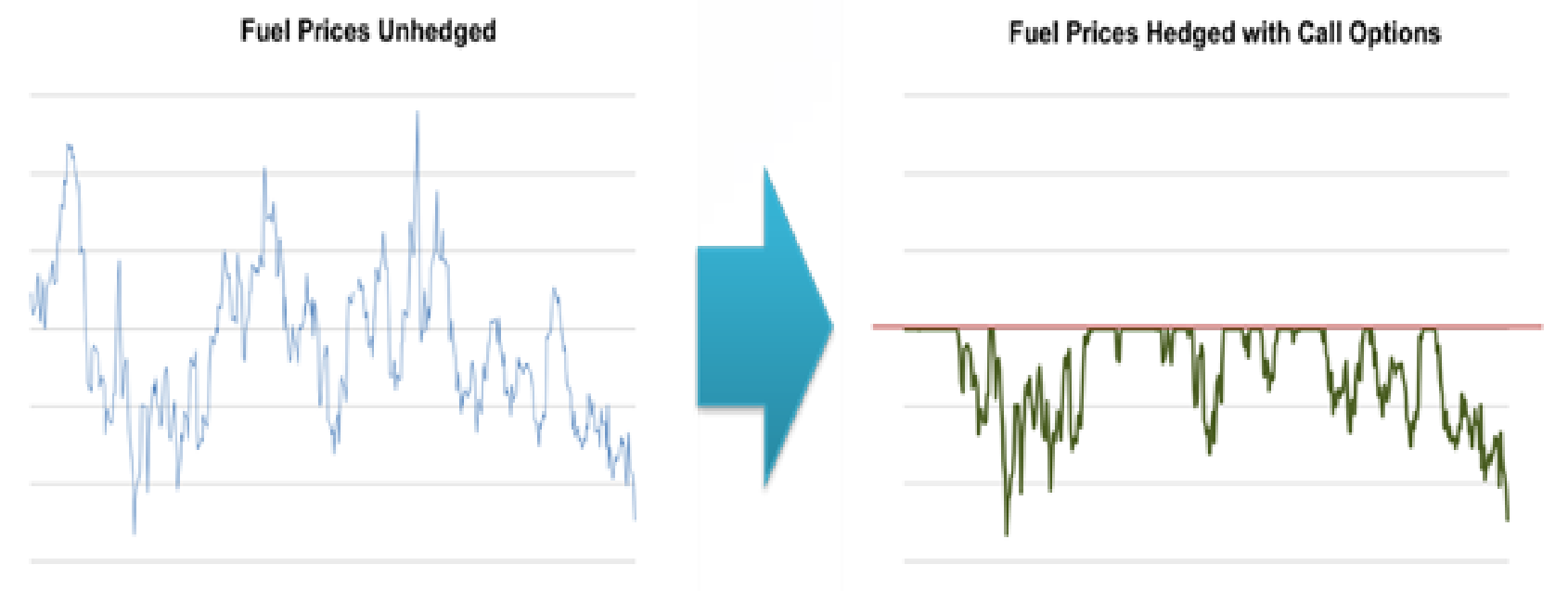
Strategies to Hedge Fuel Prices
I. Financial Market Hedging

- Futures contracts
  - Futures contracts are agreements to purchase or sell a fixed amount of a commodity, of fixed quality, at a fixed time in the future, for a fixed price per unit.
  - Oil futures contracts (1000 barrels per contract) set a fixed price for crude oil or an oil product (e.g., ULSD) at a fixed future date



Alternative Fuel Hedging Instrument

- Options
  - An option confers the right (but not the obligation) to purchase or sell a fixed amount of a commodity, of fixed quality, at a fixed time in the future, for a fixed price per unit.
  - Call options for oil are options to buy a fixed quantity at a fixed price in the future; put options are options to sell such a quantity at a fixed price



Where does one hedge fuel prices?

- New York Mercantile Exchange (NYMEX)
  - Principal commodity exchange in the US
- Intercontinental Exchange (ICE)
  - Foreign based, but with significant US presence (owns NYSE plus several lesser US commodity exchanges)
- Hedging Managed By:
  - Transit agency staff
  - Financial market firms
  - Consultants

What is a Financial Fuel Hedging "Strategy"?

- How to hedge (which instruments to use)?
  - Futures contracts
    - Which to use - Crude oil? ULSD? Gasoil? Other?
  - Options
    - Calls or puts?
  - Combinations of options (e.g., collars, which involve the simultaneous purchase of calls and sales of puts, or vice versa)
- How much to hedge?
  - What percentage of purchases/sales to hedge
- When to hedge?
  - Continuous
  - Seasonal
  - Opportunistic

Who Engages in Fuel Hedging?

- Fuel sellers
  - Crude oil producers
    - Mexican government, small oil producers
      - Want to guarantee the price they will receive
      - Bank loans to small producers can be contingent upon their hedging
  - Refiners
    - Seeking surety with respect to sales prices
- Fuel buyers
  - Refiners
    - Seeking to stabilize price paid for crude – might simultaneously purchase crude futures and sell product futures
  - Airlines & energy-intensive industrial firms
  - Transit agencies

What Does it Cost to Hedge?

- Transaction costs
  - Exchange & Clearing fees (currently about $1.45/contract)
  - National Futures Association fees ($.01/contract)
  - Brokerage commission (negotiable: ~ $2.50-$5.00/contract)
- Options price
  - Depends on price quoted in option relative to expected future price
- Organizational costs
  - Personnel needed to engage in fuel hedging
- Opportunity costs of margin monies
  - Cost of tying up roughly 10% of contract value
- “Losses” when futures contracts lose money or options are not exercised (cost may be in public criticism).

Transit Agencies Using Financial Hedging

- Houston Metro
  - 90% hedge up to two years facilitated by internal team
- LA Metro
  - 100% hedge CNG facilitated by external consultant
- RTA Rochester NY
  - 80% hedge facilitated by internal team
- San Diego Metro
  - 90% hedge CNG up to two years facilitated by internal team

Summary: Transit Agency Financial Fuel Hedging

- Transit agencies use financial hedges to obtain budget predictability
  - They are 'diversified' but can't necessarily pass through fuel price increases
    - Agencies usually are subject to political oversight, have difficulty in raising rates when they wish to
  - Fuel hedging provides a mechanism to secure greater budget surety
    - Agencies usually transact through banks, which provide counterparties or take the other side of trades themselves
- But fuel hedging can be politically sensitive
  - "Losses" on futures/options sometimes occur
    - Public is naïve regarding hedges, may see reported 'losses' out of context
  - Gains from hedges also might prove politically sensitive
    - May make agency look like it is speculating in the market
- Hedging can also be expensive
  - Transaction costs of hedges are material (execution and consultants)
  - Indirect costs of having internal staff with hedging expertise
  - Expenses may be easier to absorb in larger transit agencies (per survey)

II. Fixed-Price Supply Hedging

- Buy fuel on forward basis
  - Contract with broker to provide fuel at fixed price for a certain time period
  - Broker provides hedging technical expertise and personnel
  - No hedging 'loss' or 'gain' recorded on agency books
- Example of transit agency using forward purchasing
  - RTD Denver
    - RTD contracts to buy 100% of budgeted fuel one year in advance
    - RTD's experience:
      - Pay a small premium over spot price
      - Used this strategy for over a decade
      - Have brokers bid for business
      - Avoid issues with financial hedging:
        - » Simple and easy to explain strategy
        - » No public relations issues with paper gains and losses
        - » No need to have expensive internal team with expertise to monitor markets

III. No Hedge Strategies

- Transit Agencies that choose not to hedge
  - Want to avoid internal and external costs of hedging
  - Avoid public relations costs of hedging
  - Political restrictions
- Agencies not using hedging:
  - TriMet (Portland, Oregon)
  - Orange County Transit Authority (Orange County, CA)
  - Santa Clara Valley Metro (San Jose, CA)
  - Valley Metro (Phoenix, AZ)

Costs of Not Hedging?

- If fuel prices surge, the agencies generally must absorb the increase through budget reallocation
  - Likely to defer asset maintenance, operations or procurement
  - The common thread is that costs are pushed into the future
    - Such behavior may not be the most economically efficient way to absorb a fuel cost increase
    - Could be better to pass through some of the increase or curtail operations
      - But these options are difficult for a public agency
  - Fuel hedging offers a way out
    - Pay a price to avoid fuel cost uncertainty

Transit Agengy Fuel Hedging Survey Summary		
Hedging Strategy	**# of Agencies**	**%**
Financial Hedging	9	43%
Forward Contracts	3	14%
No Hedging	9	43%
Total	**21**	**100%**

Conclusions

- Fuel hedging is a common practice among private companies and transit agencies
- Generally, it is a means to curtail risk associated with rapid and substantial fuel price changes
- For transit agencies, the objective of hedging is to attain 'budget surety' or predictable fuel costs
- Costs of hedging may include:
  - Consulting and financial transaction costs
  - Additional fuel costs through surcharges
  - Political costs of reporting 'gains' and 'losses' in transactions
- Though budget surety comes at a cost, hedging may be more economically efficient than reallocating budgets and deferring costs when fuel prices surge