



Unwinding Your DBOM

LA Metro's Experience with the DBOM Delivery Method



Presentation to IBTTA Communications & Administration Workshop, Tampa, FL

Russ McCarty, PMP

National Director – Managed Lanes

March 13, 2017

JACOBS[®]

www.jacobs.com | worldwide

First Things First



Content for Today

- Metro ExpressLanes
 - LA Metro
 - How it works
 - How it got started
- Decision factors leading to DBOM selection
- Options considered / how it's working
- The “Unwind”
- Key takeaways

LA County Metropolitan Transportation Authority

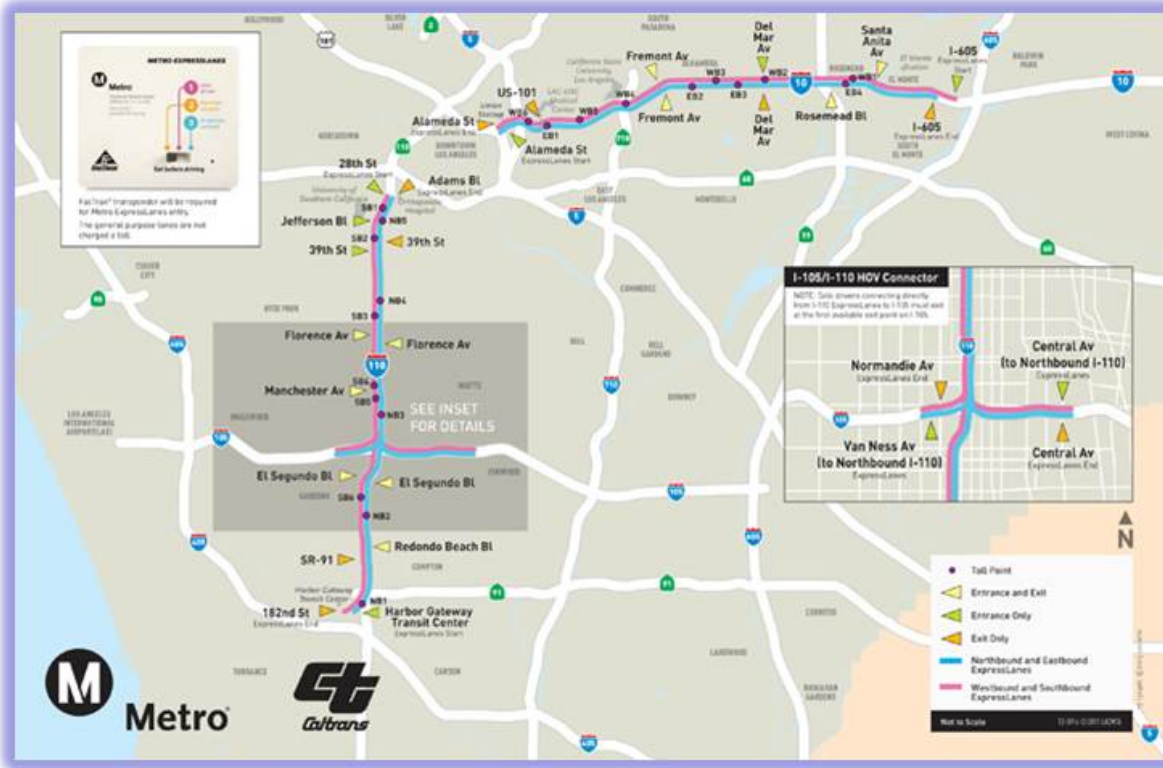
- Known as “LA Metro”, “Metro”, or “MTA”
- Public transportation operating agency for the County of Los Angeles, California
 - 9.6 million people in 1,433 square mile service area
 - Bus, light rail, commuter rail, tolled express lanes
- Formed in 1993 from merger of:
 - Southern California Rapid Transit District
 - Los Angeles County Transportation Commission

Metro Express Lanes – Overview

- Two corridors into/out of CBD (downtown LA)
- Dynamically priced to maintain 45 mph
- Transponder required
 - SOVs pay a toll (\$.10 - \$1.70/mi)
 - HOVs pay a discounted toll or travel toll free
 - Transit/motorcycles/CAV travel toll free



Metro ExpressLanes – By the Numbers

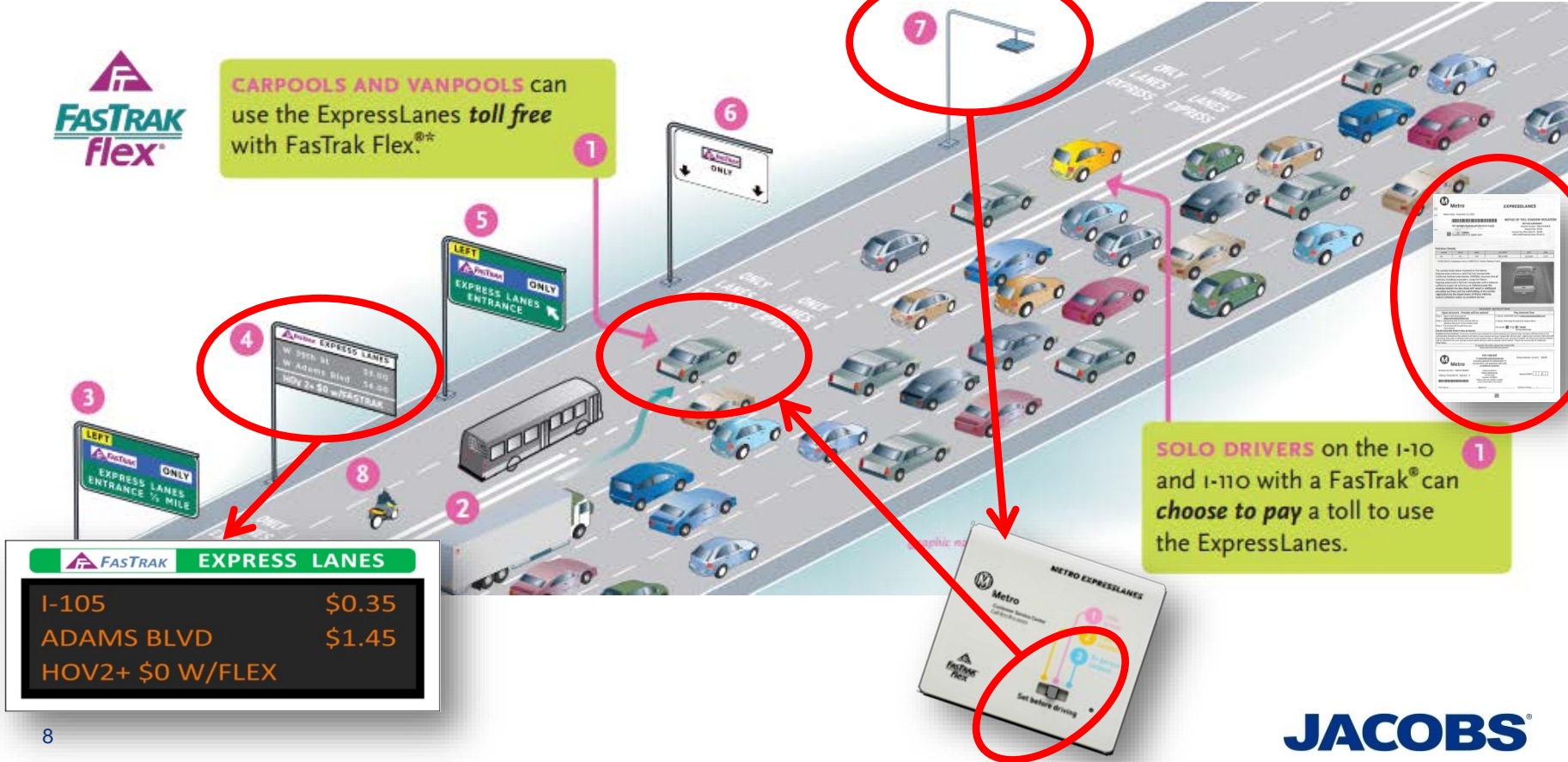


- 2** Corridors
- 11 Miles** I-110 (Nov 2012)
- 14 Miles** I-10 (Feb 2013)
- 21** Toll Zones
- 100,000** Avg Daily Trips
- \$5.51** Avg Toll
- \$5.94** Avg Peak Toll
- \$22.30** Max Toll Payable
- 447,000** Accounts
- 622,000** Transponders
- 1** Contract

How it Works



CARPOLS AND VANPOOLS can use the ExpressLanes **toll free** with FasTrak Flex.^{®*}



3
LEFT FasTrak ONLY EXPRESS LANES ENTRANCE 1/2 MILE

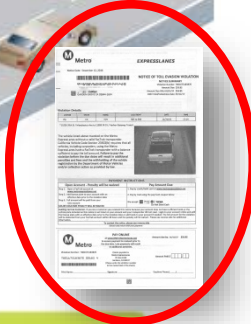
4
Metro EXPRESS LANES
W 29th St \$1.00
W Adams Blvd \$4.00
HOV 2+ \$0 w/FasTrak

5
LEFT FasTrak ONLY EXPRESS LANES ENTRANCE

6
Metro ONLY

7
Toll gantry

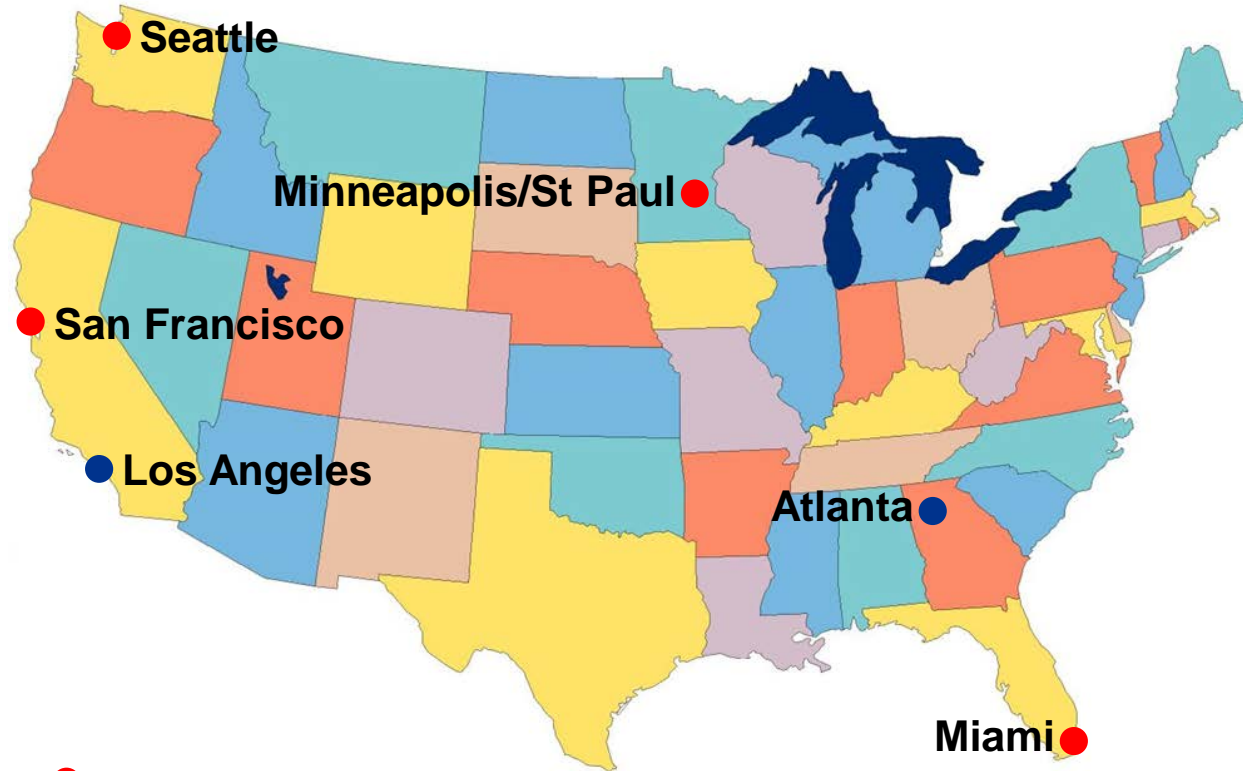
8
SOLO DRIVERS on the I-10 and I-110 with a FasTrak[®] can **choose to pay** a toll to use the ExpressLanes.



FasTrak EXPRESS LANES	
I-105	\$0.35
ADAMS BLVD	\$1.45
HOV2+ \$0 W/FLEX	



USDOT Urban Congestion Initiatives – UPA/CRD



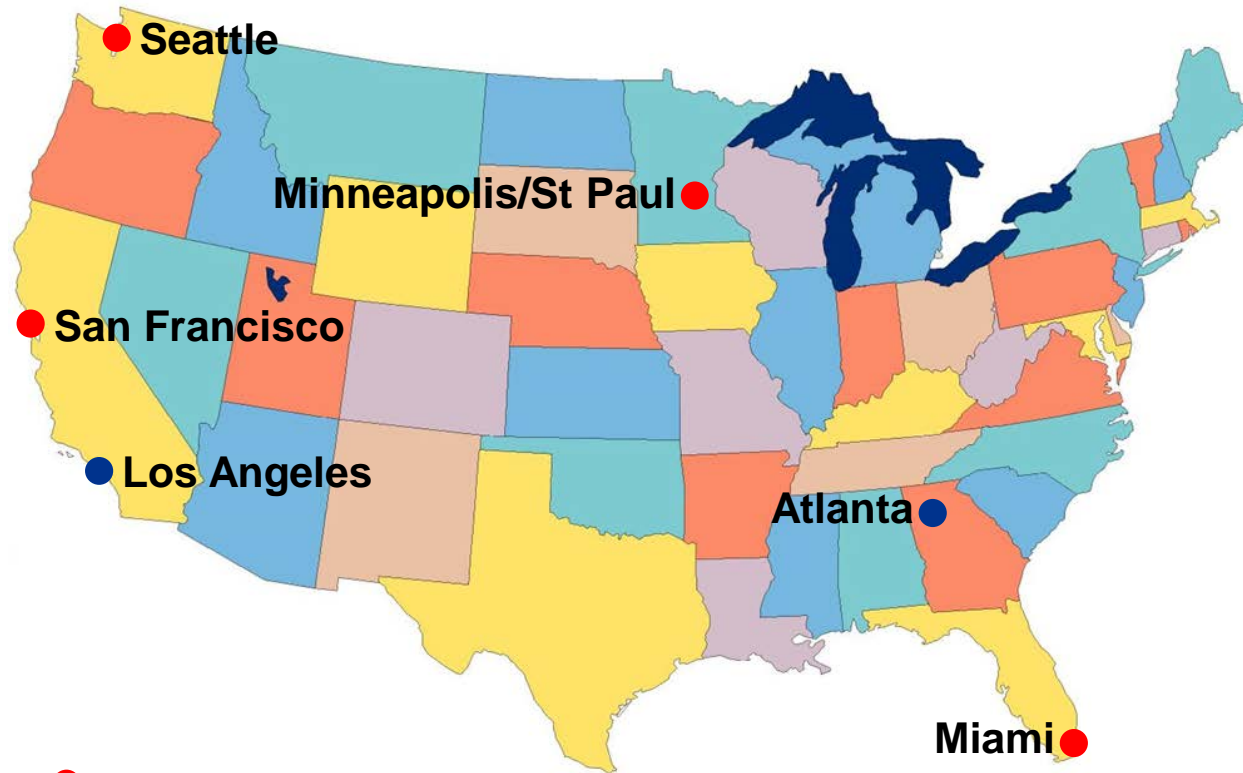
LA CRD – \$210.6 M

- ExpressLanes
- Transit Service Improvements
- Transit Facility Improvements
- Demand-Based Parking Pricing

● Urban Partnership Agreement 2006/7

● Congestion Reduction Demonstration 2007/8

USDOT Urban Congestion Initiatives – UPA/CRD



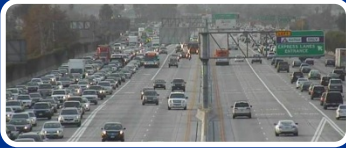
LA CRD – \$210.6 M

- ExpressLanes
- Transit Service Improvements
- Transit Facility Improvements
- Demand-Based Parking Pricing
- **Start April 2008**
- **Finish Dec 2010**

● Urban Partnership Agreement 2006/7

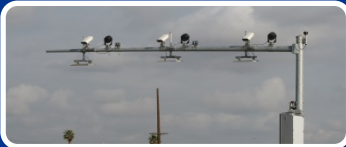
● Congestion Reduction Demonstration 2007/8

Scope of ExpressLanes



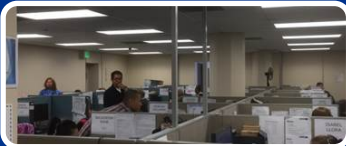
Civil Construction

- Lane Conversion (median work, striping, signage, tolling infrastructure, etc.)
- Toll Rate Signs, Travel Time Signs, Traffic Detection, Communications



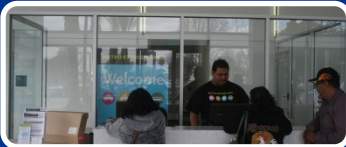
Roadside System

- 2 Corridors, 4 Directions, 21 Toll Points, 1 or 2 Lanes Each
- Dynamic Pricing, AVI, Violation Enforcement, Transaction Capture, Trip Construction



Back Office System

- Account Management (statements, website, mobile web, IVR)
- Violation Processing, Financials, Reporting



Customer Service / Operations

- Call Center, Fulfilment, Payment Processing, Mobile Van
- 2 Walk-in Centers

Decision Factors Leading to DBOM Choice



- Aggressive Schedule
 - 32 Months
 - \$210.6 M funding in jeopardy
- Limited Agency Expertise
 - No tolling experience
- Limited Agency Oversight
 - Limited Agency Staff
 - One Year Demonstration Project
 - Single POC desired

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

$$n(n-1)/2$$

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Comparison of Delivery Options

Attribute	<u>Option 1</u> - DBOM Civil/Toll	<u>Option 2</u> - DBB Civil - RFP Toll (Lanes/BOS/CSC)	<u>Option 3</u> - DBB Civil - RFP Lanes - RFP BOS/CSC
# of Contracts	1	2	3
Communications	1 Channel	3 Channels	6 Channels
Risk Allocation	Contractor	Shared	Shared
Coordination	Contractor	Agency	Agency
Coordination Risk	Low	Medium	High
Schedule Risk	Low	Medium	High
Expertise Needed	Low	Medium	High
Procurement Delay	Low	Medium	High
Administration	Low	Medium	High

Project Delivery Timeline



Analysis



Pros

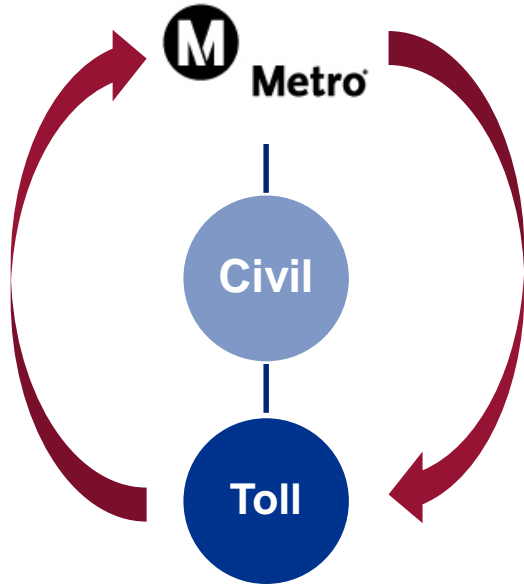
- Best chance to meet aggressive schedule
 - Parallel design/construction
 - Cost certainty
- Delivered expertise not available within the agency
- Provided single POC for administration
- Appealed to agency's core competencies at the time
- Minimal agency staffing required

Cons

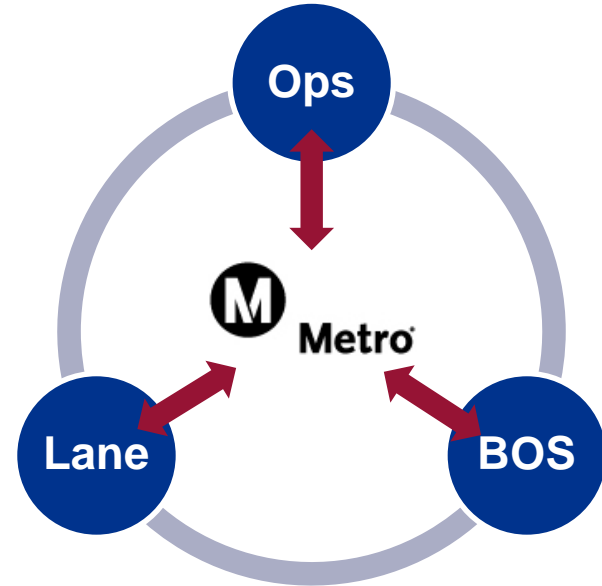
- No prior agency experience with DBOM
 - First attempt at agency
 - Focus was on construction
- Prime did not have the tolling expertise
 - Increased administrative burden/markup
 - No direct control over toll contractor
 - Bundled tolling doesn't provide desired visibility into lanes vs. BOS vs. Operations
- No provisions to split off tolling after construction

Unwinding the DBOM

DBOM Superbundled Model



Unbundled Model



What to Take Away From Today

- Time
 - Give yourself as much as possible to preserve options.
- Delivery Method
 - Think about how you're going to deliver it.
 - If this is your first DB, consider it carefully.
 - If DBOM, have a way to unwind it (i.e., exit strategy).
- Think Long Term
 - Decisions you make now will stay with you for years.
 - What kind of tolling agency will you be?

Contact

Russ McCarty

Jacobs Engineering Group Inc

russ.mccarty@jacobs.com

© Copyright Jacobs
March 14, 2017

JACOBS[®]

www.jacobs.com | worldwide