



Fleet Management Department Six Sigma Project Fuel Delivery Optimization

February 22, 2016

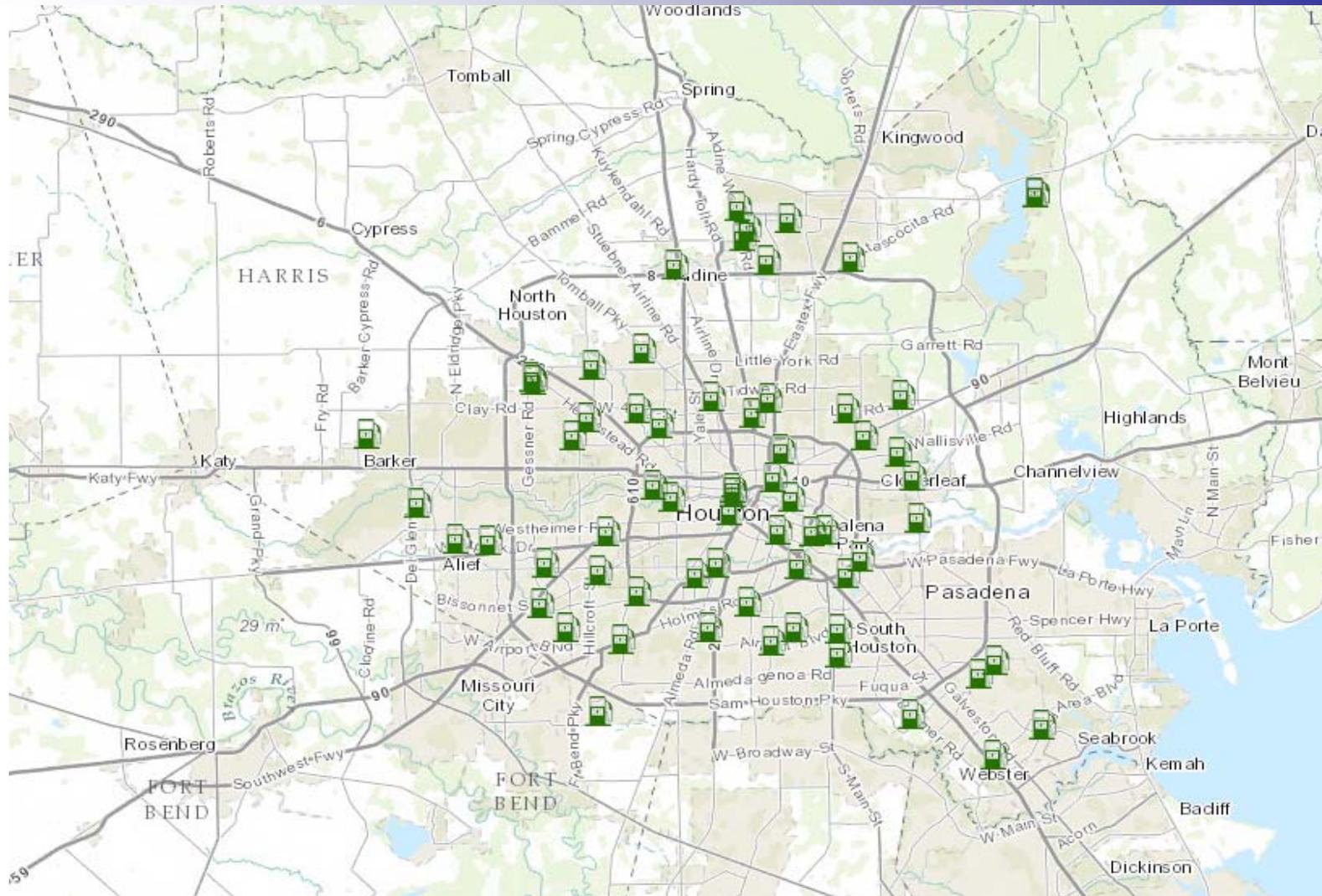


Project Details

- The Fleet Management Department manages 68 Fuel Stations and services over 300 generators with fuel. Four of these stations are rapid refill sites.
- The City of Houston uses approximately 10,000,000 gallons fuel each year from city- owned fuel stations and using the fuel retail card.



City of Houston Fuel Sites





Personnel and Equipment

The Fuel Management Team ensures the fuel sites are operational and in compliance.

Personnel Assigned:

Administration – 4

Repair/Maintenance/Compliance – 8

Delivery – 1

Equipment Assigned:

- Bobtail Fuel Truck (3,000 gallons) – 1
- Fuel Trucks (500 gallons) - 2
- Pickup Trucks with 90 gallons fuel tanks – 5
- Trailer with 9,000 gallon tank - 1



Define

Problem statement :

- Fuel delivery to City owned fuel stations by a contractor costs an average of \$708,000 per year. The current practice of using the contractor is not cost effective for small loads due to a flat delivery rate.



Project Details

Mission statement :

- Reduce the contractor cost of fuel delivery by Fleet Management taking on approximately 960 bobtail loads per year saves \$267,840 annually.

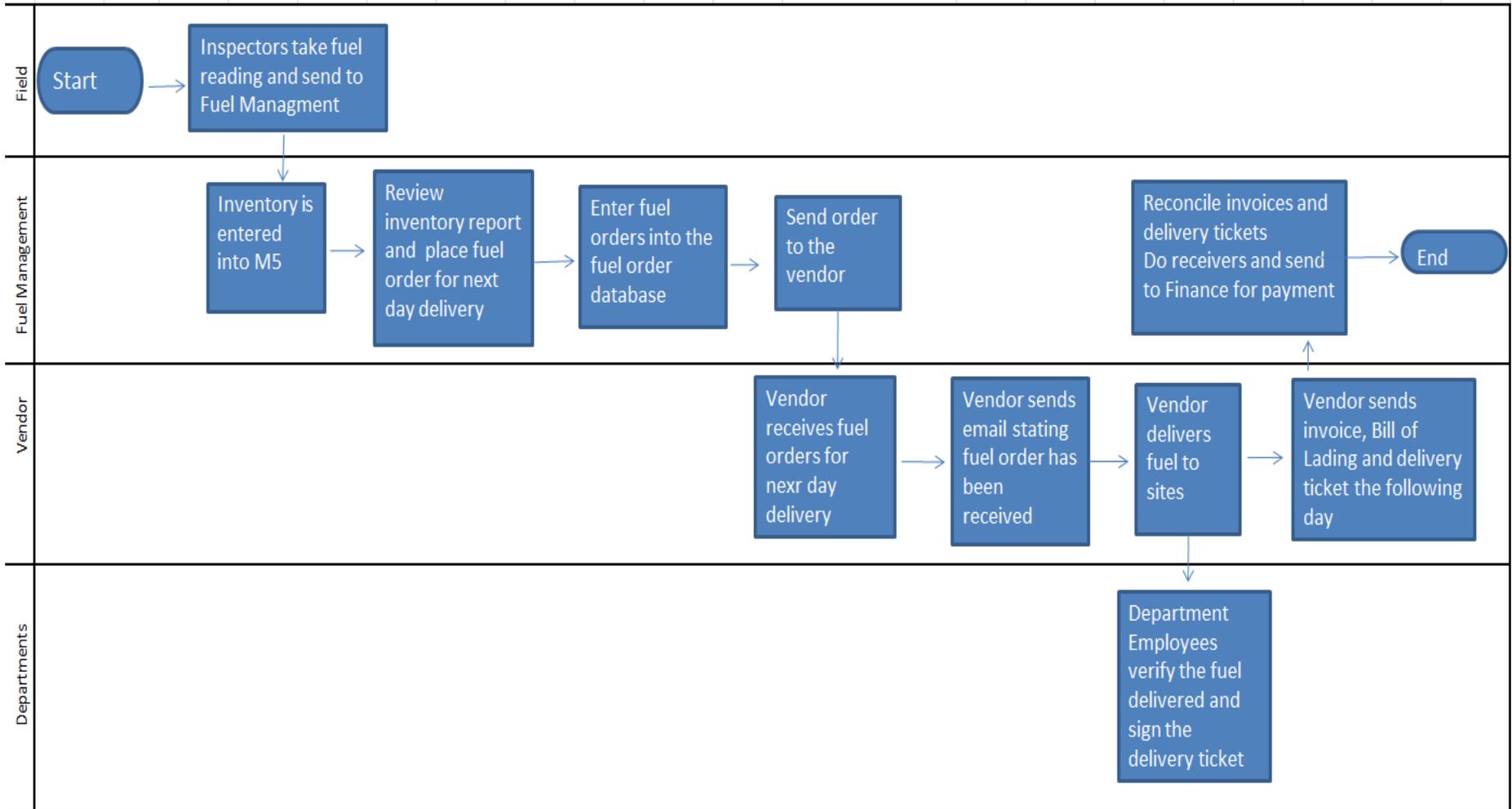


Project Charter - Define

Date:	10/28/2015	
Project Title:	Fuel Delivery	
Project Leader:	[Redacted]	
Sponsor:	[Redacted]	
Department Description:	Fleet Management Department	
Team Member	Function	% Time
[Redacted]	Division Leader	50%
[Redacted]	Functional Matter Expert	50%
[Redacted] os	Analyst	100%
Problem Statement:	Fuel delivery to City owned fuel stations by a contractor costs an average of \$708,000 per year. The current practice of using the contractor is not efficient or cost effective.	
Mission Statement:	Reduce the contractor cost of fuel delivery by FMD taking on approximately 960 loads per year saving \$267,840 annually.	
Stakeholders:	All City Departments	
Project Scope		
Process Start:	Order entry	
Process End:	Delivery	
In Scope:	Study historical data of fuel deliveries of contracted deliveries and the Fleet Management Department delivering the fuel. Determine how to reduce delivery costs by taking on more deliveries.	

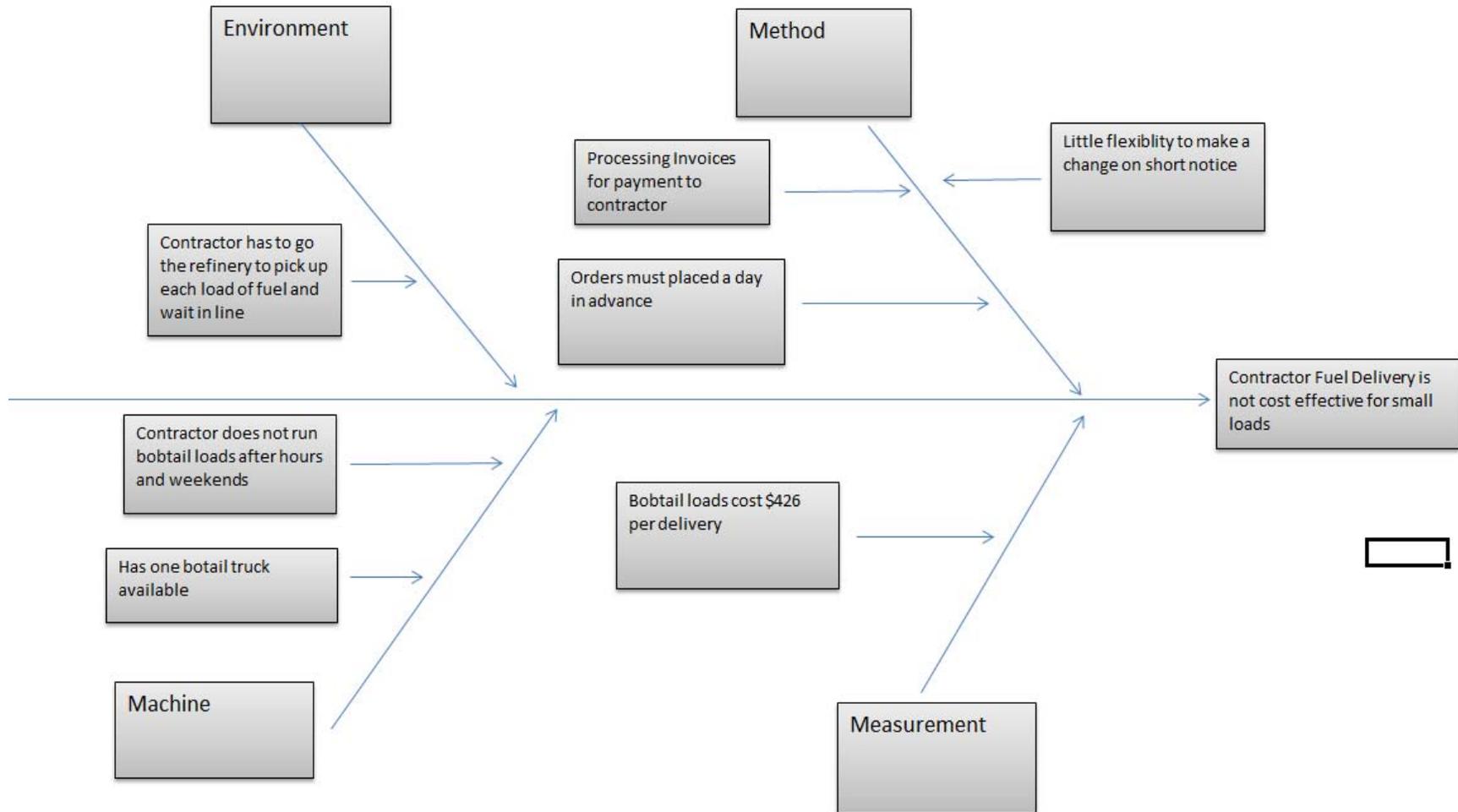


Current State Process Map





Root Cause Analysis

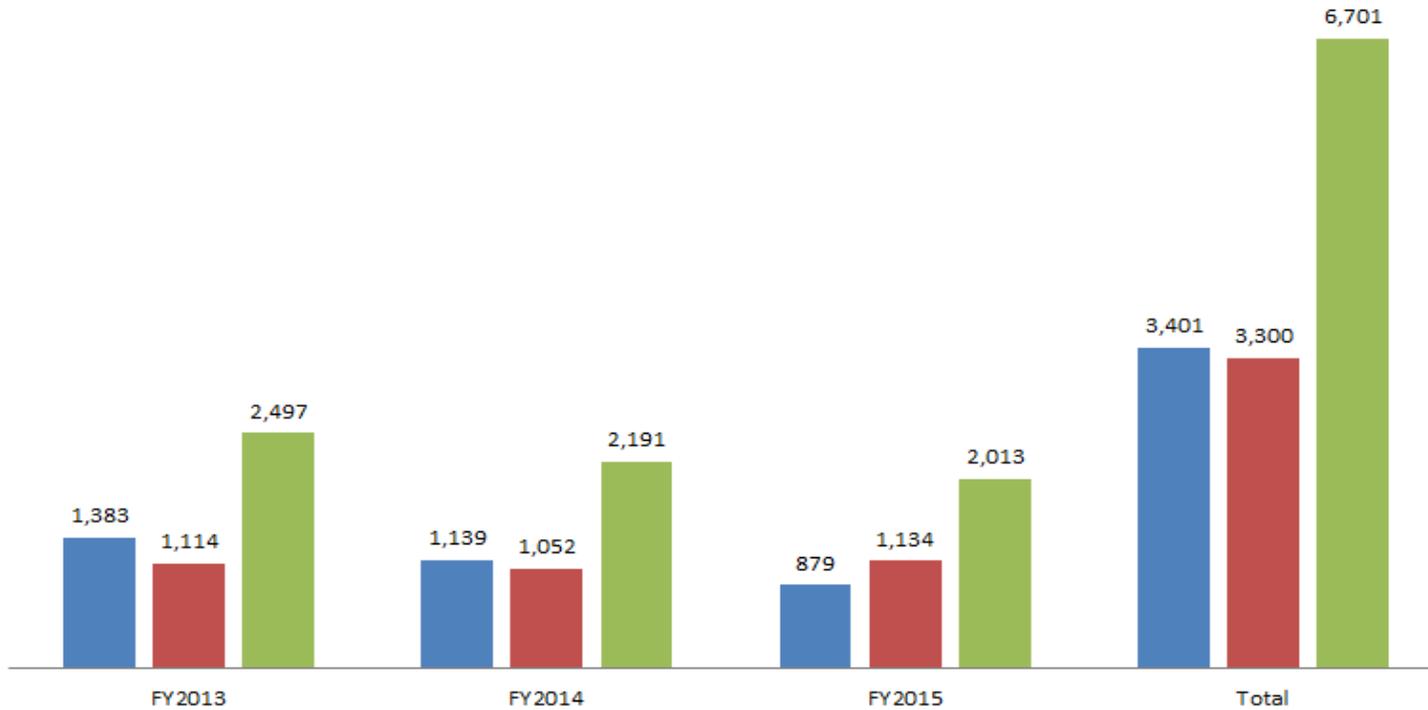




Number of Deliveries

Number of Deliveries

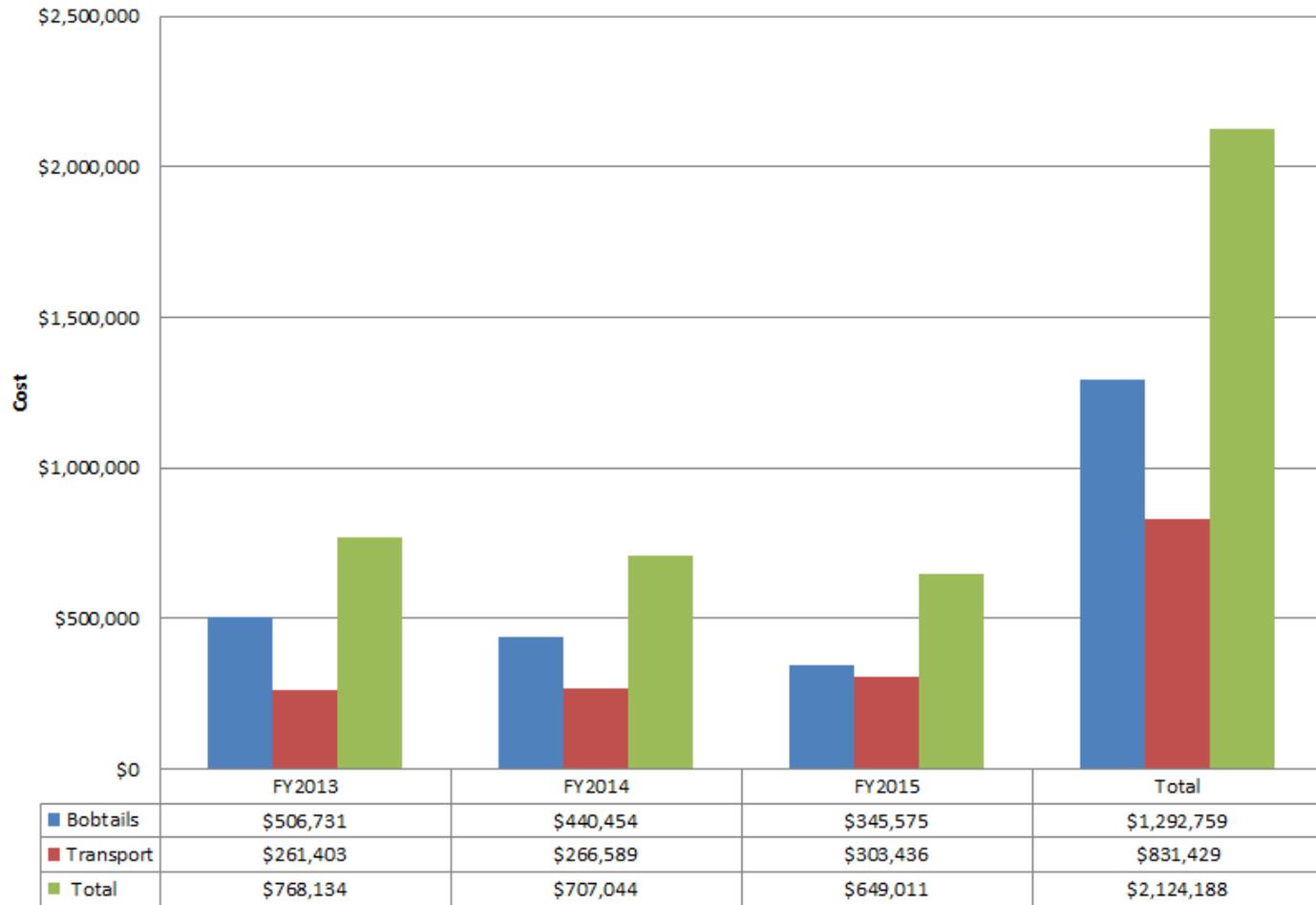
■ Bobtails ■ Transport ■ Total





Delivery Costs

Delivery Costs





Measure

- Bobtail deliveries (3,700 gallons and under) are made by the contractor at a cost \$426 each
- Costs is \$426 per delivery whether it is a 3,700 gallon load to a fuel station or 50 gallons to a generator.



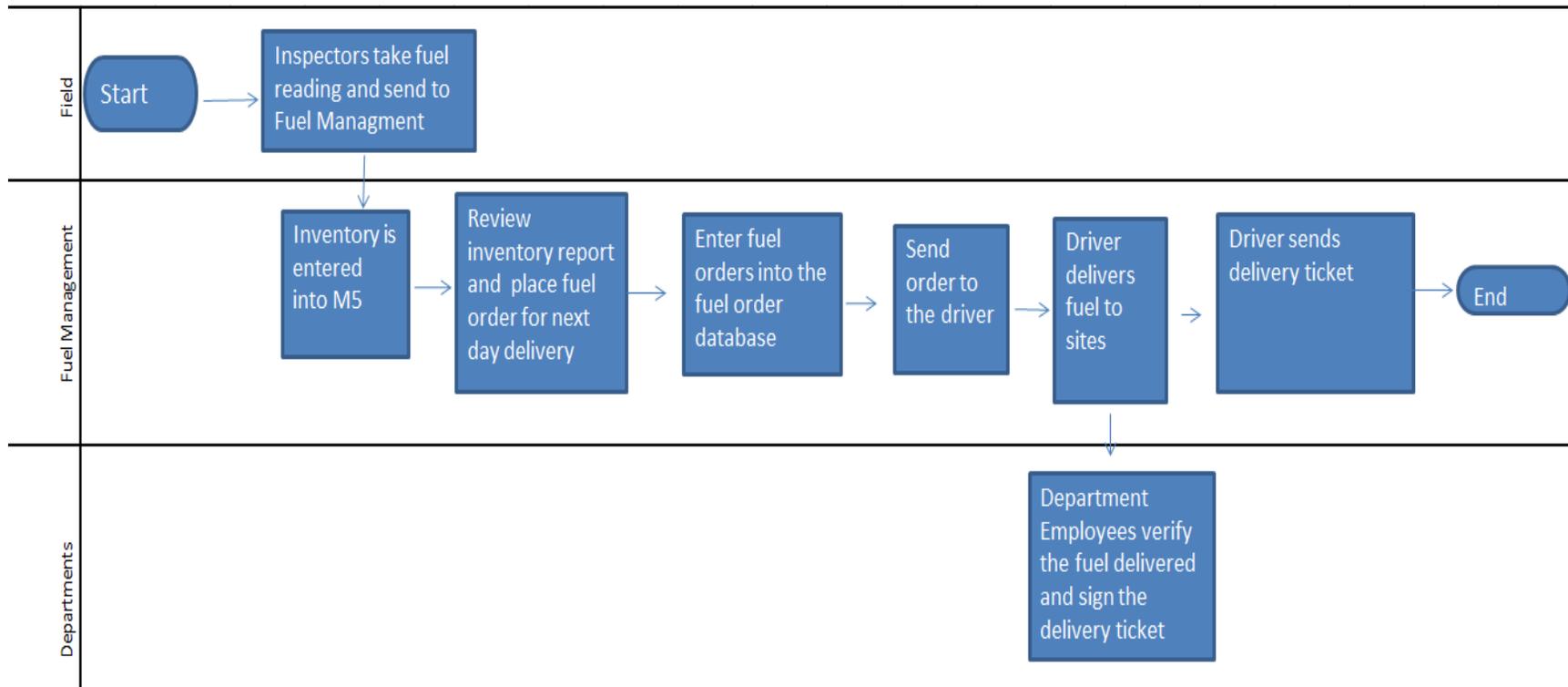


Measure

- In FY2014, the contractor delivered 1,139 bobtail loads to City fuel sites.
- Total cost of such deliveries for the year was \$440,454.



Future State Process Map





Analyze

- The cost for Fleet to make the deliveries is \$11,743 per month or a yearly cost of \$140,911. (Including equipment, operation and personnel)
- Fleet can deliver a load of fuel for \$147



Analyze

- Data taken with Fleet's delivery truck during the last part of FY2015, show a capability of making approximately 80 deliveries a month or 960 per year

Column1	Unleaded	Diesel	Total
March	39	34	73
April	37	46	83
May	37	39	76
June	42	44	86



Contractor vs. Fleet

- For the contractor to make 960 deliveries a year, it will cost \$426 per load, for a yearly cost of \$408,960
- FMD can make 960 deliveries a year at a cost \$147 dollars a load costing \$141,120.
- **\$408,960 (Contractor) - \$141,120(Fleet) = \$267,840 Annual Savings**





Control

Fleet Bobtail Deliveries					
Period	No. Deliveries	*Contractor	Fleet	Savings	
1		77	\$32,802	\$11,319	\$21,483
2		68	\$28,968	\$9,996	\$18,972
3**		46	\$19,596	\$6,762	\$12,834
4		77	\$32,802	\$11,319	\$21,483
5		70	\$29,820	\$10,290	\$19,530
6		94	\$40,044	\$13,818	\$26,226
7***		85	\$36,210	\$12,495	\$23,715
8					
9					
10					
11					
12					
Grand Total			\$220,242	\$75,999	\$144,243

* Contractor Cost represents the price the City would have paid if Petroleum Express had delivered the load

**Note the truck was out of service for warranty repairs from 8/26 - 9/21/2015



Questions?