A Third Party's Expert View of Your Operation

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Even the Best Fleets Need to Pay Attention

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A Third Party's Expert View of Your Operation

Agenda

- Introductions
- Types of 3rd Party Reviews
- Why Use a 3rd Party?
- Common Fleet Management Studies
  - What & Why
  - Sample Results
- Keys to Successful Reviews
- Q&A

OPFMA
OKLAHOMA
PUBLIC FLEET MANAGEMENT
ASSOCIATION

Introductions

About the Instructor

MARC CANTON
MANAGER

- 22 years in the fleet industry
- 60 fleet studies completed
  - Local and state government, higher education, port operations, utilities, construction, corporate, school transportation
- 12 years as Fleet & Transportation Director at Fordham University

About Mercury Associates, Inc.

- Established in 2002
- Largest dedicated fleet consulting and technology service provider in North America
- Serve fleets of 50 to 250,000 vehicles and pieces of equipment
- Assist organizations improve fleet management practices, increase operational safety and efficiency, optimize asset utilization and reliability, and operate a cost competitive fleet operation

HQ: Rockville, MD

Data Centers

- Houston, TX
- Seattle, WA
- AWS
- Azure

Mercury's Services

- Operations "Best Practices" Assessment
- Consolidation & Organization Restructuring
- Optimal Replacement Cycle Modeling
- Cost Analysis & Financing Strategies
- Utilization, Right-typing & Right-sizing
- Asset Replacement Planning
- AFV Feasibility Assessment
- Lease Contract Development & Contracting
- Staffing Levels & Recruiting
- Management Training & Policy Development
- Facility Planning & Space Needs Assessment
- Onsite Support Personnel
- Data Analytics & Technology Services
- Cloud Services

Our Clients


MIAMI UNIVERSITY
OXFORD, OH • EST. 1809
PALM BEACH GARDENS
A Signature City
HAWAIʻIGAS
THE CLEAN ENERGY COMPANY
TECTRANS
Washington Gas
A WGL Company
CUDD
ENERGY SERVICES
UNIVERSITY OF OREGON
REPUBLIC SERVICES
ASSOCIATED MATERIALS
INCORPORATED
PennState
SUMITOMO
RUBBER INDUSTRIES
Durham Region Transit
GSA
WILLBROS
GM
DENT WIZARD
SMART REPAIRS
BOSTON FIRE DEPARTMENT
GULFSTREAM MARINE
TOYOTA
3M
intel
QUANTA SERVICES
Enterprise
rent-a-car
BURNS McDONNELL
Johnson & Johnson
Pearl River Resort
Casinos & Hotels
UALR
City of OLYMPIA
UNIVERSITY OF WYOMING
Pfizer
HUNT BROTHERS PIZZA
bp
BRINKS
Keolis
NASA
LANCASTER
SUNCOR
STATE FARM
Auto Life Fire
INSURANCE
COX ENTERPRISES
OPFMA
OKLAHOMA PUBLIC FLEET MANAGEMENT ASSOCIATION
MERCURY

Types of Third-Party Reviews

Not all Third Party Reviews are the Same

Types of Reviews: Inspections – the "pop quiz"

- Usually no or little notice
- Meant to ensure compliance with law, regulation, standards, etc.
- In the world of fleet, typically safety or environment related
  - Maintenance facility inspections
  - Fuel site inspections
  - DVIRs
- Typically punitive, not instructional
  - Goal is to catch you in the act

Types of Reviews: Audits – the "scary" one

- A systematic assessment of specific practices, typically financial
- An official, detailed review of an organization's accounts and documentation
- Typically by an independent body, although internal (same company) audits are growing more common
- Internal audits: meant as a checkup; find issues before they become a problem
- External audits: meant to test and report publicly the quality/health of the audited organization

Types of Reviews: Studies & Evaluations

- Meant to be educational
- Learn about the organization's history, processes, practices, productivity tools, relationships with other internal and external entities
- Looking to gain insight:
  - What is working well?
  - What isn't working well?
  - What does the data tell us?
  - What can be done to make improvements or add value?
  - What are the pressure points?

Types of Reviews: Decision-Support & Bus. Solutions

- Assessment meant to address a known problem, issue or strategic goal/change
- Ultimate goal is to provide a solution
- Figure out the best way forward:
  - What are the options?
  - Minimize impact on existing business, staff, etc.
  - Maximize the positive outcomes
- Implementation is a key component
- Client left with turn-key result, clear path forward

Why Use a Third Party?

Why should I have an outsider come in to look at my operation?

Why use a Third Party?
First: Accept these Key Truths

1. Fleet Management is *very* complicated

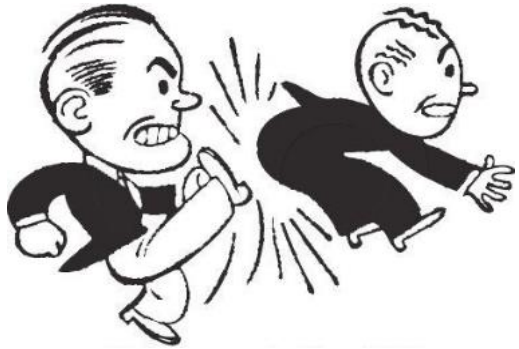
Fleet Management is Complex

Fleet Management Complexity

Why use a Third Party?
First: Accept these Key Truths

1. Fleet Management is *very* complicated
2. Those who have not done fleet management think it is ***not*** complicated
   a. *"I own a car"*
   b. *"I know what a lease is"*
   c. *"I can change my oil" (yeah right!)*
   d. *"I got a great deal on the **air brakes** the service guy installed on my Toyota Camry"*
3. Resources are limited, and everyone in the organization ***"needs"*** more

Why use a Third Party? Report Card



- Benchmarking: compete or become obsolete
  - Make sure your services and costs are competitive
- Leadership needs an objective assessment
  - Strategic decision or plan
- Large/influential stakeholder wants change
  - Third party assessments help remove the personalities and politics from the equation

Why use a Third Party? Process Improvement

It's 2019… if you are still using paper, you are wasting time!

- Identify weak links, formally
  - Turn-times too long? Comeback rate too high?
  - PM compliance issue? Parts delivery too slow?
- Need to implement a new process or technology
  - Automated motor pool reservations and dispatching
  - New FMIS or telematics solution
  - Integrated dashboards

Why use a Third Party? Time Crunch

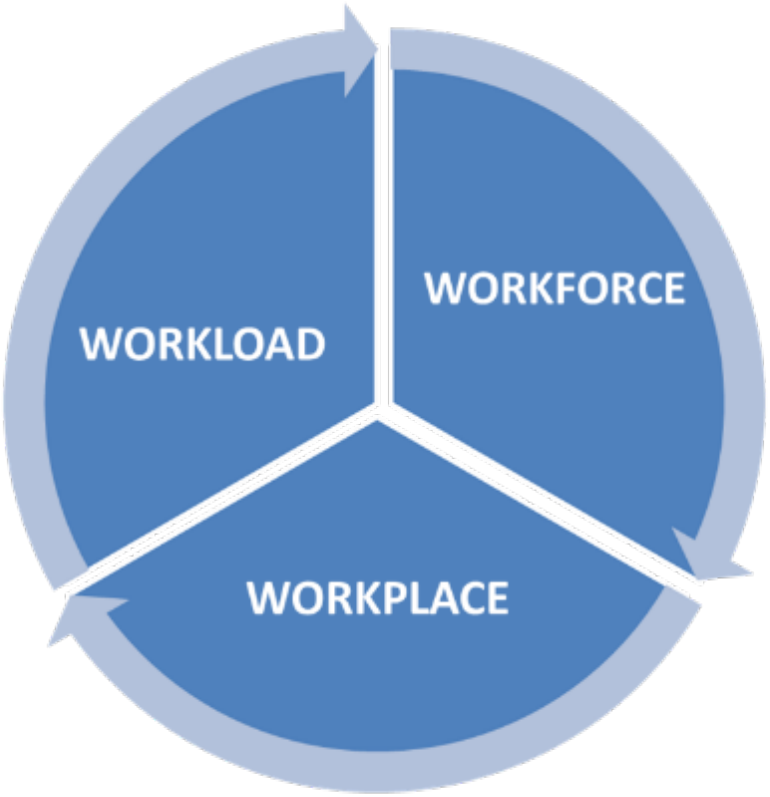
- You know what needs to be done, but you don't have the time to do it
- Staff is not in position to get it done
  - Not enough people to begin with
  - Current vacancies
  - Turnover is too high
  - More difficult to hire additional staff than pay a vendor
- Something new, but current job doesn't stop
  - Technology implementation
  - Specialized bid/search

Why use a Third Party? Resource Crunch

- Argue for more resources: sometimes it takes a different voice, even if the message is the same
  - Message often better received because of objectivity
- Leadership doesn't know enough about fleet or have enough information to know how to prioritize resource requests
- If cuts are necessary, a third party can help eliminate subjectivity and ensure it is fair and strategic

Defining Resource Requirements

What needs to be done?



Who is going to do it?

Where will the work take place?

Reasons for Reviews: Education

- Many fleet professionals “fell” into fleet
  - Opportunity to quickly learn best practices and KPIs
- Even the most learned and experienced professionals need training and refreshers
  - In life and business, if you are not moving forward you are moving backwards; when you think you have nothing left to learn, well….

Reasons for Reviews: A different perspective

- Consultants and other third parties don't "live" in the same sphere; they see things differently
- Consultants often get to visit many similar operations both near and far
  - Creates an opportunity to learn trends and how others are doing things and take the best ideas that may apply to your operation

Reasons for Reviews: The *Real* Reason: Save Money

- Fleet right-sizing/right-typing studies typically save fleet owners 2x – 10x the cost of the study
- Fleet replacement studies & life-cycle analyses
  - Generate budget savings immediately
  - Reduce long term operational costs
  - Usually pay for themselves more than 10x over 20 years
- Process improvements increase productivity, efficiency, and reduce downtime dramatically
  - Both direct and indirect cost savings to fleet customers

Reasons for Reviews: The *Real* Reason: Save Money

- Fleet Centralization & Consolidation Studies
  - Often generate savings of 5%-25% of total fleet costs
- Cost allocation, chargeback rate analysis and billing system implementations lead to long term savings – up to 25% of operation costs (combined)

Common Fleet Management Studies

What they are and why they are used

Common Fleet Management Studies & Evaluations

Best Practice Studies

Staffing analysis
Performance benchmarking
Process review
Policies and procedures

Replacement Planning

Replacement cycle analysis
Long-term replacement plan
Alternative funding analysis
Fleet modernization

Fleet Rightsizing

VAM studies
Fleet size optimization
Fleet type review

Facility Programming

Space needs assessment
Master planning
Site assessment

Fleet Management

Contract management
Supplemental analytics
Fleet manager

Cost Analysis

Cost of service analysis
Charge-back rate development
Privatization feasibility

Common Fleet Projects: Diagnostic Reviews

- High-level overview
  - Only limited detail on key areas
- Goal is to identify “big-ticket” issues and/or what areas need further investigation
- Typically sponsored by executive leadership
- Based mostly on interviews and review of documentation; only high-level data analysis
- Recommendations are strategic, not tactical

Common Fleet Projects: "Best Practice" Assessments

- Review of entire fleet program or select functions
  - Governance (policies, procedures & their execution)
  - Acquisition, Allocation, Disposal
  - Replacement Planning
  - Utilization Management (including motor pool)
  - M&R (In-house, Parts, & Outsourced)
  - Fuel Management (Bulk & Commercial)
  - Technology & Information Systems
  - Chargeback Rates & Methodology
  - Organizational Structure and Staffing Levels
  - Facilities Assessment
  - Driver & Safety Management
- Interviews, Documentation Review and Data Analysis
- Recommendations are both strategic and tactical

Key Performance Indicators

Performance Measure	Description	Target
Fleet Availability Rate	The degree to which the fleet service provider is able to ensure the regular availability of fleet units to user departments. Availability rates should be highest for mission critical fleet units.	95%
PM Program Compliance	Measures the number of PMs performed on the date scheduled. A low compliance rate indicates that PMs are not being performed regularly. A high PM compliance rate is a basic building block for an effective maintenance and repair program.	95% on-time
Scheduled Repair Rate	Measures the portion of all repairs identified and conducted in a controlled, planned manner. The combined purpose of the PM program, operator inspections, and service writing is to identify and take care of problems in a planned, scheduled manner so they do not result in unscheduled and costly breakdowns.	60 to 70%
Road Call/Tow Rate	Measures the percentage of all repairs conducted on broken-down or towed vehicles that cannot be driven to the shop. In combination with scheduled service rate, it provides an indication of PM program effectiveness.	2%

Key Performance Indicators

Performance Measure	Description	Target
Comeback Rate	Measures the percentage of time a customer returns a vehicle or piece of equipment back to the shop for the same problem within a specified period of time. It is a measure of service quality that reflects the accuracy of service writing and diagnostic activities as well as repair quality.	1%
Work order turn-around time	Measures the time it takes to complete work orders, the inverse of which is equal to fleet downtime. In a shop with appropriate resources (people, space and equipment) and parts stock, the overwhelming majority of jobs should be able to be completed quickly, with limited downtime to the fleet user.	80% - 24 hrs 90% - 48 hrs
Parts issued from stock	Measures the percentage of all parts issued for in-house repairs. It provides an indication of parts management effectiveness, including appropriate inventory analysis, work anticipation, and use of space.	> 50%
In stock parts value	Measures the on-hand parts value and compares it to average annual parts spending, as well as parts value in terms of VEU count (higher VEU fleets require more parts spending). Provides an indication of appropriate inventory maintenance practices. Lower than optimal figures indicate lack of, or poor use of space, and/or short inventory (too few items, lack of key items).	10-20% an. $75-150 /VEU

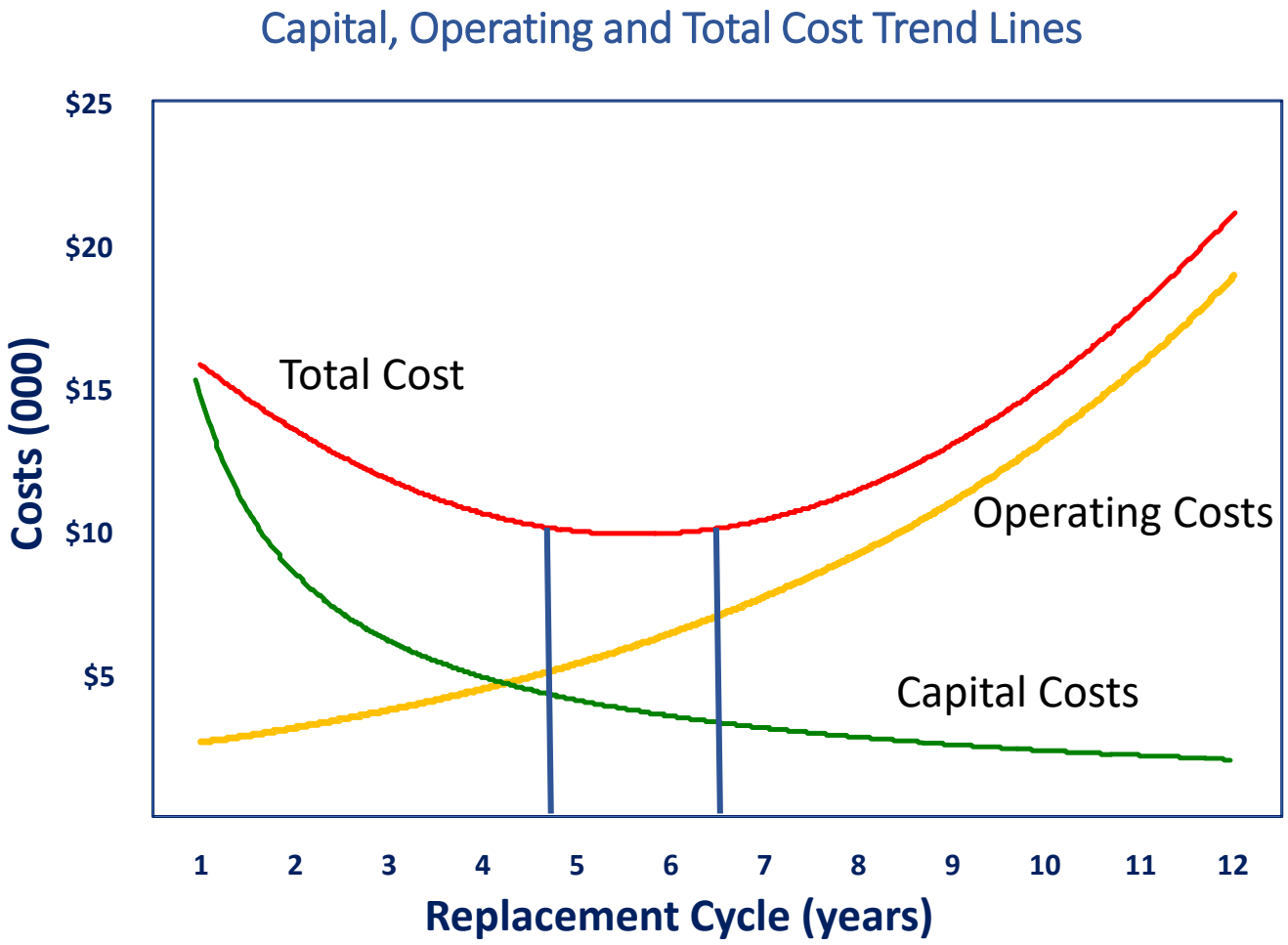
Key Performance Indicators

Performance Measure	Description	Target
Parts movement rate	Measures part lines without movement in last 12 months. Higher than optimal rates can indicate an inefficient use of storage and/or obsolescence of parts.	<5%
Parts delivery time	Measures the overall average time from parts order to delivery to the technician. Provides an indication of the speed and proficiency with which both stock and delivered parts are delivered, and whether or not there is the right mix of on-hand items vs vendor supplied items	<1 day
Work outsourced	Measures the portion of all repairs outsourced to sublet vendors. Adjusting for various operating circumstances, the bulk of work should be performed in-house once an organization has made the decision to do in-house M&R. Larger proportion of outsourced work that is not explained by strategic implementation, is an indicator of a deficiency in the in-house M&R program, such as inappropriate resources (staff, space, tools/equipment, training, etc.)	10 to 15%
DVIR Compliance	Measures the number of DVIRs for assets that require CDL drivers, or pre/post trip inspections for non-CDL assets received in a timely fashion (immediately for inspections that include safety element failures and next day for “clear” inspections). Compliance is required by law for CDL assets and a basic building block for an effective safety program.	100%

Common Fleet Projects: Life Cycle Analysis

- At Mercury, called “ORCAs” – Optimal Replacement Cycle Analysis
- Goal is to determine the **best** time to replace assets to minimize total cost of ownership
- Identify ***empirically*** the ***exact*** replacement parameters that specific organization should utilize
- Removes politics and subjective opinion from the replacement and resource battle

Life Cycle Analysis



Strategic Replacement Planning

ORCA

Optimal Replacement Cycle Analysis™

Client Name	Street Sweeper
VEHICLE DETAILS	
Number of Units in Fleet	27
Current Replacement Cycle (Years)	10
Current Average Age (Years)	7.7
Average Number of Vehicles Replaced per Year	3
GENERAL ANALYSIS PARAMETERS	
Average Annual Utilization	2,500
Average Net Acquisition Cost	$ 189,453
Average MPG	2.4
Fuel Cost per Gallon	$ 2.56
Fuel Economy Opportunity Cost Factor	1%
Inflation Rate	3%
Discount Rate	6%
Acquisition/Remarketing Cost per Vehicle	
In-Servicing and Decommissioning Cost per Vehicle	

Strategic Replacement Planning: ORCA

REPLACEMENT CYCLE (Yrs)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Meter at replacement	2,500	5,000	7,500	10,000	12,500	15,000	17,500	20,000	22,500	25,000	27,500	30,000	32,500	35,000
CAPITAL COST														
Depreciation Schedule	69.7%	48.6%	33.9%	23.6%	16.5%	11.5%	8.0%	5.6%	3.9%	2.7%	1.9%	1.3%	0.9%	0.6%
Estimated Residual Value (2016$)	$ 132,094	$ 92,102	$ 64,217	$ 44,775	$ 31,219	$ 21,767	$ 15,177	$ 10,582	$ 7,378	$ 5,144	$ 3,587	$ 2,501	$ 1,744	$ 1,216
Annual Depreciation (2016$)	$ 57,359	$ 39,993	$ 27,885	$ 19,442	$ 13,556	$ 9,452	$ 6,590	$ 4,595	$ 3,204	$ 2,234	$ 1,558	$ 1,086	$ 757	$ 528
Annual Depreciation (nominal$)	$ 57,359	$ 41,193	$ 29,583	$ 21,245	$ 15,257	$ 10,957	$ 7,869	$ 5,651	$ 4,058	$ 2,915	$ 2,093	$ 1,503	$ 1,080	$ 775
Annualized Ancillary Costs (2016$)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
OPERATING COST														
Annual Maintenance and Repair Cost (2016$)	$ 21,890	$ 24,992	$ 28,532	$ 32,575	$ 37,190	$ 42,459	$ 48,474	$ 55,342	$ 63,183	$ 72,135	$ 82,355	$ 94,023	$ 107,344	$ 122,552
Annual Fuel Cost (2016$)	$ 2,744	$ 2,855	$ 2,970	$ 3,090	$ 3,215	$ 3,345	$ 3,480	$ 3,621	$ 3,767	$ 3,919	$ 4,078	$ 4,242	$ 4,414	$ 4,592
Total Operating Cost (2016$)	$ 24,634	$ 27,846	$ 31,503	$ 35,665	$ 40,405	$ 45,804	$ 51,955	$ 58,963	$ 66,950	$ 76,054	$ 86,432	$ 98,265	$ 111,757	$ 127,144
Total Operating Cost (nominal$)	$ 24,634	$ 28,682	$ 33,421	$ 38,972	$ 45,476	$ 53,099	$ 62,036	$ 72,517	$ 84,810	$ 99,233	$ 116,158	$ 136,022	$ 159,339	$ 186,715
TOTAL COST														
Average Annual Total Cost (2016$)	$ 81,993	$ 74,916	$ 69,740	$ 66,082	$ 63,657	$ 62,257	$ 61,727	$ 61,956	$ 62,867	$ 64,409	$ 66,552	$ 69,286	$ 72,611	$ 76,544
Equivalent Annual Cost	$ 81,993	$ 76,023	$ 71,811	$ 69,040	$ 67,475	**$ 66,947**	$ 67,333	$ 68,551	$ 70,551	$ 73,307	$ 76,817	$ 81,094	$ 86,173	$ 92,103

Strategic Replacement Planning: ORCA

Asset Type	Number of Units	Current Average Age (years)	Current Rplcmt Cycle (years)	Recom-mended Rplcmt Cycle (years)	Avg Ann Operating Cost Under Current Cycle	Avg Ann Operating Cost Under Recomm Cycle	Avg Ann Operating Cost Savings per Asset	Ann Operating Cost Savings per Asset (%)	Total Est Annual Operating Cost Savings
6-Wheel Dump w/ Plow	137	7.1	12	11	$14,558	$13,744	$814	6%	$111,518
10-Wheel Dump w/ Plow	22	7.5	12	9	$15,750	$12,440	$3,310	21%	$72,820
Refuse Truck (16 cubic yds)	62	9.0	10	8	$48,578	$44,737	$3,841	8%	$238,142
3-Wheel Street Sweeper	28	8.1	10	6	$45,978	$34,309	$11,669	25%	$326,732
Total or Weighted Avg	**249**				**$26,667**	**$23,658**	**$3,009**	**11%**	**$749,212**

Common Fleet Projects: Strategic Replacement Plans

- Identifies the replacement needs of the fleet over 20 years
- Strategically "smooths" replacements to keep year-over-year costs consistent ***and***
- Considers the operational challenges of in-servicing & decommissioning vehicles
- Compares various financing methods to optimize budgetary expenditures
- Ensures politics and short-term budgets do not interfere with appropriate replacement practices

Strategic Replacement Plans
Replacement Parameters

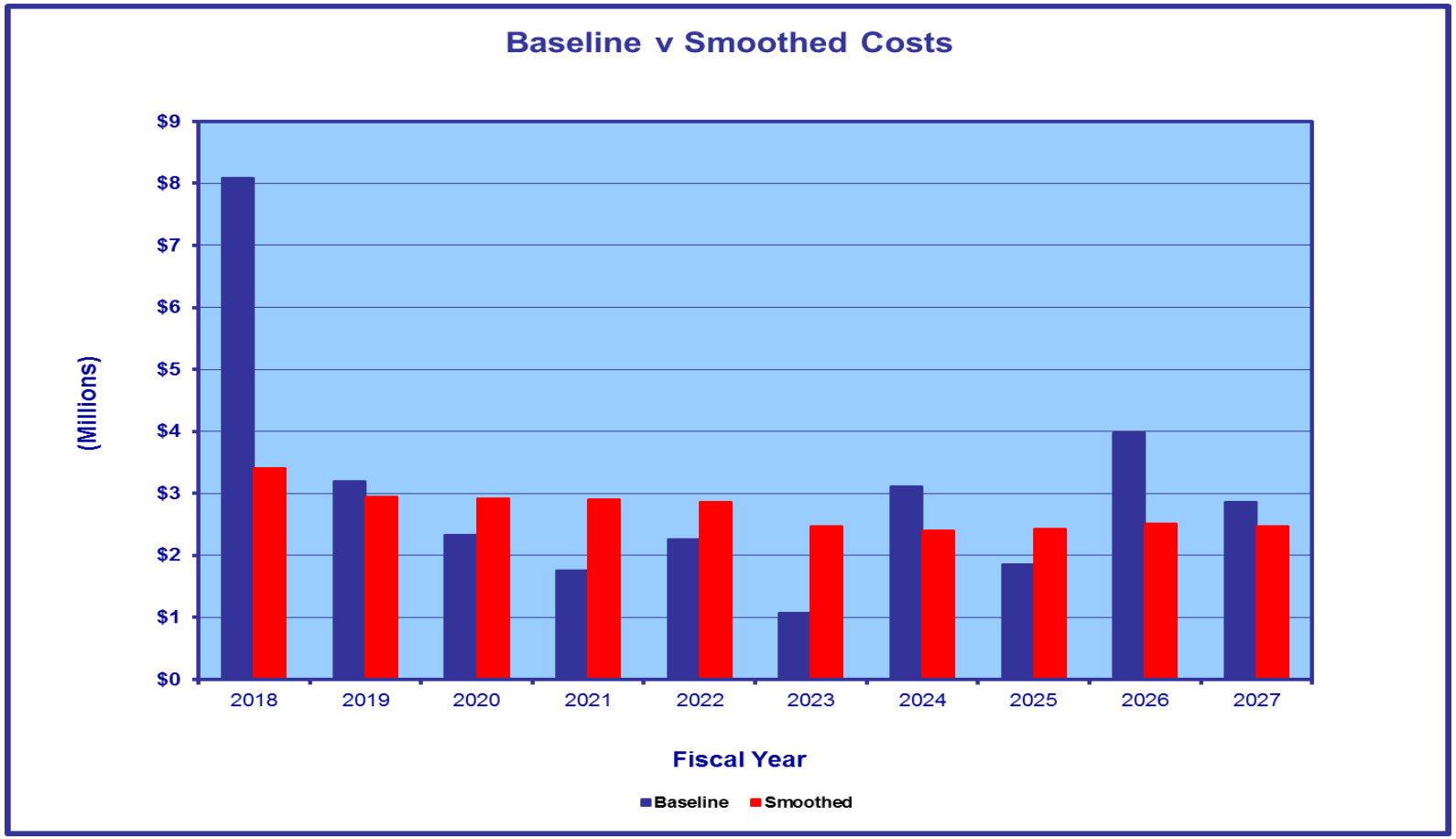
		139	#DIV/0!	$ 60,338
Asset Class Code	Asset Class Description	Replacement Cycle in Months	Replacement Cycle in Miles or Hours	Purchase Price (today's dollars)
1322	< 8500 GVW Automobile Compact Sedan	120		$ 14,850
1332	< 8500 GVW Automobile Intermediate Sedan	120		$ 18,000
1332 INV	< 8500 GVW Automobile Intermediate Sedan INV	120		$ 25,000
1332 LE	< 8500 GVW Automobile Intermediate Sedan LE	24		$ 40,000
1332 SCL	< 8500 GVW Automobile Intermediate Sedan SCL	120		$ 30,000
1112	< 8500 GVW Cycles Motorcycles Law Enforcement	60		$ 23,750
1216	< 8500 GVW Light Vehicles Carts All Terrain Vehicle	120		$ 6,750
1531	< 8500 GVW Pickups 3/4 Ton Regular Cab	144		$ 31,000
1511	< 8500 GVW Pickups Compact Regular Cab	144		$ 23,000
1521	< 8500 GVW Pickups Half Ton Regular Cab	144		$ 26,000
1426	< 8500 GVW Van Cargo Cutaway Ambulance BOOK	120		$ 80,000
1421	< 8500 GVW Van Cargo Standard Van	120		$ 21,000
1421 AC	< 8500 GVW Van Cargo Standard Van AC	144		$ 42,000
1411	< 8500 GVW Van Window General Purpose	120		$ 35,000
8712	>33,000 GVW Straight Trucks General Purpose Dump Be	132		$ 181,000
8717	>33,000 GVW Straight Trucks General Purpose Tanker	180		$ 18,000
8743	>33,000 GVW Straight Trucks Public Utility Insulated Aeri	200		$ 152,000
8773	>33,000 GVW Straight Trucks Public Works Vacuum Loa	120		$ 75,500

Strategic Replacement Plans
Replacement Plan Output

Number of fleet assets	489
Number of asset classifications	95
Gross replacement value of the fleet (millions)	$23.6M
Average replacement cost of assets	$48,330
Replacement cost - low	$1,500
Replacement cost - high	$730,000
Average age of the fleet in years	9.7
Imputed replacement cycle (years)	19.4
Target weighted average replacement cycle (years)	12.1
Target average age (years)	6.1

Annual replacement requirement = ***$1.95*** million per year

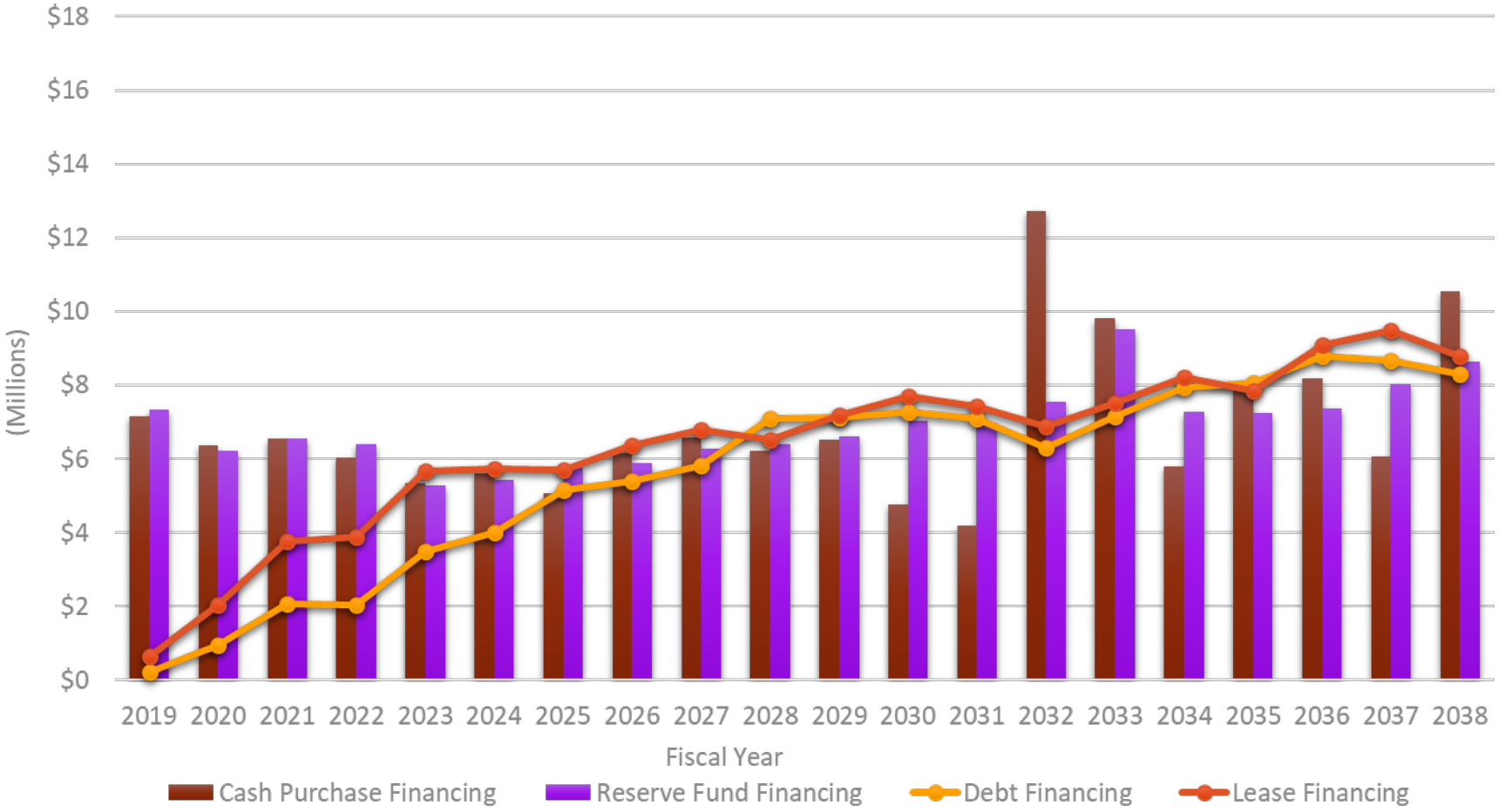
Strategic Replacement Plans
Ad hoc vs Strategic



Baseline vs Smooth Plan (Ad hoc vs Strategic)

Fiscal Year	Assets Replaced		Cost (millions)	
	Baseline	Smoothed	Baseline	Smoothed
2019	482	287	$13.5	$7.5
2020	51	195	$8.2	$7.0
2021	76	39	$2.2	$7.2
2022	71	144	$6.1	$7.2
2023	88	90	$5.0	$6.1
2024	49	131	$3.8	$6.5
2025	252	124	$10.3	$6.1
2026	81	114	$6.1	$7.1
2027	118	158	$5.7	$7.6
2028	377	165	$15.2	$7.5
Totals	1645	1504	$76.10	$69.80

Replacement Plan Financing



Replacement Plan Savings

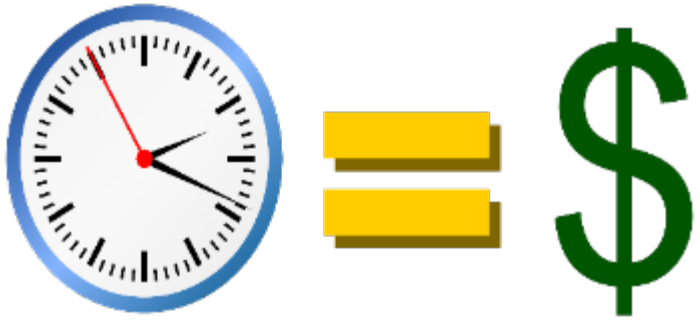
	Fiscal Year										
Costs/Funding Requirements/Savings	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Gross Replacement Costs	$7.55	$7.02	$7.21	$7.21	$6.06	$6.53	$6.12	$7.08	$7.60	$7.50	$69.87
Replcmt Purchases Less Used Veh Sale Proceeds	$7.16	$6.37	$6.56	$6.04	$5.34	$5.61	$5.07	$6.14	$6.59	$6.21	$61.07
Lease Payments Less Used Vehicle Sale Proceeds	$0.64	$2.04	$3.78	$3.89	$5.66	$5.74	$5.71	$6.36	$6.79	$6.53	$47.15
Loan Payments Less Used Vehicle Sale Proceeds	$0.21	$0.95	$2.06	$2.03	$3.50	$4.00	$5.14	$5.40	$5.81	$7.11	$36.22
Reserve Fund Cash Infusions Plus Charges	$7.33	$6.22	$6.55	$6.38	$5.27	$5.42	$5.76	$5.89	$6.27	$6.38	$61.47
Budget Savings Loan Versus Cash Financing	$6.94	$5.42	$4.49	$4.01	$1.84	$1.61	-$0.08	$0.74	$0.78	-$0.90	$24.85
Cumulative Budget Savings Loan Financing	$6.94	$12.36	$16.86	$20.87	$22.71	$24.31	$24.24	$24.98	$25.75	***$24.85***	
	Fiscal Year										
Costs/Funding Requirements/Savings	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Gross Replacement Costs	$7.65	$5.45	$4.84	$14.86	$11.49	$6.73	$9.17	$9.51	$7.06	$12.20	$88.96
Replcmt Purchases Less Used Veh Sale Proceeds	$6.52	$4.76	$4.20	$12.71	$9.82	$5.79	$7.94	$8.17	$6.07	$10.54	$76.51
Lease Payments Less Used Vehicle Sale Proceeds	$7.19	$7.69	$7.42	$6.88	$7.53	$8.22	$7.84	$9.10	$9.50	$8.78	$80.13
Loan Payments Less Used Vehicle Sale Proceeds	$7.13	$7.27	$7.10	$6.29	$7.16	$7.93	$8.06	$8.80	$8.67	$8.30	$76.71
Reserve Fund Cash Infusions Plus Charges	$6.60	$7.02	$6.98	$7.54	$9.51	$7.27	$7.24	$7.36	$8.04	$8.64	$76.19
Budget Savings Loan Versus Cash Financing	-$0.61	-$2.51	-$2.89	$6.42	$2.66	-$2.14	-$0.12	-$0.63	-$2.60	$2.24	-$0.19
Cumulative Budget Savings Loan Financing	$24.24	$21.73	$18.84	$25.25	$27.91	$25.77	$25.65	$25.02	$22.42	***$24.66***	

Common Fleet Projects: Alternative Fuel Vehicle Feasibility

- Identify asset classes where AFVs are feasible for the organizations application
- Assess infrastructure, supply-chain, and logistical needs to implementing AFVs
- Calculate short and long-term impact on fleet capital and operating costs
- Calculate carbon emission impact based on anticipated utilization
- Creates clear picture for organization's decision making and planning

Common Fleet Projects: Cost Allocation & Chargeback

- Identify all direct and indirect fleet costs, including overhead and hidden costs
- Allocate costs into various fleet management functions (asset management, M&R, etc.)
- Calculate appropriate chargeback rates
  - Labor rate
  - Parts markup
  - Outsource markup
  - Fuel markup
  - Asset Management fee



- Calculate budget requirements for fleet user organizations

Key Performance Indicators

- Tech Productivity or “Billable Hours” or Direct Labor
  - 1500 hours per tech is the benchmark
    - Less than ~1400 is bad
    - 1600+ is high performing
  - ~75% of all paid time should be billed to work order
  - Or: 80% to 85% of direct time = Total time – (PTO + Training) time
- Labor rate should be reasonable and competitive
  - Inaccurately low: Undermines point of charging for service
  - Too high: Why not outsource?
- Parts management is key – 30-40% of maintenance cost
  - Parts techs must study inventory to know what needs to be kept on hand, either due to high volume or difficulty of acquisition; and when to order more
  - Parts techs are often the most under trained staff in the organization; *ALL* techs should receive at least 40 hours of training per year
  - Inventory should turn over at least 3 times per year

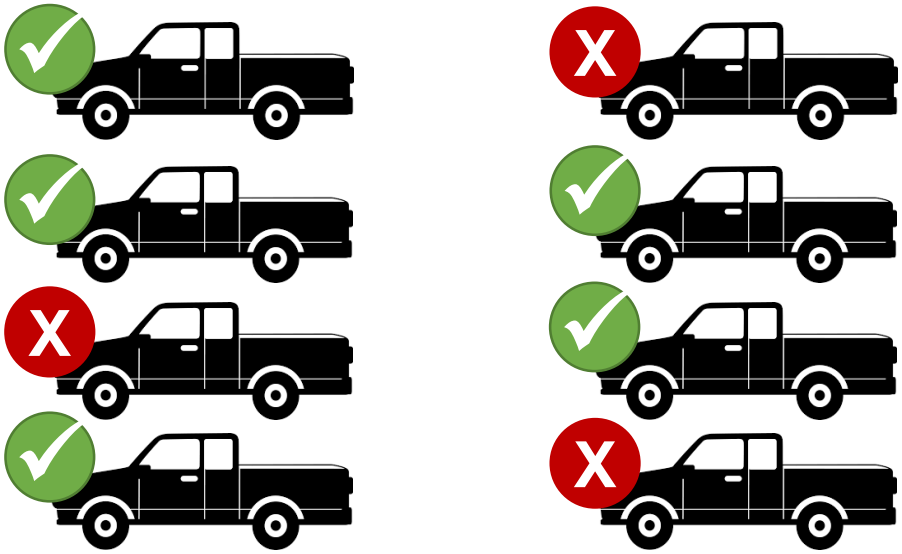
Common Fleet Projects: Fleet Right-Sizing

- Determine optimal quantity of fleet assets
  - Identify alternatives to permanently assigning vehicles
    - Shared use motor pool
    - Commercial rentals
    - Public transportation
    - Personal vehicle use

Fleet Right-Sizing Approaches

Vehicle Allocation Methodology (VAM)

- Justify fleet assets already in your fleet using data analysis



Zero-based Asset Requirements Determination - (ZARD)

- Build your fleet from the ground up by defining divisional missions and staff roles

Common Fleet Projects: Fleet Right-Typing

- Determine optimal fleet asset types and specifications for the job being performed

Personalize	2018 Ford Focus FWD Gasoline Vehicle  2.0 L, 4 cyl, Automatic (AM-S6) MSRP: $17,860 - $24,375	2018 Ford Explorer AWD Gasoline Vehicle  3.5 L, 6 cyl, Automatic (S6) MSRP: $34,140 - $53,940
EPA Fuel Economy	**Regular Gasoline** **28** MPG 24 34 combined city/highway city highway 3.6 gal/100mi Gasoline 347 miles Total Range	**Regular Gasoline** **19** MPG 16 22 combined city/highway city highway 5.3 gal/100mi Gasoline 353 miles Total Range
Unofficial MPG Estimates from Vehicle Owners Learn more about "My MPG" Disclaimer	User MPG estimates are not yet available for this vehicle	User MPG estimates are not yet available for this vehicle
You save or spend* Note: The average 2018 vehicle gets 27 MPG	**You SAVE** **$250** in fuel costs over 5 years compared to the average new vehicle	**You SPEND** **$3,000** more in fuel costs over 5 years compared to the average new vehicle
Annual Fuel Cost*	$1,350	$2,000
Cost to Drive 25 Miles	$2.29	$3.37
Cost to Fill the Tank	$32	$48
Tank Size	12.4 gallons	18.6 gallons

*Based on 45% highway, 55% city driving, 15,000 annual miles and current fuel prices. Personalize.
MSRP and tank size data provided by Edmunds.com, Inc.
Range on a tank and refueling costs assume 100% of fuel in tank will be used before refueling.

Common Fleet Projects: Consolidation Studies

Two main types:

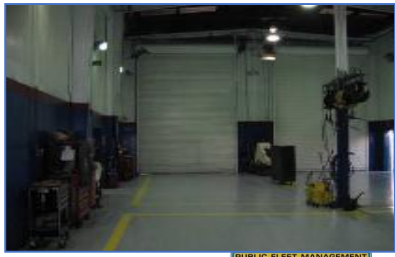
1. Organizational Consolidation
   - Feasibility, pros and cons of consolidating two or more fleet management organizations
   - Identify if/what economies of scale exist
   - Identify operational challenges and other hurdles
   - Recommendations for new organization
2. Motor Pool Consolidations & Implementation
   - Feasibility, pros and cons of consolidating two or more pools, typically from departmental to centralized

Common Fleet Projects: Facility/Space Needs Assessment

- Assess current facilities (or identify optimal locations for new constructions)
- Optimal size & layout of maintenance facility based on current and future fleet composition
- Bay quantities, size, spacing and configuration, parts room, training & break rooms, administrative spaces, etc.
- Fluid distribution, lifts, cranes, diagnostic tools, etc.
- Outside layout: ready line, deadline, staging, etc.
- Fuel site location, configuration and capacities

Before

After



Common Fleet Projects: Resource Allocation Requirements

Goal is to determine exactly:

1. How many technicians
2. How many support staff
3. Level of skills and training
4. How much space
5. What equipment, etc.

Defining Resource Requirements

VEU Analysis

Workload

- 1 VEU ~ 12-15 direct labor hours of M&R each year

Workforce

- 1 technician = 105 to 130 VEUs

Workplace

- 1 to 2 maintenance bays per technician

Defining Resource Requirements

VEU Analysis

1.0 VEU

100 sedans

100 VEUs

1,200 direct labor hrs..

0.9 technicians

2.5 VEUs

100 LE sedans

250 VEUs

3,000 direct labor hrs.

2.1 technicians

6.5 VEUs

100 bucket trucks

650 VEUs

7,800 direct labor hrs.

5.4 technicians

Defining Resource Requirements

Example

Note: Variables are customized based on specific operating circumstances and composition of the fleet.

- Fleet Assets = 500
- VEUs = 1,100
- Hours per VEU = 12 direct labor hrs./yr.
- Total labor required = 13,200 hrs.
- Technician productivity = 1,450 hrs./yr.
- Technicians required = 9.1 (13,200/1,450)
- Shop supervisors = 1 (1 for every 8-10 technicians)
- Parts clerk = 1 (1 for every 8-10 technicians)
- Fleet analyst = 1 (need at about 1,000 VEUs)
- Fleet manager = 1
- Maintenance bays required = 14

Keys for a Successful Review

Keys for Success: Before the Review Begins

- Prepare staff and stakeholders as much as possible
  - No surprises: stakeholders should be very aware of what the study is about, when it will take place, and what you hope to accomplish
  - Reassure staff who tend to worry; push buy-in for skeptics
- Encourage honesty and transparency so third party can get to the heart of your organization's challenges
- Make sure staff and stakeholders are prioritizing the study reasonably
  - Do not let requests for information or clarifications linger
  - Attend meetings; be flexible with scheduling

Keys for Success: During the Review

- Give the project the time it needs to be done right
  - Be thorough: take the time to submit data, documents, etc.
  - Clear your schedule during site visits to allow for meetings that go long, last minute schedule changes, unplanned discussion, etc.
  - If possible, manage the project yourself
- Keep an open line of communication
  - Be an open book with third party: you learn more this way
  - Try to have a sense of how the study is going and what is being discovered as the project progresses
  - Listen attentively to all parties
- Learn at every turn

Keys for Success: Project Conclusion

- Get out in front of the results
  - Don't wait for the end of the review to move towards implementing recommendations
  - Prepare response communications in advance if/as necessary
- Prepare an implementation plan AND an implementation team
  - Make sure there is time allotted for staff to work on implementing change; lead from the front
  - Start with the lowest hanging fruit, then move to items that will have the biggest impact
  - Prioritize the most challenging customers
  - Establish timelines and success measures; you must keep score to win!

Brought to you by the letters….

Q & A

THANK YOU & MORE INFO

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