

Context

Program schedules are often driven by

- Operational commanders expectations
- Acquisition Executive's direction
- Budget availability and type
- PMO guestimates
- Politics



Instead of **data driven analytics** of related programs

Leading to

- Delays against unrealistic schedule baselines
- Cost overruns
- Poor analysis, planning, and execution
- Considerable program risk
- Unhappy sponsors/users



Goals of This Research

- **Provide Acquisition Executives**
 - Data to validate schedule realism
 - Identify schedule trends
 - Identify schedule correlations to program elements
 - Identify any correlations to major policies, initiatives, and laws
- **Provide Program Offices**
 - Data to help shape realistic schedules
 - Identify where their schedule is an outlier to related programs
- **Identify additional schedule analysis opportunities and applications**



Research Questions

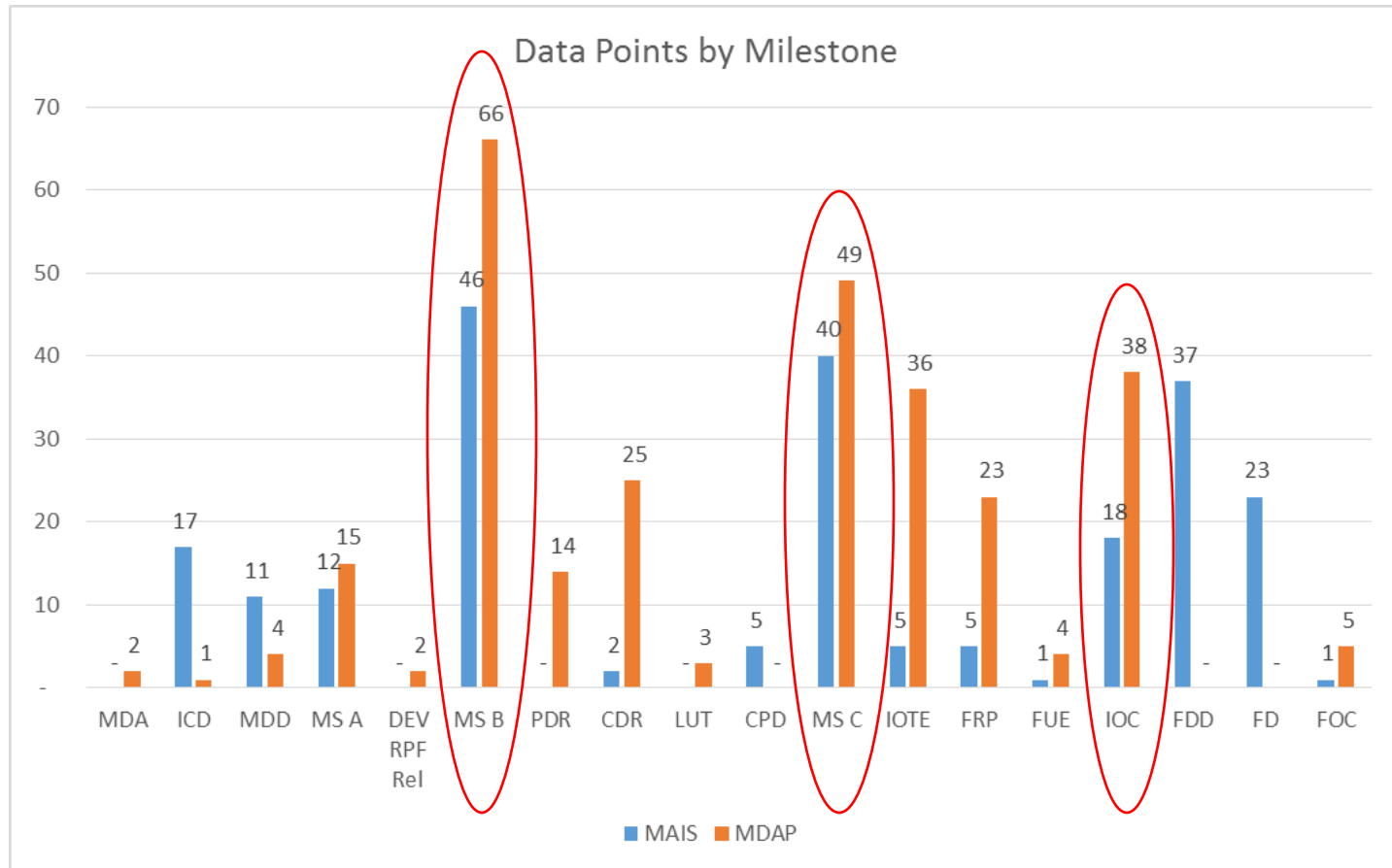
- **What are the average timelines for MDAP and MAIS programs?**
- **What are the schedule trends for these programs?**
- **How do schedules vary by:**
 - Cost
 - ACAT
 - Service
 - Joint Capability Area
 - % RDT&E \$ vs Procurement
- **Are there correlations to key program attributes?**
- **How does the schedule data analysis align with major policies, initiatives, and acquisition reform legislation?**

Schedule Data Summary

	MDAP	MAIS
Programs	80	63
<i>Army</i>	16 (20%)	16 (25%)
<i>Navy</i>	35 (44%)	13 (21%)
<i>Air Force</i>	26 (32%)	15 (24%)
<i>DoD</i>	3 (4%)	19 (30%)
Data Points	1,400	1,250
Schedule Data Points	287	274
Avg. Lifecycle Cost (CY15)	\$37B	\$2.3B

- Collected data from DAMIR for all MDAPs and MAIS Programs
- Synthesized, synchronized, and cleansed data
- Analyzed and assessed data holistically and by segments

Data Characterization

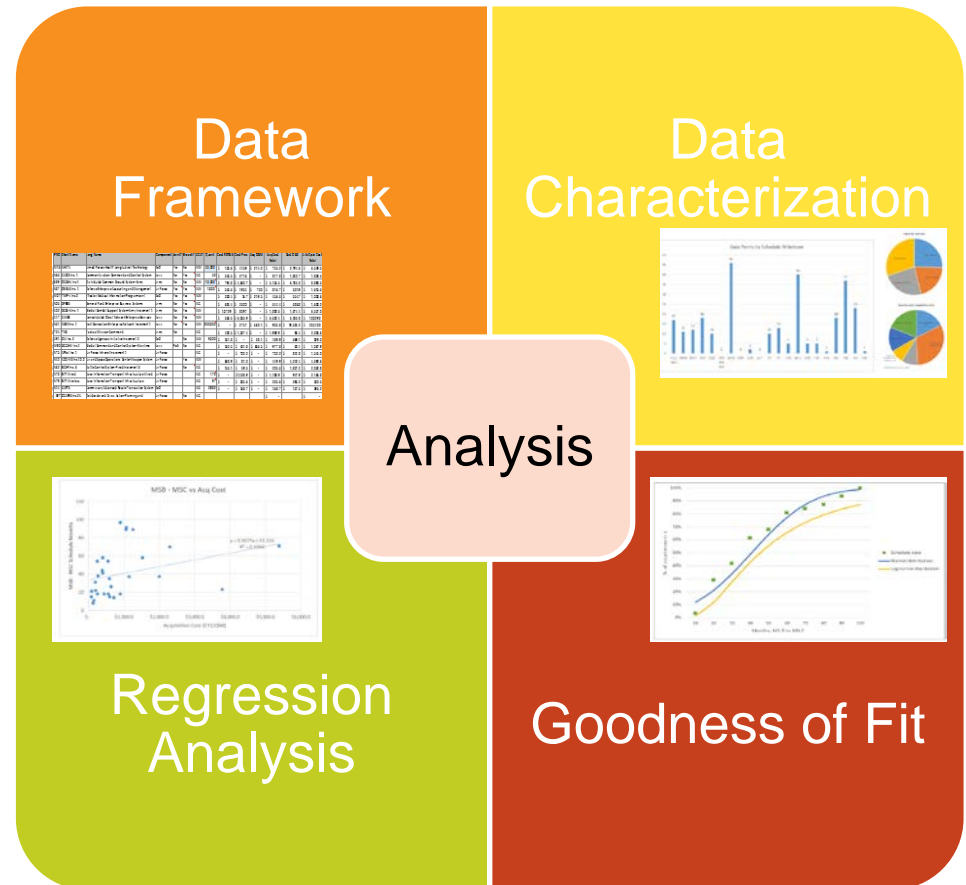


Largest data sets for MS B, MS C, and IOC milestones

Methodology

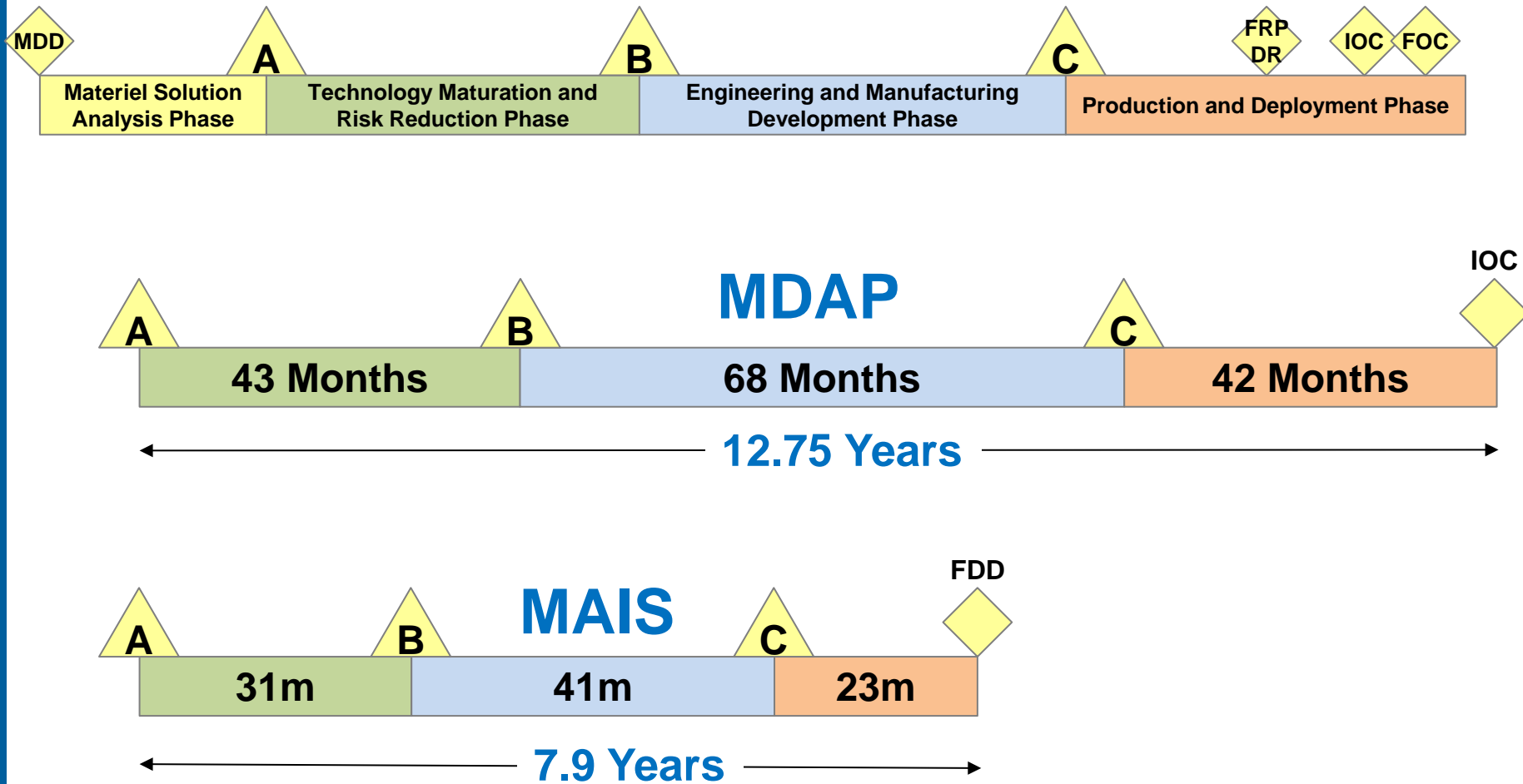
■ Methodology

- Identified and reviewed primary data sources
- Developed list of program attributes to evaluate
- Created data framework
- Collected data
- Synthesized and synchronized data
- Analyzed and assessed data
- Captured findings
- Documented research



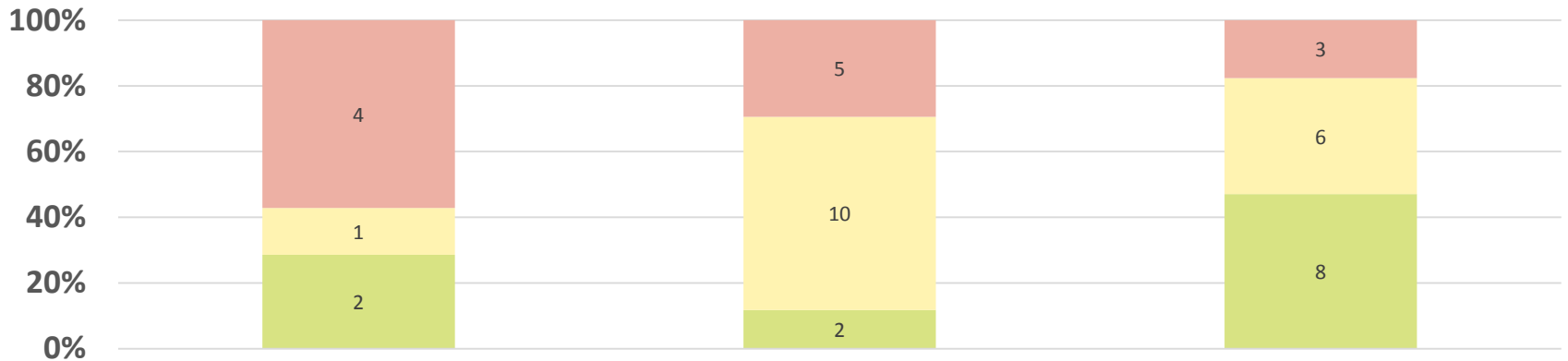
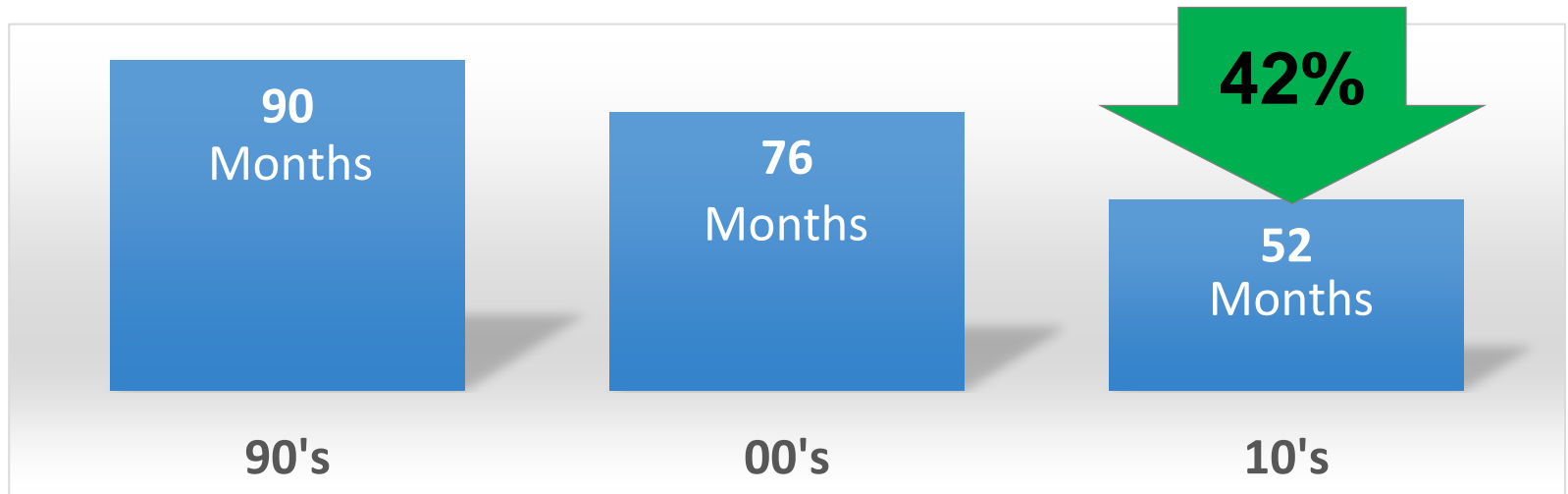
Average MDAP and MAIS Timeframes

80 MDAPs, 63 MAIS - 1990's to Today



MDAP Development Timelines

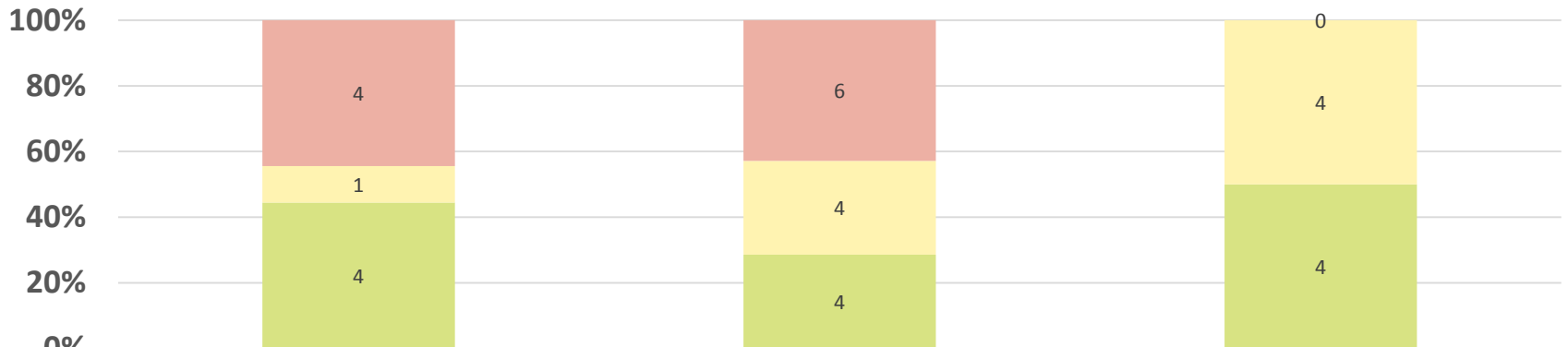
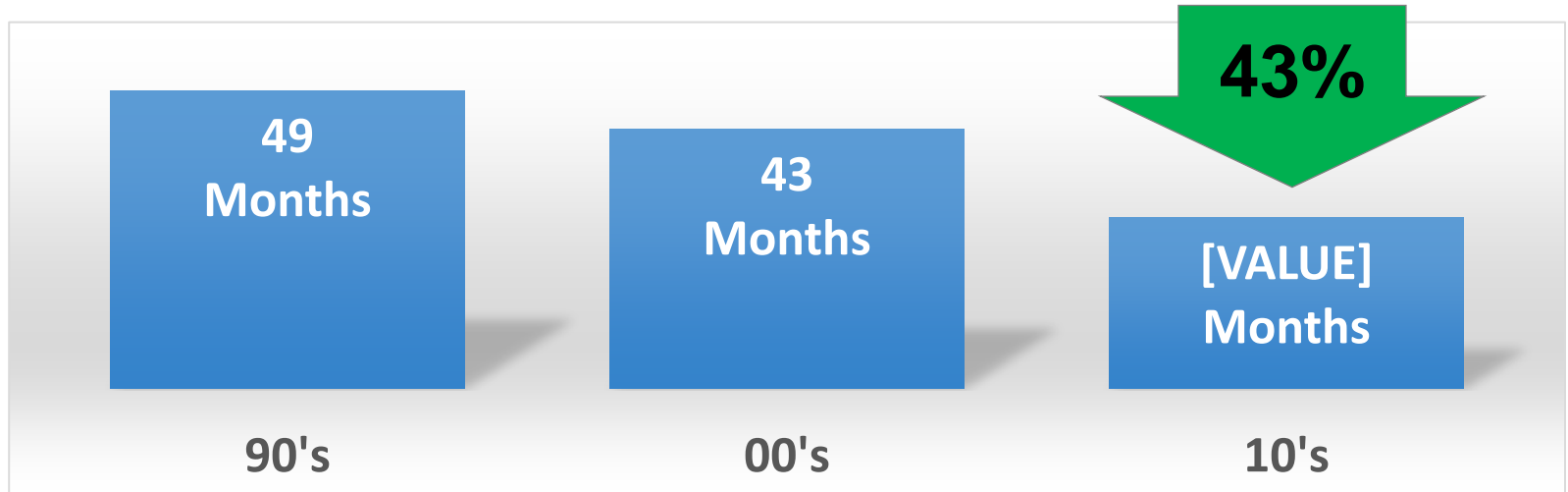
MS B → MS C



■ <48 Months ■ 48-72 Months ■ >72 Months

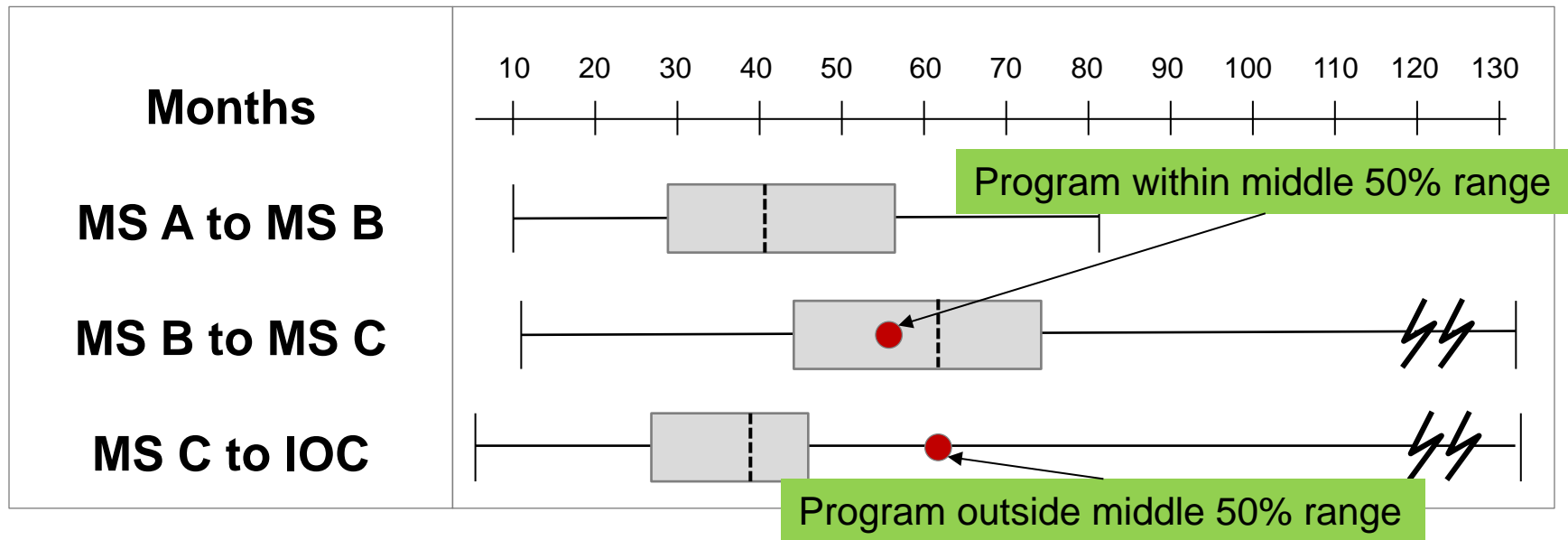
MAIS Development Timelines

MS B → MS C



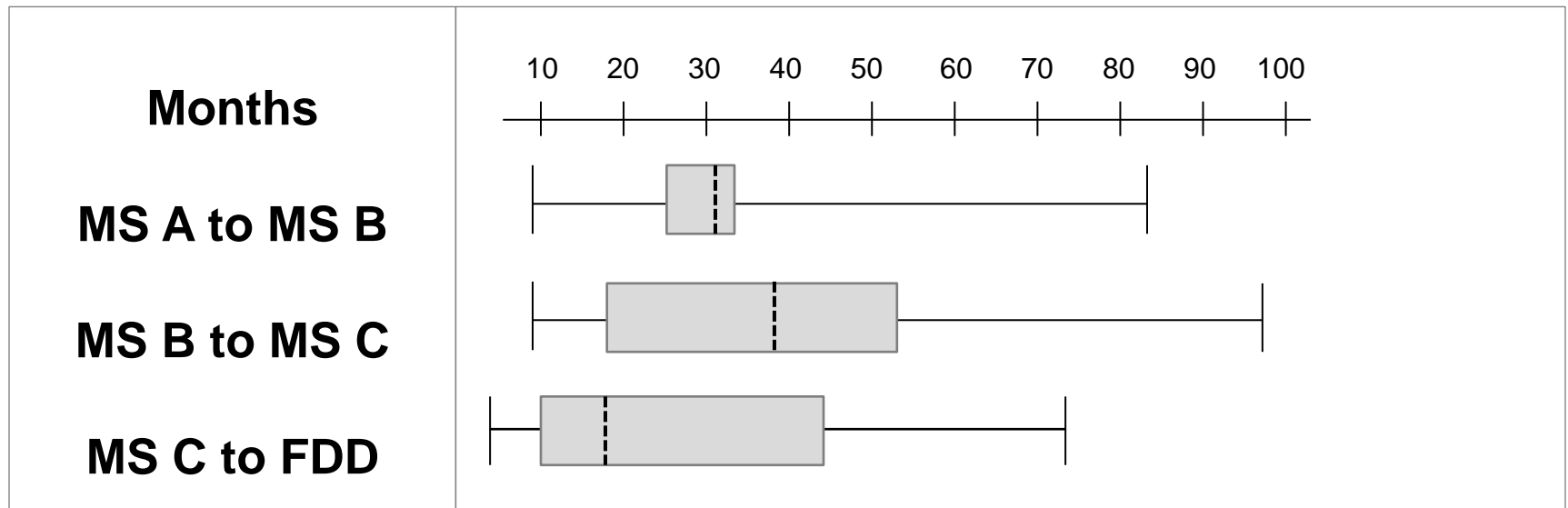
■ <24 Months ■ 24-48 Months ■ >48 Months

MDAP Schedules – Acquisition Milestones



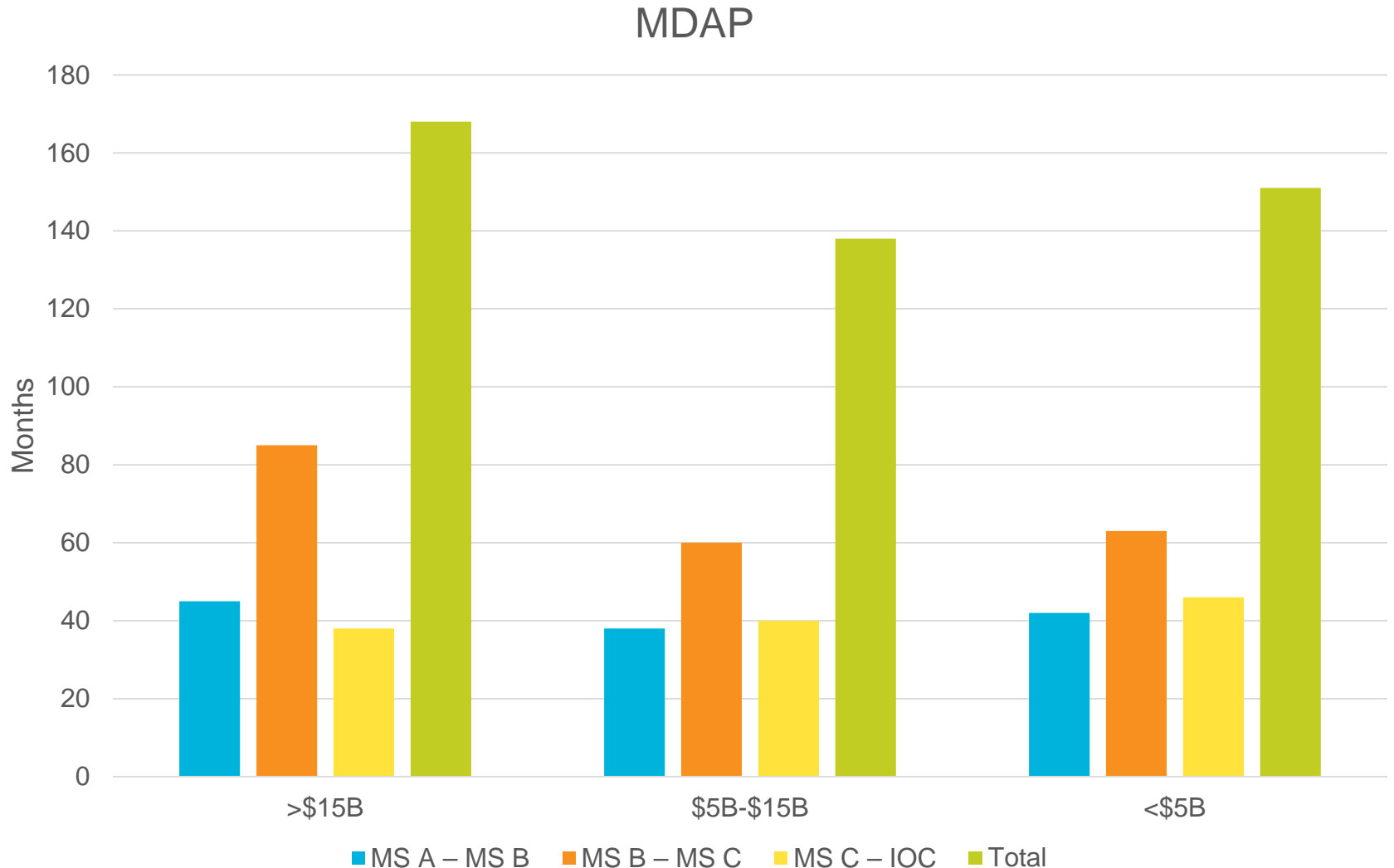
	n	Min	25%	Median	75%	Max
MS A to MS B	15	10m	28m	41	57m	81m
MS B to MS C	41	11m	43m	62	76m	234m
MS C to IOC	30	2m	27m	38	46m	146m

MAIS Schedules – Acquisition Milestones

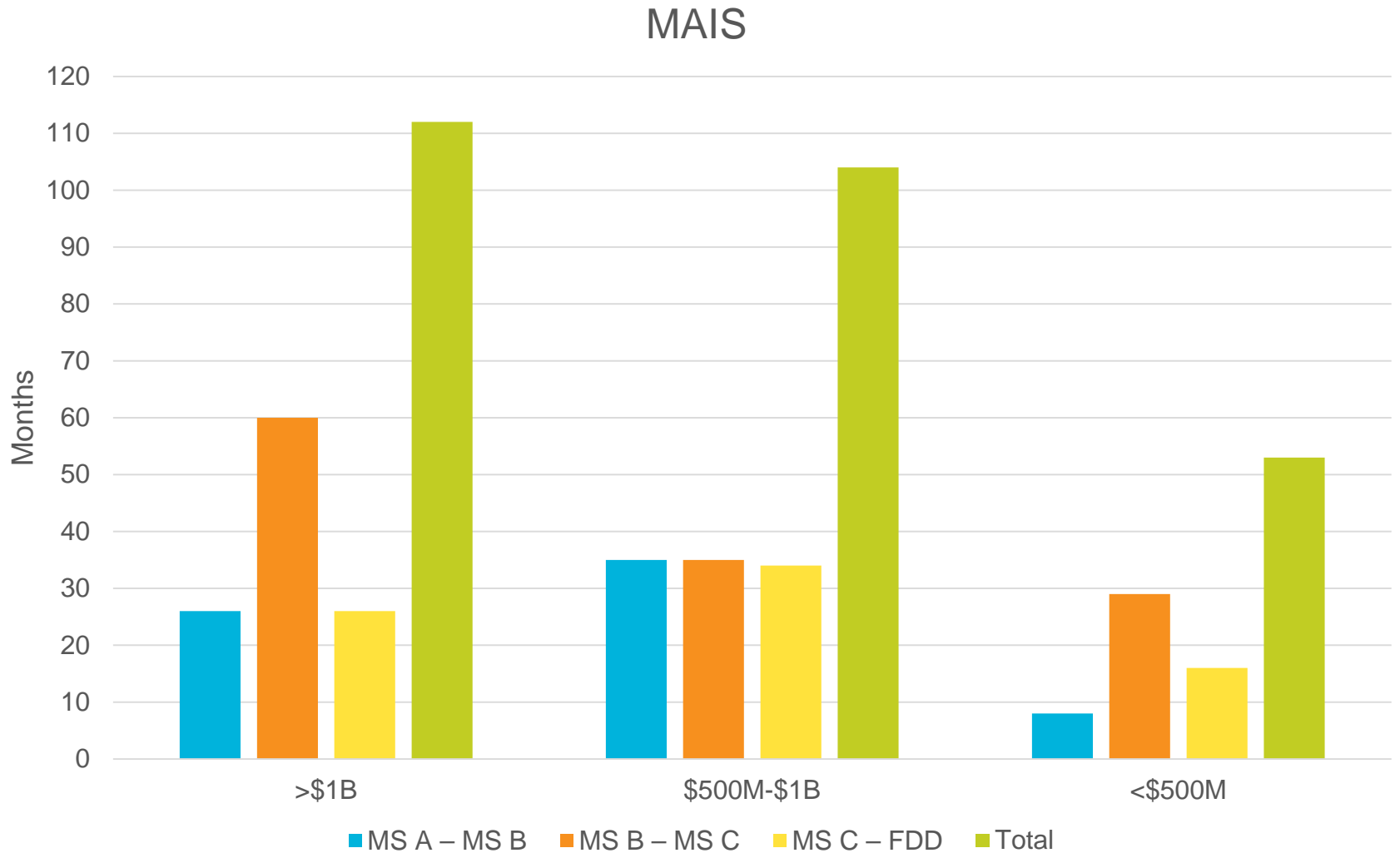


	n	Min	25%	Median	75%	Max
MS A to MS B	9	8m	24m	32m	33m	82m
MS B to MS C	31	8m	18m	37m	54m	97m
MS C to FDD	26	2m	9m	16m	41m	72m

MDAP Acquisition Cost vs. Schedule

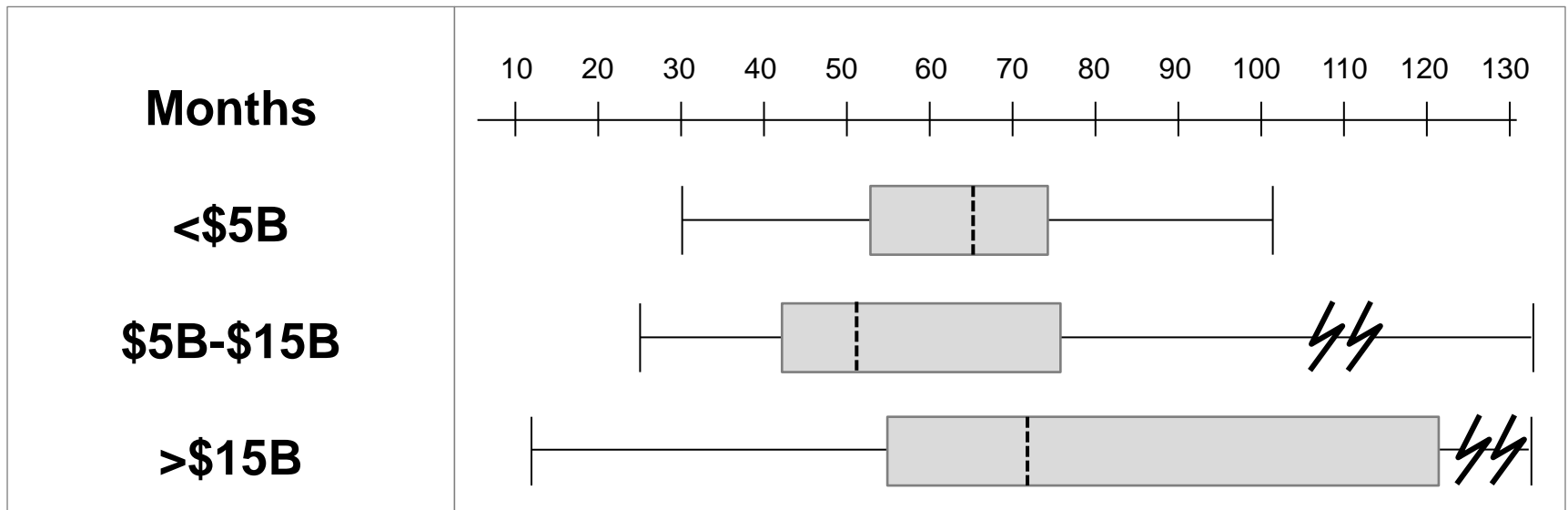


MAIS Acquisition Cost vs. Schedule



MDAP Acquisition Cost vs. Schedule

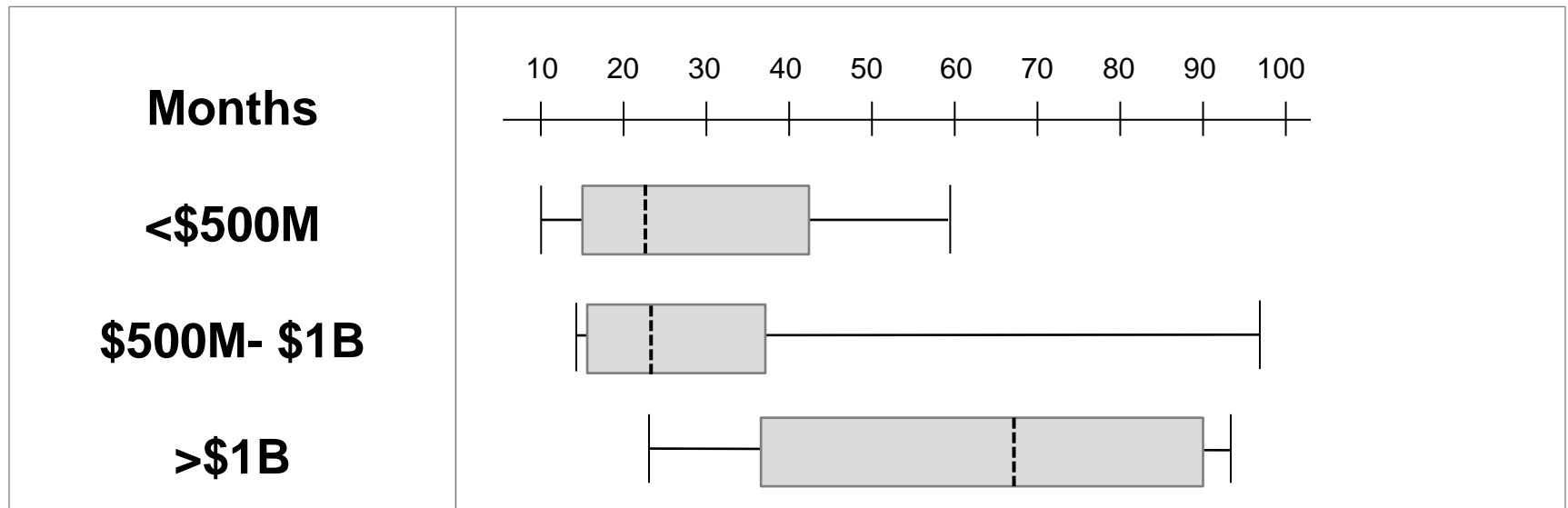
MS B to MS C



	n	Min	25%	Median	75%	Max
<\$5B	14	30	52	65	74	103
\$5B-\$15B	15	25	41	50	75	140
>\$15B	11	11	53	71	122	234

MAIS Acquisition Cost vs. Schedule

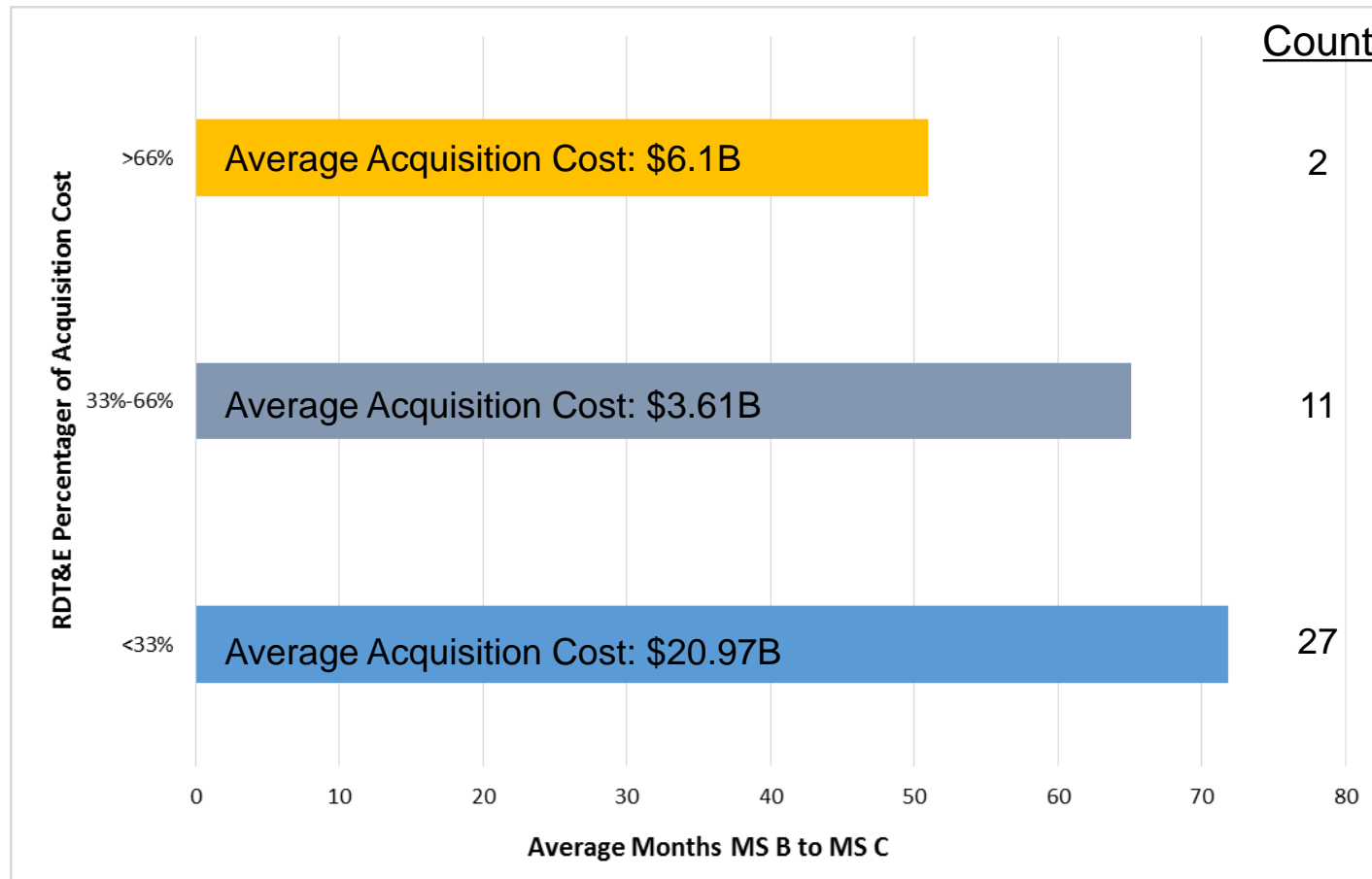
MS B to MS C



	n	Min	25%	Median	75%	Max
<\$500M	13	8m	15m	22m	41m	58m
\$500M-\$1B	8	14m	15m	22m	35m	97m
>\$1B	10	23m	37m	64m	89m	91m

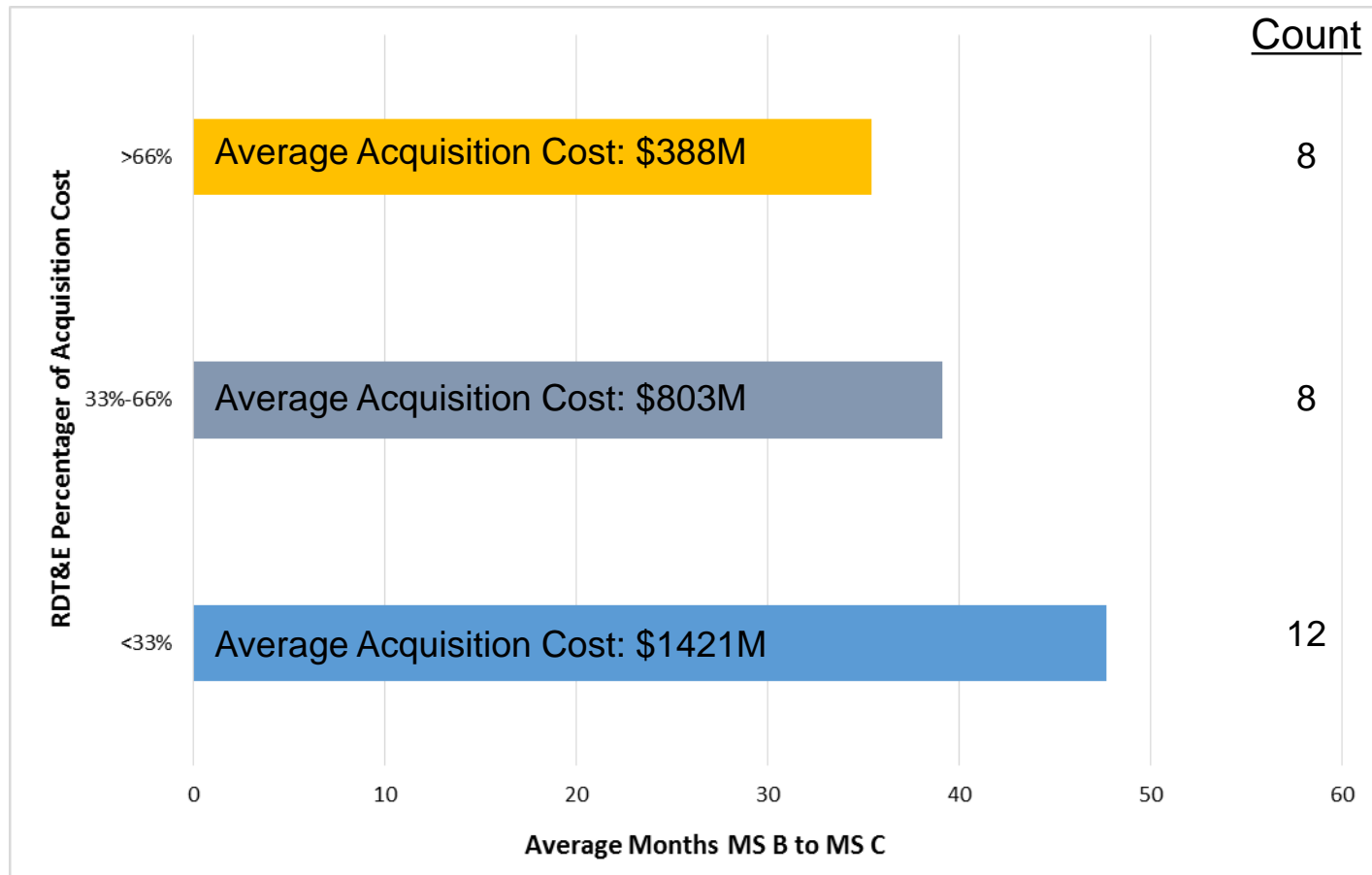
MDAP RDT&E Percentage vs. Schedule

MS B to MS C



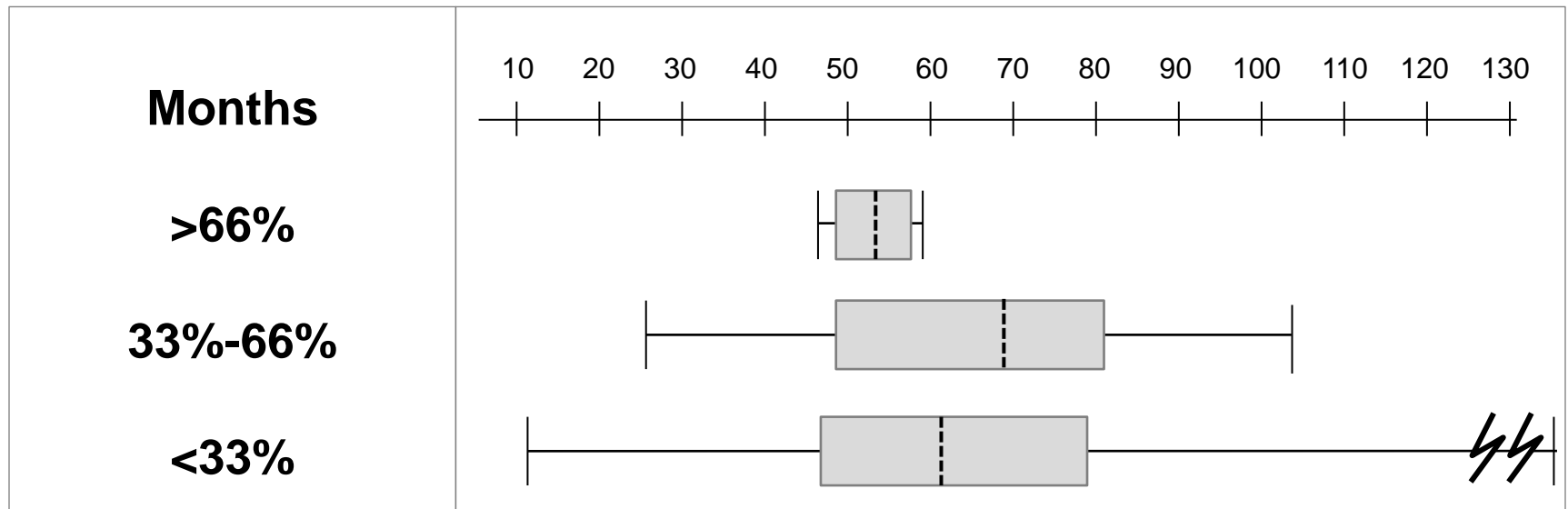
MAIS RDT&E Percentage vs. Schedule

MS B to MS C



MDAP RDT&E Percentage vs. Schedule

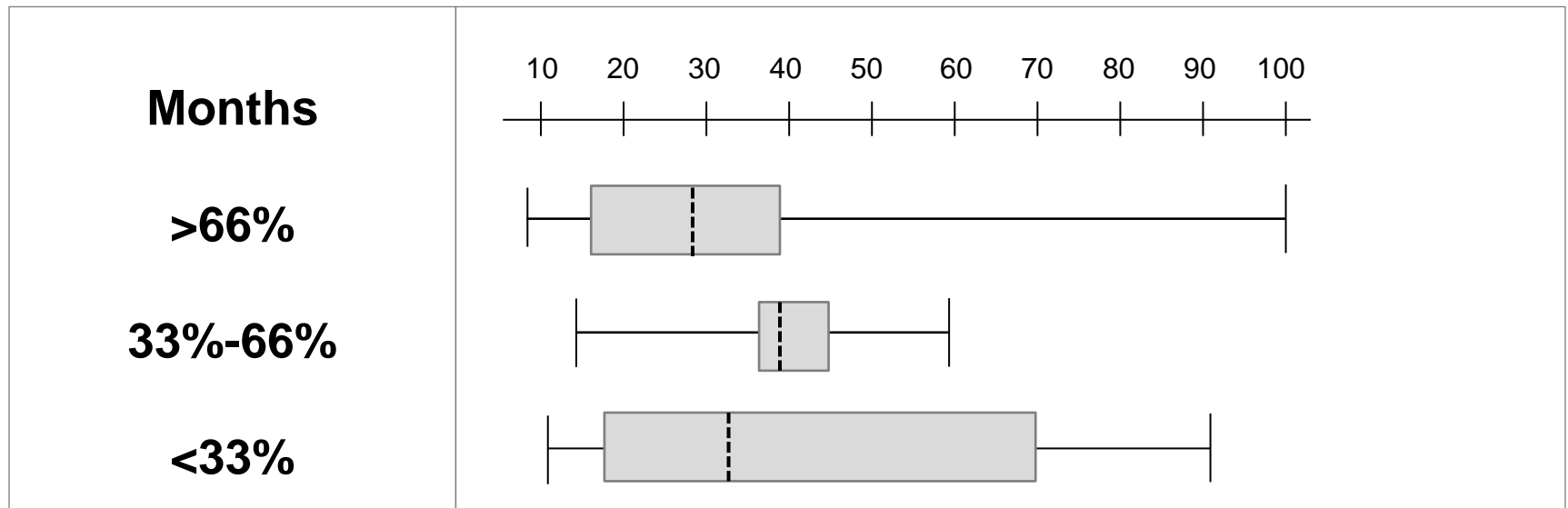
MS B to MS C



	n	Min	25%	Median	75%	Max
>66%	2	45	48	51	54	57
33% - 66%	11	25	48	67	80	103
<33%	27	11	46	61	78	234

MAIS RDT&E Percentage vs. Schedule

MS B to MS C



	n	Min	25%	Median	75%	Max
>66%	8	8m	15m	27m	38m	97m
33%-66%	8	14m	35m	37m	41m	58m
<33%	12	11m	18m	32m	70m	91m

Conclusions

- **Data suggests some emergent trends**
 - MS B and MS C Durations decreasing over time
 - Greater RDT&E as a percentage of acquisition cost appears to drive shorter development schedules
- **Data can be leveraged to inform schedule realism**
- **Data has variability and a wide range for schedule milestones**
- **Complexity of DoD large scale programs not easily explained by predictive parameters such as cost, type, service**
- **Recommend data be augmented if additional data sources are uncovered and/or program data (actuals) – especially civilian and small/med DoD programs**
- **Invitation to participate and contribute data sources**

Thank You

jmanring@mitre.org

804-741-3823

tfugate@mitre.org

757-758-0563

MITRE