

Fourth State of Good Repair Roundtable Asset Management System Implementation and Integration

"MARTA's AMP Evolution"

Presented by

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Developed by

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&

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Topics

- Vision & Evolution
- Organizational Structure
- AMP System Model: Components
- Lessons Learned / Takeaways
- Benefits



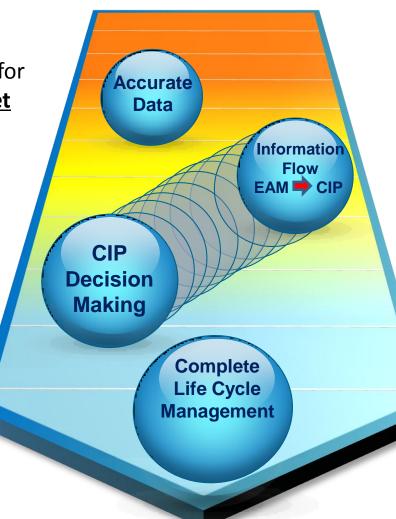




AMP Vision

Implement a single MARTA-wide system for <u>condition-based asset</u> replacement, using a consistent set of prioritization criteria.

Establish a <u>systematic</u> <u>program</u> to prioritize and identify projects in the long-range Capital Improvement Plan.



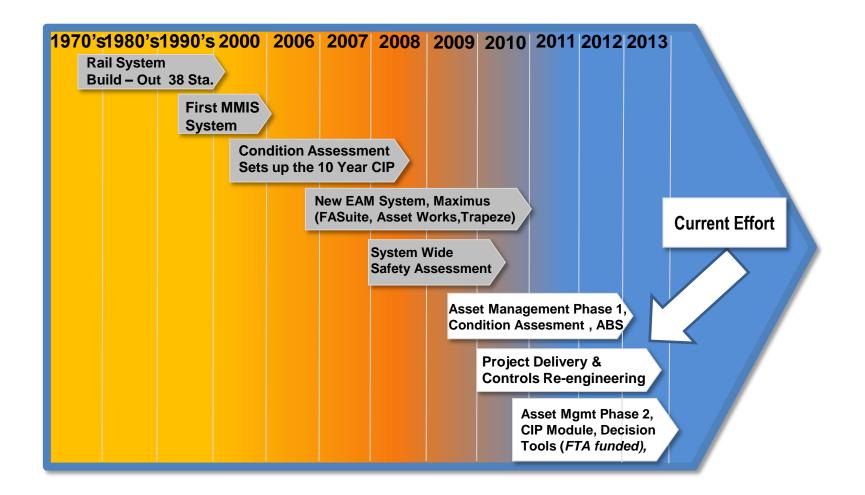
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Provide a <u>continual</u> <u>flow of information</u>

for establishing the priority of **capital initiatives** properly aligned with MARTA's Strategic Priorities.

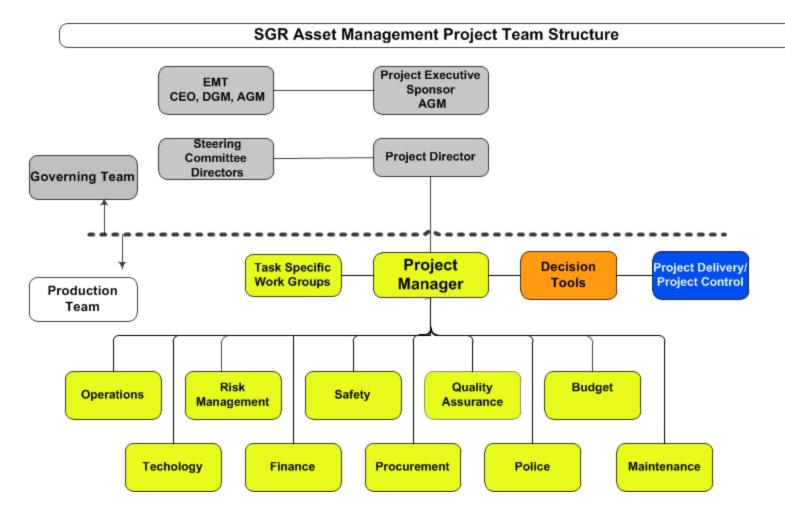
> Deliver projects using the most cost effective delivery method. Deliverables that assist the Authority to in managing their investment over its complete life cycle.

AMP Timeline





MARTA's AMP Organization



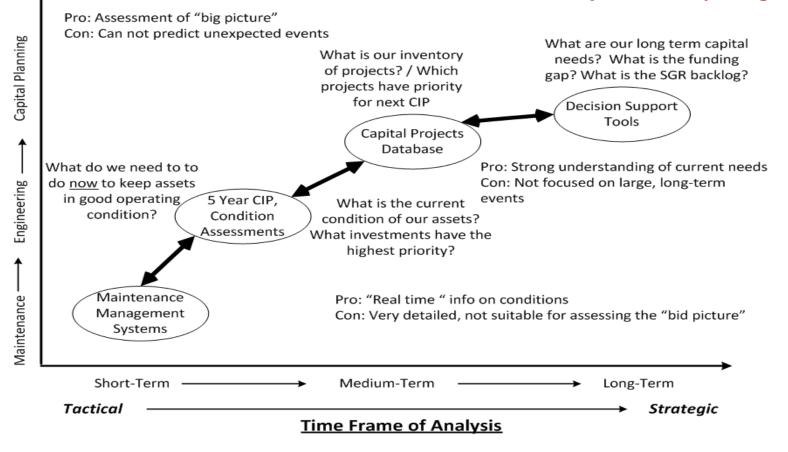
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Transit State of Good Repair Continuum

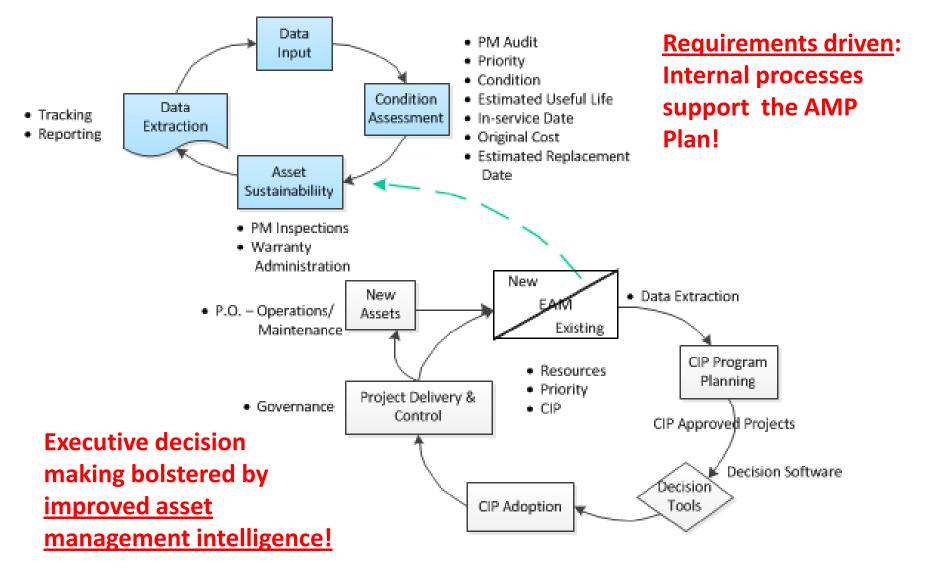
This continuum helps agencies assess the state of ...

- Asset Data
- Asset Mgmt System
- Capital Program
- Decision Tools
- Project Delivery Program



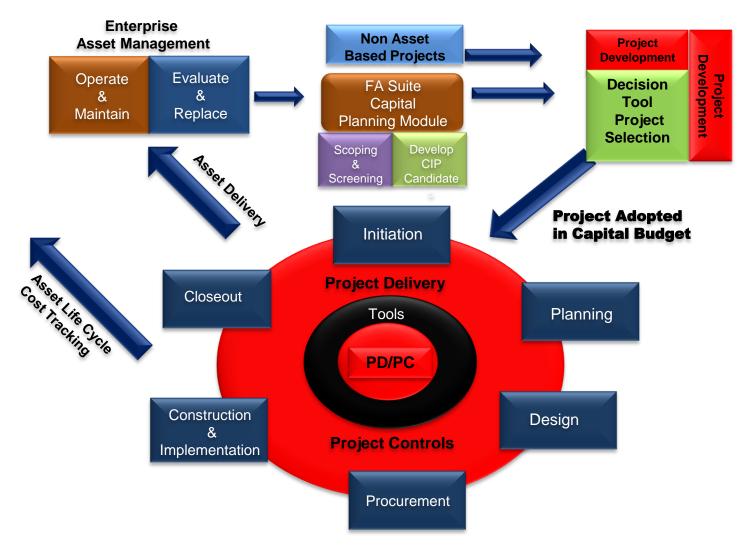
TAM STaff Focus

MARTA's Systems Approach to AMP



United States Department of Transportation Federal Transit Administration

MARTA's Fully Integrated AMP System Model





Enterprise Asset Management - Asset Database

Priority Codes:

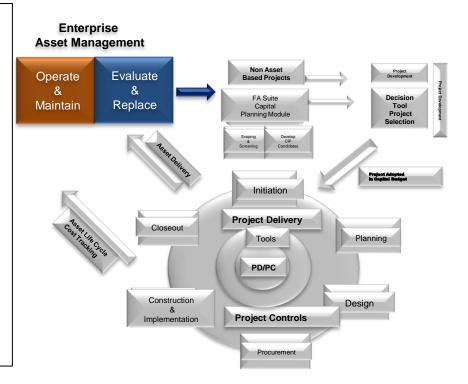
- 1. Life Safety Critical
- 2. Operation Critical
- 3. Operation Support
- 4. Operation Enhance
- 5. Operation Expansion
- 6. Failed
- 7. Decommissioned

Condition Codes:

- 5. Excellent
- 4. Good
- 3. Adequate
- 2. Marginal
- 1. Poor

Minimum Req'mts:

- 1. Equipment ID
- 2. Description
- 3. Asset Category
- 4. Equipment Type
- 5. EUL
- 6. Location
- 7. Life Cycle Status
- 8. Condition ID
- 9. Date in Service
- 10. Original Cost
- 11. Planned Retirement

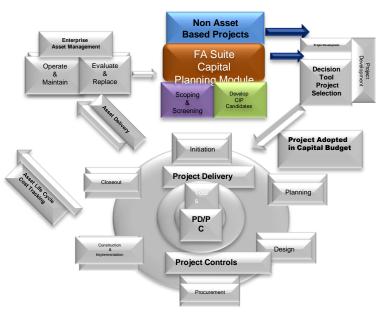


- Daily management of asset data (PM, PdM & I)
- Trusted, readily accessible data
- Triggers procurement decisions
- Cornerstone of our Capital Improvement Plan



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Parameters												
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Equipment Type	s):[ALL]											
Location(s):[AL	L]											
Equipment(s):[
Life Cycle Statu												
Condition Code	(s): 1,2,3,4,5											
Condition Code EUL Code(s):[A	(s): 1,2,3,4,5 LL]											
Condition Code EUL Code(s):[A	(s): 1,2,3,4,5											
Condition Code EUL Code(s):[A	(s): 1,2,3,4,5 LL] ange: 0.00 to 1,036,000.00	Asset Category	Asset Type	Equipment Type	Eul	Station Location	Stored Location	Life Cycle Status	Condition	Date In Service	Original \$Cost	Planned Retirement Date
Condition Code EUL Code(s):[A Original Cost Ra Equipment ID ALARM	(s): 1,2,3,4,5 LL] Inge: 0.00 to 1,036,000.00 Description	Category	Туре	Туре		Location	Location	Status	ID	Service	\$Cost	Retirement Date
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Condition Code EUL Code(s):[A Original Cost Ra Equipment ID ALARM RCC-FW-FAC EVT-DNT-TWR SPT-IDNT-RFARE	(s): 1,2,3,4,5 LL] inge: 0.00 to 1,036,000.00 Description RSCC FIRE WARNING SYST. EYT-EAST YARD TOWER INTRUSION ALAI FP- FIVE POINTS REDUCED FARE INT ALA	Сатедогу СОМ СОМ СОМ	Type STATIONARY STATIONARY STATIONARY	Type ALARM ALARM ALARM	4 10 10	COM186 COM186 COM186	CC EY SPT	2 2 2	1D 3 3 5	Service 07/01/1979 09/10/2005 06/30/2008	\$Cost 20,153 7,623 4,044	Retirement Date 07/01/1983 09/10/2015 06/30/2018
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Condition Code EUL Code(s):[A Original Cost Ra Equipment ID ALARM RCC-FW-FAC EVT-DNT-TWR SPT-IDNT-RFARE	(s): 1,2,3,4,5 LL] inge: 0.00 to 1,036,000.00 Description RSCC FIRE WARNING SYST. EYT-EAST YARD TOWER INTRUSION ALAI FP- FIVE POINTS REDUCED FARE INT ALA	Сатедогу СОМ СОМ СОМ	Type STATIONARY STATIONARY STATIONARY	Type ALARM ALARM ALARM	4 10 10	COM186 COM186 COM186	CC EY SPT	2 2 2	1D 3 3 5	Service 07/01/1979 09/10/2005 06/30/2008	\$Cost 20,153 7,623 4,044	Retirement Date 07/01/1983 09/10/2015 06/30/2018

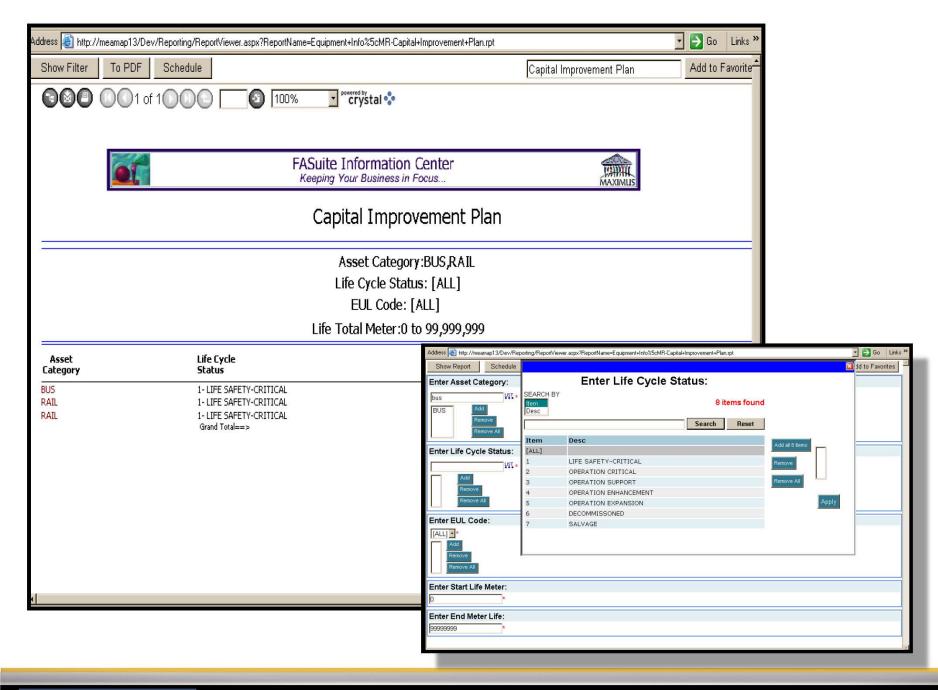
Capital Decision Making Requirements



- Integrated asset management module: ties <u>FASuite asset data with non-asset</u> <u>based projects</u>
- Compile assets in <u>meaningful projects</u> for replacement
- Ensures agency is aware of assets ready for replacement - project identification

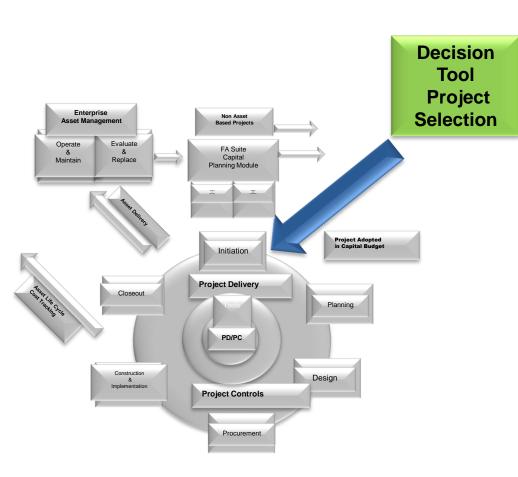
CIP Evaluation Categories:

- 1. Program Priority (Safety, Reg. Ops Crit.)
- 2. Asset Condition
- 3. Strategic Agency Alignment
- 4. Funding Availability
- 5. Funding Source
- 6. Operating Budget Impact
- 7. Business Case/ROI
- 8. Estimated Payback Period
- 9. Sustainability/Environmental
- **10. Regional Impact**
- **11. Partnership Opportunities**
- **12. Speed of Delivery**
- 13. Deliverability (complexity/likelihood)
- 14. Risk Management

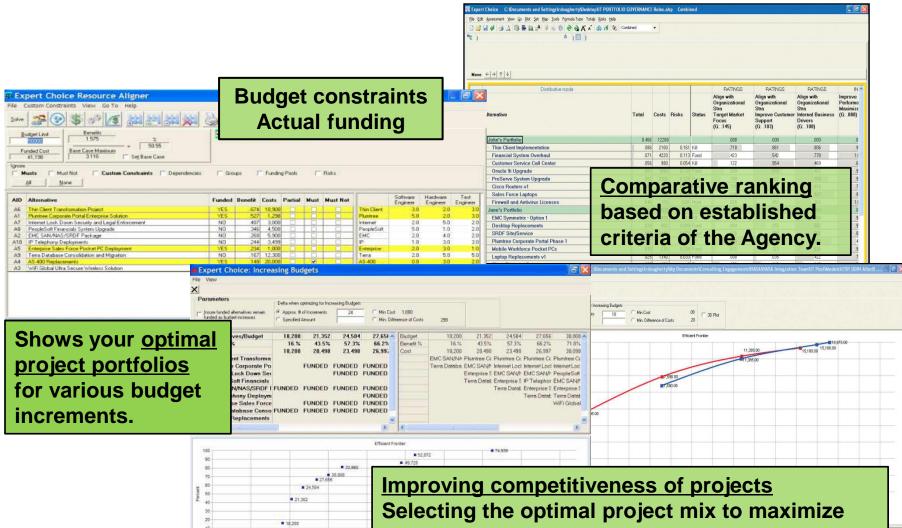




Project Decision Making



- Integrated project decision making: <u>utilizes asset database</u> <u>and capital module output</u>
- Groups <u>candidate projects</u> by agency-driven criteria
- Executive level "what-if" scenarios for portfolio optimization
- Presents <u>financially constrained</u> capital improvement plans ensuring informed decision making



Improving competitiveness of projects Selecting the optimal project mix to maximize the collective benefit, while balancing other factors such as risk, budget or staffing constraints and political considerations.

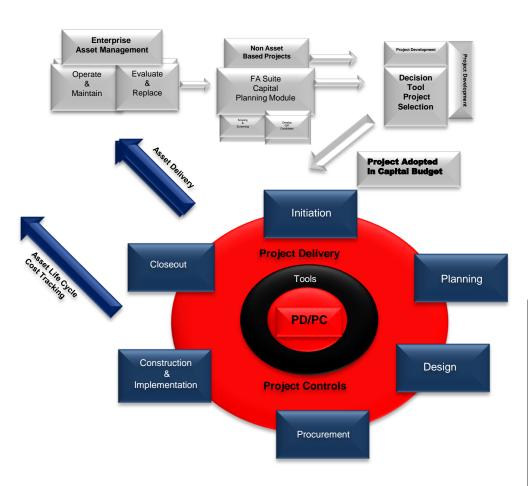


20,000

10 000

30,000

Project Delivery & Control



- Capital projects delivery group equipped with proper <u>capacity/skills</u>
- Standardize capital project management <u>business processes</u> and <u>tools</u>
- Bolster project controls office to better monitor and report <u>project</u> <u>performance</u>.



Project Origination Document

Project Origination Checklist

Is this initiative a new Concept?	Yes	No	
 If yes, has this concept been proven through the implementation at other Authorities? 	Yes	No	
 If no, is this project request based on a mandate or Authority Management directive? 	Yes	No	
Is this an Urgent Request?	Yes	No	
Have you begun implementation of this initiative?	Yes	No	
Does the initiative require physical changes to MARTA assets?	Yes	No	
If the initiative became a project would you consider implementation of the work scope to be of high risk due to project complexity?	Yes	No	
Will the initiative support the current MARTA Strategic Plan and Priorities?	Yes	No	

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	1	
]	
	IMPORTANT F	EMINDER
	Please make sure you review requirements with your pr and other MARTA departments before finalizing this te	oject team, MARTA Contracts and Procurement mplate. Much of the information required will nee
	to come from a discussion with these MARTA team men	ibers.
	1	
\$0		
\$0		
Source and Impact		
Assets Condition	Funding Source	Operating Impact
Excellent	Transfer funding from existing CIP Project	Cost Savings > 10%
Covel .	CIP Project Number:	Cret Savings < 10%
Good	CIP Project Number:	Cost Savings < 10%
Good Adequate	New Federal Grant	Cost Salvings < 10%
	_	_
Adequate	New Federal Grant	Neutral
	\$0 Source and Impact	Assets Condition Funding Source Evaluat Funding Source Funding Funding Funding Source Funding Funding Funding Source Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Funding Fund

Project scope
Funding sources
Partnering opportunities
Required disciplines
Resources required
Procurement strategy
Service impacts
Customer impact
Regional impact

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Hity ID	Adady Narro	Duration	Start	Firedoh	Total Floret	2012 2013 2013 20 NOTING HADAGE MANAGAR MAG	14 11 - 11		
Template A	Project File	0.11	28-Nov-11	14-Japan 14	0		-		
Planning Phase		- 74	25-Nor-11	13-Mir-12					
2000	Pleasang Okart	0	28-N(N-11		1		1		
2010	Develop Conceptual Scope Documents & Criteria	22	25-NOV-11	28-Dec-11	1.1		1		
2020	GA Power Meetings	80	28-N(ps-11	22.Feb-12	14		1.1		
2040	Stakoholder Medings	29	29-Dec-11	27-Jun-12	1		-		
2000	PCB Routing & Approval	12	30-Jan-12	23-Feb-12	1		1		
2060	GA Power Agreements Fimilized	0		22-Feb 12	1.4				
2060	Develop Site Plan	12	24.Fob:12	12 Mar 12	1				
2100	FTA Grant Award	0	13-AAur-12		1		3		
Procuren	ent for Final Design & Construction	264	28-1404-11	04-6tec 12	254				
REQ Pro		24	13.464.72	77.848.23	#70		1		
3020	CPM Review & Preparation	10	13.Adus.12	26.Abr.12			4.1		
3060	CPM Submits RFQ to DEC. Local & Statutokiem		27-Mar-12	02-Apr-12					
2079	Pro-Planning Manfing	. 1	02-Apr-12	102-Apr-12	1				
2000	Fination RFQ		03-Apr-12	03.Apr 12					
5090	CAP Submits RFQ for Advertisement	1	04.Apr-12	04-Apr 12					
2100	Start HEQ Advertisorment / Insue HEQ	0	13-Apr-12		1		1		
2110	Association must for REQ	-45	13-Apr-12	27-May-12	3		4.1		
8120	Quastors from Potential Researchers	36	14.605.12	18.Mm.12	17		1		
2120	Pre-Submittei Brieding	1	35-Apr-12	30-Apr-12	24		4-1		
3140	SOG Closing	0		01-Jon-12	+		4		
3190	SCG Roview S Evakolitie	10	08-Jun 12	19-Jun 12	1				
3160	Property Short Link		20-Jun-12	20-Jain-12	1				
\$170	Notity Gualified and Non-mailled Firms	2	21 Jun-12	22-km-12	467		4.1		
RFP Proc		284	25-Hout 1	04 Dec-12	0		1		
\$186	OA Power Technical Information	-30	28-MON-11	10-Jan-12	64		1		
3180	Start Preparing SOW & Technical Spec	50	28-Nov-11	08-Feb-12	44		1		
\$190	Peakerinary ROM Project Eakerate by MARTA / SO	5	09-Feb-12	75-Feb-12	44	1	3		
.2040	FinalizaTechnical Speca & Contractual Terms		18-Fob-12	16-Feb-12	-44		3.1		
30/20	Submit SOW & Technical Specito OPM	2	17-Fob-12	20-8%8-12	-44		1		
22:30	CPM Submits RFP to DED, Legal & Stakeholders	1	22-8 eb-12	22-Feb-12	44		1		
26.30	Ficolizo RFP	- 4	18-Apr-12	18-Apr-12	44		11		

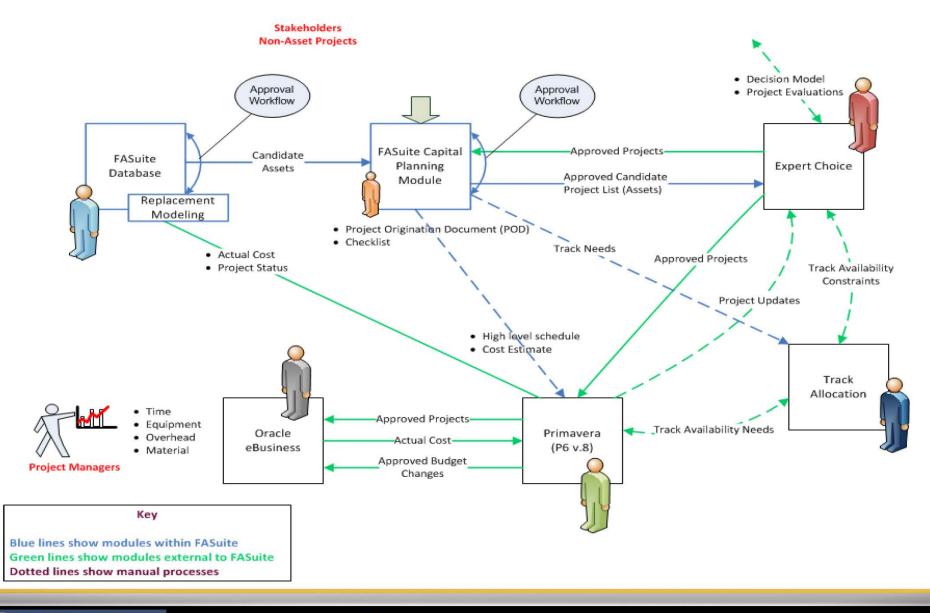
Activity Name	Start	Finish	Budgeted Cost	FY2012	FY2013	FY2014
Template A Project File	28-Nov-11	14-Apr-14	\$3,512,250	\$1,309,200	\$1,344,639	\$858,411
Template A.1.020 Planning Phase	28-Nov-11	12-Mar-12	\$216,080	\$216,080	\$0	\$0
Template A.2 Procurement for Final Design & Construction	28-Nov-11	4-Dec-12	\$1,620,170	\$1,093,120	\$527,050	\$0
Template A.1.040 Design-Build Phase	3-Dec-12	13-Jan-14	\$1,573,600	\$0	\$817,588	\$756,012
Template A.1.105 Commissioning & Close-Out Phase	13-Jan-14	14-Apr-14	\$102,400	\$0	\$0	\$102,400

Planning Level Full Project Lifecycle Cost Estimate





AMP System Model Data Flow







- 1. Most Agencies <u>can't afford</u> to not have an effective fully integrated Asset Management Policy and Plan. It makes good business sense!
- 2. This effort may start as a project but it will become **your business process**...so select the right technology that will ensure a successful agency integration.
- 3. Understanding the integration plan: **<u>buy-in</u>**, **<u>planning</u>** and <u>execution</u>.
- 4. Know your assets: **Asset Break Down Structure** (ABS) is critical. Key to proper integration.
- 5. What level of granularity is recommended vs. required by the various stakeholders and end users?
- 6. Do I have the right **people**, **processes** and **procedures** to fully carry out my AMP integration?
- 7. Culture Change (<u>Authority</u>: maintenance, operations, engineering, materials, procurement, accounting, finance.... <u>Contractors & Vendors</u> have a learning curve just like you!)
- 8. Procedures must be comprehensive to **expose gaps** during system implementation even after extensive "to-be" work sessions. *Try to break or beat the system!*
- 9. <u>All related disciplines (even the non-traditional ones)</u> must participate in policy and procedure development with their needs fully communicated and understood.
- 10. Remember: IT TAKES FIVE (5) YEARS TO BECOME AN OVERNIGHT SUCCESS!





PTA United States Department of Transpo Federal Transit Administration marta 📏

Results: Balanced Scorecard Rail OTP

ORACLE' Performance Scorecard



Performance Cause & Effect Information Assessment Collaboration

30-JUN-2012 💌
FY2012 0
KPIs
Rail System Generated OTP
0 1 1 <i>2</i>
Calculations
Variation
Period
Calendar: MARTA Fiscal Calendar
Year
Quarter
O Month
Week
Compare To
Target
Prior Year

Rail System Generated OTP										
Rail System Data last up				'ear						
View by	Rail Line	All		•						
Rail Sy	stem C	Gener	ated C)TP - 2	2012					
100.0%		_	_	_				_	-	-
Rail System Generated OTP 80.0% 80.0% 80.0% 80.0%		-			_					
eueg 60.0% Wa										
40.0% ج 40.0%	-									
20.0%										
0.0%	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012

Last Update Period: 2012

List of Scorecards > MARTA Strategy Map > Rail System Generated OTP

- MARTA's Offices of Maintenance of Way (MOW) and Rail Car Maintenance (RCM) track system assets through the EAM System.
- MARTA, a 33 year old system, is routinely achieving 98% Rail On-Time Performance.
- This high level of performance is attributed to many things, but at its base is a well maintained rail fleet, wayside systems and infrastructure.

Table ▼ <u>Hide Ta</u>	ble			Return to Top
Rai	System Generated OTP			
Transportation	marta	Renewing Rebuilding	n Reinvesting	20

Rail System Generated OTP - Actual: 97.79% Target: 97.50% Variation: 0.29%

Wouldn't it be nice...

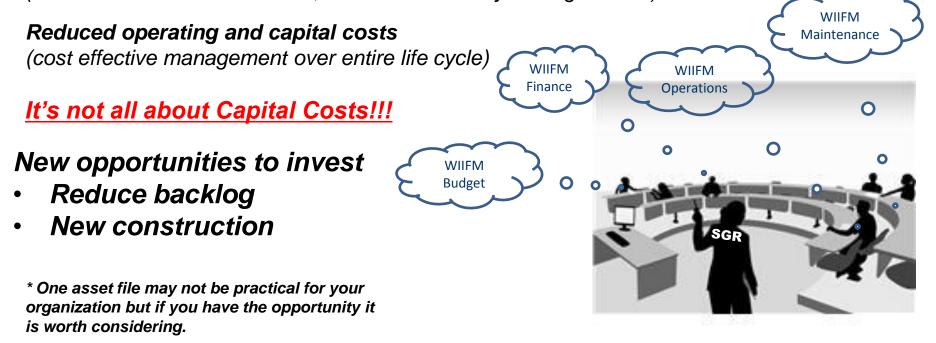
...one (1) asset file* accessible to <u>all</u> business units.

Reduced data redundancy

(multiple data systems, processes and exercises in data mining)

Reduced # of software systems (maintenance and license fees, lack of consistency amongst users)

marta



Benefits

- 1. Better overall agency performance
- 2. Improved customer service/customer experience
- 3. Lower operating & capital costs
- 4. Improved system reliability



- 5. Less inventory (removal of obsolete parts, quicker identification of auction items)
- 6. Earlier identification of **procurement needs & burden**
- 7. Less project discovery work / more accurate procurement documents
- 8. Reduced data entry burden (contractor s supply the agency with asset data)
- 9. Reduced data duplication (data storage and management)
- 10. Better backlog management (prioritized replacement/manage risk)
- 11. Improved compliance with local, state and federal requirements (audit response)
- 12. Better environmental management (system flags)
- 13. Better support of transit industry initiatives, particularly with peer agencies.
- **14. Better positioned regionally** vs. other transportation providers
- 15. Positive agency image





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