



Real value in a changing world

State of Tennessee

Presentation of Facilities Assessment and Real Estate Master Plan Findings

June 2012

Agenda

- I. Introductions and Discussions of Presentation Objectives
- II. Facilities Assessment Findings
 - A. Background and Historical Analysis – *Where State of Tennessee Real Estate Asset Management (STREAM) Has Been*
 - B. Current Situation – *Where STREAM Is Now*
 - C. The Way Ahead – *Where STREAM Needs to Go*
- III. Real Estate Master Plan Findings
 - A. Background – *How STREAM Has Operated in the Past*
 - B. Current Situation – *Where STREAM's Portfolio Is Now*
 - C. The Way Ahead – *Where STREAM's Portfolio Needs to Go*
- IV. Feedback

Introductions and Discussion of Presentation Objectives

Overall Objective of Jones Lang LaSalle Studies

1. Identify and prioritize short and long term needs of all statewide capital and maintenance (current and deferred) projects based on facility assessments.
2. Present an approach to reducing the State's ongoing facility-related operating expenses.
3. Present analysis of the State's existing owned and leased real estate portfolio and recommend short-term and long-term plans for more efficient operation.
4. Identify opportunities to increase State space utilization efficiency and effectiveness through co-location and other improvements to inter-agency and intra-agency occupancy.

Facility Assessment Findings

Facility Assessment Scope and Findings

- In March 2012, Jones Lang LaSalle was engaged to conduct a detailed review of STREAM's management structure, processes and technology
- Further, Jones Lang LaSalle conducted a facilities condition assessment on a representative sample determined through a collaborative approach with STREAM
 - 33 buildings at 31 sites
 - 4.6 million square feet
- Our findings are presented as follows:
 - A. Background and Historical Analysis – *Where STREAM Has Been*
 - B. Current Situation – *Where STREAM Is Now*
 - C. The Way Ahead – *Where STREAM Needs to Go*

Background and Historical Analysis

Where STREAM Has Been

STREAM Staffing Benchmarks

Positions	Current State of Tennessee	Industry Standard Benchmark	Variance
Facility Manager (FA)	18	10	(8)
Administrative Support	18	3	(15)
Maintenance Technician	99	43	(56)
Delta Room (24 hour monitoring)	5	5	0
Total	139	61	(78)

Notes:

1. Based on total STREAM portfolio
2. Does not include benchmarking of Central support team (STREAM)

Based on estimate of salaries, burden and other costs, total savings opportunity exceeds \$22 M over five years

Current Operating Model – Management Processes

Observation: We did not see evidence of consistent practices for baseline Facilities Management operations

Processes – Assessment findings did not show evidence of:

- Quality Assurance
- Inspections
- Life-Safety
- Hazardous Waste
- Critical Systems Management
- Vendor Management
- Preventive Maintenance
- Contract Administration
- Inventory Management
- Change Management

Talent Management – Observations suggested a need for training related to:

- Facility Management
- Technical Operations & Maintenance
- Safety
- Vendor Management

Maintenance Management – Observations clearly suggest a “Run-to-Fail” approach.

No evidence of:

- Preventative Maintenance discipline
- Work Order Management
- “Pride of Ownership”



James Polk Building - Missing electrical safety cover, fire and safety hazard

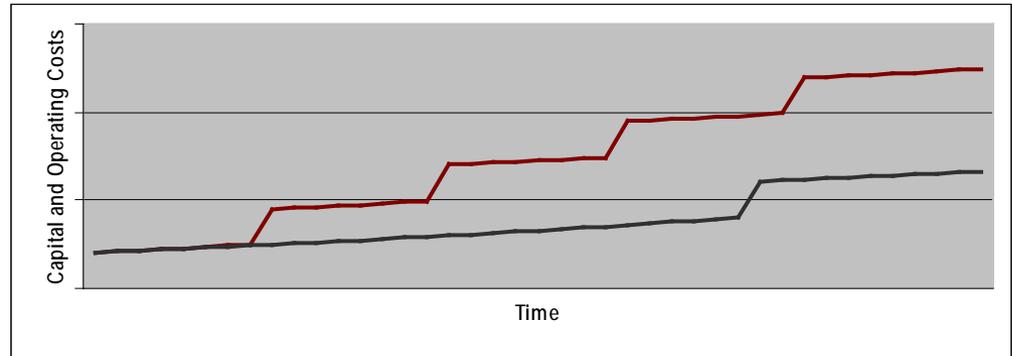


Rachel Jackson – Wind scoured roofing materials, will lead to permanent roof failure

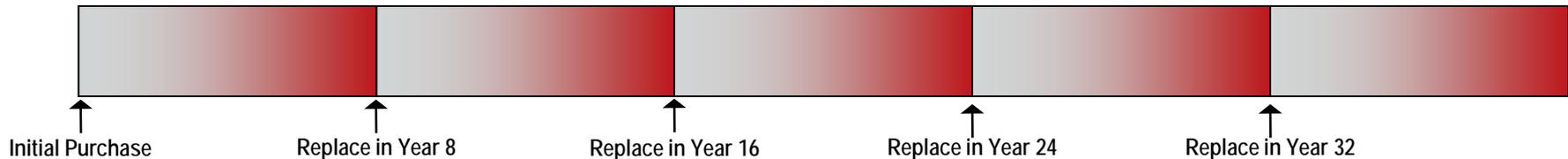
Impact of Facilities Management Processes on Performance

Illustrative Building Component

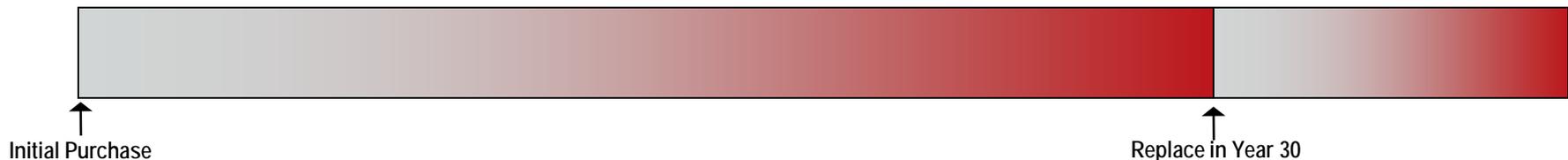
- \$200,000 purchase price
- \$5,000 annual expense
- 30 year average life



Improperly Maintained Unit – “Run to Fail”



Properly Maintained Unit



Operating Expense increases at 5% for improperly maintained unit versus 2% for properly maintained unit

Current Operating Model – Processes

Processes impact:

- Life-Safety
- Operating Expenses
- Useful Life of Building Components
- Workplace Environment and Employee Morale
- Aesthetics



Over-ordering of supplies, causing underutilization of space



900 2nd Avenue N - Debris around HVAC systems



TPS - Unmaintained drains causing stagnant water



TN Tower - Leaking generator fuel lines



Citizens Plaza - HVAC controls inoperable



TN Tower - Many chilled water valves leaking

Current Operating Model – Costs

Observation: We did not see evidence of consistent cost management practices in the following areas:

Budgeting

- Unclear as to “ownership”
- Does not appear to be a “bottoms up”
- Description categories are broad
- Lack detail & transparency
- Include non-facility related costs

Reporting

- No evidence of standard variance reporting
- The State has data, but little performance reporting
- Reporting, benchmarking or analytics appears be manual

Benchmarking to Industry Standard

- Mapped State cost categories to Building Owners and Managers Association (BOMA) standards (industry)
- Compared the State to published BOMA benchmarks for “class B” office buildings
- In total the State Operating Costs were 31.7% higher then the BOMA benchmark
 - Cleaning 11% higher
 - Administration 14% higher
 - Repair & Maintenance 36% higher
 - Utilities 24% higher
 - Grounds 26% higher
 - Security 82% higher

Approved Capital Maintenance Appropriations from Bonds, Current Funds and Other Revenues Fiscal Year 2012-2013

	BONDS	FEDERAL	OTHER
	0	0	1,150,000
	0	0	6,500,000
	0	0	6,150,000
	0	0	6,300,000
	0	0	2,500,000
	0	0	1,150,000
	0	0	200,000
	0	0	14,450,000

Additional Approved Capital Appropriations from Bonds, Current Funds, and Other Revenues Fiscal Year 2011-2012

County	TOTAL	STATE	BONDS	FEDERAL	OTHER
2011 Bond and Appropriations Acts	\$ 365,997,800	\$ 65,450,800	\$ 283,600,000	\$ 15,987,500	\$ 35,989,800

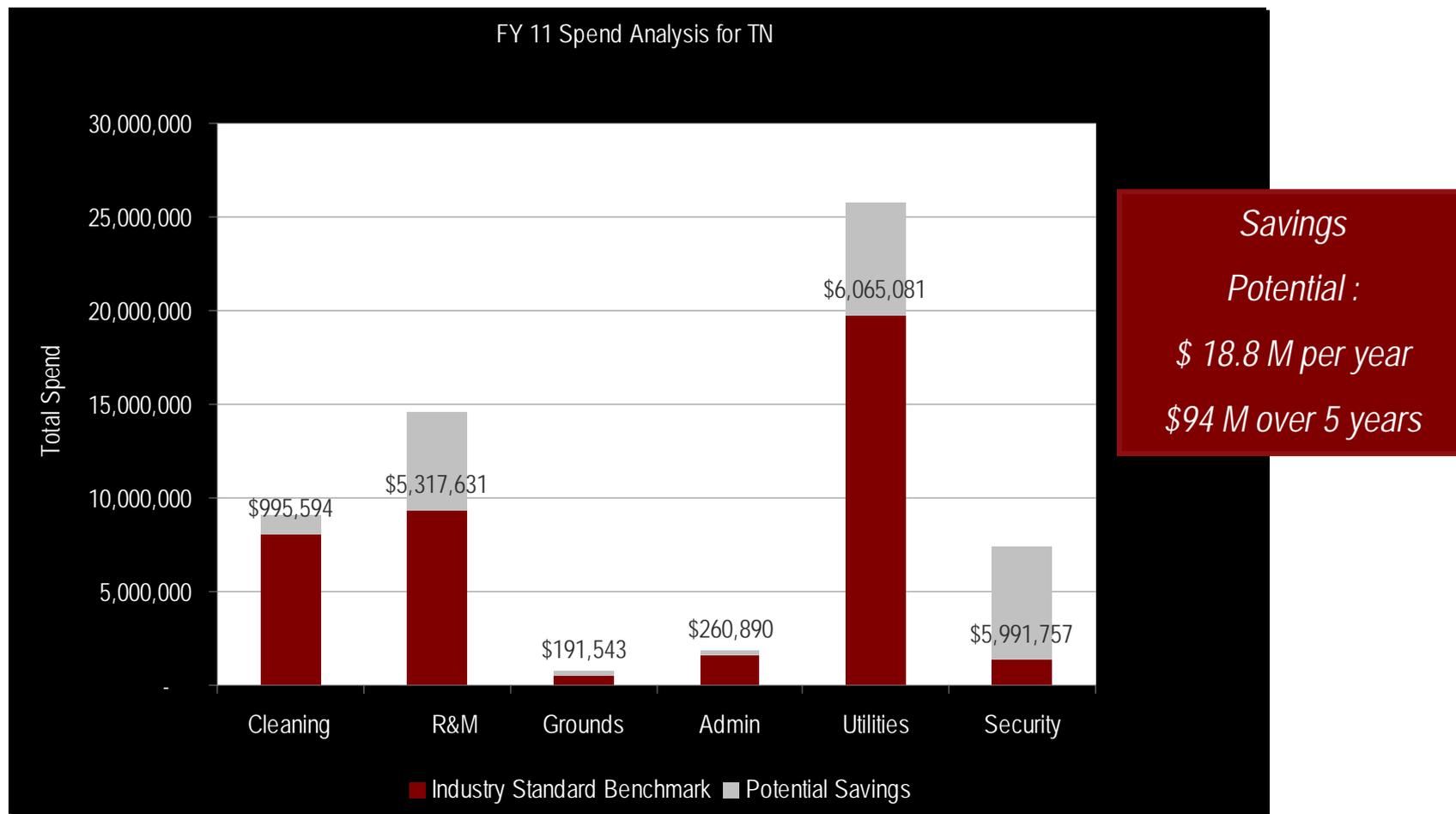
FY 2012-2013 Capital Budget Information

As Approved by the General Assembly
Public Acts of 2012

Fiscal Year 2012-2013 Projects
Appropriations Bill PC 1029 (SB 3768/HB 3835)
Bond Bill PC 1024 (SB 3769/HB 3836)

5/22/2012

Operating Cost Benchmarks – FY 2011 STREAM Actuals



Current Operating Model – Technology

Observation: In our discussions with STREAM representatives and assessment tours:

- **Occupant Support**
 - No centralized help desk
 - Manual dispatches via phone
- **Maintenance Management**
 - No Preventative Maintenance system
 - No Work Order tracking system
 - Minimal building automation controls
 - No facilities performance tracking
 - State is investigating the use of Archibus
- **Reporting**
 - No standard reports to track:
 - Activity, defects & completion of work
- **Inventory, Asset & Warranty tracking**
 - No tools evidenced that tracked building assets:
major equipment, tools and supplies
 - No evidence of tracking of warranties
 - Similar data in various State-databases do not match



TPS - Preventative Maintenance – Weeds growing inside generator cabinet, will cause mechanical failure on emergency life-safety equipment

State of Tennessee is decades behind in leveraging technology for Facilities Management.

Current Operating Model – Risk Management

We witnessed a number of safety, code and regulatory issues during our assessment of the State of Tennessee facilities.



TN Tower - Cracked, broken stairs – safety hazard



TN Regulatory - Compromised OSA damper, loss of energy efficiency and Indoor Air Quality issues



TPS - Air Handler Unit with belt guard off, safety hazard

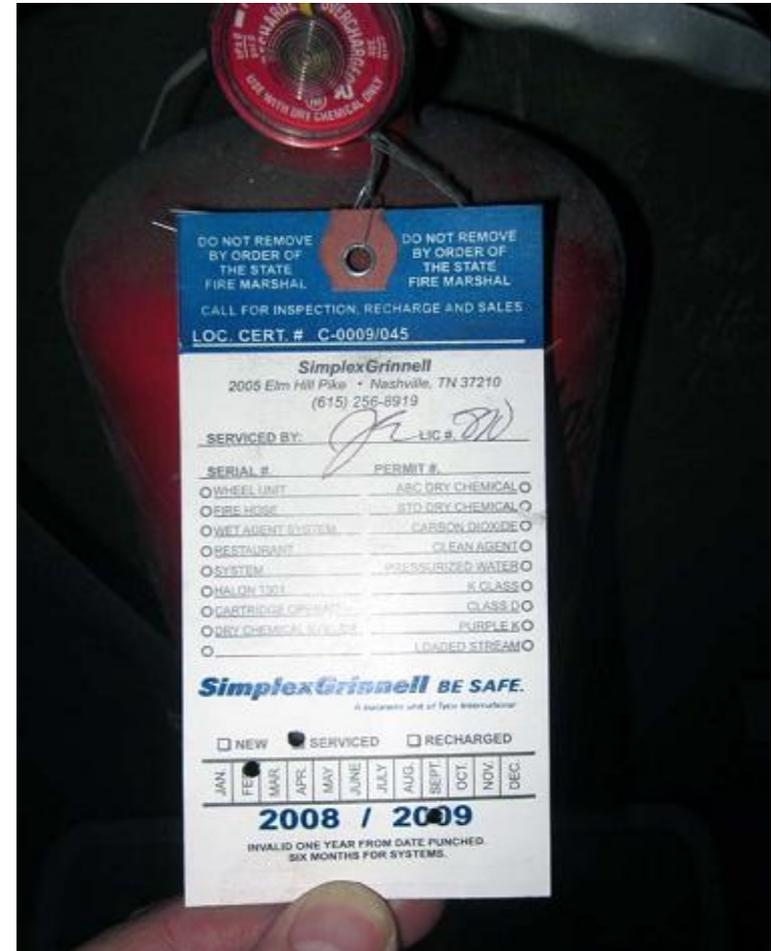


900 2nd Avenue N - Fire alarm panel inaccessible, safety hazard

Current Operating Model – Risk Management



TN Tower - Electrical Panel cover off. Breaker to many panels are no longer made, safety and fire hazard



Citizens Plaza – tag demonstrating last service in February 2009, fire safety issue (Photo taken March 2012)

Current Operating Model – Risk Management



TPS - Water treatment area appears as if oily substance was poured down drain. Lack of water treatment will cause IAQ issues, total system failure



Citizens Plaza – Main switch gear next to urinal

Current Situation

Where STREAM Is Now

Current Facilities Management Model

The current model has created today's challenge

Current Model	Opportunity for Improvement	Expected Results
High Cost of Operations	<ul style="list-style-type: none"> Pursue benchmark cost levels Align cost with service-levels 	<ul style="list-style-type: none"> Operating Costs Savings: \$18.8 M per year / \$94 M over five years
Lack of Tools & Processes	<ul style="list-style-type: none"> Establish baseline processes and tools Measure performance and results Proactive management Preventative & Predictive Maintenance 	<ul style="list-style-type: none"> Consistent facility operations Longer equipment life Lower operating costs Greater occupant satisfaction
Risk & Liability	<ul style="list-style-type: none"> Create discipline in operations Quality assurance 	<ul style="list-style-type: none"> Improve safety and limit liability exposure
Outdated Facility Operating Model	<ul style="list-style-type: none"> "Ownership Mentality" & Accountability Increase skill levels Automate workflow Rely less on contractors Professional approach to maintenance & operations 	<ul style="list-style-type: none"> Improved quality of facilities Lower costs Improved safety Improved comfort & quality

Achieve better facility performance for The State of Tennessee

Facility Assessment Results

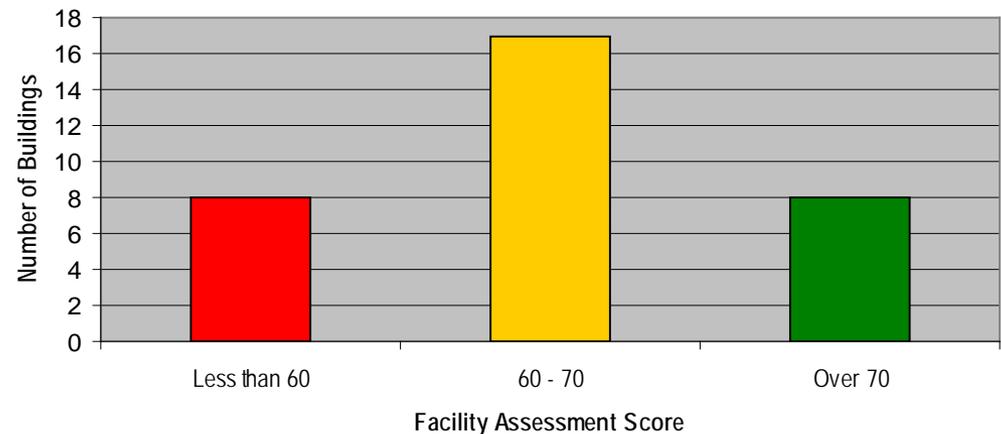
Methodology

- JLL Regional Engineering Managers inspected and assessed 33 buildings at 31 sites, totaling 4.6 M square feet
 - 85 specific items within each facility were evaluated
 - Each specific item was scored on a scale of 1 (lowest) to 5 (highest)
 - Detailed comments and required capital funding were provided for all items that scored 1-3
 - Specific items were weighted relative to significance
 - A total weighted score was established for each facility
 - A total score of 70.0 would be considered acceptable

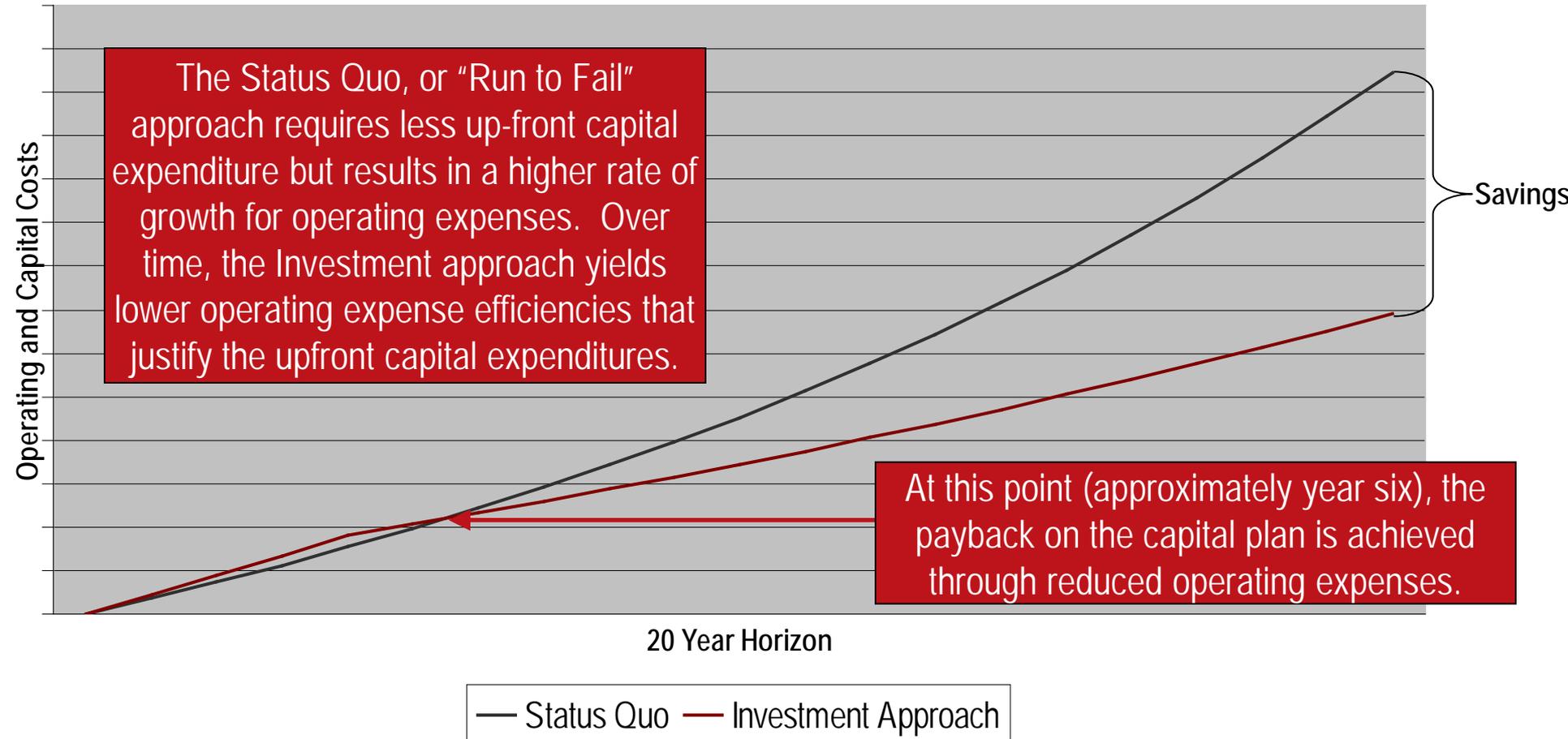
Rating	Standard
1	Item has failed or partially failed and requires immediate repair, replacement or attention
2	Item is near failure and requires near-term repair, replacement or attention
3	Item is in fair to good condition with approximately 50% remaining useful life
4	Item is in good to very good condition with greater than 75% remaining useful life
5	Item is in very good to like-new condition with greater than 90% remaining useful life

Results

- Facility Scores (1 through 100)
 - Average facility score = 67.0
 - Lowest scored facility = 44.6
Labor & Workforce Memphis
 - Highest scored facility = 92.7
Upper Cumberland Regional Health
- Total Estimated Probable Capital Funding Required for all facilities = \$241.1 M



20 Year Outlook on Status Quo versus Investment Approach



Prioritization of Deferred Maintenance – Categories

Categories Requiring Immediate / Short-term Investment are:

Category	Required Investment	Average Per Square Foot	Comments
Life-Safety	\$7.3 M	\$1.58	Fire protection, safety violations
Roof Repair and Replacement	\$7.2 M	\$1.56	Roof, parapet, flashing
Building Systems	\$118.4 M	\$25.71	Elevator, HVAC systems, electrical, plumbing, data
Building Structure	\$46.9 M	\$10.18	Foundation, basement, exterior, superstructure
Interior	\$61.1 M	\$13.27	Interior finishes, equipment/furnishings, site conditions
Total	\$241.1 M	\$52.30	

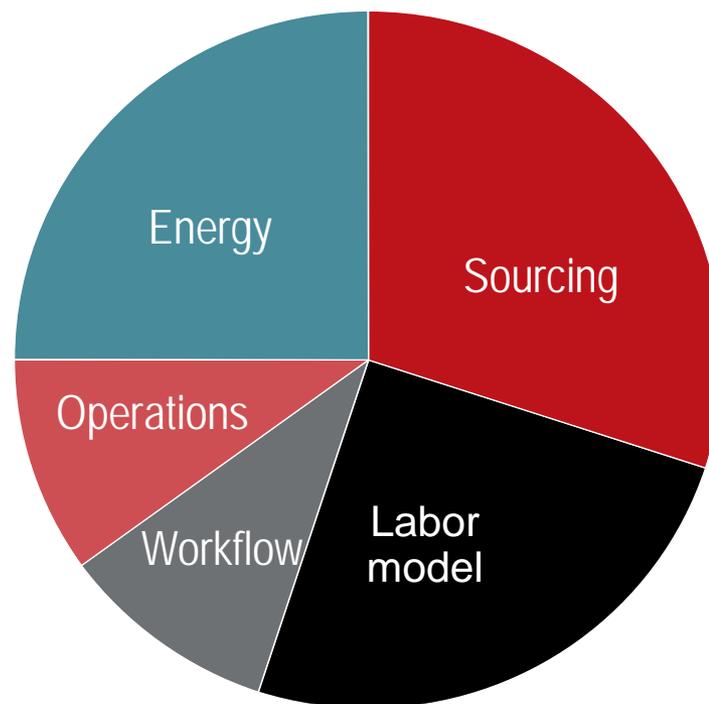
The Way Ahead

Where STREAM Needs to Go

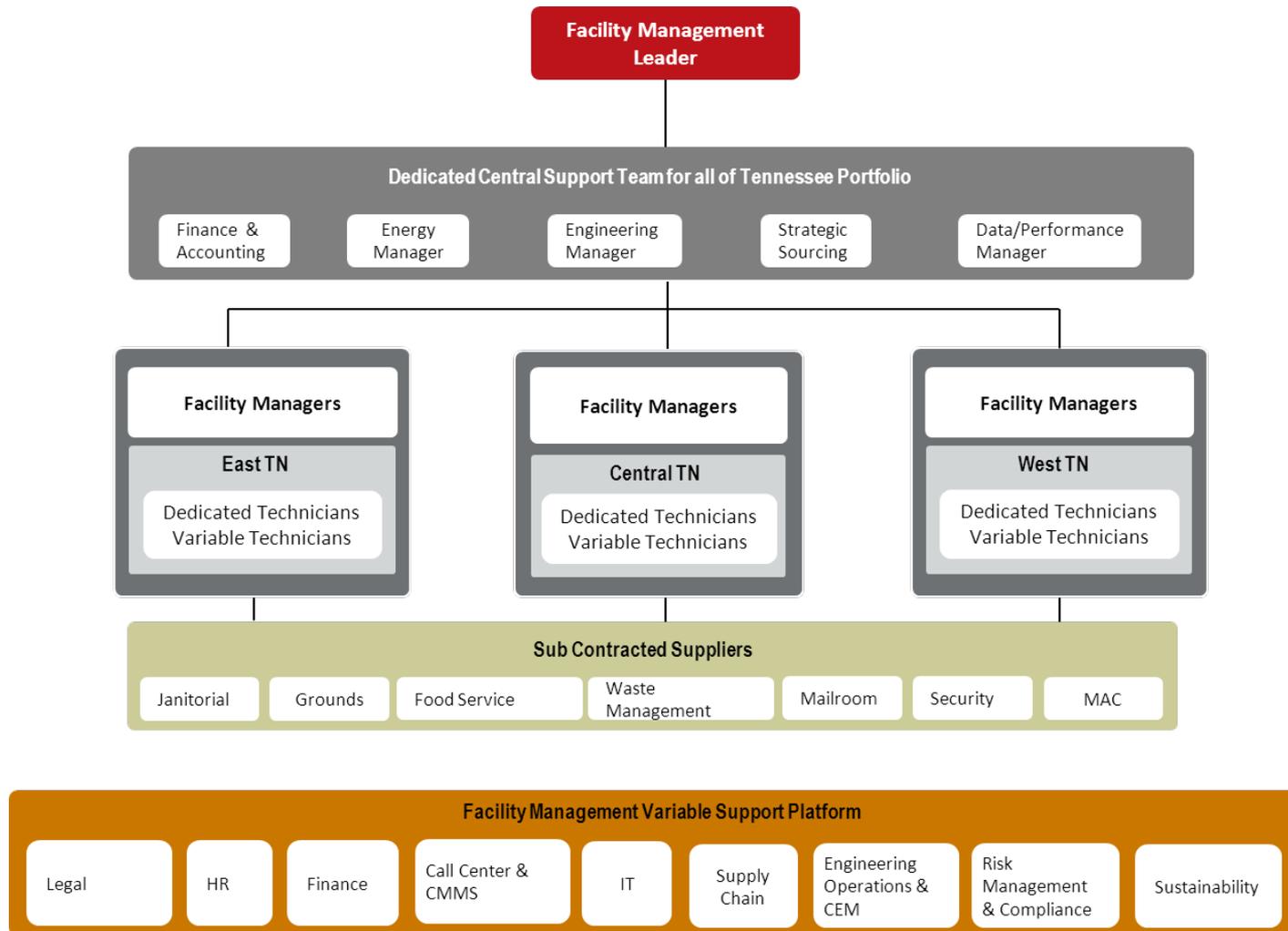
Future Opportunity – Achieving Value in Facility Management

- **Service delivery model**
 - Right-size staffing model
 - Self perform currently subcontracted services
 - Centralized performance management
- **Workflow management**
 - Efficient use of labor
 - Leverage technology tools
 - Centralize common functions
- **Sourcing & Procurement**
 - Aggressive market sourcing of goods & services
 - Performance contracting where applicable
 - Bundled serviced agreements
- **Operations management**
 - Preventative Maintenance rationalization
 - Increase Skills / Training
 - Alignment with set service levels
- **Energy management**
 - Demand reduction programs
 - Leverage building automation
 - Accountability with facility operations

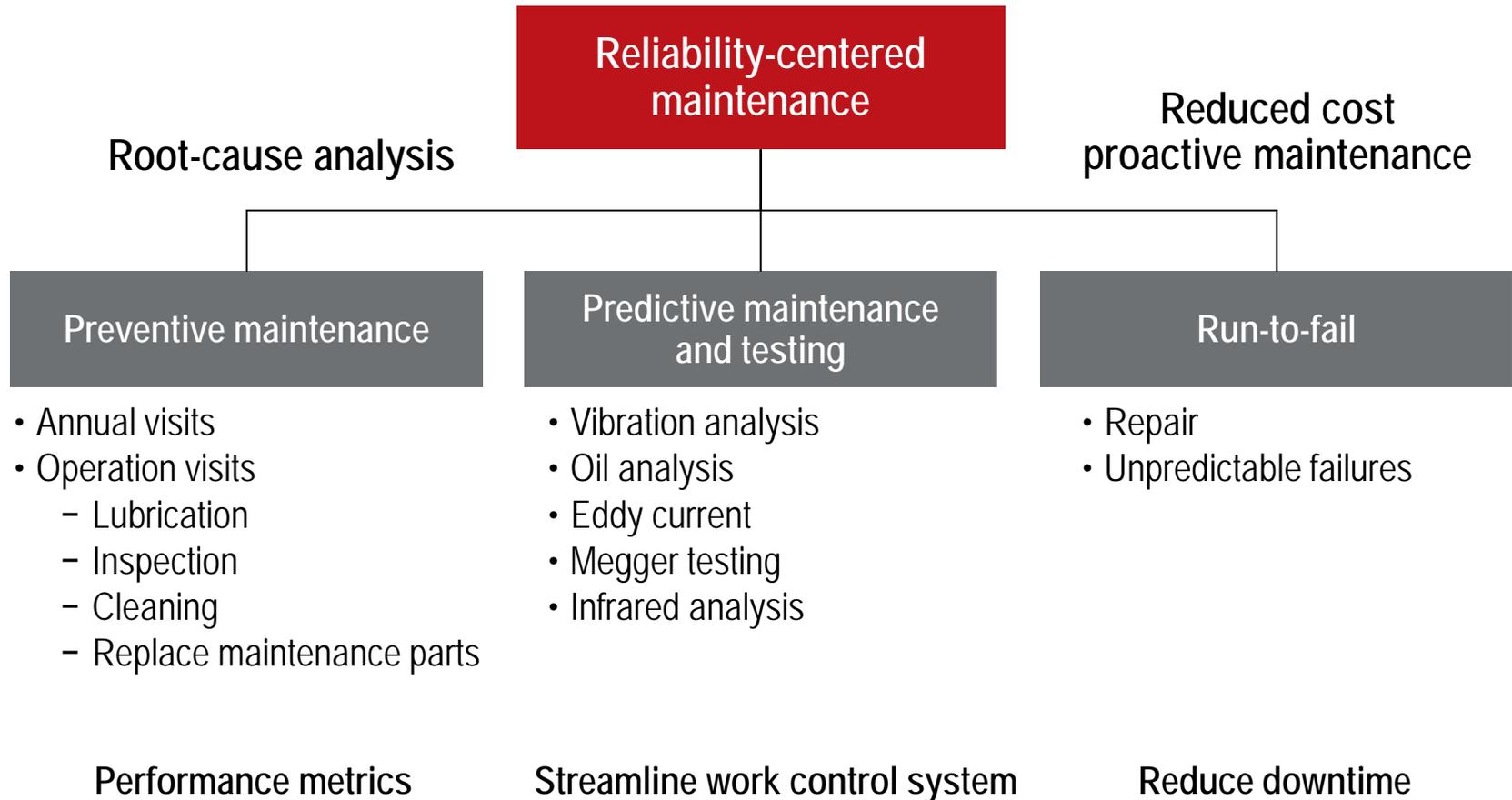
Will result in lower costs and an improved workplace



Management Structure to Deliver Industry Standard Operations

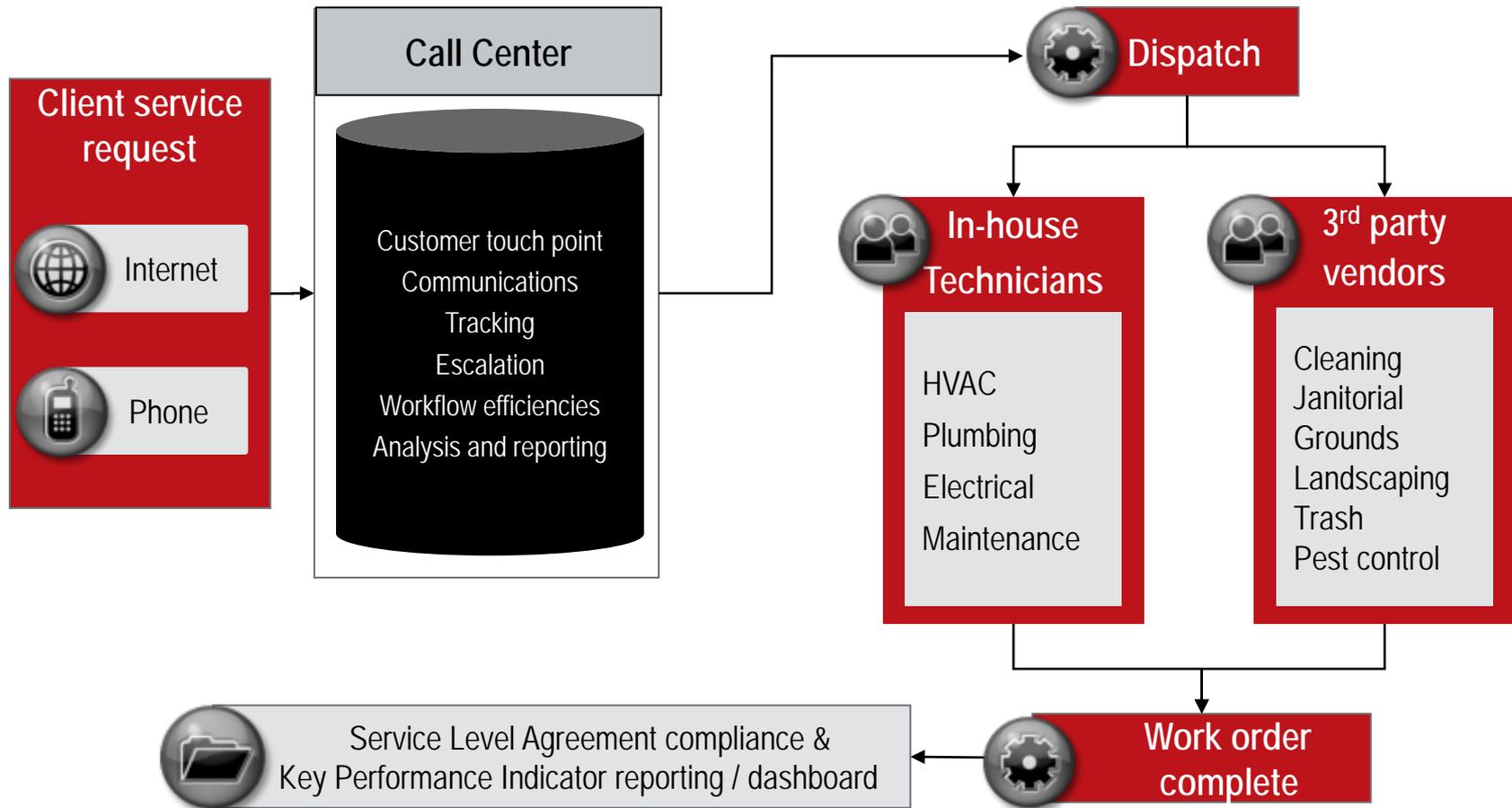


Predictive and Preventive Maintenance Approach



Integrate & Automate Workflow

An integrated workflow approach creates leverage, consistency and integrates with work completion, billing and performance management



Compliance & Safety Programs

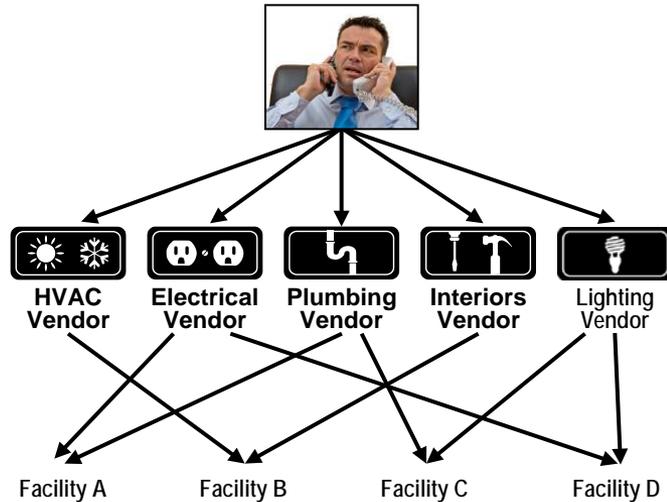
- Ensures codes, regulatory compliance and industry operating standards are met.
- Focus on key topics to include:

- Emergency Procedures
- Fire and Life Safety
- Team Safety
- Refrigerant Management
- Energy Management
- Environmental Hazard
- Maintenance Inspections
- Vertical Transportation
- Indoor Air Quality

- Results in proactive risk management of life-safety, code and regulatory liabilities

Engineering Services – Integrated Delivery

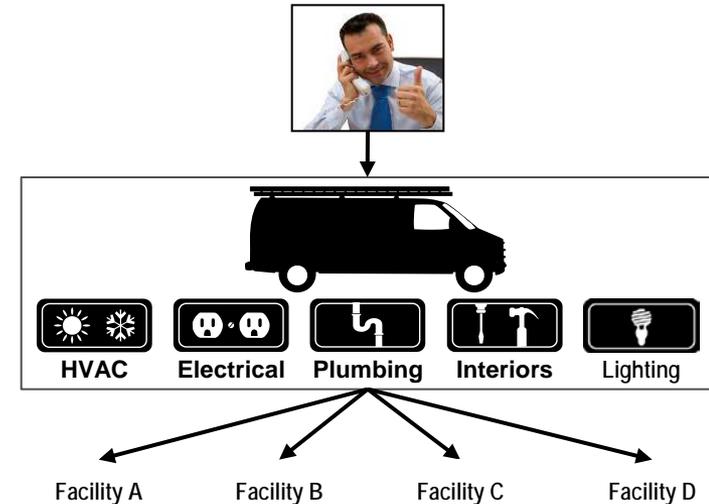
State of Tennessee Engineering Model



- Billed for travel time and/or trip charges of each vendor
- Varying degrees of skill and professionalism
- Array of markups and surcharges
- Multiple touch points
- No consistent, portfolio-wide reporting capability
- Inconsistent pricing

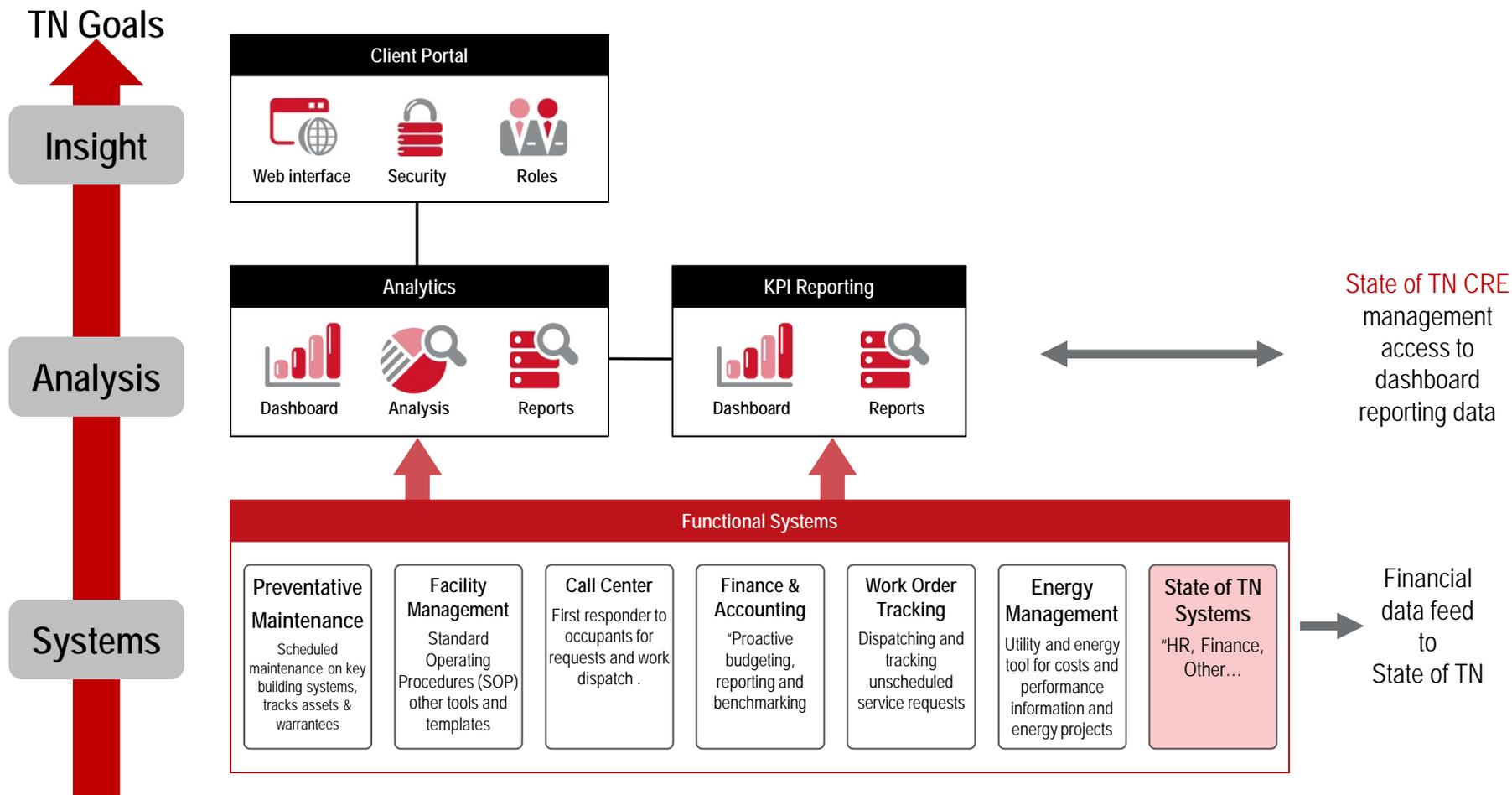
VS.

Integrated Engineering Services Best Practice

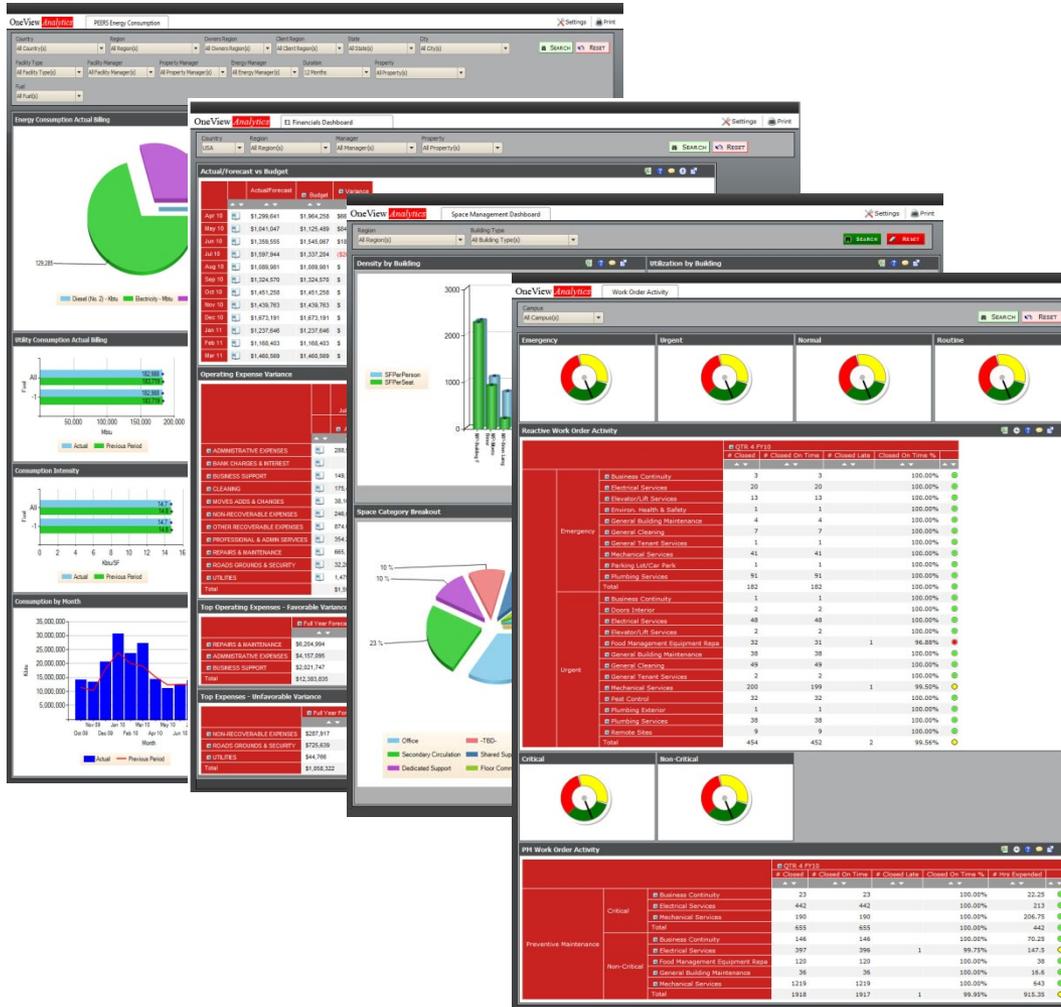


- Highly skilled multi-disciplined experts: HVAC, Electrical, Plumbing & Handyman
- Intimate knowledge of your facilities offering a proactive, holistic and strategic approach
- Bundle services reducing drive time & costs
- Backed by leading-edge technology

Technology Leverage – How People, Process and Tools Come Together



Performance Management – Dashboards and Reports



- Information organized by key facility function:

- Occupant satisfaction
- Maintenance completion
- Budget variances
- Response / cycle times
- Vendor performance
- Energy performance

- Information organized by the way you view your portfolio:

- By State defined KPI's and SLA's
- By complex or facility
- By agency or manager

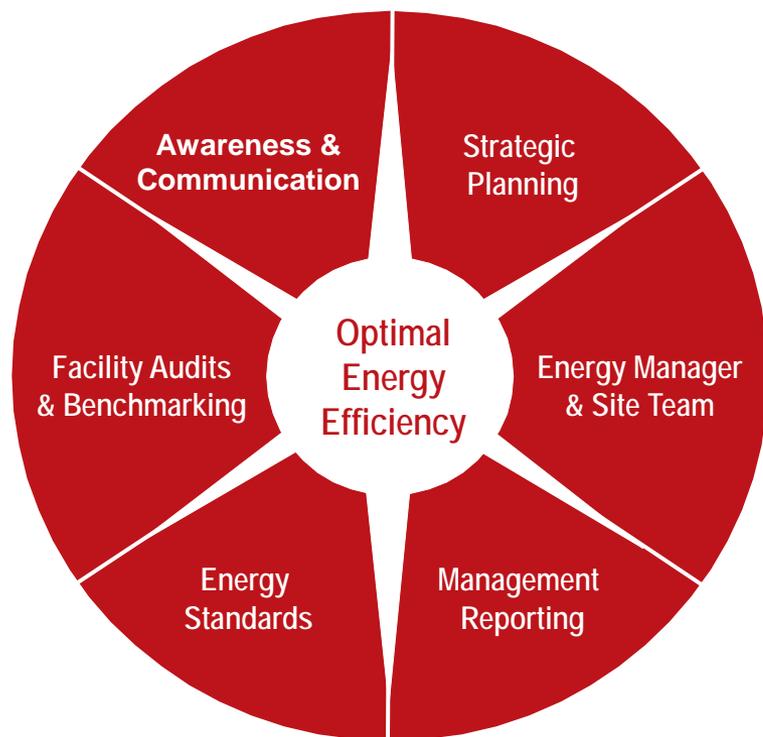
Key Performance Indicators

Measuring Performance Across the Portfolio

- Budget Performance
- Cost Savings Plan
- Service level compliance - work orders
- Service level compliance – Preventative Maintenance
- Occupant satisfaction
- Energy management
- Energy Star participation
- Life-safety compliance
- MRO sourcing & procurement



A Disciplined Approach to Energy Management



- Strategic Energy Plan
 - Energy Program Ownership
 - Energy Accounting
 - Energy Assessments
 - Operational Improvements
 - Infrastructure Improvements/Capital Investments
 - Demand Response
 - Utility Bill and Rate Analysis
 - Performance Reporting
 - Operational and Efficiency Standards
 - Energy Awareness Programs
 - **Reporting** – Portfolio Energy & Environmental Reporting System:
 - Tools used to capture and report on the strategic energy program.

Cost of Replicating Industry-Standard Infrastructure Model

- Infrastructure Needs
 - Technology / Reporting
 - Staffing / Training
 - Tools / Procedures
 - Management Practices
 - Support Platform
- Processes
 - Preventive Maintenance
 - Workflow Management/ Automation
 - Energy Management

The total cost to replicate the industry-standard model would exceed

- *\$25 M up-front and*
- *\$3 M annually*

Bottom Line – Summary of Required Approach

The State of Tennessee Facility Requirements

Issue	Need	Action
1. Older Facilities with Significant Deferred Maintenance	<ul style="list-style-type: none"> Invest needed capital to correct life safety and key deferred items 	<ul style="list-style-type: none"> Execute capital plan prioritized on life-safety, building systems, roofs, exterior and interior improvements
2. Facilities Management Approach	<ul style="list-style-type: none"> Migrate from “run-to-fail” approach to preventative and predictive maintenance of systems 	<ul style="list-style-type: none"> Establish and implement modern processes, practices and an organization for reliable maintenance management
3. Quality Control	<ul style="list-style-type: none"> Establish and implement a disciplined quality and audit function to ensure risk management issues are being addressed 	<ul style="list-style-type: none"> Create and implement a disciplined quality, audit and performance management program
4. Facilities Operating Model	<ul style="list-style-type: none"> Migrate from the current model of high headcount and lower skill to one that has higher skills and performs more work in-house 	<ul style="list-style-type: none"> Redesign and migrate to an industry standard facility management and maintenance model
5. Support & Automation	<ul style="list-style-type: none"> Include a support infrastructure along with modern tools and technology to create leverage as well as manages to outcomes and results. 	<ul style="list-style-type: none"> Establish and implement a model that integrates support subject matter experts and technology tools to create leverage, as well as operational and cost efficiency

State of Tennessee is decades behind in leveraging technology for Facilities Management.

Real Estate Master Plan Findings

Master Plan Scope and Findings

- In March 2012, Jones Lang LaSalle engaged to conduct a detailed review of STREAM's occupancy and space utilization
- Jones Lang LaSalle developed a strategic master plan for a portion of the STREAM portfolio identified as having the greatest need:

	Total Square Footage	Square Footage Included in Focused Analysis
Owned	5,938,843	3,846,262
Leased	1,696,230	1,501,865
Total	7,635,073	5,348,127

- Our findings are presented as follows:
 - A. Background – *How STREAM Has Operated in the Past*
 - B. Current Situation – *Where STREAM's Portfolio Is Now*
 - C. The Way Ahead – *Where STREAM's Portfolio Needs to Go*

Background

How STREAM Has Operated in the Past

Current Planning Model

The current model has created today's challenge

Current Model	Opportunity for Improvement	Expected Results
Reactionary	<ul style="list-style-type: none"> ▪ Better collaboration with Agencies ▪ Purposeful space optimization ▪ Sharing of resources 	<ul style="list-style-type: none"> ▪ Teamwork with shared objectives ▪ Smaller, more efficient portfolio ▪ Lower cost portfolio
Limited Control	<ul style="list-style-type: none"> ▪ Empowerment to drive efficiency 	<ul style="list-style-type: none"> ▪ More sharing of resources ▪ Lower total cost of real estate
Focused on Details, Not the Overall Picture	<ul style="list-style-type: none"> ▪ Vision for an efficient portfolio ▪ Clear expectation of measurable results 	<ul style="list-style-type: none"> ▪ Effective planning ▪ Lower total cost ▪ Greater Agency satisfaction
Responsive to Agencies' Needs, but Not the State's Needs	<ul style="list-style-type: none"> ▪ Clear Objectives for Efficiency ▪ Measurable Benchmarks for peer comparison 	<ul style="list-style-type: none"> ▪ Continuous progress toward goals of efficiency and effectiveness ▪ Recognition for leadership among other states

Establish a strategic approach to real estate for The State of Tennessee

Current Data and Information Model

The current model has created today's challenge

Current Model	Opportunity for Improvement	Expected Results
Not Centralized	<ul style="list-style-type: none">One system for real estate and facilities	<ul style="list-style-type: none">Reliable data for decision making and portfolio management
No Standardized Measurements	<ul style="list-style-type: none">Consistently defined termsConsistent processes for gathering data	<ul style="list-style-type: none">Ability to compare across the portfolio as well as to benchmarks
Incomplete and Conflicting Data	<ul style="list-style-type: none">Need a reliable base lineCannot manage the portfolio without information	<ul style="list-style-type: none">Ability to make quicker, more informed decisionsImproved ability to serve the AgenciesAbility to find optimal solutions with confidence
No Standard Processes	<ul style="list-style-type: none">Inconsistent methods of gathering, organizing, and reporting data	<ul style="list-style-type: none">Confidence in making decisionsLess anxiety around decision making

Result has been limited active management of the portfolio since there is no visibility into the portfolio

Current Accountability Model

The current model has created today's challenge

Current Model	Opportunity for Improvement	Expected Results
No Benchmarking	<ul style="list-style-type: none"> Compare state office space to other states and other large headquarters functions 	<ul style="list-style-type: none"> Clear picture of the objectives Roadmap for where to focus
No Results Measurement	<ul style="list-style-type: none"> Set objectives, measure progress Communicate expectations clearly 	<ul style="list-style-type: none"> Discernible improvement Great teamwork toward common objective
No Structured Feedback Loop with the Agencies	<ul style="list-style-type: none"> Create the opportunity to listen to the internal client Provide larger context to the Agencies Opportunity for improved communications 	<ul style="list-style-type: none"> Improved Agency satisfaction Better solutions from collaboration with diverse perspectives Partnership for success with all involved

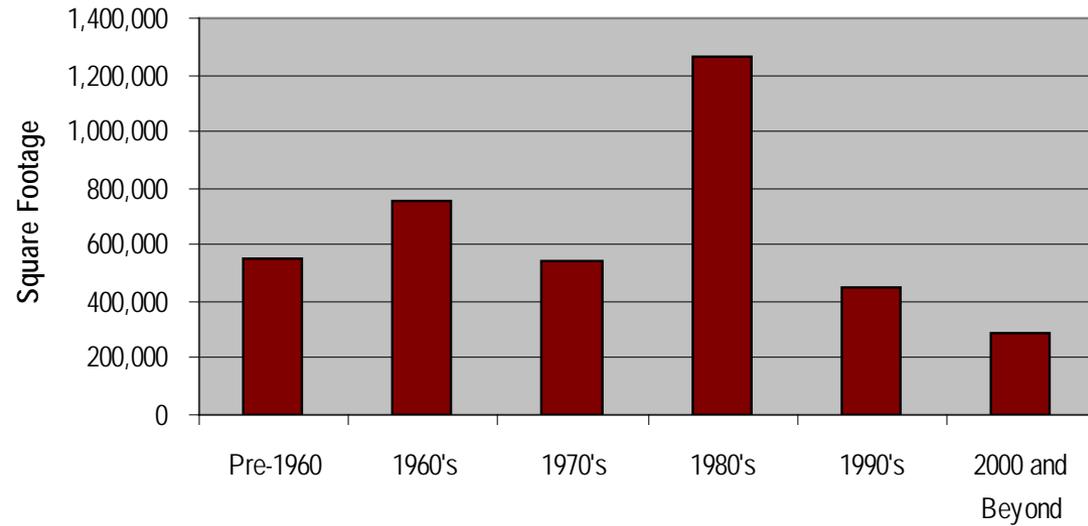
Lack of accountability has limited the opportunities to improve efficiency and service delivery to the Agencies.

Current Situation

Where STREAM's Portfolio is Now

Current Buildings

- Average Age of Owned Portfolio is 35 years
- However, the oldest 43% of the portfolio has an average age of 50 years
- Architecture and technology have surpassed current portfolio



Chattanooga State Office Building
Built 1955



Donnelley J. Hill
Built 1968



Lowell Thomas State Office Building
Built 1977



Citizen's Plaza
Built 1986



Davy Crockett
Built 1989

Cultural Shift within Society

Workplace strategies are shifting to reflect a cultural shift within society

The Past		Today
Central Planning	→	Empowerment
Hierarchical Structures	→	Human Scale
Standardization	→	Relativism
Boundaries	→	Connections
State / Community Identity	→	Individualism

"We shape our buildings, and afterwards our buildings shape us."

- Winston Churchill

October 28, 1943

Exteriors in the Past versus Exteriors Today

The Past

Standardization

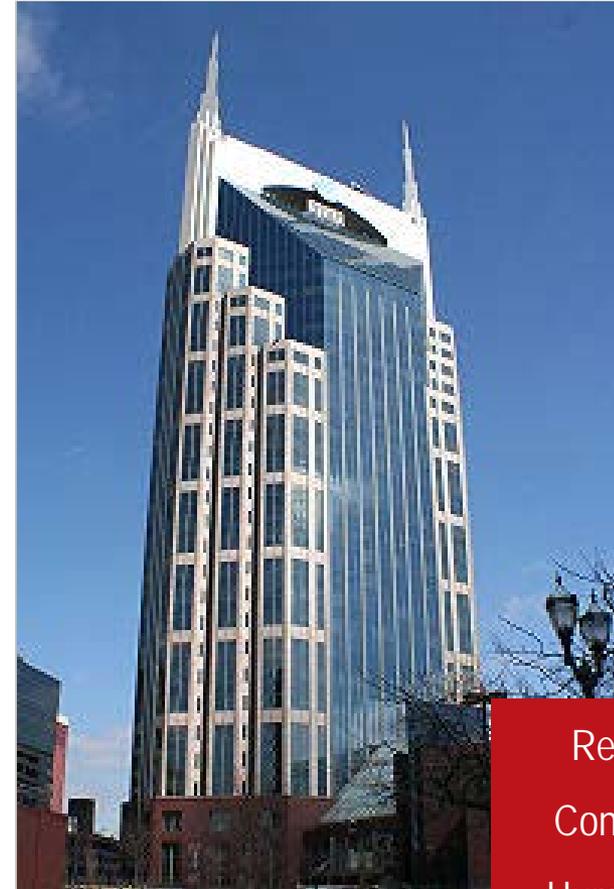
Boundaries

Hierarchy



Tennessee Tower in Nashville

Today



Relativism

Connections

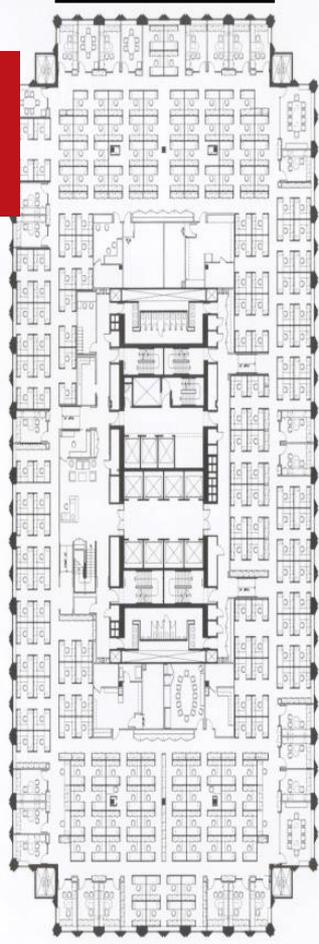
Human Scale

Building in Nashville

Space Layout in the Past versus Space Layout Today

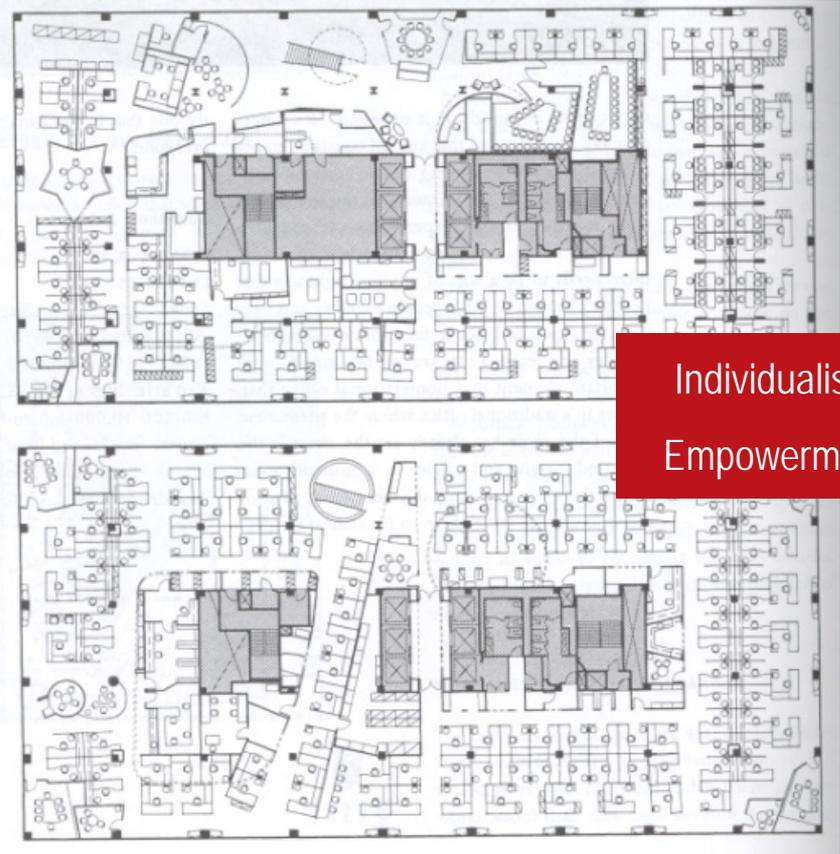
The Past

Group Identity
Central Planning



Today

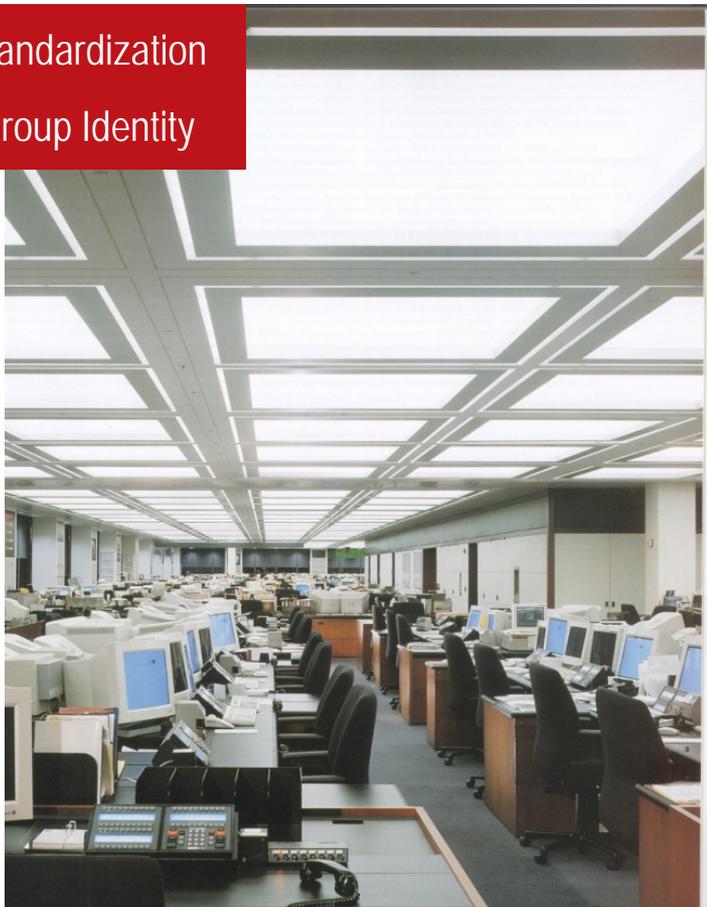
Individualism
Empowerment



Interior Design in the Past versus Interior Design Today

The Past

Standardization
Group Identity



Today



Relativism
Individualism

Current Office Environment

- Out of date
- Worn Out
- High workstation walls
- Little day light
- Isolating
- Discouraging



Interior Office Space at Chattanooga State Office Building

Opportunity to Enhance Space Utilization

- Space utilization is measured in SF per FTE (Full Time Equivalent, the industry standard metric for the number of spaces required)
- Current Density Averages 346 SF per FTE
 - Owned Portfolio Averages 383 SF per FTE
 - Leased Portfolio Averages 262 SF per FTE
- Industry Standard for Average Density per FTE ranges from 250 SF to 275 SF
- Leased Portfolio falls within Industry Standard range, but overall portfolio exceeds the range substantially

Current Density	346 SF/FTE
Standard Density	<u>250 to 275 SF/FTE</u>
Density Above Std	71 to 96 SF/FTE
Total FTE Count	14,080 FTE
Potential Reduction	1.0 M to 1.35 M SF

Achieving industry standard density would reduce occupancy by 20 to 28%.

Current Utilization

Owned Assets			
Building	SF	Pre-T3 FTE	Density
John Sevier Building	78,414	165	475
Chattanooga State Office Building	147,269	354	416
Cordell Hull	322,911	996	324
Central Services Building	55,008	73	754
Tennessee Tower	582,097	1,150	506
DJ Hill	121,505	357	340
Andrew Jackson	367,686	1,077	341
Lowell Thomas	141,680	394	360
East TN Regional Health Facility	32,000	128	250
James K. Polk	423,255	1,668	254
Rachel Jackson Building	107,800	267	404
Citizen's Plaza	248,190	1,003	247
460 James Robertson	43,210	135	320
665 Mainstream	127,840	-	-
Davy Crockett	217,121	335	648
Henley State Office Building	96,184	252	382
Middlebrook	68,341	150	456
Andrew Johnson	219,656	536	410
MAPP	75,445	246	307
220 French Landing	235,000	450	522
UCRHF	50,650	77	658
Total	3,761,262	9,813	383

Leases Over 20,000 SF			
Building	SF	FTE	Density
310 Great Circle Road 3	211,280	741	285
3230 Jackson Avenue	89,614	300	299
2600 Western Avenue	55,000	206	267
3711 Middlebrook	44,000	119	370
3360 South Third	38,691	172	225
404 James Robertson Parkway	37,976	107	355
1991 Corporate Ave., Flrs.1,2,4	24,484	140	175
1925 South Third Street	22,000	114	193
401 Church Street, L&C Tower	177,706	725	245
200 Athens Way	142,784	596	240
227 French Landing	45,734	156	293
404 James Robertson Parkway	45,600	220	207
44 Vantage Way	18,148	166	109
2206-2262 Rosa L. Parks Blvd.	36,849	226	163
414 Union St., Suites 900+1000	29,114	63	462
1610 University Avenue	29,000	67	433
220 Athens Way	24,433	48	509
301 Plus Park Drive, First Floor	21,942	40	549
404 James Robertson Parkway	21,811	61	358
Total	1,116,166	4,267	262

Opportunity to Reduce Expenses

Costs	Owned		Leased	
	Actual STREAM	Industry Standard	Actual STREAM	Industry Standard
Capital Expenses	\$3.64 psf	\$5.00 psf	-	-
Rent	N/A	N/A	\$14.97 psf	\$14.54 psf
Operating Expenses	\$8.08 psf	\$5.50 psf	Included Above	Included Above
Total Cost	\$11.72 psf	\$10.50 psf	\$14.97 psf	\$14.54 psf
Cost Variance		\$1.22 psf		\$0.43 psf
Cost per FTE	\$4,488 per FTE at 383 SF Density	\$2,625 per FTE at 250 SF Density	\$3,922 per FTE at 262 SF Density	\$3,635 per FTE at 250 SF Density

Achieving cost reductions and space reductions will provide between \$16 M and \$19 M in annual savings.

Summary of Current Situation

- Current owned portfolio has aged and speaks of yesterday's culture
- Many Agencies have moved out of owned buildings into leased buildings due to desirability
- Vacancies in owned buildings have pushed densities down by 40%
- Owned buildings cost less per sf than leased buildings but are costing more per person.
- Owned building's capital costs are low but operating expenses are high
- The combination of low density and high operating costs creates between \$16 M and \$19 M in excess cost annually
- Leased space cost is about right but comes at a premium to owned space

The Way Ahead

Where STREAM's Portfolio Needs to Go

Lease versus Own

- Lease when any of the below is true:
 - The demand for space is not predictable over a long term (15 years or longer)
 - The alternative uses of capital are more important or urgent
 - There's no appetite for risks/responsibilities of ownership
- Own when all are true:
 - Stable and predictable need for space over a long term
 - Capital is available
 - There are systems in place to manage risk and responsibilities

Project T3 Objectives

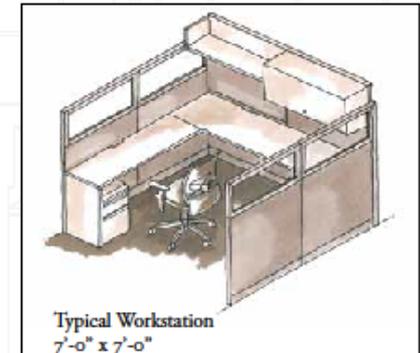
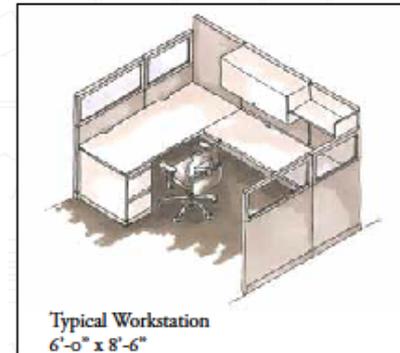
PROJECT T3

Transforming Tennessee For Tomorrow

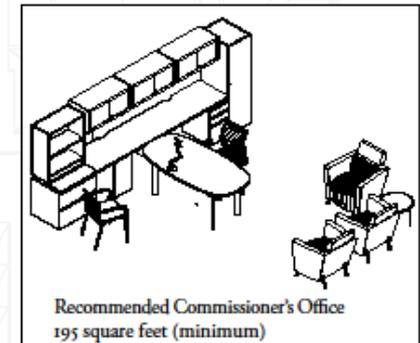
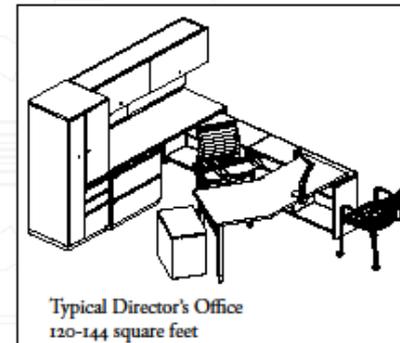
Creating a more enduring, effective and efficient workplace.

- Reduce Costs
- Migrate from leased to owned
- Occupy vacant owned space
- Update office environments
- Assist in changing the culture of the workplace

The following work station standards are being considered for open spaces. The choice of configuration will depend on the building's floor plan and the availability of existing furniture.

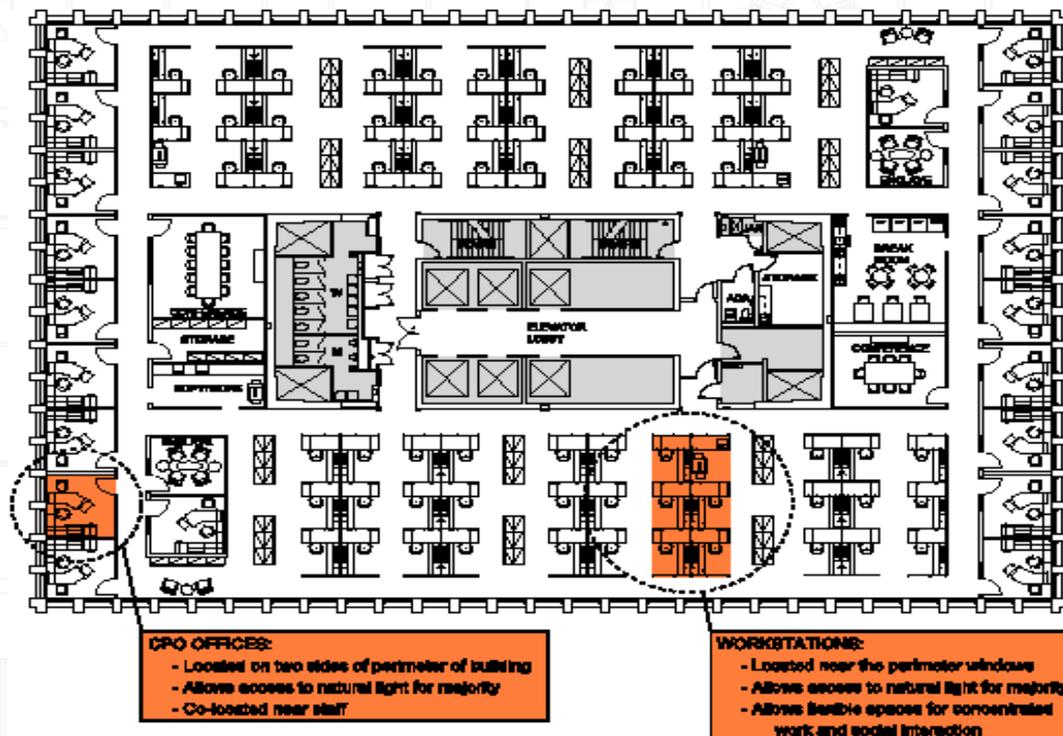


New office standards have been established and will be adjusted slightly based on building design.



Project T3 Actions

- Inventory current occupancies – stacking diagrams
- Create new space standards
- Meet with Agencies
- Propose new occupancies
- Identify Shared Space Opportunities
- Prepare budgets and schedules
- Measure savings



Project T3 Results

- From 5,476,002 sf to 4,495,598 sf
- From total cost of real estate for ten years of \$939,410,901 to \$836,693,774
- For a savings of \$102,717,126 over ten year period

Owned Assets		
Building	Pre-T3 Cost per FTE	Post T3 Total Cost Per Person
Tennessee Tower	\$5,818	\$3,566
Andrew Jackson Building	\$3,743	\$2,309
Citizen's Plaza	\$2,994	\$2,797
Andrew Johnson Building	\$3,069	\$2,527
Davy Crockett Building	\$5,849	\$5,398
James K. Polk Building	\$3,853	\$3,798
665 Mainstream	N/A	\$2,725
220 French Landing	\$3,976	\$1,987
UCRHF	\$6,174	\$4,134
Donnelly J Hill Building	\$5,936	\$1,784
Chattanooga State Office Building	\$5,490	\$3,887
MAPP	\$3,575	\$2,971
Lowell Thomas	\$3,888	\$2,173
Middlebrook	\$5,102	\$4,476
East TN Regional Health Facility	\$2,478	\$2,060
Cordell Hull Building	\$4,077	\$4,077
Rachel Jackson Building	\$4,359	\$3,614
Henley State Office Building	\$4,425	Dispose

Project T3 will reduce total cost by \$725 per person.

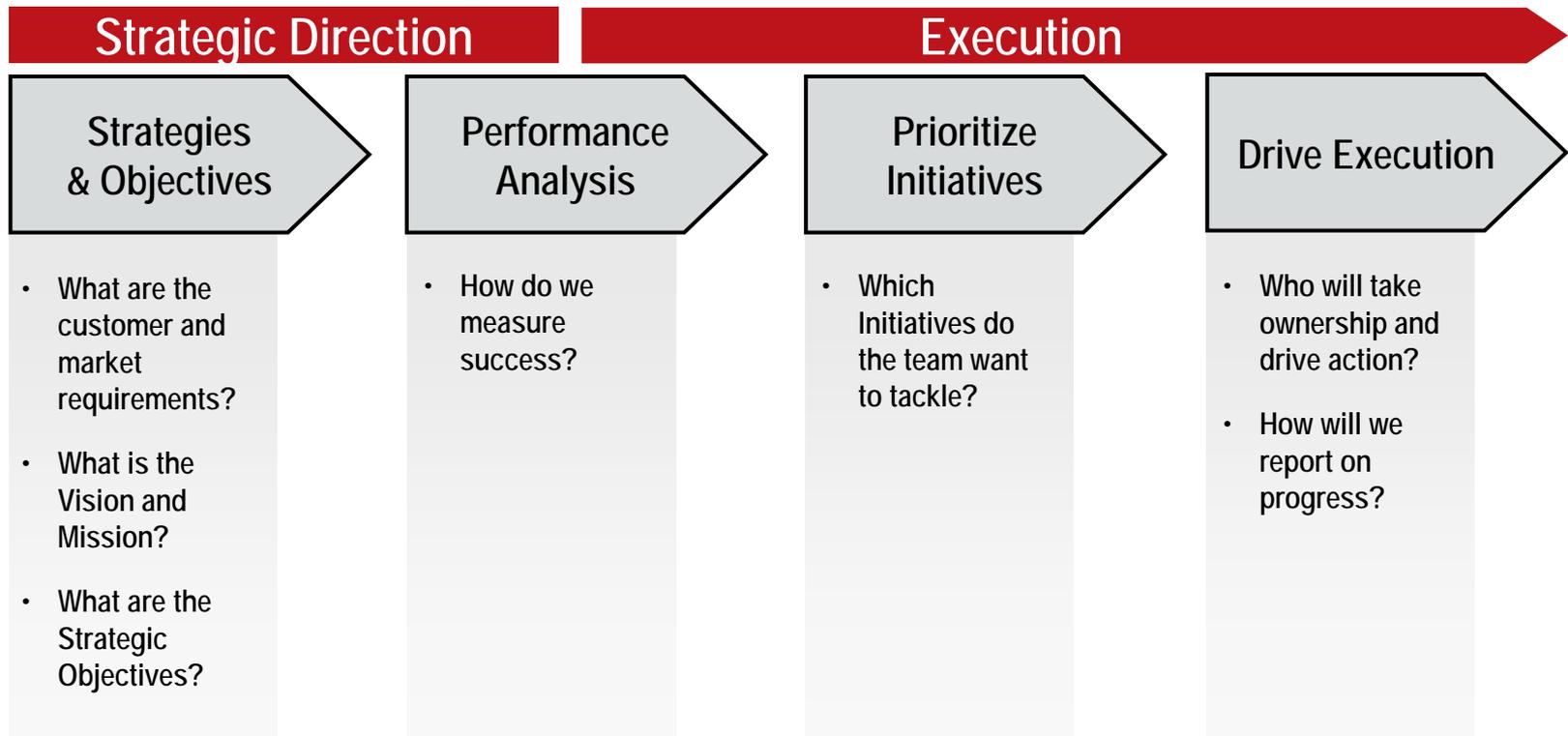
Beyond Project T3

Key priority is to take action on obsolete owned assets to continue momentum from T3

Building	Year Built	Square Footage	Density	Annual Cost	Observations
Cordell Hull Building	1955	322,911 SF	324 FTE/SF	\$10.54 PSF / \$4,077 per FTE	<ul style="list-style-type: none"> Obsolete building and systems Inefficient space plan Iconic and adjacent to Capitol
John Sevier Building	1940	78,414 SF	475 FTE/SF	\$11.78 PSF / \$5,818 per FTE	<ul style="list-style-type: none"> Obsolete building and systems Highly inefficient space plan Not suitable as Agency office space Expensive to operate National Historic Register
Chattanooga State Office Building	1955	147,269 SF	416 FTE/SF	\$10.82 PSF / \$5,490 per FTE	<ul style="list-style-type: none"> Obsolete building and systems Inefficient space plan Somewhat iconic
Donnelley J. Hill Building	1968	121,505 SF	340 FTE/SF	\$14.68 PSF / \$5,936 per FTE	<ul style="list-style-type: none"> Obsolete building and systems Inefficient space plan Highly expensive to operate

Develop a Strategic Approach to Space Utilization

- Consider forming HR, IT, and Stream study group for long range planning
- Consider forming User Group Core Team for feedback/buy-in



Space Management and Data Integration

Overview of Space Utilization Management And Data Integration

Occupancy Analysis ~ is the first step in an orderly program designed to understand what drives change in occupancy requirements. These drivers are:

- ✓ Space demand and forecasting
- ✓ Churn rates by space type
- ✓ Space density
- ✓ Utilization
- ✓ Adjacencies
- ✓ Space relationships
- ✓ Obsolescence
- ✓ Occupancy costs over time

Occupancy Planning ~ is the second step and is the culmination of the analysis.

- ✓ Written frameworks for space utilization strategies
- ✓ Multiple scenarios define actions to be taken when planning criteria and assumptions change
- ✓ Forecasting of impacts on capital projects planning
- ✓ Tools to communicate current and future states arising from space utilization decisions

Outcomes / Benefits

Best practice in space management delivers significant benefits

- ✓ Reliable data supports smart, timely decision making
- ✓ User accountability for space utilization (chargeback program)
- ✓ Forward-looking solutions
- ✓ Operating cost savings
- ✓ Optimization of Cap Ex spend
- ✓ Align with strategic goals

Technology is an Enabler ~ strategic space utilization is about the details, which requires sophisticated technology tools to realize the benefits

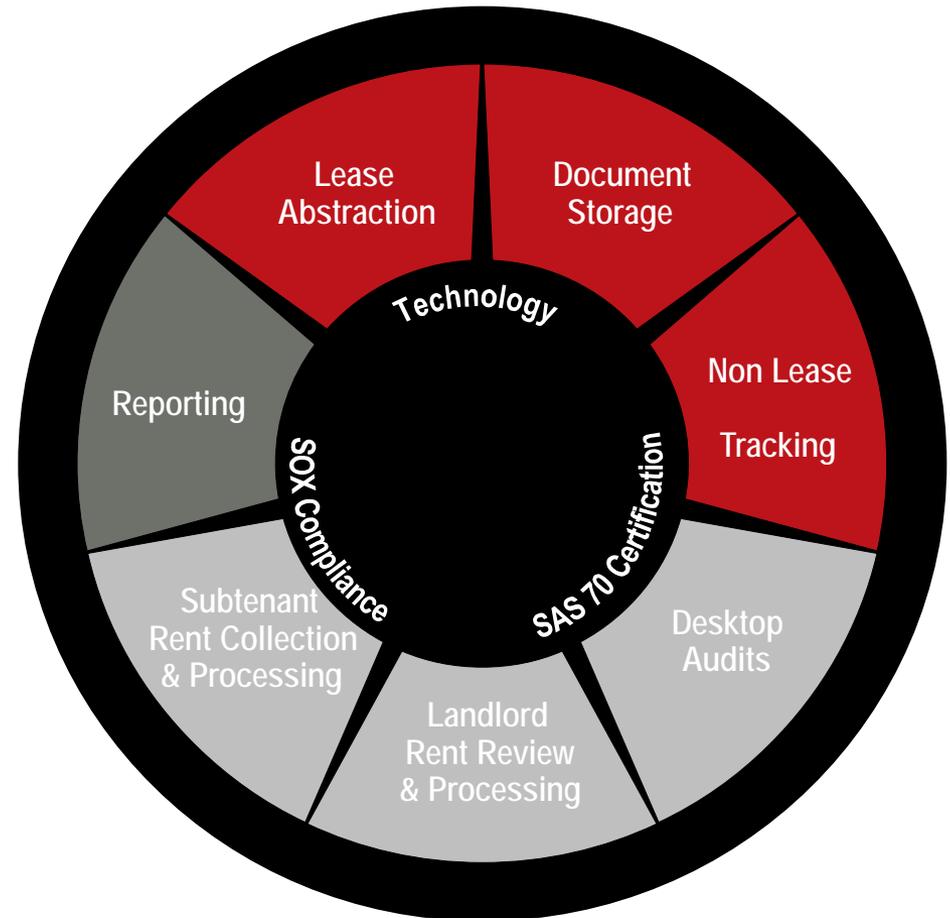
- ✓ Space plans on all subject space are required
- ✓ Space plans must be digitized and "tagged"
- ✓ CAD support necessary for large campus
- ✓ Modern CAFM System is required

Caveats ~ best practice in space management requires commitment and discipline from the organization:

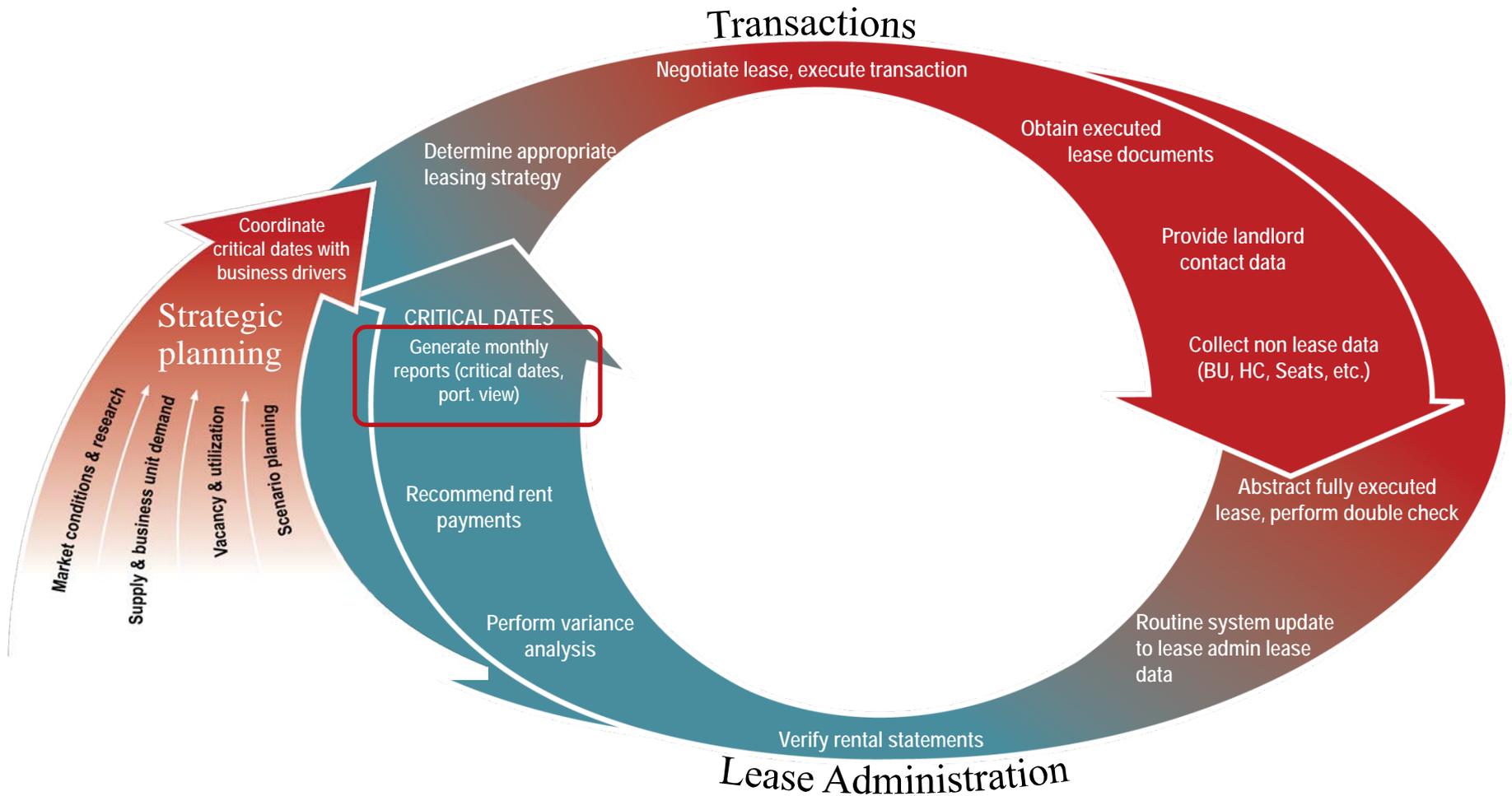
- ✓ Snap-shot approach quickly becomes inaccurate, misleading
- ✓ Requires on-going resources & process to maintain and refresh occupancy data and floor plans
- ✓ Maintenance of data integrity requires routine, rigorous audits of space utilization and quality assurance of database

Establish and Implement Data Management Processes

- Data includes:
 - Building and Lease Data
 - Occupancy Data
 - Cost Data
- Objectives include:
 - Consistent, accurate data
 - Portfolio optimization
 - Cost savings and avoidance



Create an Ongoing Planning Function



Create a People-Friendly Hub

- Use the public spaces around Capitol, especially Legislative Plaza
- Create energy and interaction for State workers and citizens



Legislative Plaza



Music and dance at Union Square, San Francisco

Bottom Line – Summary of Required Approach

The State of Tennessee Master Plan Requirements

Issue	Need	Action
1. Lack of Control over Portfolio	<ul style="list-style-type: none"> Establish an empowered centralized planning approach and facilitate a collaborative framework with the Agencies 	<ul style="list-style-type: none"> Establish and implement industry-driven processes, practices and organization for portfolio management
2. Lack of Reliable Data	<ul style="list-style-type: none"> Integrate modern tools and technology into the portfolio management platform 	<ul style="list-style-type: none"> Establish and implement a technology system with standardized protocols and training
3. Under-utilized Space	<ul style="list-style-type: none"> Optimize occupancy of Owned buildings through restacks and establishment of space standards 	<ul style="list-style-type: none"> Implement Project T3 Establish space standards and guidelines for Agency adoption
4. Obsolete Buildings	<ul style="list-style-type: none"> Address obsolete building systems and floor plans 	<ul style="list-style-type: none"> Dispose or reconstruct existing assets to achieve lower density and reduced operating expenses
5. Operating Costs are Too High	<ul style="list-style-type: none"> Implement facilities management practices and processes, including cost reduction strategies and capital plan requirements 	<ul style="list-style-type: none"> Establish and implement a facilities management model that incorporates performance measures
6. Modern Environments	<ul style="list-style-type: none"> Create an engaging, culturally relevant state office environment to facilitate hiring and retention 	<ul style="list-style-type: none"> Establish design protocols that reflect a Post Modern aesthetic and approach

The State of Tennessee can achieve substantial cost savings and workplace enhancements by implementing these actions.



Real value in a changing world

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