Task Force 2021 and Beyond: Administrative Workstream
Summary Report & 12 Supporting Ideas

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MIT's research and education missions and campus residential community include diverse administrative functions. While we all rely on such services to live, learn, and work together as the MIT community, the needs met by the Institute's daily operations seem either so elemental as to be invisible or so inflexible as to be circumvented. These functions include a host of campus operations, administrative processes crossing the academic, research student life, and business operations, and workforce operations for MIT employees, students, and contracted service providers. These are the Where, How, and Who of MIT's operations that can help MIT maximize its positive impact on the world, and can also help each of us bring our best selves to that mission as a faculty, staff, or student member of the MIT community.

The COVID-19 pandemic created a forced experiment in MIT's operations. In March 2020, the concept of the campus shifted dramatically. But the campus never really closed, and the Institute's mission continued in a new way. Critical campus operations remained intact and some research projects continued throughout the spring and summer, while many of us worked from home for the first time and the residential population was much smaller but just as important to support well. This workstream never met in person, and yet we developed a sense of teamwork via telepresence, focused around clear needs. Without time for measured discussion and debate, we all adapted where we worked and studied, how we communicated information and decisions, and exactly who comprised our workforce that supported the constant operations of the campus in Cambridge as well as our off-campus research facilities and MIT Lincoln Laboratory. By the fall semester of 2020, we started to grasp some of what we missed about old campus rhythms, and also some of what we did not miss fondly. While none of these adaptations were easy, and not all were preferable or better, we now had an existence proof that they were at least possible if we committed to them together.

The Administrative Workstream included three substreams to tackle this opportunity, with a lens on the Where, How, and Who. All teams considered the campus community to include: MIT's 168-acre campus in Cambridge, MA 02139, as well as nearby properties that MIT leases for use by multiple departments, labs and centers (DLCs); MIT's off-campus research facilities including Bates Engineering R&D Center and Haystack and Wallace Observatories in Massachusetts; MIT Lincoln Laboratory in Massachusetts; and MIT's Office in Washington, D.C.

- **Team Where** focused on campus operations, led by Brent Ryan and Julie Newman. This team focused on considerations of physical space including use of buildings and grounds, supporting infrastructure including utilities, and sustainable campus operations including climate resilience. Time horizons of changes in this sphere can span short-term to long-term, spanning many decades that reflect the level of investment and longevity of campus buildings and support infrastructure.

- **Team How** focused on administrative processes, led by Maria Yang and Heather Williams. This team focused on data and decisions, including the systems, tools, and people who support faculty and students in research, education, and residential life. These administrative processes can include employee onboarding and training, DLC and faculty management of research groups and projects, learning systems, and the associated information systems & technology (IS&T) infrastructure. Time horizons of change in this sphere are short-term to medium term, given the historic siloing of data and pace of system changes that depend in large part on internal MIT practices.
- **Team Who** focused on workforce operations, led by Ramona Allen and Tom Kochan with significant leadership support from Dyan Madrey. This team focused on MIT's recruitment and retention of a talented workforce of faculty, staff spanning research, technical, and administrative roles, and contracted service providers. That holistic definition of those who work at MIT focused more on faculty and staff than on students, since this vital component of student learners and researchers in the MIT community was considered by other TF2021+ workstreams.

Our premise was to image MIT operations with a clean slate. With the charge provided by the TF2021+ co-chairs, we aimed to *fix the features that never worked well for us*; *adapt successes of others to fit MIT needs*; *glean from the ongoing experience of disrupted work practices the surprising where, how, and who of MIT's best work*; and *identify and retain the features that make us proud to live, work, and learn at One MIT.*

The themes that emerged early in the Administrative Workstream were retained through the final synthesis stage of three big ideas. These themes appeared to resonate with other workstreams, and we summarize these as key features that we recommend to be criteria for TF2021+ recommendations that are advanced to implementation:

1. ***Community-minded spaces and systems:*** Maintain and promote MIT community through sharing of space and data, and through cross-training and development of people at MIT.
2. ***One Agile MIT:*** Create an agile project team staff that enables us to builds a new "traintracks and trains" of tools and systems – while the current staff keep the cars on the existing train of MIT innovative research and education, and then moves on to the next prioritized project.
3. ***Flexible work at and for MIT is a key part of MIT's future, and is not default work from home (WFH):*** MIT must pilot and practice how this improves work of the individual, team, and Institute; the present circumstance does not extend to future excellence without the individual and Institute investment in a few design cycles.

The Administrative Processes Workstream elected to synthesize the ideas of each substream to reflect Three Big Ideas outlined elsewhere on the TF2021+ site. These Big Ideas are:

1. **New Ways of Working: Integrating flexible and sustainable work practices and places at MIT** – Promoting & piloting collaborative work that balances tradeoffs of

remote work, community interaction, and shared stewardship of campus resources to achieve MIT's mission - with new practices and tools for the Institute's research, education & administrative teams

2. **MIT Career Networks: Employee development, strategy & career pathways** – Skills development connected to clear career pathways at MIT for staff and faculty, including integrated training on new tools to recruit and retain top and diverse talent
3. **One Agile MIT** – Enabled by new digitized data sharing practices across DLCs, and a new cross-functional team, implement transformational MIT-internal projects that support clear and easier decisions by MIT's world-class research, teaching, and administrative support teams

The remainder of the present document includes the *12 Good Ideas* that formed the initial fodder for Administrative Workstream synthesis of Big Ideas. These good ideas were developed within each substream. Components of these drafts were later refined through the TF2021+ workshops, discusses with many invited speakers from other universities and research organizations, and our workstream meetings. Below we list the names of the 12 Good Ideas, followed by idea outlines for each. Our intention is that this more granular information can inform recommendations and actions following this task force.

Where? Campus Operations Substream

1. *Exploring spatial nodes: Expansion, local flexibility, decentralization, and links to enhanced function*
2. *Enabling space efficiencies thru streamlined & centralized financial operations*
3. *Data-driven intelligent, resilient, and safe campus operations*
4. *Optimization of campus space and resources via development of a flexible, resilient workforce and shared economy*

How? Administrative Processes Substream

1. *One Agile MIT: To be supported by a new cross-functional project management implementation team*
2. *Develop better tools and procedures for data management, reporting, forecasting*
3. *Improving staff training and development*
4. *PI dashboard / Modern ERP*
5. *Universal ticketing and help desk*

Who? Workforce Operations Substream

1. *Charting a long-term staffing strategy for MIT*
2. *Employee development*
3. *Flexible work including at remote locations*

CAMPUS OPERATIONS (Team Where) SUBSTREAM IDEAS

Where 1: Exploring Spatial Nodes: Expansion, Local Flexibility, Decentralization, and links to enhanced function
Where 2: Enabling Space Efficiencies thru Streamlined & Centralized Financial Operations
Where 3: Data-driven Intelligent, Resilient, and Safe Campus Operations
Where 4: Optimization of campus space and resources via development of a flexible, resilient workforce and shared economy

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Where 1: Exploring Spatial Nodes: Expansion, Local Flexibility, Decentralization, and links to enhanced function

Current State:

- At the current time (Fall 2021), MIT's primary "campus" presence is concentrated in Cambridge, MA, on the traditional campus or immediately adjacent. Satellite facilities are comparatively few in number and limited in campus audience.
- Outdoor spaces at MIT are rarely available for diverse campus activities except for special events. They are mostly traditional campus lawns and plazas with some exceptions (e.g. the Hive).
- With respect to leasing, MIT only leases space near campus, mostly in the Kendall Square area, as an adjunct to central campus activities.
- Space assignments for academic departments are administered by dean's offices and then distributed to DLC (depts, labs, centers).
- There are few campus-wide 'hoteling' (temporary use by the day or week) sites on campus for faculty and staff except for W92 on campus and an internal model in Sloan.
- Project Manus and Makerworks exist as models for shared workshops, but these models are limited in scope and audience.
- MIT does not have dispersed campuses or mini-campuses except in partnership with other universities/countries, e.g., Singapore and Moscow Skoltech.
- Procurement processes at MIT are dispersed and as a result redundant.
- Waste management is also redundant, for example split between grounds and housing.

Envisioned State:

- Exterior program spaces, such as designated outdoor 'rooms' with the necessary supports to enable mission-driven (traditionally indoor) activities, could be achieved in the form of temporary 'sheds' or tents in the near term.
- Satellite administrative operations could consolidate personnel who have indirect student interactions to the campus periphery and or remote locations to decrease their footprint on campus. The leasing arrangements for these operations could happen in the near to medium term but the complexity of these arrangements would depend on the location of satellite operations.
- Diversified hoteling sites could provide hoteling space to support temp working, living, learning, and research on or around the MIT campus. Using existing excess space as a pilot, such as 730 Main Street, could happen in the near term and would not be overly complex.

Developing a 'signature space' analogous to that developed by RAND would take longer and involve additional logistical considerations.

- Additional resource cores dedicated either to research or non-research activities could provide opportunities for shared space and equipment to support similar work, reduce redundancy, and enable sustainable procurement and waste management. Such research cores could be developed in a medium-term timeframe and would require substantial coordination between units affected.
- Dispersed campus-type spaces, potentially 'mini MITs', could provide opportunities for regional innovation nodes to leverage local resources and tech. Such dispersion would also provide redundancy in case of central campus restrictions analogous to current situation. Generation of such campuses is likely to be lengthy and complex due to needs for program development, physical space planning, and allocation of existing campus personnel to such spaces.

Pros:

+ Satellite admin ops: Added flexibility for commuters, frees space on campus for core and research
+ Dynamic Hoteling: Frees up space, efficiency of space usage. Better meet org/group needs. Create more research space by moving admin off-campus. Give dept. more autonomy.
+ Resource cores: Added efficiency, synergy and diversity on projects, cost savings (sharing equipment, e.g. centralized print farm)
+ Exterior program spaces: flexibility in COVID-type scenarios, constructability is easy / low cost, swing space, promote sustainability culture (esp. green spaces), easy to fundraise for (e.g. space outside physics building)
+ Mini-MIT's: makes MIT resources available to broader communities, could leverage additional personnel, promote hiring

Cons:

- Satellite admin ops: Additional costs for procurements and leasing. Loss of independence (sacrificing existing space to collective). Not convenient for everybody (equity issues). Works counter to "One MIT".
- Hoteling: Reduces visibility of employees, expected resistance from faculty (reduced independence from PIs)
- Resource cores: competition for resources, (perceived) loss of control over when/how equipment accessed,
- Exterior program spaces: limited to or affected by New England seasonal variations
- Mini-MIT's: Requires significant resources and a major culture shift, as well as evaluation of value add, waters down experience on campus

This idea seeks to advance seven of the shared values sought and articulated by the Campus Operations Substream. These include Teaching / Learning Excellence, Flexible / Adaptable, Support / Allow for Future Models of Work, Learning, & Discovery, Campus Test-bed / Living Lab, Positive Regional / Global Change Agent, Improve Business Continuity, Traffic / Congestion.

Where 2: Enabling Space Efficiencies thru Streamlined & Centralized Financial Operations

Current State:

- Each DLC manages financial processes discretely/ internally. This individualized operational model has fostered a culture of dedicated financial functions, personnel, and in some cases systems & software specific to DLCs, that enable highly customized financial processes and reporting.
- In some-cases the necessity for dedicated financial staff and practices in each unit have propagated space inefficiencies, and perpetuated a conflation of stature with departmental space allocation (e.g. inefficiencies associated with redundant functions and/or PT staff needs). This proclivity to cache departmental space to project "growth" is further pressurized by the 8-yr tenure window.
- DLC control has allowed greater budget autonomy, but resulted in inefficient and complex financial practices associated with procurement and overhead recovery.
- Added complexity associated with customized financial and or administrative structures in individual divisions and units has disincentivized resource sharing. This has subverted the existing sharing-culture to be perpetuated/enacted at the most granular level (interpersonal connections and barter agreements).

Envisioned State:

Early State:

Building on previous EVPT/VFP analysis of financial systems and structures, perform additional investigation *(see 'work in the fall' section above),* standardize processes associated with common business practices, and unify systems, including the elimination of "bolt on" applications for individual divisions or DLCs. This simplification and standardization will enable financial personnel cross-training and cross-support between units, reducing the space required to support redundant and/or multiple part-time staff between units. Units can reuse recaptured space for other key personnel, including lecturers, PhD candidates, and/or shared grad student space, etc.

As part of early work steps will also be taken to operationalize existing resource (space & equipment) sharing culture. This will include investment in and development of, technical/applications support (e.g. a "share market"). DLC leadership will be engaged in the supporting administrative processes, to elevate and structure the sharing discussion and decision-making. This will enable cooperation and expand the existing sharing culture, allowing for space use reduction associated with redundant equipment and resource management (e.g. supply storage) between units. This can build on the success of the current 'COVID Store' model and/or expand other unified resource management / share-economy models that exist on campus; e.g. lab cores, MIT Fx, and the VPF Surplus/Exchange program. And this may also enable an expansion of the expansion of the (lab) resource cores concept (*see other CampusOps Substream proposals on space*).

Building efficiencies of scale through shared resource management, and possibly moving toward shared resource cores will allow the Institute to identify and address disparities in universal design relative to any proposed "sharing" enhancements. For example, assuring access equity through technical/applications support, access requirements for shared spaces.

Mid-term State:

On-going development of streamlined and standardized financial structures will provide additional opportunities to address equity and inclusion through "sharing" adaptations of space policy. Identify and acknowledge where systemic constraints that conflate equality with equity relative may have resulted in unjust resource allocation (e.g. space allocation based on funding, doesn't acknowledge societal bias in funding access). As space policy is adapted to incentivize sharing, equity and inclusion can be enhanced in parallel.

Centralization of common financial practices around procurement and materials management can also enable progress on Institute initiative for sustainable procurement, and facilitate a shift to a model of on-demand supply and just-in-time delivery that is centrally managed. This will further reduce the space needed for distributed and unit-dedicated (redundant) storage for common items like paper, gloves, lab consumables, device dongles, etc. Again, this recaptured space can be reused for other uses; project team rooms, study lounges, lab space, seminar space, etc.

Long-term State:
The envisioned future state would demonstrate the centralization of financial administrative supports, reducing the distributed space use associated with dedicated and/or multiple PT staff. Additionally, redundant space for dedicated unit storage of common resources will have been supplanted by a central store system with on-demand supply and just-in-time delivery of products and services that are sustainably sourced, and foster better equity and inclusion in both their design and procurement. A fully operationalized sharing culture supported by centralized technology/applications, and a streamlined leadership-engaged administrative process. Space recapture by these adaptations will be available for repurposing. Some of it may be used to support a culture shift to other Institute-supported (centralized/efficient) shared resources management. Some examples might include shared shell space to support renovation swing space, building-level lab cores, admin resource cores, etc.

The simplified and centralized financial support framework will also support a shift to space charge-back. This would allow for additional traction on incentivizing Institutional goals (space sharing, resource efficiency/reduced carbon footprint, equity, etc.), and enable a more streamlined, transparent, system for centralized overhead recovery. Of course, any system of space charge-back would need to be adapted to MIT's culture, and implementation would need to include a program of change management. But it, and the efficiencies it enables, are not possible without first establishing the underlying financial systems framework, and shifting the campus culture toward enhanced sharing and unified resource management.

Pros:

+ Improved space efficiencies supporting better utilization of teaching and research spaces
+ Easier cross-training & cross-support for financial personnel
+ Enable sustainable procurement and improved efficiencies for waste stream management
+ Enable traction on Institute goals on increased WBE vendor
+ Strengthen training, supports, and support networks for financial staff

Cons:

- Lots of work required to get DLC buy-in
- Paradigm associating stature & space is PERVASIVE in academic culture
- Legacy financial systems and highly customized processes are integrated with DLC operations
- Further silo administrative staff from academic & research staff

This idea seeks to advance 7 of the shared values sought and articulated by the Campus Operations Substream. These include: Sustainability, Teaching & Learning Excellence, Resource Conservation, Perceived Equity, Efficient / Effective Space Use Improve Business Continuity, Nimble / Scaleable (operations & policy).

Where 3: Data-driven Intelligent, Resilient, and Safe Campus Operations

Current State:

- Over the past 10 years Facilities has dramatically expanded the collection of data on space utilization and performance. However, operational metrics like building system performance and utility consumption are not yet universally or uniformly metered or monitored on campus. Metrics on use & utilization (e.g. documented occupancy, capture of ad-hoc use) are also not universally or uniformly collected, and/or made available for cross-reference to operational metrics. This data is sometimes collected via survey or focus data-logging to inform specific inquiries, but is not available in larger aggregation to develop more comparative or longitudinal understanding. Appetite for significant investment in comprehensive data collection infrastructure is often superseded by the need for efficient/cost-effective investment in mission-driven space renovation.
- Currently management and policy setting relative to campus safety is consolidated to a few key departments (EHS, EM, MIT Police, etc) most closely responsible for mitigating recognized safety risks. Decisions are made to establish compliance, or maintain/return to typical operations under ostensibly known circumstances.
- The prioritization of efficiency and risk-mitigation, typical in higher education institutions, results in a culture that is more typically reactive, and relies on demonstrated, substantive impacts for investment rational. The lack of comprehensive, widely accessible, and/or comparative data limits the ability to calculate investment risk-reward in a more predictive fashion or model more fluid/ dynamic scenarios. So, data is not consistently used to inform decision making.

Envisioned State:

Early State:

In keeping with the oft-quoted axiom of economists, if you don't measure it, you can't manage it. So an effort to better manage our space utilization and utility resources should begin with standardizing baseline data collection across all facilities, space typologies, space assignments. This data should be made widely available to begin to inform decision making and develop comparative understanding.

To begin to more effectively leverage these data resources, and understanding that the future circumstances of campus operations will be increasingly fluid and/or dynamically "abnormal", MIT should move toward developing a culture of regular scenario planning & workshopping to test policies and procedures for space management and campus safety that had previously been dictated by compliance or seeking only to re-establish operational "norms" under an assumption of ostensibly known circumstances. Initiating this new culture of scenario planning should leverage groups established for COVID response, and utilize the associated workshop model where all available data is made readily available to inform the review, testing, and augment campus safety and space management policies. Also understanding that dynamically "abnormal" crises unravel typical dependencies and induce unforeseen impacts, these the workshopping process engage additional

participation over time, to collect wider perspectives and understanding of impacts associated with more dynamic scenarios. Broader engagement will also help the larger campus community see the value of data being collected, and how it can be used to improve outcomes for MIT and them.

Mid-term State:
As the culture of data-driven scenario planning evolves, operationalize an outcomes-based approach to expanding facilities data collection. Queries identified in workshops and/or initiatives by leadership will inform component data-sets collected (e.g. The Ofc. of Community Engagements wants to explore affordable off-hours leasing for community small groups > collect/create datasets on omnibus scheduling, confirmed occupancy/attendance, and energy use intensity (eui) during use, to determine a pro-rated cost).

As more data becomes available, establish a real-time operations and space-use data platform (building on existing data warehouse model), with an integrated ability to leverage legacy data snapshots. This will create a more shared (unfiltered) basis of understanding to inform nimble decision-making, and support more vibrant and informed workshopping on campus safety and space management. Additionally, leverage more widely available data to rebalance policies and procedures to target greater traction on GHG goals, increased space utilization, and healthier/ safer environments.

In parallel with robust measurement and monitoring capabilities, expand "living-lab" methodology from facilities technology (equipment & systems components) to facilities use (policy & management practices). Develop capability for field testing of different space operations and space management policies by budgeting for risk taking, temporary inefficiencies, proof of concept trials. Then analysis collected metrics relative to current operations/performance.

Long-term State:
The envisioned future state will have transitioned to an open access (for the MIT community), real-time platform for space (interior & exterior) scheduling. In parallel, an expanded, accessible (universal design / DEI) platform of facilities data is available to support fully transparent space management processes.

Programs to leverage community/crowd-source data (a la Waze) are developed to accelerate and diversify the data collection on campus space. And participation in data collection is incentivized by partner programs that provide enhanced, data-supported, user experience of campus (e.g., where is the closest available parking spot to my meeting? what other talks are scheduled near my class? how busy is the nearest study lounge? who in my department is working on campus today?). The data-driven user experience of campus also extends to an understanding of how data they provide feeds into metrics on larger MIT initiatives, like reduction EUI and GHG production.

Pros:

+ Increased transparency and increased buy-in in space management processes
+ Shared understanding of space use and value propositions associated with university goals (sustainability, safety, resiliency, flexibility)
+ Increase dynamic understanding of facilities use (occupancy, energy use, system performance, learning retention, productivity and job satisfaction, etc) will inform innovation in space use and management

Cons:

- Resistance to individual DLCs relinquishing a gatekeeper role for gathering space availability (visibility & scheduling)
- Concerns relative to data privacy for individual community members (i.e. big-brother monitoring)
- Concerns relative to community security with increase facilities data accessibility
- Increase engagement in planning and policy dialog could slow development and disenfranchise participants without clear deadlines and feedback loops.

This idea seeks to advance 7 of the shared values sought and articulated by the Campus Operations Substream. These include: Sustainability, Teaching & Learning Excellence, Resource Conservation, Perceived Equity, Efficient / Effective Space Use, Improve Business Continuity, Nimble / Scaleable (operations & policy).

Where 4: Optimization of campus space and resources via development of a flexible, resilient workforce and shared economy

Current State:

Part 1: Space and resource allocation

The allocation of administrative space on campus is grounded in the assumption that employees are assigned to a stationary space for a five-day, forty-hour work week. In this construct, one goes to the same quadrant of campus and interacts with the same neighbors and maintains the same daily routines. Although the consistent workplace provides a sense of stability, routine and consistent connectivity, there is little to no adaptability and systemic function built into the current system. Moreover, x% of MIT staff are in meetings x% of the time and thus a desk sits available for use x% of the week. Within this framework, staff rely on access to resources (e.g., office supplies, coffee) that each department is responsible for acquiring.

Part 2: Workplace expectations and skill sets

The pandemic has forced a rapid change toward virtual and flexible work, which requires additional coordination both within and between groups. These new expectations have highlighted **variability** in the workforce in terms of habits and skills of personal flexibility and resilience.

Envisioned State:

By design, a move towards a more flexible work environment could lead to a three-fold benefit for MIT: 1.) valuable workspace could be opened up for highest-value activities (administrative, research, teaching, external uses); 2.) footprint reduction could help alleviate pressure on affordable housing, mobility, resource use and environmental footprint in Cambridge; 3.) the human flexibility and resilience that we build in doing this will have spillovers for organizational vitality. But achieving this vision will require dedicated attention to both space utilization and personnel development.

Pros:

+ Increase in work satisfaction and flexibility
+ Measurable resource use reduction
+ Environmental impact reduction
+ Increase in space availability
+ More dynamic use of technology

+ Aid recruitment and retention efforts by making MIT a more desirable and contemporary employer.

Cons:

- Unintended cultural consequences of flexible space usage (e.g., lack of informal support possible when you don't easily know where to find people)
- Need to outline performance standards and supervision when working offsite
- Need to understand, accommodate and manage issues of equity across workplace responsibilities.

IMPLEMENTATION NOTE: This is a multi-phase process that warrants short and long-term planning.

The initial phase of this process following space optimization analytics may call for infrastructure and training that supports a Hybrid & Dynamic Workforce:

- *Immediate term:* An analysis to understand who, where and how to pilot this proposal
- *Medium term*: Execute the pilot phase and collect data
- *Long term:* Develop a plan for the physical infrastructure in offices and data infrastructure to support a flexible dynamic work environment

Once a plan is developed MIT may need to invest in Workforce development: This will lead to an expansion in cross-training and soft-skills development in systems-thinking & problem-solving to build resiliency and adaptability.

- *Immediate term*: Create situations and systems that calls for people to work together and incentivizes collaboration and collaborative outputs.
- *Medium term:* Provide required coaching and training that teach people the skills to work dynamically.
- Longer term: Measure productivity over time, impact on people & org

The final phase will be measured by the ***space optimization and resource use*** framework. This will call for an understanding of current use conditions and an infrastructure to build a shared economy.

A commitment to a flexible, resilient, and collaborative work environment that overtly seeks to reduce our environmental impact and develop a culture of shared resource use we believe will lead to increase in innovation and job satisfaction at MIT.

There could be unintended cultural consequences of flexible space usage (e.g. lack of informal support possible when you do not easily know where to find people).

This idea seeks to advance 5 of the shared values sought and articulated by the Campus Operations Substream. These include a desire to advance Sustainability, Work/Life Integration, Research Vibrancy, and Social Equity (gender, racial, socioeconomic), and Perceived Equity (on/off campus, faculty/staff, student/professional).

ADMINISTRATIVE PROCESSES (Team How) SUBSTREAM IDEAS

How 1: PI Dashboard / modern ERP system
How 2: Develop better tools and procedures for data management, reporting, forecasting
How 3: Universal ticketing and help desk
How 4: Improving staff training and development
How 5: One Agile MIT (developed further to draw from other inputs as Big Idea)

How 1: PI Dashboard / modern ERP system

Current State:

- PI Dashboard does not exist - PIs generate funds for their own labs and for the Institute through proposals, but the financial and administrative tools to support the proposal submission process, as well as the accounts management process, have not kept up with modern standards. A person on the street can check their balances with an app on their phone, but a PI may have to wait weeks for their overworked financial officer to complete the slow process (see above) of compiling projections of their accounts. Addressing this problem will allow PIs to make better budgetary decisions, allow financial officers to focus their time on other tasks, and alleviate the risk of over-expenditures for departments and schools. Addressing this problem will almost certainly mean that other data issues (see above) will also have to be addressed.
- SAP is the core system for many of our administrative processes across MIT, but not for all processes. ERP stands for enterprise resource planning, but this means more than databases and software. At MIT in SAP, authorizations are controlled by the Roles database, the core system for grants management is Kuali Coues, and student management is MITSIS. All three are custom-built solutions with significant deferred maintenance. SAP has also been highly customized and built around old processes and procedures. In order for us to take advantage of the advancements in SAP and utilize all its capabilities we need to upgrade to the most current SAP version and also make changes to our business processes to reduce customizations and workarounds.
- In addition, there are opportunities to migrate Roles, Student management and Grants Management to the SAP platform, and some of the core modules that can be used. This will enable us to improve all our administrative processes and gain efficiencies. This implementation would require significant business process change that ultimately will provide large rewards but would require a strong change management component. To gain a full understanding of the functionality and benefits of the most current version of SAP we would need to engage external help.

Envisioned State:

PIs would have access to their research-related financial information regardless of the location and source of the funds within MIT's administrative units. PIs and their DLC support teams would also have access to other research-related information in the same dashboard (e.g., research personnel,

intellectual property disclosures, current material transfer agreements or data use agreements, approved laboratory safety protocols or human subjects research protocols, etc.).

Pros:

+ Dashboard access to account and other information will help PIs make faster, more accurate decisions about spending and writing proposals.
+ PI Dashboard will reduce time spent by staff providing basic information, allowing staff to work on other more value-added or urgent tasks, which may have the effect of increasing satisfaction with work.
+ Enables PI-RAS interactions to focus on tasks that are more challenging.
+ Reduce risk of overspending for departments and schools.
+ PIs would have access to real-time data.
+ If the dashboard could be created to provide administrators with access to the data based on authorizations provided by the PI rather than by unit, we would resolve a long-standing issue related to data being in silos.

Cons:

- Our current systems and the regulatory/audit environment have led units to create shadow systems that can be difficult to integrate into new systems. These local systems are frequent viewed as critical for historical reporting reasons.

How 2: Develop better tools and procedures for data management, reporting, forecasting

Current State:

- Data management: MIT uses a myriad of tools for financial and information management. We should develop better tools and procedures for data management, reporting, forecasting. Addressing these issues would enable staff to spend less time on tedious tasks and focus on work that makes better use of their abilities, and pave the way for better access to data by all users.
- With respect to data access, our current systems contain accidental integration and architecture with a multitude of data hierarchies which are inconsistent and/or unmanaged, resulting in delays for new staff receiving all the authorizations needed for them to function.
  Globally, historical information and changes have not been tracked effectively and, in many cases, any documentation is outdated and incomplete. Determining data lineage or impact analysis impossible for most systems, which leaves users unable to even determine where to send questions.
- Administrative tasks require knowledge of how a particular employee relates to the rest of MIT (who the supervisor is, what departments are they affiliated with), but this information is often incorrect or nonexistent. This has repercussions across all units.
- There is presently decentralized oversight of revenue streams and the processes and systems that support them: GIB (Tuition/Investments), Research (grants/contracts), Gifts/Donations, and Fees/Memberships. The result is the lack of a well-integrated and easily usable system to track resources, from the revenue source to expenditures to balances available.
- While data issues are most frequently noted in the context of financial systems, this issue pervades all aspects of MIT, notably hinders our Diversity Equity and Inclusion (DEI) efforts, and touches on managing students, access to campus, space planning and utilization, among other areas.

- Wealthy, large units create robust work-around systems, which they are loath to give up in the interest of less customized solutions, but leads to inequities in the abilities of staff to work effectively and provide the necessary support to their stakeholders. These local systems result in staff developing skills to manage tasks that are inconsistent across the Institute and make movement among units challenging.
- Greater access to all types of data (HR, finance, space, research) information to all stakeholders, more dynamic reporting, less repetitive/tedious work --> increased focus on planning and analysis, increased accuracy.

Envisioned State:
A clear and consistent process of acquiring, validating, storing, protecting, and using data in an accessible, reliable, and meaningful way. Access to data and systems will be easy to obtain. The structures in place for a variety of data visualization and reporting options will be available to users in a format with enough flexibility to connect with local data and allow downloading and printing. Ideally, shareable data would be stored in a format standardized for key items (unit names, definitions of categories, etc.) under a single schema. Units would be confident that they can rely on the central data resources and that those repositories will provide them with the flexibility to customize for their own reporting, in order to allow transitions from local systems to centrally managed and maintained systems.

Pros:
+ Data access and management is a major upstream issue that, if resolved, will build a strong foundation for the creation of numerous other applications and initiatives.
+ Some of the workarounds that have been developed because of data access and management issues outlined above are possible in part because people can communicate informally in person. Addressing data access and management will enable longer term WFH for administrative staff.
+ Logical, seamless data access and management will enable numerous admin staff (and by extension the rest of the MIT community) to spend less time on tedious tasks and more time on innovative, value-added tasks.

Cons:
- Systems at MIT are interconnected and untangling the labyrinth will probably be a long and tedious project.
- There are likely to be obstacles in streamlining and cleaning up the data that will require staff -- who will have to balance tedious, but necessary work -- against other more interesting projects.
- In addition, changes that are made will affect existing reports and systems, which could be disruptive if the communications to the community are poorly handled.

How 3: Universal ticketing and help desk

Current State:
Google has a universal ticket system. If you are working at Google and you need pretty much anything -- payment, request for a repair, questions about a policy -- you submit a query to a single unified address. There is no need to determine which office to contact because the ticket system does this automatically. In Boston, there is a 311 system allowing you to access city services. You do not need to know where the help comes from you; you simply send the issue into the system. More recently, the Division of Student Life rolled out a new system called Ask.MIT with the overarching goal of allowing students to make generalized inquiries: "Ask MIT. Get Answers. You shouldn't have to think about where to turn for help. Just ask. A Student Support and Wellbeing team member will get back to you within 1 business day. Or scroll down for more. https://ask.mit.edu/."

DSL hopes that Ask.MIT will function in much the same way as Google's universal tracking and Boston's 311 function. Our team recommends a similar system to address and manage administrative and operational activities.

Envisioned State:
An MIT where who you know does not define how quickly you can access information.

Pros:

+ Members of the MIT community spend a lot of time trying to find answers. In many cases, they are bounced from office to office while trying to gather information. If they are lucky, they know someone who can answer many questions and they call on "that person" when they feel lost. It would be better if everyone had access to "that person".
+ In addition, such a system would allow the Institute to gain a better understanding of policies, procedures, and resources that are poorly understood by the community, which could lead to improvements in training and communication efforts.
+ There is no reason to delay this task, which could be accomplished by asking key offices to assign staff to field questions that fall within their domain, by utilizing staff in the Atlas Service Center, or by putting this in the Project Management Office if that idea moves to fruition.

Cons:
The risk is that there could be over-utilization of the system by users who find the system easier to use than tracking down the information. That might not be a bad thing, but it may need to be addressed if it becomes a problem. For the project to be successful, the staff who are in appointed to answer the queries will likely be existing MIT employees whose units may be unhappy to see them moved.

How 4: Improving staff training and development

Current State:

- The top two reasons that people leave MIT is for career advancement and professional development. Onboarding and orientation is left to the local units where the quality of the training varies considerably.
- The current state of our systems has resulted in customized solutions that may lead to single points of failures, poorly documented systems, and mixed levels of training with few, if any, commercial training options. This is true on both the central and local side of MIT. There is online training available for some of these systems, but staff are too busy to access the training and the training is often not easily accessible. In addition, training during rollouts of systems, processes, and programs is conducted, but is inadequate for new members of the community.
- Finally, we note that, while online training is a good resource, it does not allow trainees to ask questions, develop relationships with colleagues, or learn about the systems and initiatives in place in other units.

Envisioned State:

- MIT would be known as an employer with fantastic training opportunities and career paths for all members of the community.
- All offices that own a system or procedure would provide training and documentation related to the activities that they oversee. (This information would also be leveraged by the universal ticketing system.) This would likely require ongoing support from HR to create templates and to provide assistance for business process owners who are developing local training.
- One notable area ripe for improvement is data-manipulations skills for staff, for example, excel advanced skills, tableau.
- In addition, many staff report that they do not attend training because they are too busy or do not have access to funds to cover the costs of external offerings.
- A robust training program would also provide clear career paths for staff and provide a roadmap for developing the skills necessary to meet their career aspirations.
- Finally, MIT would create and implement a robust onboarding program that will provide a clear sense of how to access resources, develop their skills, and meet their long term career aspirations.

Pros:

Based on exit interviews conducted by HR, we understand that many staff leave MIT due to a lack of career advancement. In addition, those who come to MIT find our business processes to be so complicated and outdated that some leave MIT and others spend excessive time onboarding and familiarizing themselves with administrative systems and processes.

In addition, more robust training programs would allow staff to move more easily between units at MIT, more fully utilize the systems that we have in place, and spend more of their time on strategic activities.

Cons:
Executing this proposal would require that each office would take responsibility for training within their domains. Most departments do provide some level of training and some have robust training programs (EHS, HR, RAS, VPF for entry-level tasks), but there are many other administrative activities that do not provide training for new staff or ongoing development for those who are in the process.

How 5: One Agile MIT To be supported by a new cross-functional project management implementation team (Skunk Works for administration)

Current State:

- MIT has a culture that requires a lot of buy-in from many stakeholders. Despite years of believing otherwise, we have learned that we can be nimble and make huge decisions at a rapid pace when in a crisis. We believed this in part because we have seen many committees formed, only to have their work forgotten or overruled/bypassed due to the lack of decision/implementation capability.
- Administrative Project Management teams are re-invented from one major project to the next. Different implementation teams are formed, staffed by MIT community stakeholders, who are already managing daily operations, and then once the work is complete or the work hits an impasse the team is dissolved.
- Despite a culture of continuous improvement and adaptation, MIT lacks a professional project management resource charged with implementing new administrative systems and processes. Such a team can learn, build, document, and lead an effective and agile implementation methodology that consistently works with the MIT culture.

Envisioned State:

- A new, permanently staffed, agile project management team that supports the implementation of MIT priority projects with the following characteristics:
    - The team or team lead has the authority to make decisions that will result in "good enough" advances and implementation. To get productivity, we need standardization, which will come at the cost of customization to MIT. Moving in this direction will increase the opportunities for staff to utilize external training resources and increase our available external applicant pool of those experienced in less customized software solutions.
    - Cloud computing and rapid software innovations outside MIT dictate that we move to this model. We want to preserve the spirit of rapid Covid decision-making in support of operations in a sustainable way.

- We should avoid having teams work on topics without any decision capability or without a clearly defined role.

To mitigate the concerns regarding the work of the project team, we recommend the following:

1. The Project Management Team should form an implementation committee that includes key stakeholders for each project. There should be a clear decision tree built into every committee/project detailing the decision-maker at each stage in the process, a timeline for decision-making, the stakeholder buy-in process, and the deliberative process.

2. Establish overarching principles for decision-making: e.g.: (i) push decision-making as far down in the org chart as possible, but high enough to carry sufficient authority and ability to allocate necessary resources; (ii) maintain maximum transparency; (iii) involve major stakeholders; and (iv) consult minor stakeholders.

3. Provide opportunities for the team members to have hands-on experiences and allow other staff the opportunity to join these teams. This model would also allow less experienced colleagues to take on growth opportunities for short periods. If the Institute implemented and administrative fellowship program, these opportunities could be for longer (and more meaningful) periods.

4. Gather input and people from the community and act as a clearinghouse for administrative system support, which would include communicating on ongoing projects, soliciting stakeholder feedback, and maintaining local solutions to common administrative tasks across all subject domains (HR, student management, finance, research, gift management, etc).

5. Maintain and oversee system support, which may also include serving as a clearinghouse for training opportunities and up-to-date documentation across all domains of work. The agile team would be different but connected to training teams.

6. An annual call for innovation proposals (3-5) to DLCs with submissions from the community that would include the creation of a selection process with adequate decision-making, including the authority to share all of the information that was collected within the community.

7. Locally created systems would be considered for broader implementation or modified to allow access to the broader community. See: BUSINESS TRANSFORMATION OFFICE @ UCLA https://www.bto.ucla.edu/news/mission-ucla-business-transformation-office-bto (10 staff members) as an example. Several other universities already have similar project teams.

Pros:

The proposal would allow MIT to engage the community in strategic discussions on administrative workflow and planning. The new cross-functional team would ensure broader input on processes, and the annual process for selection of ideas will increase the engagement of the community by surfacing ideas and concerns. In addition, a project team would formalize a group of staff who can commit their efforts to helping plan and lead these types of activities, which are now occurring in an ad hoc fashion as time and other activities allow.

Cons:

There are significant ongoing costs associated with an endeavor such as this one, which will include

staffing, space, and funds for purchasing software as well as identifying funds for ongoing training. This concept may also present challenges and/or conflicts with current governance structures, such as the Information Technology Governance Committee (ITGC) and its subcommittees, and for senior leadership charged with the responsibility and authority to make systems and process decisions across key areas of Institute operations.

WORKFORCE OPERATIONS (Team Who) SUBSTREAM IDEAS

Who 1: Employee Development
Who 2: Flexible Work including at Remote Locations
Who 3: Charting a Long-Term Staffing Strategy for MIT: First step, develop a pilot program for reducing contingent employment at MIT

Who 1: Employee Development

Current State:
For the past several years, Exit Survey (sent to all non-faculty employees who terminate by Central HR) results highlighted the top two reasons why employees leave MIT: Opportunities for Career Advancement and Opportunities for Professional Development.

Management Support:
- Managers do not always realize that their role is to help develop their employees beyond classroom training nor do they always have training in this area.

Systems:
- Technical platforms not aligned and training offerings are limited to none.
- Current systems make it impossible to target employees by levels or roles.
- Current system emphasizes formal training programs; modernized system needs to shift to a learning platform accessible to all employees.

Career Progression:
Career progression involves moving up, moving laterally and/or growing within a job.
- Currently, we lack transparent, formal career paths, and other kinds of formal development opportunities such as job rotations, job enhancements, etc., which could assist in retaining and engaging employees and succession planning.
- Training programs not linked to career progression, performance management, or compensation.

Course/Training Offerings:
- There is a moderate array of employee development courses that focus on specific roles (emphasis on management) with limited offerings for the average employee.
- Course offerings are not timely/infrequent
- Development programs are not suited to all job types
- Often communication about programs does not filter down to employees
- MIT employees are often unaware of the internal training resources available such as: EdX, LinkedIn Learning, Sloan Exe. Ed, HR resources, and tuition reimbursement

Envisioned State:
- Employee Development is deeply imbedded into the culture. There is accountability associated with it.

- All staff have tools, systems and resources for personal and professional development through a robust and innovative development and career progression plan.
- Managers and employees are aware and work together on employee development and/or career mapping activities. Traditional career paths and ladders, and/or other kinds of development opportunities, including job redesign, job rotation, job enhancement, lateral moves, etc., are transparent to employees.
- MIT has dedicated resources (and funding) whose priority it is to proactively establish and implement employee development/career progression strategies – growing talent from within the Institute, with the goal of increased retention and engagement.
- Employee development will be inclusive and available to all MIT employees.
- Area one: Develop a functional level development and career progression road map for select job families (prioritize with input from broader MIT community)
- Area two: Create foundational employee curriculum tracks to support onboarding (example, general MIT knowledge: What is a Provost? information on the different schools and focus, relevant departments, etc.),
- Area three: Invest in developing a state-of-art learning system—a large menu of courses from multiple internal/external sources that employees can take guided by an AI system that guides learners through courses that serve as pathways to promotion and job readiness for available opportunities.

Pros:

+ Employees usually feel more engaged when they believe that their organization is concerned about their development.
+ Developing and implementing employee development ideas/strategies may improve recruitment, morale, job satisfaction, motivation, productivity, and retention. Examples:
    - Having formal career progression in place provides employees with an ongoing mechanism to enhance their skills and knowledge that can lead to mastery of their current jobs, promotions and transfers to new or different positions.
    - Employees will have a cadre of resources to assist them with training and development; career progression, etc.
+ Managers are fully trained and engaged in the development of their employees.
+ Catch up with state-of-the-art learning systems in place in leading private sector companies
+ Resource to support performance expectations; pay expectations

Cons:

- Employee development is a significant responsibility for managers, who are often times overwhelmed with their day-to-day responsibilities.
- Managers may not be prepared to have development and career conversations
- There may not always be a career progression strategy for every role or person which may have a negative consequences.
- Managers may be apprehensive about career progression, as it could lead to employees leaving their DLCs.

- Significant expenditure and design costs to create a learning system—can be mitigated by working with leading companies that already have AI supported learning systems in place

Who 2: Flexible Work including at Remote Locations

Current State:
Starting in March, COVID-19 forced much of the Institute to work remotely overnight. MIT has in place a flexible work policy (Policy 3.1 in the Employment Policy Manual) that has allowed employees to request different work schedules and/or work locations to meet their individual needs and the needs of the Institute. A review of the 2020 Quality of Life survey revealed most respondents already had experience working remotely (69%), though for many jobs (e.g. MIT police, many researchers, custodial staff) working remotely is not possible. Departments in which a larger percentage of staff were already fully remote prior to COVID-19 were able to quickly adjust to the new remote requirement. For departments with less experience in this area the adjustment was more challenging.

Envisioned State:
Wherever possible, successful job completion should be independent of physical location and time, depending on the specific job requirements and nature. Managers and employees have conversations about what work is best done in the office, what work can easily be done remotely, and/or a combination of the two. Equipment needs, impacts on team culture and collaboration, and employee feelings of respect, inclusion, and engagement should all be taken into account. Options for flexibility are key.

Pros:
+ Allows for flexibility in how and where work at MIT gets done
+ Improved employee retention
+ Enhanced image of MIT as an employer and a place to work
+ Increased employee health (reduced stress, reduced cost of commuting, family/personal time/needs, healthier food, personal hygiene/comfort
+ Expanded productivity (focused work time, impromptu meetings, more efficient scheduling of appointments, reduced tardiness/absenteeism)
+ More efficient use of space (office space, parking, meeting/conference rooms)
+ Reduced carbon footprint, reduced commuting costs/time
+ Improved talent recruiting (more candidate interest, access to a larger pool of talent)
+ Expanded resilience of organizational capability
+ Enhanced innovation, the building of a culture of strength via maintenance of individual motivation

Cons:
- Culture shock

- Reduced face-to-face communication, lack of 'community' feeling, moderated social connection, feelings of isolation
- Risk of workload and professional development inequities arising from some employees having more in-person interaction with supervisors depending on work location
- Missed opportunities for collaboration between colleagues not working in the same spaces
- More tailored practices required to ensure consistent performance management and additional actions necessary to ensure accountability/expectation alignment
- Challenges providing effective time management skills,
- Added responsibility to contain distractions
- Increased concern about arbitrary actions
- Potential of staffing change

WHO 3: Charting a Long-Term Staffing Strategy for MIT: First step, develop a pilot program for reducing contingent employment at MIT

Current State:
MIT currently employs individuals in a broad range of employment categories both in its academic and administrative/staff operations. These include full-time tenure and non-tenure track teaching and research faculty, post-docs, adjuncts, lecturers, research scientists on the academic side and full time staff and administrators as well as over 2,000 contingent workers across various employee categories such as temporary, contract, and part-time roles (often in jobs that were previously full-time positions) Our group proposes to generate an inventory of these different categories and to develop a long term vision and strategy for both managing the proportions in different categories and actions needed to reduce or eliminate the inequities, risks, insecurities, and sense among the contingent workforce that they are second-class citizens in the MIT community. Our preliminary review of this issue is that many in the contingent categories feel there is a feeling of a "one-way honor system" at work and a violation of the "One MIT" ethos. Their loyalty and dedication to MIT is assumed while MIT is not reciprocating.

As a first step in this broader examination, we propose to focus on the current and desired future state of contingent work at MIT. We will then examine the broader range of employment categories based on lessons learned in this first phase.

Exit interviews and survey data consistently show that the leading reasons employees leave MIT are that they don't feel MIT is committed to their professional development, and that there are not enough opportunities for career advancement. As a result, MIT is losing talented employees to other organizations and institutions where they can find more secure employment and more robust development resources and opportunities. This turnover is costing the Institute in several ways:

- We are investing time and resources in repeatedly training and onboarding the same positions, sometimes multiple times within the same year. We are not retaining these employees long enough to enable them to build strong institutional knowledge of MIT's history and practices. Many DLC's rely

heavily on the institutional knowledge of employees who have worked at MIT for extended periods. With many of those individuals nearing retirement, there is a looming problem in those DLCs if we do not ensure a pipeline for reliably replacing the individuals who retire along with other long-term MIT employees.

- Many contingent workers possess diverse skill-sets and are capable of contributing more to MIT than their current positions require. When these workers don't feel that MIT is committed to them as employees, they seek opportunities elsewhere instead of taking the initiative to expand themselves professionally within MIT.

- Feelings of precarity prevent our employees from developing trust between themselves and their managers, and between employees and MIT as an organization. These feelings also erode a sense of solidarity among members within our community and impede a shared commitment to MIT's mission.

Envisioned State:
A workplace culture in which employees and MIT make shared commitments to one another to better both entities and meet the "One MIT" principle. That workforce members are considered indisposable and distinct contributors. And the Institute recognizes that modern work comprises intangibles such as emotional, psychological, and extemporaneous behaviors that draw upon exceptional interpersonal skills and practices.

These principles will manifest themselves in practices such as:

- Following an initial trial period (6 months?), the Institute provides minimum longer-term contracts (3 years?) for MIT employees in positions that are currently at-will employment, short fixed-term contracts, or subcontracted.

- Job descriptions offering full-time employment will encourage cross-training and foster individuals' opportunities to develop, broaden, and exercise and develop diverse skill sets.

Pros:
+ MIT will experience a more stable workforce where more employees stay at MIT long enough to accrue valuable institutional knowledge.

+ An employer-employee relationship will be built on shared commitment and trust in one another to work towards mutual betterment.
+ Increased retention of talented employees will reduce resources spent on training and onboarding for positions that experience high turnover rates.
+ A more unified community without some employees feeling like second-class citizens.
+ Reduced potential for disparate impact, disparate treatment, and other discriminatory practices that may disproportionately affect contingent workers.

Cons:
- Longer-term contracts bring the risk of committing to employees that end up not being good fits for their positions.
- Performance review and management practices may need to be strengthened in order to offset this risk.

- Flexibility will be reduced to deal with upward and downward fluctuations in demand or budget resources for the work contractors perform.
- The longer-term contracts may not be appealing to younger workers or those looking to explore a new role or field. Positions specifically tied to training and early career development (e.g. predoctoral and postdoctoral researchers) may not be appropriate for such a program.