

# Strategic Office Vacancy Assessment Tool for Enhanced Facilities Space Management



Sandia  
National  
Laboratories



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The Strategic Office Vacancy and Assessment Tool (SOVAT) is a Powersim® Studio 10 simulation developed collaboratively with key members of Sandia National Laboratories Centralized Space Management (CSM) team to assist them in their management of the approximately 20000 spaces that the Sandia workforce occupies. SOVAT runs at a monthly timestep over a 6-year period, projecting the supply of space by leveraging a corporately-maintained dataset with detailed information on the ~20000 spaces, along with planned space additions, and projecting the demand for space using HR data on the current actual workforce and projected growth in the workforce over the simulation period. The dynamic nature of workforce growth, being driven by addition of new employees, replacement of retirees, and the time to process clearances, which effects what kind of space these new hires can occupy, presents a challenge for the CSM team when it comes to planning for Sandia's future space needs. SOVAT is currently helping the CSM team identify mitigation strategies for projected space shortages, assess the tradeoffs between strategies, and communicate potential strategies to the senior level leadership that will ultimately support or oppose said strategies.



### 3 The Challenge



Between Sandia's two main sites, there are nearly **20000 individual spaces** that must be managed

- New Mexico ~16000, California ~2200;
- Spaces are characterized by a security level (cleared or uncleared) and type (administrative, lab, office, and storage).

Historically, space has been managed by individual divisions in close coordination with their organizations.

Recently, Sandia moved to manage space under the concept of **Centralized Space Management**

- The CSM team (~20 individuals) is now responsible for the function of more than 70 organizations.



## The Challenge Continued



In FY19, Sandia's workforce is planned to grow substantially in order to meet new program needs.

In addition to the new employees, Sandia will also have to replace the fraction of current workforce that is expected to separate.

These new employees will require temporary uncleared space as they await their clearances, and will then need to be moved to their permanent locations.

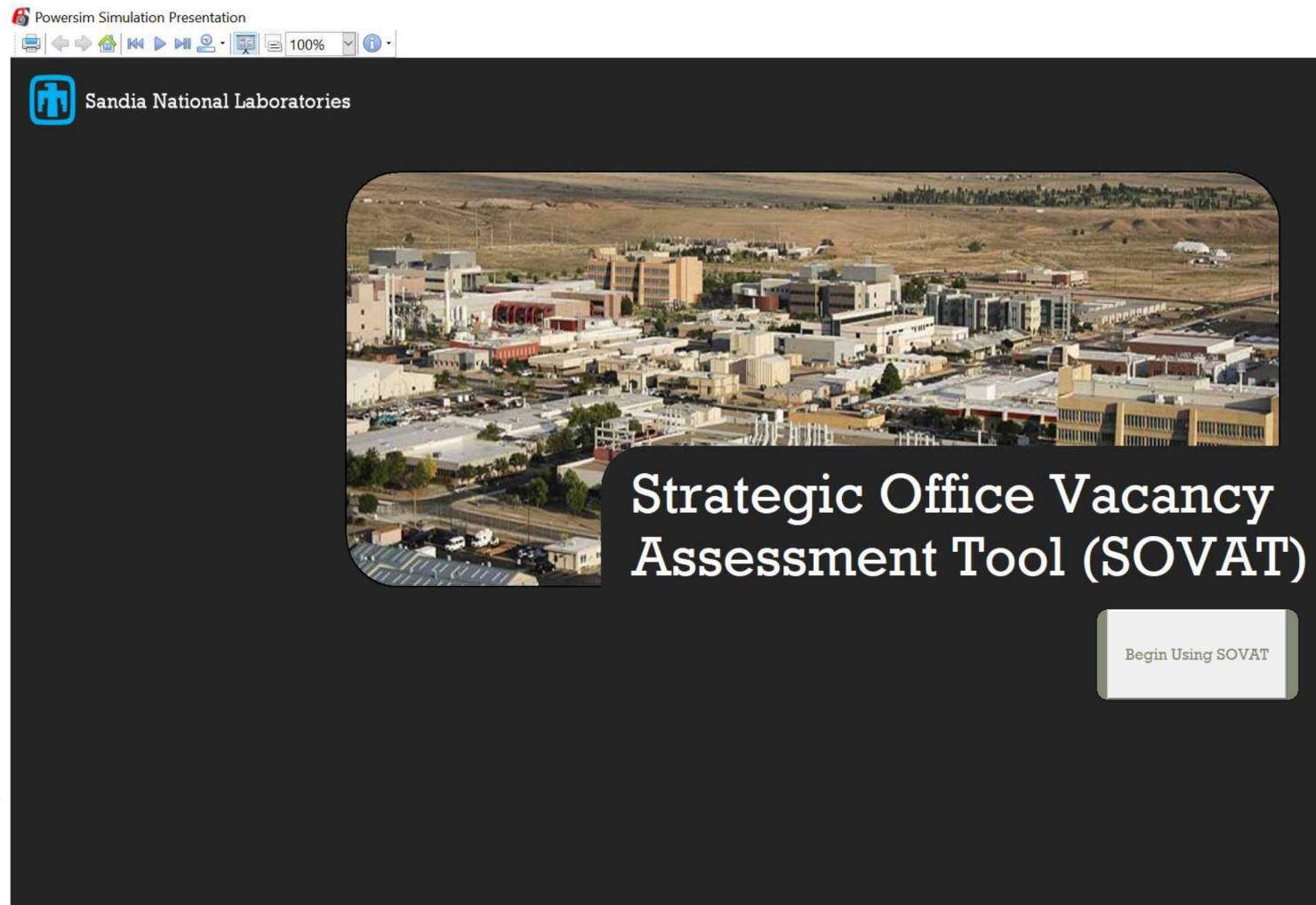
It is the responsibility of the CSM team to determine whether or not Sandia has sufficient space to accommodate these new hires and, if not, what mitigation strategies might be pursued.



## 5 Contribution to the Solution

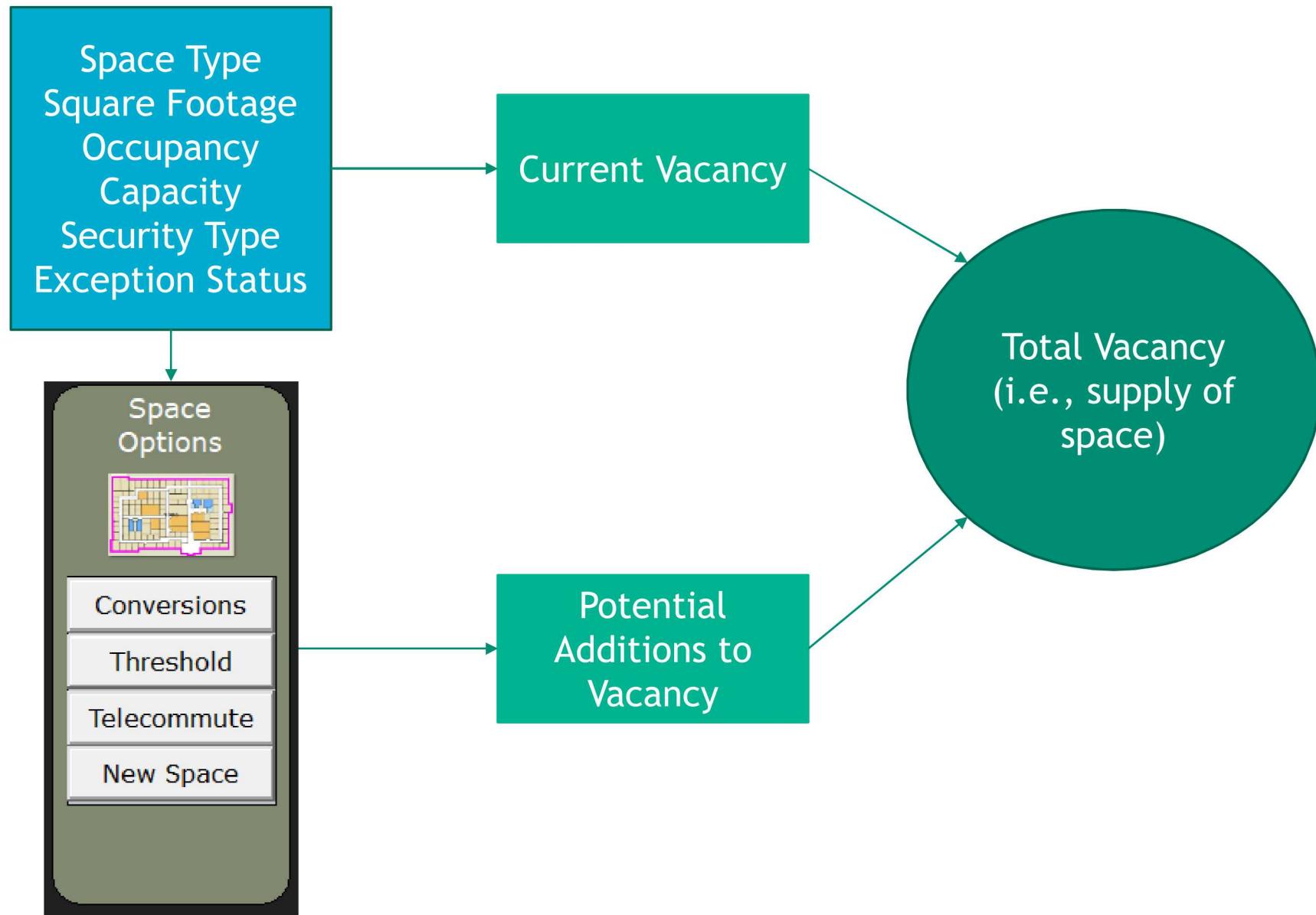
### SOVAT, the Strategic Office Vacancy Assessment Tool

- Powersim® Studio 10 simulation developed collaboratively with key members of the CSM team;
- Runs at a monthly timestep over a 6-year period;
- Projects **supply of space** by leveraging corporately-maintained dataset with detailed information on the ~20000 spaces that the Sandia workforce occupy and that CSM team is responsible for managing, along with planned space additions ;
- Projects **space demands** using HR data on current actual workforce and projected growth in workforce over the simulation period.



The screenshot shows a software interface titled 'Powersim Simulation Presentation'. The title bar includes standard icons for file operations and a 100% zoom level. Below the title bar, the Sandia National Laboratories logo is displayed. The main content area features an aerial photograph of the Sandia National Laboratories facility, showing a dense cluster of buildings and parking lots. To the right of the image, the text 'Strategic Office Vacancy Assessment Tool (SOVAT)' is displayed in large, bold, white font. At the bottom right, there is a button labeled 'Begin Using SOVAT'.

# Supply of Space



# Supply of Space

**Space Conversions**

2018 2024

**PPA** **LA**

**CA**

	%	Start Month	Start Year	Duration		%	Start Month	Start Year	Duration	Unit Cost
Administrative	0 %	1	2019	3.00 mo		0 %	1	2019	3.00 mo	Obscured
Conference Room	0 %	1	2019	1.00 mo		0 %	1	2019	1.00 mo	
Lab	0 %	1	2019	12.00 mo		0 %	1	2019	12.00 mo	
Storage	0 %	1	2019	4.00 mo		0 %	1	2019	4.00 mo	

**NM-TA1**

	%	Start Month	Start Year	Duration		%	Start Month	Start Year	Duration	Unit Cost
Administrative	0 %	1	2019	3.00 mo		0 %	1	2019	3.00 mo	Obscured
Conference Room	0 %	1	2019	1.00 mo		0 %	1	2019	1.00 mo	
Lab	0 %	1	2019	12.00 mo		0 %	1	2019	12.00 mo	
Storage	0 %	1	2019	4.00 mo		0 %	1	2019	4.00 mo	

**NM-TA2**

	%	Start Month	Start Year	Duration		%	Start Month	Start Year	Duration	Unit Cost
Administrative	0 %	1	2019	3.00 mo		0 %	1	2019	3.00 mo	Obscured
Conference Room	0 %	1	2019	1.00 mo		0 %	1	2019	1.00 mo	
Lab	0 %	1	2019	12.00 mo		0 %	1	2019	12.00 mo	
Storage	0 %	1	2019	4.00 mo		0 %	1	2019	4.00 mo	

**Staff Inputs**

- CA
- NM
- NM-TA1
- NM-TA2
- NM-TA3
- NM-TA4
- NM-TA5
- NM-Off Base

**Space Options**

- Conversions
- Threshold
- Telecommute
- New Space

**User Tips**

**Space Outputs**

- CA
- NM
- NM-TA1
- NM-TA2
- NM-TA3
- NM-TA4
- NM-TA5
- NM-Off Base
- Seat Additions
- Costs
- Staff Outputs
- Totals
- Telecommuter

-All data are notional-

-All data are notional-

# 8 Supply of Space

**Office Space Threshold**

2018 2024

**Staff Inputs**

- CA
- NM
- NM-TA1
- NM-TA2
- NM-TA3
- NM-TA4
- NM-TA5
- NM-Off Base

**Space Options**

- Conversions
- Threshold
- Telecommute
- New Space

**Space Outputs**

- CA
- NM
- NM-TA1
- NM-TA2
- NM-TA3
- NM-TA4
- NM-TA5
- NM-Off Base
- Seat Additions
- Costs
- Staff Outputs
- Totals
- Telecommuter

**Unit Cost**

	Modify	Sq Ft
CA	<input type="checkbox"/>	70
NM-TA1	<input type="checkbox"/>	70
NM-TA2	<input type="checkbox"/>	70
NM-TA3	<input type="checkbox"/>	70
NM-TA4	<input type="checkbox"/>	70
NM-TA5	<input type="checkbox"/>	70
NM-Off Base	<input type="checkbox"/>	70

Obscured

Select buildings to apply modified Office Space Threshold to by checking boxes below. By default, all buildings are included. To view and/or modify office-level details, see spreadsheet.

California	NM-TA1	NM-TA2	NM-TA3	NM-TA4	NM-TA5	NM-Off Base
903 <input checked="" type="checkbox"/>	700 <input checked="" type="checkbox"/>	905 <input checked="" type="checkbox"/>	20358A <input checked="" type="checkbox"/>	960 <input checked="" type="checkbox"/>	6577 <input checked="" type="checkbox"/>	AML <input checked="" type="checkbox"/>
904 <input checked="" type="checkbox"/>	701 <input checked="" type="checkbox"/>	905A <input checked="" type="checkbox"/>	6501 <input checked="" type="checkbox"/>	961 <input checked="" type="checkbox"/>	6578 <input checked="" type="checkbox"/>	CB4100 <input checked="" type="checkbox"/>
905 <input checked="" type="checkbox"/>	702 <input checked="" type="checkbox"/>	905B <input checked="" type="checkbox"/>	6501F <input checked="" type="checkbox"/>	961B <input checked="" type="checkbox"/>	6580 <input checked="" type="checkbox"/>	CERL <input checked="" type="checkbox"/>
906 <input checked="" type="checkbox"/>	703 <input checked="" type="checkbox"/>	905C <input checked="" type="checkbox"/>	6502 <input checked="" type="checkbox"/>	961C <input checked="" type="checkbox"/>	6581 <input checked="" type="checkbox"/>	CGSC <input checked="" type="checkbox"/>
910 <input checked="" type="checkbox"/>	704 <input checked="" type="checkbox"/>	905D <input checked="" type="checkbox"/>	6504B <input checked="" type="checkbox"/>	961D <input checked="" type="checkbox"/>		

**-All data are notional-**

**-All data are notional-**

# 9 Supply of Space

**Telecommuting**

2018 2024

**Staff Inputs**

CA
NM
NM-TA1
NM-TA2
NM-TA3
NM-TA4
NM-TA5
NM-Off Base

**Space Options**

Conversions
Threshold
<b>Telecommute</b>
New Space

**Space Outputs**

CA
NM
NM-TA1
NM-TA2
NM-TA3
NM-TA4
NM-TA5
NM-Off Base
Seat Additions
Costs
<b>Staff Outputs</b>
Totals
Telecommuter

**Staff Telecommuting**

	PPA	LA
CA	0 %	0 %
NM-TA1	0 %	0 %
NM-TA2	0 %	0 %
NM-TA3	0 %	0 %
NM-TA4	0 %	0 %
NM-TA5	0 %	0 %
NM-Off Base	0 %	0 %

**Staff Space-Sharing**

	PPA	LA
CA	0 %	0 %
NM-TA1	0 %	0 %
NM-TA2	0 %	0 %
NM-TA3	0 %	0 %
NM-TA4	0 %	0 %
NM-TA5	0 %	0 %
NM-Off Base	0 %	0 %

**Home Office Setup Cost**

Obscured

\* A telecommuter frees up an entire office seat.  
\*\* Two space-sharers effectively act as a single telecommuter (i.e., they free up one office seat).

**-All data are notional-**

**-All data are notional-**

# Supply of Space

**New Space**

User Tips

2018 2024

Space Outputs

CA NM NM-TA1 NM-TA2 NM-TA3 NM-TA4 NM-TA5 NM-Off Base

Seat Additions

Costs

Staff Outputs

Totals

Telecommuter

**Staff Inputs**

CA NM NM-TA1 NM-TA2 NM-TA3 NM-TA4 NM-TA5 NM-Off Base

**Space Options**

Conversions Threshold Telecommute New Space

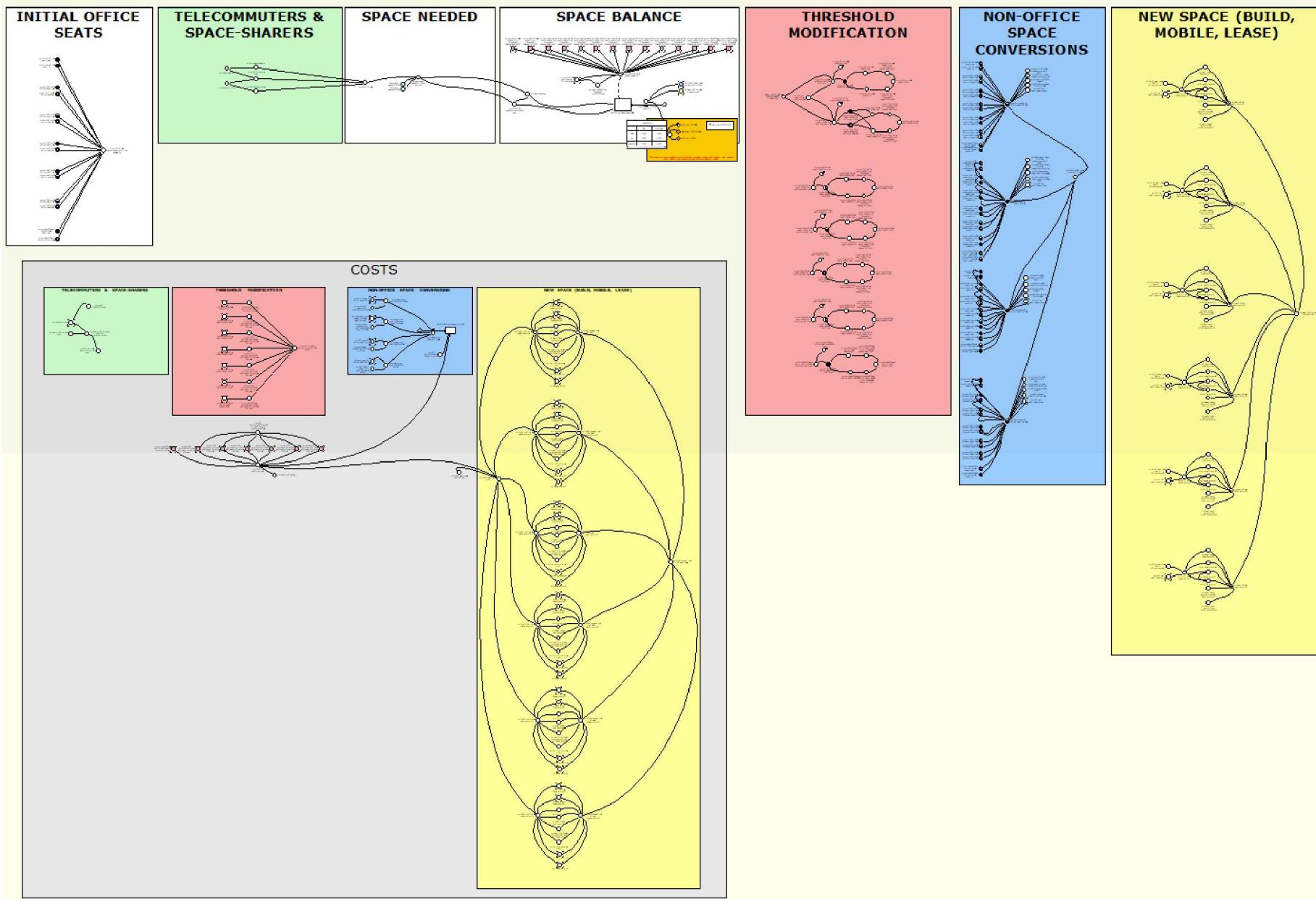
**New Space**

	Acquisition 1	Acquisition 2	Acquisition 3	Acquisition 4	Acquisition 5	Acquisition 6
Type	None	None	None	None	None	None
# of Seats	0	0	0	0	0	0
% of space that is offices	0 %	0 %	0 %	0 %	0 %	0 %
% PPA	0 %	0 %	0 %	0 %	0 %	0 %
% LA	100 %	100 %	100 %	100 %	100 %	100 %
Start Date (Month/Year)	1 / 2019	1 / 2019	1 / 2019	1 / 2019	1 / 2019	1 / 2019
Duration (months)	0 mo					
Cost (\$/sq-ft)	\$0 per ft <sup>2</sup>					
LA Cost Multiplier ( - )	0.00	0.00	0.00	0.00	0.00	0.00
Tenant Improvement Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0
Life of Acquisition (yr)	20 yr					
Total Annual Cost (\$K/yr)	\$0 per yr					
Total Cost (\$M)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total size of new space (sq-ft)	0 ft <sup>2</sup>					

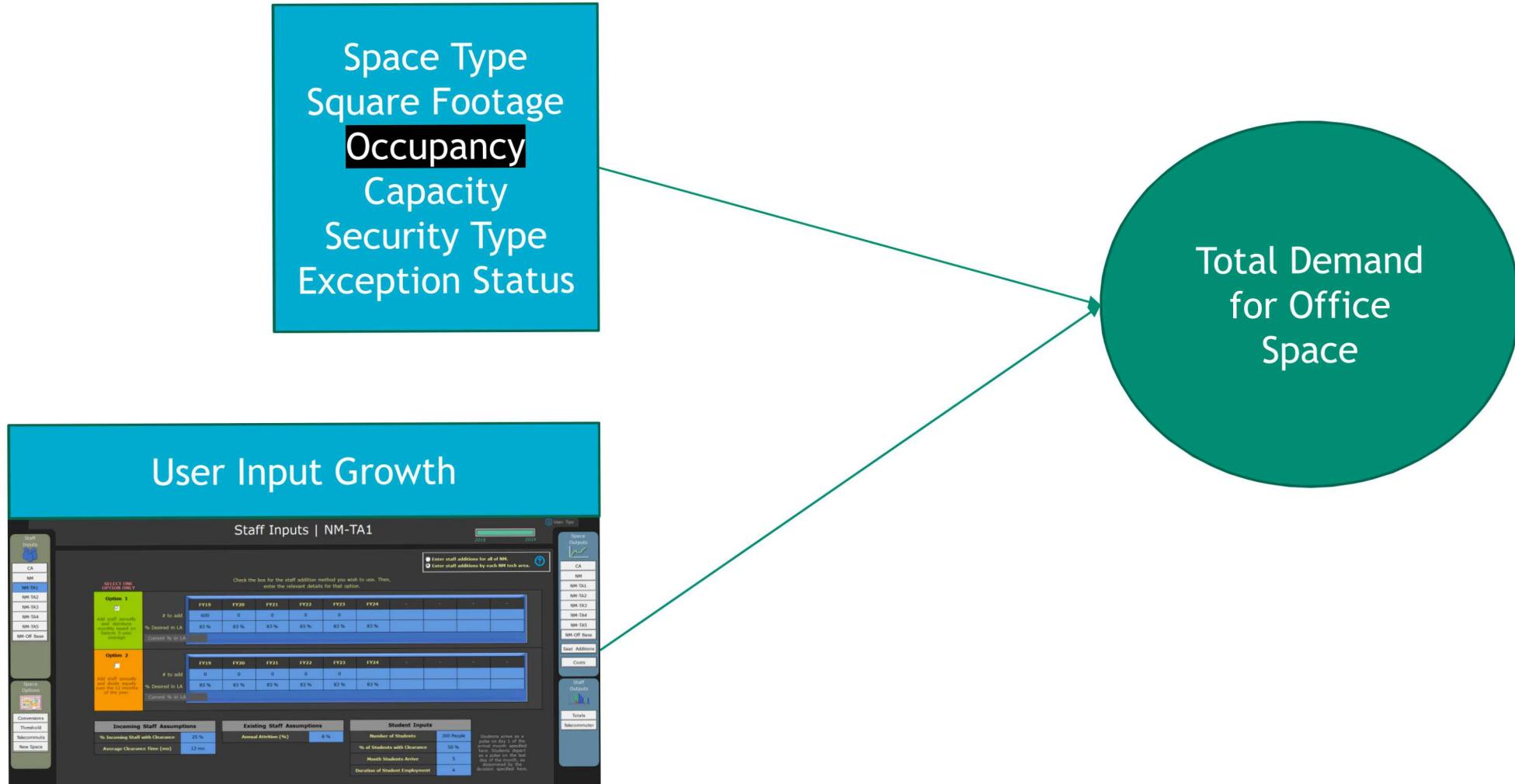
-All data are notional-

-All data are notional-

# Supply of Space



# Demand for Space



**Staff Inputs | NM-TA1**

**SELECT ONE OPTION ONLY**

Check the box for the staff addition method you wish to use. Then, enter the relevant details for that option.

**Option 1**  Add staff annually and distribute monthly based on historic 5-year average

# to add: 600  
% Desired in LA: 83 %

**Option 2**  Add staff annually and divide equally over the 12 months of the year.

# to add: 0  
% Desired in LA: 83 %

**Incoming Staff Assumptions**

% Incoming Staff with Clearance	25 %
Average Clearance Time (mo)	12 mo

**Existing Staff Assumptions**

Annual Attrition (%)	8 %
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**Student Inputs**

Number of Students	300 People
% of Students with Clearance	50 %
Month Students Arrive	5
Duration of Student Employment	4

**Space Outputs**

2018 2024

**User Tips**

- Enter staff additions for all of NM.
- Enter staff additions by each NM tech area.

**CA** **NM** **NM-TA1** **NM-TA2** **NM-TA3** **NM-TA4** **NM-TA5** **NM-Off Base**

**Space Options**

**Conversions** **Threshold** **Telecommute** **New Space**

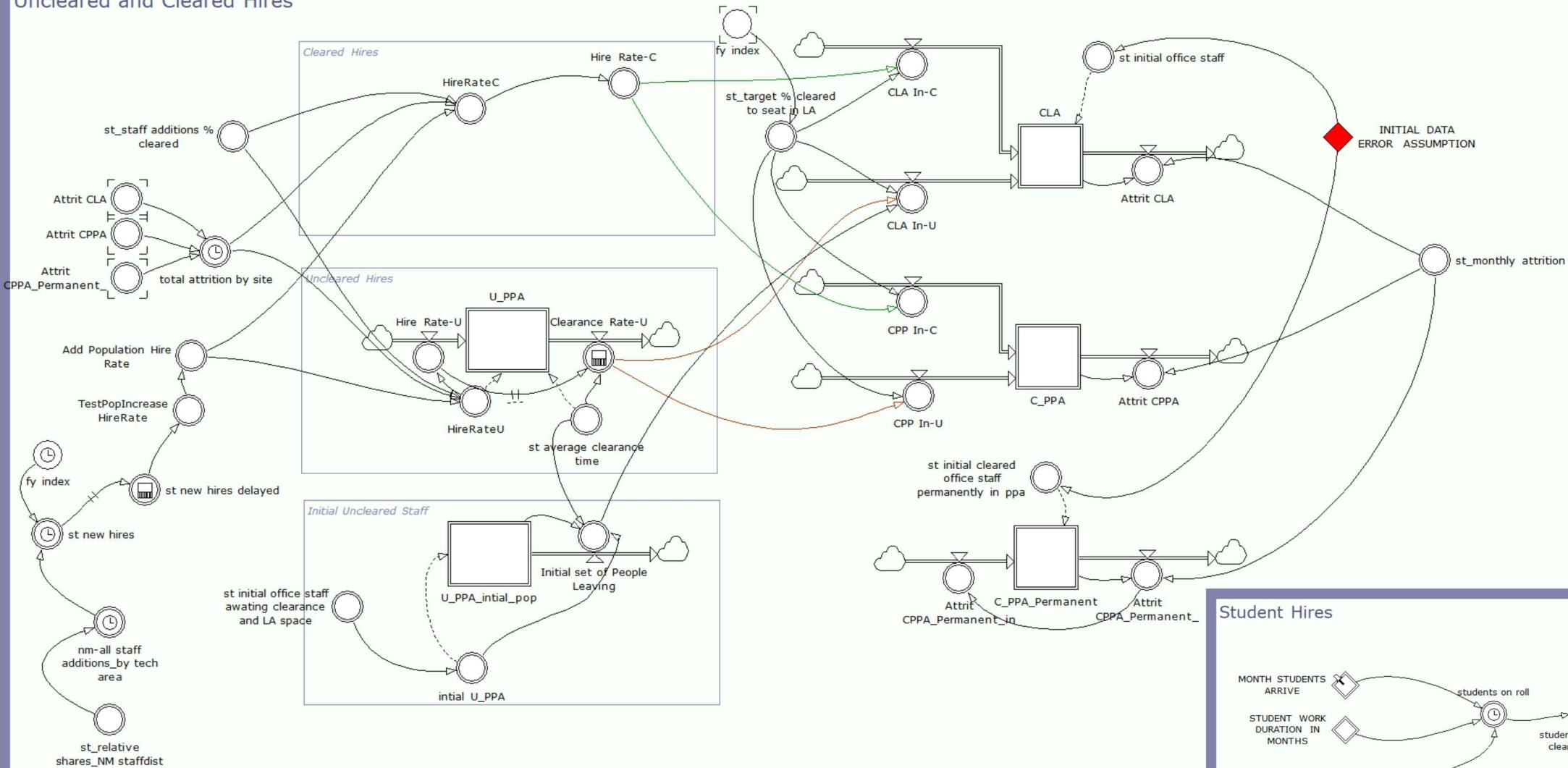
**Totals** **Costs** **Staff Outputs**

**Telcommuter**

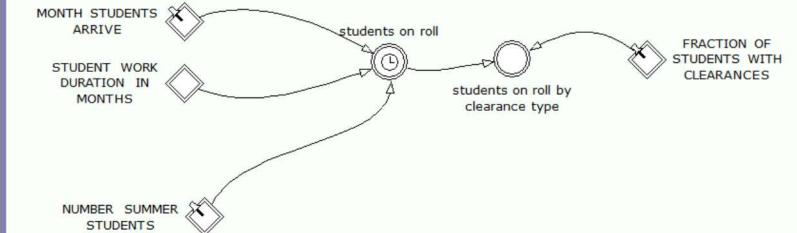
**-All data are notional-** **-All data are notional-**

# Demand for Space

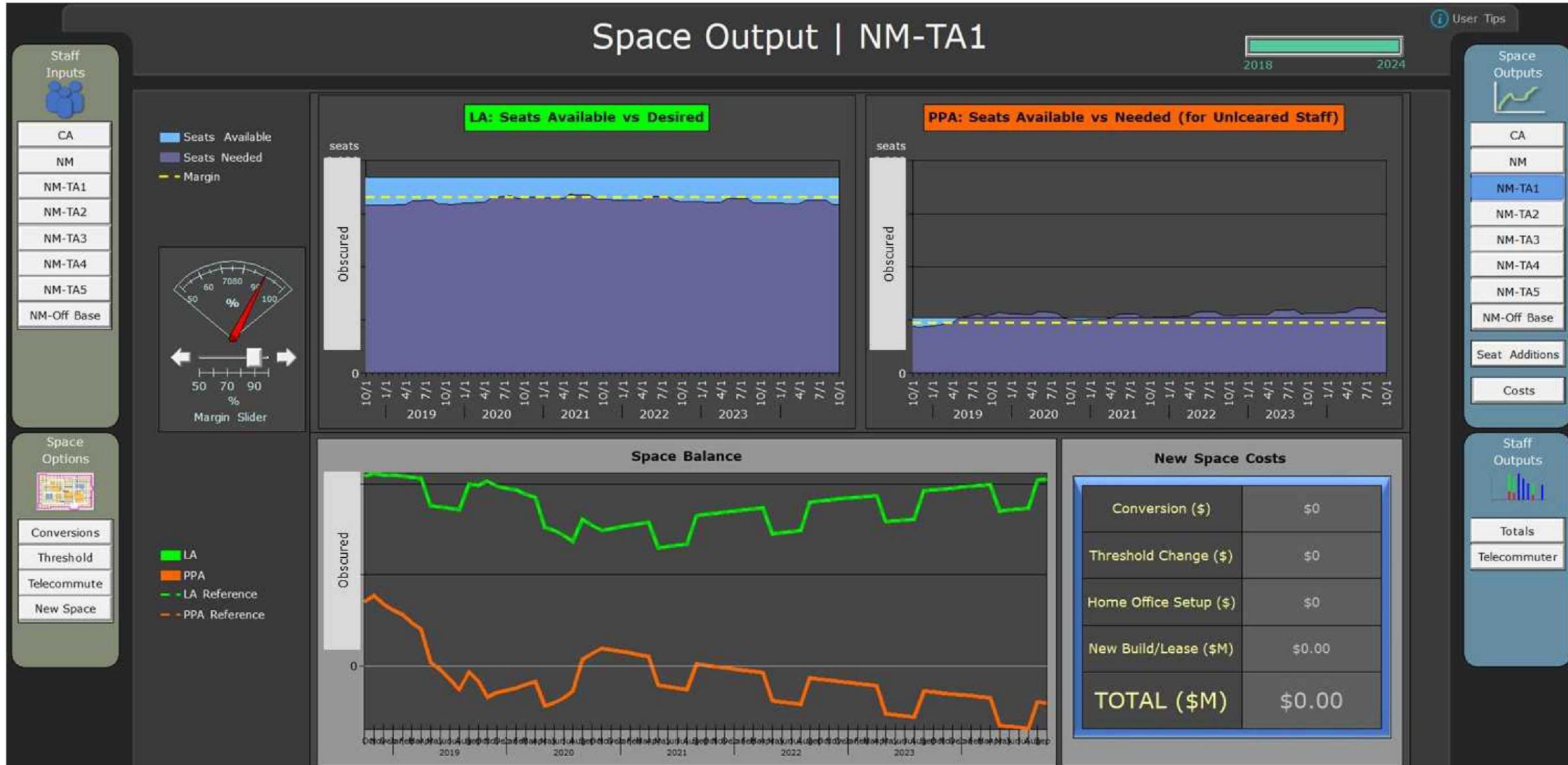
## Uncleared and Cleared Hires



## Student Hires



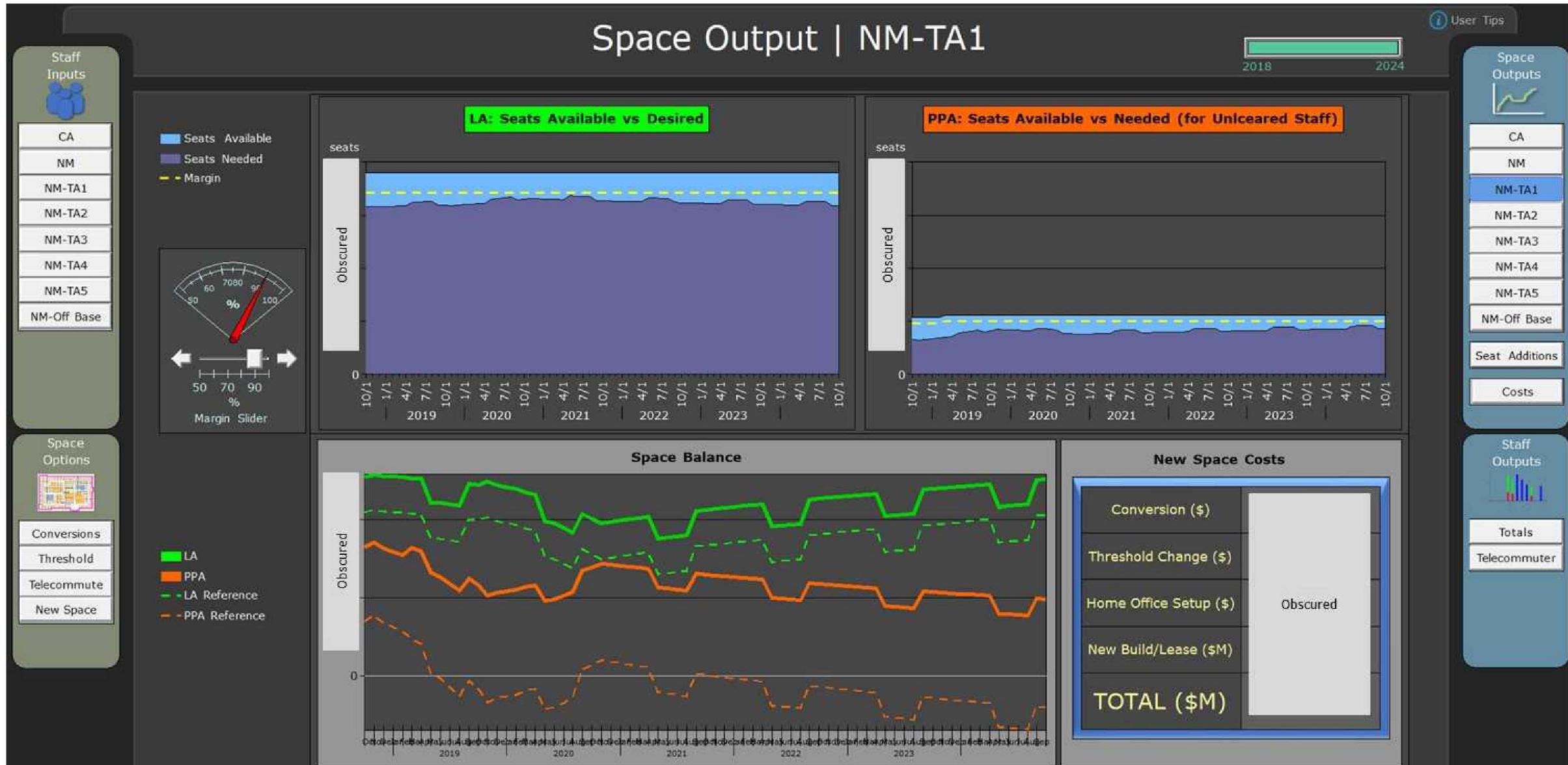
## Projected Growth, No Modifications



-All data are notional-

-All data are notional.

## Projected Growth, Strategic Modifications



-All data are notional-

-All data are notional.

## Current and Future SOVAT Application



Used to inform a 5-year real estate plan, including strategies to deal with FY19 workforce growth.

Used to generate high-level results for education and socialization of real estate plan to senior-level management.

By end of FY19, entire CSM team will be trained in the use and interpretation of results of SOVAT.

QUESTIONS and/or SUGGESTIONS?

