Healthcare Estate for Innovation

Peter Ward



King's Health Partners

- One of the largest Academic Health Science Centres in Europe
- Teach over 30,000 students
- Employ over 40,000 staff
- Treat over 4.5m patients a year
- Shared vision for campus development













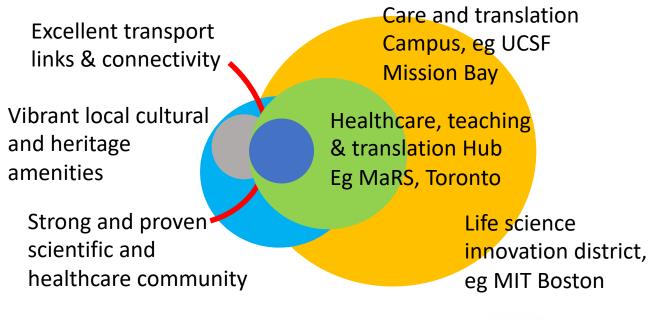








The next 70 years



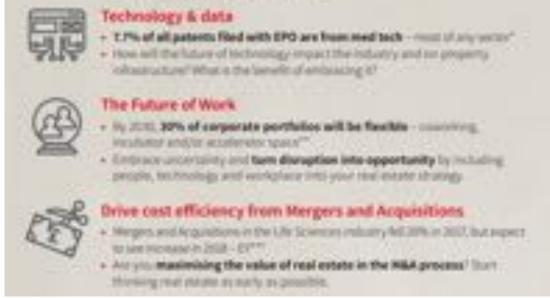






Occupier / Developer / Investor alignment









Thank you

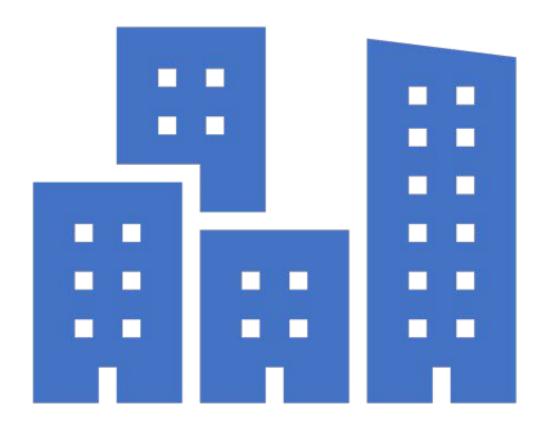
peter.ward@kcl.ac.uk





Adaptable Estate Strategy & Specification

Rupert Corbett 18th June 2019









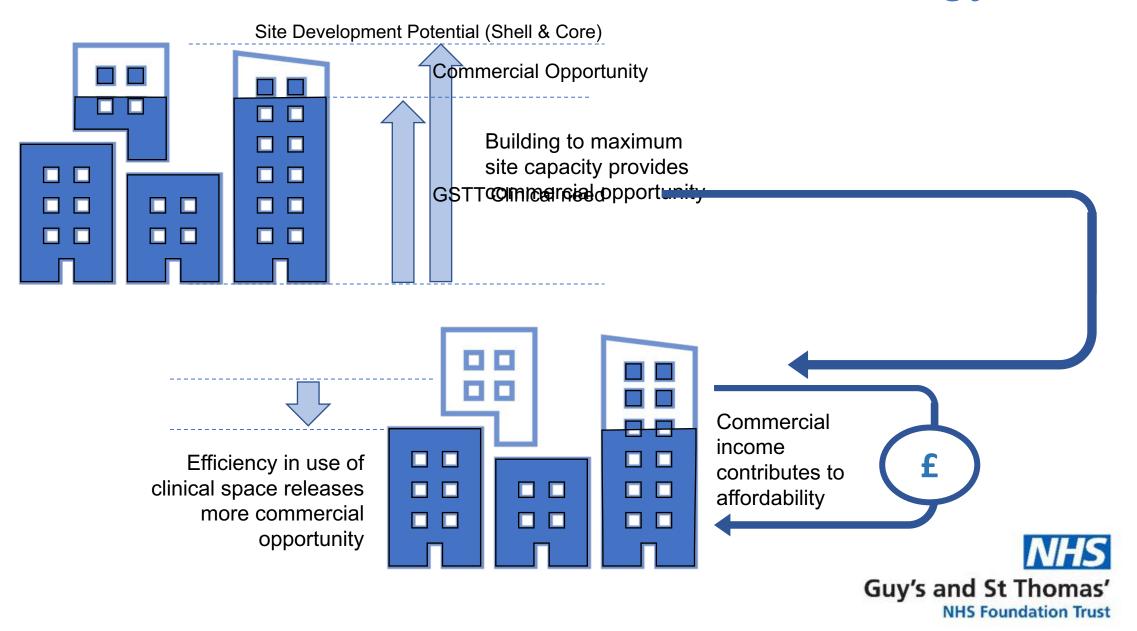


Knowledge Clusters

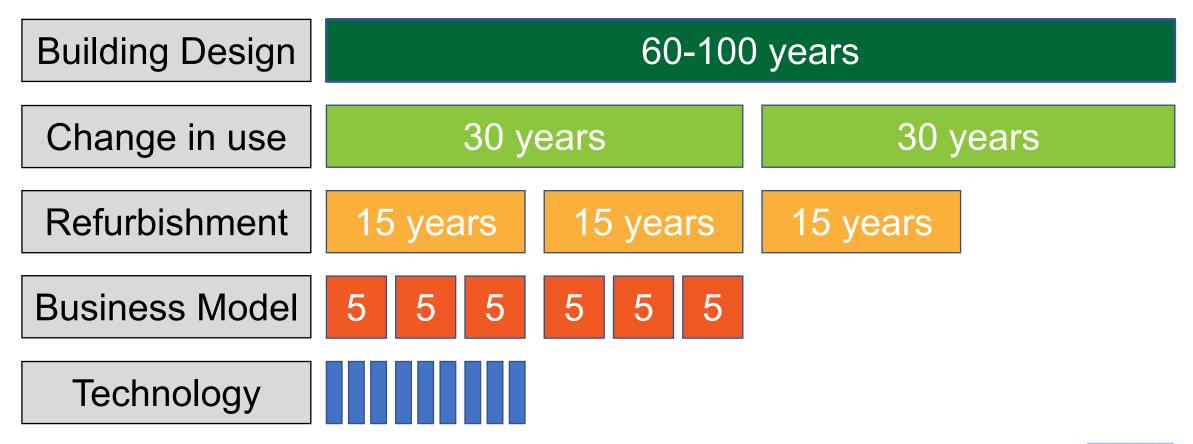




How the Strategy works



3 Business case model





Adaptable vs Bespoke



The Specification

"The Adaptable Estate Specification seeks to develop a 'design guideline' for a generic Shell & Core approach to building developments that suits bespoke fit-out for different space typologies – healthcare, research, teaching and commercial - that can adapt over time."



Typologies

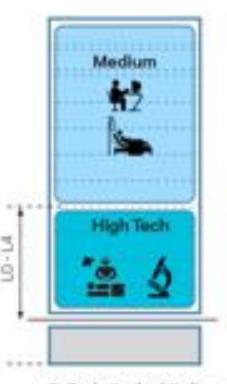
Type	Accommodation	Ceiling Height Requirement	Typical Floor Height Zone	Typical Plan Depths	Typical Grids	Bed Lift Requirement	Service Zone Category Requirement
-	Residential	2.7m+	3 6m²				LOW
1 12	Commercial Offices	2.75m	An	16 - 50m	9-16m		BOOmm
¥ 12	Consulting Rooms Clinical Offices	2.7m	42-45m	108+			MEDIUM
0.	Inputtent Words	2.7m	4.5m	16-26m	8.4-10.2m.	Required	1200mm
-	Support Accommodation Cat 1 Lats	2.7m	4.5m		6.6mm		
٨	Diagnostics	319	4.8 - Sm	24me	8:4mit	may be required	2000
₫	CM2 N3 Lin	34	4.8 - 5m	24m+	6.8 mr		HIGH
·	Criscel Care Theatres Emergency	3n	4.8 - 5m	26-36m+	R.Ame.	Required	1500mm
	Specialist Equipment Containment Labo		bespoke				VENYHOR



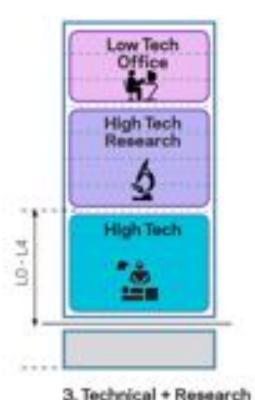
Use Typologies – Stacking



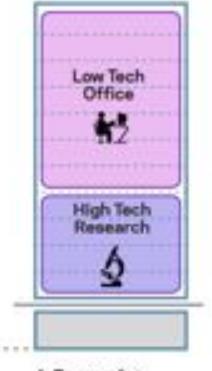
1. Technical: Mixed Use Fully adaptable Connected Buildings



Technical + Medium
 Zoned adaptability
 Connected Buildings



& Commercial Offices Standalone Buildings



4. Research + Commercial Offices Standalone Buildings



Standalore Buildings

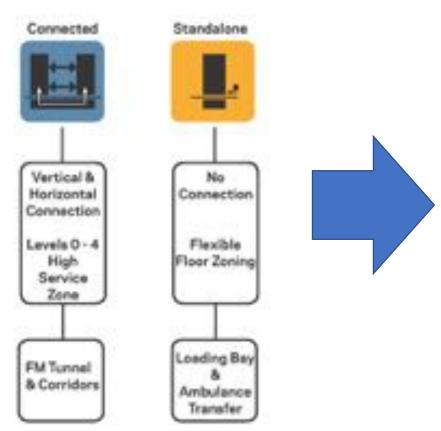
High Cost





Site Development Zoning





CONNECTED SITE STANDALONE

KEY APPROACH Clinical Use with Commercial tenants

Horizontal & Vertical Connectivity.

corrected to the existing hospital Levels 8-4 (high Tach Line Levels 5+ Medium Tach Line

FМ

Basemant PM Distribution & Turnels Central site Recept & Distribution

Clinical Uses

Inpatients Birds
Theaten & Ortical Care
Outpetients
Diagnostics/Imaging
Circuit Support & Offices
Emergency & Antibulance transfers

Commercial Typology Uses

Research & Laboratories
Education & Training

KEY APPROACH Commercial Use with Clinical tenents

No Herizantal & Vertical Connectivity

not corrected to the hospital

F1

Independently Serviced Exading Dack

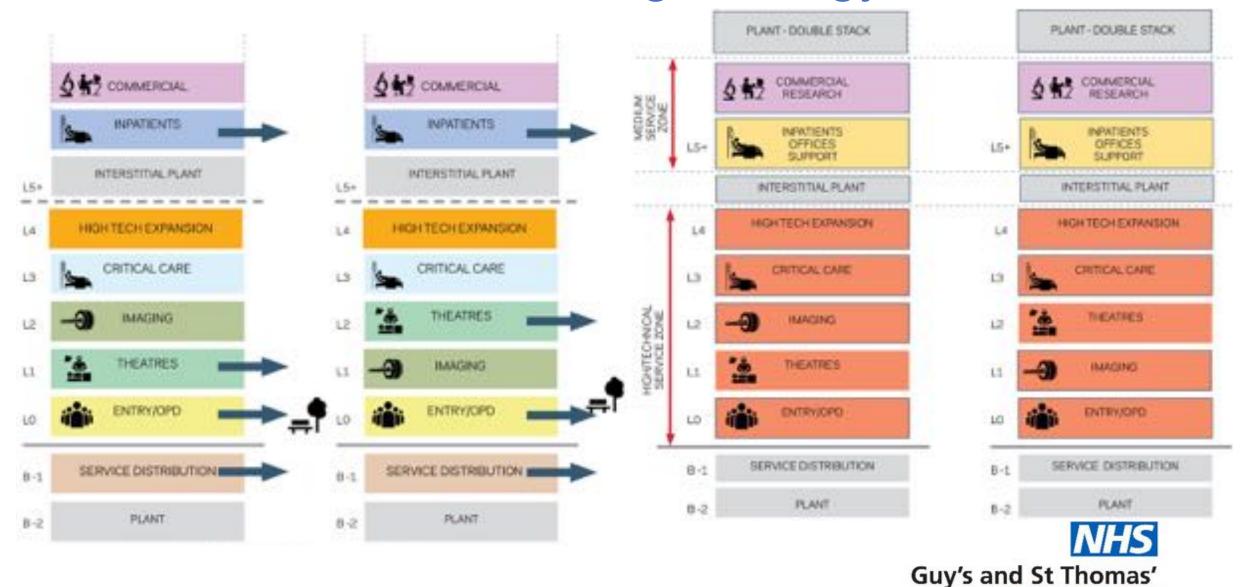
Clinical Uses

Outpatiente
Daycace Theatre & Reds
Diagnostics/Imaging
Clinical Support & Offices
No Insportes
Andulance branders may be required

Commercial Typology Uses

Research & Lateratories Education & Training Commercial Offices

Connected - Vertical Zoning Strategy



NHS Foundation Trust

Fixed and Flexible Elements

FIXED PARAMETERS





Shell & Core

- * Street,
- * Building Covering the
- 4 METHOD
- MERDonnhauer
- PMDsmbabon
- 4 500
- 4 Dollar Streetween



Site & Operations

- Desenver Zonny
- Classes James
- Coresctate:
- FM Strategy
- · Access
- Public Reason

FLEXIBLE PARAMETERS

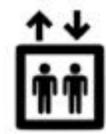


Use & Fit-Out

- + Diss
- · Torract Regularisation

Structure

- · depth of plan & floorplate size
- sinucural grid
- Roor heights.
- floor loading
- soft and hard sinustanal dones.
- Roor recesses



Circulation

- core location & lifts.
- · means of escape
- · pegregation of flows
- vertical lyhorountal correctivity.







Services

- plant soom locations
- nervices distribution
- service deling zones.
- dramage strategy
- tolet studegy.



Site & Operations

- public resim & entrance.
- development zonno
- PM Distribution
- ACCRESS















access to nature



Performance

- 1. General requirements
- 2. Building Structure
- 3. Building Core
- 4. Building Cladding
- 5. Lifts
- 6. Toilets & Drainage
- 7. Life Safety
- 8. Mechanical & Electrical
- 9. FM Enablement

CTION	DESCRIPTION	ESCRIPTION CONNECTED BUILDINGS STANDALONE BUILDING		35					
1.0	GENERAL REQUIREMENTS	*							
11	Compliance		Multing Regulations Multing Regulations Multing Standards Multing Stand				eris.		
IZ:	Design Life	Morrous Registerments * Normal Life" under 8075 * Faunderlane. 60 years * Drunksper 25 years * Drunksper 75 years * Services. 0856 Sude M				As per connected buildings			
1.0	Occupance	-			•				
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	Novarch density (MA per workspace)		18+2						
	Once denthy MA per workspace)		5-15m) (-a-lm)			9-25n2 (same)			
	Means of Excape (NIA per person)	- fel		(m)					
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MCTION	DESCRIPTION	COMMECTED BUILDINGS			STANDALONE BUILDINGS			
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			eed to core area only \$19 are anny area to provide screen in			As per spenedard built	trups	
1.8	Raised Floors		No raised floors		150nn overall		crared floors	
1.0	Service Foreig	49	Levels So.	Seets 8 - 4				
		Ste specific development briefs may require different site sensite seeing in research at upper levels will require additional right field breath			10	subject to site location and o	ar hypology	
1.10	the Tourings	Unless questionity stated, no line service areas to be provided on a connected size	- Popularies - Support - Offices - Completing Reserve - Supported (Light) - Research (Light)		e Cirtum • Consulting Rooms	- Separation (agts) - Oragonation (agts)	- Nessanh - Tharton - Diagnostics (Harco)	
		Super High field areas	such as Radiotherapy require	bequire design solutions	Super High Tech areas auch as Radiotherapy require bequite design solution			
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3.92	Connecticity within the Building	public use of the stair Consider: It had an asso to consent	main and valid between in			As per connected halo	haps.	

58	BUILDING STRUCTURE							
2.1	Stratural Grid		Crist to respond to our hamilies - manipus & Art. Jos for Cristal our - minimum & Art. Jos for research our					
	Structural Loading Requirements	tex	Modum	High.	tor	Medium	He	
22	Place Coast (6/6/442)	100		- 19	25			
2.3	Partition Load (My/WC)	30	- 1		1	1		
2.4	Printers Land (KN/m2)	100			0.6	10		
23	Colling book (Millimit)	.00	1.0		93	1.5		
2.6	Response Factor	.00						
	Northly & Interested Plant		Place hand Hides/mild Festives Land J. Jahryani Collega Land L. Maryani Requested Process shift I allow the Walled State Address sealing			As per connected sublings.		
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**	Minimum Walking Programmes	n/s	2.6%	13%	3.5%	1.5%	- 11	
3.10	Management Salmits	Nhere possible buildings	mode by designed such that the	es do not require representati		As per permetant includings		

MCTION	DESCRIPTION	COMMECTED BUILDINGS	STANDALONE BUILDINGS
1.0	BUILDING CLADDING		
			As per symmetric discharge
1.0	BUILDING CORE		
61			As per connected haldings.

NCTION	DESCRIPTION	CONNECTED BUILDINGS	STANDALDNE BULLDINGS	
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63	sands san Prolys	and upon and authorized to be provided to and to a more of the control of the co	Approximately and the second				

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HON	DESCRIPTION	COANICTED BUILDINGS	STRADALONE BUILDINGS
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ECTION	DESCRIPTION	CONNECTED BUILDINGS	STANDALONE BUILDINGS	ı
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-	DESCRIPTION				
3 /		 Varieties, water context and shallege, multipligates, make them; and tip orders shall be transports them. 			
		 Prince; plot is expected to be commend within bourself photosome, dependent or the begin of the building. 			
		 Verificion plant will be be plant throughout the building an inscribble and near plant mode. 	-		
		 Organishing on the height of the building it may be reconstructed brinders with heights attractified plant flowers to accommodate author suctions, medical gas alone, absorber distribution, etc. 	No con Connectical Studentings		
		 Mother the prevention the high periods orangers, there at twenty to 4, yet provided glast floor will be impained by facilities the trajectorists of the thickness and other lights sentent departments. This traveleds place floor all exhibits budge with a floor being partly of inches of little place. 			
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		 Constitution disself to given in the Squab and Serveristion Assign to accommodate substance confidence apply performer fourness of all treats. 			
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Design Quality Considerations

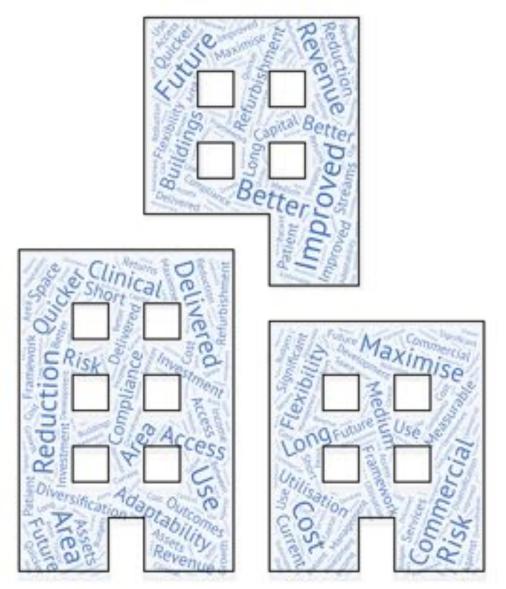


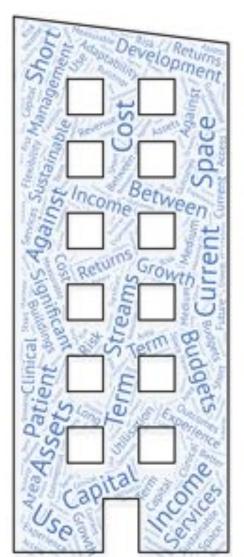
In conjunction with the specific performance requirements there will also need to be considerations of design quality. Areas of specific focus will be;

- Building & Facade
- Entrance & Communal Areas,
- Landscaping,
- Internal Environmental quality



Adaptable Estate - Benefits









Thank you

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