gleeds

Workspace Cost Drivers - Before and After COVID-19

Note from the Director

The commercial workspaces sector was growing exceptionally well across the world in the last few years but now due to the current pandemic spread, everyone is forced to take a step back and re-think. Humanity is resilient and will be ready to take on the challenge of finding a way of co-existing with the virus.

The Indian commercial sector in the year 2019 was reported to have registered a 40% growth in leasing and preleasing and the absorption level of 2019 had greatly exceeded the absorption levels of 2018. The sector pan India was doing quite well with Hyderabad and Delhi NCR noting a high rate of absorption and the IT/ ITES were the largest contributors, reportedly accounting for about 55% of the total commercial sector. The pandemic, however, has crippled this growth temporarily.

While, there will be an increased push towards 'work from home', many corporates are now looking at measures to re-think employee well-being and health and safety, to accommodate for this new reality from the workspaces as we know it.

While the debate on the perfect potential solutions and their actual execution will carry on, organizations re-look at their corporate real estate strategy for an optimum solution. The focus on overall capital investment strategy would be to ensure that the costs being spent is relevant and optimized, bearing in mind the constraints in financial resources for short and medium terms.

This thought paper explores traditional construction cost drivers in workspace built environment and what aspects would be re-looked at in the coming months, with razor sharp focus on steaming ingenious design, advance technologies and it's integration, which will in turn help in future perceptions to deal with the challenges of possible contagions.

The adaptation of human centric designs, with the spotlight on innovative materials and space planning would bring about its challenges and is bound to be a learning curve for the built environment and corporate real estate professionals. Through this thought paper, insights are being provided on fit-out cost drivers and expected future trends which will allow clients to make more informed decisions.

Vishal Shah - *MRICS*

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Introduction

Office spaces have always been a place of collaboration, where employees could connect, work and make decisions together. With the provision of better facilities to the employees by employers, workspace occupation had taken the upward trend.

In India, this growth was an outcome of the soaring demand from IT / ITES, BFSI, Telecom and co-working offices which enabled office leasing volume to rise to almost 60 million square feet *(IBEF report)* in 2019. Growth was prominent in tier I cities including Mumbai, Delhi, Bangalore, Chennai, Pune, Hyderabad and Kolkata.

This report focusses mostly on the cost aspect of the workspaces and will showcase a benchmarking of the costs thus far, with parameters to make judgments post COVID-19.

Whilst, companies are focusing on returning to the workspaces, the change that will stem out of the current COVID-19 situation will inevitably influence the outlook. Offices will be designed to be more human-centric focusing mainly on the wellness of the staff. This thought paper focuses on the construction cost aspects of workspaces and will showcase the current cost benchmarking with parameters that are deemed to influence the costs. The given situations have altered the way of life and other cost drivers are deemed to change the concept of workspaces as we know it.

Before COVID-19

This sector was reported to have received $2.9 billion investment from private equity funds in the year 2019. Office assets were continuously growing, and investment was providing stable returns. The office fit out market was expected to touch a $ 2.6 Billion in the year 2020. The major factor driving the market growth is increasing FDI investment in the country.

The sector also was a step ahead of the rest of the industry as the change in needs of the corporate sector was giving rise to advanced technologies and highly skilled workforce.

Hyderabad in comparison to the other cities showcased a large growth in the year 2019. With a high demand for office spaces and with low vacancy, rental rates grew, and a steady growth in the sector was foreseen at the time.

With COVID-19

The COVID-19 pandemic however has brought the economy and all businesses to a standstill.

The pandemic situation has resulted in many companies re-thinking strategies of continuity and altering long term plans to mitigate the adverse effects. Forecasts indicate that there could be a dip in the absorption rates pan India. Fresh take up of spaces will be on the decline and renewals of existing rental and lease contracts will be more contested with force majeure clauses, rent free periods and lock in periods.

Work-life post lockdown would bring in a 'new normal'. Flexible work hours and employees working from home on 'non-important' days and timings would be the new trend. To accommodate the new norms, new infrastructure and workspace management strategies will be incorporated. Desk area per employee is expected to increase, lesser number of hot desking with locker systems might be introduced, change in the air conditioning units and enhanced air filters to provide for safer air quality and a safer workspace for employees will be investigated and redesign and reinstallation would be required to be carried out. There is a lot of focus on the touch-free systems, with importance on sensor systems, new office assist technologies, compartmentalization of air intake and air outflow.

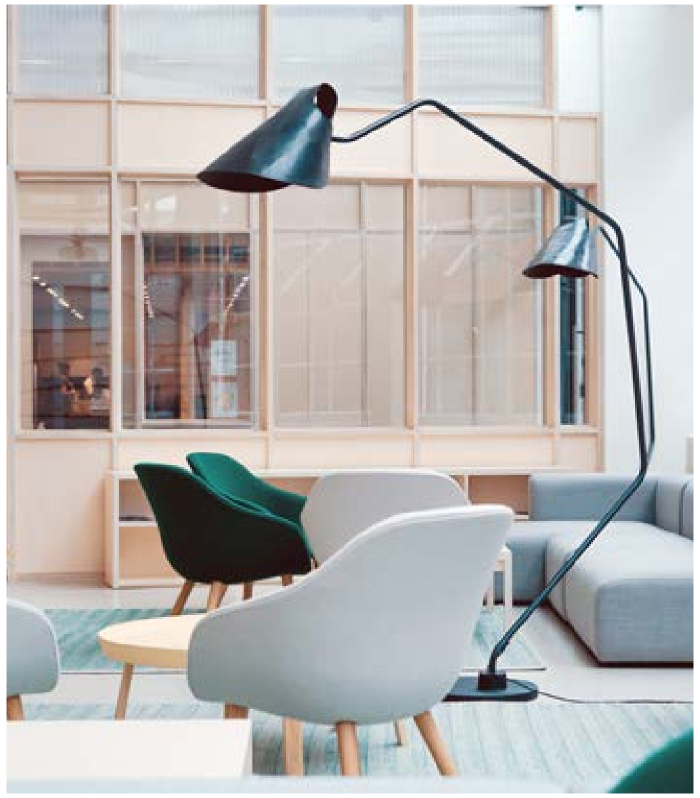
There is a lot of focus on bringing labour back to work on site in a safer environment. For upcoming projects there will be an opportunity to redesign to suit the new norms. Low density workstation areas with collaboration spaces suitable for teams to meet remotely will need to be thought through.

The complete functionality and success of this new approach will only be known in the days to come.

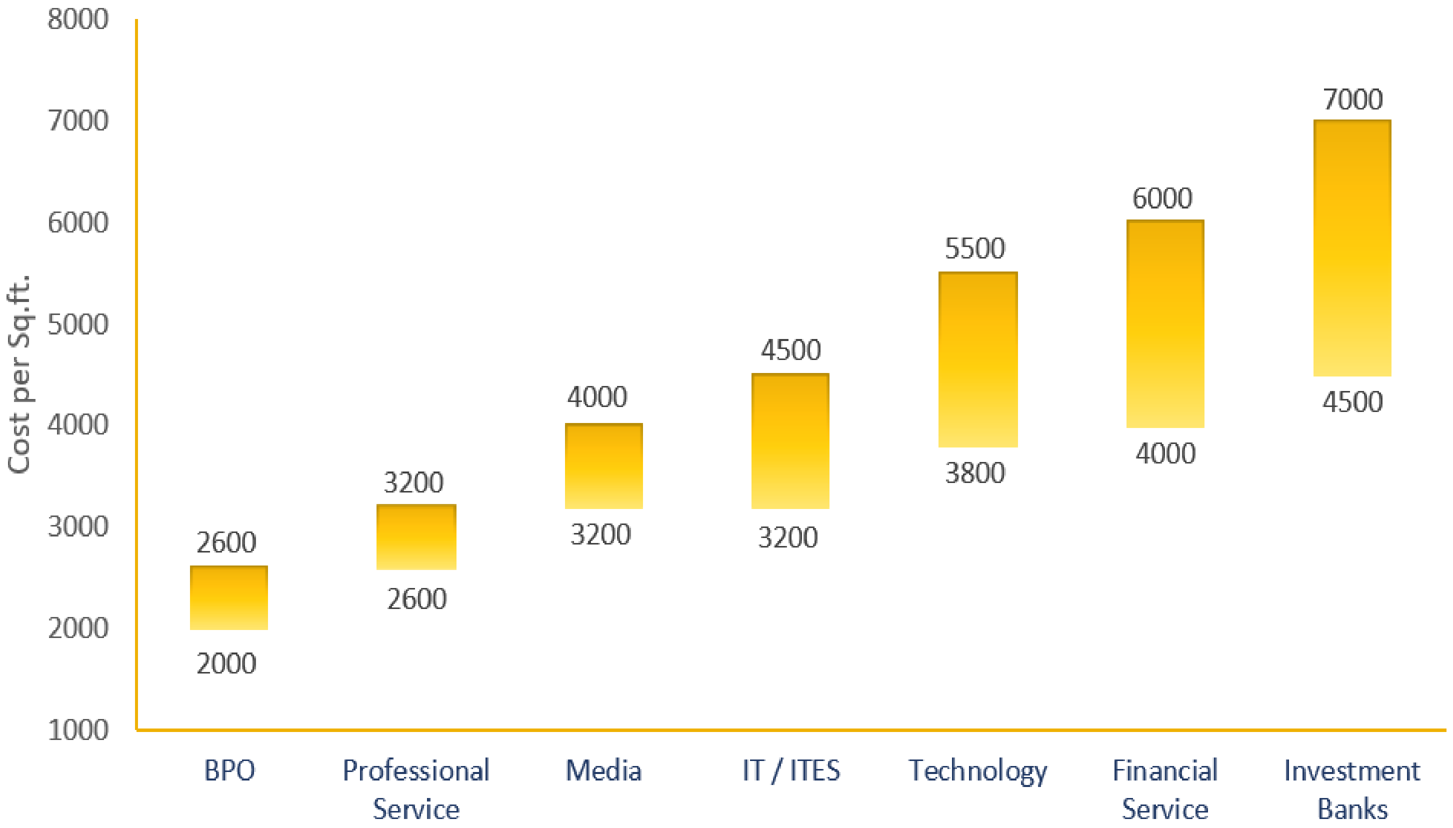
Benchmark Costs

Gleeds has been involved in several workspace projects over the years and have evaluated the cost drivers which affects the financial performance of the project. Changing requirement of the new generation, technology upgrades, cross functional team collaborative areas and more focus on employee wellbeing has led to a change in design thought process and project approach.

By analyzing various aspects of the project and historical costs levelled to current pricing, indicative project cost ranges are provided by Gleeds. It may be noted that the costs are on carpet area per sq foot and excludes costs such as taxes and duties, professional / legal fees, lease costs which need to be considered separately in specific cases.



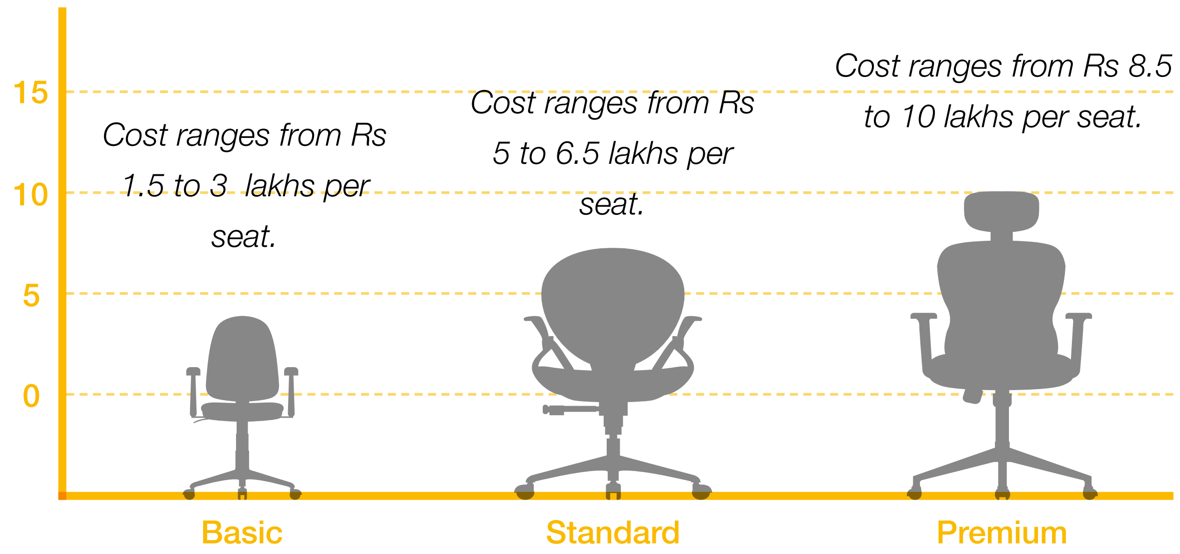
Cost Ranges of Various Types of Offices:



Source: Gleeds' office fit-out database . Costs excludes GST and is in INR per sqft carpet area.

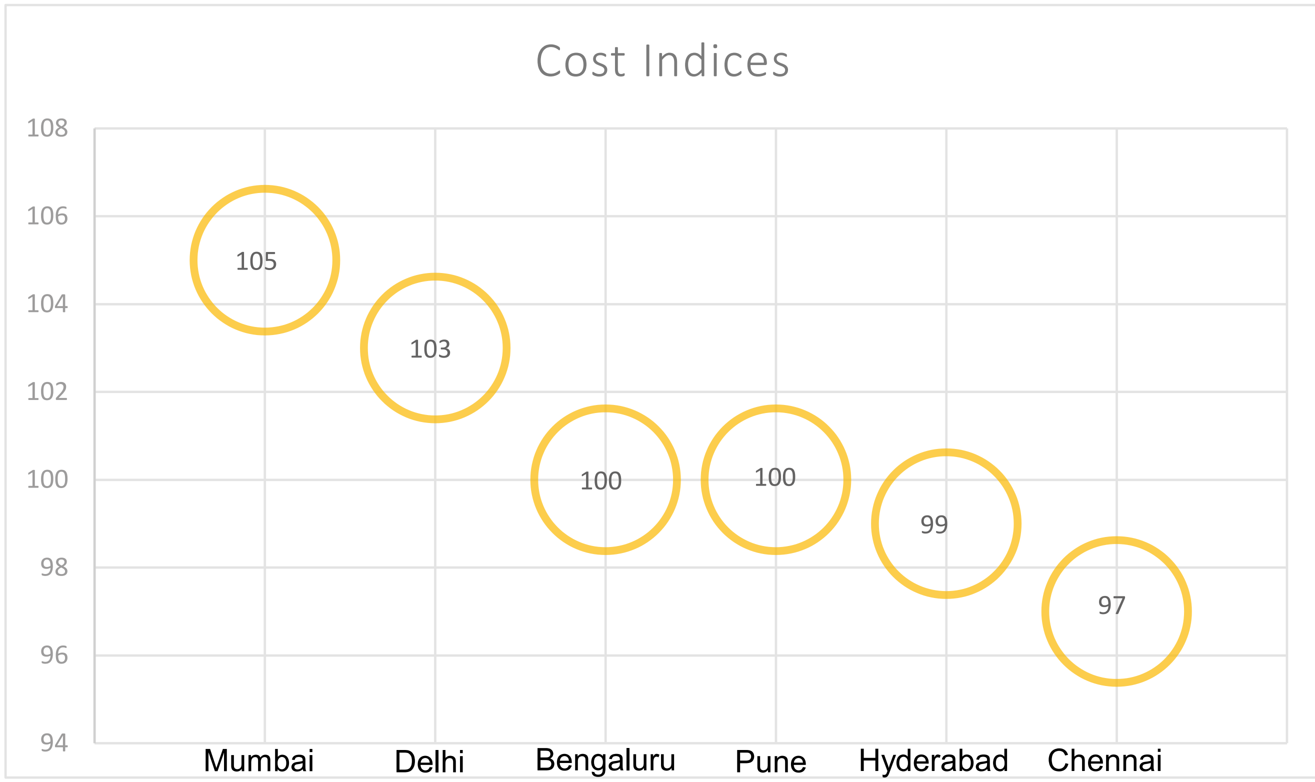
Note: The ranges are vast to accommodate the various cost drivers that impact costs.

Cost per Seat



Source: Gleeds' office fit-out database . Costs exclude GST.

City Cost Indices:
While Bengaluru and Pune are in a similar range and set as the benchmark, Delhi and Mumbai are found to be 3% and 5% higher respectively while Chennai and Hyderabad are 3% and 1% lower respectively.



Note: The above are only for commercial fit out office spaces.

List of Specifications:

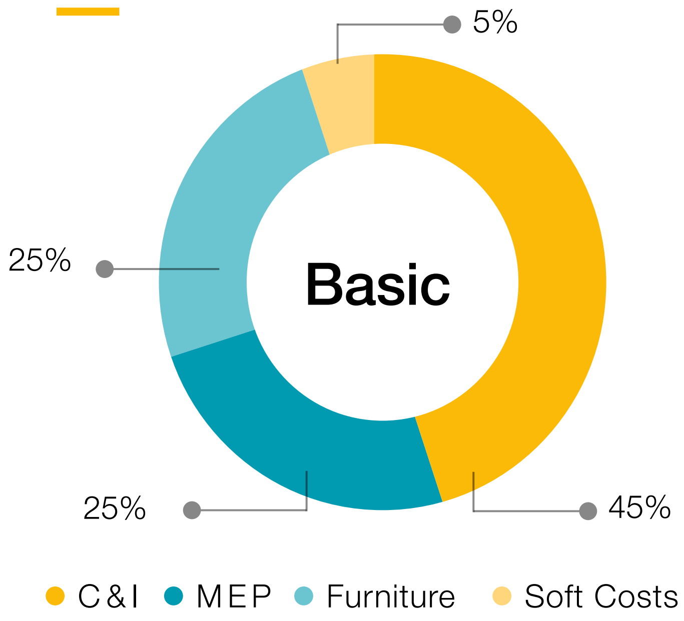
Note below the guidance of the specification range for the basic, standard and premium bands. This is the minimum consideration while benchmarking costs for the various cities.

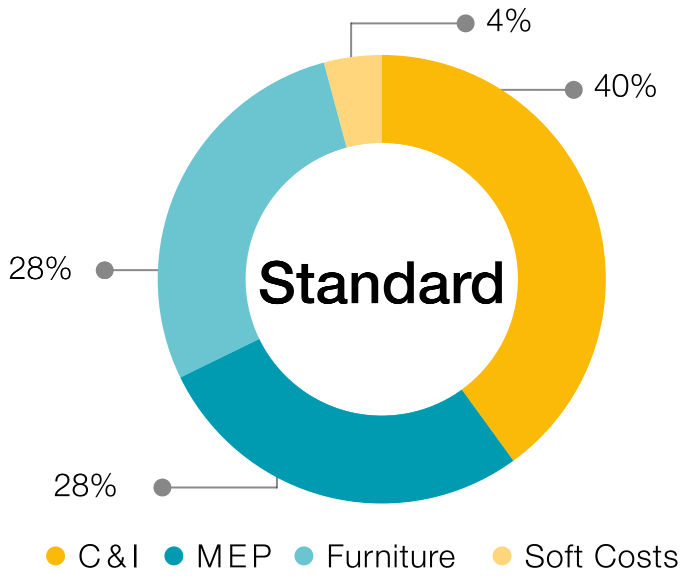
	Description	Basic	Standard	Premium
Flooring	Lobby / reception	Granite	Granite / mid-range marble.	Marble / concrete finish.
Flooring	Workspace area / collaboration spaces/ common areas	Mid-range vitrified tiles / locally sourced mid-range carpet.	Locally sourced high range carpet /Tiles/Designer tiles.	Imported high range carpet/Vinyl Flooring/ Luxury vinyl tiles.
Flooring	Pantry / toilets	Low range - vitrified / ceramic tiles.	Mid-range - vitrified / ceramic tiles.	High range - vitrified / ceramic tiles / Luxury vinyl tiles flooring.
Ceiling	Workspace area / collaboration spaces / common areas/ lobby/ reception	Gypsum grid ceiling/Designer gypsum ceiling.	Combination of decorative and plain gypsum grid ceiling and open ceiling with paint finish. Laminate/Veneer finished ceiling.	Combination of decorative and plain acoustic modular ceiling and open ceiling with acoustic spray / Baffle ceiling/ cloud ceiling.
Ceiling	Pantry / Toilets	Moisture Resistand board ceiling finished with paint.	Metal grid ceiling. Mid-range designer ceiling in pantry.	Metal grid ceiling and designer ceiling at pantry.
Wall Partitions and Finishes	Workspace area / collaboration spaces / common areas/ lobby	Wooden panel walls with laminate cladding/ paint finish. Meeting rooms to have single glazed partitions /Gypsum Partitions finished with paint. Locally available acoustic panels.	Locally sourced mid-range wooden partition walls with laminate finish and medium acoustic functions. Single/ double glass partitions. Meeting rooms to have acoustically treated fabric panels.	Imported modular partition with superior acoustics function, veneer & fabric wall finish and or double-glazed partitions. Acoustically treated fabric panels in meeting rooms.
Wall Partitions and Finishes	Pantry / Toilets	Vitrified / ceramic tiles - mid range.	Vitrified / ceramic tiles - high range.	Designer tiles at pantry and granite/marble cladding in toilets.
Wall Partitions and Finishes	Reception Area	Locally available graphics/Laminate panels with logos.	Veneer panels/composite panels/Lacquered glass panels with logos.	Wooden slat panels finished with veneer/ reclaimed wood panels/ Greenwall.

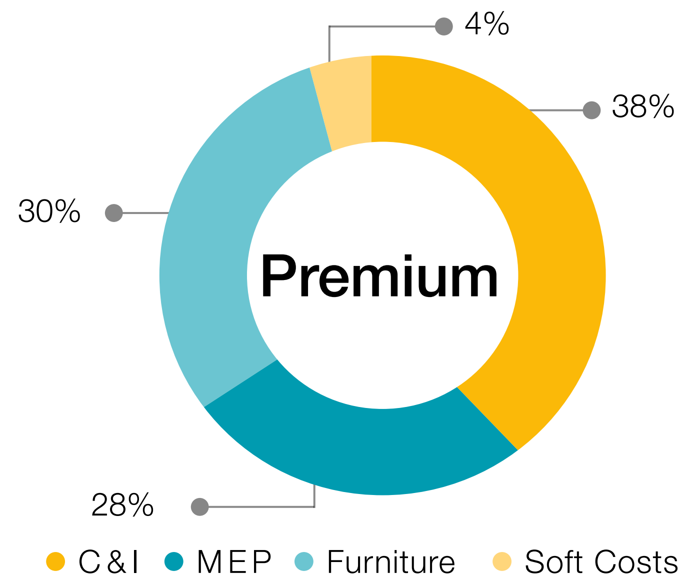
	Description	Basic	Standard	Premium
Furniture	Reception Area	Reception desk with glass top and locally manufactured waiting area furniture.	Customized reception desk with stone and locally manufactured superior range waiting area furniture.	Customized reception desk with stone/Corian top and front face) and imported waiting area furniture.
Furniture	Collaboration Space Furniture	Meeting room chairs and tables, locally sourced or imported from China.	Meeting room chairs and tables. Imported Europe/China.	Meeting room chairs and tables. Ergonomic shapes Imported Europe
Furniture	Workstations and Chairs	Modular workstations and chairs, locally sourced.	Modular workstations and chairs. Imported mid-range or locally sourced high end.	Modular workstations and chairs with partially standee tables. Ergonomic chairs – import.
Light fixtures	Common Areas	Locally sourced light fixtures with special fixtures at the entrance.	Locally sourced high-end light fixtures with special fixtures at the entrance / lobby area.	Imported customized light fixtures with special fixture at the entrance / lobby area.
Light fixtures	Workstation areas / collaboration areas	Locally sourced light fixtures. Multi switch light controls.	Imported light fixtures low end.	Imported customized light fixtures.
Electrical works	All areas	FRLS wires and XLPE Al Cables, local make panels and DB without BMS, UPS with limited backup.	Increased density of Power Receptacles and High Range of Switches, CPRI certified Panels and DBs, Occupany sensors, UPS for emergency light system.	Power Receptacles with USB ports, Powder coated cable trays and raceways, FS wire / FS Cu cables, Panels and DBs with integrated BMS, centralized lighting management system, Emergency lighting with central monitoring.
HVAC Specs	All areas	Site fabricated duct with mineral wool insulation, manual damper with locally controlled thermostat system. Chilled water piping with Nitrile Rubber insulation.	Factory fabricated ducts with underfloor air-conditioning system for server room. Acoustic insulation for critical areas. Motorized level with dampers, Thermostat with BMS functionality.	Oval spaced ducts in exposed ceiling with metallic finish, motorized and integrated dampers, sound attenuators and chilled water piping with elastomeric rubber insulation. 2 way modulating motorized value for AHU.

	Description	Basic	Standard	Premium
Plumbing & firefighting	All areas	Minor modification in header for firefighting, no major change in plumbing.	Minor change in headers of firefighting piping layout, standard sprinkler piping with threaded fittings, basic clean agent fire suppression system for critical room. Minor changes in plumbing.	Complete modification of header and sprinkler layouts, usage of grooved fittings where required. NOVEC fire suppression system in critical room. Changes in toilet positions and layouts.
Sanitary fixtures	Toilets and pantry	Locally sourced and local make sanitary fixtures and fittings.	Locally sourced high-end sanitary fixtures and fittings.	Imported high end, sanitary fixtures, and fittings.
Kitchen	Pantry/kitchen	Small pantry provisions, like ready to serve counters.	Decent sized pantry with serving platform, small dishwashers.	Fully functional kitchen with multiple serving counters, high end dishwashers and refrigerators.
Building management system	Workspace area / collaboration spaces / common areas	Limited CCTV and access control provisions.	CCTV and access controls in all areas.	Occupancy sensors in toilets, zone wise HVAC Controls, Extensive CCTV and access control system, Monitoring of all the field devices (DG,UPS,LIFT,AHU)
AV	Workspace Area / collaboration spaces / Common Areas	Basic AV provisions and Wi-Fi provisions.	Good quality AV including video conferencing facilities and Wi-Fi provisions.	High end AV system including video conferencing facilities and Wi-Fi provisions.
Blinds	General	Manual Blinds	Manual Blinds	Automated Blinds
Special features	Collaboration Areas	Breakouts	Breakouts, Recreation, Doctor room.	Breakouts, recreation, gym, mother room and Doctor room.
	Meeting Rooms	Small board room	Training room, board room	Town hall, training rooms, board room, VC room, client host area.
	General	None	None	Digitally integrated facility.

Indicative Cost Breakdown for Office Fit-outs







Cost Drivers Before COVID - 19

The corporate real estate defines project costs under various indices such as cost per seat or cost per square foot. Based on experience, in some office fit outs, the workstation density could be quite high which provides reasonable number on per seat costs however, the cost per square foot could be quite high if specifications / products are of higher category. Hence, it is important to ensure that any new facility is validated for both parameters. Apart from that, there are a number of cost drivers which have been identified and listed below:

Design Driven

Space planning

The ratio of spaces for common areas, workstation area, collaboration spaces service and toilet areas impact costs. Higher the ratios of collaboration spaces, common areas, higher the costs.

If the office floor space is irregularly shaped or has large core spaces, the design is inefficient leading to higher costs. Smaller floor to wall ratios indicates a more economical design. Additionally, one office split on multiple floors within the same building proves to be more cost-effective as common facilities such as reception, meeting room and cafeteria. are shared. Offices with terraces and balconies provides more breakout areas and are premium.

Floor to floor heights

Changes in floor heights impact costs of verticals. A 400mm increase in wall height increases the cost of verticals by 14% and a 300mm reduction of wall height reduces the cost of verticals by 8%. Aircon and electrical works costs are also impacted by a change in the volume of the office.

Level of finishes

Costs are impacted by finish requirements such as:

- False flooring: Covers the entire floor surface or only server rooms.
- Selection of soft and hard furnishings break down between carpet areas and solid floor areas.
- Overall acoustic requirements, open and close ceiling requirements, decorative ceilings, type of modular partitions, would lead to changes in the cost of construction.
- Branded and imported products could have an additional premium.
- Selection of decorative light fixtures at times leads to cost overruns.

Loose and modular furniture

The choice of furniture is a major contributor to overall project development costs and depends on the extent and requirement of common areas such as collaborative areas and break out spaces.

Type of workstations/desk/chairs

The choice of makes, type of usage, typology, material selection and shapes with additional options of adjustable desk height, privacy requirements and special functions, affects the cost of the desk / workstations greatly.

Procurement and market conditions

There are various procurement routes available which would lead to a difference in overall project costs, depending on the share of risk. Similarly, market conditions, contractual conditions and risks thereof, would lead to cost variables.

Client Driven

Type of end-user

Costs change based on the end users such as Investment firms, technology sectors and financial firms, colocation service provider, BPO, pharma and engineering.

Usage of space

Front end office space with more meeting and discussion rooms spaces are more expensive than back end offices which focus on more of production / desk area.

Scale

Depending on the size of the proposed office fit-out, economy of scale plays a significant role on project costs. For a project which encompasses special add-ons example full fledged kitchen, food court or auditorium amongst others leads to an increase in cost / sqft.'

Developer or Landlord's scope of works

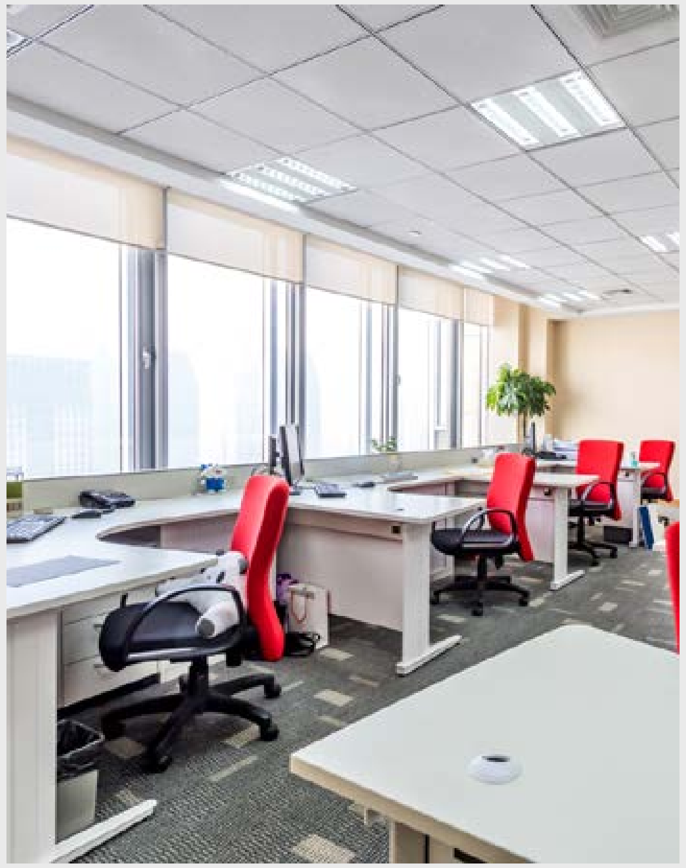
Costs depend on the lease agreement signed between developer & tenant, where the landlord could carry out some part of work such as toilets, lobbies, additional chillers/generator alternatively provide credit towards it. Unclear scope of works will have a bearing on costs.

Occupier's brand requirements

Aspects of design, based on end user requirements and corporate guidelines, affect costs. Space planning, look and feel and final selection of modular furniture/chairs all are dependent on corporate guidelines and selections.

Client's own costs

Apart from these, the costs related to active IT and networking, servers, security and access control, white goods, operating supplies, all design and project consultancy costs need to be carefully considered and allocated properly to avoid any future cost overruns.



Building Services Driven

Building services requirements

Building services costs is a function of internal requirements of the project, end user as well as building geometry and base specifications. Factors such as internal layouts, space configurations, kitchen and server room area requirements, power requirements, floor to floor heights drives the overall costs of project.

Electrical

In electrical systems, the headcount, number of light points and sockets with each desk, UPS loads, type of cables (Aluminum / Copper / FRLS) drives the costs related to these packages. The modern-day workplace requires individual temperature, light, and humidity controls for which integrated building management sensors are required. Depending on requirements, costs would depend on brand, type and amounts of sensors being used. Additionally, one needs to think of the requirement of technologies such as water leak detection and rodent control.

Mechanical

External glazing coefficients, number of climatic zones, air separations and clean room requirements lead to changes in the cost parameters. Based on the final selection of air-conditioning systems such as VRV, AHU with ducts or chilled beam system, one can understand lifecycle and Capex cost implications.

From a plumbing and firefighting point of view, costs are affected depending on the local codes and end-user requirements, space planning and type of fire suppression system used.

Future trends

New generational design with sensors based on Internet of Things (IoT), Wifi only networking, broadband over ethernet, touch-free access protocols will lead to cost differentials which need to be accounted for.

Site Selection

Existing site conditions

The condition in which the site is acquired impacts costs. Fit-out of a cold shell incurs more costs than a warm shell. Demolition and other alteration work within the floor plate area can uplift project costs.

Project abnormals

The selection of building needs to be checked for abnormalities so that the budget can be adjusted when the test fits are prepared, and adjustments can be made. Factors such as structural strengthening, nighttime working, life safety requirements and code compliances would require thorough review and understanding to make required adjustment in setting up target budgets.

Location

Costs are directly affected by the location in
- Tier 1 or Tier 2 cities and,
- City centre or outskirts

Seismic requirements, external climatic conditions and market conditions of the selected location also affects costs.

Good to Have

Flexibility

Flexible workspaces that require agile working, quick reconfigurations, day 1 / day 2 scenario would need building services to be more resilient and prepared, to avoid future reworking and downtime. Hence, at the initial stage, front end costs would be higher.

Break-out facilities and games room

While preparing the estimates, one needs to consider requirements of break-out rooms, game rooms, gym and creche which would lead to changes in costs.

Kitchen

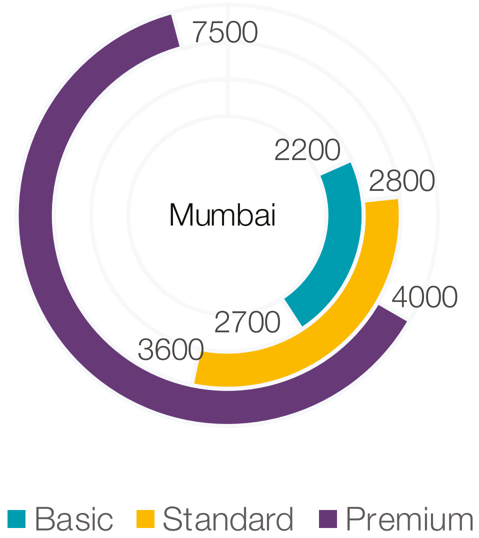
There have been various approaches to kitchen, café and pantry requirements. From fully functional multi kitchen / café facilities to single warm-up pantry requirements, there is a wide spectrum of the costs which will lead to changes in project costs. Hence it is important to capture the user requirements from the start.

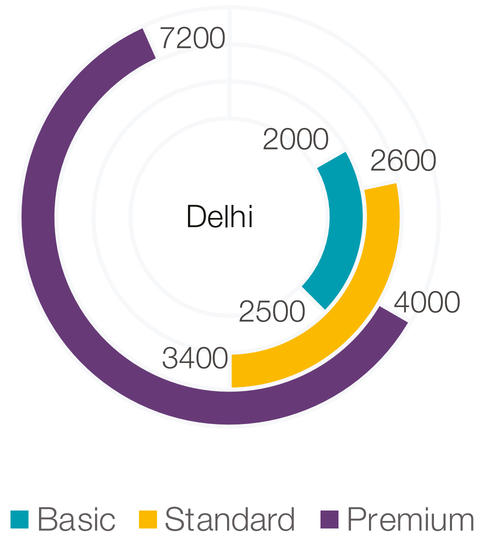
Audio Visual:

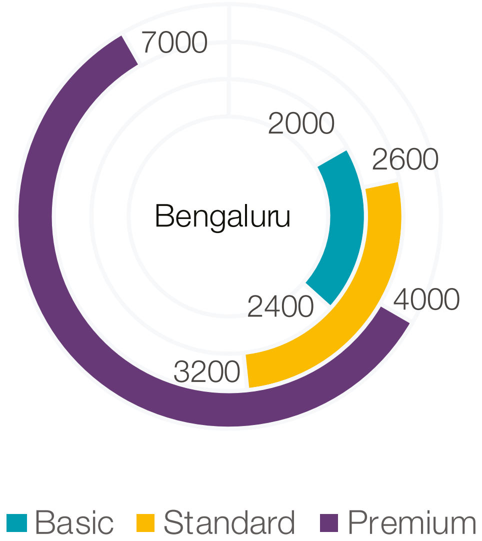
With virtual presence, conferencing with interactive screens and media rooms, there are aspects of Audio-Visual costs which must be included at initial CapEx approval.

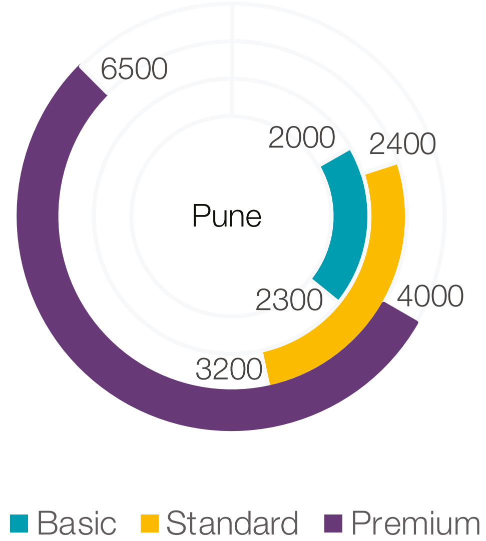
Fit-out Costs Pan India

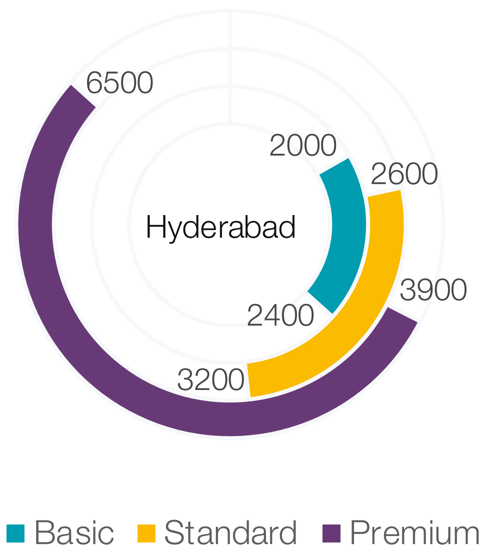
Demonstrated below are the cost per square foot ranges for basic, standard and premium specs for office fit-outs.

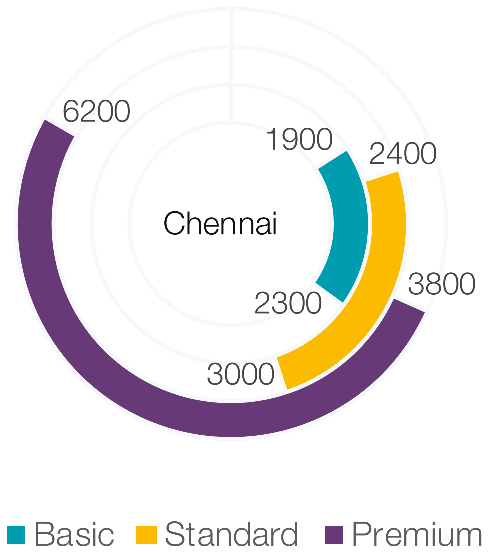












Source: Gleeds' office fit-out database . Cost excludes GST and is in INR per sqft carpet area.

Potential Cost Drivers After COVID -19

Whilst the above cost drivers continue to influence the construction cost, there are a few more parameters that are to be considered after COVID-19, which would be instilled, to live with the changed circumstances or the 'new norms'. The design of new workspaces will sprout from Client-to-client, need-on-need basis, however some such drivers are identified below:

Picture Source - steelcase.com

Execution Driven

Labour

As identified during the crisis, labour in large masses have fled cities, leaving a vacuum in the labour market. With the demand for labour, construction costs are bound to rise. More use of factory-made products will be explored which could be prefabricated and installed at the site to reduce the dependency on labour and an assured supply chain can be counted on, at a reasonable cost. Robotic construction and use of advance machinery will be increased on site which will allow better productivity.

Material supplies

While the previous supply chain is stuck with uncertain delivery dates, the learning curve indicates that future design will have more locally sourced material. Besides this, adequate lead and delivery time would be required to be considered for any imported material to avoid project delays.

Mechanization

There will be a possibility given the shortage of labour that a more mechanization form of fitting out options might be considered. Factory made finished wall panels, ready to install at site with a minimal requirement of labour, may be a welcome option. Ready to install workstation pods adhering to the new space requirements, all fitted in, may be the new normal in an office fit-out.

Facility Management Driven

Investment in sanitation and cleaning facilities

The outbreak boosted all standards of sanitation and cleaning requirements. Though not a capital cost, companies are to look at options of frequent and regular cleaning of workspaces Additionally, touch-free dispensers in common areas, more toilets and high impact zones would be required as protocol with more of janitorial services.

Smart scheduling

With a reduced number of people per meeting space, techniques and technology will be developed to accommodate meetings and collaboration of the right people at the same time

Use of AI in smart scheduling will be a potential tool adopted to schedule staff working together to be in the office at the same time, allowing minimal time for the staff to take upon organizing themselves.

Smart meeting solutions:

Techniques and technology will be developed to accommodate meetings and collaboration through virtual and augmented realty which will allow people to meet in real time. AI programs which will find real time quiet spaces, phone booths, stand up areas with 'last cleaned' notifications would be welcome additions on office Apps.

Design Driven

Workspace redesign

Reconfiguration to increased space between desks, more hot desks, and a larger collaborative space to allow for social distancing norms, will be the new design consideration for epidemic resilience. A designated area to store, treat and dispose of biomedical/ hazardous material, additional handwashing stations and cleansing rooms will also be included.

New technologies

The necessity to reduce the number of touchpoints for an employee on a typical day will give rise to future workspaces with more automated and voice activated controls, IoT (Internet of Things) based touch-free lighting and temperature control systems amongst others. Propagation of communication tools, drone tech, augmented reality (AR), virtual reality (VR), robotics, modular construction, integrated digital twin solutions may become part of the bare necessities for project managers and designers..

New product innovations

'Necessity is the mother of invention.' Manufacturers and innovators will introduce new solutions and products. Anti-germicidal surface coating with 'easy to clean' base materials will be part of basic specifications. Smart toilets, workspaces with adjustable walls and screens and ready to use products will see more traction in the coming days. Metal detectors or turnstiles with thermal scanning function would be helpful.

Ventilation and sunlight entry

New leases will now focus on façade of base build office buildings. New norms allowing for additional natural sunlight while maintaining thermal comfort, possibilities of openable façade systems, breathable façade systems, balconies and decks providing employee comfort. The sustainability standards such as WELL Building, Passive House, GRIHA will lead the way towards a better façade system.

Building Services Driven

Mechanical requirements

Heating, ventilation, and air conditioning (HVAC) design is bound to see a major change post COVID. New design norms are expected to include a clean working environment through increased air separation, additional fresh air intakes per hour and ventilation/filtration systems. New technologies such as AirPHX which has higher rate success against pathogen would be investigated.

Within ducts, accommodating UV- C Light-based germicidal irradiation with wavelengths from 200 to 280 nanometers would become one of the requirements. Smart systems will be installed to check on temperature and humidity in the workspace areas. Smart control systems through IoT based sensors would let remote facility managers gather the findings in real time and make required adjustments.

Change of security systems

The touch-based biometric system will soon be replaced with access control systems RFID-based cards/ Bluetooth based technologies or face recognition protocols, which would inculcate a cost towards a shift from one to another. The facilities will have compactization with more access control to reduce any cross-contamination..

IT and networking systems

With the options of work from home server systems are likely to be replaced by cloud-based systems, which may free up the server and related infrastructure requirements in workspaces.

Picture Source - Arktura.com

Conclusion:

The human race is currently at the crossroads of workspace evolution. The pandemic has seriously challenged the way we have lived, worked and collaborated. While many organizations have allowed their teams to work only from home, we are conscious that there will be some element of office presence required to ensure team spirit, enforce a common vision and mission and just to be there to socialize, which is the core of human nature.

Historical cost drivers for workspace planning is expected to change to include for new cost drivers from anticipated new requirements. A design which is more employee-centric focusing on employee health, well-being and a safe workspace will be adopted. Design and product specifications will be revisited and assessed to accommodate the new 'normal', including materials available locally based on local production as opposed to imported ones and materials with easy cleaning surfaces as opposed to the existing ones. Changes in labour behaviour will lead to a push towards a more mechanical form of construction and an approach more towards standardization.

Despite all the costs that come with the change in design and execution, owners will have to give careful consideration to maintenance costs to accommodate to the physiological needs of the employees from a mental health perspective as a top priority followed then by the 'good to have' and 'feel-good' requirements. Upgrading to an impeccable level of sanitation and hygiene and future-proofing the workspaces will be vital to keep the employees and employers safe and offer a sense of security in the times to come. Employees are the center of a functioning workspace and it is perceived that only a COVID- 19 resilient work space can be the future success.

For any further queries, please contact Gleeds India Insight and Analytics:

Vishal Shah, *MRICS*

Director.
Email: vishal.shah@gleeds.in

Ashish Pimpalkhare, *MRICS*

Senior Associate Director.
Email: ashish.pimpalkhare@gleeds.in

Sushma Wilson, *MRICS*

Executive Cost Manager.
Email: sushma.wilson@gleeds.in

Bhagyshree Parikh

Senior Cost Manager.
Email: bhagyshree.parikh@gleeds.in

Gleeds has been working in India since 2008 and is operating through 6 major offices located at Bengaluru, Mumbai, Delhi, Chennai, Pune and Hyderabad, and is involved in delivering more than **10 million sqft** of commercial fit-out space pan India.

Please contact our team of experts who will be happy to enlighten you about our projects and offer any assistance required.

Pavamana Srinivasan, *MRICS*
Associate Director.
pavamana.srinivasan@gleeds.in

Mallikarjuna GS,
Associate Director.
mallikarjuna.gs@gleeds.in

Balaprakash Balakrishnan, *MRICS*
Associate Director.
balaprakash.b@gleeds.in

This issue was compiled by Gleeds India I&A with contributions from Siva Senathipathy, Ravi Kannadichamy, Nana Saheb Khot, Harshith Banavara Shivappa, Pankaj Kale, Renuka Mullaguri, Kiran Pawar, Padmini G and Animaraj Toppo.

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