

Namaskara, Yellarigu Swagatha  
Or as we say in English...  
Greetings to one and all!

Bengaluru International Airport is a 4,050 acre international airport that is being built to serve the city of Bangalore, Karnataka, India. The airport is located in Devanahalli, which is 30 km from the city. The new Bengaluru International Airport at Devanahalli will put Bangalore city on the global destination and offer travelers facilities comparable with the best international airports.

The airport will offer quality services and facilities, which will ensure the comfort and ease of travel for all concerned.

Construction of the airport began in July 2005, after a decade long postponement.

Explore this presentation for more information and find out how BIAL is working to make Bengaluru touch the skies and raise the bar for future airports in India.

A plan is also being processed for a direct Rail service from Bangalore Cantonment Railway Station to the Basement Rail terminal at the new International Airport. Access on the National Highway is being widened to a six lane expressway, with a 3 feet boundary wall, construction is moving ahead.

As of June 2007, a brand new expressway is expected to connect the International Airport to the City's Ring Road. The Expressway will begin at Hennur on the Outer Ring Road. This is expected to be a tolled road. Land Acquisition for the road is expected to be complete by December 2007 and the road would be ready in 18 months since then.

**Departure** – All flights schedule to depart after 00:01 on 30<sup>th</sup> March 2008 will operate from the new Bengaluru International Airport

**Arrival** – All flights on 29<sup>th</sup> March 2008 after (20:00) hours may land at the new Bengaluru International Airport or at HAL.

We shall keep you all posted on the developments

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## SNAP SHOT

**Travel Time** – One hour to get from any part of city to Herbal flyover and then on 45 minutes to reach airport.

**Roads** – Right now 2 lane road with 6 lane track to be completed by April 2008

**Parking** – Right now the new airport could accommodate 1200 cars, 450 taxi's, 150 buses.

**Terminals** – There is one terminal, for both domestic and international, work to start for 2<sup>nd</sup> Terminal by April 2008

**Check in counter** – 64 check in counter for domestic and international with screening machines with no separate screening machines at the time of security check (unlike the present airport, where we have 2 separate screenings done for check-in baggage)

The airport has plenty of natural light and designed beautifully and worth the extra travel time

### **Check in Process**

Upon check in (where the screening is done), traveler needs to pass through security check (14 security counters) which would be done at ground floor, traveler would need to proceed to first floor for all boarding through elevators and escalators. After check in there are lounge facilities and beautiful shops and also the Kingfisher Sports Bar before boarding. The new airport is divided into separate domestic and international areas. There is a swing area which can be used for either domestic or international depending on the day's traffic. There would be no public announcements, flight arrivals and departures etc..... Screens will display all flight arrivals and departures.

**Test Flight** – The first test flight would be done on 7<sup>th</sup> March 08.

# AIRLINES AND DESTINATIONS



## **Expected to Transfer from existing airport Domestic**

**Air Deccan** (Ahmedabad, Belgaum, Bhubneshwar, Chennai, Cochin, Coimbatore, Delhi, Goa, Hubli, Hyderabad, Jaipur, Kolkata, Madurai, Mangalore, Mumbai, Pune, Trivandrum, Tirupati, Vidyanaagar, Vijayawada, Vizag)

**Air India / Indian Airlines** (Ahmedabad, Bhubaneswar, Delhi, Goa, Hyderabad, Kolkata, Mumbai, Pune)

**Go Air** (Hyderabad, Mumbai)

**IndiGo Airlines** (Chennai, Delhi, Hyderabad, Kochi, Mumbai, Nagpur, Pune)

**Jet Airways** (Chennai, Coimbatore, Delhi, Goa, Hyderabad, Kochi, Kolkata, Mangalore, Mumbai, Pune, Trivandrum)

**Jetlite** (Chennai, Cochin, Coimbatore, Delhi, Hyderabad, Mumbai)

**Kingfisher Airlines** (Chennai, Coimbatore, Delhi, Goa, Guwahati, Hubli, Hyderabad, Kochi, Mangalore, Mumbai, Pune, Tirupati, Trivandrum)

**Paramount Airways** (Chennai, Hyderabad)

**SpiceJet** (Ahmedabad, Delhi, Goa, Hyderabad, Cochin, Kolkata, Mumbai, Pune)

## **International**

**Air Arabia** (Sharjah)

**Air France** (Paris-Charles de Gaulle)

**Air India (AI/IC)** (Bahrain, Bangkok-Suvarnabhumi, Dubai, Muscat, Sharjah, Singapore)

**British Airways** (London-Heathrow)

**Emirates Airline** (Dubai)

**Gulf Air** (Bahrain)

**Jet Airways** (Singapore)

**Lufthansa** (Frankfurt)

**Malaysia Airlines** (Kuala Lumpur)

**Singapore Airlines** (Singapore)

**SriLankan Airlines** (Colombo)

**Thai Airways International** (Bangkok-Suvarnabhumi)

# CARGO AND NEW SERVICES EXPECTED



**Air France Cargo** (Paris-Charles de Gaulle)

**Air India Cargo** (Frankfurt, Paris-Charles de Gaulle) (Rome-Fiumicino)

**Blue Dart Aviation** (Chennai)

**Emirates Sky Cargo** (Dubai)

**Etihad Crystal Cargo** (Abu Dhabi) (Bahrain)

**Jet Airways** (Delhi)

**Lufthansa Cargo** (Frankfurt)

**Malaysia Airlines Kargo** (Kuala Lumpur)

**Qatar Airways Cargo** (Doha)

**Singapore Airlines Cargo** (Singapore)

**SriLankan Cargo** (Colombo)

**Thai Airways Cargo** (Bangkok-Suvarnabhumi)

**Transmile Air Services** (Kuala Lumpur)

## **New Service Expected or Announced- International**

**Air India** (AI/IC) (San Francisco)

**Cathay Pacific Dragonair** (Hong Kong) [begins May 1, 2008]

**Jet Airways** (Brussels [from May 2008])

**Kingfisher Airlines** (San Francisco) [begins August 27, 2008]

**Saudi Arabian Airlines** (Riyadh) [begins Summer 2008]

**Tiger Airways** (Singapore) [begins June 1, 2008]

# FACILITIES AND INFRASTRUCTURE



The Master plan focuses on making the new Bangalore International Airport capable of handling large capacity airplanes and cargo, and effectively managing a future passenger traffic capacity of 50 million.

## **Terminal**

The planning approach for the passenger terminal is to accommodate all passenger handling and processing at one central location. Easy check-in, ease of movement to departure gates, minimal queuing, as well as comfortable shopping and waiting areas, are all key features of this huge terminal building.

## **Benefits of central terminal approach**

- Facilitates passenger movement
- No duplication of essential installations
- Conservation of manpower and equipment
- Efficient organization and administration
- Concentration of commercial areas



**Layout:** The passenger terminal is proposed as a single, fully air-conditioned, two-level building capable of accommodating international and domestic operations. The basement houses the retail storage, rest areas and services. It will cover 71,000 square meters. The arrival and departure areas are separated vertically with a modern, simple, straight-ahead flow system. The domestic and international departure lounges, and the majority of the retail outlets are located on level 2 (first floor). The check-in facilities and baggage reclaim are located on level 1 (ground floor). The terminal is designed for ease of operation and minimum maintenance.

**Capacity:** 11 million people per annum The terminal building is designed to accommodate 2733 passengers at peak hour. The design reflects the best industry practice and caters for 24-hour-operations, under all weather conditions. All facilities provided will meet IATA standards.

# FACILITIES AND INFRASTRUCTURE



## Runway

A single runway airport is proposed for the initial phase on the northern side of the airport complex.

The runway will be able to accommodate all types of aircraft

including the Airbus A380. There are plans to build a second runway when the annual traffic of the airport reaches 18 million passengers per annum which is currently estimated to be around 2013-2014.

Length: 4000 meters

Width: 45 meters

Width plus light paved shoulders: 60 m

Orientation: 09/27

ICAO

## Main access road

A four lane main access road, the central access road, a secondary access road and an airside service road will be developed. This road will link the other airport support facilities such as the airport hotel.

There is a proposal by the National Highway Authority of India (NHAI) to build a two-lane trumpet flyover at the intersection of the main access road and NH7. This will ensure smooth passenger flow to and from the airport, as well as allow highway users to move unhindered.

## Apron

The layout of the apron and terminal has been designed to reflect international standards. The apron has to provide sufficient space for taxiing, parking, loading and unloading of the aircraft during the peak period as well as for all the support facilities that are required to ensure that the aircraft are handled quickly and efficiently.

## Objectives of the apron design:

To provide airside roads and equipment parking areas, towards ensuring that ground support for aircraft is sufficient and efficient

To ensure that operations can be conducted safely

**Specifications:** Initial phase includes 42 code C aircraft stands

## Retail and Duty Free

The Duty Free shopping area will include Crossword Books, Shopper's Stop, Hypercity Hypermart, and various other shops



# FACILITIES AND INFRASTRUCTURE



## **Aviation equipment**

The new airport will be fitted with aeronautical equipment as per ICAO standards.

**Lighting:** Matching runway lighting with runway edge lights, threshold, runway-end lights, touchdown lights and PAPI together with precision two-approach lighting systems will be installed in combination with ILS CAT I.

A taxiway lighting system for the partial parallel taxiway, the exit and entrance taxiways and the connections to the apron will be implemented. Apron floodlighting is provided to allow for efficient and safe handling of aircraft during night operations. On the apron, a simple (non-electronic) docking system will be included.

An approach radar system is also included in the list of aeronautical equipment. This can be located on- or offsite. The system contains localizer and glide path equipment and marker beacons, together with a backup system. The CNS/ATM equipment will be provided by AAI.

## **Water supply**

The airport-related facilities to be served are arranged in an east-western development strip parallel to the runway. The Bangalore Water Supply and Sewerage Board will supply potable water to the service areas earmarked in the Master plan.

## **Fuel farm**

It is essential to provide a storage area for the supply of aviation fuel for the refuelling of aircraft that land at Bangalore. The Master plan has allocated space for the fuel farm on the west side of the terminal building.

**Storage:** The storage depot shall be capable of storing 5 days supply of fuel, although the precise level of reserve supply will be determined by the operator of the farm, which will be linked to an oil supply company. The number of fuel suppliers and the contracts to supply fuel will determine the number of tanks to be provided. Provision of a fuel hydrant system to transport fuel from the depot to the aircraft shall be included in the concession agreement with the supplier.

## **Flight catering**

A location for the in-flight catering supply unit has been identified in the Master plan with convenient access to the airside road system. Bangalore International Airport Limited (BIAL) has selected its strategic partners for the new Bangalore International Airport's Air Catering unit. The consortiums that have been selected after an extensive technical and financial evaluation process are LSG Sky Chefs and Taj SATS.



# FACILITIES AND INFRASTRUCTURE

**Aircraft Movements:** 27 per hour

**Check-in Counters:** 54

**Gates:** 16

**Aero-bridges:** 8, including one double arm aerobridge

**Aircraft stands:** 45

**Terminal parking:** In the first phase of development, a car park for 2,000 cars in front of the terminal building at the ground level will be developed for the convenience of passengers and visitors to the airport.

## **Rescue & Fire fighting facilities**

The rescue and fire fighting facilities are based on the dimensions of the aircraft using the airport as adjusted for their frequency of operations. Airports are categorized for rescue and fire fighting purpose by counting the aircraft movements in the busiest consecutive three months of the year.

The total area of the planned fire station is 1400 square meters with a watchtower located above the fire station.

**Fire fighting capabilities:** The airport shall be equipped to provide a level of protection corresponding with aerodrome category IX.

This category meets the fire fighting and rescue requirements for airports where more than 700 movements of aircraft, the size of B 747, take place within the busiest consecutive three months of the year.

**Response time:** The response time shall not exceed 2 minutes to any part of the runway and 3 minutes to any part of the movement area in optimum visibility and surface conditions. **Minimum protection requirement**

Four state of the art 12500 ltr/1500 ltr / 250 Kg Water-Foam-DCP Fire tenders)

One 13000 Ltr Industrial Water Tender

Three fully equipped ambulances air side

One fully equipped Cardiac response van at the landside

State of art Rescue and Incident control equipment

# FACILITIES AND INFRASTRUCTURE



## **Sewerage & Drainage**

The sewerage and storm-water drains are designed as separate systems.

**Sewerage:** The sewerage system will include a collection network, pump pits, sewage treatment plant, etc. Sewage water from the airport-related facilities will be collected by means of a landside and an airside main duct running in east-west direction and equipped with manholes.

**Drainage:** The design of the drainage system is determined by the topography, finished formation levels, surface run-off from paved areas and building roofs and by the capacity of the lakes into which the storm water is discharged. Currently, surface-run off water collects in large flood areas north of the airport boundary. The overall drainage system shall remain as close as possible to this existing situation

## **Administration & Maintenance**

**Administration:** A separate administrative building covering an area of 3000 square metres will be built adjacent to the technical block on the landside. This block will house the offices for airport management, aircraft operators and staff canteen.

**Maintenance:** Maintenance facilities will be required for motor vehicle repair, electrical repair, painting (runway/buildings) and mechanical repair. The maintenance facility building will cover an area of 2377 square metres, and include a fuel station, storage space for materials and spare parts.

## **Cargo complex**

A dedicated bay in the terminal apron is earmarked for freight aircraft. However as air cargo is expected to expand over the years, the Master plan has earmarked area for a cargo apron. The consortia that have been selected after an extensive technical and financial evaluation process are SATS / Air India and Bobba Group / Menzies Aviation. They will develop a state-of-art cargo handling facility for domestic as well as international cargo. They will collectively build a capacity to handle approximately 300'000 Tons of cargo annually.

**Function:** A cargo complex is essential to store, palletise and transfer cargo to and from the aircraft, and to provide space for trucks to load and unload their goods.

On the airside there will be space for the loading and unloading of cargo, together with space for cargo handling equipment to operate and be stored and maintained. There will also be storage space designated for storage of container equipment and pallets.

**Transport & Security:** Trucks will be deployed to transport the cargo to and from the aircraft to the cargo terminal. Security measures with electronic devices will be provided to minimize theft or unlawful removal. This facility will be provided by service providers.

# FACILITIES AND INFRASTRUCTURE

## **Taxiways**

The provision of a taxiway system between the runway and the apron will enable aircraft to travel between the runway and the apron with minimal delay and permit the runway to operate to its maximum capacity.

Phase I of airport taxiway system will include:

- Parallel taxiway
- Rapid exit taxiways
- Apron/apron taxi lanes
- Isolation bay

## **Characteristics of the taxiway specification**

Bituminous structural pavement width of 25m (code F)

Width of taxiway plus unpaved shoulder width - 45 m

The separation distance between the centre line of runway and taxiway, taxiway centre line to taxiway centre line are in accordance with ICAO Annex 14 for code F.

**Operation:** In the Master plan, the rapid exit taxiways have been located at 1200 metres and 1800 metres from 09 end of the threshold. The choice for these positions is that they enable both large aircraft and medium sized aircraft to vacate the runways efficiently and quickly.

**Future developments:** Provisions have been made in the Master plan to cater to the future requirement for a second parallel taxiway.

## **Air traffic control facilities**

The Air Traffic Control (ATC) tower located on the landside, will be a 65-metre tall construction. This height will provide a free line of sight from the control cabin to the operational areas and the approaches. The control cabin will be provided with communication equipment, consoles, etc.

**Technical block:** For air traffic control services not performed in the tower, (such as control area, and approach control) an ATC complex (Technical Block) will be developed with a floor area of approximately 2,000 square metres. The technical block will encompass ATC briefing, anti-hijacking control room, MET department, electronics workshop, data management system, library, training rooms and offices.

# FACILITIES AND INFRASTRUCTURE



## **Airline support facilities**

The space requirements for the aircraft maintenance facilities will be mainly related to the aircraft fleet based at the airport and will be developed by airlines. Areas have been earmarked at the western end of the runway for this purpose.

Based on discussions with airlines, requirements may emerge for maintenance facilities for line, light maintenance or even heavy maintenance. BIAL is in a position to provide space for all these activities.

## **Electrical**

The electrical power system includes transformer stations, a distribution network and emergency power supply. The distribution network will be planned with loop-shaped connections, so that power supply is always possible from two directions. A main power supply system, which distributes the electrical energy on an 11 kV-level drawn from a 2X16 MVA, 66/11 kV substation, will be installed in the airport area.

An auxiliary power generator system (approximately 6 MVA) will be installed in the central power station and will supply the essential consumers of the airport in case of public power supply failure.

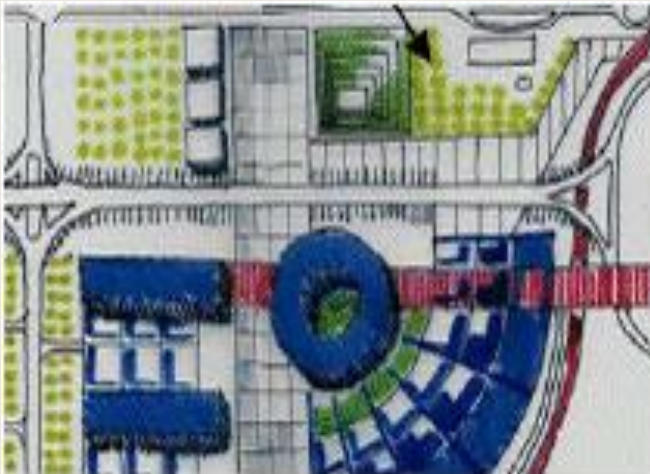
**Boundary wall/Security wall** From a security perspective, it is imperative to construct a boundary wall around the airport perimeter. Besides this, a security wall separating the landside and airside facilities, is also being built by BIAL.

## **Ground Support Equipment (GSE) maintenance area**

A GSE maintenance area covering an area of 2000 square metres is planned on the airside with **ACCESS**.

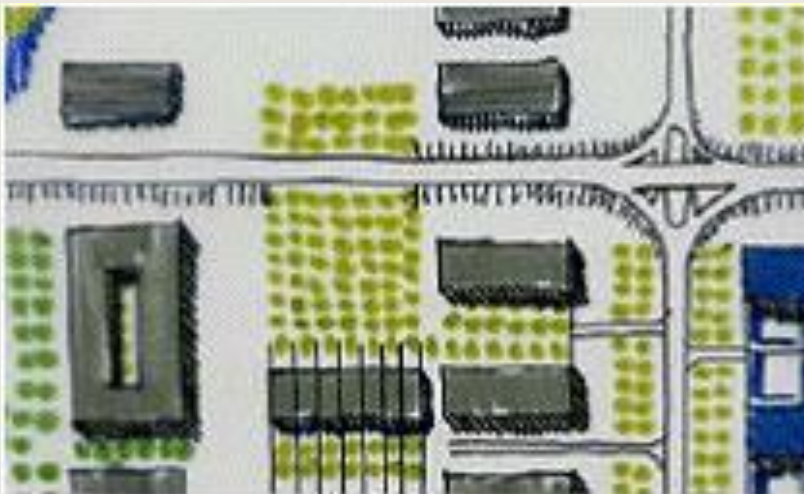
## DOWNTOWN

• This area will be the closest to the terminal building and will be positioned as a typical urban entertainment center spanning approximately 39 acres of land. It will house a shopping area with various retail formats, entertainment facilities, offices and hospitality facilities. The Downtown area will address the time of passengers, meters and greeters who arrive early to the airport. Additionally, due to the Downtown Area being closely linked to the Business Unit Area will help attract additional footfalls from the offices. An 'Airport Visitor Centre' is planned opposite the Downtown area. Here, visitors will have the opportunity to observe the airport operations and combine this experience with travel, entertainment and business or simply as an independent visit. The Downtown area will be developed in a phased manner through a tender process by one developer. It will have its own metro station once the Bangalore metro network is connected to the Airport.  
[Enlarge image](#)



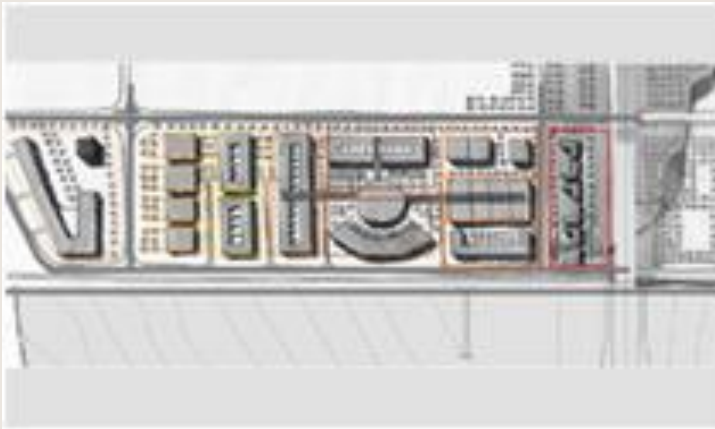
## BUSINESS UNIT

This area lies between the Downtown area on the eastern side and the Middle area on the western side. It will be built on approximately 46 acres of land and will house a business park for premium office space and will consist of support retail, a 3 star and a 4 star hotel. The connection to the area is through the central access road on its north side and through the southern main road on its south side. The Business Unit area will be developed in a phased manor through a tender process by one developer.



## TECHNOLOGY AREA

This area is located at the entry of the Airport on the main access road. The land assigned to this facility is approximately 90 acres. The Technology Centre will be a hub for global corporate who will have the option to establish research campuses for highly qualified personnel. The Technology Centre area will also house healthcare, support retail and hospitality services. BIAL will execute land lease agreements with the corporate who will then design their facility with the preferred developers according to their needs.





# MIDDLE AREA

This area lies exactly between the Business Unit and the Technology Center. It has been reserved for a possible taxiway connection between the two runways in future. In the interim this area of approximately 15 acres of land will be used as a park area with recreation facilities for the visitors as well as the employees.

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## AIRPORT AREA

Avoiding the rush of the main city, the busy traveler and the executive will have easy access to a welcoming hotel at the new Bangalore Airport. BIAL has selected the Oberoi Group to operate a first class international hotel of competitive scale and standard under the Trident Hilton brand. This truly will be the first Airport hotel in India within walking distance from the terminal building

The selected consortium consisting of Larsen & Toubro and the Oberoi Group is responsible for the design, construction, financing and operation of hotel facilities at international standards. The combined investment committed by L&T and The Oberoi Group is approximately INR 250 crores.

The hotel will comprise of 321 rooms, large conference facilities, restaurants and a world class spa and will be operational by November 1, 2008.

### Future plans

The airport city will have more hotels complimenting one another, along with destination retail, serviced apartments, office park, software campuses and a lot of free public spaces, which will make it a truly global enclave.



# TRAFFIC FORECAST

Air traffic forecasts help create policy on airport capacity, foretell and give insight on future capacity, help analyse the economic implications of policy alternatives, and serve as reference for other government departments.

BIAL traffic forecast background

BIAL's design and business plans are based on two traffic forecasts:

SH&E UK, appointed by KSIIDC (Government of Karnataka) in the year 2000.

Lufthansa Consulting (LHC), appointed by BIAL in the year 2002 to revalidate the SH&E traffic forecast.

The need for revised forecast

India's economic success in the recent few years has created significant demand for air travel. Further, the Government of India policy to liberalize air traffic has encouraged a number of international airlines to fly into Bangalore and new airlines to fly in the domestic sector.

With the passenger traffic at the HAL airport increasing from 2.3 million in 2001 to approximately 5 million in 2005, BIAL appointed LHC once more in 2005 to update the traffic forecast and develop planning parameters.

## The new traffic forecast

In an extensive report conducted by Lufthansa Consulting, the potential traffic flow from 2005 to 2025 was analyzed. The new forecast shows a significant increase in passenger figures and aircraft movements in the coming years.

In view of the revised traffic forecast, BIAL has redesigned the initial project.

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Total passengers

Scenario	2005	2010	2015	2020	2025
<b>Optimistic</b>	4,613,742	10,190,762	13,922,812	18,193,819	23,444,066
<b>Most likely</b>	4,470,904	8,540,579	11,369,184	14,536,743	18,441,082
<b>Conservative</b>	4,328,258	7,144,506	9,777,469	12,284,213	15,377,190

# TRAFFIC FORECAST

Total cargo

Scenario	2005	2010	2015	2020	2025
<b>Optimistic</b>	124,904	257,263	334,795	426,367	538,844
<b>Most likely</b>	122,157	234,017	299,303	375,118	469,179
<b>Conservative</b>	118,378	198,565	255,033	316,118	391,855

Total movements

Scenario	2005	2010	2015	2020	2025
<b>Optimistic</b>	62,613	125,221	158,100	191,487	228,967
<b>Most likely</b>	60,822	106,191	130,464	154,530	182,169
<b>Conservative</b>	58,553	87,885	112,057	130,467	152,211

Movement at peak hours

Peak hour movements	2005	2010	2015	2020	2025
<b>Total</b>	16	27	30	30	35
<b>Arriving</b>	10	16	15	16	18
<b>Departing</b>	10	19	20	20	20



## HRG SITA VALUE ADD'S

HRG Sita would be having a 24/7, 365 days airport service facility

### **SERVICES**

- 1.Domestic
- 2.International

#### **Domestic**

##### **Boarding Pass**

- Possible only for travelers with hand baggage. Passenger should collect 45 minutes before departure boarding pass from HRG Sita representative
- Once boarding pass taken and passenger fails to travel, No refund would be applicable
- For arriving travelers meet and assist facility from baggage claim area
- Follow up for lost baggage (PIR report) by HRG Sita representative

#### **International Travel**

- Meet and assist facility only with travelers presence
- For economy class travelers should arrive 2 hours before estimated time of departure
- For first / business class travelers should arrive 1 hour 30 minutes before estimated time of departure
- For international arriving travelers meet and assist facility from arrival area (located after baggage and customs)

**Agent Help Desk** – Presently they is no provision for agents help desk, however with the 2<sup>nd</sup> terminal coming up travel agents would be given an opportunity.