



Identify issues of traffic movement at landside area & remedial measures

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ABSTRACT

this paper presents remedial measures for the traffic flow at landside area of international airport Ahmedabad. Recently the Ahmedabad international airport terminal built with very advanced design & engineering concept. The landside areas include parking lots, passenger walkways, pickup & dropdown lane etc. Due to poor layout of landside area the traffic problems creates more & more. The traffic problems at the landside area are congestion due to insufficient width of carriageway, queuing of vehicles, mismanagement in trolley handling, and confusion in direction movement of traffic flow. Within the traffic problem another factor which caused bottleneck condition on passengers pickup & dropdown lane. It is responsible for the congestion at terminal area which is the meeters & greeters tendency as per our Indian culture. The factor is the absence of the basic facility for the meeters & greeters like waiting area, comfortable sitting, refreshment etc. The issues identification carried out by the customer & parking user's interview at the terminal & landside parking area. The interview analysis reflects necessary changes in layout of landside area with basic facility are required.

Keywords : Carriageway, traffic flow, landside area, terminal area, meeters & greeters

v Introduction

An airport is a location where aircraft such as fixed-wing aircraft, helicopters, and blimps take off and land. Aircraft may be stored or maintained at an airport. An airport consists of at least one surface such as a runway for a plane to take off and land, a helipad, or water for take-offs and landings, and often includes buildings such as control towers, hangars and terminal buildings.

Airports are divided into Landside and Airside areas. Landside areas include parking lots, public transportation train stations, tank farms and access roads. Airside areas include all areas accessible to aircraft, including runways, taxiways, ramps and tank farms. Access from landside areas to airside areas is tightly controlled at most airports. Passengers on commercial flights access airside areas through terminals, where they can purchase tickets, clear security check, or claim luggage and board aircraft through gates. The waiting areas which provide passenger access to aircraft are typically called concourses, although this term is often used interchangeably with terminal.

Airport Planning

General

Airport planning is a systematic process used to establish guidelines for the efficient development of airports that is consistent with local, state and national goals. A key objective of airport planning is to assure the effective use of airport resources in order to satisfy aviation demand in a financially feasible manner. Airport planning may be as broad based as the national system plan or more centrally focused as an airport master plan for a specific airport. The primary types of airport planning may basically be classified as follows:

- National System Planning
- State Airport System Planning (SASP)
- Metropolitan Airport System Planning
- Airport Master Planning
- Ground transport

There is a range of ground transport options to access airports, although there are few links:

The main form of access to airports is by private vehicle; mostly 'pick-up and drop-off', followed by parking on- and off-airport.

Any substantial increase in on-airport car parking prices would lead to substitution to other modes of transport. The type of transport and the degree to which passengers 'switch' will vary between airports.

Car parking prices at airports reflect the cost of the service, the convenience and amenity associated with facilities, demand management strategies and the opportunity cost of the land. Airports have invested in car parking facilities, reflecting the growing demand for such services. Concerns that Brisbane Airport may have inefficiently delayed investment are difficult to substantiate, especially given the problems of access to finance during the global financial crisis.

Access fees paid by ground transport operators do not appear excessive. They may be in excess of costs for reasons of reducing congestion in the limited forecourt areas and rationing of scarce resource to those ground transport providers willing to pay for premium access. However, information about terms and conditions of access—such as the impact of congestion and security management strategies—is less transparent.

When a variety of indicators are examined within a broader context, there is no evidence of the misuse of market power by the five monitored airports. Nor is there evidence to support the claim that Airport charges monopoly car park prices by impeding access to competitors.

Airline passengers and other airport users require access to the airport and its terminals. Unless arriving as a transit passenger or at a rail terminal, users will access airports by private vehicle, taxi, hire car, bus, rental car or bicycle. Users arriving in a private vehicle may drop-off or pick-up passengers or park on a short- or long-term basis.

Access roads are on land that is leased and controlled by the airport. Consequently, the airport is the sole supplier and has the ability to set the terms and conditions of access to land-side vehicle facilities (such as roads and forecourt areas) and services (such as car parks and taxi waiting areas).

In addition to driving a private vehicle and parking at the airport, ground transport services to the airport include:

- Driving and using drop-off/pick-up facilities
- Driving and using off-site parking combined with a shuttle bus
- Driving a rental car (and returning to the provider)
- Taxi
- Hire car
- Bus
- Rail
- Cycling

Objectives

- Understanding traffic movement of landside area of an airport
- Understanding user behaviour for land side area of an airport
- Identification of local issues at landside area in chosen airport
- Recommendations

Methodology steps

1. Identify issues of traffic movement at landside area of an airport
2. Understand flow pattern at land-side
3. Delineation of study area
4. Data collection
5. Analysis
6. Remedial measures

Area/ Location Description:-

Image showing layout plan of land side area which includes the terminal area and parking area.

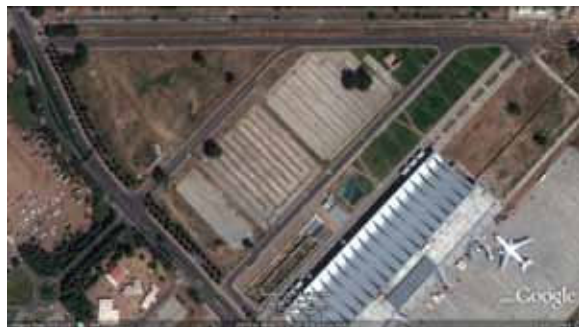


Figure-1

Present Scenario

Issues at terminal area

1) Insufficient carriageway width caused

1) Congestion

The road width of the single carriageway is 9 m. It is the below to the capacity of the traffic it causes the congestion on the road.

2) Traffic jam

In peak hours the carriageway is fully loaded with the luggage handling activity, heavy passenger flow. In this situation sometimes due to heavy traffic flow the jam condition should be created.

3) Reduced comfort to passengers

4) Level of service of carriageway is reduced

5) Lack of basic facility



Figure-2

6) Congestion due to meeters & greeters tendency



Figure-3

7) Poor traffic flow pattern



Figure-4

8) Poor layout of landside area

9) Confusion in direction movement in parking area



Figure-5

Data collection

Interview at landside area

Interview questionnaires survey conducted to identify the traf-

fic & facility issues. The survey is carried out at two site one at terminal area & another at parking area site.

Sample size

- 1. 100 sample of customers
- 2. 100 sample of parking user
- 1. Customer's interview questionnaires on following issues
 - Comfortable sitting
 - Basic Facility
 - Feeling congestion problem
 - Baggage trolley handling
 - Pickup & dropdown spot
 - Proper Signage should be provided
 - Traveller track would be provide for long walking
 - Separate walkway should be provided for handling baggage trolley

1.1 Outcomes of customer's interview

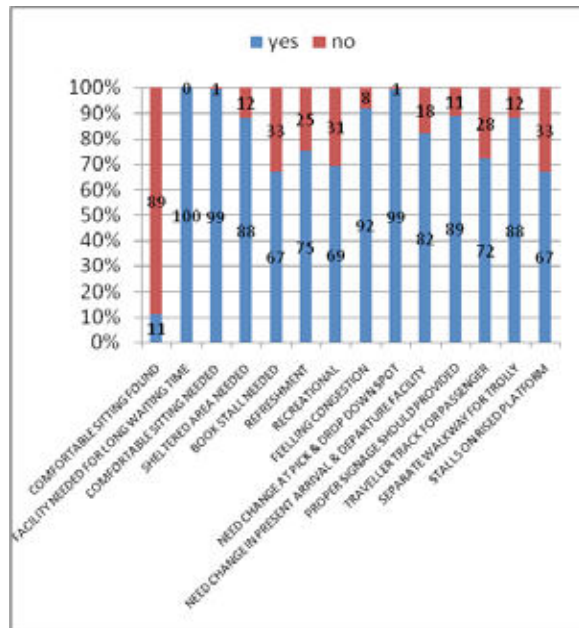


Figure-6

2. Parking user's interview questionnaires on following issues

- Purpose to visit an Airport
- Get parking space at landside parking area instant
- Comment on Accessibility to reach at Terminal Area from Parking Area
- Willing to pay nominal charge
- you need any changes in present Parking Facility
- Handling the luggage trolley facility from Arrival gate to parking lot
- Willing to pay for parking facility
- Suffering from present Parking System

2.2 Outcomes of parking user's interview

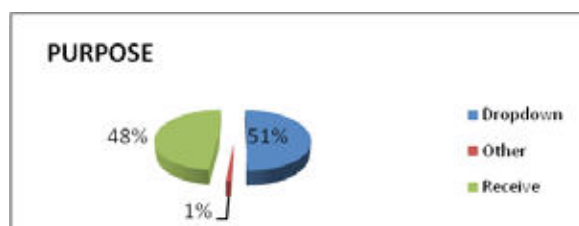


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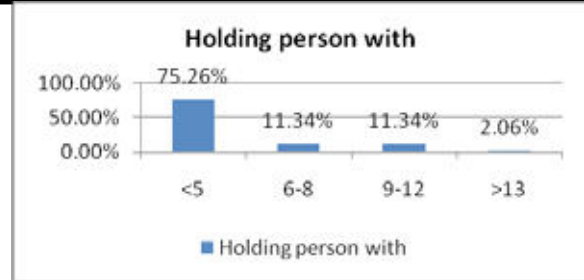


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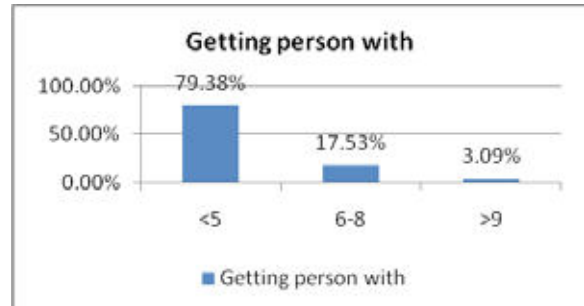


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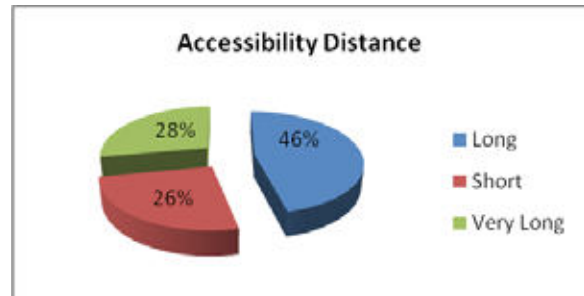


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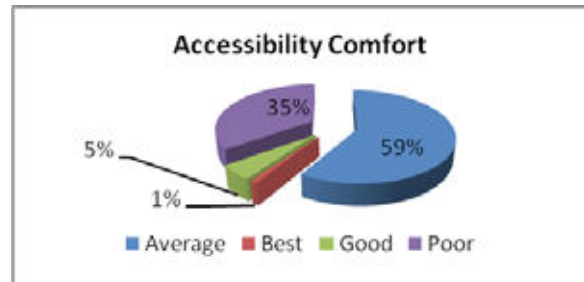


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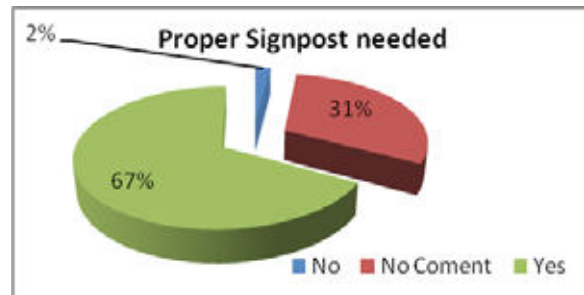


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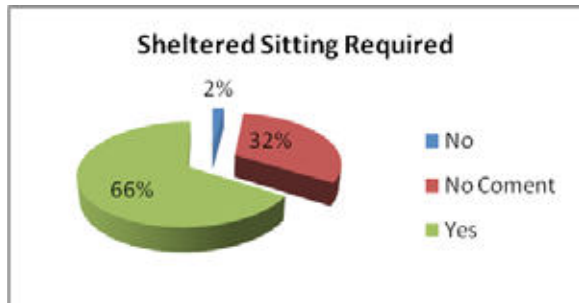


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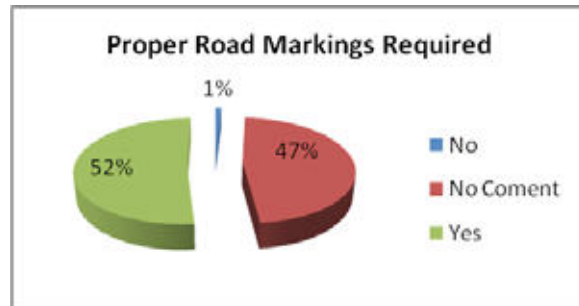


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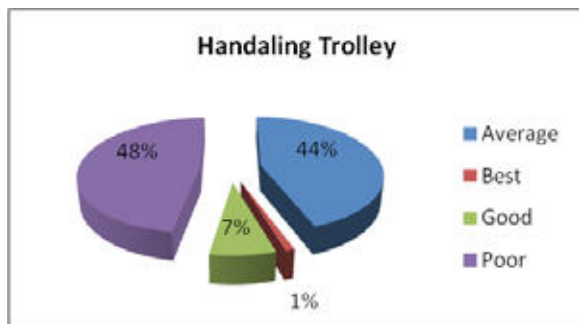


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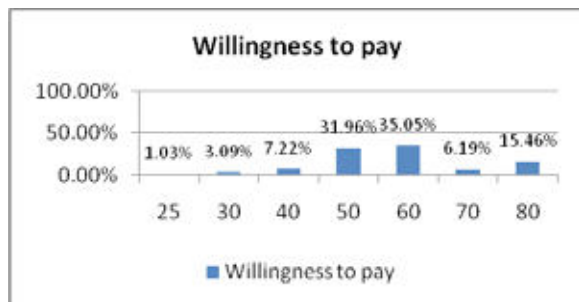


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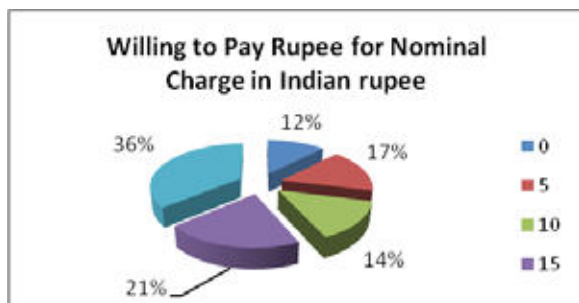


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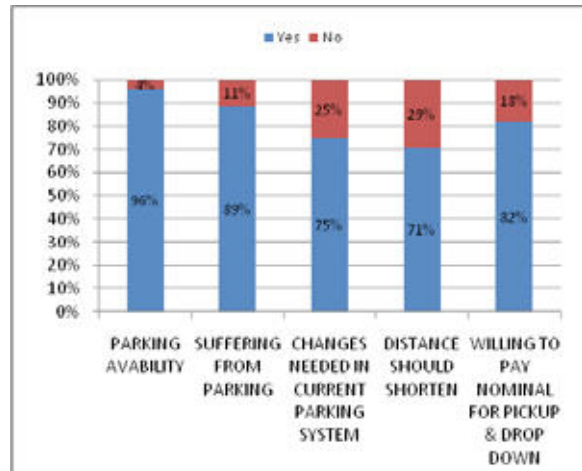


Figure-17

Benefits

- **Congestion reducing**
When the customers will use fully occupied carriageway with improved width, congestion must be less as before. So in peak period the traffic are decreasing and the congestion creating as before by vehicle minimised.
- **Traffic jams preventing**
As same condition when traffic become free flow from congested pickup & dropdown lane at the carriageway closed to terminal area the traffic jam after road widening will not created.
- **Improve capacity of carriageway**
Merging traffic caused heavy traffic condition. By providing extra lanes in existing carriageway the capacity of the carriageway will improved.
- **Improve the comfort of customers**
By providing the basic facility at landside area the congestion due to meeters and greeters can be reduced. It also gives the new experience to the parking users & customers at landside area.

Suggestions

From the comment and the review of the customers & parking user necessary changes should be made for best service in landside area. The facility should provided at landside area are the comfortable sitting with sheltered area, refreshment, traveler track provision for easy handling the trolley-luggage, The traffic flow pattern should be improved by giving the suggestive new layout of parking area & terminal area.

Conclusion

International airport must have smooth traffic flow pattern in the landside area. The entire International Airport Ahmedabad does not have basic facility for the landside customers. The passengers of inside terminal area have all the facility but what about the facility to the landside customers who are the meeters & greeters. It is recommended that the above facility should be provided.

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