

NOTES:

ensure measurement unit match

CONSTRAINTS:

general

destinations: 30 (subject to change)

aircraft door must be closed 15 min before departure

maintenance

- only occurs at designated hubs, required after 200 hours of flight
- takes 1.5 days
- each hub can service ≤ 3 aircraft at a time

3-4 hubs serve as transit points

flights ideally 75% full, but airfare charged assuming aircraft is 30% full

number of gates is related to metro pop. around airport

- (1 gate per 1 million people)
- max 5 gates except for hubs (11 gates)

airport hours: 5 AM to 1 AM

flying

time zones

only flights > 150 mi

if a flight lands and gate unavailable \rightarrow wait on tarmac

timing

- start: leave gate
- stop: gate arrival

fly at 90% maximum airspeed

note flying examples - handout middle page 4

passengers

passengers only board/disembark at gate

- min 40 mins to turn around aircraft at gate
- disembark: 15 min
- clean/change crew: 10 min
- board: 15 min
- (optional) refuel: 10 min

passengers in airport transit require at least 30 min to

- disembark
- walk to gate
- board another flight

.5% of population travels by air

assume constant arrival rate

passengers passing through airport is proportional to metro pop. (example in handout - top of page 5)

money

investors lease terminal space at each airport are charged \$2K per takeoff AND landing monthly leasing fees in handout - top of page 4 (includes maintenance)

fixed price of fuel at \$6.14/gallon

expects to take 2% of market share initially, growing to 5% by year end