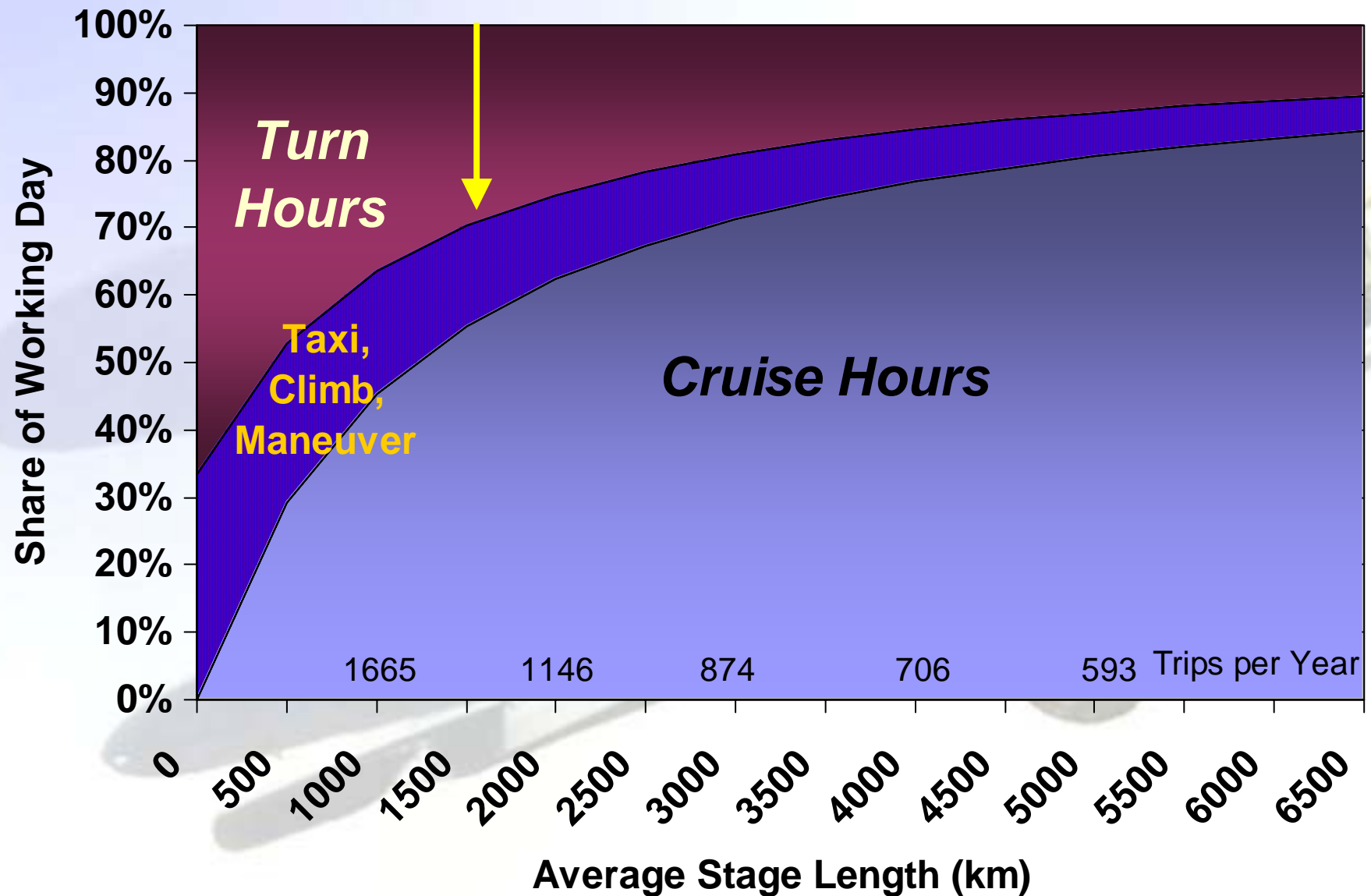


Air Service

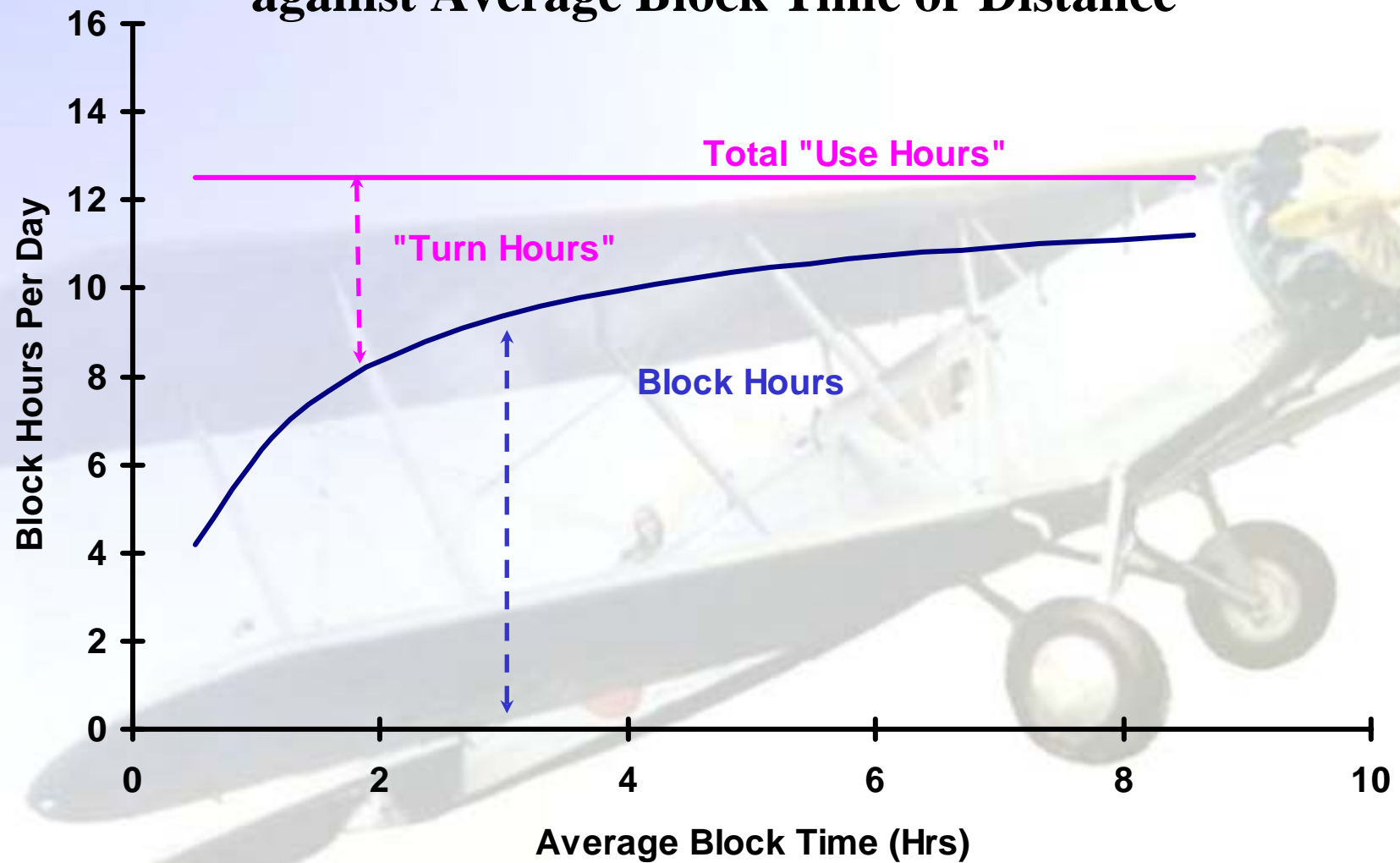
May be about Airports

- Cruise is less than half of total activity per trip
 - For short-haul stage lengths
- If airline prices mirror airline costs:
 - Ticket prices are \$151 plus \$0.03/mi
 - Only 17% of prices are distance dependent at 1000 mi.
- Airport, Security, Immigration costs
 - Smaller stations can have high costs
 - Allocation of system costs can favor or disfavor
 - Larger airports and airlines dominate standard setting

Turn Times Are 30% of Total at 1500 km



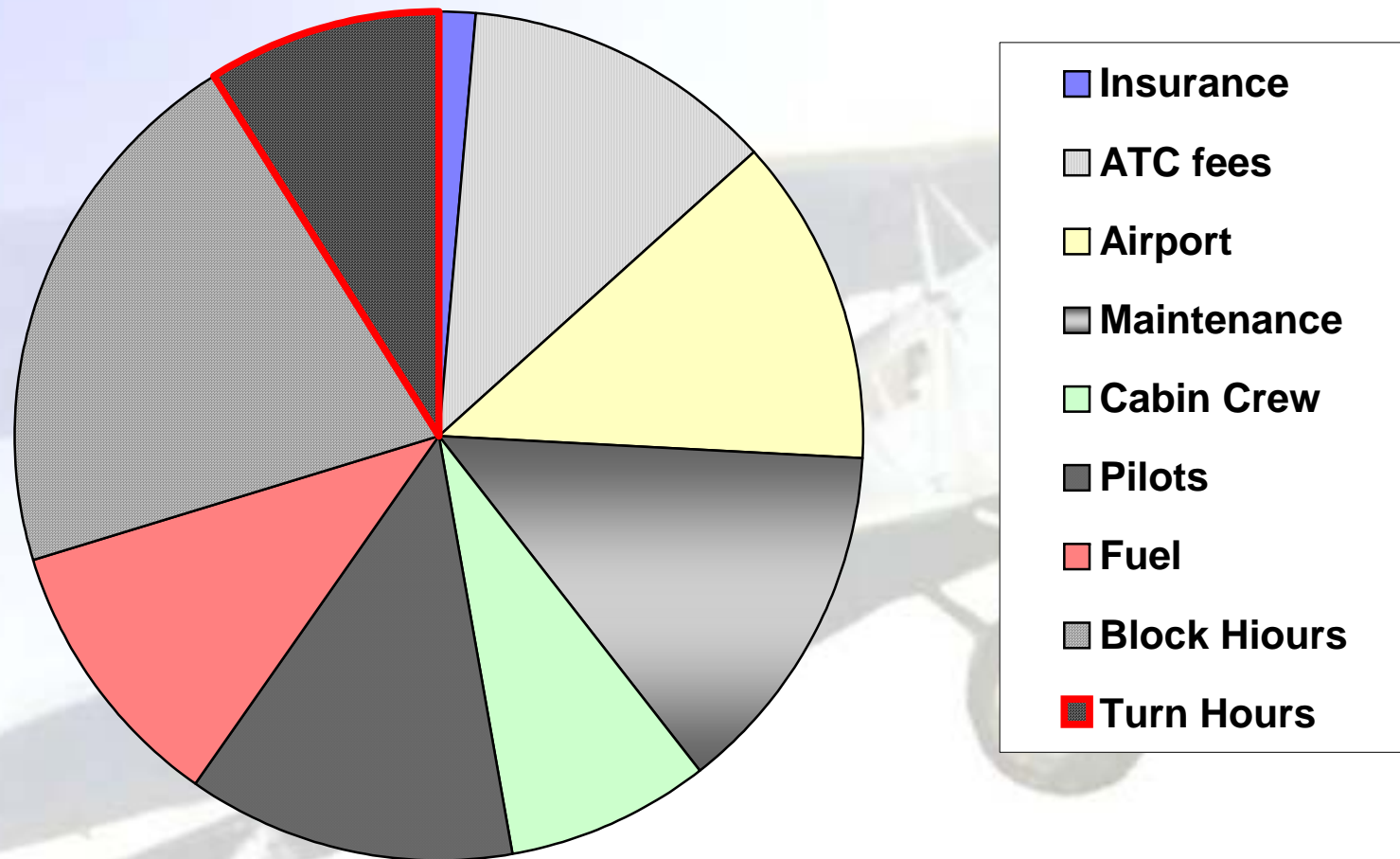
Use Hours are Nearly Constant against Average Block Time or Distance



Airplane Thinking Misses Airport Costs Even Those Associated with the Airplane!

- Ownership is 30% of airplane costs
 - At 1500 km, turn is 30% of ownership time
 - Ownership alone makes turns = 9% of costs
 - But this is not the way we present it
 - Same turn times and work rates for all airplanes
 - Same gate and servicing costs for same size airplanes
 - Transformation of trips/year needed to break out turn times
- Are short-haul airplanes designed to save airport costs?
 - Ownership time, ground equipment, labor costs, ...

Turn-Time Ownership Costs are 9% at 1500 km

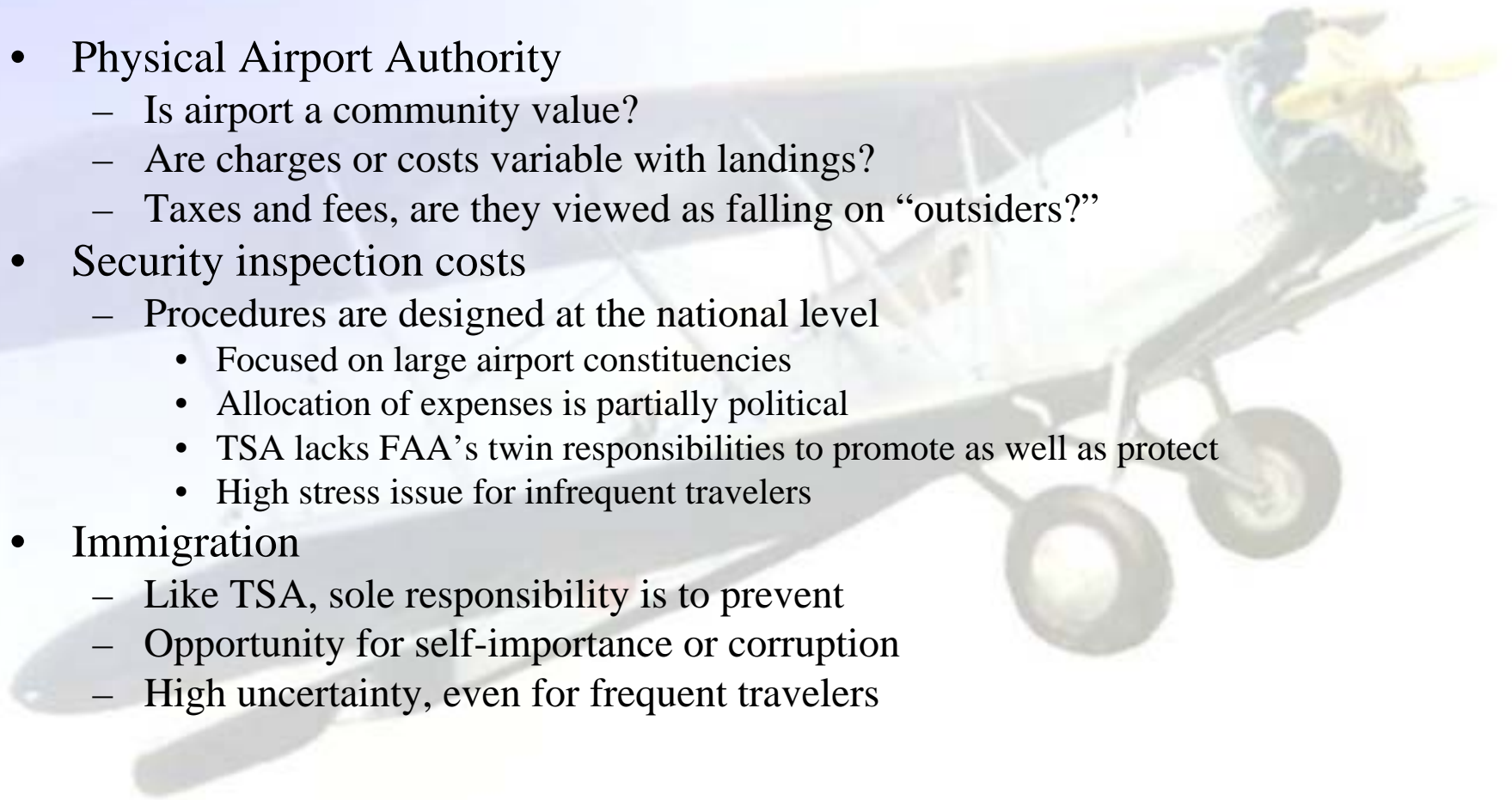


Research Involves Several Disciplines

- Research involves observing at airports
- Research involves working with airlines
 - Airport managers
 - Operations controllers
 - Schedule planners
- Research involves prototype modeling & testing
- Backgrounds needed:
 1. Industrial Engineering (system process design)
 2. Airline Operations Research (schedules, reliability)
 3. Math modeling including simulations (programming)
 4. Administration and Customer relations skills

Airport Costs Inhibit Access

- Physical Airport Authority
 - Is airport a community value?
 - Are charges or costs variable with landings?
 - Taxes and fees, are they viewed as falling on “outsiders?”
- Security inspection costs
 - Procedures are designed at the national level
 - Focused on large airport constituencies
 - Allocation of expenses is partially political
 - TSA lacks FAA’s twin responsibilities to promote as well as protect
 - High stress issue for infrequent travelers
- Immigration
 - Like TSA, sole responsibility is to prevent
 - Opportunity for self-importance or corruption
 - High uncertainty, even for frequent travelers



Airports Are Monopolies

- Lack of competitive corrections
- “Service processes evolve for the convenience of the server”
- Airport part of costs have been rising
 - While airplane, airline, cruise costs fall
- Processes planned for large airports
 - May gain from redesign for smaller airports