


2014 ACI-NA Airport Concessions, Finance, Human Capital and Legal Affairs Conference

Aircraft Operating and Delay Cost per Enplanement (AOD CPE)

FINANCE COMMITTEE MEETING UPDATE

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STUDY OBJECTIVES





Problem Statement

- Traditional cost per enplanement (CPE) is the industry accepted method for comparing airline costs amongst airports

- However, traditional CPE is subject to various “pitfalls” when used for comparison purposes
  - Inconsistent airline rates & charges components (ACI-NA efforts over past several years have improved consistency)
  - Inconsistent in how airlines pay for use of facilities (i.e., non-rate base items such as airline direct operating expenses and special facility debt)
  - Does not capture airline aircraft operating costs while certain airport capital investments are intended to reduce such costs

- In summary, traditional CPE does not measure the “total airport-related” cost to airlines of doing business at an airport





Components of Airline Costs at an Airport

#1 Airline Rates & Charges

- Terminal Rents
- FIS Fees
- Baggage System Fees
- Landing Fees
- Gate/Apron Fees
- RON Fees

#2 Aircraft Operating & Delay Costs

- Total Aircraft Taxi Time Costs (including taxi-in and taxi-out delays)
- Airborne Delays
- Gate Delays

#3 Airport Costs Paid Directly by Airlines

- Terminal Special Facility Debt
- Terminal O&M (Janitorial, Utilities, Etc.)
- Loading Bridges (Capital and O&M)
- Deicing costs
- Baggage Consortium Fees





Study Objectives

1. Build on the traditional CPE to better capture the “total airport-related” cost to airlines of doing business at an airport.
2. Develop a metric that considers the return on airport capital investments.
3. Develop a metric that maintains a balance of not being overly complex; yet, is an effective measure that could be used industry-wide.
4. Develop a metric that would be acceptable for use by airport operators, airlines, and other industry stakeholders.

This alternative CPE measure is not intended to replace traditional CPE. It should be viewed only as an optional metric or tool to help calculate additional airline costs not captured through traditional CPE.





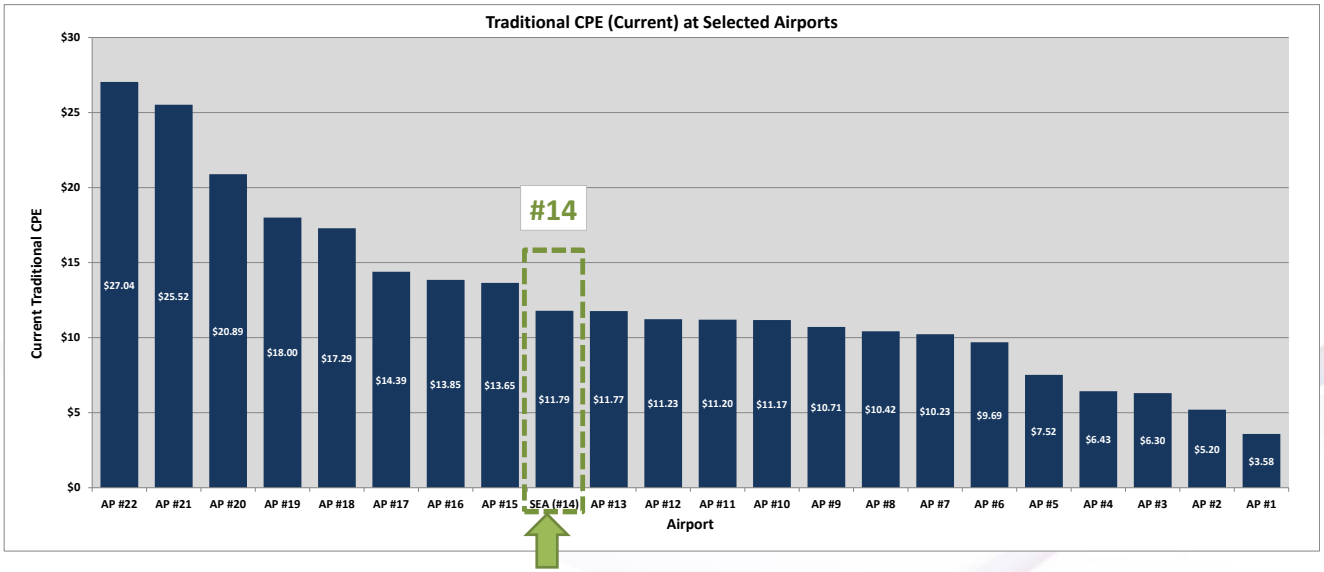
Background

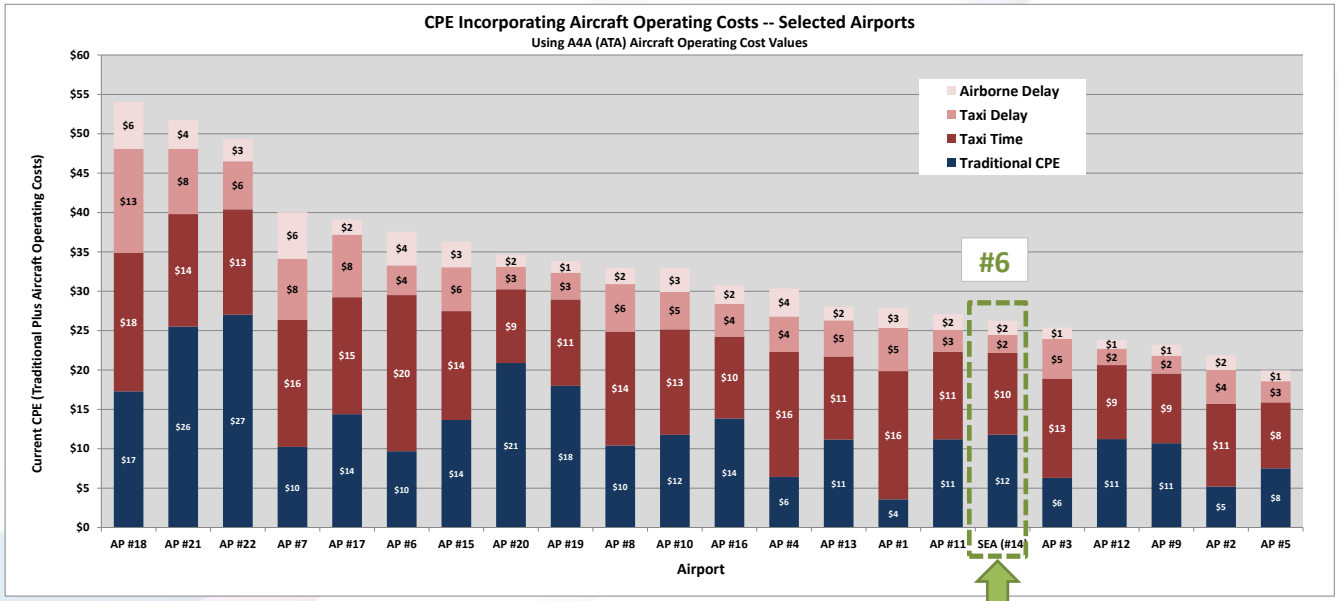
- Approach of including cost of delay into traditional CPE was initiated in 2009 to measure benefits of airfield capital improvements at DFW.
- Approach was presented to ACI-NA Finance Committee at Annual Conference in October 2011.
- SEA used approach to help present to airlines the impacts of its recent airfield capital program.
- AOD CPE White Paper which provides background and calculation methodology was developed.





Case Study: SEA





Example of Aircraft Operating Times and Delays by Phase of Flight

Aircraft Arrives

Typical Breakdown of Flight Phases

Aircraft Departs

Airborne Time	Airborne Delay	Unimpeded Taxi In	Taxi In Delay	Gate Time	Gate Out Delay	Unimpeded Taxi Out	Taxi Out Delay
Airborne Total Time		Taxi In Total Time		Gate Time		Taxi Out Total Time	

Operating and Delay Statistics: EXAMPLE SEA

Calculating Total Aircraft Operating Time

	AVERAGE MINUTES	TOTAL OPERATIONS (ARR OR DEP)	TOTAL MINUTES (000)
Average Airborne Delay	2.56	150,604	385.5
Average Taxi In Time	6.16	150,604	927.6
Average Taxi Out Time	14.05	151,109	2,123.1
Total	22.77	n/a	3,436.1





Source: FAA ASPM Database, April 2014.

Data Limitations

- Does not capture flight cancelations.
- Delay attribution is imperfect in some cases (e.g., flow control delays related to downstream airports).
- Does not measure delay propagation.





From Operating Minutes to Cost

Airborne Delay (Mins)	Cost of one minute of airborne delay ($)
Taxi In Unimpeded Time (Mins)	Cost of one minute of taxi time($)
Taxi In Delay (Mins)	Cost of one minute of taxi delay ($)

TOTAL ANNUAL ARRIVAL COST

Aircraft at-gate (or towed to hardstand)*

* The cost associated with at-gate aircraft was considered but not included in the total cost as it is not directly under the control of the airport.

Taxi Out Unimpeded Time (Mins)	Cost of one minute of taxi time($)
Taxi Out Delay (Mins)	Cost of one minute of taxi delay ($)

TOTAL ANNUAL DEPARTURE COST

AOD Cost by Phase of Flight Summary

- Summary of AOD Analysis Costs (CY 2012)

	TAXI COST PER MINUTE SUMMARY	AIRBORNE COST PER MINUTE SUMMARY
Fuel	$11.58	$31.93
Crew	$16.26	$16.26
Maintenance	$12.02	$12.02
Aircraft Ownership	$7.92	$7.92
Other	$2.71	$2.71
Total	**$50.49**	**$70.84**

Sources: All Costs but Fuel, A4A, July 2013; Engine Fuel Flow, Aircraft Engine Database, July 2013; Aircraft Operations Share, DOT Form 41 T100; CY 2012 Fuel Cost per Gallon, BTS TranStats. January 2014.





Operating and Delay Cost per Enplanement

Total Annual Arrival Cost

+

Total Annual Departure Cost

=

Total Annual Aircraft Operational and Delay Cost
(In $ Millions)

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Total Annual Enplanements

=

OPERATING AND DELAY CPE





AOD CPE: EXAMPLE SEA

	AVERAGE MINUTES	TOTAL OPERATIONS (ARR OR DEP)	TOTAL MINUTES (000)	COST PER MINUTE	TOTAL COST (MILLIONS)
Average Airborne Delay	2.56	150,604	385.5	**$68.91**	**$27.31**
Average Taxi In Time	6.16	150,604	927.6	**$49.80**	**$46.83**
Average Taxi Out Time	14.05	151,109	2,123.1	**$49.80**	**$107.20**
Total	22.77	n/a	3,436.1	**n/a**	**$181.34**
			Divided by Total Enplanements (millions)		**16.6**

Total Aircraft Operating & Delay CPE **$10.92**





Source: FAA ASPM Database, April 2014. See prior table for cost source information.

Potential Opportunities for Further Refinement

- Airport-specific aircraft fleet mix
- Propagation of delay
- Coordinate with A4A to better understand their methodology on aircraft operating cost data
- Coordinate with FAA/ATC on flow control delay attribution





Proposed Next Steps

JULY 2013: Presentation: ACI CFO Summit

AUGUST 2013: Address Comments from Summit

SEPTEMBER 2013: Presentation: Committee Meetings at Annual Conference

JANUARY 2014: Submit White Paper to Committee for Review

MARCH 2014: Committee White Paper Review Sessions

SECOND QUARTER 2014: Finalize White Paper

White Paper Review

Review & Comment

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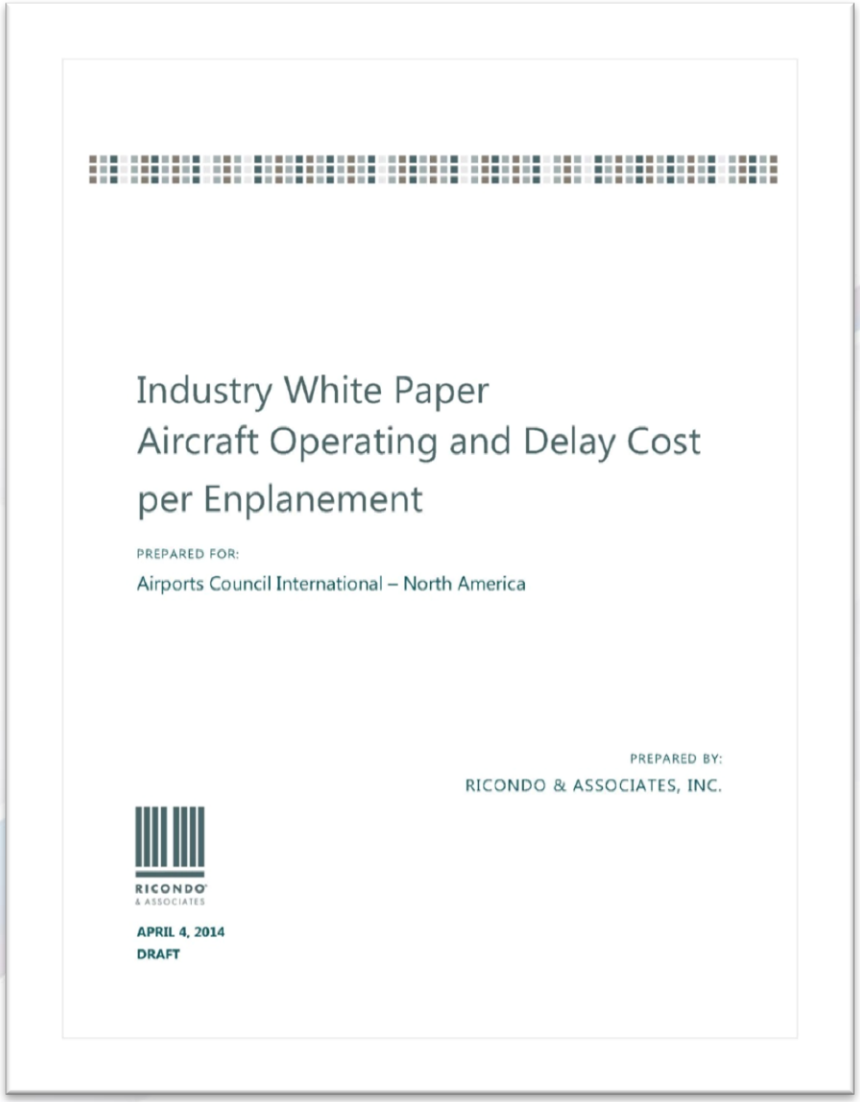
Industry White Paper
Aircraft Operating and Delay Cost per Enplanement

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