

Designing KPIs to Improve Financial Performance

(Written by Dafang Wu on January 30, 2016; [PDF version](#))

This article discusses designing airport-specific financial KPIs to improve performance and some commonly used KPIs.

Key Performance Indicator (KPI) is a widely used management tool for all industries. Many documents and guides provide a large list of KPIs for the airport industry, such as ACRP 19 [Developing an Airport Performance Measurement System](#), ACRP 19A [Resource Guide to Airport Performance Indicators](#), and ACRP 20 [Strategic Planning in Airport Industry](#). However, selecting KPIs is more than a sampling process of choosing favorites from a large menu. KPIs can be divided into two categories:

1. KPIs that are used to evaluate results (Indicative KPIs). Most KPIs are Indicative KPIs, such as cost per enplaned passenger, days cash on hand, debt per enplaned passenger, debt service coverage ratio, operating expenses per enplaned passenger, and non-airline revenues as a percentage of total, to name a few. Changes in Indicative KPIs give the management a quick way to evaluate the direction an airport is heading, although those changes can be caused by a long list of issues and actions.

Indicative KPIs should be tied to an airport's strategic objectives.

2. KPIs that are relatively specific and attempt to evaluate the effectiveness of certain management actions (Actionable KPIs). Those KPIs assist management in evaluating whether certain actions are successful and in making further decisions. For example, long-term parking transactions per origin enplaned passenger can be used to evaluate the effectiveness of an action "Implement a loyalty program to regain market share from off-airport parking operators."

Actionable KPIs should be tied to an airport's action plan.

Indicative KPIs

Changes in Indicative KPIs highlight important issues for management and may work as trend indicators. To identify a set of Indicative KPIs for a specific airport, one may start with the objectives of the airport's financial operations, which include (assuming the airport has outstanding revenue bonds):

- Priority one: meet bond document requirements, which typically include,
 - The coverage test requires an airport to generate net revenues equaling at least 125% of debt service
 - The flow test requires an airport to generate adequate revenues to meet all obligations
- Priority two: balance the needs of three secondary objectives:
 - Improving financial performance
 - Investing in capital projects
 - Maintaining attractive airline rates

Considering an Airport Specific Financial Framework

When designing KPIs to evaluate performance against the objectives described above, one must take into consideration the unique financial framework of an airport, especially those airports with pure residual ratemaking. An airport with a pure residual ratemaking and a 25% coverage requirement generates revenues as follows:

$$\text{Revenues} = 125\% \text{ of Debt Service} + \text{Operating Expenses} + \text{Fund Requirements}$$

This distorts many commonly used KPIs. For this airport:

- $EBIT = 25\% \text{ of Debt Service} + \text{Fund Requirements}$. EBIT is typically used to evaluate the earning ability of an enterprise. For this airport, a higher EBIT implies that the airport has spent more money on capital projects, which is irrelevant to its earning capability.
- $Gross\ Margin = (125\% \text{ of Debt Service} + \text{Fund Requirements}) / \text{Revenues}$. Commercial enterprises seek higher gross margins. For this airport, a high gross margin implies that the airport has too much debt.
- $Debt\ Service\ Coverage = (25\% \text{ of Debt Service} + \text{Fund Requirements}) / \text{Debt Service}$. If the airport conducts year-end settlements, higher debt service coverage simply means that the airport is depositing more funds into mandated reserves.

Indicative KPIs of Different Airports Are Not Comparable

In addition to unique financial frameworks, each airport has a unique operating environment, making the comparison of KPIs even more difficult. For example, the following characteristics may significantly influence an airport's operating expenses and debt level, among other factors:

- Traffic volume vs. scale of economy
- Traffic mix
 - Origin and Destination (O&D) vs. Connecting
 - International vs. Domestic
 - Network vs. Ultra Low Cost Carriers (ULCC)
- Desired level of customer service vs. types of service provided
- Cost of living and inflation
- Geographic locations and weather conditions

Commonly Used Indicative KPIs

The following table summarizes commonly used Indicative KPIs and their applicability.

Objective	KPIs	Compensatory/Hybrid Airports	Residual Airports
Meet Bond Document Requirements	Debt service coverage	Useful	Barely useful
	Debt per enplaned passenger	Somewhat useful	Somewhat useful
Improving Financial Performance	Days cash on hand	Useful	Barely useful
	Non-airline revenues as % of total	Somewhat useful	Useful
	Concession revenues per enplaned passenger	Useful	Useful
Investing in Capital Projects	Annual discretionary cash	Useful	Barely useful
Maintaining Attractive Airline Rates	Cost per enplaned passenger	Somewhat useful	Somewhat useful
	CPE as % of airfare	Useful	Useful

Actionable KPIs

Actionable KPIs are designed to monitor the effectiveness of certain management actions and help to improve airport efficiency and performance. Those KPIs are typically tied to specific actions in the action

plan to realize strategic goals and objectives. To design an actionable KPI, we must identify the drivers underlying the desired results and exclude other factors that may affect the results.

To achieve the strategic goals and objectives, an airport typically devotes its efforts to the following aspects:

Optimizing Operating Expenses

The most commonly used KPIs on the expense side are operating expenses per million enplaned passengers (OpEx/M) and full-time employees per million enplaned passengers (FTE/M). Both OpEx/M and FTE/M are Indicative KPIs. A higher OpEx/M or FTE/M may be the result of a lower level of enplaned passengers, a decision to improve customer service or to offer additional services, inflation, and organization changes, among other factors.

An example of an Actionable KPI can be police overtime ratio, calculated as overtime expenses as a percentage of regular salaries and wages. This ratio may be used to evaluate the effectiveness of an action plan item, such as “Examine security requirement and staffing to reduce police overtime expenses.”

For some further thoughts on optimizing operating expenses, please see this [April 2015 presentation at the ACI conference](#).

Enhancing Non-Aeronautical Revenues

The most commonly used KPIs are non-aeronautical revenues as a percent of total revenues or single revenue stream on a per unit basis. The following list includes the revenue streams and their drivers (other than product offering and inflation):

1. Terminal concession revenues: total passengers, and connection time to a lesser degree
2. Parking revenues: competition, resident enplaned passengers
3. Rental car revenues: visitor deplaned passengers
4. Duty free: international enplaned passengers
5. Ground transportation: total passengers
6. Other miscellaneous concession revenues: enplaned passengers (indirectly)

Those KPIs can be revised to be Actionable KPIs. As mentioned above, long-term parking transactions per origin enplaned passenger can be used to evaluate the effectiveness of an action “Implement a loyalty program to regain market share from off-airport parking operators.”

Inflation should be excluded when examining concession revenues or rental car revenues.

Improvement Capital Project Management

The focus of the capital project management is cost, schedule, and scope. Earned Value Analysis has been commonly used to monitor cost and schedule. In addition, many KPIs can be used to track performance, such as monthly cash flow (critical for financial management), change order and amendment as a percentage of base costs, percentage of projects with X% cost overrun or X% of schedule overrun. Some of the KPIs can be used as Actionable KPIs. For example, change order as a percentage of base costs can be used to evaluate the effectiveness of an action plan item, such as “Establishing an oversight committee for change order management and approval.”

Conclusion

KPIs can be used as effective management tools, but they do not replace management. An organization eventually relies on its leader to create a positive environment to encourage the organization to work towards a common goal, and KPIs are used to identify and reward positive behaviors. However, KPIs can have negative effects if used improperly. An organization emphasizing days cash on hand may tend to borrow more than necessary, while an organization focusing on debt service coverage may decide to defer maintenance that is direly needed. Therefore, KPIs need to be designed according to an organization's specific situation and be monitored to achieve the desired objectives.