

# Lessons for Public Transit from the Low Cost Airline Industry - Or – What if Southwest Airlines ran the Muni?

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## ABSTRACT

This paper seeks to stimulate thinking on improving public transit by examining the success factors for low cost airlines and asking the question, how might a low cost airline operate a public transit system? The paper outlines key business strategies used by low cost airlines and suggests how public transit might apply these strategies. These suggestions are intended to serve as a starting point for additional research, rather than as fully developed recommendations. The goal is to encourage researchers and professionals to consider and invent new ideas for improving public transit service.

Airlines and public transit share several key traits. Both industries move people, require large capital investments, have high labor costs, and are in financial trouble. Interestingly, a new breed of airline, modeled after Southwest, has been extremely successful even in today's turbulent travel market.

The Southwest Model consists of mutually reinforcing practices in the areas of: business strategy, product definition, operations, and organization. Southwest's most basic feature is its unrelenting focus on reducing costs. Importantly it does not do this by reducing wages or pressuring employees, since Southwest believes that taking care of its employees is a key reason for its success.

This paper is the first part of a larger research study; it begins with an analysis of the need for change in the transit industry, then summarizes the strategies used by low cost airlines based on a literature review, and, finally, presents ideas for applying those strategies in the transit industry. It is acknowledged that these ideas for applying airline strategies to public transit need additional research; the objective of this paper is to stimulate this research.

## 1. INTRODUCTION

The transit and airline industries share certain key traits. Both move people, have high capital and labor costs, operate in highly competitive environments, and have been financially unsuccessful. However a new breed of low cost airline has thrived even in these difficult times. Can strategies used by these innovative airlines be applied in the transit industry to improve operations and customer service?

The hypothesis of this paper is that public transit can be improved by applying lessons from low cost airlines such as Southwest. There are two justifications for this hypothesis. First, a growing literature suggests that all businesses can learn by applying these techniques (1); and, second, while there are certainly differences, the business of moving people, whether 3 miles by bus or 500 miles by air, shares many characteristics.

There are clearly techniques used by the low cost airlines that will be difficult or impossible in the public sector. A main difference is that public transit is partly a 'social service' while air travel is a business, expected to make a profit. Transit's social service role is important, and therefore the goal of considering application of low cost airline techniques to public transit is to improve transit's efficiency and customer service, not to eliminate unprofitable routes.

There are two general approaches to achieving this goal: first, in many cases it is possible to at least move in the direction indicated by low cost airline strategies; and second, in the longer term, it is possible to consider new ways of public ownership and regulation that can make it easier to more fully implement these techniques. This could range from creation of more independent transit agencies to various levels of

1 privatization. The work of the Transit Cooperative Research Program's New Paradigms for Local Public Transit  
 2 Organizations project considers these approaches (especially in a discussion of improvements to London's bus  
 3 system). (2) (3)

4 One reason for the lack of innovation in public transit is its insulation from the rigor of the marketplace.  
 5 This has reduced its incentive to proactively improve business practices through such techniques as refining its  
 6 business strategy, improving its product, making its operations more efficient, and introducing human resources  
 7 practices that reinforce its business strategy. In contrast, strong competition in the airline industry has created a  
 8 new breed of airline that owes its success to focusing on these strategies.

9 Finally, at the outset it is necessary to address the common misconception that Southwest Airlines is  
 10 non union. In fact, Southwest has one of the highest rates of unionization of any airline (over 80%) and  
 11 employees are represented by traditional unions including the Teamsters, Transportation Workers Union, and  
 12 International Association of Machinists. Southwest believes that a unionized workplace works better than a non-  
 13 union. (1) While some low cost airlines have adopted a non-union approach (e.g. JetBlue), all the low cost  
 14 airlines place a major emphasis on the importance of good employee relations. (4)

15 Just as traditional airlines are being pressured to reconsider their business plans by the success of the  
 16 low cost airlines, public transit is under political pressure to improve service and reduce costs. The object of this  
 17 research is to identify the strategies and techniques used by the low cost airlines for improving service and  
 18 reducing costs and to stimulate research on their potential for implementation in the transit industry.

## 19 **2. SIMILARITIES: AIRLINES AND PUBLIC TRANSIT**

20 The airline and public transit industries share several characteristics starting from the fact that they both are  
 21 focused on moving people. These similarities are outlined below.

### 22 **Moving People**

23 At the most basic level, both airlines and transit move people. While there is a big difference in trip length, the  
 24 process of moving people shares many similarities: people want to get where they are going safely, comfortably,  
 25 quickly, reliably (on-time), and inexpensively. These qualities are the key ways in which airlines compete, and  
 26 they are the key factors that potential transit passengers consider before choosing how to travel.

### 27 **High Labor Costs**

28 Both the airline and transit industry have high labor costs. Labor accounts for approximately two-thirds of transit  
 29 costs and about one-third of airline costs (one reason for this difference is that the airline figures include capital  
 30 costs while most transit agency budgets account for capital costs separately). (5) Since both industries are labor  
 31 intensive, they must improve labor productivity to increase efficiency.

### 32 **High Capital Costs**

33 The airline and transit industries have high capital costs. Airplanes and transit vehicles are expensive and long-  
 34 term investments. They require regular maintenance and are a key factor in efficient operations.

35 One difference is that government grants pay the capital costs for most public transit. This may lead to  
 36 an emphasis on capital investment and making strategic decisions without considering real costs.

37 A second difference is that rail transit operators have a significant capital investment in their guideways  
 38 which limits their ability to make major service changes, in contrast, airlines can rapidly change service patterns  
 39 since they use publicly provided airports and airways.

### 40 **Cutthroat Competition**

41 Airline deregulation has created an extremely competitive business environment. News reports of fare wars,  
 42 creation of new airlines, and airline bankruptcies, appear frequently. Competition from the new low cost airlines  
 43 has forced traditional airlines to become more efficient.

44 Some argue that public transit does not face competition. In fact, public transit operates in a highly  
 45 competitive business environment, the market for urban transportation, and competes mainly with the  
 46 automobile. Public transit can be improved and made more efficient by explicitly recognizing this competition.  
 47 As transit improves it can attract additional political and financial support allowing it to better achieve its overall  
 48 mission of transportation and social service.

### 49 **Financial Condition**

50 Finally, both public transit and traditional airlines face significant financial challenges. Most traditional airlines  
 51 are either bankrupt or close to it. Similarly, most public transit agencies are faced with growing costs and falling  
 52 revenues, operating costs per passenger are increasing. This is complicated by pressure for reducing transit

subsidies due to government budget constraints. While, in general, financial and political support for transit has been good, almost all major transit agencies lack funds for important capital improvements and introduction of innovative new programs.

### 3. INNOVATION AND PUBLIC TRANSIT

The Transit Cooperative Research Program (TCRP) organized Project J-8B, titled “New Paradigms for Local Public Transit Organizations” to address the need for innovation in public transportation. The project’s two reports present a detailed analysis of the need for change, case studies of how other industries have changed, and recommendations for the transit industry. (2) (3) According to the project’s report:

*The report addresses why fundamental change is now needed in public transportation and how other businesses and industries have responded to similar factors and forces in the recent past. Six broad challenges that currently drive the need for fundamental change in public transportation are presented: the vitality of our urban areas; socio-economic trends; the ‘enabling environment’ (characterized by fragmented responsibilities, regulatory constraints, and conflicting policies and goals); organizational dynamics and culture; the focus on customer’s experience; and the digital economy and information age.*

*Although the results of this (New Paradigms) research do not espouse a single model of organizational arrangement for public transportation systems, the report does suggest that in many industries a fundamental shift is occurring toward a strategic focus on managing service to customers rather than managing the use of a single organization’s assets. The new paradigm focuses on the varying and changing needs of customers – needs that often require the formation of new organizational alliances among former competitors. State-of-the-art information technology is critical for understanding customer needs and providing real-time information. Incentives for innovation at all levels of an organization must replace historical barriers to change. (6)*

This research can be considered a small supplement to the New Paradigms research. It looks at some of the strategies that low cost airlines use to successfully move people and asks if there could be parallels in the public transportation industry. Thus, many of the recommendations in the New Paradigms report are directly relevant, specifically those calling for increased innovation – thinking innovatively is required to refine techniques used by successful airlines for application in public transportation.

### 4. LESSONS FROM THE LOW COST AIRLINE INDUSTRY

Southwest Airlines is widely recognized as the model for the low cost airline industry. Many research papers and popular articles have been written on its success (profitable since 1973) in an extremely turbulent market. (7) However, today several new low cost airlines, most of which refine the Southwest model in important ways, have also started operations and become successful (e.g. JetBlue). This section will outline some of the key aspects of the Southwest model and some of the refinements made by JetBlue.

The Southwest model can be described in terms of the following four key elements that work together in a mutually reinforcing manner:

- Business Strategy
- Product Definition
- Operations
- Human Resources

JetBlue’s pedigree is closely linked to Southwest and its business model. The airline was founded in early 1999 by David Neeleman. Neeleman led Morris Air, modeled on Southwest, from 1984 until 1993 when Southwest purchased Morris. Neeleman then worked for Southwest until 1994 in senior management. JetBlue’s strategy is to combine common sense with innovation and technology to “bring humanity back to air travel.” (8)

#### Business Strategy

Southwest Airlines staked out a unique and valuable strategic position in the airline industry based on a carefully tailored set of activities. (4) Southwest identified a specific market, developed a product for that market, focused on improving the production process (mainly reducing costs and improving customer satisfaction), and developed an organization dedicated to continued success and improvement.

Southwest’s main strategy is to keep costs low in order to increase profitability. Low costs in turn lead to increased market share. Some low cost airlines have instead emphasized increasing market share before reducing costs, a strategy that proved unsuccessful. Southwest’s focus on cost reduction will become more evident below, but a good example is that it will forgo entering a potentially lucrative market should it be likely

to disproportionately increase costs. Another important strategy is that the airline will only grow at a rate that allows it to maintain its organizational culture. (4)

## Product Definition

Southwest's product is providing customers with transportation, on a basic level this means getting people where they are going safely, comfortably, quickly, reliably (on-time), and inexpensively. Since a key aspect of Southwest's strategy is competing with ground transportation it particularly focuses on keeping costs low so that it can reduce its fares and attract more passengers. Table 1 summarizes key product and operating features for Southwest Airlines. (7)

Southwest has an excellent reputation for safety. Given its seating configuration Southwest is not especially comfortable, but this is no different from other airlines; Southwest personnel do, however, use seating as the 'butt' of many jokes increasing the comfort level somewhat. Southwest flights are quick and punctual; it has been a leader in on-time performance. Tickets are inexpensive, unrestricted and based on a simple structure.

From the passenger standpoint, Southwest has had one of the best customer satisfaction ratings of any airline in America. It won the airline 'triple crown' – best on time performance, highest customer satisfaction rating, and least lost luggage – every year between 1991 and 1996. (1)

Interestingly, while JetBlue has followed this basic product strategy, it has also focused on improving the customer experience over Southwest. For example, all JetBlue's planes are new, they have leather seats with individual television screens, interesting snacks are offered (blue potato chips), and staff are friendly. This attention to customers has made JetBlue a top rated airline among passengers.

## Operations

The key element of Southwest's operating strategy is cost reduction. Southwest is significantly more efficient than other major airlines and, is extremely efficient when compared to other airlines flying in similar markets (e.g. Boeing-737s on short haul service). This is achieved through its high rate of aircraft utilization; Southwest keeps its planes in the air an average 11.5 hours per day versus an average of 8.6 hours per day for traditional carriers. (4) As Southwest's employees say, airplanes do not make money sitting on the ground at airports.

Given the need for high aircraft utilization, many Southwest operating practices are designed to minimize ground time and maximize flying time, specifically:

- Southwest uses uncongested airports to reduce taxi time and air traffic delays.
- Southwest's personnel are focused on turning around airplanes quickly; they work together as a team to meet this goal.
- Southwest's boarding system (no seat assignments) and lack of meals (less time loading refreshments and cleaning-up) speed the turnaround process.
- Southwest uses a point-to-point system rather than a hub-and-spoke system to reduce schedule congestion and interlining delays.

JetBlue has followed this same basic strategy, focusing on keeping planes flying, but as with customer service has added some important refinements. For example, JetBlue assigns seats, believing that this is more attractive for customers. JetBlue also flies into Kennedy Airport in New York instead of a secondary airport; however, by careful scheduling and using uncongested airways to access the airport JetBlue has been able to maintain its quick turnarounds. JetBlue's flight attendants even ask passengers to help speed up airplane turnarounds, suggesting that if passengers take their own trash off the plane it will help keep fares low. (9)

A second cost reduction strategy is keeping ticketing costs low. Southwest does this through direct ticket distribution and using electronic tickets (often purchased on the internet). All JetBlue tickets are electronic.

Finally, while cost reduction has been a fundamental reason for Southwest's success, this has not come at the expense of the employees or customer service. Southwest employees are paid competitively with other airlines and the company has been named by Fortune magazine as one of the top companies in America to work for several years running. JetBlue's goal is to pay its employees one dollar per hour more than the competition. (8)

## Human Resources

### *Southwest Airlines*

A common business saying is, "Put the customer first." Southwest, in contrast, puts their employees first under the belief that happy employees will provide better customer service (4) and feel a sense of ownership in the company. Ownership, in turn, provides an incentive to work as a team with the objective of meeting Southwest's strategy of cost reduction and customer service.

1 Southwest's product and operating strategies are well known and very logical. Many airlines are putting  
2 them into practice, but to date, none have been quite so successful as Southwest. A recent study by Gittel  
3 identifies Southwest's 'secret ingredient' as its ability to build and sustain high performance relationships among  
4 managers, employees, unions, and suppliers. These relationships are characterized by shared goals, shared  
5 knowledge, and mutual respect. (1)

6 While these relationship practices sound simple, they are hard for companies to achieve and maintain.  
7 Gittel identifies 10 organizational practices used by Southwest to build high quality relationships. These  
8 practices are designed to reinforce each other so that the total is greater than the sum of the parts. Combining  
9 them with frequent, timely and problem-solving communications helps create a workforce with shared goals,  
10 shared knowledge, and mutual respect, and ultimately to a high quality and efficient performance. These 10  
11 practices, summarized from Gittel's book, are:

- 12 1. Lead with credibility and caring – Many have pointed to Southwest's founder, Herb Kelleher, as the reason  
13 for its success. Kelleher is a charismatic and exciting leader, but behind his popular image are two critical  
14 qualities: credibility (the ability to inspire trust); and caring (the ability to inspire a belief by employees that  
15 their leaders care deeply about their well-being). JetBlue's Neeleman even works as a flight attendant on  
16 flights to meet and serve passengers as well as to communicate with workers that he understands what they  
17 are doing and to show that customer service is critical.
- 18 2. Invest in frontline leadership – Southwest has higher levels of supervisory staff than other airlines, this  
19 means that instead of only focusing on problems, supervisors can work side by side with frontline  
20 employees, gaining their respect and becoming sufficiently familiar with the work so that they can provide  
21 meaningful coaching and feedback to their direct reports. They are also more available for conversations  
22 reducing barriers and creating a richer flow of information transfer.
- 23 3. Hire and train for relational competence – Southwest looks for employees who have relational competence  
24 skills and uses training to help develop these skills. This requires a very special hiring process and use of a  
25 strict probation period for new employees. Employees with poor relational competence skills either leave  
26 (since they don't fit in) or are fired.
- 27 4. Use conflicts to build relationships – Conflicts are to be expected in businesses with highly interdependent  
28 processes. Rather than being harmful these conflicts can serve as opportunities for learning about the  
29 process and for developing a clear understanding about goals, expectations, and behaviors. Thus, conflict  
30 can lead to improved performance when it takes place in a context that values task-related conflict. This  
31 means that organizations should proactively seek out conflicts rather than allowing them to fester, and treat  
32 conflicts as an occasion for learning.
- 33 5. Bridge the work/family divide – Southwest recognizes and encourages the energy that good family and  
34 community relationships bring to the workplace, and the energy that good working relationships bring to  
35 family and community life. Southwest's programs range from programs to help employees solve personal  
36 problems, to team parties and family days.
- 37 6. Create boundary spanners – As outlined above, a key reason for Southwest's success is its ability to turn  
38 airplanes around quickly. This process requires different employees to complete a series of interdependent  
39 tasks in a time sensitive environment. Many airlines have consolidated the management of this process so  
40 one person coordinates several departures at once, communicating with staff using radios, telephones and  
41 computers. Southwest has taken the opposite approach; each Southwest flight has its own operations  
42 manager who is responsible for that flight. This person guides the jetway to the plane, coordinates all  
43 aspects of the departure process, and helps with whatever is needed to get the plane away quickly. Typically  
44 this person develops a strong web of relationships with other employees involved in the process. These  
45 relationships facilitate the development of shared goals, shared knowledge, and mutual respect across  
46 functional boundaries – in turn leading to improved performance and quality.
- 47 7. Measure performance broadly – Every business needs to know how it is doing, but many performance  
48 measures have the perverse effect of encouraging finger-pointing rather than problem solving. Furthermore,  
49 focusing on functional goals can undermine organizational goals. At Southwest cross-functional  
50 performance measures are used to orient employees towards cross-functional outcomes. For example, the  
51 main measure is: the airplane was 5 minutes late leaving rather than the fueling process was delayed by 5  
52 minutes. Using the organizational measure encourages all the employees working on the departure to

identify ways to improve the process so that the fueling process won't be delayed next time rather than simply blaming the fuel truck operator.

8. Keep jobs flexible at the boundaries – Each person at Southwest has a very clear and specific job description and they are well trained for that job, on the other hand a Southwest employee's job description includes helping other colleagues with their work whenever necessary. Southwest has negotiated this flexibility into all its union contracts. Flexible jobs are conducive to coordination because they create more opportunities for communication across functional boundaries, therefore enabling employees to develop stronger relationships of shared goals, shared knowledge and mutual respect.
9. Make unions your partners – A recent study has shown that it is not the level of union representation, but rather the quality of the relationship, that determines organizational performance. Unions have been found to have a positive effect so long as employees are not forced to choose between loyalty to their union and loyalty to their employer. That is, union representation can reinforce shared goals between employees and employers so long as the employer recognizes and respects the role of the union and seeks its partnership. At Southwest, respectful relationships between company management and the unions chosen by frontline employees appear to set the tone for respectful relationships throughout the company.
10. Build relationships with suppliers – Southwest seeks to build relationships of shared goals, shared knowledge and mutual respect with suppliers that they deem critical to the organization's success (e.g. airport authorities). By treating these critical component suppliers as partners, Southwest effectively extends its sphere of influence beyond its employees to encompass its entire value chain.

Gittell's book describes each of these principles in detail and compares how they are implemented at Southwest to implementation at other airlines. Her study links high levels of relational coordination with improved performance. Finally, she argues that three conditions that increase the need for relational coordination – reciprocal interdependence, uncertainty, and time constraints – are increasingly common in today's service industry. These qualities are certainly present in the transit industry, and support the hypothesis that transit operators can learn from the low cost airline industry.

#### *JetBlue*

JetBlue also realizes that to be successful in the long run an airline must have happy and productive employees. Many of JetBlue's key managers came from Southwest and they have applied these relationship practices in their new roles; however, since they were creating a new organization they had the ability to start with a clean slate, choosing from and refining Southwest's model. The discussion below outlines ideas from a case study co-authored by Gittell (and O'Reilly) for the Harvard Business School. (8)

1. Focus on Values – JetBlue focused on developing a set of values from which all other aspects of the organization would follow. These values are: safety, caring, integrity, fun, and passion. Rather than attempting to control people through rules and supervision, JetBlue attempts to give workers autonomy – judging their performance based on these values.
2. Non Union Environment – A key difference between Southwest and JetBlue is the fact that JetBlue is non union. Management operates under the belief that not having a union creates a team environment and that as long as employees are working well together unions won't be necessary.
3. Customized Employment Packages – JetBlue has recognized that there are many different types of jobs in the airline, some long-term (like pilots) where employees plan to stay with the company for many years, and others short term (like flight attendants) who might be people who want to travel for a few years before settling down. Therefore, JetBlue has developed different employment packages for these people, providing company ownership programs for long-term jobs, and higher wages for short-term jobs.
4. Selecting the Right People – Like Southwest, JetBlue places a huge emphasis on selecting the right people. JetBlue seeks people who fit the company's five key values.

## 5. APPLYING LOW COST AIRLINE STRATEGIES TO PUBLIC TRANSIT

This section presents ideas for applying low cost airline strategies to public transportation. In the spirit of innovative thinking these ideas are not presented as *the answer*, but rather as a starting point for more detailed research and to stimulate innovative thinking by public transit managers on ways to improve service.

### **Business Strategy**

#### *Keep Costs Low*

The low cost airline industry's main strategy is to keep costs low to increase profitability. It does this through careful and systematic application of mutually reinforcing elements in the areas of: product definition, operations, and human resources. Applications of strategies in the transit industry for each of these areas are presented in the following sections.

#### *Choose Markets Carefully*

One overarching business strategy for Southwest is that it will not enter a market that it thinks will prevent it from meeting its strategic goal. (4) Transit agencies probably cannot follow this model directly, since most agencies do not have the luxury of choosing their markets. However, they can use this strategy to help guide their planning and operations of new services, for example in considering a major capital investment such as a light rail line or Metro system. As part of this analysis the transit agency should consider how construction of such a system might change its cost structure and organizational efficiency before proceeding.

#### *Grow Conservatively*

A second overarching business strategy used by Southwest is that it grows very conservatively especially compared to other low cost airlines. One reason Southwest has chosen to grow slowly is that it believes its employees are a key reason for its success, and it recognizes that it is hard to select and train new staff for the Southwest culture. Rather than grow too rapidly, Southwest chooses to grow carefully. (4) The parallel in public transportation for this strategy could be to start with small projects and move up to larger ones.

### **Product Definition**

Public transportation and airlines both have the same product: moving people. The low cost airline industry has carefully defined its product in terms of fares, fare collection, schedule (frequency), and punctuality. Lessons from the low cost airline industry for each of these are outlined below. A good summary of these ideas and additional suggestions for improving product definition in the transit industry is provided in the Appendix of the TRB Report: *Making Transit Work: Insight from Western Europe, Canada, and the United States*. (11)

#### *Fares*

One key advantage low cost airlines have over traditional airlines is a simple fare structure; simple fare structures are also the rule for public transit. However, a key low cost airline strategy is using the fare structure to attract an entirely new market of flying passengers (both new trips and trips formerly made driving). A parallel in the transit industry would be using fare strategies to increase ridership among discretionary passengers thus increasing revenues. This might include different pass marketing programs like the Santa Clara Valley Transportation Authority's Eco-Pass, university pass programs, annual tickets, or tie-ins with businesses.

#### *Fare Collection*

Low cost airlines have simplified and reduced the distribution network for tickets. Travelers book flights over the Internet and simply show up at the airport with their credit card. JetBlue uses only electronic tickets. There are two important advantages that the low cost airlines obtain from their simple and efficient ticket distribution system: cost reduction and user friendliness.

In terms of fare collection, public transportation operators are already pursuing strategies to improve fare collection, especially through the introduction of smartcard systems. These systems are a vast improvement over the past when exact fares paid individually on the vehicle were the rule. Not only are they good for passengers, but they help speed the boarding process thus keeping transit vehicles moving. Finally, they also ease transferring between different vehicles and operators. One possible improvement could be a system where visitors could use the same smartcard on all transit systems (the way they can use the same credit card to charge airline tickets on any airline).

One benefit of using smartcard technology is that it allows public transit to easily implement innovative fare structures and to collect ridership data. For example, New York City has used its MetroPass to introduce

fares that were not possible before such as day passes as well as allowing patrons to transfer between subway lines that are not physically connected. (12)

For people without smartcards it is important that transit agencies keep fare structures simple, especially where transferring is necessary. In Europe regional agencies have brought different transit operators together into associations that use a common ticketing system. The passenger buys a single ticket for their entire trip, thus encouraging transit use by simplifying life for the passenger. (11)

### *Frequency*

As part of their strategy to build passenger demand, Southwest offers frequent service throughout the day on their routes. This level of service has helped attract people who might otherwise drive for schedule or flexibility reasons. Frequency plays a similar role in public transit. A key problem is that limited funding often prevents transit from operating enough service to offer high enough quality service to attract high ridership. One possible solution would be to implement higher frequencies as part of a coordinated corridor improvement program in a demonstration project; success could help attract funding to repeat the program on other corridors.

### *Punctuality*

Airline and transit passengers want to arrive on time. Low cost airlines have planned their route structure (especially the airports they use) to help insure punctuality. Most transit services operate on congested city streets where it is difficult to maintain schedules. Implementing a comprehensive transit priority program can help increase schedule reliability as well as speed up service (attracting more passengers and improving utilization of the transit fleet). (13)

### **Operations**

Most of the operating features of low cost airlines are designed to reduce costs and make the airline more efficient. Many can be applied directly to the transit industry.

### *Vehicles*

A key element of the low cost airlines' success is using a single type of aircraft, which reduces maintenance and crew costs. Maintenance costs are lower since mechanics only need to be familiar with one type of airplane, maintenance centers can be specialized for that airplane type, and the spare parts inventory can be minimized. Crew costs are minimized since crews only need to be trained to operate on one type of airplane and can be used on all the company's fleet.

It is difficult to imagine any but the smallest public transit operator having only a single type of vehicle, and therefore this strategy would not be directly applicable to public transit. However, parallel strategies could include purchasing vehicles with common components (e.g. same door assembly in all buses) or from the same manufacturer. Furthermore, a set of standard vehicle designs could be developed (similar to the highly successful program to develop the Presidents Conference Committee streetcar) to increase vehicle standardization.

Finally, as low cost airlines grow they are being forced to consider increasing the number of airplane types in their fleet. JetBlue will add 100-passenger regional jets to its fleet in the coming year. This will add a new degree of complexity to the operation and it will be interesting to see how JetBlue organizes its maintenance to accommodate these new planes (this will be an interesting topic for future research). (14)

### *Street Network*

Low cost airlines use uncongested, often secondary, airports to increase the utilization of their airplanes and to reduce the impacts of congestion on their schedules. These are related since airlines that operate in congested airports (and on congested air routes) need to build additional time into their schedules to reduce congestion impacts thereby reducing aircraft utilization.

The direct analogy for transit operators is route planning and transit priority. Operating transit on congested streets is highly inefficient both in terms of equipment utilization and cost; furthermore delays it creates reduce service quality for passengers. The first step in improving efficiency is to operate on uncongested streets, when this is impossible, decongest the streets for transit by implementing a transit priority program.

### **Human Resources**

Both Southwest and JetBlue believe that high quality staff with a feeling of ownership in the business are a key to their success. Southwest has developed a workplace culture and way of doing business that puts its employees first with the result that employees remain focused on the company's goals of cost reduction and excellent customer service. When one reads about Southwest Airlines (especially its emphasis on good employee relations) one is struck by how different the organization is from many other companies. Southwest is often



1 recognized for having a unique ‘culture’ that permeates the entire organization and serves to motivate employees  
2 towards achieving the company’s twin objectives of cost reduction and customer service. This impression – of a  
3 vastly different workplace culture – is even more pronounced when compared to public sector organizations like  
4 transit.

5 Introducing new techniques in area of human resources, such as the relationship principles, is a complex  
6 and difficult undertaking. This type of change does not happen overnight, nor is it something that, once  
7 accomplished, can be neglected. However it is critical that the transit industry think about applying these  
8 strategies. Some possible ideas for public transportation are outlined below.

#### 9 *Commitment to Values*

10 Everyone at both Southwest and JetBlue has a strong commitment to values. At Southwest these values  
11 developed over time, while at JetBlue they were explicitly developed early in the company’s life. These values  
12 help management make decisions and evaluate employee performance. The key innovation at Southwest and  
13 JetBlue is their real commitment; these values were not developed as a management exercise (as they are at  
14 many companies) and then forgotten. They permeate the organizations and people who do not fit these values are  
15 encouraged to leave or are fired.

16 Public transit could benefit from a similar commitment to values. One problem is that in the private  
17 sector it is relatively easy to fire employees who do not share the value system, while this is difficult in the  
18 public sector.

#### 19 *Leadership*

20 Top management at both Southwest and JetBlue lead with credibility and caring, these are qualities that top  
21 transit managers (and managers in all businesses) should adopt. One key problem with transit is that top  
22 managers often have relatively short tenures at agencies so that they do not have a chance to build this  
23 credibility.

#### 24 *Frontline Management*

25 Southwest has more supervisory staff than other airlines, these staff work side-by-side with line employees to  
26 serve customers and improve aircraft utilization. In contrast, many transit agencies are forced to reduce this level  
27 of supervision to the minimum and furthermore, these supervisors are often prevented from working side-by-side  
28 with line employees by strict work rules.

#### 29 *Employee Selection and Training*

30 Southwest and JetBlue carefully select employees and invest a significant amount of money and time in their  
31 ongoing training. JetBlue uses its adopted values to help select and evaluate employees. The same techniques  
32 (summarized in Section 4 and described in Gittel (1)) could be directly applied to the public transit industry,  
33 although work rules, civil service protections, and political conditions will make this complicated. Like the other  
34 ideas in this section, the specific human relations techniques low cost airlines use to select and train employees  
35 could easily form the basis for a large research effort.

#### 36 *Boundary Spanners and Job Flexibility*

37 Southwest trains its employees to be boundary spanners, which means that they are trained to pitch-in on work  
38 that is not their primary responsibility, all with an eye to turning around the airplane quickly to keep costs down.  
39 In fact all job descriptions include a catch-all responsibility for other duties needed to accomplish the  
40 organization’s goals. There are many opportunities for boundary spanning in public transportation, a key  
41 constraint are limiting work rules. An interesting example from Zurich is that proof-of-payment fare inspectors  
42 are trained as drivers, meaning that if there is a problem they can be shifted from inspecting tickets to driving,  
43 thus insuring that scheduled service can be maintained.

#### 44 *Performance Measurement*

45 Both Southwest and JetBlue use performance measures that focus on solving problems rather than assigning  
46 blame. Performance measures are critical to the success of any organization since what gets measured gets done.  
47 The New Paradigms research identified the need for improved measures of performance in the transit industry.  
48 (2) (3) (15)

#### 49 *Make Unions Your Partners*

50 Southwest’s approach of embracing unions and seeking to make them partners in the airline’s success provides a  
51 great model for public transit. Southwest embraces unions and seeks ways to involve them in solving problems  
52

1 and improving operations. Southwest's human resources policies and work environment contributes to the  
2 willingness of unions to work in partnership with management. One specific idea would be to add union  
3 involvement more formally into the major transit project planning process. For example, talk with drivers as part  
4 of the process of developing a transit priority program, they could provide very helpful information on locations  
5 and causes of delays.

#### 6 *Customized Employment Packages*

7 JetBlue has pioneered the idea of developing employment packages geared towards particular professions  
8 benefiting both the employee and employer. There are many parallels between public transit jobs and airline  
9 jobs, and so this might be an idea which could be implemented at transit agencies.

#### 10 **Example: New Service**

11 The discussion above only begins to explore how some of the strategies used by low cost airlines could be  
12 implemented to improve public transit service. Furthermore, as with low cost airlines, these strategies are likely  
13 to be most effective when implemented together, perhaps in the context of a new organization or service. The  
14 New Paradigms research suggests that new models for providing public transportation are needed that focus on  
15 moving passengers rather than on the efficiency of specific transit operators. (2) (3) The New Paradigms  
16 research documents some of these organizations, and more examples (with specific details) are presented in the  
17 recent TRCP report *Excellence in Customer Service in Transit Operations in Small to Medium-sized Cities in  
18 Western Europe*. (15)

19 This suggests that an interesting topic for future research would be developing a business plan for  
20 starting a new transit service that could operate in the new environment described in the New Paradigms  
21 research, and then analyzing the barriers to implementation of that business plan. This idea is proposed as the  
22 next step in this research project.

## 23 **6. CONCLUSIONS**

24 This research presents ideas modeled after successful strategies used by low cost airlines which could help  
25 improve the efficiency and operation of public transit. These business, product, operating, and human resources  
26 strategies are best implemented in a coordinated and mutually reinforcing manner, as is done in the low cost  
27 airline industry.

28 In terms of product, transit operators could better define their product to be more appealing to potential  
29 passengers, improve fare collection, and improve operations to make their product more attractive.

30 In terms of operations, transit agencies should focus on reducing operating costs and improving  
31 customer service (e.g. bus rapid transit), programs directly comparable to the low cost airlines' focus on cost  
32 reduction and operational efficiency.

33 In terms of human resources, while transit's position in the public sector makes it difficult to implement  
34 some of the techniques, Southwest's successful use of these strategies given its high degree of unionization  
35 shows that it is not impossible.

36 Finally, in terms of business strategy, the model of not entering markets that could increase operating  
37 costs, and growing slowly enough to maintain organizational control are also good ideas.

38 It is important to caveat these ideas with the point that public transportation cannot simply operate like a  
39 low cost airline. Public transit serves an important social function that will not be met by private companies  
40 operating in the market. However, there are certainly strategies used by Southwest Airlines and JetBlue,  
41 especially in terms of human resources, which can help improve public transportation.

42 This paper constitutes the first phase of this research project. Additional research is needed to more  
43 fully develop the ideas presented here. While some of these ideas have been tested and/or are now in use at  
44 transit agencies, research is needed to describe their success within the structure presented in this paper. This is  
45 especially true for the human resources strategies; a key part of future research should be an analysis on their  
46 application with everyone involved in the transit industry from labor to top management. Finally, while  
47 individual strategies are likely to be helpful to improving transit, an important research topic is how these  
48 improvement strategies could be implemented in a coordinated manner to increase their effectiveness.

49 Many of the ideas in this paper are controversial and, due to the need for evaluating the impact of an  
50 interrelated series of strategies, do not lend themselves to easy research. Therefore, the next stage of the research  
51 will be to develop a business plan for a new transit service that would be operated in a city. This business plan  
52 would be developed as part of a public process and would include working closely with the transit property  
employees at all levels (from drivers to managers). The purpose will be to probe willingness to adopt new  
strategies and develop an analytical model to test the economic viability of the service.

Finally, JetBlue's strategy is to combine common sense with innovation and technology to "bring  
humanity back to air travel," might that not be a good strategy for improving public transit as well? (8)

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**Table 1**  
**Southwest Airlines Business Model**

<b>Product Features</b>	
Fares	Low
	Simple, Unrestricted
	Point-to-point
	No interlining
Distribution	Travel agents and direct sales
	Ticketless
In-Flight	Single class; high-density
	No seat assignment
	No meals
	Snacks and light beverages only
Frequency	High
Punctuality	Very good
<b>Operating Features</b>	
Aircraft	Single type (Boeing 737)
	High utilization (over 11 hours per day)
Sectors	Short to average (below 500 miles)
Airports	Secondary or uncongested
	15 – 20 minute turnarounds
Growth	Target 10 percent per annum
	Maximum 15 percent
Staff	Competitive wages
	Profit sharing since 1973
	High productivity

Source: Doganis (7), Table 6-2, Page 134.