

APPLYING NICHE MARKETING STRATEGIES TO IMPROVE PUBLIC TRANSPORT SERVICE

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6,562 words + 1 figures = 6,812 words

November 23, 2007

ABSTRACT

The paper presents an introduction to using niche marketing techniques to improve the operation of public transport. It begins by defining the terms niche and niche markets including their origin in evolutionary biology. Next, the paper presents a structure for considering niche markets in the public transport industry. It identifies four specific niches: travel time, premium services, pricing and alternative activities niches. Section 4 of the paper describes examples of how these niches are exploited in various forms of public transport. Many examples address particular geographic conditions (hills and bodies of water), and many have an aspect of fun (and therefore attract tourists). Section 5 illustrates how systematic application of niche marketing could be applied to identify ideas for increasing public transport use, especially in non-traditional markets. The paper's conclusions support the use of niche marketing strategies in public transport and recommend more detailed analysis of the concepts developed in this project.

APPLYING NICHE MARKETING STRATEGIES TO IMPROVE PUBLIC TRANSPORT SERVICE

1. INTRODUCTION

The goal of this paper is to outline techniques for improving public transport based on the concept of niche marketing. It begins by presenting an introduction to the concept of niche markets. Next, the paper proposes a structure for thinking about market niches in the transportation sector. This is followed by application of the proposed structure to public transport systems. Finally, recommendations are made for using this structure to help identify and refine strategies for improving public transport systems.

2. NICHES AND NICHE MARKETS

Encarta provides three definitions of the word *niche* that are useful for this research:

1. a position or activity that particularly suits somebody's talents and personality or that somebody can make his or her own
2. an area of the market specializing in a particular type of product
3. the role of an organism within its natural environment that determines its relations with other organisms and ensures its survival [1]

The business use of niche is based on the idea of an ecological niche, where a given species (business) successfully occupies a certain place (sub-market) within the overall ecosystem (total market). G.E. Hutchinson (1958) suggested that an ecological niche could be modeled as an imaginary space with many dimensions, in which each dimension or axis represents the range of some environmental condition or resource that is required by the species. Thus, the niche of a plant might include the range of temperatures that it can tolerate, the intensity of light required for photosynthesis, specific humidity regimes, and minimum quantities of essential soil nutrients for uptake. [2]

A useful extension of the ecological niche concept that also applies to the business sense is the distinction between fundamental and realized niches. Fundamental niches consist of the total range of environmental conditions suitable for existence without the influence of competition from other species, realized niches are the subset of the fundamental niche actually occupied by the species. [2]

Wikipedia defines *niche market* as: a focused, targetable portion (subset) of a market sector. [3]

These definitions and the origin of niche in ecological theory provide concepts that are helpful in understanding niche markets as they apply to transportation, specifically: niche markets are subsets of the total market, niche markets are served by specialized products/services, and some products/services have natural strengths that enable them to succeed in niche markets.

3. DEFINING NICHE MARKETS IN TRANSPORTATION

This section outlines how niche marketing can be applied in the public transport market. It presents a definition of the transport market and defines four specific transport market niches.

3.1 Transport Market Definition

The first step in understanding niche markets is to define the transport market. A market is a social arrangement that allows buyers and sellers to discover information and carry out a voluntary exchange of goods or services.⁴ Importantly, in a market system, suppliers can choose what and how much to produce, and customers can choose what and how much to buy.

The transport market consists of many suppliers each offering a transport service with its own bundle of qualities (price, speed, comfort, convenience, etc.). These qualities are termed 'dimensions' in the biological model for niches described above.

A convenient way to describe the transport market structure is in terms of trip distance since this is easy to understand and is how we naturally think of the transport market. Within this distance-based structure, different modes of transport have their own specific niches, that combination of qualities where, for a given trip, the particular mode is the optimal choice for a given customer. Note however, that this optimal mode varies by trip purpose and by customer preferences.

The trip purpose is important because it helps define the amount of time and money a customer has available for making the trip. The customer preferences consist of the set of values that each customer places on each of the transport mode qualities (for example speed may be critical to one person but cost may be more important to another).

In practice, this combination of trip purposes and personal preferences means that there are often several possible modes available for a given distance-defined market.

This transport market model leads to an extremely complex structure, but it can be simplified significantly with the assumption that people want to minimize their travel time. This is appropriate since transport is a secondary good, in other words, it is not consumed for its own sake, but rather in order to perform some other activity or to ship a product to a customer. Therefore, all other things being equal, customers will choose the fastest form of transport for a given trip.

Figure 1 illustrates this concept. It plots travel time versus distance for five long distance transport modes. The graph shows the fastest mode for different length trips. In this system, each mode has a precisely defined niche, the range of distances for which it provides the shortest travel time.

However, in the real world customers choose their travel mode based on more than travel time. This choice depends on the values customers place on each of the mode and operator-provided qualities of service (including travel time). In other words, the market niche is defined along multiple dimensions rather than just travel time. This is where different transport suppliers can develop their own market niches.

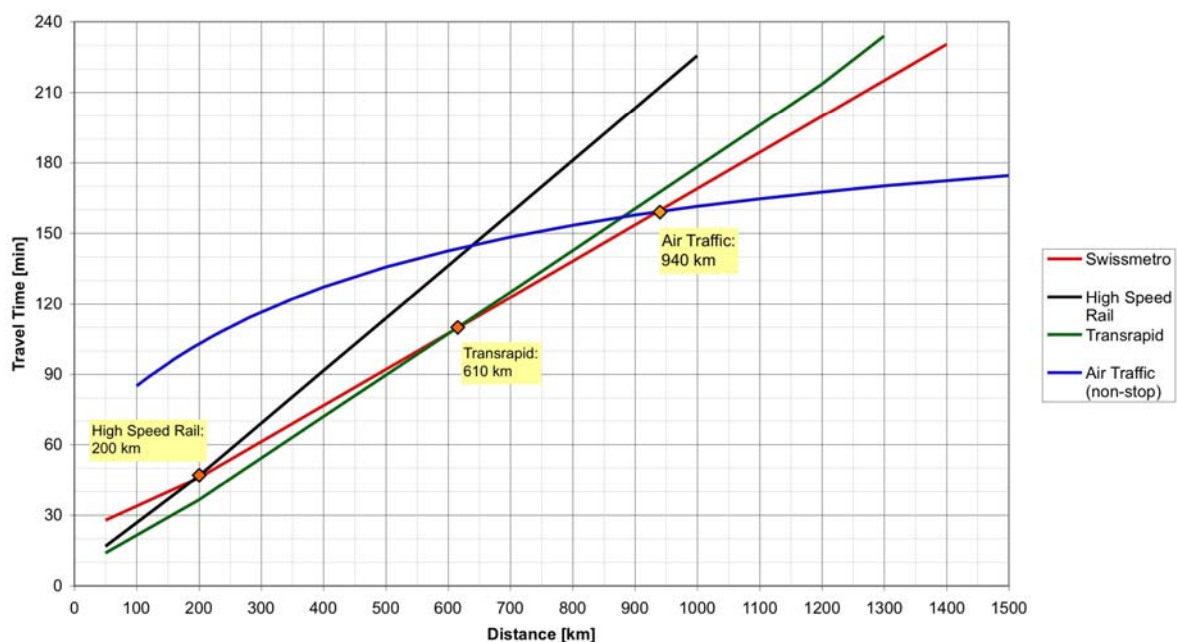


Figure 1: Travel time versus speed for Air Traffic, Swissmetro, Transrapid and High Speed Rail. Source [5].

3.2 Transport Market Niches

This section outlines four main types of niches in public transportation. In most cases companies combine strategies from several of these niches in developing their products and services.

The first niche, travel time, is the most important. The next three niches premium services, pricing and alternative activity, are all designed to attract passengers to modes that are slower than the fastest mode. In general these niches exist in a travel time range where alternative modes provide relatively similar travel times. These niches exist around the intersections of the travel time versus distance curves in Figure 1.

The descriptions below describe the niche first from the customer's perspective and then from the producer's (transit operator's) perspective.

- **Travel Time Niches** – Travel time niches are the easiest niche to understand. They are simply the mode of transport that offers the fastest travel time for a given trip.

From the transport provider's perspective, the marketing strategy associated with this niche is simply to offer the shortest total travel time. The most obvious determinant of travel time is the technology used. But, almost as important are the strategies used to operate the mode of transport. An excellent example are bus rapid transit systems that provide faster door-to-door travel times than heavy rail systems.

A common problem is confusing high maximum speed with total travel time, customers care about travel time not speed, and so a system that operates at high speeds, but has long access time is not attractive. [6] One reason high speed rail systems are becoming more attractive is that they offer much lower access times (due to center city-to-center city connections and security differences) although they travel at lower maximum speeds than airlines.

- **Premium Services Niches** – Premium services niches offer customers amenities that can be used to entice them to take a (somewhat) slower trip. A good example of the premium services niche is the point where the high speed rail and air transport modes intersect. Here railways may offer a less stressful travel experience or other amenities to attract passengers who might otherwise fly to save time. [7] This is an example of a market niche: the railway is providing a specialized product that appeals to certain individuals.

From the transport provider's perspective the strategy associated with this niche is to offer additional services (premiums) to attract customers to your service. The idea of offering amenities to attract customers is easy to understand, however, since people value specific qualities differently, it is not always easy to decide what amenities are the most effective at attracting customers. In the public transport business the most common types of amenities are comfort-oriented such as better seating and air conditioning.

- **Pricing Niches** – Pricing strategy niches consist of markets that can be attracted to the transport service by offering lower prices. They share the same traits as premium services niches, except in this case the 'premium' is a lower ticket price.

From the transport provider's perspective the strategy associated with this niche is to offer lower prices than the competition. Public transport uses a relatively simple pricing strategy to attract passengers. Interestingly, given public transport's extensive use of pricing strategies, some potential customers do not consider public transport inexpensive. Given the importance of pricing it is discussed in more detail below.

- **Alternative Activity Niches** – Alternative activity niches can be defined as transport services that compete with much faster modes of transport by allowing passengers to complete activities in addition to simply transport. A good example is night trains, these take longer than flying, but they enable passengers to sleep while they travel.

From the transport provider's perspective the strategy associated with this niche is to offer passengers the ability to complete additional activities while they travel. As with premiums, the range of different activities that could be catered to is extensive. Therefore, it is important

to extensively consider what activities should be offered. Given the importance of alternative activities from the producer perspective this strategy is discussed in more detail in the following section.

As is clear from these definitions, there is much overlap between the different niche types and most markets actually consist of combinations of these definitions. For example, using premium services in combination with offering alternative activities or lower prices.

Finally, in addition to using niche marketing strategies to increase market share in a fixed demand market, transport providers can use niche marketing strategies to attract demand from another market segment (i.e. increase overall demand). This can be done by introducing new technologies or substantially changing operating strategies. A good example is the introduction of inexpensive fares by low cost airlines. Southwest Airlines, one of the first LCAs, specifically targeted (the niche containing) people who would otherwise drive or not make a trip in its business plan. [8]

3.3 Niche Marketing Strategies from the Producer Perspective

The objective of this research is to consider how niche marketing strategies could be used to attract more people to public transport. This section describes two of the niche marketing strategies, pricing strategies and alternative activity strategies, in more detail since they are less straightforward to understand than pricing and premiums.

Pricing Strategies

Pricing strategies are techniques used by transport operators to exploit the pricing market niche (i.e. attract price sensitive customers). The pricing strategies used by many public transport operators are comparatively simple: offer service at a low price. However, in order to effectively use pricing strategies a business must know how much it costs to produce its service, which is not always a straightforward calculation.

The most basic pricing strategy is to offer lower prices based on lower production costs. These types of production efficiency niches are markets for which a given service provider has advantages that enable it to provide transport service at a lower cost than competitors. In order to effectively exploit production advantages, companies must have a very clear understanding of their production costs and their competition. Some producers have natural advantages that enable them to produce more efficiently, but there are many management and operating strategies that can be used to improve efficiency.

One technique for reducing production costs is improving efficiency through the clever application of new or unique technologies, for example cable cars and funicular railways (these examples are described below) which were significantly less expensive and complicated than competing technologies.

More sophisticated transport pricing strategies offer different prices to different customers. The ability for operators to use these strategies is based on two specific qualities of the transport market:

- First, marginal costs for transport services are often lower than average costs (in other words it does not cost very much to carry one additional passenger).
- Second, transport services are highly perishable, once the service has departed there is no further opportunity to sell the product.

These qualities mean that transport suppliers must develop precisely targeted pricing strategies to ensure that the vehicle is full and that each passenger pays the highest possible price for service. A good example are airline industry pricing strategies; these combine restrictions with price – more restrictions for a lower price – in an attempt to segregate the different customer types (business versus leisure travel).

Many people would object to the use of these types of differential pricing techniques for public transport since they consider public transport to be a ‘social service’ but, there are much better ways

of providing targeted assistance to those who must use public transport (e.g. free public transport passes) than to simply offer cheap public transport to everyone. Furthermore, as outlined below, public transport operators are already using the strategy where it is possible to easily distinguish between groups willing to pay more (i.e. cable car fares oriented to tourists in San Francisco).

The particular techniques that producers can use to successfully attract passengers using pricing strategies are to identify markets where you can produce service more efficiently than your competitors and to consider using sophisticated pricing techniques to attract passengers and maximize revenues.

Alternative Activity Strategies

Alternative activity strategies are techniques used by transport operators to attract customers by enabling them to complete other activities while traveling. The most common example for public transport is probably reading a newspaper, magazine or book.

The concept of travel time budget is helpful for understanding the alternative activity niche. Research has shown that the amount of time people spend traveling has changed remarkably little over history. [9] This finding led to the idea that people have a certain amount of time that they are willing to spend traveling (i.e. a travel time budget). Alternative activities explain why people may use certain transport modes even when trips are longer than their travel budget: the additional time is not coming from their travel time budget, but from another activity's time budget (e.g. working or sleeping).

To successfully use the alternative activity marketing niche, transport providers must ensure that the alternative activity is attractive to a large number of customers and that it has enough of a time budget to compensate for the increased travel time (it is not worthwhile to provide activities for which customers have very low time budgets or that they do not participate in – i.e. with a time budget of zero). Secondly, the transport service must realistically offer the possibility for completing the activity (e.g. reading on the New York subway during rush hour may not be a realistic alternative activity).

Finally, as the examples of niche transit described in the following section make clear, one of the most important alternative activities is having fun. That is an interesting finding because how often do most people think of public transport as fun?

4. PUBLIC TRANSPORT NICHE MARKETS

This section analyzes several examples of market niches in urban public transport in order to illustrate some principles that could be used in developing strategies to increase the effectiveness and attractiveness of public transport. As mentioned above, in almost all the examples from public transport, the pricing niche market strategy is used to attract customers.

4.1 San Francisco Cable Cars

San Francisco's cable cars are one of the most obvious examples of niche marketing in public transport. They are a very interesting case study since they have moved from one market niche to another over time and because considering them in light of niche marketing raises several policy questions.

Although not the first to deploy cable technology for public transport [10], Andrew Hallidie is credited with invention of the cable car in 1871. [11] Hallidie was a prolific inventor who developed cable railways in the mining industry and decided to apply the technology to public transport to relieve the suffering of horses as they pulled trams up steep hills. Cable cars were an efficient and effective form of public transport in hilly cities. In some respects they were also better than the standard public transport at the time (horse trams), so they were adopted in many flat cities as well. Since the electric tram was much more efficient than cable cars, most cities replaced their cable cars after development of the electric tram in the 1880s, but San Francisco kept its cable cars although significantly reduced the size of the network. During this early period the cable cars could be classified as a travel time niche that was also more efficient for providers to operate than the alternatives.

Starting in 1947, San Francisco attempted to replace all the cable cars with buses, but citizens fought the plan and eventually a core set of lines covering downtown, Nob Hill, Russian Hill, Chinatown and Fisherman's Wharf was maintained. [12] The entire system was rebuilt from 1982-1984, and re-opened in time for the Democratic National Convention held in San Francisco in the summer of 1984. There is continuing discussion about short cable car extensions to provide better access to various tourist-oriented destinations.

The cable cars serve two markets: local public transport customers and tourists. Serving two markets creates conflicts; for example, local users complain that single fares are too high and that the cable cars are almost impossible to use since they are often full (of tourists). [13] On the other hand, public transport work rules and practices mean that the cable cars don't serve tourists as well as they could. Often there are several cable cars standing at the terminal while the line of passengers numbers in the hundreds; a real tourist-oriented system would offer more trips.

As cable cars have become more oriented towards tourists their market niche has shifted from travel time niche to an alternative activity niche at least for tourists (the alternative activity is having fun and experiencing history). For local passengers they remain a travel time niche, since they are better than their main alternative (walking). (They also use differential pricing for locals who can use their monthly pass to ride the system for free.)

In summary, the cable cars, while clearly a niche market for public transport, exhibit one of the problems of niche transport, it is hard to serve two niches at the same time.

4.2 Historic Streetcar Lines

Many cities have started to operate historic streetcar lines in the last several years. The largest example is in San Francisco where historic streetcars are in regular service from Castro Street to Fishermans Wharf. [14] In terms of niche markets, historic streetcars share many similarities with cable cars, they were originally a travel time niche and now also are an alternative activity niche (combining fun and history). In many cities these lines are strictly intended as tourist services (e.g. Seattle's Waterfront Trolley [15]); in cases where historic streetcars are intended to serve both the tourist and local markets (e.g. San Francisco, New Orleans [16]) they often have the same conflicts as cable cars.

4.3 Funicular Railways

In a funicular railway, rail cars are pulled straight up the side of a hill with a cable; generally there are two cars that pass each other half-way up the hill (this provides a counterweight: one car going down, one going up) on a short section of double track (the rest of the line is single track). Funicular railways are common in cities with many hills (e.g. Zurich, Lisbon).. (Note: funiculars are permanently attached to the moving cable while cable cars are able to grip and release the cable; this makes cable cars more flexible than funiculars.) Zurich's funiculars are part of the regular city public transport network and use the common fare system. [17]

Funicular railways are an example of a travel time niche (they are generally faster than alternatives) and also are more efficient for transport providers to operate. They also are fun to ride.

Some cities including Los Angeles (Angeles Flight [18]) and Paris (Montmarte [19]) are also tourist oriented services.

4.4 Cable Railways

In a cable railway the vehicle is attached to a cable running above the vehicle and pulled though the air (there are no rails). Cable railways are most often used in highly mountainous regions. Cable railways are a clear example of a production efficiency niche, it is hard to imagine any more efficient infrastructure-based transport that could serve these markets. An excellent example is Switzerland's cable railways; almost all cable railways in Switzerland are integrated into the county's public transport network. This means that it is possible to buy a single train-cable railway ticket to your destination and that schedules are coordinated with railway arrivals and departures. [20]

Two US cities that have built cable railways are New York and, most recently, Portland Oregon. [21] In both cases cable railways were justified on the basis of being efficient to operate, although they both also attract a fair number of tourists because they are fun. In New York the cable railway operates using the standard fare system, in Portland a higher fare is charged (although people with transit passes ride free).

4.5 Ferry Boats

Ferry boats are another example of a travel time niche combined with production efficiencies and alternative activities (fun). They are often more efficient for serving a given market than the alternatives. A good example is the Staten Island Ferry in New York. Staten Island is just a bit too far to link with Manhattan via a bridge or tunnel, and therefore the New York MTA offers the 30-minute ferry ride as a mass transit service. Hong Kong's famous Star Ferry plays a similar role, although service has been reduced since the opening of a subway connection between Kowloon and Hong Kong Island (1979). [22] Both systems carry many tourists, and therefore are also examples of an alternatives services niche, but since they operate with such high capacity the tourists do not create significant conflicts with local users.

In some cities ferry boats function in a less clear market niche. For example, the Golden Gate Ferry in San Francisco Bay, in this case through most of the day buses are faster (non-peak periods and direct express buses during the peak periods from residential neighborhoods in Marin County to downtown San Francisco), but the ferry boats can provide faster trips when traffic is heavy. However, ferries are also a very pleasant way to travel and provide a better opportunity for alternative activities (e.g. they often include cafes or bars that are not available on other public transport). In this way the ferries serve as a premium services and/or alternative activity niche. Importantly, this raises the question of why should a public transport operator subsidize this type of service?

The Staten Island Ferry is free and the Star Ferries are quite inexpensive and part of the region's integrated fare system (Octopus card [23]). It is interesting to note that the Golden Gate Ferry has adopted a fare structure that attempts to differentiate between tourists and regular passengers: regular commuters using multi-ride tickets and holders of the Bay Area's stored value card TransLink pay just about half the single cash fare. [24] Previously Golden Gate used a blunter approach to differentiate between tourists and commuters: weekend fares were significantly higher than weekday fares.

4.6 Hong Kong Escalator System

Hong Kong's escalator system is an extremely interesting example of public transport. [25] Similar to cable cars, cable railways and funiculars, it is designed to move people up and down the hillside, however as a continuous system it has a much higher capacity and level of flexibility (passengers can get on and off at each landing). This example combines the timing niche (its faster than walking and alternatives like buses) and alternative activity niche (it enables passengers to stop and shop/eat/drink as it transports them up the side of the hill), it's also fun. From the provider's perspective it is also less expensive than alternative services. The escalators are free.

4.7 Shuttle Services

Public transport companies operate a variety of shuttle services (e.g. New York's Times Square Shuttle subway). These services are designed to operate frequently and carry a large number of people directly between origin and destination. They are therefore an example of a travel time niche (low waiting and access time) combined with production efficiencies for the operator. Generally these shuttle services charge the same fares as the rest of the network.

4.8 Airport Services

Many public transport operators operate service between central cities and airports. There are two main types of service: regular and dedicated express.

Regular transit service to an airport consists of services that make multiple stops between the airport and central city. These services generally charge a normal fare for the trip. They can be considered a pricing niche since they offer very low cost access to the airport and are therefore the mode of choice for airport workers and local residents.

Dedicated express services operate non-stop between the airport and central city and generally charge a higher fare. This is another example of a 'premium' niche, as the passengers are paying a premium for speed and other amenities (e.g. more space and comfort), but also are likely to be paying significantly less than alternative modes (e.g. taxi, parking). This type of service is heavily oriented to business travelers and tourists. Examples include the Heathrow Express [26] and Vienna's City Airport Express (both cities also offer slower, less expensive regular service to the airports).

4.9 Public Transport Market Niches: A Summary

When considering the examples described above it is clear that the common perception of niche markets in public transport might be more accurately termed 'novelty transport' since the examples are often unique and small operations. In reviewing the list it is clear that many examples address particular geographic conditions (hills and bodies of water), and many have an aspect of fun or history (and are therefore attractive to tourists).

However, the novelty nature of these niche transit operations, which causes some to dismiss them, actually provides a good opportunity to analyse specific aspects of the operations and to develop strategies that could be applied more widely in the public transport industry. In fact, returning to the evolutionary origins of the niche market definition, it is clear that all markets are niche markets in the sense that they serve certain groups of customers. The important aspect of niche marketing is understanding what will attract additional customers.

5. USING NICHE MARKET THEORY TO IMPROVE PUBLIC TRANSPORT

This section describes ideas for applying niche marketing strategies to improve the planning and operation of urban public transport systems. In some cases these are new ideas and in other cases public transport operators are already implementing specific ideas, although not to the full extent that they could be implemented and not as part of a coordinated approach.

The objective is to identify strategies using niche marketing that can attract more passengers to public transport and increase net revenue. Today, the main market for public transport is journey to work in traditional workplace settings (i.e. 9-to-5 jobs in urban downtowns), not only is this a declining market, but it misses other major market segments such as non-work trips and suburb-to-suburb trips that are growing rapidly throughout the world. The niche market strategies are intended to appeal to all three markets.

5.1 Travel Time

Travel time is the most important characteristic used by many passengers to choose their mode of transport. There are many opportunities for reducing travel time on public transport. These include implementing public transport priority programs and express bus services. Importantly, these types of services should be operated to/from non-traditional destinations. For example, express bus service and shuttle services from main transport nodes to major events.

In many cases (e.g. transit priority) saving time can also reduce public transport operating costs, leading to the double benefit of increased revenues (higher ridership) and reduced costs.

Taking a more strategic approach to reducing travel times in the target markets (traditional work trips, non-traditional work trips, non-work trips and suburb-to-suburb trips) in large to medium urban regions could lead to a break in the traditional three-level public transport network structure (surface transit for short trips, metros for medium trips in the city center, and regional rail for suburb to city travel). While the three-level system is excellent for major cities, it is extremely expensive. Furthermore, a cleverly designed two-level system, combining faster surface transit with more accessible regional rail, could reduce total travel times in the target markets.

Several cities are experimenting with these types of approaches. For example many of the US cities that have recently introduced light rail service provide streetcar-like service in center cities (with transit priority) and use exclusive right of ways outside center cities to provide higher speed service). The S-Bahn (regional rail) networks in many European cities are organized similarly, often with underground lines through the center city and operations on the surface outside the centers.

Zurich's combined public transport system is an excellent example of using these principles in a coordinated program designed to reduce travel time. [27] In fact, the city rejected construction of a third level (metro) due partly to the recognition that trips on the subway could take longer (when access time is included) than the tram system. In other words, it would be more efficient and less expensive to speed-up trams and buses than to build the subway. As the city implemented the transit priority program, the Canton re-built its regional rail network to provide increased service to more stations on a regularly repeating pattern throughout the day. The local and regional transit systems are linked with common ticketing and coordinated schedules.

Zurich was able to reduce travel time for passengers by implementing a coordinated program of reducing transaction time (single ticket program), reducing access time (stations are located close to development), reducing in vehicle travel time (extensive public transport priority for surface transit, exclusive right of way for regional rail), and reducing transfer times between routes (through schedule coordination and efficient station design). Together this has enabled Zurich to efficiently increase its public transport network. This approach is very well suited to meeting today's transport needs and could serve as a good model for other cities.

5.2 Premium Services Niche

Many transport operators use premium service to attract passengers and increase revenues, but there may be resistance to the use of premiums in public transport. For example, in roadway transport many object to congestion pricing; disagreeing with the idea of allowing people to pay to use faster lanes although research has shown that these lanes are used by rich and poor depending on their value of time for the specific trip (i.e. if it will cost more to be late than paying to use the lane, you will use the lane).

Given the potential for resistance, all proposals for premium services should be strictly justified economically (i.e. premium service's additional costs should be completely offset by higher ticket prices) and their benefits clearly explained to the public. With these caveats, the following list presents some ideas for introducing premium services on public transport:

- **Business Class Service** – create sections on regional trains that cater to getting work done, provide amenities like coffee service, newspapers, noise reducing interiors to attract people making relatively long trips.
- **Relaxation Class Service** – The French iDTGV provides in-seat massages and quiet cars to attract passengers to TGV service who might otherwise drive [7] similar programs could be offered on regional rail systems.
- **Pick-up and Drop-off Service** – create a shared taxi service from regional rail stations that enables people to book their trips in advance. The vehicles should provide a high standard of service. New computer software should allow these vehicles to be scheduled efficiently. This could be a good opportunity for private contractors. The service could be especially attractive late at night and after events (i.e. non-peaks).

These ideas also illustrate an important point, in many cases niche marketing strategies are closely linked. For example the business and relaxation class services are also examples of alternative activity niches (working, relaxing).

An interesting source of ideas for premium services are privately operated mass transport type services such as the Heathrow Express. The Heathrow Express website (www.heathrowexpress.com) includes many services and products designed to attract more passengers and revenues to the company.

5.3 Pricing Niche

The pricing niche may also be problematic for public transport operators due to the social implications of charging different fares to different people and because it is very important to maintain an understandable ticketing system. An understandable ticketing system is important because complex systems can alienate passengers and lead to a loss in revenues (as happened with the 2003 introduction of a complex revenue-management ticket pricing system on the German railways [7]).

There are two main niche market pricing strategies that should be considered for public transport: using pricing to flatten demand and maximizing ticket revenues by charging passengers based on their willingness to pay.

Many industries use pricing to create a more constant service demand thus reducing operating and infrastructure costs as well as increasing revenues. The most basic pricing strategy for flattening demand in public transport is to introduce (or refine) peak/non-peak fare systems. Other transport providers (especially low cost airlines) have even more sophisticated pricing systems. Public transport operators should fully consider how these types of strategies could increase revenues and reduce costs.

When considering discount pricing strategies, it is also important to think about how it might be possible to obtain additional revenues from the passengers traveling on discount fares; for example, a significant share of Ryanair's profits come from selling amenities onboard. [7] In the public transport market, it might be possible to compensate for family discounts through the sale of toy trains to children traveling with their families.

Strict application of the second pricing strategy, charging the highest possible price for all passengers, is not fully compatible with public transport's mission, but it is important that operators consider way it could be loosely applied. For example, passengers using premium services should pay the full added costs; a good example is in Zurich where users of the very popular night bus system pay a fairly large supplement to use the service.

Another example of charging higher prices for improved service is the tourist market. As is clear from the examples presented in Section 4 above, the tourist market is a good niche for public transport. Therefore, public transport operators should consider ways of marketing existing services and creating new services for the tourist market. These could simply be programs that make it easier for tourists to use public transport (e.g. day passes combined with information brochures/maps of tourist sites). Tourists are an especially good niche because they are often willing to pay higher prices for improved services and because tourism is a rapidly growing market.

One problem with sophisticated pricing strategies is that they can be confusing for customers and difficult to implement. However, new stored value farecard technology provides a good solution for these problems. [28] They also allow public transport operators to offer customers valuable benefits such as minimum price guarantees (i.e. if you make enough trips in a month to benefit from a monthly ticket, the system charges you that price). Furthermore, these stored value farecards can be an additional source of revenues by enabling the system to be used to pay for other products and services as is done in Hong Kong. [29]

Finally, when considering the use of pricing strategies, it is important to remember that if the service is not otherwise attractive, pricing strategies will not be very effective. For example, reducing fares for services that are much slower than alternatives will not significantly increase ridership. A commonly cited strategy to increase public transport use is eliminating fares, but often it is service quality, not price that drives people away from riding public transport; furthermore, offering free service ensures that it will be over consumed (e.g. the highway system).

5.4 Alternative Activity Niches

The alternative activity niche is an area where public transport could significantly benefit from society's increasing level of multi-tasking. Public transport vehicles and stations could provide

infrastructure and services designed to enable passengers to accomplish alternative tasks. Some examples include:

- **Convenience shopping** – include space in stations for shopping (e.g. flowers, newspapers, food);
- **Concierge services** – consider ways of offering these types of services on board regional trains and in stations; for example, package pick-up and delivery in stations;
- **Events** – consider holding events such as author readings, or even classes on-board public transport or in stations;
- **Eating and drinking** – include space in stations for food and drink; consider the possibility of including cafes or mini-bar service on regional trains;
- **Traveler services** – rent portable DVD players and games for travelers on regional trains; and
- **Business services** – provide mobile office facilities in stations or trains; for example, provide remote printing at all stations enabling users to send a document from a moving train and pick up a printed copy as they exit the station.

As this partial list indicates, there are an almost limitless number of alternative activities that could be completed on public transport.

Perhaps the best approach for public agencies is to design flexible facilities and allow entrepreneurs to create new products designed to appeal to passengers. One way of thinking about this approach is like Google's advertising program. In essence, the public transport operator would be selling 'access' to its passengers for the time they are traveling. Public transport agencies would not develop and offer these alternative services, but rather provide access to potential customers.

6. CONCLUSIONS

Niche marketing is a well-known business strategy for increasing sales and revenues. Many public transport operators are using niche marketing strategies today, sometimes inadvertently. Often these niche markets are oriented towards tourists. All public transport operators could benefit from applying niche marketing strategies more systematically in the planning and operation process.

There are four main niche markets for public transport: travel time niches, premium services niches, pricing niches and alternative activity niches. The most important niche market is travel time, as customers, all other things being equal, want to minimize travel time. However, there are other qualities reflected in the other three niches that can attract customers to slower forms of transport. In many cases transport providers combine aspects of these strategies together into a coherent product. The most common examples of niche markets in public transport address particular geographic conditions (hills and bodies of water), and many have an aspect of fun or history (and are therefore attractive to tourists).

The paper has presented some ideas for more systematically applying niche market strategies to attract non traditional-market passengers to public transport. Clearly the ideas presented in this paper only begin to scratch the surface of the possibilities, but they could form a basis for more detailed research.

Future research should examine some of the recommended niche market strategies, especially the idea that a two-level regional network might be a more efficient and effective way of attracting new passengers to public transport.

REFERENCES

- 1 Encarta® World English Dictionary © 1999 Microsoft Corporation. All rights reserved. Developed for Microsoft by Bloomsbury Publishing Plc.
- 2 <http://www.physicalgeography.net/fundamentals/9g.html> accessed May 25, 2007.
- 3 Wikipedia, Niche Market, http://en.wikipedia.org/wiki/Niche_market accessed May 29, 2007.
- 4 <http://en.wikipedia.org/wiki/Market>, accessed June 5, 2007.
- 5 Nash, Andrew, Ulrich Weidmann, Stefan Buchmueller and Markus Reider; Assessing the Feasibility of Transport Mega-Projects: Swissmetro European Market Study; Presented at the Transportation Research Board Annual Meeting 2007; Preprint #07-1499.
- 6 Hall, Peter; Great planning disasters; University of California Press, Berkeley and Los Angeles; 1982.
- 7 Sauter-Servaes, Thomas and Andrew Nash; Applying Low Cost Airline Pricing Strategies on European Railroads; Presented at the Transportation Research Board Annual Meeting 2007; Preprint #07-1399.
- 8 Nash, Andrew; Lessons for Public Transit from the Low Cost Airline Industry -or- What if Southwest Airlines ran the Muni? Presented at the Transportation Research Board Annual Meeting 2005; Preprint #05-1546. Available at: http://www.andynash.com/abn_web_pubs/nash_swa_muni_paper73004.pdf, accessed July 4, 2007.
- 9 Grubler A.; The Rise and Fall of Infrastructures: Dynamics of Evolution and Technological Change in Transportation; Heidelberg, Physica-Verlag; 1990.
- 10 Garrison, William L.; Historical Transportation Development; Institute of Transportation Studies, UC Berkeley, Research Report; July 2003; Page 36; available at <http://www.its.berkeley.edu/publications/UCB/2003/RR/UCB-ITS-RR-2003-6.pdf> accessed July 11, 2007.
- 11 <http://www.sfmuseum.org/bio/hallidie.html> accessed July 4, 2007.
- 12 <http://www.sfbeautiful.org/images/press/5.07.Cable%20Car%20Report.pdf> accessed July 4, 2007.
- 13 <http://www.sfbeautiful.org/images/press/5.07.Cable%20Car%20Report.pdf> accessed July 4, 2007.
- 14 <http://www.streetcar.org/mim/streetcars/index.html> accessed July 4, 2007.
- 15 http://transit.metrokc.gov/tops/wfsc/waterfront_streetcar.html accessed July 4, 2007.
- 16 <http://www.railwaypreservation.com/vintagetrolley/neworleans.htm> accessed July 4, 2007.
- 17 http://www.vbz.ch/vbz_opencms/opencms/vbz/deutsch/DieVBZ/Bahnen/ accessed July 4, 2007.
- 18 <http://www.westworld.com/~elson/larail/angelsflight.html> accessed July 4, 2007.
- 19 http://en.wikipedia.org/wiki/Montmartre_funicular accessed July 4, 2007.
- 20 <http://www.swisstravelsystem.ch/Willkommen.52.0.html?&L=2> accessed July 4, 2007.
- 21 <http://www.planetizen.com/node/22713> accessed July 4, 2007.
- 22 http://en.wikipedia.org/wiki/Star_Ferry accessed July 4, 2007.
- 23 http://en.wikipedia.org/wiki/Octopus_card accessed July 4, 2007.
- 24 <http://goldengateferry.org/fareprograms/> accessed July 4, 2007.
- 25 http://en.wikipedia.org/wiki/Transport_in_Hong_Kong#Escalators_and_moving_sidewalks accessed July 4, 2007.
- 26 <https://www.heathrowexpress.com> accessed July 4, 2007.
- 27 Nash, Andrew; Implementing Zurich's Transit Priority Program, Transportation Research Record #1835; Transportation Research Board, Washington D.C.; 2003.
- 28 Hirsch, LR, JD Jordan, RL Hickey and V. Cravo; Effects of Fare Incentives on New York City Transit Ridership; Transportation Research Record 1735; Transportation Research Board, Washington DC, 2000.
- 29 <http://www.octopuscards.com/consumer/en/index.jsp> accessed July 4, 2007.