



# The Economic Impact of the Houston Bikeway Program on Houston

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Transportation is an integral component of a city's economic viability. The term transportation itself, however, is broad and must be defined. Transportation can include anything that involves the conveyance of passengers or goods (Lexico Publishing Group, 2004). Most commonly, however, a city's transportation infrastructure includes automobiles, buses, subways, and railways. However, with an ever-increasing population and environmental concerns, alternative forms of transportation must be developed. These alternative forms of transportation must not only provide a safe alternative to traffic congestion and air polluting vehicles, but also must be economically sensible. Because of these concerns, many cities worldwide have turned to non-motorized transportation (NMT). Non-motorized transportation refers to any form of transportation without the use of a combustion motor. This can include walking, bicycling, human portage, animal drawn carts, and handcarts/wheelbarrows (Guitink, 1994). However, the most common types of NMT include bicycling and walking. Although primarily thought of as a recreational activity, bicycling and walking have been increasingly looked at as an alternative form of city-wide transportation. A properly developed bikeway system can grant a great degree of accessibility throughout a city (TDM, 1994). Also, with gasoline prices consistently on the rise, an alternative form of transportation for short distance trips would be extremely economical for a citizen. Figure 1.1 shows the increase in gasoline prices in Houston over the last two years.

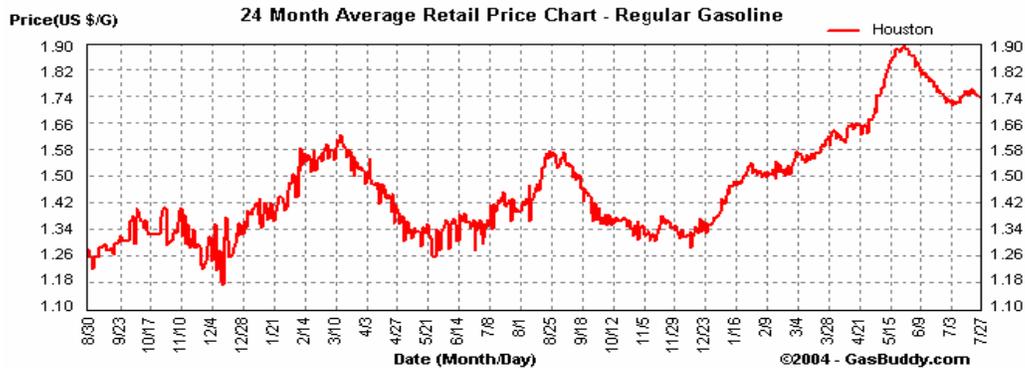


Figure 1.1 Avg. gasoline prices in Houston over the last 24 months (Gasbuddy.com,2004) Because alternative forms of transportation, such as non-motorized transportation, are needed in order to sustain growing economic demands, the development of a bikeway program will indeed impact the economy of Houston.

In 1993, the Houston City Council adopted the Houston Comprehensive Bikeway Network Plan. This was the first step in establishing what has now become a 290-mile network of bicycle and pedestrian paths known as the Houston Bikeway Network, managed under the Houston Bikeway Program. The Houston Bikeway Program's main objective is to provide Houstonians access to a variety of places. The transportation network provides both cyclists and pedestrians the ability to travel to destinations using an environmentally-friendly alternative to the automobile. With air pollution rising, it is imperative that these alternative forms of travel be further developed. By completing more than 260 miles of bikeways in March 2003, the City of Houston was able to meet its commitment to air quality under the State Implementation Plan for air quality. Figure 1.1 shows a network map of the Houston Bikeway Network, which spans across 500 square miles.

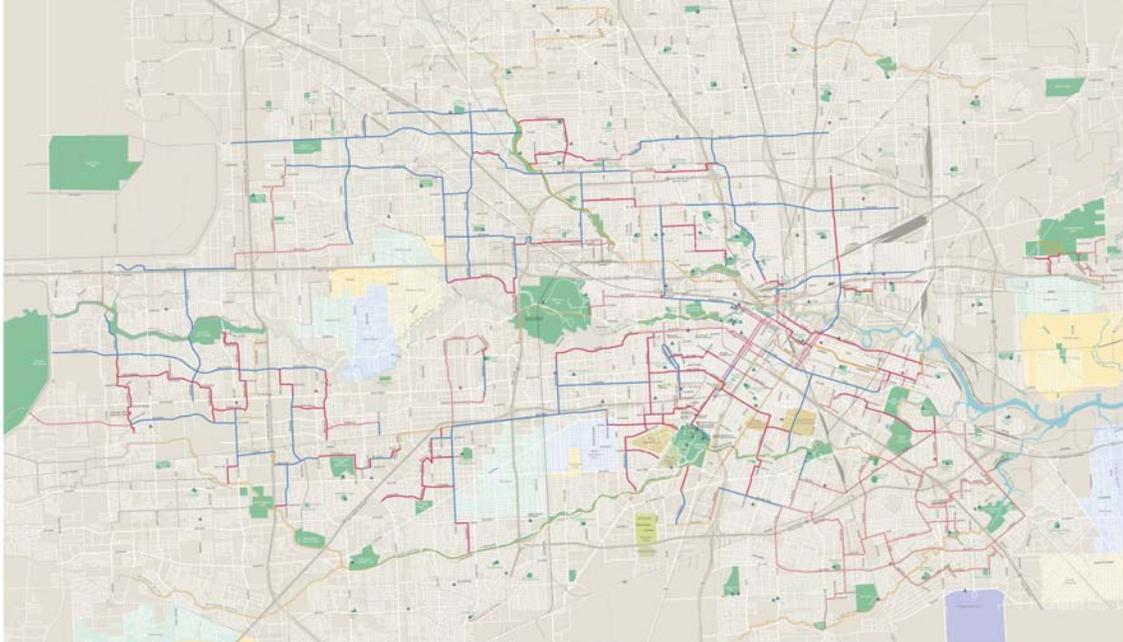


Fig. 1.1 The City of Houston Bikeway Program.

The bikeway consists of both on-street and off-street bikeways. On-street bikeways include bike lanes, bike routes, and shared lanes. Off-street bikeways include bayou trails, rails-to-trails, and park trails. The Houston Bikeway Network is not limited to the bike paths only. It also entails bikeway education programs. These programs are designed to educate both adults and children on safe bicycle riding. These programs include the following: City of Houston SmartRider Bicycle Safety Program, Children's Safety Zone, Safety Village, an adult education program, and Edu-Modules. Also, in 2004 a safety handbook will be distributed. In addition to the existing bikeways, over 65 miles of new trails have been designed and will soon be under construction. These additions will provide further accessibility for riders. For example, currently there is one particular project being developed that would connect west Houston to the middle of downtown Houston. Therefore, for someone who lived in west Houston and worked in downtown, there is an alternative to driving that length and avoiding fuel consumption. However, in order to see how this bikeway program would impact Houston's economy, various factors, as discussed below, must be looked at carefully.

Usually, any programs or policies that reduce the cost of transportation will increase economic development (TDM, 2004). If the production costs of two goods are equal, the greater profit will be earned by the producer whose shipping cost is less. Also transportation, itself, is a major consumer good. On average, a household spends anywhere between 15% and 20% of net income directly on transportation costs (TDM, 2004). However, all correlations between transportation and economy are not positive. Certain by-products of transportation systems can lead to a reduction of economic development (TDM, 2004).

Although a certain degree of mobility is imperative for economic development, automotive mobility also must follow market principles. Meaning, just as other economic components of a city, automobile mobility also has an optimal level. This optimal level is determined by consumer choice, competition, optimal pricing, and economic neutrality (TDM, 2004). Automobile usage continues to be the leading source of transportation in the present as it will be in the future. However, not applying market principles to this form of transportation has caused vast market distortions. These distortions have led to the use of automobiles in an inefficient way. Direct results of these inefficiencies include traffic congestion, higher insurance costs, and increased risk of accidents. This impacts the economy adversely (TDM, 2004). If these distortions can be corrected by means of reducing automobile usage, a more efficient transport system would be created allowing for further economic development. One way to correct these distortions is to improve existing non-motorized transportation systems.

A popular belief is that motor vehicle ownership is directly linked to economic growth. This is true to a point. However, excessive spending on automobiles can, in fact, reduce economic development (Litman and Laube, 1999). Some countries have seen a much greater economic growth at times when automobile ownership per capita is low and a decline in

economic growth as automobile ownership increases. Also, as consumers spend a larger lump sum of money purchasing automobiles, they have less money to spend on other consumer goods. As the number of automobiles increase over time, local governments are forced to spend more public money for the maintenance of roads for vehicle use and less money developing more cost effective alternative forms of transportation. Money spent on automobiles for things such as fuel and roadway facilities does not significantly promote regional economic activity. This is because most of this money is capital intensive, and goods such as fuel are imported from other regions (TDM, 2004).

For this reason, various studies have been conducted to determine viable transportation alternatives. These studies overwhelmingly concluded that a more balanced transportation system can provide economic development benefits. Some of the results of various studies are summarized below:

- By having high quality transit service of different types consumers and businesses will save money which will allow increased productivity, expenditures on local goods, local employment and business activity (Litman, 2004a).
- Property Values may increase along transit stations and transit oriented developments (Smith and Gihring, 2003). This will be discussed in further detail below.
- Improvements to non-motorized transportation and decongestion of traffic may increase property value while also stimulating tourist activity (LGC, 2001).

Worldwide, countries have become increasingly dependent on non-motorized systems such as bikeways. In mid-sized cities in Japan, Germany, and the Netherlands, 40-60 percent of

daily trips are made by walking and cycling. In some cities in India, this figure may reach 80% (Heierli, 1993). This worldwide dependence on alternatives to automobiles in densely packed cities is due to the unparalleled accessibility provided by bikeways (Guitnik, 1994). Although some may believe that most urban areas with a high rate of bikeway users only exist in developing countries with extremely overpopulated cities, this is not entirely true. Studies have shown that developing countries tend to have a high bikeway usage due to accessibility and affordability, however, many developed European cities have shown similar trends (TDM, 2004). Table 1.1 shows the modes of transportation used by inhabitants in certain cities in Europe.

Table 1.1 Modes of transportation used by people in certain European cities. (ADONIS, 2001)

<b>City</b>	<b>Foot and Cycle</b>	<b>Public Transport</b>	<b>Car</b>	<b>Inhabitants</b>
Amsterdam (NL)	47 %	16 %	34 %	718,000
Groningen (NL)	58 %	6 %	36 %	170,000
Delf (NL)	49 %	7 %	40 %	93,000
Copenhagen (DK)	47 %	20 %	33 %	562,000
Arhus (DK)	32 %	15 %	51 %	280,000
Odense (DK)	34 %	8 %	57 %	1,983,000
Barcelona (ES)	32 %	39 %	29 %	1,643,000
L'Hospitalet (ES)	35 %	36 %	28 %	273,000
Mataro (ES)	48 %	8 %	43 %	102,000
Vitoria (ES)	66 %	16 %	17 %	215,000
Brussels (BE)	10 %	26 %	54 %	952,000
Gent (BE)	17 %	17 %	56 %	226,000
Brujas (BE)	27 %	11 %	53 %	116,000

Some have argued that cities in the United States are built differently than those of similar size in Europe, and therefore would not be able to accommodate such demands for cyclists and pedestrians. Also, people have argued that people in the United States would not be

willing to walk or cycle for purposes other than recreation. However, studies conducted in the United States contradict these arguments. One U.S. survey showed that 17% of adults would commute by bicycle if safe storage facilities were present. The same survey also showed that 18% of adults would bicycle to work if financial incentives were available, and 20% would if a secure system of bikeways was available (“A Trend On the Move: Commuting by Bicycle,” 1991). In Canada, whose transportation infrastructure is similar to that of most cities in the U.S., a widespread survey was conducted to see how bikeways were being used. Table 2.1 shows the results.

Table 1.2 Results of a transportation survey conducted in Canada. (EnviroNics, 1998)

	Cycle	Walk
Currently use this mode for leisure and recreation.	48%	85%
Currently use this mode for transportation.	24%	58%
Would like to use this mode more frequently.	66%	80%
Would cycle to work if there “were a dedicated bike lane which would take me to my workplace in less than 30 minutes at a comfortable pace.”	70%	NA
Support for additional government spending on bicycling facilities.	82%	NA

Based on these results, it is reasonable to expect that a similar transition to bicycle use is possible in U.S. cities such as Houston. The magnitude of such a transition is hard to predict, however. Such factors are discussed below.

As mentioned above, property values may be affected by the development of a bikeway program. Many people fear that a bicycle path near their home or business will decrease the value of their property because of construction and the higher crime rates attracted to a public space near their home. According to a study done on a trail project in Pittsburgh, however, these fears are unfounded (Hokey 1999). This particular trail project, once completed, will stretch to 405 miles from Pittsburgh to Washington, D.C. Property owners and real estate agents both

agree that the bicycle path has led to an increase in business. According to one real estate agent, houses that were selling for \$20,000 to \$30,000 began selling for \$50,000 to \$60,000 two years into the development of the bikeway (Hopey 1999). Although this increase in value cannot be strictly linked to the bikeway, this increase is noteworthy. This increase in property value is not an isolated case. Fonville Morrisey Realtors in Apex, North Carolina, reportedly added \$5,000 to the prices of 40 homes adjacent to the Shepherd's Vineyard Greenway trail; these 40 homes were the first to sell (Hopey 1999). In a 1994 and 1998 report, the top amenities desired by homebuyers included nearby walking and bicycle paths. These topped the traditionally desired amenities including golf courses, tennis courts, and amphitheaters (Hopey 1999). In cities such as Seattle, Green Bay, and Santa Fe, real estate businesses regularly advertise "close-to-trail" properties. In Santa Fe, for example, land developers have included new jogging and bicycle paths in their plans for newly developing residential areas (Hopey 1999).

The other main concern against the development of bikeways is an increase in crime. Once again, studies point to the contrary. In various studies conducted in California, Wisconsin, and Kansas no increase in crime was found (Hopey 1999). Pennsylvania State University and the National Park Service conducted a similar study in 1992. The results of this study showed that most people living along an extended trail in Florida were not only not concerned about an increase in crime, but found living near the trail pleasurable (Hopey 1999).

According to a list compiled by the Texas Transportation Institute, Houston is currently ranked as the 13<sup>th</sup> most traffic-congested city in the United States (TTI, 2004). Thus, the need for improvements in the transportation infrastructure is evident. However, the expansion of roads and highways may not be the answer. In fact, as explained previously, the exhaustion of such resources is against the market principals which transportation follows. The need for alternative

forms of transportation are more necessary now than ever before. With increasing health and environmental concerns along with steep gasoline prices, the clear solution is non-motorized transportation. Bikeways provide users with an economical and healthy alternative to congested roadways. In fact, numerous studies continue to show that bikeways and walkways can improve the economy of an area by minimizing traffic congestion and allowing for quicker shipping times of goods, lowering transportation costs of consumers, increasing property values, and allowing much greater accessibility. Many large cities such as Portland and Chicago have developed successful bikeway programs similar to the Houston Bikeway Program. Further study needs to be conducted in order to observe the direct correlation between a city's bikeway program and the city's economy. Although it is difficult to predict the magnitude the Houston Bikeway Program will have on Houston's economy, previous studies show that a bikeway program provides a positive, alternative form of transportation.

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