

The Trinity Railway Express and the Impacts of Light Rail on Residential Properties

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A Student Research Project

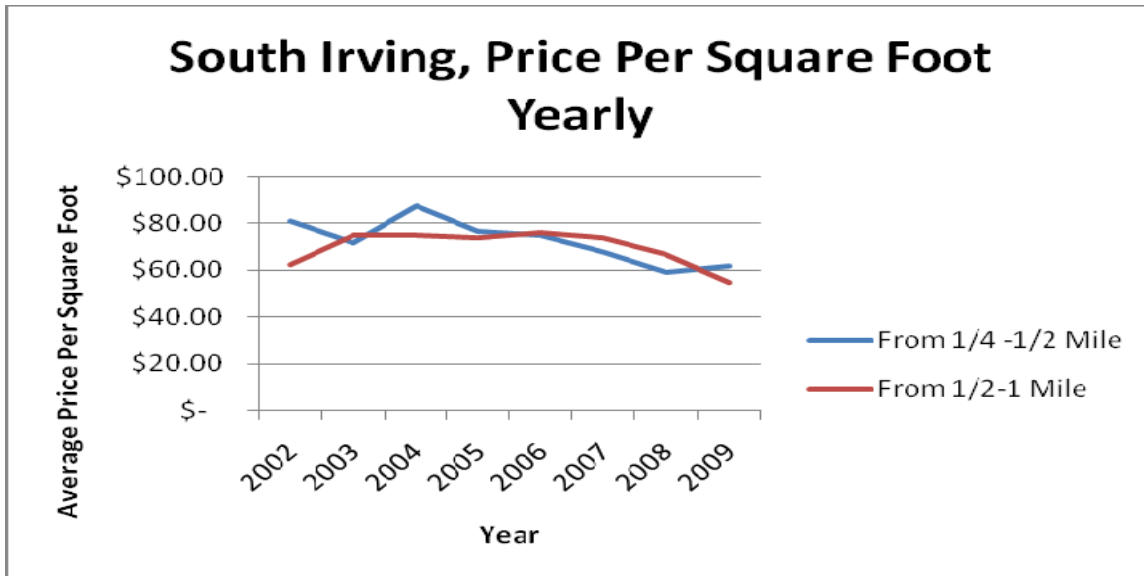
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The purpose of this study is to evaluate whether or not there is a per square foot price premium on homes located near a Trinity Railway Express (TRE) station. The study will use the following method to evaluate the value of single family residences in the aforementioned area. Home sales from late 2002 to early 2009 will be compiled by location via geocoding. Geocoding is the process of finding associated geographic coordinates (often expressed as latitude and longitude) from other geographic data, such as street addresses, or zip codes (postal codes). Then the price per square foot will be taken from this compiled information and averaged by the target area. The area around the station will be broken up into rings of interest. The homes within a quarter mile ring will then be averaged to obtain an average price per square foot. This price will then be compared to homes located at larger interval rings outside of the quarter mile ring, in a graduated fashion, e.g. quarter mile ring, half mile ring, mile ring etc. Once a comparison is made, it will be evident whether or not houses closer to the station earn a higher price per square foot on average, and if there is a price benefit for the homes located near the station. Since the study will measure this premium over several years, there may also be a multiplying effect in the premium. That is, the premium per square foot might increase every year as this location becomes more valuable and new investment is put into the area.

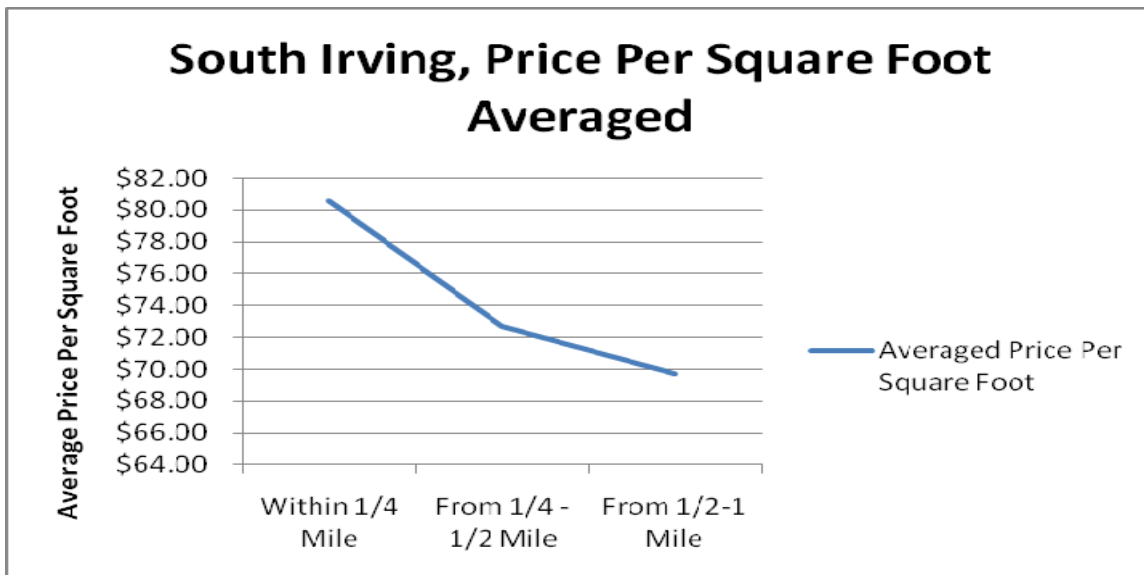
Three stations were chosen to be studied. These stations were picked, primarily, due to their surrounding geographies and the data available through the MLS system. The Trinity Railway Express serves ten stations. The Victory Station and Dallas Union Station are in the downtown Dallas area (and are usually referenced in DART studies). Of the remaining eight, one stops at the Medical/Market Center, which is located in the medical district, and has few nearby residences. The Hurst/Bell stop services the Bell Helicopter plant, which also has too few nearby residences to collect data from. Of the last six, the two in the downtown Fort Worth Area, the T&P station and the Intermodal Transportation Center, do not have a significant cluster of single family homes in which to retrieve data (as is the case with the CentrePort stop). After excluding the aforementioned locations the remaining stations are South Irving, West Irving and Richland Hills.

In interpreting the numbers generated from the collected MLS data, it is important to note that for several years and in several rings, there may be insufficient data. This is due to the small areas being examined. In that, physically, only so many single family homes can be fit in quarter mile rings. Furthermore, since the data used is sales data, it is dependent on the turnover of homes within these rings. The data and its interpretation does not look to present conclusive evidence but rather hopes to explore a potential explanation.

First, let's look at the results from the South Irving station. As the graph below shows there is not a constant year-to-year square foot premium for houses located closer to the station. (Because of limited data, the price per square foot of the homes located less than a quarter mile from the station were not included in the graph).

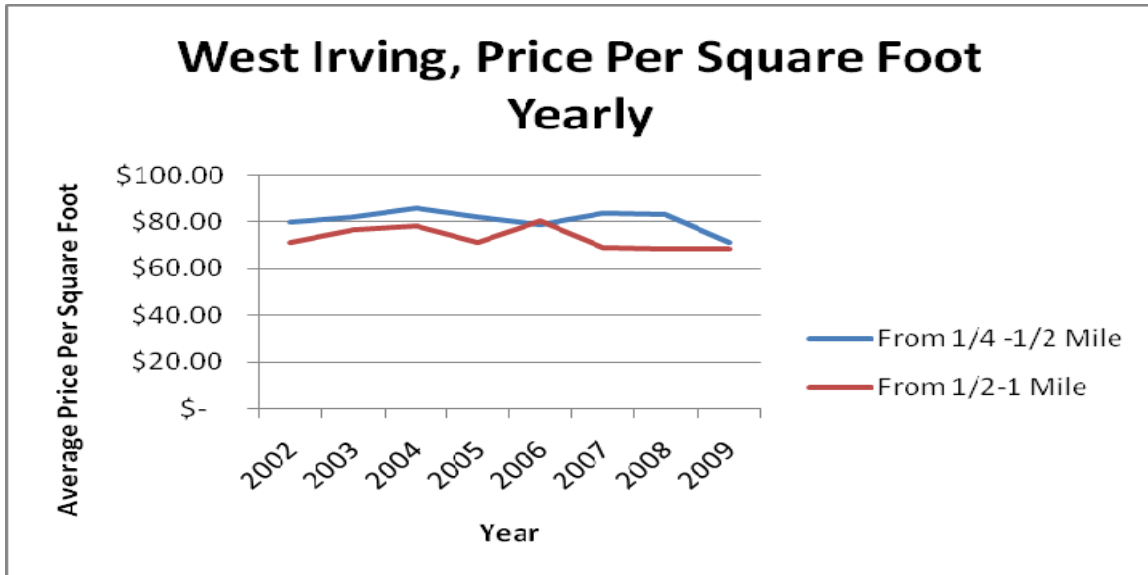


Nevertheless, if we average the price per square foot over the seven year period an interesting trend develops. The homes within a quarter mile of the station on average receive \$80.62 a square foot. The average price per square foot of homes one quarter to one half mile out is \$72.67 a square foot and the average price per square foot for homes one half to one mile out is \$69.73. What this shows is a positive trend; homes closer to the station have been, on average over the seven years, more expensive per square foot.

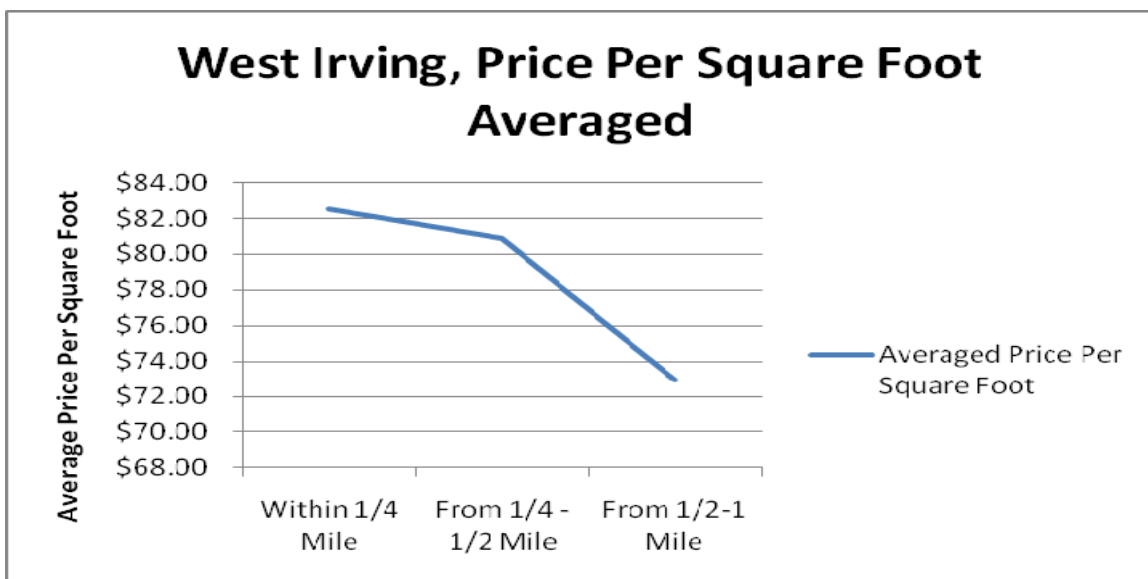


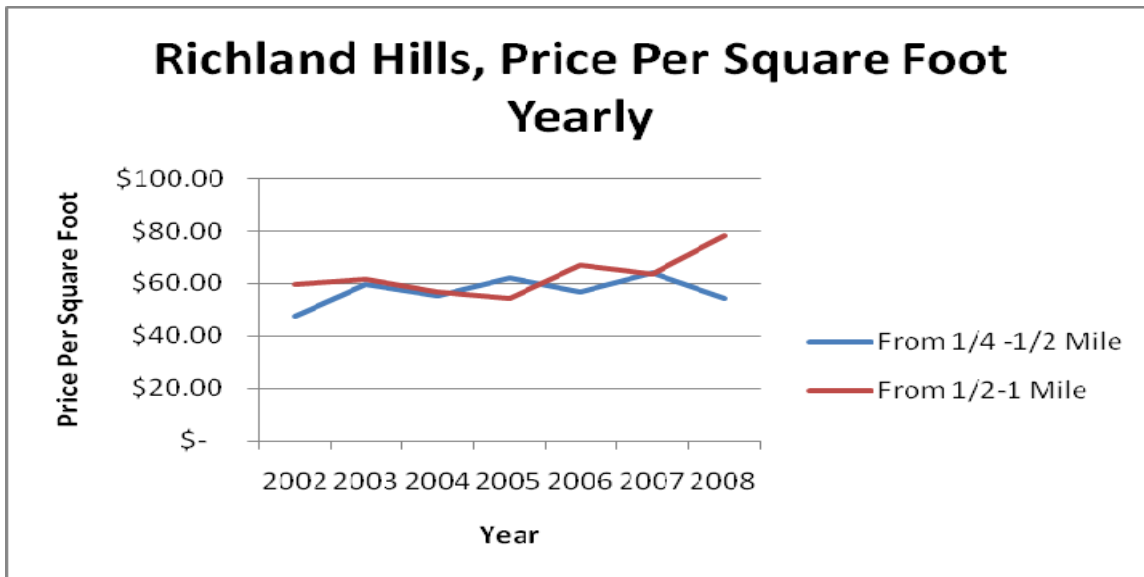
However, there was only a limited amount of data on the homes within a quarter mile, leaving the averages for that column a bit skewed. If we look at the averages between the quarter to one half mile and the half to one mile, the trend is still positive. The homes located one quarter to one half mile from the station bring in a higher price per square foot, on average, than those located one half to one mile away from the station.

West Irving shows a similar trend. Though for West Irving there does seem to be a small persistent premium per square foot for those homes located closer to the station.

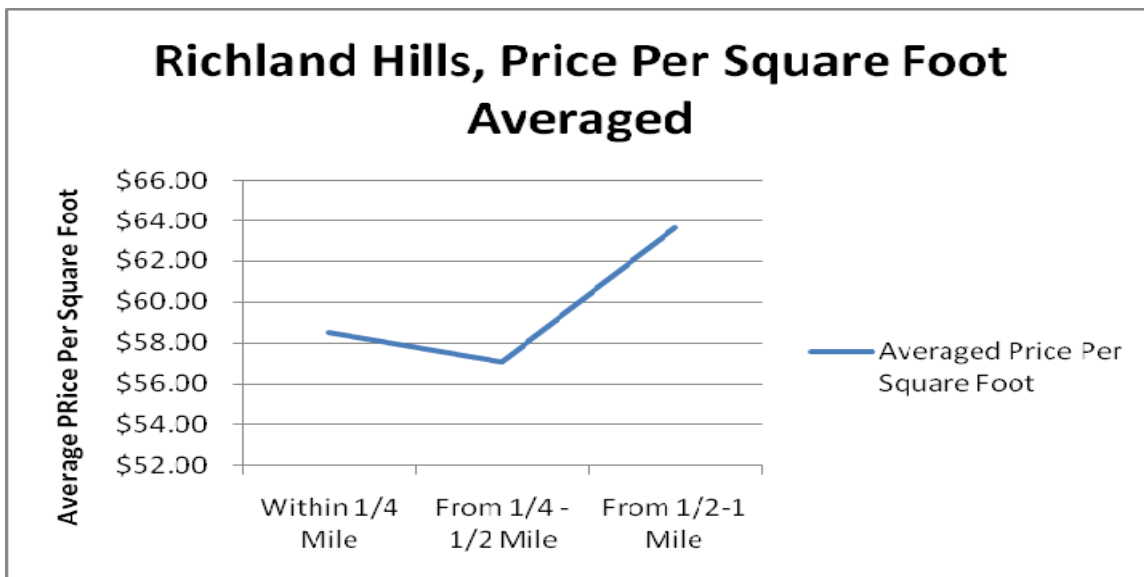


Looking at the averages of the prices per square foot over the seven years, a similar trend develops as the further from the station the home is the lower, on average, the price per square foot. Homes within a quarter mile have an average price per square foot of \$82.49, homes between a quarter mile and a half mile have an average price per square foot of \$80.87 and homes from half a mile to one mile fetch on average \$72.94 a square foot. Even excluding the homes within the quarter mile, where there is not as much data, the same trend is evident. Homes within the quarter mile to half mile on average have a higher price per square foot compared to home from half a mile to one mile.





However, when looking at the Richland Hills data, the trend does not continue. Average price per square foot within a quarter mile of the station is 58.49 compared to 57.10 within a quarter to half mile and 63.64 from a half mile to one mile. This discrepancy though could arise from a peculiarity of the area around the station. For one, the Richland hills station abuts a major highway network essentially cutting it off in the South. Furthermore, the area to the south is filled with non residential properties, cutting in half the amount of data we have for that station as compared to others who have a full ring of residential properties in which to draw.



All in all the data suggests that there is on average a slight increase in price per square foot for homes located near the TRE. Though not conclusive, these positive results are to be expected. So far, light rail in Texas has shown the ability to attract

millions in new investment and either through consequence or instance, create millions more in property value. In this capacity, DART is a prime example of the developing and value creating power of light rail. A study done by the University of North Texas, on the initial economic impacts of DART, concludes that the growth and rise in property values around DART stations are proportionally higher than the growth and rise in property values experienced by areas not served by a DART station. Between the opening of the first line and January 2001, an estimated \$ 800 million was invested in areas around the rail lines. This instance of private investment seems to be a common consequence of rail stations. In 2004, the Houston Metro was anticipated to create one billion in added real estate through new building projects. Similarly, the Trinity Railway Express has helped to urbanize downtown Fort Worth. The renovation of the old railway station into luxury condos added millions of dollars of marketable real estate. Even now, the Trinity Railway Express, Dallas Area Rapid Transit, and the Houston Metro are all underway with expansion projects and have plans for even more expansion in the future. The expansion of DART alone is estimated to generate 5.6 billion dollars and add 6,400 jobs per year for the next five years.