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THE ECONOMIC CASE FOR THE CINCINNATI MODERN STREETCAR

March 17, 2011

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The investment in fixed rail based mass transit systems reflects a long-term commitment by a city to provide easy and affordable transportation to its residents, workers and visitors. As has been experienced in several cities around the country, streetcar systems have spawned overwhelming levels of commercial development along their alignment, highlighting the direct benefits perceived by investors and developers.

Streetcars are a blessing for city residents and visitors alike. They link disparate facilities and places of interest within a city to provide a cohesive environment. They provide connections to transit systems, promote transit ridership, and create sustainable communities where a car is not a necessity of life. Streetcars fit easily into built environments, they are energy efficient, and are proven engines for economic revitalization.

The economic benefit cost assessment that accompanied the application for federal grant for the Cincinnati Modern Streetcar estimated economic benefits from the project that outweighed the cost of implementing the system. The assessment quantified three broad categories of benefits:

1. User benefits – benefits directly enjoyed by the riders of the system. The system would provide faster and cheaper mobility for the city residents, workers, and visitors.
2. External benefits – benefits enjoyed by the broader community. The system would reduce the level of automobile travel within the city, thus directly causing lower levels of pollution and energy usage, in addition to reducing the number of traffic accidents.
3. Community development benefits – overall development benefits generated by the improvement of the profile of the city. The system would make the city more attractive to investors and developers, and would serve as a catalyst for vibrant economic development.

The level of benefits for each of these categories was presented in the grant application.

Quantitative Economic Assessment

The benefit-cost and economic analysis framework that accompanied the application for federal grant estimated and compared the overall economic benefits to the estimated level of investment needed to implement the system. The important highlights of the analysis are listed below.

- The system would accommodate an estimated 6,000 trips daily in the opening year with about a third being drawn from automobiles. This number could increase to more than 10,000 daily trips by 2032.

- Over a period of 20 years, the value of travel time savings and out-of-pocket cost savings for mobility within the city was estimated in excess of \$30 Million, at a 7% discount rate. These estimates were made on the basis of the value of time and vehicle operating cost parameters specified by the federal guidelines.
- The cheaper mode of travel would provide affordable transportation for the elderly, people with special needs and low-income residents, and enable them to access healthcare and other vital services. The analysis estimated the economic value of this affordable mobility at close to \$5 Million.
- Reduced auto trips within the city would in turn directly influence reduction in emissions, energy use and pavement maintenance needs. Further, it would increase safety by reducing the number of potential accidents. The overall monetary value of these benefits during the 20-year lifecycle was estimated as about \$3.5 Million.
- The principal driver of the economic benefits presented by the study was the community development potential of the system. The community development potential was represented in terms of the increased value of land and building properties along the streetcar alignment. The study assessed the overall value increase of about \$170 Million¹, with about 75% of the increase accruing to commercial properties.
- In summary, the benefit cost analysis indicated that the economic benefits over the next 20 years exceeded \$200 Million (at a conservative 7% discount rate) and more than justified the \$117 Million investment needed for the streetcar. The benefit levels assessed are reasonable and comparable to the experience from other streetcar projects completed around the country.
- An analysis of direct and indirect economic impacts of the streetcar indicated that the project would result in creating 300 jobs during the initial construction period, with 60% of these jobs created in the construction industry. While the construction jobs are typically short-term, once the streetcar is operational, it has the potential to create over 1,600 job years including those for the operation, maintenance, and other supporting employment in the region. The analysis was conducted using the widely-used IMPLAN economic impact assessment model².

¹ The overall value increase was estimated as \$200 Million, which may include some benefits due to travel cost savings.

² IMPLAN is a tool based on an input-output modeling framework that captures the impact of change in one sector of the economy on all other sectors. Input-output framework has been adopted as the standard practice of economic impact assessment. Representing job years as opposed to jobs helps highlight the potential for stimulating long term employment rather than short term jobs.

Perspectives from other streetcar projects

Several other cities around the country such as Washington, DC, Los Angeles, Dallas and Atlanta are pursuing streetcar projects as engines of economic revitalization and smart growth. The impetus for this renewed interest in streetcars lies in the success of the Seattle and Portland Streetcars in promoting regional development. Given below is a brief summary of observation from a few of the streetcar projects in operation.

Tampa, Florida

Tampa's 2.7 mile streetcar system links the downtown with tourist attractions around the city. The line has consistently accommodated ridership levels about 20% more than projected. Similar to the streetcar systems in other cities, the TECO line also has attracted private developments near the line. According to the Tampa Downtown Partnership, more than \$800 Million of private development projects are in construction or have been approved within two miles from the streetcar alignment. Most of these projects feature the streetcar system in their promotions and advertisements.

Little Rock, Arkansas

The success of Little Rock's New River Rail Streetcar system has led to expansion of the fleet and plans to extend the line by another half a mile. Since its opening in 2004, the system has fulfilled its ridership projections, and has triggered new developments. Two commercial and mixed residential developments costing more than \$80 Million have been constructed in the neighborhood in addition to driving renovation of numerous facilities for more aggressive uses. In addition to the development several interesting partnerships are being forged. Two corporations and one museum have approached the city for naming rights of platforms, and detailed plans are underway for a baseball park just three blocks from the line.

Portland, Oregon

The spectacular success of the Portland Streetcar has altered the way cities view transit and development. The Portland system has directly generated \$3.5 Billion in investment in two neighborhoods near the Portland downtown. More than half of all new developments in Portland in the last decade have occurred within one block of the streetcar alignment, and area that previously accounted for only 20% of the development. The developments within a block off the streetcar have utilized almost 90% of its allowable floor area ratio (FAR).

Seattle, Washington

The Seattle Streetcar is having similar success, particularly in the South Lakes Union Station area. In spite of the economic recession over the last eight years, roughly \$2.4 Billion of development has happened within three blocks of the streetcar, representing about 2,500 housing units and 12,500 jobs including 8,000 jobs at the new Amazon.com headquarters.

San Francisco, California

San Francisco's F-Line Streetcar has played a vital role in the rebirth of Embarcadero as a walkable transit-oriented development. The ridership on this extension is reportedly more than 19,000 per day. The agency is hard pressed to run enough cars to meet this demand. The system is so popular in the city that businesses and residents from the other parts of the city are requesting that the heritage line be extended to their parts.

Recent Partnership Initiatives

Some of the recent partnership announcements highlight the value of properties near streetcar lines. University of Arizona announced a partnership with developers to build student housing along the proposed 3.9 mile Tucson Streetcar alignment which would connect the Medical Center to downtown. A local developer in New Orleans, Domain Cos, is planning to transform a sea of downtown parking lots into 450 apartments and 125,000 square feet of retail development spurred by the future Loyola Avenue Streetcar line.

Comparative Assessment of Property Value Impacts

The development interests typically tend to increase the land and building values along the transit alignments. Table 1 below shows a summary of observed property value increase in areas near transit stations and transit line alignments across the country. As shown in the table, property value increase in the vicinity of mass transit systems have been as high as 100% in some cases and as low as 6-7% in other cases. Streetcars typically have triggered higher levels of value appreciation. The economic benefit cost analysis supporting the Cincinnati Streetcar grant application represented very conservative property value increases in the range of 5-7% for residential properties, and 6-9% for commercial properties, indicating that the benefits assessed are in the lower end of the range of likely outcomes of positive economic benefits.

Table 1: Summary of Transit Effects on Property Values

City	System	Type	Observations on property value impacts	Reference
Tampa	TECO	Streetcar	From 2002 when the streetcar opened, property values have increased a median of 120%, with the highest increase of about 313% in the Channelside District	Ohland, Gloria and Poticha, Shelley. Streetsmart: Streetcars and Cities in the 21st Century. 2006 The Brookings Institute, Value Capture and Tax-Incentive Financing Options for Transit Projects, 2009
Washington, DC	WMATA	Rapid Rail	The rents decreased by about 2.5% for every tenth of a mile from the station	Benjamin and Sirmans, 1996
Boston, MA	MBTA	Rapid Rail	Single family homes located in communities with a rail station have a market value approximately 6.7% higher than those that do not. Overall increase in property values could be much higher.	Armstrong, 1994
Los Angeles	MetroRail	Rapid Rail	Commercial space within half mile of rail corridor had an additional \$31 increase in male sale price per square foot	Fejarang et al, 1994
Philadelphia	SEPTA	Rapid Rail	Premium for single family homes with access to rail stations of 7.5% to 8% over the average home value	Voith, 1993
Santa Clara	LRT	LRT	Office space sold within a quarter mile of a station commanded an average of \$4.87 per square foot compared to those 3/4 of a mile away.	Weinberg et al, 2001, 2003 Cambridge Systematics, 1996
San Diego	LRT	LRT	Typical homes sold for \$272 more for every 100 meters closer to the line	Landis et al, 1995
Seattle	Seattle Streetcar	Streetcar	Vacant land three blocks or less from the streetcar alignment rose a median of 123% versus a median of 53% within the city limits during the 5 years in which the streetcar was planned and constructed.	The Brookings Institute, Value Capture and Tax-Incentive Financing for Transit Projects, 2009
Portland	Portland Streetcar	Streetcar	In the initial years between 1997 and 2003, the property values increase was similar to Seattle at 120%. During 2003 to 2008, the values increased between 44% and 112%	E.D. Hovee and Company. Portland Streetcar Development Impacts. 2005