



Department of Transportation

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Re: Economic Effects of BRT

From: Philip Gritzmacher, AICP

Though Bus Rapid Transit (BRT) is a relatively new form of high-capacity transit, the travel benefits of this mode are well documented. The economic effects of implementing BRT are becoming more clear as studies on existing systems come to fruition. While every city is unique, this memo describes possible economic effects that the proposed E-W BRT could influence.

Impact on Employment

Studies of the impact of BRT on employment were mixed, depending on the level of adherence to BRT best practices. A study of the impact of BRT on Eugene, OR between 2004 and 2010 performed a “shift-share” analysis along the BRT system, which was established in 2007. A number of industries were found to make gains during this analysis period, including real estate, management, administration, education, health care, lodging, food service, retail, entertainment and arts. This is significant because the City as a whole lost positions during this timeframe due to the Great Recession

The Eugene BRT system is considered “heavy BRT,” in which most BRT system best-practices were adhered to – one of the reasons that authors speculate this phenomenon occurred.¹ The only use to see an inverse reaction to BRT was manufacturing, which suffered losses within the corridor and gains outside of it. The authors speculate that this is the result of geographic sorting and the redevelopment of former industrial sites into some of the aforementioned uses.

A study of the Independence Avenue BRT corridor in Charlotte, NC, the same analysis found less employment attraction. The Charlotte BRT system is considered “light BRT,” and does not contain all of the features of BRT – specifically dedicated stations. The authors speculate that the BRT system has not performed as well as others at attracting investment – and thus jobs – because it did not include many of the features of true BRT systems that demonstrate a commitment to the mode of transportation.²

Finally, Nelson and Ganning conducted a study of the job “shift-share” for 13 BRT systems in 10 municipalities. The study examined the change in the number of jobs along the BRT corridors before and after the Great Recession across three wage categories – low, medium, and upper – in an effort to determine the impact of BRT on differing job classifications. On average, businesses located within a BRT corridor were found to produce far more jobs across all wage levels.

¹ Arthur C. Nelson et al., “Bus Rapid Transit and Economic Development: Case Study of the Eugene-Springfield BRT System.” (2013)

² Matt Miller et al., “Do TODs Make a Difference?” (2014)

“Middle wage” jobs, which the authors identified as transportation, real estate, administration, education, health care and “upper wage” jobs, such as utilities, manufacturing, wholesaling, information, finance and information, professional, scientific, and management, were found to make significant gains. “Lower-wage” job such as, retail, arts and entertainment, and accommodation and food service had gains that outpaced areas outside of the BRT corridor, but did not return to pre-recession levels by the end of the study period.

Impact on Development within Corridor

All of the studies reviewed appeared to coalesce around the same consensus regarding the development potential of BRT corridors. “Heavy BRT,” or BRT with dedicated lanes that follows best practices for system design, is required for the potential of attracting development. “Light BRT,” or BRT with some, but not all of the features of a BRT system, is not a significant driver of new development.

A study from the Government Accountability Office (GAO)³ attempted to quantify the amount of investment along BRT Corridors. The review found that the Cleveland HealthLine, a heavy BRT system, attracted more than \$9.5 billion in public and private investment. The Emerald Express Lines in Eugene, OR – another heavy BRT system – attracted \$100 Billion in investment in the first few years of operation. Conversely, the systems in Kansas City and Seattle - both of which are light BRT systems - have experienced less success in attracting development.

GAO concludes that transit agencies that make a clear a long-term commitment to BRT by making the stations appear to be permanent attract investment, so long as the BRT corridor must be amenable to high-density development. To be amenable, the corridor must have access to existing attractors such as employment centers, recreational or shopping activity centers, and/or housing or redevelopment is unlikely to occur.

Studies by Perk and Currie found similar results. Perk remarks that “reported land development benefits with full-featured BRT are similar to those experienced along rail transit lines.”⁴ Currie noted that BRT has many similar characteristics the rail that cause it to attract substantial investment including performance, high frequency service, attractiveness to choice riders, scale dilution, and novelty.⁵

Impacts of BRT on System Utilization

Well configured BRTs can have a strong impact on transit utilization. The previously referenced GAO study found that seven of the thirteen BRT systems studied had ridership gains of more than 30% in during the first year in operation when compared to the ridership of the previous bus service. All but one experienced some level of ridership gain, with three of the systems reporting ridership increases that continued for additional years. The one system reporting losses in ridership was a “light BRT” system that was placed in a sub-optimal corridor for the service, lacking sufficient density of housing, employment, shopping, or entertainment destinations.

3 GAO, “Bus Rapid Transit Projects Improve Transit Service and can Contribute to Economic Development,” (2012) and <http://www.riderta.com/healthline/about> accessed 9/16/21

4 Victoria Perk and Martin Catala, “Land Use Impacts of Bus Rapid Transit: Effects of BRT Station Proximity on Property Values along the Pittsburgh Martin Luther King, Jr. East Busway,” (2009)

5 Graham Currie, “Bus Transit Oriented Development: Strengths and Challenges Relative to Rail,” (2006)

Impact on Property Values

There are several studies that examine the impact of BRT on property values. The US Department of Transportation (USDOT) studied the impact of Pittsburgh's Martin Luther King, Jr. BRT Corridor on the valuation of single-family homes within the transit shed. The author found a direct correlation between the value of homes and their proximity to BRT stations. If a home located 100 feet from a BRT station were to be moved 1,000 feet further from the station, it would lose approximately \$10,000 in value.⁶ These findings were corroborated in a study of Eugene, Oregon's Emerald Express BRT Line, which found that for every 100 meters (~325 feet) closer a home was to a BRT station, its value increased by \$1,128.

BRT has a positive impacts the value of office properties as well. In a study of office rents in Cleveland, Eugene, Kansas City, Las Vegas, and Pittsburgh found increases in office rents within ½ mile of BRT stops following the implementation of BRT systems.⁷ Impacts to retail and food service properties is less studied. One case study of a five block segment of New York's Bx21 Select Bus Service (BRT) found that quarterly sales increased by 24% in the first year. By the third year sales increased by 71% compared to 38% in non-BRT corridors.⁸

A number of studies recognize the displacement of manufacturing along BRT corridors.^{7, 9} This displacement may be occurring due to land values increasing along BRT corridors, leading to redevelopment of former heavy industrial sites into employment, housing, and light industrial (such as breweries).

Conclusions

The reviewed studies demonstrate that bus rapid transit can have a strong positive impact on employment resilience, overall transit system utilization and property values. It appears that BRT can spur development within a corridor, so long as the systems are built following BRT best practices and in corridors suitable for high density redevelopment. Further, systems must be built with access to existing housing, employment, shopping, recreation, or entertainment amenities to achieve maximum success. This success can take the form of strong job growth, redevelopment, high ridership, or any combination thereof.

Madison's future BRT system, in its current proposed configuration, conforms to the best practices outlined in BRT best practices and successful case studies found in literature. Diminishments to the proposed system should be carefully considered. Compromising system elements could reduce corresponding economic benefits.

6 U.S. Department of Transportation. "Land Use Impacts of Bus Rapid Transit: Effects of BRT Station Proximity on Property Values along the Pittsburgh Martin Luther King, Jr. East Busway." (2009)

7 Nelson, A. C., & Ganning, J. "National Study of BRT Development Outcomes. Portland: National Institute for Transportation and Communities." (2015)

8 New York City Department of Transportation. "The Economic Benefits of Sustainable Streets" (2013)

9 Arthur C. Nelson et al., "Bus Rapid Transit and Economic Development: Case Study of the Eugene-Springfield BRT System." (2013)