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**Assessing the Economic Benefits of Multi-Use Trails and Greenways:
A Case Study into the Tammany Trace Rail-Trail in St. Tammany Parish,
Louisiana, U.S.A.**

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Introduction

Multi-use trails are becoming an economic catalyst and vital contributor to the quality of life for communities all across the world. This paper takes these factors as a basis into a case study on the Tammany Trace (hereafter, 'the Trace'), rail-to-trail conversion in St. Tammany Parish, Louisiana, U.S.A. The study looks into how the region and local communities have benefited from the facility by collecting and presenting the data from the following objectives:

- Present the existing conditions and perceptions of the Trace through mapping techniques and feedback from interviews with local leaders.
- Conduct an intercept survey on Trace users to get responses on spending habits and quality of life perceptions of the trail.
- Correlate responses from the intercept survey along with existing user counts to develop an economic impact that that the Trace has on the region.

The Trace is the only significantly long urban paved trail in the state was evaluated to show how valuable this facility is in this very automobile oriented region which could possibly influence other regional governments to implement similar infrastructure.

Background

The Trace spans 31miles through five distinct communities ranging in populations of 2,450 to 27,526 and boasts 6 trailheads (Figure 1). Using federal money, the parish initially purchased an abandoned Illinois Central rail line in 1992 and the right of ways for \$1.46 million, and later completed the connections to all trailheads for a total of \$4.04 million. The cost to maintain the Trace each year is approximately \$1.1 million.

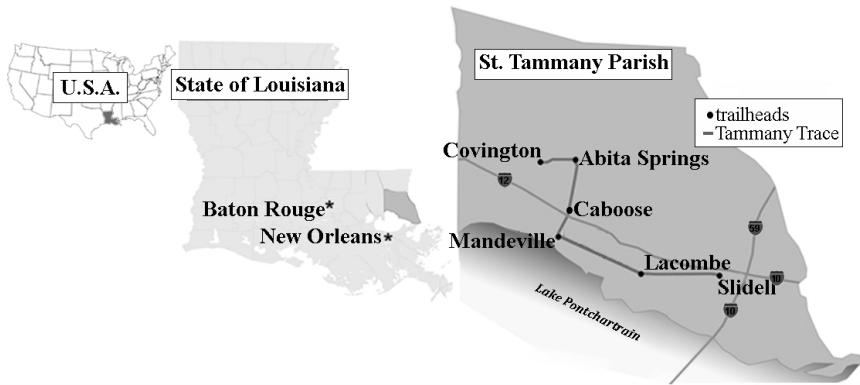


Figure 1. Trace Locator Map

Literature Review

The popularity of trails has been steadily increasing, attracting thousands of users every year, which includes the locals to a particular trail and users that travel far and wide just for the uniqueness of exploring different separated trail systems. From research on different trails, the locals, which are the majority, usually spend on light snacks, bicycle parts and gear while the users that travel distances, which vary greatly, spend on snacks, meals, bicycle parts and gear, accommodations and fuel. These increasing trail user profile groups have enriched the communities they pass through significant economic tourism and user expenditure factors. A 1999 study on the Little Miami Scenic Trail in Ohio discovered that the trail got an average of 150,000 to 175,000 users per year with an average expenditure of \$13.54 per outing on food, lodging, retail, etc. This figure was estimated to contribute to more than \$2 million per year to local economies (Ohio-Kentucky-Indiana Regional Council of Governments, 1999). Users of the Midtown Greenway in Minneapolis are the catalyst behind why the trail is such an economic success as some have dubbed it the “superhighway” of cyclists. Between 4,000 and 5,000 people use the trail every day on average, amounting to a whopping 1.5 million trips a year (Asp, 2013).

Trails and greenways can also create “Trail Towns” which are a destination town along a long distance trail. Trail Towns can be a model of economic revitalization that places trails as the centerpiece of a tourism-centered strategy for small-town revitalization (Rails-to-Trails 2007). These small towns are, or have the potential to, reap the benefits of being next to a trail by providing a safe place to access the goods and services users need while riding the trail. In such towns, the trail is an integral and important part of the community.

Methods

I. Trace Trailhead Oriented Development and Local Leader Perceptions

Three of the Trace's 6 trailheads (Covington, Abita Springs and Mandeville) are central pieces to each downtown core, all with an archetypal large structure that serve as the community's central focal point, gathering place, and home to many community events, festivals and concerts. This section looks at these three trailhead's existing surrounding development which includes housing, miscellaneous businesses (restaurants and services), government buildings and schools within a mile of each trailhead and shares perceptions from conducted interviews with all three mayors of why the Trace is so important to their community (Figure 2). All three trailheads also boast trailhead adjacent microbreweries that cater to the growing "bikes and beer" movement inviting "bikes and brew tours" and further serving as economic catalysts and tourism draws for each community.

II. Trace Expenditure Evaluation

Assessing how a trail impacts the local economy is essential to retaining public support for future funding and development (Litman 2010), and is beneficial in encouraging other communities to expand or develop their own trail networks. Identifying the spending by trail users can also provide incentive for revitalization and economic development around specific areas adjacent to the trail corridor, attracting residents and new businesses. For this part of the study, the goal was to correlate existing user statistics and conducted intercept surveys to determine spending habits and an estimated economic impact.

A. Data Collection

The data collection was completed using two methods, manual counts and intercept surveys.

A1. Trace Ranger Counts: The Trace is unique compared to other greenways, as the Parish sets aside funding every year for Trace Rangers to patrol and count users all year long. The Tammany Trace Foundation provided lists of estimated user statistics taken from 2008-2014 which include local, out of state, out of parish and international visitors and Kids Konnection access. The Kids Konnection is a very popular playground adjacent to the Trace whereas the estimate is 40% of users access both the playground and the Trace.

A2. Intercept Surveys: Intercept surveys were performed over a clear Spring weekend which, according to user numbers, is usually peak time for Trace use. A total of 120 surveys were completed, with a vast majority of the surveys done at the Mandeville and Abita Springs trailheads (74%) because of the more rapid response from bigger crowds due to a festival going on and overall

trailhead popularity. There were 12 short and closed ended questions to make analyzing the data more efficient. For this paper, only a quarter of the questions are focused on, highlighted in section B2, which helped with the overall objective of determining an economic impact through indirect and direct trail-related and recreational spending.

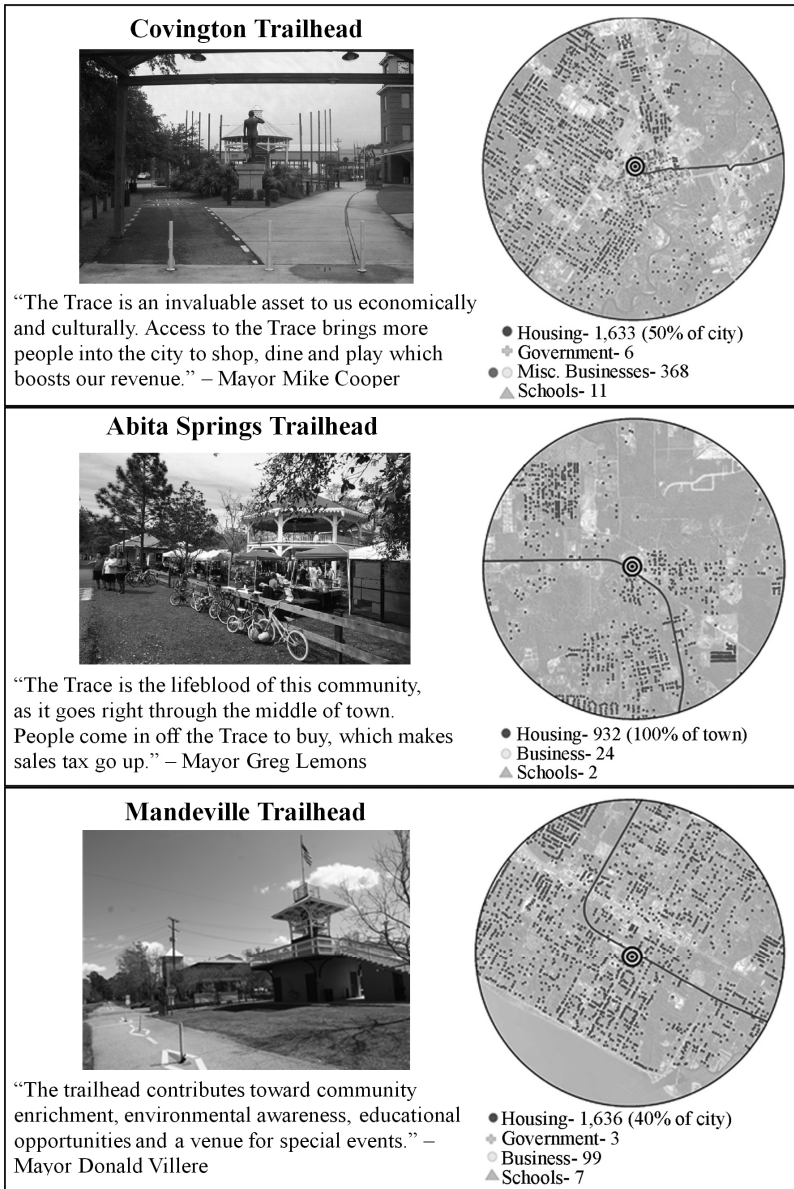


Figure 2. Trace Trailhead Oriented Development

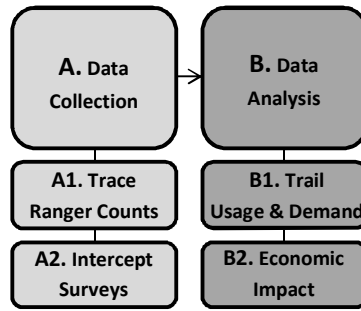


Figure 3. Expenditure Findings Methodology

B. Data Analysis and Findings

B1. Trail Usage and Demand: The following graphs (Figures 4 - 8) have been extrapolated from the provided Trace Ranger count user statistics showing estimated Trace usage.



Figure 4. Total Trace Users 2011-2014

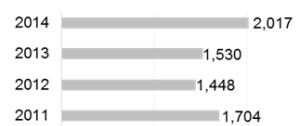


Figure 5. Out of State Users



Figure 6. Out Of Parish Users

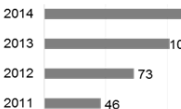


Figure 7. International Users

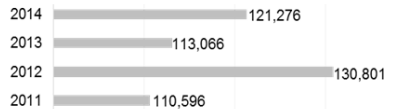


Figure 8. Kids Konection Users

B2. Economic Impact: The determined estimated economic impact of the Trace results from evaluating the quantitative results from intercept survey questions correlated with collected Trace usage numbers for local and non-local users. Non-locals (visitors from outside the parish and state) are usually the major spender in a tourist environment and are considered to be new money, which usually indicates that these expenditures quantify for economic growth (Tomes 2009). Of the 120 users that participated in the intercept survey, 32% (38) considered themselves non-local. From the Trace Ranger surveys counted for years 2011-2014, there has been a yearly average of 4,165 non-local visits calculated from Figures 5,6 & 7 above.

Indirect Spending: (Fig. 9) are expenditures not directly being made on the Trace resulting from travel to get to the trail (fuel, auto maintenance, etc.). The

concept behind indirect impacts is that any initial/ensuing spending has a ripple effect throughout the broader economy (Oswald 2012). Figures 10 & 11 break out Local and Non-Local answers taking the averages of the answers as \$0, \$10, \$35, \$70, and \$90+ gives an estimate for spending, on average, to get to/from the Trace as:

- 82 Locals- \$6.89
- 38 Non-Locals- \$61.71

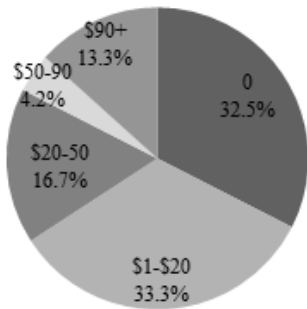


Figure 9. How much did you spend, on average, during your trip to get to the Trace?

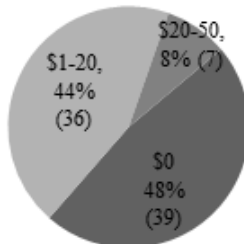


Figure 10. Indirect Local Spending

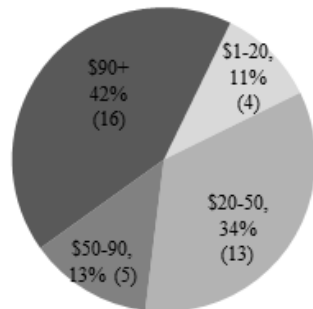


Figure 11. Indirect Non-Local Spending

Correlating these numbers with the Trace users starts to give a picture of the estimated indirect impact on the regional economy in terms of travel spending to get to and from the Trace (Fig. 27).

Indirect Spending Getting To/From The Trace		
Spending Estimates	(L) Local (\$6.89)	(NL) Non-Local (\$61.87)
Total users 2011-2014	808,349	16,475
	X \$6.89 = \$5,569,524	X \$61.87 = \$1,019,308
	= \$1,392,381 avg. /year	= \$254,827 avg. /year
Kids Konnection 4 yr. user avg. = 47,574	47,574 x \$6.89 = \$327,785 avg. /year	
	= \$1,720,166 Local avg. spending /year	= \$254,827 Non-Local avg. spending /year
\$1,720,166 (L) + \$254,827 (NL) = \$1,974,993 Total avg. /year 2011-2014		

Figure 12. Estimated Trace Indirect Spending

Direct Spending: (Fig. 13) are expenditures made at destinations (food/drinks) while using the Trace and/or spending directly required to use, or prepare to use, the Trace (equipment, apparel, bike rental, lodging). 54.8% of the 120 surveyed said they spent on food/drinks but many still stressed that there should be more food/drink establishments. 15 of the 38 non-local users

answered lodging as an expenditure. For this part of the study, the local (Fig. 14) and the remaining 23 non-local (NL) users that were not lodging (Fig. 15) is broken out for amount they spend. Taking the averages of the answers as \$0, \$5, \$20, \$45, \$80 and \$100+ gives an estimate for direct spending as:

- 82 Locals- \$10.85
- 23 NL not lodging- \$44.75

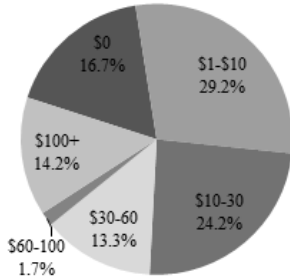


Figure 13: Spending while riding, on the Trace

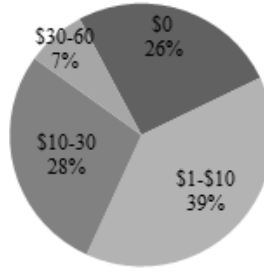


Figure 14: Locals Trace spending

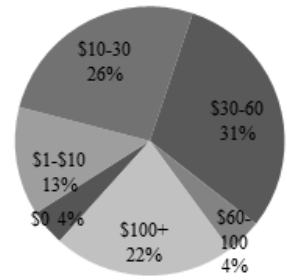


Figure 15: NL not lodging Trace spending

Fig. 16 gives an estimated direct impact on the local economy in terms of spending at local establishments while riding the Trace.

Direct Spending While Riding The Trace		
Spending Estimates	Local (\$10.85)	NL Not Lodging (\$44.78)
Total users 2011-2014	808,349	9,672
	X \$10.85 = \$8,770,587	X \$44.78 = \$433,112
	= \$2,192,646 avg. /year	= \$108,278 avg. /year
Kids Konnection 4 yr. avg.= 47,574	47,574 x \$10.85 = \$516,178 avg. per year	
	= \$2,708,834 Local avg. spending /yr.	= \$108,278 NL Not Lodging avg./yr.
	\$2,708,646 + \$108,278 = \$2,816,924 Total avg. per year 2011-2014	

Figure 16. Estimated Trace Direct Spending

Overnight Lodging: Trace user expenditures are estimated from user numbers for Out of State (Fig. 5) and International Users (Fig. 7) and are correlated with quantitative answers from the 15 non-local users that stated 'Lodging' as what they spend on. Lodging users data is as follows to determine estimated economic impact:

- Average hotel cost in St. Tammany Parish is \$99.
- Of the 15, 9 stayed 2 nights, 2 stayed 3 nights and 4 stayed 1 night.
- Estimated \$4,365 spending by 15 overnight users = \$291 per user

International visitors probably spend about five times as much money as domestic visitors, on average, because the length of their stay is longer, they're more likely to use hotels, and many who are on leisure trips have more time to spend money (Leveré 2011). For this reason, International visitor spending will be estimated as double that of out of state spending to \$582. The estimated direct impact on the local economy from out of state and international users is as follows (Figure 17).

Estimated Overnight Lodging User Spending		
Spending Estimates	Out of State Users \$291	International Users \$582
Total users 2011-2014	6,699	357
	X \$291 = \$1,949,409	X \$582 = \$207,774
	= \$487,352 avg. per year	= \$51,944 avg. per year
\$487,352 + \$51,944 (International) = \$539,296 Total avg. per year 2011-2014		

Figure 17: Estimated Overnight Lodging User Spending

Recreational Spending: is defined as spending on recreational goods influenced by the use and/or existence of a recreational amenity (Oswald 2012). These purchases are considered ‘hard goods’ and include bicycles, supplies, clothing, and footwear and are associated with indirect spending. The final part of the economic impact evaluation correlates data from intercept survey answers received from Figure 18 & 19. This evaluation process was guided by Rails to Trails Conservancy’s Three Rivers Heritage Trail 2014 User Survey and Economic Impact Analysis report (Rails-to-Trails 2014), which includes the calculation of 7.36 average # of trips per year.. Hard goods make up 84.2% of answers given. For the purposes of this recreational spending analysis, the average life span of 6 years for all hard goods purchases will be used. The average bicycle price used is \$500, which will include bike supplies, footwear and clothing for total durable goods. In accordance with the guide used by the Rails to Trails Economic Impact Analysis Report, the following formula is used to determine recreational spending.

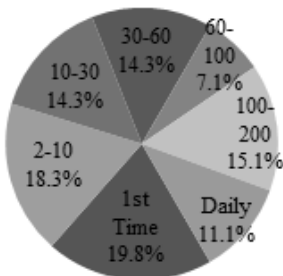


Figure 18. Frequency of yearly Trace use

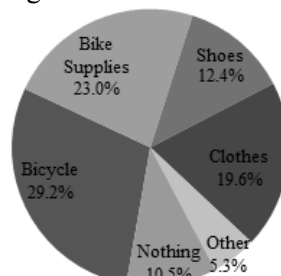


Figure 19. Trace influenced expenditures

(Hard Goods % Usage X (Avg. \$/Avg. Life)) X (# Users/Avg. Number of Trips)

Estimated Recreational Spending				
Hard Goods % Usage =84.2%	Avg. = \$500	Avg. life = 6 years	Avg. # of Trips /year = 7.36	2011-2014 Annual User Avg. = 202,087
(.842 X (\$500 / 6)) X (202,087 / 7.36)				
= \$1,925,867 Total avg. per year 2011-2014				

Figure 20. Estimated Recreational Spending

C. Trace Expenditure Evaluation Conclusion

Direct spending which includes spending while riding the Trace and non-local (out of state and international visitor) overnight spending is estimated to bring in \$3.356 million per year to the local economy from 2011-2014. From a regional context, indirect spending getting to and from the Trace and recreational spending associated with using the Trace brings in an estimated \$3.9 million a year. The Trace costs \$1.1 million yearly to maintain and operate which makes the cost benefits well worth it.

Lessons Learned

From this process of evaluating the Tammany Trace and other trail facilities, the following is a list of lessons learned to bring a start to guidance for municipalities and regions that want to implement and/or improve their own successful trail facility.

I. Improved Connectivity: A trail can have success as a standalone facility, especially from a tourism standpoint, but to have a truly successful trail that benefits the whole community, better bicycle and pedestrian access to the trail and trailheads should be implemented. These connections will provide safer access to the trail and also will inevitably be embraced as a potential non-motorized commuter route, supporting non-automobile dependence. Some recommended connectivity improvements include:

- Incorporate ‘road diet’ and shared roadway conversions to local connector streets to create safer complete streets connections for users.
- Provide opportunities for trail links to destinations like commercial and employment centers, libraries and other public places.

II. Leverage Trail Wayfinding with Gateway City Amenities: Gateway cities along trails are the cities that the trail traverses, but sometimes trail users, especially tourists, may not realize the hidden amenities located in each city that are close to the trail. These amenities could include parks, museums, natural areas, downtown cores, transit connections and other attractions. Most

all trails, including the Trace, have a map system along the trail corridor showing mileage to each trailhead. However, to fully influence users to explore each gateway city and be aware of their surroundings, a wayfinding system should be implemented with the cities and the trail as a spine to the whole system. Wayfinding will help tourists find the amenities and attractions they seek and/or discover while riding the trail, but it will also bring focus to city visitors that are unaware that the trail is even present. To add, a clever wayfinding system will also help create identity and make the trail and the city all together more useful to its residents.

III. Improve and/or Invite Physical Barrier Crossings: Because of the safety factor, high traffic surface road crossings can deter trail users from continuing on to the next trailhead or city. Investing in overcrossings and/or undercrossings can improve considerably the safety and comfort of the trail and be more inviting for visitors resulting in increased use and visitation. To add, overcrossings in particular can be a placement for an archetypal city welcoming sign, be an invitation to potential users passing under in automobiles, or create an iconic structure as a destination for users.

IV. Trailheads as Community Gathering Places: As detailed earlier, 3 of the 6 trailheads along the Trace serve as vital city focal centers and public gathering places. These trailheads are some of the key reasons for the continued success of the Trace as they not only bring people together, but some learn about the Trace from these attended events, become intrigued, and come another day(s) to ride. Some of the elements that continue to make these trailheads so successful revolve around:

- Locating the trailhead in each historic downtown core.
- Having an archetypal large structure as the focal point of each trailhead and inevitably the focal point of each town center.
- Encouraging “trailhead oriented” businesses that cater to cyclists such as craft breweries.

V. Locate Food and Retail Along Trail: Users of trails will spend money at adjacent retail stores and especially trail side cafes and eateries. Regarding the Trace, there seems to be a lot of potential for much more trail side cafes and eateries. The takeaway here is to encourage cities to revise land use zones and density restrictions to allow for more commercial development directly adjacent to trails to capitalize on trail user spending and placemaking potential.

VI. Interpretive Signage and Public Art: Trails can create an opportune setting for displaying interpretive signage about the culture, history, environmental features and identity of the corridor and/or region it passes through. For

tourists, this signage captures curiosity and draws trail users in to want learn more about the cities and region the trail passes through, leaving the visitor with more a sense of place and increased appreciation. For locals, this signage generates civic pride about their home region, a potential outdoor leaning classroom for all ages, and further identity.

Conclusion

Multi-use trails are mostly seen for their recreational benefit, but these lessons learned begin to formulate features of how to improve the Trace and other trails/greenways to make them more economically viable and embraced by visitors and the communities they serve. These features focus on improving the economic, connectivity, livability and community identity aspects of trails to further improve an already valuable community resource. When communities embrace and expand on these potential improvements, then the far-reaching benefits of their trail facility will most certainly be expanded.

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