The "Economics of Place" and Potential Impacts of Arkansas River Development Project

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Introduction

This study was undertaken at the behest of the Tulsa Regional Chamber, INCOG, and other governmental officials, and is designed to provide insights into the potential economic impacts on employment and income of riverfront development as proposed in various documents.[1] The study has evolved into a larger examination of the "economics of place" in regional competition for business location and, especially, household labor-supply decisions. Findings of the study can be summarized as follows:

- Household location decisions and, thus, labor supply offerings, have trended toward "sophisticated consumption of place" nationally.
- Cities throughout the US have responded through amplification of local amenities and quality-of-life extensions.
- Manifestations of such local amenities have taken many forms with riverfront development being key among such transformations.
- Tulsa, historically having prided itself on its scenic beauty, has failed to take full economic and recreational advantage of a key natural asset – the Arkansas River – owing to its inconsistent flow.
- With its failure to pass a riverfront renovation package eight years ago, Tulsa has distinctly fallen behind on riverfront events and complementary development.
- Oklahoma City has been a prime example of a place extending local amenities that have enhanced its local, regional and international image in the process.
- Analysis indicates, among other things, that construction activity has been much more pronounced in Oklahoma City, even after correcting for population differentials with Tulsa.
- While it is difficult to place exact dollar values on the responsiveness of growth to location amenities, conservative estimates of economic impacts reveal that it would require only modest employment and income responses to justify the proposed plan for Tulsa Riverfront development.
- We conservatively estimate significant impacts and, therefore, find that the proposed Tulsa Riverfront development project is economically viable and will likely increase the competitive and economic development status of the Tulsa community.

[1] A press account of the proposed $149 million of projects is provided in Appendix C.

We offer substantial evidence of growing competition among locales for new knowledge workers. Reviewed is a study by Richard Florida that carefully documents the importance of local amenities in attracting such workers. While the Florida study is somewhat dated in that it was published in 2000, experiences since that time have validated its insights. Never before has the location decision of households been a more important determinant of regional economic development. Businesses are, in consequence, more responsive to knowledge worker location decisions.

Of course, parks, recreational facilities, scenic vistas, commercial development, and night-life activities associated with such amenities are only part of reasons why some locations are seen as advantaged over others. Transportation networks, quality schools, government efficiency and provision of services are factors as well. Still, we have multiple examples throughout the USA were riverfront development has been central to provision of local amenities. This study provides multiple examples along with the attendant impacts that have been attributed to such local features, and there are others that could be included.

It is fair to say that in consequence of failure of an initiative for riverfront development eight years ago that Tulsa is now very much behind many cities. Principal among these cities is Oklahoma City with its highly successful MAPS projects. It is a demonstrable fact that significant commercial development has occurred in the downtown region of Oklahoma City, and particularly along its river corridor, and quite reasonable to assert that these private sector developments were stimulated by the public MAPS program expenditures. This has been a distinct example of public sector expenditures preceding private development. It is also demonstrable that residential construction activity has been substantially higher in Oklahoma County in comparison to Tulsa County even after adjustment for population differentials.

The plan of this study is to first provide the economic impact analysis framework and results. This is followed by a fairly detailed discussion of the Richard Florida study and multiple examples of effective riverfront development across the USA. Conclusions are presented in the final section.

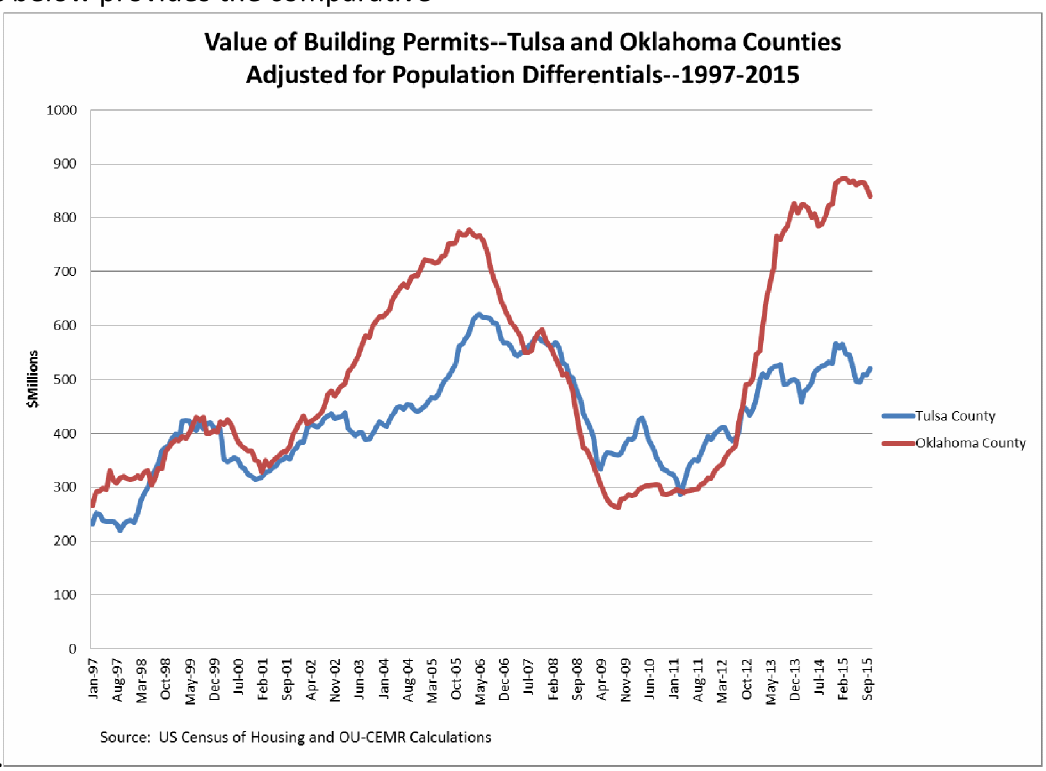
Quantitative Economic Impact Analysis

The quantitative analysis of economic impacts is grounded in relative comparisons of Oklahoma City differentials in construction activity, both residential and commercial. Oklahoma City provides an ideal comparison: both communities face identical tax structure constraints, as well as similar economic climates and geographies. Certainly there will be initial employment, income and output impacts from construction of the dams and development of parks and recreational facilities. However, such impacts are not long-lasting. What is long-lasting is increased economic activity that results from enhanced “economics of place.” Using Oklahoma City experiences as a guide, we provide very conservative estimates of the economic impacts.

There is general agreement that the Oklahoma City MAPS project has been a boon to Oklahoma City development. But, what is the evidence? One dimension of the evidence is the sizable increase in commercial development of the downtown corridor of Oklahoma City that, over the 20 years since passage of the original MAPS program that was specifically targeted to downtown development, approximately five billion dollars in commercial development has been constructed.

There is other evidence that Oklahoma City's economy has performed consistently more strongly than the Tulsa area. For example, personal income for the metropolitan area of Oklahoma City has grown by 368 percent, 1990-2014. Tulsa grew by 348 percent. Had the Tulsa region grown at the Oklahoma City area rate, personal income would be $2.9 billion higher in Tulsa than it was in 2014. On the employment front, again using the 1990 base year, Oklahoma City grew by 200,000 jobs, a 46.6 percent advance. Tulsa grew by 116,000 jobs. Had the Tulsa area grown at the same rate as Oklahoma City, its employment level would by 478,000 instead of 442,000, a difference of 36,000 jobs.[2]

The "economics of place" emphasis of this study posits that there should be evidence of differential economic development in the form of residential construction, as well. Thus, an analysis of these differentials was undertaken. Such analysis necessarily involves population differential adjustments in that the population of Tulsa County has averaged only about 83% of Oklahoma County's population. The value of Tulsa County residential development was then analyzed relative to population adjusted Oklahoma County residential development. The graphic below provides the comparative



results.

2 Data for these calculations are from the US Bureau of Economic Analysis and the US Bureau of Labor Statistics, online resources.

As is clear from this graphic, in times of expansive construction of residential housing, Oklahoma County has vastly exceeded Tulsa County, even adjusting for about a 17% population differential. At times following the recession of 2001, the dollar differential was on the order of $200 million. In recent years, following the Great Recession, the differential has exceeded $300 million annually. There appears to be clear evidence that the Oklahoma City area has benefited significantly in construction growth.[3]

As noted, Oklahoma City through its MAPS program, and tied to a specific and narrow downtown and river corridor, has experienced $5.4 billion in increased investment in a 20 year period. Thus, this amount is about $250 million per year. It is clear that the "lion's share" of economic benefits derives from increased construction.

To establish a benchmark, we first adjusted the $250 million annually to account for the 17% population differential, providing an initial benchmark of $208 million for Tulsa. To be conservative in our estimates, let us assume that in consequence of this greater attention of local amenities that Tulsa will generate only 60% that level of construction of both increased residential and commercial investment ($50MM residential, $75MM commercial per year) that Oklahoma City has experienced. In addition, we will utilize estimates $35MM in increased riverfront annual events expenditures provided to us. This value we divide in half to be conservative, parceling out expenditures into retail, hotels, and restaurants. The components of the provisional events analysis is detailed in the following section.

The input values are then processed through the IMPLAN Economics Impact model, the "Gold Standard" of impact analysis, yielding the following results.

Impact Type	Employment	Labor Income	Total Value Added
Direct Effect	1,008	$ 43,193,851	$ 54,868,022
Indirect Effect	389	$ 22,050,116	$ 33,230,213
Induced Effect	446	$ 19,312,193	$ 34,470,823
Total Effect	1,843	$ 84,556,160	$ 122,569,058

Typical focus is on the Employment and Labor Income numbers. We see a direct employment impact of about one thousand, coupled with about 400 jobs in firms supplying the direct industries, and induced jobs (derived through increased spending by worker incomes generated in direct and indirect employment) of about 450 jobs. Thus, total annual employment is estimated to be 1,850 higher. Labor income advances by about $85 million. Value-added, a gross state product concept expands by about $123 million. These are annual values, that is, repeating yearly.

In terms of aggregate industry impacts, the results are as follows:

[3] It can be argued that the energy boom of the mid- to late aughts is more responsible for the increased investment in downtown Oklahoma City. However, Larry Nichols of Devon Energy stated in Oklahoma City *Oklahoman* that the company likely would have left Oklahoma City if not for MAPS. He stated the ability to find workers would have been more difficult had the city maintained its quality of life of 1990.

Employment Impacts

Description	Direct	Indirect	Induced	Total
Agriculture	0.0	2.0	2.4	4.4
Mining	0.0	7.2	2.1	9.3
Construction	744.7	4.7	3.6	753.0
Manufacturing	0.0	32.1	4.5	36.6
TIPU	0.0	24.6	10.4	34.9
Trade	94.4	71.9	96.2	262.5
Service	168.9	242.3	321.3	732.5
Government	0.0	4.0	5.4	9.4
Total	1008.1	388.7	445.9	1842.7

Labor Income Impacts

Government	$ -	$ 343,246	$ 402,311	$ 745,557
Agriculture	$ -	$ 13,884	$ 8,892	$ 22,776
Mining	$ -	$ 671,973	$ 222,726	$ 894,699
Construction	$36,776,704	$ 229,972	$ 176,548	$37,183,224
Manufacturing	$ -	$ 2,753,479	$ 506,760	$ 3,260,239
TIPU	$ -	$ 1,765,589	$ 847,221	$ 2,612,810
Trade	$ 2,814,926	$ 3,181,213	$ 3,719,840	$ 9,715,979
Service	$ 3,602,222	$13,090,760	$13,427,895	$30,120,877
Total	$43,193,851	$22,050,116	$19,312,193	$84,556,160

Value-Added Impacts

Description	Direct	Indirect	Induced	Total
Agriculture	$ -	$ 45,748	$ 45,261	$ 91,009
Mining	$ -	$ 1,222,730	$ 365,453	$ 1,588,183
Construction	$ 44,277,723	$ 274,087	$ 209,910	$ 44,761,720
Manufacturing	$ -	$ 5,513,664	$ 1,154,670	$ 6,668,334
TIPU	$ -	$ 2,830,931	$ 1,700,263	$ 4,531,195
Trade	$ 4,336,311	$ 4,749,750	$ 5,512,430	$ 14,598,491
Service	$ 6,253,989	$ 18,266,258	$ 25,130,909	$ 49,651,155
Government	$ -	$ 327,045	$ 351,926	$ 678,971
Total	$ 54,868,022	$ 33,230,213	$ 34,470,823	$ 122,569,058

Given the imposition of a rational benchmark with basis in the success of a major metropolitan area only 100 miles from Tulsa, with identical political constraints and similar economic and geographic climates, these numbers appear quite reasonable. Moreover, these values are recurring. That is to say that this analysis is positing a stronger competitive positioning of the Tulsa community in competition with other areas, and generating an additional $125 million in construction activity, $50 million of which will be in the residential construction. It is important to note that $50 million in additional residential construction is only about 10% above present levels of about $500 million per year. In comparison to Oklahoma City experiences, such a rate of change appears quite reasonable and conservative. The analysis does not include initial expenditures on proposed river projects. These development projects are detailed in various planning reports. These expenditures are short-term and non-recurrent, an initial investment unlike the advantages afforded to the Tulsa community from having greater future competitive attractiveness for business and residential location. Still, at $140 million, these projects will generate immediate employment and income in the community that is worthy of mention.

In remaining sections of the paper, emphasis is placed on the rising importance of "sophisticated consumption of place" through examination of the work of Richard Florida and the experiences of many cities that have engaged in riverfront investments in advancement of local amenities. Relative to many such endeavors, we fear that the Tulsa community is "behind the curve" in local amenities in comparison with many cities across the land. Examination of the literature should reinforce that conclusion.

Provisional Riverfront Events — Impact Estimates

Amenities such as sports facilities, performing arts halls, and recreational parks should be built first and foremost with the objective of enhancing the quality of life of residents. Economic impact should be a secondary objective, as increased local spending on a form of entertainment largely substitutes spending on other entertainment choices in the local metropolitan region.[4]

The one area where entertainment unmistakably expands the local economy is in regional, national, and international events. Not only do these events attract knowledge workers with their emphasis on artistic or athletic achievement, they introduce outside money from visitors into the local economy through admission tickets, transportation, registration fees, hotel stays, and restaurant and retail spending. In this section, we suggest the impact of events taking place on or alongside a flowing Arkansas River in Tulsa.

Mr. Ray Hoyt, President of Visit Tulsa and the Tulsa Sports Commission, provided the authors with a list of potential Arkansas River events. To estimate impact for every event specified, we researched attendance and impact of comparable events around the country and made adjustments for the Tulsa area.

We made two general assumptions to produce a conservative estimate: 1) All staff for events would be volunteers. Permanent local staffing for events would be the exception rather than the norm for these events. 2) Daily visitor spending levels would equal the average for Tulsa: $220 for non-local, overnight visitors and $64 for local attendees.

Rowing Competitions

Rowing competitions invite collegiate and club teams to participate in races of varying lengths. State and regional competitions are typically side-by-side races, or sprints, hosting several teams. For a comparable, we referenced the Florida Intercollegiate Rowing Association competition in Sarasota, which in 2010 generated an impact of $624,060. We assumed two similar competitions held in Tulsa for a collective impact of $1.2 million.

[4] Spending on entertainment outside the local economy, commonly referred to as leakage, can also occur. For the most part, however, as local entertainment choices widen, spending on entertainment is split among diversions.

Two of the largest regattas in the country are head races, where boats begin racing one after another on timed trials. The Head of the Charles Regatta in Boston, the largest-attended race in the world, attracts 11,000 athletes and 400,000 spectators annually. For a better comparable, we used the Head of the Hooch in Chattanooga, which hosted 1,900 boat teams in 2012 for a $4.8 million impact. We assumed lower participation in a new, hypothetical Head of the Arkansas in Tulsa for an impact of $3 million.

The national organizations of rowing and canoeing/kayaking host several other competitions for club rowers. For a comparable, we chose the US Rowing Masters championship in Oklahoma City in 2011, which generated an impact of $1.86 million. We assumed two such events in Tulsa for an impact of $3.6 million.

Boat Festivals

In addition to officially sanctioned races, riverside boat festivals are a magnet for local spectators and visitors. An annual boat parade, like a holiday float parade, features decorated and outfitted watercraft judged for their artistry. Up to 8,000 attend the James River Parade of Lights in Richmond, Virginia. We assumed 1,000 of those attendees are nonlocal visitors due to its location on the I-95 corridor between Washington, DC and Virginia Beach. We supplemented attendee spending (7000 x $65 for locals and 1000 x $216 for visitors) with local spending on boat decorations and power ($1,000 each for 30 boats) and $30,000 in event coordination for a rounded total estimated annual impact of $730,000. We assumed similar impact for one event in Tulsa.

Despite the presence of international competition organizations, dragon boat races are chiefly community events that invite large teams of amateurs to paddle long, Chinese-inspired dragon boats. Ray Hoyt of the Tulsa Regional Chamber suggested a third party impact estimate of $1 to 2 million per event. We adopted this general estimate and assumed two races for an impact of $1 million each.

Mr. Hoyt suggested a luminescent float event akin to Providence's WaterFire Festival, which boasts 350,000 visitors annually. The festival hosts cultural, sports, and charity events surrounding over 80 lit bonfires in the Woonasquatucket River canal downtown over several weekends. Because Providence is located on the eastern seaboard, visitation to the city from large metropolitan areas is viable. Tulsa's location is more isolated within a less concentrated region of the country. As such, we anticipate less nonlocal visitation. We estimated 75,000 total visitors (67,500 local) over a few weekends. Our spending impact estimate is $7,627,500. Along with an estimated annual budget of $500,000, we calculated total impact to be $8,124,500. We rounded this figure up to $8,200,000.

After two decades' absence, Tulsa's Young Professionals group returned the Great Raft Race to the Arkansas River in 2015. According to organizer Seth Erkenbeck, 900 – 950 participants designed and floated in 300 water craft. We assumed three spectators for every participant (925) for a count of 2,775. Because it is a new and relatively unknown event, we estimated only

175 nonlocal attendees out of that figure. In addition, Mr. Erkenbeck cited $30,000 in coordination costs and an estimated $75,000 in costs to assure sufficient water to support the race. Furthermore, we assumed $500 spent in building each homemade watercraft. Because 2015 marked the first year of what will be an annual event, we assumed five years of annual growth of 15% in participation, costs, and visitation. For a consistent impact figure, we assumed a continuing impact of 75% of the five-year high of $807,691.09 to arrive at $605,768.32, which we rounded up to $615,000 in annual impact.

Athletic Events

Triathlons, like the marathon circuit, draw individual athletes regionally, nationally, and internationally. Impact from these events naturally rests on their reach.

We assumed four Tulsa-area regional triathlon events along the Arkansas River a year. The 2014 Redman triathlon in Oklahoma City generated $2.4 million in economic impact. We assumed a similar impact for each of Tulsa's four triathlons to arrive at a total regional triathlon impact of $9.6 million.

A national triathlon event will span multiple nights. The Redman National Championship 2-day event in Oklahoma City in 2014 generated $4.265 million. We assumed Tulsa would also have one annual national event for the same impact.

Half Ironman events attract hundreds of participants. 2,500 athletes were expected to compete in the 2015 Chattanooga Half Ironman for an impact of $1.6 million. We assumed the same impact for Tulsa for one event a year.

Standup paddleboarding is an increasingly popular leisure activity and sport. Since 2012, the International Surfing Association has hosted StandUp Paddle and Paddleboard championships, most often in Central and South America. 315 athletes competed in the 2015 event in Mexico. From this count, we estimated 2 team-affiliated visitors per attendee for a total of 1,053 overnight guests. We conservatively assumed two nights' stay per guest for a $454,896 sum in spending by nonlocals. In addition, we assumed three local spectators per athlete for local spending of $68,445. Finally, we assumed local coordination costs to be $50,000. Altogether, the impact for an international standup paddleboarding event would be $573,341. We rounded the figure up to $575,000.

The total estimated annual impact for these events, if all implemented concurrently, would be $35,385,000. A summary table of estimates and bases for those estimates is attached in Appendix A and B, respectively.

Richard Florida Study

While public parks and events have been a part of city life since the dawn of civilization, only recently have urban and outdoor amenities been considered an economic development strategy in itself. The recent adoption of amenities as an economic development tool rose with the arrival of a new, post-industrial economy in information technology in the 1990s.

The firms comprising this new sector represented a new breed of employer. The traditional model of the industrial workforce had been large companies employing workers for life, as characterized in the seminal William H. Whyte book *The Organization Man*. In contrast, the firms in this new IT sector were smaller and more agile. They employed workers who were skilled, creative, and more independent – and as a result, highly mobile – in a competitive market place. These workers could not only change jobs and firms, they could change places as well.

Richard Florida, then a professor of regional economic development at Carnegie Mellon University, captured the ethos of this new economy in 2000. In his study and report entitled Competing in the Age of Talent: Quality of Place and the New Economy, Mr. Florida utilizes research conducted through focus groups and surveys to measure the qualities that knowledge workers in the new economy desire. The study also points to examples of successful communities and the correlation between their investments, amenities, and the success of those communities to attract and retain talent.

According to the Richard Florida study, the 21st century economy has changed the way in which young workers and families choose their location, and thus a new paradigm for the competitive advantage of communities has emerged. The competitive advantage has shifted to those regions that can generate, retain, and attract the best talent.

The study looked specifically at how quality-of-place – amenities, lifestyle, and environmental quality - affect the ability of regions to attract talent and to generate and sustain high technology industry.

The method used to examine the performance of regions across the country, explored what leading regions are doing to be successful, and conducted focus groups with young knowledge workers in technology-based fields to better understand how they choose places to live and work.

The conclusions drawn from the study first focuses on a supposition that the new economy of the 21st century will be driven more by knowledge than was the case in the production and industrial era. Knowledge workers have more "power" in this new world in choice of location. Therefore the factors that a knowledge worker values in their selection of quality of place, matters and is radically different from that of previous times. Knowledge workers are highly mobile, highly sought after, more likely to choose a quality place in conjunction with choosing their employer, have more flexibility in their choices, and increasingly find cities vying and competing more directly to sway such choices. In order to create a regional advantage, as well as attract these knowledge workers, a community must address the lifestyle and amenities it offers in order to remain viable and competitive with other communities that are equally desirous.

It follows that in order to compete in this increasing regionally-based competitive world that many decisions a community must make revolve around the level it should investment in to fill the needs of the knowledge workers and what investments will have the highest and best impact. According to the Florida study, which has proven true in a number of community impact examples, quality-of-place – the amenities, lifestyle offerings, and environmental quality of a region - play a key role in the ability to attract talent and develop high technology industries. For these reasons, the competitive advantage shifts to those regions that can generate, retain, and attract the best talent.

The Florida study was robust in its examination of the importance of place in knowledge worker location decisions. The methodology utilized case studies of four communities - Austin, Texas; Seattle, Washington; Burlington, Vermont; and Chattanooga, Tennessee. The case studies were in addition to interviews and econometric research conducted by a Carnegie Mellon research team which examined 115 industries in 67 MSAs with populations over 500,000. The research suggested that industries employing high-skill workers require locations with high amenities levels. The correlation between amenities and knowledge workers rose sharply alongside education level and knowledge intensity. The study also looked at a previous KPMB survey of 1200 high tech workers, which also confirmed that the "community quality of life" was the second most important factor, just below salary. In fact, quality of life in the community increased the attractiveness of the job by 33 percent.

The focus group findings also revealed that knowledge workers in high technology fields place more emphasis on lifestyle factors such as the environmental and recreational quality of a region than on its job market when choosing where to live. They defined these amenities as places with active young people, with easy access to a wide range of outdoor activities, a clean, healthy environment and commitment to preserving natural resources for enjoyment and recreation, as well as a lifestyle that is youth-friendly and supportive of diversity.

Other findings of the focus groups elaborated on several preferences as they defined a "high-amenity" location, and participants indicated several areas that should be taken into consideration – Outdoor amenities, accessibility, water, and diversity ranked of particular importance indicators of a region's vibrancy. Focus group participants expressed a preference for a diverse range of activities, including outdoor amenities such as rowing, cycling, rock climbing and other lifestyle activities which included music and arts, outdoor dining, organic food offerings and healthy lifestyle choices.

Outdoor activities were valued among knowledge workers because they were more interested in participating in sports and culture than merely spectating events. They preferred to bike, run, or row instead of watching big ticket attractions such as major league sports or symphony orchestras. Amidst a competitive landscape, they enjoyed the challenges of sports and physical exertion -- or in the creative realm, the opportunity to express themselves originally and successfully.

Another concern of focus group participants was the accessibility of amenities, with a preference for regions where amenities and activities are easy to access on foot, bicycle, or via public transportation. Focus groups indicated both the importance of water-based activities, as well as the importance of access to the water for outings or nightlife. Focus group participants noted the additional attractiveness of water-based transportation. Furthermore, water seems to be a common theme among high-amenity regions. Several of the most successful high technology cities are located on or near bodies of water and have utilized those bodies strategically to enhance both the local environment and the opportunity for recreation and transportation.

Finally, there was a high importance placed on the diversity and the attractiveness of regions that reflect and are supportive of diversity. Diversity is a highly valued amenity or characteristic of a place to live and work.

The key findings of the study conclude that amenities and environmental quality and quality – of-place matter in the attraction of talent and development of high technology regional economies.

Quality-of-place features, whether they be natural, recreational, or lifestyle amenities, are vital in attracting knowledge workers and in supporting leading-edge high technology firms and industries. Knowledge workers prefer places with a diverse range of outdoor recreational activities such as rowing, cycling, rock climbing, and associated lifestyle amenities. Access to water and water-based recreation is of particular importance to these workers.

As the preceding findings have demonstrated, quality-of-place is a critical factor in regional competitiveness. The key strategic recommendation that overwhelming became clear through the research conducted by Richard Florida, and the community examples previously outlined demonstrate, is that in order to compete for talent, economic development, investment, and the quest to attract knowledge workers and families, a region must invest in quality-of-place and amenities deemed attractive, not only from an individual and family perspective, but by the type of growing high quality companies that the community wishes to attract.

Therefore, the Richard Florida report recommended the following actions:

- Make quality-of-place a central element of regional economic development efforts.
- Integrate amenities and natural assets into all aspects of the regional economic development, talent attraction, and marketing efforts.
- Invest in the outdoor, recreational, and lifestyle amenities of the new economy as a component of regional economic development and talent attraction efforts. Noted examples include the creation of climbing walls, mountain bike trails, bike paths, roller-blading areas, events to encourage out door and water events and competitions, and orient waterfront improvements to encourage active, recreational activities such as rowing and improve public access for these activities.

- Establish better and more user-friendly transit connection from the university districts to downtowns and high technology business areas through the use improved transit and bike lanes.
- Encourage smart growth and sustainable development on a regional basis, particularly sustainable use, preservation, and revitalization of natural assets. Work with developers to provide more examples of successful residential and commercial developments that feature amenities, particularly in reconverted brownfield sites in urban areas.

In this regard, amenities and the environment and surrounding improvements are a necessary and worthwhile investment, as part of a total package of factors required to become a successful technology-based region with a growing and sustainable pool of knowledge workers to support economic development and future growth. Without such investment, the community will fail to keep up with peer communities who have and continue to make these improvements and investments.

Examples of Economic Impact of Riverfront Developments in the U.S.

Over the last two decades, there has been a resurgence in the interest of riverfront redevelopment across the United States. Evidence of this can be seen in numerous examples of investment across the US. The reasons for the interest has been primarily in response to the growing demands that residents and consumers place on the community for quality of life, amenities, healthy lifestyles, options for recreation and activities, in and around the place the choose to live. Young professionals across the country have resoundingly cited that quality of place is high on their list of reasons for location in a community, and many times they choose where they wish to live first, before choosing where they work. Work/life balance has become an important factor. Community development organizations have responded by ensuring that they are making the investments in those amenities to increase their attractiveness to families, millennials, and the aging baby boomers that are more interested than ever in ensuring they remain active, vital and healthy.

Outlined below, are examples of compiled information from recent studies across the country demonstrating the varying impact of investment in projects. While the studies don't uniformly capture all of the project impacts – property value increase, tax revenue increase, job creation, and other impacts such as increased recreational users, the studies overwhelming point to successes in many of these areas.

Certainly this supports the notion that if a community is going to remain attractive and vital, it needs to have offerings to be deemed comparable and competitive to similar markets, or stand to risk losing future growth based upon the desired quality of life amenities any 21st century city requires.

For the comparison of the Tulsa dam and trails project, a comparison of over a dozen projects across the US with research available from public sources online and comparable economic impact analysis reports were reviewed. The research process focused on several communities with similar characteristics in size or scope, or general amenities that are common to the Arkansas River project in Tulsa and the surrounding impacted communities. The communities with relevance to the Tulsa initiative, were chosen based upon either project size or scope, or similar market characteristics.

Several studies conducted by various sources were utilized to compile the facts about projects across the country. Of key importance to our research were studies compiled by ConsultEcon who published a report entitled Waterfront Revitalization – Economic and Socioeconomic Benefits Report: Findings Summary which was utilized by the city of DesMoines, Iowa. In addition, a study for Riverlife, Three Rivers Park Economic Impact Analysis, more recently published in 2015 looked at the impacts of 4 projects across the country in comparison to Pittsburgh, PA. Finally, sources from the American Planning Association, the Journal of Park and Recreation Administration, and various websites and reports helped provide data related to community impacts.

This summary will highlight the following community examples: Chattanooga, Tennessee; Des Moines, Iowa; Hartford, Connecticut; Louisville, Kentucky; Pittsburg, Pennsylvania; and Providence, Rhode Island.

Wilmington, DE

In some cases, the actual economic impact may be hard to measure because the time from conceptualization to implementation can be long, the time to kickstart investment, construction, and finally seeing the events and activities take shape, can span many years or even decades. Planned development phases have yet to take place in some of the examples. However, it is safe to say that riverfront improvements have an important role in several respects.

In most of these examples, the riverfront improvements have been referred to as a game changer in terms of helping people begin to interact with their communities in a new social and physical aspect. Events have been launched, healthy lifestyles have emerged, new social aspects and connection to community have been triggered, and the buy in to the fabric of the community has been strengthened, not to mention the ripple effect in the economy from increased investment, job creation, and tourism as a result of the improvements.

Chattanooga, TN

Chattanooga, Tennessee, has been a key example of urban planning and renewal over the last two decades through a reinvention of the waterfront and surrounding amenities. The most recent initiative was a three-year effort known as the 21st Century Waterfront Plan, which capped off a 20 year urban renewal process that began in the 1980’s with the Tennessee River

Park opening in 1989. The most high profile public and private developments included Ross's Landing Park and Plaza, the Creative Discovery Museum and Battery Place. The Tennessee Aquarium opened in 1992 which was the first of several high profile developments over the next decade, the Creative Discovery Museum in 1995 the IMAX Theatre in 1996 the Battery Place segment of the Riverpark, Battery Place Rowing Center, Coolidge Park, BellSouth Baseball Park, Chattanooga Conference Center, the Convention Center expansion, Market Center and more.

The city's ability to implement an effective downtown and riverfront plan within a relatively short timeframe has received national praise, according to others who have looked to this example such as the Consult Econ analysis conducted for Des Moines which will be covered later this report.

According to the ConsultEcon analysis, the following were outcomes over the multi-decade effort:

- The project included $410 million in investments from public and private sources, including the $45 million Tennessee Aquarium.
- Eighty-three percent of the riverfront and downtown development funding was from private sources.
- The project resulted in $400 million in new construction.
- More than $1.2 billion has gone into public and private building projects in and adjacent to downtown Chattanooga since 1990.
- Three hundred new housing units have been built, with an additional 250 units under construction.
- Tourism increased 73 percent between 1995 and 2000, with tourists spending 50 percent more in 2000 than 1991.
- New businesses in the vicinity of the Tennessee Aquarium increased from 33 to 128 since the development project began.
- The number of downtown workers has increased 33 percent.
- The city has experienced a 127 percent increase in property values and a 99 percent increase in property taxes.

Property Value Impact

Between 1988 and 1996, there was an increase from 33 to 128 businesses in the immediate area of the Aquarium. This has resulted in a 127 percent increase in property values and a 99 percent increase in property taxes.

As recorded by building permits, more than $1.2 billion dollars has gone into public and private building projects in and adjacent to Downtown Chattanooga since 1990. The Tennessee Aquarium itself has injected more than $500 million into the local economy since it opened, according to River City Corporation, the redevelopment agency for Chattanooga.

Tax Revenue Impact
In 2000, Chattanooga generated more than 40 percent of the hotel-motel tax revenues in Hamilton County, with revenues growing twice as fast downtown as in the rest of the county. Conventions, which largely focus on downtown for lodging, meals and entertainment, increased 73 percent between 1995 and 2000. The number of delegates increased by 110 percent during the same time period. Tourists spend 50 percent more in Chattanooga than they did in 1991, and the industry now employs 25 percent more people than in 1990.

Other Impacts
Much of this growth can be attributed to the rise in tourism triggered by riverfront improvements, park creation, new public spaces and investment in downtown promotion. The revitalization effort transformed Chattanooga physically as well as its reputation and self-image.

Downtown also has enhanced itself as a more desirable residential neighborhood – 1,800 more people live downtown than did in 1990. Perhaps the greatest accomplishment of the Chattanooga developments has been to dramatically alter the city's image. Once known as the most polluted city in America, Chattanooga's comeback has increased tourism, as well as its overall economy.

Job Creation
During the period between 1988-1996, the downtown experienced a 33 percent increase in workers.

Des Moines, IA

Principal Financial group had a vision in 2004 to connect downtown Des Moines to a system of biking and walking trails. The project had input in part from a study conducted by the firm ConsultEcon which analyzed the impact of several similar projects across the country, with similar size and scope. The firm participated as part of a multidisciplinary planning team that prepared a master plan for the downtown waterfront, which was implemented and ultimately completed in January 2013.

Funded by the city of Des Moines, Principal Financial, and the Iowa state government, the key feature, the Principal Riverwalk was built as a recreational park district along the banks of the Des Moines River, featuring a 1.2 mile recreational trail connecting the east and west sides of downtown via two pedestrian bridges and connections with several notable amenities. Trails connect the Court Avenue District, Central Business District, East Village, Greater Des Moines Botanical Garden, Iowa Events Center and other metro area recreational trails. Other highlights include a landscaped promenade connecting the riverfront amphitheater and several plazas, including an outdoor ice skating rink and summertime fountain plaza.

The project has led to civic contributions from other corporations and donors such as $2 million to fund the Meredith Trail, a pathway connecting Gray's Lake with the MLK Trail via the George

Washington Carver Bridge. Tourism has been positively impacted by the events occurring in and around the key amenities according to various online convention and visitor reports.

Another strong feature of this project embraced the arts and culture of the community in their urban planning, with a focus on beautification in keeping with the design of the surrounding public buildings, and marrying the feel of the civic center with the river running through it. Des Moines continues to connect modern amenities with the period structures built in the Beaux Arts style (City Hall, Public Library, Polk County Administrative Building), in a forward looking manner to address the flood control, transportation networks, and sustainable development practices of today. These ideals harness the urban pride and civic involvement in the community, making this a place to which new residents flock.

Enhanced Community Benefits
One of the key outcomes of the DesMoines transformation, is that the community is more bikeable in general than when the project began. Initiatives such as Des Moines Bicycle Collective exist to champion stronger communities, vibrant neighborhoods and healthy individuals by encouraging active transportation choices in the community. According to the website dsmbikecollective.org, this group is just one example of the organic growth that has blossomed as a result of the developments around Des Moines. This group exists to provide countless opportunities for education, empowerment and social change through bicycle restoration, charitable bicycle donations, event planning, bike valet, educational programs and bike sharing. The many programs and events referenced on the website are a key example of the vibrancy that bikeable communities mean to the quality of life of a city.

Hartford, CT

Hartford's riverfront had become cut off from the Connecticut River and their downtown for many years due to the construction of the Interstate I-91 and a 40 foot high dike. The organization Riverfront Recapture was formed in 1981 to develop the plan and identify funding, which was able to leverage investment from multiple public and private resources, including Travelers Insurance Company, among others. To reconnect downtown Hartford with its riverfront, a landscaped plaza was built to extend over the highway and the dike wall, stopping at the edge of the river. In 1999, the first of several new riverfront amenities were opened in Hartford. Most of the $60 million in funding for the projects came from State and Federal agencies.

The key projects included the Riverfront Plaza which extends from the edge of the downtown business district to the river, featuring waterfront amphitheater seating for 2,000 people and a boat dock for large ships and excursion boats. Construction of the Plaza required lowering of I-91 and building a large deck that spans the highway and dike. The other key feature is the Founders Bridge Promenade, which allows people to cross the river on foot between Hartford and neighboring East Hartford. The bridge is especially important, with local economic development specialists noting that previously the river was seen as a barrier between Hartford and East Hartford, but today the promenade together with other related revitalization initiatives create new possibilities for economic development on both sides of the river.

Property Value Impact

New commercial development has begun to spin off from the riverfront initiative, as developers realize that they have a new appealing amenity to offer tenants, that is, the Connecticut River and riverfront parks. The initial state and federal direct investment of $60 million, has spurred much private and mixed use development. Adriaen's Landing, a $500 million mixed-use development, broke ground in 2001 as a 33-acre site adjacent to Riverfront Plaza that for the previous 20 years had been used for surface parking. The complex include a 500,000 square-foot convention center, as well as a hotel and entertainment, residential and cultural components.

Tax Revenue Impact

Local taxes are expected to increase by $184 million for this project between 2000 and 2020.

Other Impacts

Many park features have been added to connect the riverfront park system, many of which have riverwalk paths that are highly utilized by pedestrians. The area was said to have attracted nearly 475,000 visitors annually at the time of the ConsultEcon report.

Louisville, KY

Louisville, Kentucky is another prime example of a community that has successfully transformed their waterfront. They established the Waterfront Development Corporation (WDC) in 1986 with the mission to plan, coordinate and implement strategies to revive Louisville's waterfront, to transform the waterfront into a vibrant, active area that would be not only a public park, but also an economic development tool for attracting new business and residential development. Phase I was a $58 million effort to create 55 acres of parkland on the Ohio River. The park is highly utilized by families, children enjoy the Children's Play Area, and walkers, joggers, and others enjoy the area for the location along the river. It was reported that the park has hosted 1.4 million visitors per year since its dedication in 1999 and its design has been recognized both nationally and internationally and has won a number of prestigious awards.

The centerpiece of the second phase built in 2004 was the "Big Four Bridge" as a walkway across the river. Other features include a children's play area; a fun area for water play; a plaza for an informal café; an amphitheater; docks for pleasure boaters; an area for a school and community rowing center; additional picnic and lawn areas; tree groves; and walking paths. ConsultEcon reported that over the study period since 1986, employment grew from 350 persons in the Waterfront to over 5,300. Many of these new jobs came from the development of the Humana Waterside project, an office building with 750,000 square feet on Main Street, the Waterfront Park Place – a residential tower with 20,000 square feet of retail, and the Potter and Cox Building – a seven-story office/residential mixed-use center.

The Waterfront Park is credited with attracting to the neighborhood the first residential development in many years, with luxury condominiums and apartments. Other apartment complexes in the neighborhood have renovated or expanded in recent years, adding more residents to the community and giving it a feel of a true neighborhood. As the neighborhood evolved, an instrumental addition was the $39 million Louisville Slugger Field, which opened in 2000, featuring 13,000 seats, 22,000 square feet of restaurant/retail and a historic facade. The ballpark draws 700,000 visitors annually and is directly adjacent to the Park. Another attraction in the development phase is the Louisville Extreme Park, a recreational facility for skateboarding and skating.

Results:
The completion of the $58 million Phase I of Louisville's Waterfront Park created 55 acres of parkland on the Ohio River.

The park has hosted 1.4 million visitors per year since its dedication in 1999, and its design has been recognized both nationally and internationally, winning a number of prestigious awards.

In 1986, before the WDC was created, there were 18 businesses in the Waterfront neighborhood, employing 350 people. Today there are more than 23 businesses employing 5,300 people. Many of these new jobs came from the development of the Humana Waterside Project, an office building with 750,000 square feet on Main Street.

The Waterfront Park has been an impetus for several new visitor attractions in the area, including the $39 million Louisville Slugger Field, which features 13,000 seats, 22,000 square feet of restaurant/retail space and a historic façade.

Pittsburg, PA

The Pittsburgh waterfront has undergone a transformation in recent years. The Riverlife group contracted with Sasaki Associates to analyze the impact and benefits of Three Rivers Park, a 13-mile interconnected downtown riverfront park system which has undergone a transformation over a 15 year period. The investment of approximately $130 million in Three Rivers Park, since 2001 was said to catalyze nearly $2.6 billion in riverfront development activity and nearly $4.1 billion in total riverfront and adjacent development. Some key components to the project included the recently renovated Point State Park (2013 - $41.2 million), Convention Center Riverfront Plaza (2011 - $8.25 million) and the Rivers Casino (2009 - $10 million) (Source: Riverlife – Three Rivers Park Economic Impact Analysis).

Property Value Impacts
The zones of influence that were affected by the Three Rivers Park projects revolved around the North Shore, Central Business District, Station Square, and South Side. In these study areas the

actual change in property value since 2001, shows a 60% property value increase within the comparison areas, versus a 32% property value increase outside the riverfront zone of influence. The Riverlife analysis draws the conclusion that the pattern in Pittsburgh and in other cities across the country with high quality park infrastructure, the value of property increases more than properties that do not have these amenities nearby. In fact, in the Pittsburgh example, the South Side area, a historically underdeveloped area near the waterfront, had property value increases of 117% since 2001, far outpacing the average across the city. The North Shore increased by 65% and the Central Business District increased by 25%.

Tax Revenue Impact

Another measure of the project impact is in the annual tax revenue. For this example the Model used by Three Rivers Park study looked at the Proposed Strip District Development, a rapidly developing area along the Allegheny Rivers in Three Rivers Park. Three scenarios of estimates were used to develop ratios comparing public costs of improvements to catalyzed development value from other projects in Pittsburgh and across the country. The study sought to estimate the impact of a $50 million investment in waterfront oriented public realm investments in the Strip District. The estimated tax revenue projections ranged from $6.8 million to $15.6 million annually, which more than offset the annual estimated debt payment of $3.3 million to the city, which is a conservative estimate assuming the entire project were bond financed.

Other Enhanced Community Benefits

The Riverlife analysis in Pittsburgh focused on the economic value of public investment and to what extent those pay for themselves. The finding indicated that a well-planned investment has a multiplier effect. The benefits to beyond the direct economic impacts and lead to enhanced cultural trust, perception, public health, physical environment, and mobility options, among other benefits. Looking at these considerations is essential to evaluate the total benefits of the project.

There were many other benefits mentioned as possible positive impacts on the health and vitality of the surrounding community. These include:

- Recreational Amenities
- Mobility Enhancements & Congestion
- Public Health
- Reduced Carbon Footprint

One of the benefits of key interest are in the health of the community – over 57,000 Pittsburgh residents living within a mile of the Strip District would save up to $17.1 million annually in health savings through the use of the parks for exercise. That is a $300 savings per individual using the park system per year. The trees and green space in the open space would remove between 300-700 pounds of carbon annually. The proposed open space would add 15 acres of space and 1.5 miles of new trails, with additional recreational activity generating $3 million annually in direct uses including running, walking and in-line skating. The project ridership along the riverfront trail is expected to reach up to 2,105 riders per day, which would reduce up to 300,000 vehicle miles travelled (VMTs) per year and save on emissions.

The Riverlife Analysis also pointed to 4 other examples across the country, some of which have been included elsewhere in this report – Smale Riverfront Park in Cincinnati, OH; 21st Century Waterfront in Chattanooga, TN; Beltline in Atlanta, GA; and Rose Kennedy Greenway in Boston, MA. All of these examples demonstrated a high return on investment (ROI) between 6:1 and 40:1. The scope of the projects varied on cost between $35M to $400M and generated a property value percent increase between 24 to 49%.

The Riverlife Analysis concluded that after analysis of the impact of the park improvements in Pittsburgh, and other US cities, the public realm investments yield significant return on investment by catalyzing new development in adjacent areas and helping to meaningfully increase property values.

Providence, RI

The Providence, Rhode Island waterfront revitalization was catalyzed by a plan that would make major transformation to the rail line and bridge in the city center which had separated downtown from the riverfront. The public sector investment was critical to carrying out this effort, which involved rerouting of the Moshasshuck and Woonasquatucket Rivers, to the Providence River. Many roads, interchanges, intersections, and infrastructure was necessary, and required a large public investment. Riverside walkways, pedestrian bridges and waterside park areas were also developed along the course of the three rivers. Much of this was influenced by federal program dollars. This phase of the riverfront renewal program was finished in 1996, after eight years of work, at a cost of $143 million, with a reported 85 percent paid for by federal government and public sources.

Among the major changes were:

- More than 2.2 acres of river had been uncovered, and the long concrete deck that constituted the "world's widest bridge" was replaced by a series of attractive (smaller) bridges.
- The construction of the four-acre "Waterplace," with a canal and reflecting water basin, amphitheater and clock tower/visitor center that later became a restaurant.

Following the infrastructure changes, there was still low public interest in the area due to the lack of amenities and activities. This changed with the installation of the "Waterfire" exhibitions, an ongoing event providing public art and events along the corridor which has helped populate the waterfront and bring new commercial development to the area.

Key results reported in the Waterfront Revitalization Economic and Socioeconomic Benefits Report include:

- 85% of the $143 million project was paid by federal government sources
- Waterfire lightings regularly attracted more than 350,000 people to the area
- 200 housing units in downtown have been converted to lofts
- Attendance at SummerWalks guided river walk tours increased 200 percent year over year in 2002 after implementation
- Hotel room rentals doubled in one year period between 1999-2000.

Wilmington, DE

The Wilmington, Delaware Riverfront redevelopment effort which began in 1995 is a key example of a partnership generating jobs, increased property value, spurring private investment, residential growth and public sector revenues. In 2012 the Center for Applied Demography & Survey Research at the University of Delaware conducted a study to explore the fiscal impact of redevelopment of the Wilmington Riverfront.

By 2012, the study concluded that Riverfront Wilmington generated $32 million annually in public revenue. This was not the case prior to the transformation, as a comparison, in 1996, before most of the redevelopment efforts had taken place, the Riverfront yielded just $3 million in public revenues. Prior to 1995, and over the last two centuries, this riverfront area had been a ship building haven, and later was home to industrial, warehouse, and shipping operations. Much of this had become abandoned since the 1960's, leaving behind a polluted and vacant industrial footprint, according to the University of Delaware report.

In the 1990's, state and local leaders had a vision to reclaim the area and transform it into a tourist destination. With investment by the State of Delaware, City of Wilmington, New Castle County, and others, the area is now a thriving community. The area has become an attractive location for corporate headquarters and upscale residential development, and attracts more than 750,000 people per year.

The Wilmington Riverfront report authored by Daniel T. Brown at the University of Delaware, presented some of the key findings of the impact analysis as follows:

- More than 4,250 people work at the Riverfront with an average salary of $68,600. The average salary of the new jobs added since 1996-2012 is $107,000.
- Public investment spurred more private investment with 760 new dwelling units, housing 1,250 residents, and generating nearly $4 million annually in combined city and state taxes.
- Private investment as of 2010 totaled $716 million.

State bond bill appropriations had totaled $81 million since 1996, while state revenues had totaled $210 million as of 2012.

The City of Wilmington had invested a total of $21 million since 1996, while city revenues had been $46 million over the period of 1996-2012.

Nearly all of the investment expended by governments had been returned to the public through revenues generated. Through 2012 total investment expenditures were $292 million in nominal dollars, while total public revenues had been $284 million.

In addition, other projects have been added that enhance the Riverfront including the Delaware Children's Museum, DuPont Environmental Center, Riverwalk and parks. While these enhancements were not intended to generate a financial return the gross public revenue of $308 million has exceeded public investment by $29 million

Property Value Impact
Between 1996 and 2004 the total assessed value of Riverfront properties increased from $36 million to $49 million, and rapidly increasing by 2010 to $146 million. The taxable portion of assessed values grew from $31 million in 1996 to $91 million in 2010. The largest period of investment occurred between 2005 and 2007, nearly 10 years since the beginning of the redevelopment effort, demonstrating that public investment must be patient in order to realize the full impact.

Of the 760 residential units added, 387 were apartments, 105 townhomes, and 268 condominiums, consistent with the desire of young professionals in similar markets who desire to live and work in an urban setting with nearby amenities.

Tax Revenue Impact
Between 1996 and 2012, approximately $308 million of public revenue has been generated from gross activity, from which three key sources have been collected – the state's personal income tax, the City's wage tax and the state's bank franchise tax. Net revenues over the same period were approximately $230 million. The report concludes that as of 2012, the $230 million in revenue, offsets nearly $345 million in public expenditures, but the revenues are forecast to increase to eventually offset the costs. The report indicates that it is natural for investments to assume some upfront risk in order to receive future benefit streams.

Other Impacts
The analysis of the Delaware case focused on the fiscal expenditures and revenues, and did not measure the other important, non-financial social benefits. One of the great successes of this transformation is the adaptation of a destination rich in history which has been polluted, but through the remediation it has become an area that enhanced the recreational, cultural, shopping and culinary attractions, and other amenities with the addition of the Chase Center on the Riverfront, the Riverwalk, Kalmar Nyckel, the Tubman-Garrett Riverfront Park, the Russell W. Peterson Urban Wildlife Refuge and Dupont Environmental Education Center, Riverfront Market, and the Delaware Children's Museum. These attractions were built with $54 million in public funds. Most of these investments in amenities were built without the expectation of a full payback, though they certainly provide a tremendous impact. Tourism has increased with

more than 750,000 people visiting the Riverfront in 2011, making it one of Delaware's most popular cultural resource centers.

Job Creation
In 1997 there were 1,140 employees on the Riverfront but by 2007, there were more than 4,500 employees, and the low employment level in 2010 was 4,250, at an average wage of $68,600. After adjusting for jobs that moved from other Delaware locations, and discounting for some that have since closed, the net job creation is over 2,000 jobs. Since redevelopment efforts began with the formation of the Riverfront Development Corporation (RDC) in 1995, jobs have been added or attracted by employers such as AAA Mid-Atlantic, Barclays, ING Direct (Capital One), and Buccini/Pollin Group.

Conclusion

Competition among cities, as the US economy has shifted from an industrial manufacturing base to a knowledge-based economy, has increased dramatically, especially in the last 20 years. Businesses are typically smaller in terms of number of personnel per establishment, but dominate aggregate job growth. Recruitment of knowledge workers is keen and intensive for firm survival. Labor supply of knowledge workers is positively and tightly linked to provision of local amenities. Knowledge workers have multiple choices of where to locate, and, undoubtedly, more control of location decisions than at any time in the past.

Obviously, there is more to business- and knowledge-worker location decisions than scenic vistas, parks and recreational facilities, entertainment and "nightlife" activities. Great schools, excellent health care facilities, economical provision of public utilities, transportation systems, taxes and general government efficiency are of demonstrable importance as well. Local amenities, however, can and do tip the balance, and economic comparisons to other communities make it clear that the Tulsa metropolitan area has gotten "behind the curve" in the provision of such amenities.

This report reviews the work of Richard Florida on the importance of local amenities to knowledge-worker location decisions. It is very convincing. Riverfront development has been a central focus of increased amenities in many cities. The experience of seven such cities is reviewed here. Details on potential riverfront activities are provided. But, the central focus is on projected economic impacts of increased development that may flow from augmentation of amenities.

Using the experiences of the Oklahoma City region as a base, very conservative estimates of increased construction activity are translated into jobs, labor income, and value added through use of the IMPLAN model. Included also is a proportion of the riverfront events estimates. These results show that the Tulsa area could expect about 1850 jobs, $85 million labor income, and $122 million in value added annually in consequence of the riverfront projects.

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Appendix A

Arkansas River Events Impact Estimates

ESTIMATED ANNUAL DIRECT SPENDING* IMPACT OF SUGGESTED EVENTS ON ARKANSAS RIVER ($)	
Rowing Competitions	
State/regional collegiate rowing competitions (2)	1,200,000
National head rowing race	3,000,000
Other water craft competitions (2)	3,600,000
Boat Festivals	
Annual judged boat parade	730,000
Dragon boat races (2)	2,000,000
Luminescent float event	8,200,000
Tulsa Raft Race	615,000
Athletic Events	
Local triathlon events (4)	9,600,000
National 2-day triathlon event	4,265,000
Half-ironman event	1,600,000
International Paddleboard event	575,000
Total Events Impact without Permanent Staff	**35,385,000**
*We assumed overnight visitor spending of $216 per person and local spending of $65 per person on selected events where visitor counts were approximated.	

Appendix B

Bases and Calculations of Events Impact Estimates

EVENT	INFORMATION BASES	ASSUMPTIONS	DIRECT SPENDING IMPACT ($)
Key Assumptions			
		All volunteer staff for events	
		$216 in daily spending for nonlocal, overnight guests; $65 in daily spending for local guests	
Rowing Competitions			
State/regional competitions	Local: Florida Intercollegiate Rowing Association in Sarasota: $624,060 with 2,590 attendees and 256 room nights	Two collegiate competitions a year	1,200,000
National head rowing race	National: Well-established Head of the Hooch in Chatanooga: 1900 boats in 2012 for a $4.8 million impact	One national "Head of the Arkansas"	3,000,000
Other national water craft competitions	US Rowing Masters National Championship in 2011 in OKC: $1.86 million impact	Two water craft competitions	3,600,000
Boat Festivals			
Annual judged boat parade	James River Parade of Lights (Richmond, VA): 6,000-8,000 spectators	8,000 total spectators, 7000 local, 1000 non-local; ((7000*65=455,000)+(1000*216=216,000)=$671,000); round down to $670,000 $1000 average spending on materials and power for each boat with an estimate of 30 boats= $30,000 $30,000 in event coordination	730,000

Dragon boat races	Dragon boat race participants and spectators are largely local Ray Hoyt: GWN would run for us other cities EEI is $1-2 million per event	Two races a year at $1 million impact each	2,000,000
Luminescent float event	Providence, RI WATERFIRE festival generates $113 million; runs multiple weekends throughout the spring and summer 350,000 visitors annually at WATERFIRE WATERFIRE annual budget: $1.7 million. Includes labor, music rights, insurance, transportation, brazier upkeep, boats, docks, programs, building materials, firewood, performers, audio equipment, police, permits and other expenses	Less visitation from outside the region with relatively isolated location compared to eastern seaboard location of Providence 75,000 total visitors; 67500 local, 7500 non-local: Local (67,500*65=4,387,500)+Non-local (7,500*216=1,620,000*2 nights=3,240,000)=$7,627,500 $500,000 (annual budget)+ $7,627,500 (visitor impact) = $8,124,500; round up to $8,200,000	8,200,000
Tulsa Raft Race	Seth Erkenbeck, organizer: 300 crafts Erkenbeck: 900-950 participants First year return of event likely to grow in next few years Erkenbeck: $30,000 in coordination costs plus $75,000 in-kind water release by PSO=$105,000	$500 each in local spending: $150,000 3 spectators per participant for 925= 2775; 175 non-local, 2600 local; Non-local: $37,800 (175*216 daily spending)+Local: $169,000 (2600*65) = $206,800 $150,000+105,000+206,800=$461,800; assume average participation, coordination cost and visitation growth rate of 15% per year for next five years: Year 1:$461,800; Year 2:$531,070; Year 3:$610,730.50; Year 4:$702,340.08; Year 5:$807,691.09; Assume continuing annual economic impact of 75% of Year 5 high: $605,768.32; round up to $615,000	615,000

Athletic Events			
Local triathlons	Local OKC Redman 2014 impact: $2.4 million	Four triathlon competitions a year among all Tulsa organizers	9,600,000
National triathlon	OKC Redman National Championship 2-day 2012: $4.265 million	One national championship a year	4,265,000
Half-ironman	2015 Chattanooga Half Ironman with 2500 expected athletes: $1.6 million	One event a year	1,600,000
International paddleboard competition	2015 ISA championship in Mexico: 351 participants	351 non-local participants + 702 team-affiliated visitors (each participant*2) = 1,053 non-local visitors; nonlocal visitor impact: 1,053*216*2 nights=$454,896 3 local spectators per participant: 351*3=1,053; 1,053*65=$68,445 Coordination costs: $50,000 454,896+68,445+50,000=$573,341; round up to $575,000	575,000
TOTAL			**$35,385,000**

Appendix C

Background information—Tulsa World Article

$149 million Vision plan aims to put 'water in the river'

By JARREL WADE World Staff Writer | Posted: Tuesday, February 16, 2016 12:01 am

Vision Water in the River

The Arkansas River Infrastructure Task Force, led by City Councilor G.T. Bynum, held public meetings for more than two years to research and develop the plan that is coming to voters April 5 in the Vision-renewal package. The proposal asks Tulsans for about $149 million to rebuild Zink Dam near 31st Street, build a south Tulsa/Jenks dam, and create parks and amenities around both dams. TOM GILBERT/Tulsa World file.

Photo gallery: Learn more about Vision 2025 proposals

Related: Find previous stories and other information on Vision 2025

The term “water in the river” has been tossed around for years — possibly since the 1960s when the Keystone Dam was built, taming the river that often flooded parts of Tulsa.

Recently, a plan to put “water in the river” has taken shape, focusing on using Tulsa’s portion of the expiring Vision sales tax to create two low-water dams and lakes to give the appearance of a more consistently filled river.

Arkansas River infrastructure is second only to public safety in the proposed Vision tax package in terms of cost.

The Arkansas River Infrastructure Task Force, led by City Councilor G.T. Bynum, held public meetings for more than two years to research and develop the plan that is coming to voters April 5 in the Vision-renewal package.

The proposal asks Tulsans for about $149 million to rebuild Zink Dam near 31st Street, build a south Tulsa/Jenks dam, and create parks and amenities around both dams.

Millions more is expected to come from funding partners — including Tulsa County, Jenks and the Muscogee (Creek) Nation — along the river to complete the task force’s total plan.

Low-water dams

Two low-water dams are the big-ticket items in the proposed project.

The two lakes they would create would retain water in the parts of the river most used by Tulsans.

They would not, however, keep the river full-to-the-brim all the time.

Bynum has said the dams would help the river remain mostly full during good conditions and that the lakes would retain water during drier periods.

The Zink Dam rebuild and new pedestrian bridge are slated to cost about $63 million.

Zink Dam, built in the early 1980s, is malfunctioning due to a lack of maintenance. It would be rebuilt from its foundation up.

The plan includes public access points and built-in water features, including a recreational flume and island to run alongside A Gathering Place for Tulsa, a huge park that is being built on Riverside Drive from 24th Street to 33rd Place.

The designs for both dams call for a system of steel vertical gates on hinges — called Obermeyer gates — that rise when a large rubber bladder at their base is inflated.

The hinges would connect the steel gates to the foundations of the dams, forming walls when the downstream bladders fill and lowering the gates' profiles when the bladders deflate.

An engineering group that researched the gates said raising and lowering them could help with fish migration and silt buildup.

The south Tulsa/Jenks dam would be built just south of the Creek Turnpike, near 101st Street. That project also would include a pedestrian bridge, plus a boat dock and connection to trails along the river — all for about $64.2 million.

Parks, Turkey Mountain

A substantial portion of the river infrastructure plan actually would go toward parks, trails and the Turkey Mountain Urban Wilderness Area.

About $7.6 million is set aside to purchase Turkey Mountain land that had been targeted for an outlet mall before public outcry derailed that plan.

If the Vision extension is approved, that land would be purchased by the River Parks Authority to add about 50 acres to the Turkey Mountain Urban Wilderness Area.

The cost to buy the land is about $6 million, leaving about $1.6 million for amenities including trail rehabilitation and facilities.

Late last year, Bynum shifted the proposed Vision river infrastructure plan from focusing on low-water dams to a corridor-wide plan, saying he realized that protecting parks and providing access to “water in the river” was as important as adding “water in the river.”

In addition to Turkey Mountain additions, the plan includes funding for several new parks and trails along the river.

The south Tulsa/Jenks dam includes an east bank park, a boat dock, Vensel Creek park and boat dock, and trails to connect several attractions.

Levee rehabilitation and other maintenance funds

The Vision plan includes $5 million in funds to be matched by other government entities, including Tulsa County, for Levee District 12 rehabilitation.

The plan would fund some of the needs for the aging levee system to protect Tulsa from floods, detailed last year in a Tulsa World investigation.

Another major component of the overall infrastructure project recommended by the task force is a long-term operations and maintenance endowment to maintain the new low-water dams.

That money, about $24 million, was pulled out of the Vision funding, but officials hope it will be picked up by funding partners.

Bynum said the low-water dams would not be built without the maintenance endowment, which is necessary to avoid future issues similar to the current state of Zink Dam.