

# **Economic and Fiscal Impacts of the Corps of Engineers' Trinity River Vision Project in Tarrant County Texas**

**Prepared for:**

**The U.S. Army Corps of Engineers**

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## **Introduction**

The following report addresses the economic, development, and fiscal impacts of the proposed Trinity River realignment project and its potential to spur ancillary development in Tarrant County, Texas. This report is a part of the required economic and social impact analysis.

Assessing the economic and fiscal impacts of the Trinity River realignment project will be based on projected spending provided by the US Army Corps of Engineers (Corps). While these impacts are impressive, once the Corps' project is completed, its economic and fiscal impacts end. Given the excitement among developers, business, and city leaders about the potential property development that will be spurred by the project, which will be discussed in a later section of this report, it is also appropriate to consider the economic and fiscal impacts that would attend this ancillary development. Planning for this ancillary development is called the Trinity River Vision (TRV).

In estimating the benefits of new property development and redevelopment projects that will accompany the Corps' efforts, we have considered two types of impacts. The first is the temporary impact of redevelopment and construction of new commercial, residential, and mixed-use properties as described in the TRV. Similar to the Corps spending, these impacts cease once construction or rehabilitation ends. Perhaps more important are the on-going impacts from this new property development and redevelopment. Additional jobs will come to the area as companies occupy office buildings, new local spending will occur at restaurants and entertainment venues, and new residents will support local retailers and service providers. We will use the development assumptions provided by architects Gideon Toal in the TRV Plan to

estimate the construction and on-going impacts on residential and commercial properties affected by the Trinity River realignment. Our estimates in each of the described impact categories will be limited to the impacts that will occur in the Tarrant County economy.

Our estimates are based on the IMPLAN economic input/output model developed by the Minnesota IMPLAN Group. Input-output models track how spending flows through a regional economy. The estimates include direct, indirect, and induced impacts. Direct impacts are the result of a firm or agency procuring goods and services in the local community. For example, the Corps will commission engineers to study environmental issues, pay construction companies to build bridges, and demolition companies to remove unwanted structures. These vendors and suppliers in turn purchase goods and services to support their local operations. For example, the firm providing environmental engineering services hires employees, purchases office supplies and computer parts, and hires professional service providers such as accountants. The induced impacts track the economic and fiscal effects of employees of all of these contractors and subcontractors spending a portion of their earnings in the local economy for goods and services. Each of these impacts is adjusted to only account for local purchases. For example, when the demolition company purchases fuel for a backhoe, little of the related economic activity stays in Tarrant County because we do not have extensive oil production and refining activities in North Texas. When added together, the sum of all of the activity from direct, indirect, and induced impacts is greater than the local proportion of the Corps' spending, which is the "multiplier effect."

### **Economic and Fiscal Impacts of Corps' Spending on the Trinity River Realignment**

The preliminary cost schedule calls for the Corps of Engineers to spend \$435 million to realign the Trinity River with ancillary construction projects starting in 2005 through 2015. This spending will pay for engineering, architectural, environmental and other studies as well as hard and soft costs of building bridges, realigning the bypass channel, building gates, walls, levees, and several other features as well as management, administrative, and other costs. Though the budget includes over \$76 million for property acquisition, we have not included this spending in our impact estimates. We do not have sufficient information on property ownership to ascertain the degree to which any income gains from the sale of property would contribute to local economic activity. In addition, \$1.5 million is budgeted to help existing businesses relocate. The impact of this spending will depend on the nature of the assistance provided; therefore, we do not include this comparatively modest spending in our impact assessment.

Total Corps spending used in this analysis is budgeted at slightly more than \$357 million through 2015. Over this period, Corps spending will generate over \$609 million in local economic activity, support 6,100 person years of employment, create \$230 million in new labor income and \$55.4 million in property income,<sup>1</sup> and boost state and local tax revenues by \$16 million.<sup>2</sup> (See Table 1.) Appendix I offers estimates of annual economic and fiscal impacts during project construction based on Corp planning documents.

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<sup>1</sup> Property income includes rents, royalties, corporate profits, dividends

<sup>2</sup> State and local revenues include sales, property, and excise taxes plus licenses and fees paid to government entities.

**Table 1**

**Economic and Fiscal Impacts of Construction and Related Spending by  
The US Army Corps of Engineers for the Trinity River Realignment Project  
In Tarrant County**

Description	Impact
Total Construction Spending <sup>@</sup>	\$ 357,000,000
Total Economic Activity	\$ 609,181,000
Total Wages, Salaries, Benefits	\$ 230,184,000
Total Employment	6,100
Total Property Income*	\$ 55,406,000
State and Local Taxes <sup>+</sup>	\$ 16,020,000

<sup>@</sup> Does not include payments for land acquisition or business relocation assistance

\* Includes royalties, rents, dividends, and corporate profits.

+ Includes sales, excise, property taxes, fees, and licenses.

**Impact of Ancillary Residential and Commercial Construction Activities**

Trinity River Vision architects have identified 463 acres of land for residential and commercial development that will be directly affected by the river realignment and related projects. Optimum build out is projected at 19.2 million square feet of residential, office, retail, support, and mixed-use properties. Of this total, the TRV plan conservatively estimates that only half of this development will occur over the next 40 years with about 5.6 million square feet in high-density and medium-density residential properties, and 4 million square feet of commercial development including high-density office, moderate-density office, retail, and restaurant land uses.

It is estimated that over a 40-year development period, almost \$672 million worth of residential construction will occur in the TRV area. In addition, \$480 million in commercial properties will be built inside of this 40-year window. Of course, many of these properties will be mixed-use in design—meaning they will include some combination of residential, office, and retail/restaurant uses. Therefore, the TRV plan

calls for an average construction value of \$120 per square foot in constant 2005 dollars. While planners, architect, and economists all agree there will be substantial variation in development costs, this is a reasonable average for assessing the likely economic and fiscal impacts of the TRV development area as a whole.

Construction spending for all non-civic land uses through 2045 in the TRV planning area will be about \$1.15 billion (constant 2005 dollars). This spending will generate about \$2 billion in economic activity in Tarrant County and support more than 19,300 person-years of employment paying almost \$651 million in salaries, wages, and benefits (see Table 1). In addition, other property income in Tarrant County such as dividends, royalties, and corporate profits will be increased by \$177 million. State and local taxing entities will gain \$68 million in new revenues as a result of private TRV-related construction activities over the next 40 years. Appendix II offers an estimate of the timing of these impacts at five-year intervals based on data provided in TRV plans.

**Table 2**

**Economic and Fiscal Impacts of Residential and Commercial Construction Activity  
In the Trinity River Vision Development Area of Tarrant County  
(40-Year Development Period)**

Description	Impact
Total Construction Spending	\$ 1,151,999,000
Total Economic Activity	\$ 2,073,903,000
Total Wages, Salaries, Benefits	\$ 650,766,000
Total Employment	19,300
Total Property Income*	\$ 177,128,000
State and Local Taxes <sup>+</sup>	\$ 68,104,000

\* Includes royalties, rents, dividends, and corporate profits.

+ Includes sales, excise, property taxes, fees, and licenses.

**Recurring Impacts of Business Activity in the TRV Development Area**

As note above, the larger impacts on local economic activity are based on business activities of the occupants of the office and commercial properties to be developed as a part of the TRV plan. Using land use and development models built by the Center for Economic Development and Research, we estimate the number of jobs and associated economic activity of businesses locating in the TRV by activity including office-based industries, retail trade, retail-support trades, and restaurants. By the 40<sup>th</sup> year of development, more than 10,500 persons will be employed in jobs located in the TRV. It is important to note that we do not include the economic impacts of spending by new residents moving into the TRV area for two reasons. First, it is possible that some of these new residents will be employed in the TRV area resulting in potential double counting induced impacts. Secondly, by ignoring other residents' spending we are lowering the overall level of impacts thereby enhancing the conservative nature of our estimates.

Businesses located in the TRV development area will create almost \$958 million (2005 \$) of business activity per year at the 40-year development stage. This activity will boost the Tarrant County economy by over \$1.6 billion per year, support over 16,000 direct, indirect, and induced jobs, and increase labor income by \$642 million (see Table 3). In addition, new property income in the form of dividends, royalties and corporate profits will rise to \$150 million per year and state and local taxing entities will see \$47.6 million in new revenues. The growth in the recurring impacts will track with property development and building occupancy. Even at just 10 percent of development that Gideon Toal projects for the first 5 years, that still averages to about \$160 million in new, on-going business activity in Tarrant County.

**Table 3**

**Recurring Economic and Fiscal Impacts of Business Activities  
In the Trinity River Vision Development Area of Tarrant County  
(At 40-Year Development, Constant 2005\$)**

Description	Impact
Direct Business Activity	\$ 957,855,000
Total Economic Activity	\$ 1,615,610,000
Total Wages, Salaries, Benefits	\$ 642,065,000
Total Employment	16,359
Total Property Income*	\$ 150,530,000
State and Local Taxes <sup>+</sup>	\$ 47,635,000

\* Includes royalties, rents, dividends, and corporate profits.

+ Includes sales, excise, property taxes, fees, and licenses.

### **The Do-Nothing Scenario**

Statutory requirements call for the Corps to consider what would occur if the project were not undertaken. As will be noted in the following section of this report, just the preliminary work done to date on the TRV project has altered the path of development on the north side of the City of Fort Worth. Developers are “rediscovering” opportunities for growth near downtown Fort Worth. For example, “The Bluffs’ housing and mixed-use development project is already well underway. While the proposed Trinity River project did not “cause” this development,<sup>3</sup> the public elements of the TRV planning process increased consumer interest and purchases within this housing development. Importantly, Tarrant County Community College has announced their plans for a campus that will cross the existing river bypass to the east of Main Street just north of downtown Fort Worth. The TRV project influenced the campus site selection, which will promote ancillary development. Another example is LaGrave field, which was recently redeveloped. However, different from The Bluffs project, future ancillary

<sup>3</sup> The Bluffs project is not including in our impact estimates.

development around LaGrave Field will be dramatically affected by the TRV project, and is therefore included in our impact estimates. Nonetheless, some of this ancillary development will occur even if the river realignment project is halted.

Based on our discussions with local business leaders and city officials and overall development trends in Tarrant County, we expect that some of the development estimated in previous sections of this report will occur regardless of the TRV project proceeding from the current analysis stage. The development will be slower in timing and will be of much smaller magnitude. We estimate that less than one-third of the total projected development used in our assessment of the TRV project will occur within the 40-year time frame if the project is cancelled. Table 4 provides our estimates of the construction and recurring impacts of the do-nothing-from-this-stage-forward scenario. However, we wish to re-emphasize that these estimates of development are still much higher than what would have occurred if the TRV planning process had not been undertaken. Whether or not the Trinity River realignment project actually happens, it has already had a substantial impact on growth and redevelopment in Tarrant County and especially the City of Fort Worth.

**Table 4**

**Do-Nothing Development Scenario  
In the Trinity River Vision Development Area of Tarrant County  
(At 40-Year Development, Constant 2005\$)**

Description	Construction Impacts	Recurring Impacts of Business Operations
Direct Construction Costs/ Business Activity	\$ 354,816,000	\$ 295,019,000
Total Economic Activity	\$ 638,762,000	\$ 497,608,000
Total Wages, Salaries, Benefits	\$ 200,436,000	\$ 197,756,000
Total Employment	5,940	5,040
Total Property Income*	\$ 54,555,000	\$ 46,363,000
State and Local Taxes <sup>+</sup>	\$ 20,976,000	\$ 14,672,000

\* Includes royalties, rents, dividends, and corporate profits.

+ Includes sales, excise, property taxes, fees, and licenses.

**Impacts on Economic and Community Development in Tarrant County**

Examining data and making projections of economic and fiscal impacts based on those data are an important process. Equally important is getting a “sense” of how the river realignment will impact economic and community development based on perceptions and enthusiasm created by the project planning process and actual work on the TRV project. Consideration must be given to the possibility that the TRV project will impact development and redevelopment in adjacent and nearby areas of the city. Furthermore, is the projected development envisioned in TRV planning documents within the realm of possibility or pipe dreams? In this section we address these issues.

To assess how the TRV project is impacting perceptions of business potential in Tarrant County and the City of Forth Worth, a team consisting of representatives of the Center for Economic Development and Research, the Corps, and the Trinity Water District conducted a series of in-depth interviews with key informants representing

developers, business groups, and City of Fort Worth officials. The interviews, while being semi-structured with a set of predetermined questions, were designed to allow these key informants to address the most important aspects of assessing the impacts of the TRV project on local economic and community development from their individual perspectives. Our interviewees included:

- David Berzina & Bill Thornton – Fort Worth Chamber of Commerce
- Dana Burghdoff – City of Fort Worth Planning Department
- Chris Maquire – City of Fort Worth Community Development
- Rosa Navejar – Fort Worth Hispanic Chamber of Commerce
- Phillippe Poole – Poole Real Estate Consultants
- Tom Struhs – The Struhs Companies
- Jason Thiel – Downtown Fort Worth, Inc.
- David Wells – Tarrant County College District

As with any large-scale project, the advantages and drawbacks are seen from many perspectives. The one consistent note is that the TRV project will dramatically alter the course of downtown and near downtown development and redevelopment efforts, though the impacts of individual components are subject to some debate. For example, the proposed town lake, which is a central, eye-catching theme for most of the models and artists' rendering of the TRV, is thought to be of little real value in terms of attracting net new development to the city by one key informant. However, others see the lake as a key recreational, visual, "atmosphere"-creating component that will be reflected in developer investments and property values around the proposed lake.

In a similar vein, most of the respondents spoke specifically about how the developments can flow and connect with Fort Worth's cultural district, though one participant made clear that the current levee design will block views and connectedness between the TRV area and the cultural district. To the extent flood control and other characteristics can be reasonably accommodated, we encourage Corp engineers and

architects to work to maximize the connections, physical and visual, between downtown Fort Worth and the city's highly successful cultural district. The issue of linkages was also specifically mentioned by one business group in expressing the advantages of having TRV designs tie the cultural district through downtown to the stockyards, including the use of light rail.

It was interesting to note that some respondents made unprompted comparisons among other development projects and the TRV in terms of scale of impacts. One respondent felt that in terms of impact on the cultural district, the new arena project would boost activity more than the TRV, and that the proposed light rail system would be a yet bigger impact on the cultural district. This particular participant sees light rail as the "armature of growth" that should be carefully considered in TRV planning. There is also some reasonable concern about the TRV drawing development and redevelopment activity away from other parts of the city. However, as noted by one respondent, most elected officials and residents of Fort Worth seem to be willing to put aside parochial interests to see the city realize the opportunity the TRV offers.

Even with some cautions and potential drawbacks, the TRV is widely seen as a potential source of pride and accomplishment in the city that will be a great catalyst for growth. One participant noted: "The [TRV] will catapult Fort Worth into the upper echelon of communities in the US." The project planning phase is credited with "sparking" ideas for developments that are already proving successful and that these sparks are proving contagious. Multiple interview participants noted that real estate developers new to Fort Worth have begun inquiries and are looking at investment opportunities in the TRV planning area.

Other respondents are eagerly looking forward to the business opportunities that will be created through the construction of the physical infrastructure, buildings, and public facilities as called for in the TRV plans. It is thought that minority- and women-owned businesses will be able to effectively compete and grow as the TRV project progresses.

Even with great enthusiasm for the TRV project, Fort Worth's business and civic leaders offer several cautions – most notably the need to maintain a vision for the project given a relatively long development period. One developer on our panel expects full development to occur over a 40-50 year period. While this is much quicker than the Gideon Toal projections specified in the TRV documentation, we believe that with proper guidance full development of the area surrounding the Corp's infrastructure improvements will be realized within this 40-50 year window. The main challenge is maintaining a consistent vision for development standards while responding to changes in the real estate marketplace. This will require cooperation among developers, business groups, development officials, and staff and elected officials at the city, county, and possibly state levels. Fortunately, this cooperation has already begun with the Trinity River Vision process that has included many representatives from each of these constituencies as well as public input and support.

The tools and mechanisms that were cited by our key informants as important for maintaining a consistent vision in the long term include reasonable and effective permitting processes reflecting effective zoning. One participant phrased it as “succinct zoning parameters” to effectively control the vision. In addition, another visioning tool

mentioned is architectural controls to maintain a sense of place, but not so draconian that they discourage development.

We found some interesting strategic responses among our participants in terms of tools and programs the city can use to promote growth in the TRV. Developers, and to a lesser extent some business organizations, state that the City of Fort Worth and other governmental bodies will need to continue, and perhaps expand, existing incentive programs for prospective developers. Conversely, city officials believe the TRV project provides sufficient market draw to attract residential, commercial, and mixed-use developments without further incentives. It is likely that justification could be made for city incentives to developers of “pioneering” projects in the TRV area.

Another consideration expressed by most of the interview participants was the need to deal fairly with owners of businesses that must be relocated to accommodate the river realignment plans. Given the attention being paid to this issue, we see little likelihood that business relocation issues will present a significant obstacle to TRV development.

In summary, the participants in our key informant interviews see the TRV project as a unique opportunity to shape the path of development in the City of Fort Worth for the foreseeable future. This does not appear to be blind optimism due to the serious consideration that is being given to key elements of successful urban design such as maintaining a vision, being flexible to changes in market demand while maintaining a sense of place, encouraging private-public efforts to effectively manage zoning and architectural controls, connecting new developments with existing strengths such as the cultural district and Stockyards, and dealing fairly with those who are displaced by the

infrastructure development program. Continuing with public outreach efforts and working with area business groups to better facilitate local participation in the construction phases will create further support and understanding of the Trinity River Vision.

Our final effort in this section is to briefly examine other waterfront projects in the United States for illustrative purposes. Our list of projects was gleaned through review of the professional literature<sup>4</sup>, news accounts, and suggestions by key informant interview participants.

*Cincinnati, Ohio:*

The redevelopment of the riverfront on the Ohio River includes several projects such as retail, sports and entertainment facilities, mixed commercial complexes, and highway improvements<sup>5</sup>. Estimates place the infrastructure investment at about \$3 billion with a regional economic impact of \$5.5 billion in total economic activity and \$1.6 billion in household income.

*Moline, Illinois:*

Renew Moline is a private, not-for-profit organization dedicated to economic development and redevelopment activities within the city<sup>6</sup>. It is a partner with the City of Moline in implementing the Moline Center Plan, which is the main redevelopment program of the project. The plan divided the area in seven districts, one being the riverfront. About \$200 million in revitalization and building rehabilitation

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<sup>4</sup> See for example: Rexhausen, Jeff; Vredevelde, George; "Riverfront Investment", Economic Development Journal; Spring, 2003. River Front Development Corporation; "The New Memphis Waterfront"; [www.memphisriverfront.com](http://www.memphisriverfront.com); Memphis. "Market Support and Economic Potential of the Principal Riverwalk and the Des Moines Riverfront", Finding Summary; ConsultEcon, Inc./Office of Thomas J. Martin, Economic Research and Management Consultants; [http://www.principal.com/about/giving/waterfront\\_revitalization.pdf](http://www.principal.com/about/giving/waterfront_revitalization.pdf).

<sup>5</sup> Rexhausen, Jeff; Vredevelde, George; "Riverfront Investment".

<sup>6</sup> <http://www.renewmoline.com/mission.shtml>

investments have occurred in downtown and on the riverfront. Overall, the project has generated over 1,000 full-time jobs, 300 part-time and about 1,600 construction jobs.

*Louisville, Kentucky:*

The first component of Louisville's efforts was a 55 acre waterfront park at a cost \$58 million. Prior to the waterfront park development, the area had 18 businesses with 350 employees. Since the first phase of the development has been completed, commercial activity has expanded to 23 businesses with 5,300 people employed. This included a \$39 million minor league baseball park (Louisville Slugger Field) with 22,000 square feet of retail space and 13,000 seats. The second phase will include 30 acres of additional development.

*Indianapolis, Indiana:*

A pedestrian corridor was created along the White River with water features and landscaped parks at a cost of \$44.4 million. Funding was provided through federal (52%), state (20%), city, and private sources. Development plans call for the creation of 2,000 new housing units. It is anticipated that adjacent commercial developments will create 2,500 new jobs offering retail and hospitality services and goods to residents and approximately two million annual visitors.

*Chattanooga, Tennessee:*

Chattanooga's riverfront development includes impressive public and private projects like the \$45 million aquarium. Interestingly, 83 percent of the riverfront and downtown redevelopment was funded by the private sector with about \$1.2 billion invested in downtown and adjacent areas since 1990. This has included 300 housing units with 250 more in the development pipeline. In the waterfront area near the

aquarium, the number of businesses has increased from 33 to 128. Total downtown employment has increased 33 percent and taxable property values have risen 127 percent.

*Providence, Rhode Island:*

The Providence case study was specifically mentioned by one of key informants as illustrative of waterfront housing and retail development. The total cost of the redevelopment project was \$143 million, financed mostly from federal funds. The development has included housing units and scenic redevelopment. Materials we reviewed suggest that the area has enjoyed a resurgence of visitor traffic since the development was completed.

*Oklahoma City, Oklahoma:*

The North Canadian River Project consisted of creating river lakes bordered by landscaped areas, trails and recreational sites. The length of the construction is seven miles with dams to manage water levels. The estimated total cost was \$52 million, and the construction began in 1999 and was completed in 2004. The area is characterized by 4-5 story buildings with offices, retail space and a few residential units.

*Memphis, Tennessee:*

The new waterfront on the Mississippi river will include a total of 365 acres. The project basically consists of a five-mile redevelopment along the river and downtown improvements including a system of parks, promenades, overlooks, and edges.<sup>7</sup> The project calls for using a bridge to connect the downtown area to a new commercial and residential development. Plans call for extensive new developments including 3.8 million square feet of residential space, 3.6 square feet of office space, about 800,000

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<sup>7</sup> River Front Development Corporation; “The New Memphis Waterfront”; [http://www.memphisriverfront.com/2\\_10-master-plan\\_template.cfm?page\\_number=24](http://www.memphisriverfront.com/2_10-master-plan_template.cfm?page_number=24); Memphis.

square feet of civic and cultural use spaces, hotels (750,000 square feet), and more than 1 million square feet of retail space. The total development could be as high as 11.28 million square feet of space.

*Minneapolis, Minnesota*<sup>8</sup>:

In 1972 the Minneapolis City Council developed a master plan for a downriver two-mile stretch—now called Central Riverfront—that was characterized as an industrial wasteland. Today, more than 5,000 housing units are located along the river. Historic structures have been redeveloped into lofts, hotels, offices, and shops. Buildings have replaced surface parking lots, and a 100,000 square foot historic museum is located on the former site of an old flour mill.

The city attracted private developers through a program of parkway and streetscape improvements. Financial support has come from the federal ISTEA and TEA-21 grants, tax increment financing, and historic preservation credits. Clean-up projects have cost \$7 million in federal, state, and local money.

### **Conclusions**

The Trinity River realignment project and related Trinity River Vision have already spurred redevelopment efforts in the City of Fort Worth, without turning one shovelful of dirt. Corps spending on the proposed project will be about \$357 through the year 2015, not including payments for land acquisition and business relocation assistance. This spending will generate more than \$600 million in economic activity in Tarrant County and support over 6,000 person-years of employment. However, as impressive as these impacts are, they pale in comparison to the private commercial and residential

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<sup>8</sup> Blodgett, Eric; “*Minneapolis rethinks Its River*”; Planning; Feb2001, Vol. 67 Issue 2, p22, 2/3p, 1c.

development that will likely follow the TRV project. Based on the conservative estimates in the Gideon Toal development plan, more than \$1.1 billion in construction expenditures for housing, retail, office and other spaces will take place over a 40-year period creating more than \$2 billion in economic activity and supporting 19,300 person-years of employment paying about \$615 million in salaries, wages, benefits, and proprietors' income. The businesses that will occupy these spaces at the projected 40-year build-out will employ more than 16,000 full time workers and contribute over \$1.6 in annual economic activity to the Tarrant County economy.

Interviews with key informants provide confidence that local business and government leaders are cognizant of what will be required for the TRV project live up to its economic development potential. They clearly understand that maintaining a clear, but flexible vision supported by appropriate zoning ordinances and architectural standards will create the sense of place that will attract private development. Importantly, the plan takes advantage of existing local strengths such as the cultural district and historic Stockyards as well as new redevelopment areas such as the South of 7<sup>th</sup> project, the Bluffs housing development, and LaGrave Field.

Business and city officials note that developers from outside Tarrant County and outside Texas have taken notice of what will be happening along the Trinity River in Fort Worth. As observed by one business leader, this is the project that can catapult Fort Worth into the upper echelon of American cities.



## Appendix I

### Economic and Fiscal Impacts of US Army Corps of Engineers Trinity River Realignment Spending By Year of Budgeted Activity

	2005	2006	2007	2008	2009	2010
Total Economic Activity	\$13,006,379	\$30,038,868	\$77,026,630	\$89,937,475	\$71,282,601	\$39,689,587
Labor Income	\$4,914,566	\$11,350,431	\$29,105,139	\$33,983,607	\$26,934,711	\$14,997,034
Employment	130	301	771	901	714	397
Property Income	\$1,182,951	\$2,732,084	\$7,005,697	\$8,179,959	\$6,483,268	\$3,609,832
State and Local Taxes	\$342,037	\$789,950	\$2,025,616	\$2,365,140	\$1,874,562	\$1,043,741

	2011	2012	2013	2014	2015	Total
Total Economic Activity	\$47,705,980	\$66,226,081	\$77,623,723	\$72,846,983	\$23,796,693	\$609,181,000
Labor Income	\$18,026,093	\$25,024,064	\$29,330,756	\$27,525,826	\$8,991,774	\$230,184,000
Employment	478	663	777	729	238	6,100
Property Income	\$4,338,936	\$6,023,369	\$7,060,003	\$6,625,551	\$2,164,348	\$55,406,000
State and Local Taxes	\$1,254,553	\$1,741,587	\$2,041,318	\$1,915,701	\$625,796	\$16,020,000

Source: Gideon-Toal, Authors' estimates \* Totals rounded to nearest 000s.

## Appendix II

### Economic and Fiscal Impacts of Ancillary Residential and Commercial Construction Activities By Five-Year Period

	Years 0-5	Years 6-10	Years 11-15	Years 16-20	Years 21-25
Total Economic Activity	\$ 207,390,298	\$ 103,695,149	\$ 518,475,746	\$ 207,390,298	\$ 207,390,298
Labor Income	\$ 65,076,570	\$ 32,538,285	\$ 162,691,425	\$ 65,076,570	\$ 65,076,570
Employment	1,933	967	4,833	1,933	1,933
Property Income	\$ 17,712,791	\$ 8,856,396	\$ 44,281,978	\$ 17,712,791	\$ 17,712,791
State and Local Taxes	\$ 6,810,420	\$ 3,405,210	\$ 17,026,049	\$ 6,810,420	\$ 6,810,420

	Years 26-30	Years 31-35	Years 36-40	Total*
Total Economic Activity	\$ 311,085,448	\$ 207,390,298	\$ 311,085,448	\$ 2,073,903,000
Labor Income	\$ 97,614,855	\$ 65,076,570	\$ 97,614,855	\$ 650,766,000
Employment	2,900	1,933	2,900	19,300
Property Income	\$ 26,569,187	\$ 17,712,791	\$ 26,569,187	\$ 177,128,000
State and Local Taxes	\$ 10,215,629	\$ 6,810,420	\$ 10,215,629	\$ 68,104,000

Source: Gideon-Toal, Authors' estimates \* Totals rounded to nearest 000s.