



TechWorks Feasibility Study

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Background

The Waterloo Reinvestment District #1 is a mixed use project that includes a museum, business incubator, light manufacturing space, research and development space, training and education facilities, innovation centers, hotel, restaurants, commercial/office space, and a marina. The District will serve as a destination for visitors, workers, and business suppliers and customers. Corporations, small businesses, and entrepreneurs will be drawn to TechWorks because of its facilities and programs for advanced manufacturing. A wide range of opportunities will be offered that are unmatched in the State of Iowa. In addition, TechWorks is part of a larger economic development strategy that builds on the City of Waterloo's existing downtown assets.

TechWorks has three distinct project areas:

1. TechWorks Campus – John Deere Tractor & Engine Museum, John Deere Training Center, business-class hotel, business incubator, space for light manufacturing and research and development, Iowa Advanced Manufacturing Center, Metal Casting Center, and Hawkeye Community College's Advanced Manufacturing programs
2. TechWorks Outlots #1 & #2 – Commercial/office space and midscale restaurant
3. TechWorks Marina – Marina with boat sales, boat storage, fuel sales, and restaurant

The primary focus of TechWorks is Advanced Manufacturing. The Waterloo area has a strong manufacturing heritage and a commitment to manufacturing excellence. Today, the Manufacturing Industry still remains very strong in Black Hawk County. According to Economic Modeling Specialists Int'l (EMSI), Manufacturing is the leading industry in the County's economy:

- #1 in industry employment in 2014
- #1 in industry Gross Regional Product (GRP) in 2013
- #2 in industry job growth from 2004 to 2014
- #2 in Earnings per Worker in 2014

While Manufacturing has struggled nationally in recent years, this industry in Black Hawk County has had outstanding performance. The following exhibit shows that Black Hawk County compares favorably with the State of Iowa and the Nation on key economic factors for the Manufacturing Industry:

Exhibit 1: Manufacturing Industry Performance

Manufacturing Factors	Region		
	Black Hawk County	State of Iowa	United States
% of Region's Total Employment	19%	13%	8%
% of Region's Gross Regional Product (GRP)	31%	17%	11%
% Growth in Employment 2004-2014	11%	(3%)	(15%)

Gross Revenues Expected

The Gross Revenues for each of the uses in TechWorks, excluding the hotel rooms, room service, and catering, were based on the usable space and the sales square foot. For the projection of Gross Revenues for this project, Vandewalle & Associates was the source of the information on the square foot usage and Econsult Corporation was the source of the sales per square foot information, which was adjusted by Vandewalle & Associates based on their experience in the Midwest market. The Gross Revenues for the hotel rooms, room service, and catering were based on data from PKF Hospitality Research.

To test the validity of the Gross Revenue estimates that were produced from the usable space and the sales per square foot assumptions, research was conducted by Smart Solutions Group to assess the market opportunity for each of the different uses of the space in TechWorks by using information available from Economic Modeling Specialists Int'l (EMSI) and Environmental Systems Research Institute (ESRI), two of the leading economic analysis and database companies. In addition, Internet searches were conducted to find additional information on the market potential for each of the uses of the space in TechWorks. The following summarizes the findings for three of the retail uses:

- **Hotels:** According to EMSI, there are 27 hotels and motels in Black Hawk County with a total of 499 jobs. Based on national employment and population statistics for this industry, EMSI estimates that there should be 805 jobs in the hotel industry in Black Hawk County. Therefore, hotel industry employment in Black Hawk County is nearly 40% below the national standard, which shows that this industry is significantly underserved in this market. The hotel on the Campus will be an upscale business-class hotel and there are no other hotels in the area in this classification. The hotel will be in a convenient location for business people visiting companies in TechWorks and Waterloo.
- **Restaurants:** ESRI estimates 9,565 people, who live within a 15-minute drive of the TechWorks Campus, have dined at a fine dining restaurant in the latest month reported. The Market Potential Index is a measure of the likelihood of the adults in a specific trade area to exhibit certain consumer behavior purchasing patterns compared to the entire nation. ESRI reports fine dining within a 15-minute drive to TechWorks has an MPI of 90, which is 10% below national average and indicates the potential need for additional fine dining in the Waterloo area. The TechWorks tenants and visitors will find it very convenient to dine at the restaurants in the District.
- **Marina:** The proposed TechWorks Marina will be the only marina on the Cedar River in Black Hawk County. There are two boat dealers in Black Hawk County, and they have less than 10 employees in total. Based on national statistics, EMSI estimates that current employment in the Boat Dealer Industry is over 60% below expectation for a county the size of Black Hawk. The adjacent restaurant will draw both boaters as well as others in the Waterloo area looking for a gathering space and a place to enjoy a meal along the river. In addition, the Marina will bring additional activity to downtown Waterloo.

The only business incubator in Black Hawk County is the University of Northern Iowa's Innovation Incubator, which is located in Cedar Falls. The Innovation Incubator offers aspiring entrepreneurs office space, use of business equipment and services, and consulting support for their technology tenants. The Innovation Incubator currently has 8 tenants and 19 innovative companies have graduated from the Incubator program and have moved to other locations. The TechWorks incubator will be significantly different than the Innovation Incubator because it is focused on advanced manufacturing and it will have light manufacturing and R&D space available. Plus, entrepreneurs in the incubator can take advantage of other components on the TechWorks Campus such as the Iowa Advanced Manufacturing Center, the Metal Casting Center, and education programs available from Hawkeye Community College.

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Based on our research, Smart Solutions Group finds the sales per square foot factors used to project revenues are reasonable. Using the square foot usage and sales per square foot, **the projected annual revenues for TechWorks are \$13,721,000** as shown in the following exhibit.

Exhibit 2: Projected Annual Revenues

	Retail Square Footage	Sales per Square Foot	Projected Annual Revenues
Campus			
Full Service Restaurant – food	3,810	\$500	\$1,905,000
Full Service Restaurant – bar	1,540	\$800	\$1,232,000
Limited Service Restaurant	1,720	\$350	\$602,000
Catering to TechWorks Campus from Full Service Restaurant	2,940	\$300	\$882,000
Outlots #1 & #2			
Restaurant	5,000	\$500	\$2,500,000
Commercial/Office Space	16,000	\$250	\$4,000,000
Marina			
Marine Retail & Service	3,000	\$100	\$300,000
Showroom & Boat Sales	10,000	\$150	\$1,500,000
Restaurant	4,000	\$200	\$800,000
Total			\$13,721,000

Exhibit 3 shows the annual Gross Revenues projected for the Hotel’s food, bar, and catering from the full service restaurant to meetings and events on the Campus to be \$7,272,846.

Exhibit 3: Projected Annual Gross Revenues

	Factor	Number	Projected Annual Revenues
Hotel Rooms	No. of Rooms	156	
	Avg. Sales per Room per night	80%	
	Avg. Daily Room Rate	\$125*	\$5,694,000
Hotel Room Service	No. of Rooms	156	
	Avg. Sales per Room per Year	\$866	\$135,096
In-house Catering	Seating Capacity	275	
	Avg. Sales per Seat	\$35	
	Bookings per Week	3	
	Occupied Weeks per Year	50	\$1,443,750
Total			\$7,272,846

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Based on the projected Hotel revenues and the other revenues that are based on square footage, **total annual Gross Revenues for this project are projected to be \$20,993,846.**

Economic Impact

According to information provided by Vandewalle & Associates, **the total capital investment in the District will total \$69,124,000.** The following exhibit summarizes the capital investment by the three major project areas.

Exhibit 4: Capital Investment

	Square Feet of Construction	Capital Investment
Hard Costs		
Campus	347,640	\$44,176,200
Outlots	21,000	\$1,680,000
Marina	17,000	\$2,350,000
Soft Costs		\$20,917,800
Total	385,640	\$69,124,000

The construction of the District will support temporary economic impacts - construction employment, workers' earnings, and economic output in the City of Waterloo, Cedar Valley Region, and the State of Iowa. The temporary employment estimates for the construction are based on assumptions provided by Vandewalle & Associates. Smart Solutions Group finds these estimates to be reasonable. The temporary construction employment is based on an estimated 25% of the hard costs being attributed to labor costs at an average cost of \$45,000 per worker. Based on this approach 268 construction job-years would be needed to develop the District. No estimates were made of any spinoff activity or indirect or induced effects related to the temporary construction activity.

The temporary construction activity will support 268 construction job-years and a total of \$12.1 million in workers' earnings.

The permanent activity from the operations in the District will provide direct economic impact on the City of Waterloo and indirect and induced impacts throughout the Waterloo metropolitan area, the Cedar Valley Region, and the State of Iowa. The economic impacts of the ongoing activities in the District were based on the estimated employment of the TechWorks tenants and an economic impact model developed by the Bureau of Economic Analysis (BEA).

The basis for the economic impact analysis is the projected employment in the District. Employment estimates that were based on information on prospective tenants and industry employment per foot as provided by Vandewalle & Associates. It was assumed that 80% of the gross floor space would be leaseable. The employment estimates were reviewed by Smart Solutions Group, and were found to be reasonable. Exhibit 5 shows **an estimated 365 employees would work in the District.**

This direct employment data was then used with the BEA economic impact model to determine direct as well as indirect and induced impacts on:

- Employment
- Workers' Earnings - wages, salaries, employer provided benefits, and proprietors' income

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- Economic Output - gross output, which is the sum of intermediate inputs and final use
- Value Added - the value of gross output minus intermediate inputs

Exhibit 5: Estimated Direct Employment in the District

	Total Usable Square Feet	Square Feet per Employee	Estimated Direct Employees
Campus			
Light Manufacturing	62,256	3,600	51.9
R&D	41,504	1,500	55.4
Business Incubation	20,752	1,000	20.8
Office	15,800	500	31.6
Restaurant, Bar, Banquet, & Catering	10,010	200	50.1
Hotel	141,190	2,000	70.6
Museum	12,000	1,250	9.6
Outlots			
Restaurant	5,600	200	28.0
Commercial/Office	12,800	600	21.3
Marina			
Marine Retail & Service	2,400	550	4.4
Showroom & Boat Sales	8,000	1,500	5.3
Restaurant	3,200	200	16.0
Total			365.0

The following exhibit shows the District's direct, indirect and induced, and total for these four economic impact factors for the State of Iowa on an annual basis.

Exhibit 6: Direct and Indirect & Induced Jobs

	Direct	Indirect & Induced	Total
Employment	365.0	197.1	562.1
Workers' Earnings	\$11,890,704	\$7,111,593	\$19,002,297
Economic Output	\$36,957,779	\$27,164,608	\$64,122,387
Value Added			\$35,114,724

To summarize, **TechWorks would be annually responsible for 562 Jobs, \$19.0 million in Earnings, and \$64.1 million of Economic Output of which Value Added in the State of Iowa being \$35.1 million.**

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In addition to the impacts listed above, sales tax and hotel room tax revenues would be generated in the District. The following exhibit shows **the tax revenues collected over the next 20 years by businesses in the District, would be \$59 million, not adjusted for inflation.**

Exhibit 7: 20 Year Tax Revenues

	20-Year Tax Revenue (not adjusted for inflation)
State of Iowa	\$43,337,422
City of Waterloo	\$13,685,047
Local Tax Levies not Subject to TIF	\$2,030,667
Total	\$59,053,136

The next 3 exhibits show the economic impact information for each of the three distinct project areas - TechWorks Campus, TechWorks Outlots, and TechWorks Marina.

Exhibit 8: Economic Impact of the TechWorks Campus

TechWorks Campus	Direct Jobs	Indirect & Induced Jobs	Total Jobs	Projected Annual Revenues Subject to Hotel or Sales Tax	Tax Revenues Collected over 20 Years			
					State of Iowa	City of Waterloo	Local Debt Levies not Subject to TIF	Total
Hotel - rooms, room service, in-house catering	70.6	23.1	93.7	\$7,272,846	\$10,523,038	\$8,538,904	\$1,585,385	\$20,647,327
Full Service Restaurant - food, bar	34.0	9.4	43.4	\$3,137,000	\$4,601,690	\$1,051,529	\$83,718	\$5,736,937
Limited Service Restaurant	6.5	1.8	8.3	\$602,000	\$882,333	\$208,500	\$17,370	\$1,108,203
Catering to TechWorks	9.6	2.6	12.2	\$882,000	\$1,295,036	\$174,268	\$0	\$1,469,303
Incubator, Light Manufacturing, R&D, Office	159.7	132.2	291.9	*	\$14,047,858	\$334,767	\$0	\$14,382,625
Museum	9.6	3.1	12.7	*	\$382,201	\$774,210	\$148,388	\$1,304,799
Total	290.0	172.2	462.2	\$11,893,846	\$31,732,156	\$11,082,177	\$1,834,861	\$44,649,194

* No taxable revenues

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Exhibit 9: Economic Impact of the TechWorks Outlots

TechWorks Outlots	Direct Jobs	Indirect & Induced Jobs	Total Jobs	Projected Annual Revenues Subject to Hotel or Sales Tax	Tax Revenues Collected over 20 Years			
					State of Iowa	City of Waterloo	Local Debt Levies not Subject to TIF	Total
Restaurant	28.0	7.8	35.8	\$2,500,000	\$3,509,780	\$584,360	\$22,423	\$4,116,563
Commercial/Office Space	21.3	7.6	28.9	\$4,000,000	\$4,840,892	\$1,045,908	\$67,533	\$5,954,332
Total	49.3	15.4	64.7	\$6,500,000	\$8,350,672	\$1,630,268	\$89,956	\$10,070,896

Exhibit 10: Economic Impact of the TechWorks Marina

TechWorks Marina	Direct Jobs	Indirect & Induced Jobs	Total Jobs	Projected Annual Revenues Subject to Hotel or Sales Tax	Tax Revenues Collected over 20 Years			
					State of Iowa	City of Waterloo	Local Debt Levies not Subject to TIF	Total
Marina Retail & Service	4.4	3.1	7.5	\$300,000	\$545,438	\$286,112	\$45,011	\$876,561
Showroom & Boat Sales	5.3	2.0	7.3	\$1,500,000	\$1,631,855	\$476,597	\$45,011	\$2,153,463
Restaurant	16.0	4.4	20.4	\$800,000	\$1,077,301	\$209,893	\$15,828	\$1,303,022
Total	25.7	9.5	35.2	\$2,600,000	\$3,254,594	\$972,602	\$105,850	\$4,333,046

Given the Cedar Valley Region’s commitment to manufacturing excellence as well as the resources available at TechWorks, it is likely that successful companies will emerge as spinoffs from TechWorks. Future jobs will be created by graduates of the business incubator and by businesses that launch successful new products that were developed in TechWorks’ light manufacturing space, research and development space, and innovation centers. The impact of those potential business successes are not included as part of this economic impact analysis.

To provide insights on the possible impact of job creation by spinoffs from TechWorks, an Input/Output Model from Economic Modeling Specialists Int’l (EMSI) was used. To give an idea of the possible impact of the spinoffs, a scenario was created that assumes 100 new jobs in Farm Machinery & Equipment Manufacturing Industry will be created by spinoffs and the average earnings per worker are \$50,000 (which is nearly \$20,500 below this industry’s earning in the Waterloo metropolitan area), the following shows the annual impacts:

- 214 new jobs – 100 direct and 114 indirect and induced
- \$10.7 million in earnings
- \$53.8 million in sales

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In addition, there would be state and local tax revenues that would be generated by these spinoffs.. The success of the businesses served by TechWorks’ facilities and programs could have a significant impact on the future economies of the Waterloo area and the State of Iowa.

Estimated Number of Visitors and Customers

TechWorks is expected to attract a wide variety of people: local shoppers and diners; farmers; boaters; tourists; business travelers; convention, meeting and workshop attendees; workers and students receiving education and training; aspiring entrepreneurs, and others.

To determine the number of visitors and customers to all the TechWorks project areas, an estimate was made based on a percentage of the visitors and customers for each of the target geographical market segments that are expected to visit/use the overall Waterloo Reinvestment District. **It is estimated that over 270,000 people will experience TechWorks each year and just over 75% of the visitors will be Iowa residents.**

Exhibit 11: Estimated Number of TechWorks Visitors

Market Segment	Population*	% Experiencing TechWorks**	No. of People Experiencing TechWorks
Metropolitan Waterloo Area	118,109	25.000%	29,527
State of Iowa	2,967,207	6.000%	178,032
Midwest Region	26,001,202	0.250%	65,003
TOTAL	29,086,518	0.937%	272,562

* Source: ESRI

** Source: Vandewalle & Associates

Unique Characteristics of the Project

The scope of the TechWorks Campus and the proposed Waterloo Reinvestment District are unparalleled in the State of Iowa. This mixed-use “destination” development offers a museum that provides a history of manufacturing innovation in the Waterloo area, business development and training in advanced manufacturing, space for light manufacturing and research & development, two technology centers, an upscale business-class hotel, restaurants and entertainment, marina, and shopping. This development will serve the City of Waterloo, the Cedar Valley Region, and the State of Iowa, while attracting new global business opportunities that raise the State’s international reputation as a leader in advanced manufacturing innovation.

TechWorks is located at the intersection of Waterloo’s downtown riverfront, Deere & Company’s Drive Train Operations facility, and the interchange of U.S Highway 63 and U.S. 218 Expressway. This is an ideal location for a redevelopment project that will permanently transform the infrastructure and economy of downtown Waterloo. TechWorks is highly accessible to the underemployed workforce in the surrounding urban neighborhoods as well as to area residents, companies, and visitors to Waterloo.

Two historic buildings that originally were used to manufacture two-cylinder John Deere Waterloo Boy tractors will be reused and have been named “Tech 1” and “Tech 2” in the TechWorks Campus. These

buildings will combine the history of manufacturing excellence with today's innovative advanced manufacturing technologies. The John Deere Tractor & Engine Museum will also be located on this site and it will present the history of innovation in tractors and engines in the Waterloo area. The authenticity of the Museum on its historical site is a unique attraction for area and Iowa residents as well as out-of-state residents by capitalizing on the tractor and engine manufacturing history with a factory tour of today's John Deere Waterloo Works and reputation as a globally-recognized American manufacturing icon. The projects and activities related to John Deere at TechWorks represents a unique opportunity to showcase downtown Waterloo to domestic and international business travelers, as well as a growing skilled workforce that will utilize the John Deere Corporate Training Center, which will be located in Tech 2 building on the TechWorks Campus.

Given the strength of the Manufacturing Industry in Black Hawk County, Waterloo is uniquely positioned to leverage the history and strength in Manufacturing on the TechWorks Campus.

The Iowa Innovation Corporation's strategic economic development initiative, the Iowa Advanced Manufacturing Center (I-AM Center), will be located in the Tech 1 building. The I-AM Center will introduce and showcase industrial product and process design, materials, prototyping, fabrication, assembly, logistics solutions to drive Iowa's manufacturers to be more globally competitive. The University of Northern Iowa's Metal Casting Center (MCC) is a partner in this initiative and the MCC's 3D printing and digital manufacturing capabilities are unique in the Midwest. Hawkeye Community College (HCC) will operate a branch campus in TechWorks offering programs in advanced manufacturing. HCC, MCC, and I-AM Center will partner to bring companies, students, and researchers together to learn, solve, and build innovative solutions for some of advanced manufacturing's most pressing needs.

The business incubator on the TechWorks Campus will focus on advanced manufacturing and will have space available for light manufacturing and R&D. Entrepreneurs in the incubator will be able to easily take advantage of the resources that are available from the I-AM Center, Metal Casting Center, and Hawkeye Community College. Many of the businesses in the incubator would not have the financial resources to purchase the machinery and equipment that will be available to them at the I-AM Center and MCC, which will be a significant advantage in developing their new products and processes.

The proposed hotel is designed to LEED standards. This upscale business-class hotel will offer casual and fine dining as well as the capability to cater and host banquets, weddings, and other events. Currently, downtown Waterloo does not have enough rooms to support its convention center and other regional events and this new hotel would solve this problem.

The TechWorks Marina offers a site on the Cedar River for boat sales, fuel sales, boat storage, and riverfront dining that is not available anywhere else in the region. The Marina leverages over \$7.3 million of investment from the Vision Iowa Program, which was allocated to downtown riverfront projects such as construction for an inflatable bladder dam on the Cedar River, an outdoor amphitheater, a plaza, and a river-walk trail. Additional work is underway in the region to connect Brinker Lake with the Cedar River and to provide more access for power boating and paddling trails for increased river-based recreation. The potential Iowa Reinvestment funds could serve as a catalyst for this key site and function within the underutilized Cedar River waterfront for an attractive setting for business or pleasure.

With increased demand among young professionals and empty nesters for downtown housing, dining, entertainment, nightlife, and other amenities, TechWorks supports other restaurant and retail operations in the 4th Street downtown core and builds on the momentum of other new and upcoming downtown developments such as the adjacent \$20 million SportsPlex, which opened in January 2014, and the addition of 70 upscale housing units planned in 2015. TechWorks is a consummate urban infill development

that revitalizes a vacant waterfront site by providing value from an aesthetic, environmental, and economic perspective, in a way that no other destination in Iowa can provide.

The long term economic development impact of the businesses that were nurtured by TechWorks is a unique feature of this project. It is expected that there will be incubator graduates that build successful businesses that will create more jobs and generate more sales revenues. In addition, businesses that use the Iowa Advanced Manufacturing Center and the Metal Casting Center will develop new products and advanced manufacturing processes that will generate more sales revenues and improve manufacturing efficiencies. Graduates of Hawkeye Community College's programs in Advanced Manufacturing will be an excellent source of skilled talent for companies in the City of Waterloo, the Cedar Valley Region, and the State of Iowa. Therefore, TechWorks will contribute to the long-term economy of the Waterloo area and the State of Iowa.

Smart Solutions Group

This Feasibility Study was developed by Smart Solutions Group (SSG). Founded in 2001, SSG is an economic development consulting firm that has provided services to over 400 clients across the United States. SSG offers a wide range of services to help communities, regions, and states grow their economies by providing strategic planning, marketing strategies and programs, workforce planning and development, feasibility studies, economic impact analyses, target marketing studies, and organizational design and structure.