

# Deerfield Township Kingswood Property Redevelopment Scenario Profiles

Prepared For  
Deerfield Township



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**EconomicsCenter**

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# EXECUTIVE SUMMARY

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## I. Purpose

- | In 2006, the Deerfield Township Board of Trustees purchased the Kingswood Golf Course. This 96-acre property was converted to a park for the Township's residents. Currently, the park offers a walking trail, mature trees, and hosts a community garden, cyclocross races, high school athletics, and a number of other special events.
- | Deerfield Township has partnered with the Economics Center to complete an explorative research project looking at the potential benefits of various redevelopment scenarios. The Economics Center has focused on the jobs, earnings, and fiscal impact of the following five scenarios: full build-out office; full build-out mixed-use; office with greenspace; mixed use with greenspace; and light industrial.

## II. Real Estate Roundtable

The Economics Center convened a roundtable discussion of local development experts to help address opportunities and challenges associated with the Kingswood Redevelopment project. A nine-member panel of real estate and development leaders assembled in May, 2015, for two hours to discuss Kingswood Project's potential, discuss ideas around alternatives of site's use, identify additional challenges, and provide their own perspectives on the Township's role in the redevelopment project.

The panelists identified the site's geography, the Township's population growth, and its recent development momentum as major opportunities for the project. Termed "prime location" due to its proximity to the highway, this nearly 96-acre site offers not only easy access, but more importantly, visibility from the highway, a characteristic that many development-ready sites in the neighboring community of Mason do not have. Additionally, the panelists agreed that the optimal use for the site seems to be as a corporate office development, light manufacturing site, and/or research and development facility.

## III. Market Analysis

- | Deerfield Township has experienced significant growth in the Professional, Scientific, and Technical Services industry, as well as Health Care and Social Assistance sectors. These two industries grew by 57 percent and 38 percent respectively, while their total wages grew by 42 percent and 108 percent. Professional and Technical Services grew faster in jobs than wages, which suggests additional entry level and junior level positions. On the other hand, Health Care and Social Assistance's wages vastly outgrew the pace of new jobs suggesting an expansion of management and experienced employee employment.

- Additionally, despite a contraction in the Finance and Insurance industry loss of 16 percent from 2013Q3 to 2014Q3), Deerfield remains a heavily competitive location for Finance and Insurance. While Deerfield represents only **0.38** percent of Ohio’s employment, it represents over **1.2** percent of Ohio’s Finance and Insurance employment.

#### IV. Development Scenarios

- The five scenarios included the impact of office space use only, mixed-use, and light industrial development in Deerfield Township. The Economics Center ran two sets of development scenarios for both office and mixed use to better understand the level of development and the fiscal impact on Deerfield Township. Residential and retail scenarios were not pursued due to the immediate proximity of the highway, as well as light industrial, and because the real estate roundtable did not identify either as a viable option for the Kingswood site.

The results of the scenarios can be seen in Table 1. Strictly office space development will lead to a higher earnings and regional economic impact than mixed-use; however, mixed-use development will yield a greater number of jobs. This is due to restaurant and retail operations needing a higher density of employees per square foot to support them than the office development. The impact of more jobs in the economy will benefit spending by residents and individuals in the area. However, since Deerfield Township does not collect earnings tax, the earnings impact will not have a direct fiscal effect on Deerfield Township.

**Table 1. Economic, Employment, Earnings, and Fiscal Impacts**

Total Impacts by Development Scenario				
Type	Impact	Jobs	Earnings	Fiscal Impact
Office Full	\$ 1,060,409,000	5,799	\$ 275,595,628	\$ 3,295,855
MixedFull	\$ 1,007,102,000	6,792	\$ 261,334,161	\$ 3,546,968
OfficeGreen	\$ 565,551,000	3,093	\$ 146,984,335	\$ 1,757,789
MixedGreen	\$ 547,403,000	3,639	\$ 140,197,814	\$ 1,883,346
LightIndustrial	\$ 138,756,869	511	\$ 20,200,969	\$ 1,360,194

Light industrial development has the lowest impact on additional development, jobs, earnings, and fiscal impact. This is due to light industrial property having a lower per square foot valuation than either mixed-use or office developments.

Ultimately, there may be additional intangible benefits to developing a mixed-use office park. Amenities such as shopping and restaurants may increase office productivity and enable businesses to host lunches, panels, or conferences more easily.

# PURPOSE

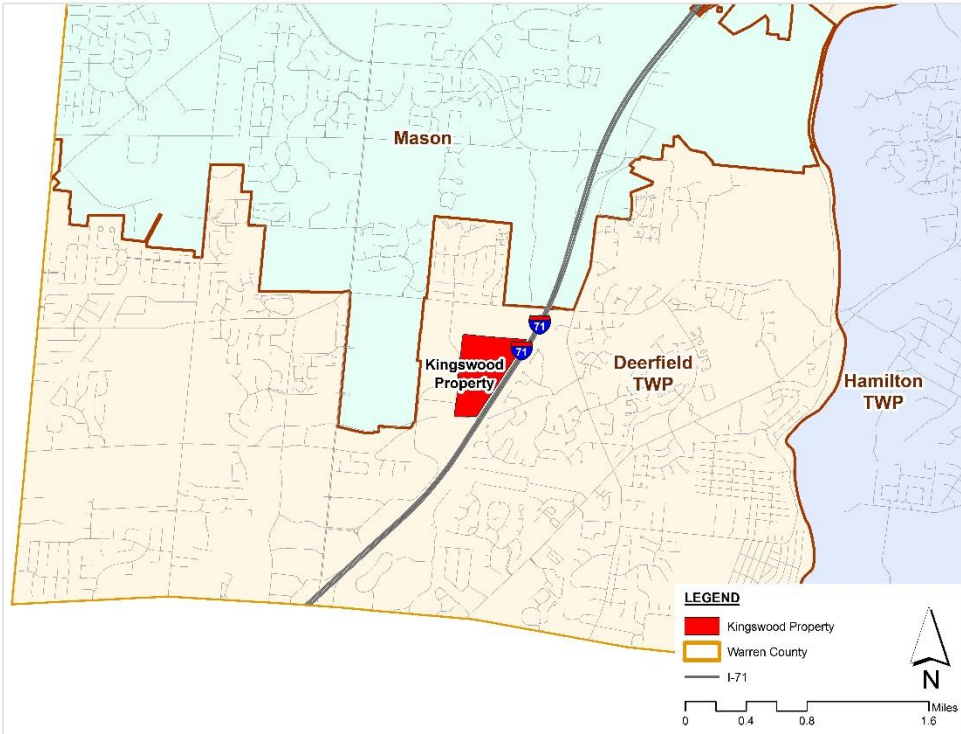
In 2006, the Deerfield Township Board of Trustees purchased the Kingswood Golf Course. This 96-acre property was converted to a park for the Township’s residents. Currently, the park offers a walking trail, mature trees, hosts a community garden, cyclocross races, high school athletics, and a number of other special and community events.

Deerfield Township commissioned the Economics Center to complete an explorative research project looking at the potential benefits of various redevelopment scenarios. These redevelopment scenarios include multiple buildouts of various mixed-use configurations, dedicated office park style development, light industrial, and an opportunity cost analysis of not redeveloping within the near future. The Economics Center has focused on the job, earnings, and fiscal impact of the various scenarios.

## KINGSWOOD PROPERTY DESCRIPTION

As depicted in the map below, the Kingswood Property is located along Interstate 71 with the southern boundary of the site fronting Irwin-Simpson Road. The western edge of the property line is immediately adjacent to Duke Boulevard. While the Kingswood property technically includes a small parcel on the East side of Interstate 71 (I-75), this area will not be included as a developed site within this research.

Figure 1



The Kingswood site is currently zoned General Business (G-B). According to Deerfield Township's Zoning Resolution, the purpose of General Business Districts *is to provide for the wide variety of needs for both convenience goods and the more common and often recurring shopping trips for goods, and personal and household services. The location and nature of commercial activity is intended to serve the greater community and/or region.* Examples of permitted uses include financial institutions, office, hotel, indoor or outdoor recreation facilities, medical center, retail, and research and development. Many of these industries compose the employment and establishment makeup in Deerfield Township, as well as offer substantial fiscal impact in terms of property valuation and assessed value.

Although not currently zoned for an industrial use, Deerfield Township may receive interest from light industrial and manufacturing users given that many of the properties immediately west of Kingswood are zoned for light manufacturing.

## TECHNICAL ANALYSIS

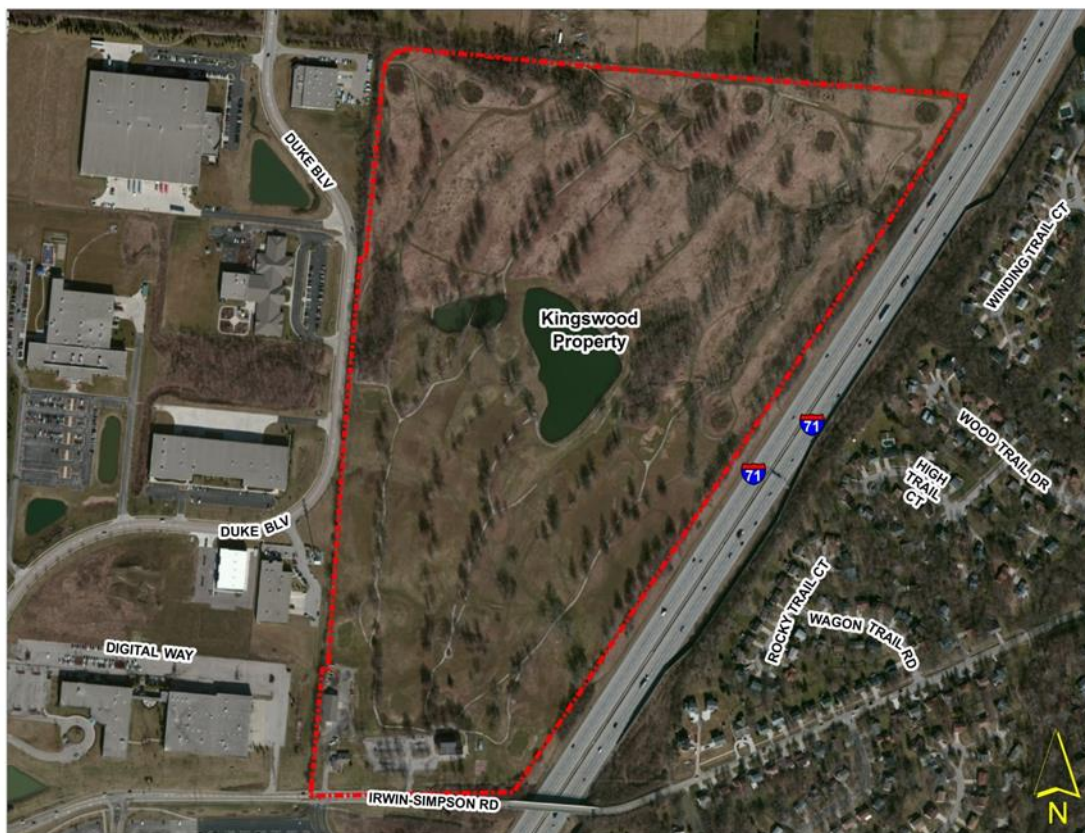
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The Economics Center completed a thorough technical analysis of the Kingswood Development as well as the impact of development on Deerfield Township and the surrounding area. Particularly, the Economics Center convened a real-estate roundtable with a number of local property experts and development leaders from the region. Additionally, the Economics Center prepared a comparable real-estate property matrix including location, total size, price per acre, sale date, and submarket.

### REAL ESTATE ROUNDTABLE

Real Estate Roundtable: Experts Weigh In on the Site's Development Potential

Figure 2



The Economics Center convened a roundtable of local development experts to discuss opportunities and challenges associated with the Kingswood Redevelopment project. These roundtable discussions are typically used as a vehicle to address real estate questions that can use a unique perspective and experience of leaders of local redevelopment projects. A nine-member panel of real estate and development leaders assembled in May, 2015, for two hours to discuss Kingswood Project's potential, discuss ideas around alternatives of site's use, identify additional challenges, and provide their own perspectives on the Township's role in the

redevelopment project. Each member was provided with an overview of the project before the panel.

- | The panelists identified the site's geography, the Township's population growth, and its recent development momentum as major **opportunities for the project**. Termed "prime location" due to its proximity to the highway, this nearly 96-acre site offers not only easy access, but more importantly, visibility from the highway, a characteristic that many development-ready sites in the neighboring community of Mason don't have. Deerfield Township's relatively high average income of residents and zero earnings tax make it an attractive community to live in. The site fits many criteria for development leads and potential new investment; however, while some panelists highlighted the site's proximity to *regional* infrastructure as a **strength**—including the improvements to Interstate 71 access—others pointed to the relative lack of immediate infrastructure in and around the site as one of the project's **challenges**. This makes the site not ready for immediate redevelopment, and that, combined with a lack of clear redevelopment timeline, creates enough uncertainty with potential developers who then opt out in favor of shovel-ready options. In addition, roundtable participants identified two other concerns. The Township's needs are not readily known or clearly stated, so, at times, no clear match can be made by those economic development professionals who are likely to bring leads to the attention of the Township's leaders. Second, the Township is not able to offer incentives as its revenue structure is tied to property tax. .
- | The panel participants discussed the **potential use of the site**. Residential options were seen as possible *only* along the site's northern edge, certainly not in and around the site's center. Regarding retail uses, participants agreed that Kingswood is likely not an ideal site, since plenty of retail options already exist along Mason-Montgomery Road. The site is also not a likely spot for a distribution facility. The panelists agreed that the optimal use for the site seems to be as a corporate office development, light manufacturing site, and/or research and development facility. Along those lines, the market for corporate office space has changed over recent years, with higher expectations on the part of resident businesses; however, the demand *is* there for a site this large in the northern suburbs of Cincinnati. It was noted that only an office or R&D site would likely justify the cost of \$80,000/acre; the same couldn't be said of a light industrial manufacturing plant. In terms of a mixed-use approach, the panelists seemed to agree that this is not as good of an option simply because of the residential component that would need to be present - and was not likely - given the site's location and topography.
- | Among examples of other local development projects that were "**models**" for the **Kingswood projects**, the following were noted: the Kingswood site was deemed as optimal for a business like Luxottica or Assurex. Waterstone was cited as a good example



of development, as was Union Center in West Chester. Previously, City of Mason developed Oak Park, and that project was also seen as an example of good development. The City of Blue Ash and its airport site were also cited as an example of an ideal redevelopment project. Deerfield Township has a competitive advantage over other communities in Greater Cincinnati, given its zero percent earnings tax.

- | The panel discussed the **location of the proposed road** to highlight potential problems with the plans: namely, its proposed location is driven by the need to address traffic congestion in the surrounding area—namely to more efficiently get Procter & Gamble employees to Interstate 71—*not* by the economic development needs. With the latter in mind, growth and expansion of the entire area can be warranted by a good placement of a new East-West connecting road, along Socialville Foster. The consensus among the roundtable participants is that, as proposed, the road cuts off Kingswood site's overall visibility off the Interstate and effectively limits what can be developed in and around it. However, in terms of attracting new development, a clear plan for the Kingswood site, complete with optimal placement of the roads and utilities is needed for any potential corporation to be able to visualize its operations there.
- | That notion of a **Master Plan** or a Vision Document for the site was consistently reiterated. During the discussion of development of specifications for the Kingswood project, a clear plan that includes a new road and improvements to infrastructure *is a must* as it gives guidance to prospective builders and brokers. Connected to the idea of a Master Plan is the overall role of the Township in the redevelopment project. For one, a Master Plan would set not only the Township's immediate goals around the 12 percent of its land that is still able to be developed, but would also set a long term vision for the community: attraction of a particular talent or resident of particular demographics, as well as the community's "feel". A potential development could be as an urbanized lifestyle community north of downtown Cincinnati featuring bike and walking paths, small parks, office space, and a plethora of non-chain, unique restaurants. A plan like that would also be able to address the challenges with the site's topography, namely the existence of wetlands and streams that could be addressed by the Army Corps of Engineers.
- | Panelists suggested that because of Deerfield Township's capacity and resource constraints, the Township will likely need a **master developer**, or open up the site to multiple developers (owner/user). Without this, sites like this are a challenge for the Township to develop on its own, particularly as large corporations such as Duke Realty – which is now leaving the Cincinnati market – have, since the mid-2000s by and large influenced the nature of office development projects and their specs. Without a Master Plan, even though the Township and the Kingswood site have multiple assets – as noted previously – in a competitive economic development landscape, the Township could still lose out on important projects when compared to some other local communities.

- | When asked to weigh in on **the locations and proportions** of possible development in Kingswood, a few notable suggestions were offered, including 1) given a likely 12,000 square feet of office space per acre, 15 office buildings with 75,000 square feet of space each; 2) a large-acreage user (such as a GE), developing the property into a tantamount of four GE properties—these are very rare regionally (only one every 15-20 years) and this option would likely be an option for a regional headquarters; 3) a blend of office space with size options ranging from 60,000 to 100,000 square feet with a surface parking lot; 4) office spaces of 25,000 square feet *each* along Irwin Simpson, and a space for R&D Center toward the middle of the site.
  
- | Lastly, **quite a bit of optimism** was expressed regarding the region overall, and in particular, how the ripple effect of the recent revitalization of the City of Cincinnati adds to the overall energy and momentum for Greater Cincinnati communities, including Deerfield Township. With a successful urban core, more talent is attracted to the region generally, as the vitality of Downtown Cincinnati meets important quality of life needs for millennials, needs that suburbs alone can't meet. While some years back, employees of companies with office locations in larger urban centers such as Chicago for instance, used to be attracted to those other cities, now the momentum has shifted and a number of workers are surprised by the vitality of the local region. Overall, in terms of economic development, the Kingswood project is likely to compete with companies that are considering sites along the Interstate 71; the competition is with those companies, not necessarily with companies in downtown Cincinnati. Members of the panel were also confident that if the site were pad-ready with infrastructure in place and companies had assurance that building could be complete in 12 months, it would be an easy site to fill.

## COMPARABLE REAL ESTATE TRANSACTIONS

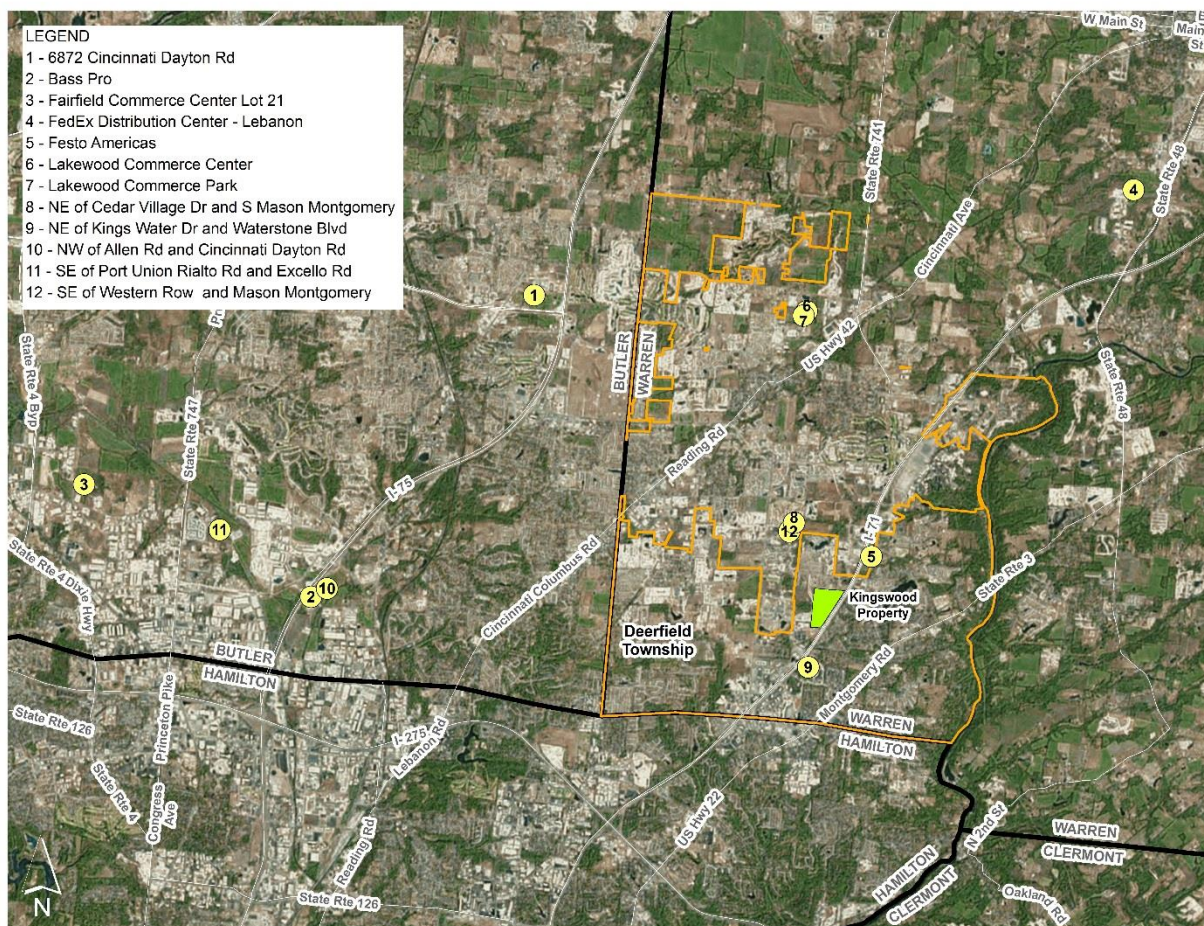
The Economics Center identified 12 comparable development sites around the Butler and Warren County Area. Comparable real estate transactions were based on the following:

- Site is at least 10 acres in size
- Site is located in a suburban community in northern Greater Cincinnati
- Site is within close proximity to a major transit hub (e.g., I-75 & I-71)
- Sold since 2010

Figure 3 is a map detailing the 12 locations, followed by a table including property name, acreage, sale data, price per acre, and other data pertinent to comparing Kingswood to other development sites within the northern Greater Cincinnati region.

Figure 3

### Map of Comparable Properties to Kingswood within northern Greater Cincinnati



**Table 2. List of Comparable Properties to Kingswood Development, Sold since 2010**

ID	Property Name	County	Submarket	Lot Size (Acres)	Sale Price	Price/Acre	Sale Date
1	6872 Cincinnati Dayton Rd	Butler	Liberty Twp.	11.99	\$3,712,136	\$309,603	Feb-13
2	Bass Pro	Butler	West Chester	21.75	\$6,525,600	\$300,028	Nov-13
3	Fairfield Commerce Center Lot 21	Butler	Fairfield	11	\$450,000	\$40,909	Nov-12
4	FedEx Distribution Center, Lebanon	Warren	Lebanon	28.46	\$1,852,500	\$65,091	May-12
5	Festo Americas	Warren	Mason	45.81	\$6,350,000	\$138,616	Jun-13
6	Lakewood Commerce Center	Warren	Mason	21	\$820,000	\$39,048	Nov-12
7	Lakewood Commerce Park	Warren	Mason	21.15	\$820,000	\$38,771	Nov-12
8	Cedar Village and S Mason Montgomery	Warren	Mason	19.45	\$960,000	\$49,357	May-14
9	NE of Kings Water Dr and Waterstone Blvd	Warren	Deerfield Twp.	15.15	\$1,428,908	\$94,317	Aug-14
10	NW of Allen Rd and Cincinnati Dayton Rd	Butler	West Chester	37.86	\$4,800,000	\$126,783	Apr-14
11	SE of Port Union Rialto Rd and Excello Rd	Butler	West Chester	10	\$580,000	\$58,000	Oct-13
12	Western Row and Mason Montgomery	Warren	Mason	15.19	\$2,469,610	\$162,581	Jul-10

The price per acre ranges from \$38 thousand to \$309 thousand, with the weighted average acre selling for approximately \$122 thousand<sup>1</sup>. The largest site (45.81 acres) is Festo America which sold for \$138 thousand per acre. Festo is one of two properties within the comparable property analysis that is located along the I-71 corridor. The other I-71 corridor property is a warehousing parcel which sold for \$65 thousand per acre. The purchase price of the Kingswood property was approximately \$8 million, or \$80 thousand per acre, which is almost \$40 thousand less than average in terms of price per acre.

<sup>1</sup> In 2015 CPI adjusted dollars

## **CONVERSION OF GREENSPACE AND FAIRWAYS**

Municipalities have to regularly weigh the benefits and costs and maintaining public greenspace. Included in this are positive things such as public amenities, increases in property values for nearby properties, environmental and water run-off, whereas crime (including vandalism, loitering, and littering), maintenance costs, and the opportunity cost of development and additional land used for commercial or residential property. Deerfield Township, having no earnings tax, generates nearly all of its local revenue through tax millage. Therefore, Deerfield Township is an ideal area to consider the redevelopment of a former golf course and current park and public space into a commercial or mixed use development.

## **DEVELOPING A NEW VISION FOR AN OLD SITE**

Jane Hickie, James F. Dausch, and Edward B. Vinson, in the article 'Aging on a Different Course', suggest how the suburban golf courses can be redeveloped and put to an effective use by integrating them with existing suburban communities (Hickie, Dausch, & Vinson, 2012). During the 1980s most were proposed and developed in the suburban areas of America as the land values were low, accompanied with a great shift of urban population towards suburbs. Over time, these expensive golf courses have become a burden for many suburban communities to maintain. Therefore, undertaking redevelopment efforts could provide a solution to the financial problems faced by many homeowners associations and golf course operators (Hickie, Dausch, & Vinson, 2012).

The recent economic recession and a potentially saturated market for golf courses create unique opportunities for community development. These opportunities are available nationwide, and can be used to reconfigure an existing golf course for a new public and private mixed-use project that can retain much of the acreage of the course as greenspace. Additionally, redevelopment may address the need for appropriate homes and neighborhoods of aging America (Hickie, Dausch, & Vinson, 2012).

## **TRANSFORMATION TO A SUSTAINABLE COMMUNITY IN THE SEINE RIVER CORRIDOR**

In 2011, the city of Winnipeg sought to repurpose the land occupied by the 129 acre Windsor Park Golf Course for housing development purposes. Converting the golf course into a residential development would "limit new urban sprawl and enhance accessibility for residents and visitors" (Abolit, 2013). Since the Seine River runs through this area of land, special considerations were made when planning these developments to ensure that they would be environmentally sustainable. The city explored a few housing development scenarios for the area, namely "single family lots, multi-family attached homes, large and high density apartment blocks, and high density mixed use commercial and residential complexes" (Abolit, 2013). For each scenario, the city assessed what designs would work for the respective scenarios, what

would not work, and density figures for the new development in dwelling units per acre. The study also investigated existing features of neighborhoods surrounding the golf course property boundaries. This is a necessary step to take as it helps determine which development scenario blends the most seamlessly with surrounding property uses. The final design proposal resulting from the findings of this study incorporated the development of single family detached units and multi-family attached units and apartments.

## **RIVER VIEWS AND GREENSPACE TO LUXURY CONDOS**

Another example of the conversion of public green space to a private development is the River Trail Apartments, a 6 acre development on the Peoria riverfront featuring 143 apartments. The complex is located on municipal-owned parkland along the Illinois River. Community opinions at the city council meeting were mixed, with nearly 20 dissenters to a handful of supporters. While the development is considerably smaller than Kingswood, Peoria's experience with the 6 hour discussion and 8-3 decision to approve the development and continue with the \$23 million development offers contrast and support of potentially converting Kingswood to a full development.<sup>2</sup> The expansion of property tax revenue, especially when in a dense development pattern where the net property tax revenue may be similar to a loosely developed parcel of nearly three times the size, will bolster social services and help cover the cost-of-services that residential properties cannot pay alone.

## **COMMUNITY ENGAGEMENT**

A major component of any redevelopment within a certain community is a degree of community engagement and community reaction to the proposal. It is the community that can determine the success of the project. At times, some projects have to face severe community opposition, especially if they are related to the development of public space. Kingswood Golf Course in Deerfield Township, now actively used as a park after it was acquired by the Deerfield Township Board of Trustees, could also face community reactions for the future proposed development. This opposition is due to a number of factors such as when buying a unit of property near a public amenity, the owner has an expectation that the amenity or view will not change; while the owner has generally limited legal ramifications for this, it can still be a highly emotional and expensive conversion. Kingswood, however, is flanked by light industrial to the west and the interstate to the east with limited exposure on the north and south to any residential properties.

## **TREATMENT OF GOLF COURSES AROUND THE NATION**

### **| Minnetonka Country Club (Shorewood, Minnesota)**

The owner of Minnetonka Country Club, Bill Witrak, announced the closure of a nearly 100 year-old golf course at the end of 2014. The country club near Lake Minnetonka was opened in 1916, and was one of the oldest, continuously-active golf courses in Minnesota. The clubhouse and

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<sup>2</sup> <http://www.pjstar.com/article/20150414/NEWS/150419555>

18-hole golf course were closed due to increased costs of keeping up the clubhouse facilities and decreasing revenue. The nearly 117-acre golf course and country club sit on the single largest parcel of property in Shorewood, making it a prime property for future development (Smith, 2015).

In Shorewood, the golf course hosted golfers, weddings, and other events. It was also actively used by golf teams like Minnetonka High School for golf matches and practices. The closing of the golf course sparked some opposition from 7,300 nearby residents and longtime club members who attempted to save the country club by suggesting alternative uses (Smith, 2015).

Developer Mattamy Homes presented a preliminary concept plan for 121 high-end homes to the City's Planning Commission. The plan included preservation of roughly 60 acres of site for wetlands, trails, and public or private open spaces (Smith, 2015).

### **| Katehaven Golf Course (Circle Pines, Minnesota)**

A nine-hole golf course was closed to develop the site into a 70-luxury townhome development, Weston Woods on Rice Creek. The Katehaven Golf Course is one of the seven golf courses in the Twin Cities and 18 across the state of Minnesota that have closed due to the public losing interest in golf as a sport. In many cases, the former courses have been redeveloped (Prather, 2015).

The owners of Katehaven Golf Course decided to sell the golf course due to increased competition from government-owned golf courses and the struggling golf industry in general. A residential development was proposed to meet the increasing housing demand. On February 20, 2014 the Blaine City Council approved rezoning of the 37-acre site from R-1 single family to development flex along with a preliminary plat (Hagen, 2014).

According to the owner of Mark of Excellence development, Mark Smith, most neighbors of Weston Woods have accepted the project – with the caveat that roads in the area needed to be improved. In spite of this, the residents were sad to see the golf course taken away (Prather, 2015).

### **| Reston National Golf Course (Reston, Virginia)**

Reston National is one of two golf courses in Reston and its only public course. The 18-hole golf course spread over 166 acres of land is located halfway between the District of Columbia and Washington Dulles International Airport. The golf course sits close to a recently-opened Metro station and the site of another station that is scheduled to open in 2018, making it a prime spot for developers who want to build homes within walking distance of the Metro line (Olivo, 2015).

This proposal created a fierce opposition from residents concerned about the potential loss of a treasured open space. It is publicly accessible for golfers, bird watchers, and joggers for decades. Also, the golf course is used by high school golf teams (Olivo, 2015).

### **| Colwood National Golf Course (Portland, Oregon)**

Colwood National Golf Course spanned 138 acres of land. City of Portland bought 90 acres of this property from the nonprofit Trust for Public Land for \$5million. The other 48acres of land were to be rezoned for industrial use dividing the 18-hole golf course into industrial development and park space (Theen, 2014).

### **| Overland Park, Kansas City**

Kansas City's Overland Park redevelopment is a 90-acre redevelopment of the closed 27-hole Brookridge Golf course. The first phase of the new development will include approximately 600,000 square feet of office space, 1,382 apartment units, and nearly 40,000 square feet of retail space. Additionally, the site will include a 140-unit senior living complex.<sup>3</sup>

The redevelopment broke ground in 2015 and is slated to be ready for initial occupancy in spring of 2016. The entire project is estimated to be approximately \$350 million in investment, and could potentially have an impact of \$1 billion.

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<sup>3</sup> <http://www.kansascity.com/news/business/development/article2214494.html>



## MARKET ANALYSIS

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### LOCAL, REGIONAL, STATE MARKET CONDITIONS

#### Introduction

This market analysis uses the most recent restricted-use Quarterly Census of Employment and Wages (QCEW) data received from the Ohio Department of Jobs and Family Services. These data have information on all commercial activity in Deerfield Township, Warren County, and the State of Ohio including employment, wages, and industry.

**Table 3. Deerfield Industry Employment**

Industry	2014Q3	2013Q3	Net Change	% Change
<b>Manufacturing</b>	411	461	-49	-11%
<b>Retail Trade</b>	4,203	3,293	910	28%
<b>Finance and Insurance</b>	2,543	3,022	-479	-16%
<b>Professional, Scientific, Technical Services</b>	1,416	905	511	57%
<b>Office and Administrative Support</b>	2,743	2,682	61	2%
<b>Health Care and Social Assistance</b>	1,218	882	336	38%
<b>Accommodation and Food Services</b>	2,795	2,824	-30	-1%
<b>All Other</b>	4,324	4,402	-78	-2%

Deerfield Township has experienced significant growth in the Professional, Scientific, and Technical Services sector. Warren County has also seen growth in this sector; however, the majority of the growth is due to Deerfield Township. Health Care and Social Assistance has also experienced significant growth in Deerfield while Warren County as a whole has not seen the same level of growth. Over the last year, there has been a slight contraction in the Finance and Insurance sector in both locations. This decrease may be seasonal or due to movement of a single company, but is likely not indicative of future growth or contraction within the region for Finance and Insurance. Deerfield remains a heavily competitive location for Finance and Insurance. While Deerfield represents only **0.38** percent of Ohio's employment, it represents over **1.2** percent of Ohio's Finance and Insurance employment.

**Table 4. Warren County Industry Employment**

<b>Industry</b>	<b>2014Q3</b>	<b>2013Q3</b>	<b>Net Change</b>	<b>% Change</b>
<b>Manufacturing</b>	4,307	3,951	356	9%
<b>Retail Trade</b>	10,899	10,615	283	3%
<b>Finance and Insurance</b>	3,937	4,456	-519	-12%
<b>Professional, Scientific, Technical Services</b>	3,684	3,046	638	21%
<b>Office and Administrative Support</b>	5,615	5,655	-40	-1%
<b>Health Care and Social Assistance</b>	9,591	9,378	213	2%
<b>Accommodation and Food Services</b>	8,993	8,723	270	3%
<b>All Other</b>	37,820	36,964	856	2%

Total wages in Deerfield have stayed relatively consistent with trends in employment. Health Care and Social Assistance is the distant outlier when comparing job growth and wage growth. While gaining an impressive 336 jobs (38 percent) from 2013Q3 to 2014Q3, total wages have grown by over \$29 million (108 percent increase). Professional, Scientific, and Technical Services conversely, saw a 57 percent increase in employment, but only a 42 percent increase in total wages. This suggests that while the 2013Q3 average wage was higher than the average wage of 2014Q3, additional new jobs were introduced to the local area at the entry or junior levels.

**Table 5. Deerfield Total Wages**

<b>Industry</b>	<b>2014Q3</b>	<b>2013Q3</b>	<b>Net Change</b>	<b>% Change</b>
<b>Manufacturing</b>	\$29,966,316	\$32,054,088	-\$2,087,772	-7%
<b>Retail Trade</b>	\$165,489,940	\$114,149,764	\$51,340,176	45%
<b>Finance and Insurance</b>	\$167,491,444	\$189,620,264	-\$22,128,820	-12%
<b>Professional, Scientific, Technical Services</b>	\$91,614,468	\$64,360,284	\$27,254,184	42%
<b>Office and Administrative Support</b>	\$95,902,516	\$86,642,120	\$9,260,396	11%
<b>Health Care and Social Assistance</b>	\$56,238,184	\$26,995,228	\$29,242,956	108%
<b>Accommodation and Food Services</b>	\$47,829,132	\$46,249,356	\$1,579,776	3%
<b>All Other</b>	\$243,191,368	\$227,162,492	\$16,028,876	7%

## INDUSTRY CLUSTER SUPPLY CHAIN ANALYSIS

The following table contains rows of 3-digit NAICS industries and the supply chain that the local region possesses. The columns of data are organized by a majority of the Jobs Ohio jobs clusters that are pertinent to Deerfield Township. The table shows the amount of inter-industrial trade as you read left to right. For example, Professional, Scientific, and Technical Services support many industries (other industries purchase their productivity) whereas Insurance Carriers primarily support the financial services sector in Deerfield Township. The numbers in green boxes denote a higher-share of local employment. The red boxes contain lower numbers of local supply and employment within these industry subsectors.

Table 6. Industry Supply Chain Diagram

NAICS	Industry	Aerospace and Aviation	BioHealth	Energy	Financial Services	Food Processing	Information Technology Services	Manufacturing	Polymers and Chemicals
511	Publishing Industries (except Internet)						12.1%		
523	Securities and Other Financial Investments				7.8%			0.8%	
524	Insurance Carriers and Related Activities				18.9%				
541	Professional, Scientific, and Technical Services	1.5%	4.5%	2.5%	3.6%	0.6%	6.3%	1.4%	0.6%
561	Administrative and Support Services	1.5%	0.5%	0.7%	1.6%		3.9%	0.7%	

Professional, Scientific, and Technical services is an industry subsector that has wide-spread local supply chains. All of the industries that we examined have some sort of economic relationship, or inter-industrial transactions, within Professional, Scientific, and Technical Services.

Additionally, Administrative and Support Services is well embedded in the regional economy.

Publishing represents an interesting outlier as it only has one industry with inter-industrial transactions, Information Technology Services. This suggests that Publishing Industries (except Internet) will not likely have widespread employment or development effects within the regional economy. The majority of new jobs created will be within Information Technology Services to better aid and contribute to the Publishing companies.

# DEVELOPMENT SCENARIOS

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## ASSUMPTIONS

The following assumptions were made on the basis of the Kingswood Development Roundtable, industry standards, and research expertise, along with the literature and case-study review of similar development projects.

The project site is approximately 96 acres and, at a rate of 12,000 square foot of developed space per acre, could feasibly support 1,125,000 square feet of office, retail, restaurant, and/or light industrial space. Developed, the site's size is very similar to Liberty Center, a 64-acre site featuring 1.2 million square feet of developed land, including nearly 100,000 square feet of restaurant space, 350,000 square feet of retail, but only 75,000 square feet of Class-A office space.<sup>4</sup> At "full development", Kingswood would still have a considerable amount of space for parks, walking trails, and the large water feature on the property.

Table 7 is a summary table of the number of jobs per 1,000 square feet by industry. These numbers are estimated averages of a number of employment options within each sector type.

<b>Position Type</b>	<b>Jobs/1,000sf</b>
<b>Office</b>	3.33
<b>Restaurant</b>	4.50
<b>Retail</b>	2.50
<b>Light Industrial</b>	0.50

Restaurant space, in particular, ranges from approximately 2-6 employees per thousand square foot depending on service level.<sup>5</sup> The estimate was completed based on primarily counter-service eateries, with more employees per thousand square foot.

Based off of a maximum development size of 1.125 million square feet, the Economics Center examined six scenarios: five developments of various size and industry composition, as well as one scenario where there is no new development. Two scenarios encompass a full-build out of the entire site. As mentioned above in the Roundtable discussion, the 1.125 million square feet represents nearly four-times the amount of space that GE typically purchases for a new HQ or branch every 15-20 years. Therefore, it can be assumed that while looking at industry trends and office space absorption is helpful, the scale of this project requires significant investment from the private sector to plan and build a leading-edge development that would radically increase the office, mixed use, and/or light industrial inventory on the I-71 corridor.

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<sup>4</sup> <http://www.liberty-center.com/About>

<sup>5</sup> DeChiara Planning & Design Criteria, Fishkind & Associates of Orlando, FL

Table 8. Development Scenario Breakdowns	Land-use breakdowns as parts of the total				
	Total	Office	Restaurant	Retail	Light Industrial
<b>Full Office</b>	1,125,000	1,125,000			
<b>Full Mixed Use</b>	1,125,000	925,000	135,000	65,000	
<b>Office with Greenspace</b>	600,000	600,000			
<b>Mixed Use with Greenspace</b>	600,000	500,000	75,000	25,000	
<b>Light Industrial</b>	650,000				650,000

The Full Office as well as Full Mixed Use scenarios comprise the entirety of the 1.125 million square feet. Both the Office and Mixed Use Greenspace examples are composed of 600,000 square feet of developed land. The estimates of light industrial planning are based on the footprint of a series of parcels adjacent to the Kingswood site to the West.

Lastly, jobs directly created by the new development will be held by individuals working in Deerfield Township at the new Kingswood site. However, indirect jobs will be shared amongst individuals in Deerfield Township, as well as within the rest of Warren County.

## OFFICE

The first development scenario completed was the full office build-out. This includes 15 three-story office structures averaging 75,000 square feet. The number of position directly occupying the office structure would be nearly 3,750, with an additional 2,052 jobs created indirectly. This creates a total of 5,799 jobs at the Kingswood redevelopment site.

Additionally, the average wage of the direct employment jobs is \$52,130, compared to the average wage of the total new jobs (including indirect) \$47,528. In comparison, the median income of an entire household in Deerfield Township is \$57,788.<sup>6</sup>

Table 9. Full Office, 1.125m Square Feet			
	Impact	Jobs	Earnings
<b>Direct</b>	\$713,839,611	3,746	\$195,292,815
<b>Indirect</b>	\$346,569,389	2,052	\$80,302,813
<b>Total</b>	\$1,060,409,000	5,799	\$275,595,628

The next development scenario is the office with greenspace development plan. This development pattern would have a little less than half of the square footage space developed as the full-development, but would allow for greater use and flexibility of the green space.

<sup>6</sup> According to 2013 ACS and adjusted to 2015 dollars.

	Impact	Jobs	Earnings
<b>Direct</b>	\$380,714,459	1,998	\$104,156,168
<b>Indirect</b>	\$184,836,541	1,095	\$42,828,167
<b>Total</b>	\$565,551,000	3,093	\$146,984,335

The site would support approximately 2,000 direct jobs and more than 3,000 total jobs. The average wages for direct and indirect employees are the same as above with the full development pattern.

In addition to the ongoing operations benefits, the following table shows the impact, jobs, and earnings during the construction period. The earnings and jobs are consistent with the direct cost ratios for both office development scenarios.

	Impact	Jobs	Earnings
<b>Direct</b>	\$196,875,000	1,040	\$41,819,000
<b>Indirect</b>	\$145,235,000	762	\$25,611,000
<b>Total</b>	\$342,110,000	1,802	\$67,430,000

The impacts of construction are temporary and cannot be added to the ongoing operations impact, because when construction is complete, the jobs will likely migrate out of the local area and be partially or wholly offset by operations jobs.

	Impact	Jobs	Earnings
<b>Direct</b>	\$105,000,000	555	\$22,304,000
<b>Indirect</b>	\$77,459,000	406	\$13,659,000
<b>Total</b>	\$182,459,000	961	\$35,963,000

## MIXED USE

The next two scenarios are primarily Class-A office space with approximately 5-7 percent and 15 percent of total developed area utilized as retail and restaurant space, respectively. These destination retail and restaurant locations would benefit from the office buildings on-site, as well as the I-71 corridor traffic and large number of local residential properties.

The full mixed-use development results in the most number of total jobs of any scenario. The full build out office park with mixed use restaurant and retail options, totals 3,850 direct jobs with an average wage of \$44,505, and an additional 2,942 indirect jobs at an average wage of \$30,588. Combined, these 6,792 total new jobs would have an average wage of \$38,478. Although the mixed-use development has the highest jobs increase, the total earnings of \$261.3 million are less than the full office development’s total earnings of \$275.6 million. This is due to lower average wages in retail and restaurant services.

**Table 13. Full Mixed Use, 1.125m Square Feet**

	Impact	Jobs	Earnings
<b>Direct</b>	\$684,342,744	3,850	\$171,357,045
<b>Indirect</b>	\$322,759,256	2,942	\$89,977,116
<b>Total</b>	\$1,007,102,000	6,792	\$261,334,161

The next scenario is the mixed-use with greenspace development pattern. This includes 500,000 square feet of office, 25,000 square feet of retail, and 75,000 square feet of restaurant space.

**Table 14. Mixed Use with Greenspace, 600k Square Feet**

	Impact	Jobs	Earnings
<b>Direct</b>	\$365,783,308	2,065	\$92,193,065
<b>Indirect</b>	\$181,619,692	1,574	\$48,004,749
<b>Total</b>	\$547,403,000	3,639	\$140,197,814

Similar to the full mixed-use build out, the office mixed-use and greenspace offers more jobs than the strictly office greenspace build out. The mixed-use greenspace scenario results in 2,065 direct jobs with an average wage of \$44,646 and a total jobs impact of 3,639 jobs with average wages of \$38,523.

An important distinction within the mixed-use development is the amount of benefit to the community by virtue of having additional restaurant and destination retail locations. Also, the economic, social, and quality-of-life impact to workers of having a place outside of the office to grab a coffee or lunch without having to get into a personal vehicle is also potentially valuable.

The construction impacts of both mixed-use development patterns are below.

**Table 15. Full Mixed Use Construction**

	Impact	Jobs	Earnings
<b>Direct</b>	\$211,875,000	1,119	\$45,006,000
<b>Indirect</b>	\$156,300,000	820	\$27,561,000
<b>Total</b>	\$368,175,000	1,940	\$72,567,000

The full development creates nearly twice as many jobs as does the mixed-use greenspace development. Similarly with the office development section above, these jobs are temporary and will be partially or wholly offset by the operations and ongoing employment after construction.

**Table 16. Mixed Use with Greenspace Construction**

	Impact	Jobs	Earnings
<b>Direct</b>	\$112,500,000	594	\$23,897,000
<b>Indirect</b>	\$82,991,000	435	\$14,634,000
<b>Total</b>	\$195,491,000	1,030	\$38,531,000

## LIGHT INDUSTRIAL

The light industrial construction pattern would be at a similar density to the adjacent properties on the western side of Kingswood. This results in approximately 650,000 square feet of light industrial or warehouse space. The Kingswood site can likely support more light industrial square footage, however, considerable amounts infrastructure investment may be prohibitively expensive.

**Table 17. Light Industrial, 650k Square Feet**

	Impact	Jobs	Earnings
<b>Direct</b>	\$100,502,331	325	\$13,474,798
<b>Indirect</b>	\$38,254,537	186	\$6,726,170
<b>Total</b>	\$138,756,869	511	\$20,200,969

The number of direct jobs created by a 650,000 square foot light industrial/manufacturing space is considerably fewer than similarly-sized office or mixed-use development. This is due to fewer workers per thousand square feet. However, since there is no earnings tax within the area, the number of employees is not as important in terms of a fiscal impact, as the value of the properties constructed. Using the space as light industrial would result in the lowest economic, employment, and earnings impacts of all of the scenarios.

**Table 18. Light Industrial Construction**

	Impact	Jobs	Earnings
<b>Direct</b>	\$ 81,250,000	365	\$ 17,259,000
<b>Indirect</b>	\$ 59,938,000	379	\$ 10,569,000
<b>Total</b>	\$ 141,188,000	744	\$ 27,828,000

The construction of the light industrial is also the least impactful of the five scenarios. This is again due to the cost per square foot of light industrial construction being lower than that of the office, restaurant, or retail space. These numbers, however, are for the average construction



site. Should the light industrial site be used for highly technical or accurate measurements, additional significant construction costs may be undertaken in terms of infrastructure, ground-leveling, vibration-cancellation, or industry specific needs.

## NO DEVELOPMENT

Deerfield Township purchased the Kingswood Golf Course for \$8 million in 2008 dollars; this equates to \$8.9 million in 2015 dollars. All calculations below are made in inflation-adjusted dollars for 2015 based on the United States Department of Labor Commodity Price Index calculator.

**Table 19. Kingswood Development Payments, 2008-2014  
Adjusted to 2015 Dollars**

Year	Principal	Interest	Total Payment
2008	\$110,838	\$625,192	\$736,030
2009	\$111,234	\$368,937	\$480,171
2010	\$116,423	\$211,894	\$328,317
2011	\$5,100,959	\$203,548	\$5,304,507
2012	\$509,534	\$73,387	\$582,921
2013	\$189,715	\$51,066	\$240,780
2014	\$241,777	\$50,250	\$292,027
<b>Total</b>	<b>\$6,380,480</b>	<b>\$1,584,273</b>	<b>\$7,964,753</b>

Over the past seven years, Deerfield Township has spent approximately \$7.96 million to reduce the debt service from \$8.9 million to an **outstanding debt of \$4.7 million** (a repayment of 46%). Assuming repayment rate remains constant from 2008 until the payoff, the total expenditure by Deerfield Township will be an **estimated \$17.1 million**. Based on the current repayment rate on the initial \$8.9 million debt service, Deerfield Township will fully cover the purchase price in 15.1 years.

The total expenditures of \$17.1 million on an \$8.9 million dollar original debt amount equates to an approximate 11.84% interest rate for a 15-year mortgage. This is more than three times the market rate of a consumer 15-year fixed jumbo mortgage.<sup>7</sup> Additionally, the 11.84% over 15-years has an average monthly payment of approximately \$95 thousand, or \$1.15 million per year. While it is not the case that Deerfield Township has a fixed amortization schedule, the total repayment thus far equates to 90% of the inflation adjusted initial purchasing price, yet only covers 46% of the debt service.

The opportunity costs of development are driven by the ability of Deerfield Township to continue paying the debt service assuming the average price-per-acre and the associated fiscal impacts of development will increase over time. While the average price-per-acre in 2010 was \$122 thousand, Deerfield Township expects some immediate payoff at the time of sale of the land and then will receive ongoing property tax revenue from the new office or light industrial

<sup>7</sup> Based on NYTimes Commodities Mortgage Market rate of 3.87% for a 15-year fixed jumbo rate (9/2/2015)

space. Ultimately, the based on the Full Mixed-Use buildout scenario, Deerfield Township can expect returns of approximately \$500 thousand per year in property tax revenue.

## FISCAL IMPACTS

The fiscal impact derived from developing the Kingswood site is due to the increases in total taxable valuable of the property. The table below shows the level of fiscal impact according to the cost of development across the various scenarios, as well as the number of jobs created and average wages.

Type	Impact	Jobs	Earnings	Fiscal Impact
Office Full	\$ 1,060,409,000	5,799	\$ 275,595,628	\$ 3,295,855
MixedFull	\$ 1,007,102,000	6,792	\$ 261,334,161	\$ 3,546,968
OfficeGreen	\$ 565,551,000	3,093	\$ 146,984,335	\$ 1,757,789
MixedGreen	\$ 547,403,000	3,639	\$ 140,197,814	\$ 1,883,346
LightIndustrial	\$ 138,756,869	511	\$ 20,200,969	\$ 1,360,194

The fiscal impact was calculated according to the Kings Local School district millage rate per \$1,000 of taxable valuation. The table below shows the millage property tax impacts per scenario for the total impact as well as the impact for Deerfield Township, Warren County, and Kings Local School District. These figures represent the estimated annual tax revenues in total, and then the select portions to the various localities and public services by development scenario.

Fiscal Impacts of Development Scenarios	Select Portions of Total			
	TOTAL	Deerfield TWP	Warren County	Kings LSD
<b>Full Office</b>	\$ 3,295,855	\$ 465,024	\$ 36,223	\$ 2,351,760
<b>Full Mixed-Use</b>	\$ 3,546,968	\$ 500,454	\$ 38,983	\$ 2,530,942
<b>Office with Greenspace</b>	\$ 1,757,789	\$ 248,013	\$ 19,319	\$ 1,254,272
<b>Mixed Use with Greenspace</b>	\$ 1,883,346	\$ 265,728	\$ 20,699	\$ 1,343,863
<b>Light Industrial</b>	\$ 1,360,194	\$ 191,915	\$ 14,949	\$ 970,568

The highest fiscal impact is the Full Mixed-Use development. This is due to the cost and property value of combining various uses of different value per square foot of developed space. Along with the fiscal impact, the Kingswood development would have significant impact on the total number of jobs and the average wages that individuals would make—and spend—in Deerfield Township and surrounding localities.



## APPENDIX

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### Park Space Works Cited

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### Deerfield Wages per Employee

<b>Industry</b>	<b>2014Q3</b>	<b>2013Q3</b>	<b>Net Change</b>	<b>% Change</b>
Manufacturing	\$72,851.66	\$69,581.96	\$3,269.70	5%
Retail Trade	\$39,371.12	\$34,660.86	\$4,710.26	14%
Finance and Insurance	\$65,863.72	\$62,746.61	\$3,117.11	5%
Professional, Scientific, Technical Services	\$64,699.48	\$71,142.54	-\$6,443.06	-9%
Office and Administrative Support	\$34,966.89	\$32,305.04	\$2,661.85	8%
Health Care and Social Assistance	\$46,159.93	\$30,606.83	\$15,553.10	51%
Accommodation and Food Services	\$17,114.43	\$16,375.32	\$739.11	5%
All Other	\$56,242.22	\$51,600.48	\$4,641.75	9%

### Warren County Total Wages

<b>Industry</b>	<b>2014Q3</b>	<b>2013Q3</b>	<b>Net Change</b>	<b>% Change</b>
Manufacturing	\$227,876,828	\$195,900,548	\$31,976,280	16%
Retail Trade	\$671,746,536	\$617,477,548	\$54,268,988	9%
Finance and Insurance	\$240,489,440	\$260,102,192	-\$19,612,752	-8%
Professional, Scientific, Technical Services	\$228,998,260	\$193,580,684	\$35,417,576	18%
Office and Administrative Support	\$202,403,252	\$203,385,140	-\$981,888	-0.5%
Health Care and Social Assistance	\$374,505,248	\$339,058,148	\$35,447,100	10%

Accommodation and Food Services	\$133,483,528	\$125,613,752	\$7,869,776	6%
All Other	\$1,563,736,448	\$1,462,423,372	\$101,313,076	7%

### Warren County Wages per Employee

Industry	2014Q3	2013Q3	Net Change	% Change
Manufacturing	\$52,908	\$49,578	\$3,330	7%
Retail Trade	\$61,636	\$58,168	\$3,467	6%
Finance and Insurance	\$61,090	\$58,371	\$2,718	5%
Professional, Scientific, Technical Services	\$62,160	\$63,559	-\$1,399	-2%
Office and Administrative Support	\$36,049	\$35,968	\$81	0.2%
Health Care and Social Assistance	\$39,046	\$36,153	\$2,893	8%
Accommodation and Food Services	\$14,842	\$14,400	\$442	3%
All Other	\$41,347	\$39,563	\$1,784	5%

<b>Industry Spending by Manufacturing</b>			
<b>Industry</b>	<b>Amount Spent by Manufacturing Industry</b>	<b>Share Spent In-Region</b>	<b>% of Amount spent by Manufacturing Industry</b>
Primary Metal Manufacturing	\$1,145,846,400	36.9%	31.0%
Mining (except Oil and Gas)	\$365,518,583	0.5%	9.9%
Fabricated Metal Product Manufacturing	\$325,166,935	37.2%	8.8%
Merchant Wholesalers, Durable Goods	\$183,610,391	44.7%	5.0%
Rail Transportation	\$135,840,641	15.8%	3.7%
Professional, Scientific, and Technical Services	\$125,718,067	59.7%	3.4%
Management of Companies and Enterprises	\$116,818,340	53.8%	3.2%
Merchant Wholesalers, Nondurable Goods	\$115,015,918	43.0%	3.1%
Machinery Manufacturing	\$112,117,426	18.3%	3.0%
Truck Transportation	\$107,248,168	44.3%	2.9%
Utilities	\$84,534,149	25.2%	2.3%
Administrative and Support Services	\$74,690,134	64.5%	2.0%
Wholesale Electronic Markets and Agents and Brokers	\$74,491,437	67.6%	2.0%
Electrical Equipment, Appliance, and Component Manufacturing	\$69,601,956	22.1%	1.9%
Chemical Manufacturing	\$62,985,416	23.4%	1.7%
Nonmetallic Mineral Product Manufacturing	\$61,233,664	17.3%	1.7%
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	\$50,707,105	45.0%	1.4%
Petroleum and Coal Products Manufacturing	\$48,944,592	24.7%	1.3%
Plastics and Rubber Products Manufacturing	\$40,571,030	18.8%	1.1%
Credit Intermediation and Related Activities	\$39,601,331	69.6%	1.1%
Paper Manufacturing	\$38,259,947	33.3%	1.0%

<b>Industry Spending by Aerospace &amp; Aviation</b>			
<b>Industry</b>	<b>Amount Spent by Aerospace &amp; Aviation Industry</b>	<b>Share Spent In-Region</b>	<b>% of Amount spent by Aerospace &amp; Aviation Industry</b>
Transportation Equipment Manufacturing	\$1,243,370,142	87.2%	42.1%
Management of Companies and Enterprises	\$337,411,075	73.7%	11.4%
Computer and Electronic Product Manufacturing	\$172,576,659	9.1%	5.8%
Fabricated Metal Product Manufacturing	\$158,483,527	29.8%	5.4%
Administrative and Support Services	\$143,462,505	69.3%	4.9%
Professional, Scientific, and Technical Services	\$127,176,539	65.0%	4.3%
Primary Metal Manufacturing	\$124,022,291	21.8%	4.2%
Petroleum and Coal Products Manufacturing	\$83,883,500	5.5%	2.8%
Merchant Wholesalers, Durable Goods	\$73,721,945	48.9%	2.5%

Merchant Wholesalers, Nondurable Goods	\$46,180,371	46.8%	1.6%
Truck Transportation	\$39,598,132	42.5%	1.3%
Machinery Manufacturing	\$37,973,957	6.0%	1.3%
Support Activities for Transportation	\$32,154,365	41.0%	1.1%
Wholesale Electronic Markets and Agents and Brokers	\$29,909,297	77.5%	1.0%

**1 One industry(9271 Space Research and Technology) was missing in Aerospace and Aviation industry cluster**

<b>Industry Spending by Automotive</b>			
<b>Industry</b>	<b>Amount Spent by Automotive Industry</b>	<b>Share Spent In-Region</b>	<b>% of Amount spent by Automotive Industry</b>
Primary Metal Manufacturing	\$383,642,950	24.1%	18.1%
Fabricated Metal Product Manufacturing	\$374,418,745	28.5%	17.7%
Management of Companies and Enterprises	\$298,071,790	66.3%	14.1%
Transportation Equipment Manufacturing	\$203,479,290	25.2%	9.6%
Merchant Wholesalers, Durable Goods	\$98,267,404	44.3%	4.6%
Plastics and Rubber Products Manufacturing	\$81,089,241	12.4%	3.8%
Professional, Scientific, and Technical Services	\$62,821,573	60.3%	3.0%
Merchant Wholesalers, Nondurable Goods	\$61,555,939	43.0%	2.9%
Machinery Manufacturing	\$59,787,668	9.3%	2.8%
Truck Transportation	\$40,684,896	39.9%	1.9%
Wholesale Electronic Markets and Agents and Brokers	\$39,867,574	69.8%	1.9%
Computer and Electronic Product Manufacturing	\$39,763,906	15.0%	1.9%
Chemical Manufacturing	\$38,798,477	14.8%	1.8%
Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	\$25,817,229	39.5%	1.2%
Administrative and Support Services	\$25,648,608	66.8%	1.2%
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	\$23,753,109	44.4%	1.1%
Electrical Equipment, Appliance, and Component Manufacturing	\$22,831,689	18.6%	1.1%
Nonmetallic Mineral Product Manufacturing	\$21,372,055	31.0%	1.0%



### Industry Spending by Biohealth

Industry	Amount Spent by Biohealth Industry	Share Spent In-Region	% of Amount spent by Biohealth Industry
Chemical Manufacturing	\$116,807,139	21.7%	27.5%
Management of Companies and Enterprises	\$100,729,210	74.0%	23.7%
Professional, Scientific, and Technical Services	\$49,750,566	61.5%	11.7%
Merchant Wholesalers, Durable Goods	\$22,941,471	48.3%	5.4%
Merchant Wholesalers, Nondurable Goods	\$14,370,829	46.3%	3.4%
Plastics and Rubber Products Manufacturing	\$10,183,421	14.9%	2.4%
Wholesale Electronic Markets and Agents and Brokers	\$9,307,465	76.0%	2.2%
Real Estate	\$9,177,940	56.5%	2.2%
Miscellaneous Manufacturing	\$8,299,594	8.1%	2.0%
Administrative and Support Services	\$7,941,971	75.4%	1.9%
Food Manufacturing	\$5,710,743	23.6%	1.3%
Fabricated Metal Product Manufacturing	\$5,374,466	32.7%	1.3%
Credit Intermediation and Related Activities	\$4,733,881	74.7%	1.1%
Truck Transportation	\$4,178,921	42.4%	1.0%

### Industry Spending by Energy

Industry	Amount Spent by Energy Industry	Share Spent In-Region	% of Amount spent by Energy Industry
Petroleum and Coal Products Manufacturing	\$196,610,222	4.4%	21.4%
Management of Companies and Enterprises	\$174,810,938	61.8%	19.1%
Professional, Scientific, and Technical Services	\$53,241,355	56.5%	5.8%
Chemical Manufacturing	\$40,968,577	24.9%	4.5%
Oil and Gas Extraction	\$39,961,124	2.6%	4.4%
Mining (except Oil and Gas)	\$36,130,784	9.3%	3.9%
Nonmetallic Mineral Product Manufacturing	\$25,665,705	24.8%	2.8%
Merchant Wholesalers, Durable Goods	\$21,167,429	42.1%	2.3%
Credit Intermediation and Related Activities	\$20,703,671	68.5%	2.3%
Fabricated Metal Product Manufacturing	\$19,953,505	33.0%	2.2%

Support Activities for Transportation	\$19,736,977	35.7%	2.2%
Administrative and Support Services	\$18,253,218	64.1%	2.0%
Utilities	\$16,177,666	33.3%	1.8%
Merchant Wholesalers, Nondurable Goods	\$13,259,549	41.3%	1.4%
Rail Transportation	\$12,635,490	16.2%	1.4%
Truck Transportation	\$11,889,954	36.9%	1.3%
Pipeline Transportation	\$10,550,826	15.4%	1.2%
Machinery Manufacturing	\$10,508,650	7.0%	1.1%
Real Estate	\$10,276,371	48.8%	1.1%
Specialty Trade Contractors	\$9,259,597	64.9%	1.0%

### Industry Spending by Financial Services

Industry	Amount Spent by Financial Services Industry	Share Spent In-Region	% of Amount spent by Financial Services Industry
Insurance Carriers and Related Activities	\$2,214,546,655	54.1%	41.3%
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	\$853,068,852	51.0%	15.9%
Credit Intermediation and Related Activities	\$592,997,773	70.2%	11.1%
Professional, Scientific, and Technical Services	\$455,088,990	57.5%	8.5%
Administrative and Support Services	\$199,135,142	56.9%	3.7%
Real Estate	\$136,647,333	52.1%	2.5%
Management of Companies and Enterprises	\$134,505,569	63.9%	2.5%
Food Services and Drinking Places	\$78,760,192	72.2%	1.5%
Data Processing, Hosting, and Related Services	\$62,998,085	31.7%	1.2%
Federal Government	\$62,755,118	74.8%	1.2%
Telecommunications	\$61,173,548	60.4%	1.1%
Printing and Related Support Activities	\$53,451,109	25.1%	1.0%

### Industry Spending by Food Processing

Industry	Amount Spent by Food Processing Industry	Share Spent In-Region	% of Amount spent by Food Processing Industry
Food Manufacturing	\$1,173,070,400	31.2%	30.2%
Animal Production and Aquaculture	\$578,565,459	2.1%	14.9%
Crop Production	\$292,677,636	9.1%	7.5%
Management of Companies and Enterprises	\$221,363,636	68.5%	5.7%
Merchant Wholesalers, Durable Goods	\$172,702,523	47.7%	4.4%
Fabricated Metal Product Manufacturing	\$154,274,810	30.6%	4.0%

Paper Manufacturing	\$140,395,847	28.9%	3.6%
Plastics and Rubber Products Manufacturing	\$126,118,588	10.7%	3.2%
Truck Transportation	\$121,411,623	41.7%	3.1%
Merchant Wholesalers, Nondurable Goods	\$108,183,067	45.8%	2.8%
Wholesale Electronic Markets and Agents and Brokers	\$70,066,244	75.9%	1.8%
Professional, Scientific, and Technical Services	\$68,543,305	65.3%	1.8%
Nonmetallic Mineral Product Manufacturing	\$61,112,590	26.4%	1.6%
Primary Metal Manufacturing	\$59,505,215	34.4%	1.5%
Rail Transportation	\$48,433,956	17.2%	1.2%
Chemical Manufacturing	\$45,102,623	43.2%	1.2%

### Industry Spending by Information Technology

Industry	Amount Spent by Information Technology Industry	Share Spent In-Region	% of Amount spent by Information Technology Industry
Professional, Scientific, and Technical Services	\$157,183,335	62.2%	16.6%
Publishing Industries (except Internet)	\$155,785,726	26.6%	16.4%
Administrative and Support Services	\$148,455,955	75.3%	15.6%
Real Estate	\$67,526,912	53.8%	7.1%
Credit Intermediation and Related Activities	\$31,422,935	73.9%	3.3%
Management of Companies and Enterprises	\$31,113,741	65.7%	3.3%
Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	\$30,226,738	45.1%	3.2%
Telecommunications	\$29,805,450	58.4%	3.1%
Merchant Wholesalers, Durable Goods	\$28,396,694	42.0%	3.0%
Computer and Electronic Product Manufacturing	\$22,570,433	9.2%	2.4%
Food Services and Drinking Places	\$21,603,920	72.0%	2.3%
Merchant Wholesalers, Nondurable Goods	\$17,788,066	40.8%	1.9%
Other Information Services	\$16,083,416	7.2%	1.7%
Air Transportation	\$14,807,920	15.8%	1.6%
Accommodation	\$14,098,834	33.4%	1.5%
Wholesale Electronic Markets and Agents and Brokers	\$11,520,675	66.0%	1.2%
Fabricated Metal Product Manufacturing	\$10,271,840	34.0%	1.1%

Data Processing, Hosting, and  
Related Services

\$9,066,499

32.2%

1.0%

### Industry Spending by Polymers and Chemicals

<b>Industry</b>	<b>Amount Spent by Polymers and Chemicals Industry</b>	<b>Share Spent In-Region</b>	<b>% of Amount spent by Polymers and Chemicals Industry</b>
Chemical Manufacturing	\$1,830,328,561	31.1%	43.2%
Management of Companies and Enterprises	\$347,828,316	76.1%	8.2%
Petroleum and Coal Products Manufacturing	\$224,282,920	2.2%	5.3%
Plastics and Rubber Products Manufacturing	\$203,927,827	16.4%	4.8%
Merchant Wholesalers, Durable Goods	\$165,374,685	48.8%	3.9%
Fabricated Metal Product Manufacturing	\$117,819,024	40.3%	2.8%
Merchant Wholesalers, Nondurable Goods	\$103,592,836	46.7%	2.4%
Paper Manufacturing	\$93,557,534	26.5%	2.2%
Crop Production	\$82,618,067	6.5%	2.0%
Utilities	\$79,009,637	28.2%	1.9%
Professional, Scientific, and Technical Services	\$78,648,892	65.3%	1.9%
Rail Transportation	\$78,135,356	17.2%	1.8%
Truck Transportation	\$72,228,671	42.2%	1.7%
Mining (except Oil and Gas)	\$67,987,999	6.1%	1.6%
Wholesale Electronic Markets and Agents and Brokers	\$67,093,235	77.4%	1.6%
Food Manufacturing	\$61,126,762	35.3%	1.4%
Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	\$46,085,847	40.3%	1.1%
Machinery Manufacturing	\$44,543,961	23.1%	1.1%

The background of the entire page is a photograph of a clock tower, likely the Old Chapel at the University of North Carolina at Chapel Hill. The tower is a multi-story stone structure with a clock face on each of its visible sides. It has a domed top with a weather vane. The scene is framed by out-of-focus autumn leaves in shades of yellow and orange, particularly on the left and top edges. The overall lighting is soft and slightly hazy, suggesting a bright day with some atmospheric conditions.

## **About the Economics Center**

The Research and Consulting division of the Economics Center provides the knowledge building blocks that help clients make better policy and economic development decisions. Our dynamic approach and critical data analysis empowers leaders to respond to changing economic conditions, strengthen local economies, and improve the quality of life for their communities.

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