

Economic Valuation of Brownfields

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Benefits of Brownfield Development

- Reduction in urban sprawl and corresponding pollution
- Improved quality of life in region:
 - Increases in income and wealth via new employment and higher property values.
 - Reductions in crime
 - Reduction in health risks
- Increases in tax revenue

Our Proposed Methodology

1. Determine the net increase in the property values of Brownfield and surrounding area.
 - Use a history of tax parcel assessments in the reference area to determine the change in property assessment.
 - Contrast the changes in assessment for brownfields to the changes in the property values of the reference area.
2. Estimate the impact on tax revenue due to the new property assessments.

Our Proposed Methodology

3. Measure the gains in employment and wages for each Brownfield (direct impact) and surrounding area of 50 meters (indirect impact).
4. Difference the Brownfield gains from the similar gains in a reference area.
5. Enumerate cost vs. benefit ratios per Brownfield area
6. Use the additional wages and employment as inputs into the REMI model to see expanded impact of the new jobs on the Delaware economy.

Preliminary Results: Change in Assessed Values (1998-2008) for Wilmington Riverfront Brownfields

DNREC #	Brownfield Name	Change in the Assessed Value (1983 \$)	Market Value of Assessed Changes (2008 \$)	New Development
1228, 1224, & 1247	Christina Landing Towers 1 & 2	\$36,159,800	\$177,951,771	residential
1385, 0131, & 1331	Christina Crescent Property	\$15,226,100	\$74,931,594	business
1377	Justison Landing Project	\$14,667,900	\$72,184,547	business / residential
1309	Riverfront Headquarters/AAA	\$6,475,300	\$31,866,634	business
1237	Riverfront Office Building	(\$47,500)	(\$233,760)	business
1434	Delaware Children's Museum	(\$2,395,600)	(\$11,789,370)	business / nonprofit
Total		\$70,086,000	\$344,916,416	

In 2008, these areas on the Wilmington Riverfront front are valued at approximately \$345 million more than their 1998 value. The total assessed value for Wilmington *fell* by 0.7% during this time.

Preliminary Results: Change in Assessed Values (1998-2008) for Selected Brownfields in New Castle

DNREC #	Brownfield Name	Change in the Assessed Value (1983 \$)	Market Value of Assessed Changes (2008 \$)	New Development
0163	Del Chapel Place	\$8,885,700	\$37,673,902	residential
1310	Basher Lane	\$5,872,600	\$22,859,478	business
1206	920 French St.	\$3,642,500	\$17,925,689	business
1291	320 "A" Street	\$1,638,100	\$8,061,516	business
1347	Speakman Townhomes	\$1,753,600	\$6,844,488	residential
0084	Dureco	\$895,800	\$4,040,595	business
1429	97 Vandever Property	\$881,800	\$3,695,725	business / residential
1147	Peninsula Park	\$728,700	\$3,286,874	business
1281	Petrillo Property	\$381,500	\$1,720,794	business
1068	DE Compressed Steel	\$308,200	\$1,516,732	business
1372	Habitat for Humanity - New Castle	\$144,700	\$412,719	residential / nonprofit
Total		\$25,133,200	\$108,038,512	

* The above brownfields have completed remediation.

Preliminary Results: Change in Assessed Values (2000-2008) for All Brownfields in Sussex

DNREC #	Brownfield Name	Change in the Market Value of Assessed Value Assessed Changes		New Development	Remediation Status
		(1974 \$)	(2008 \$)		
1342	Sussex Materials	(\$800)	(\$11,182)	business	Complete
1252	Cannery Village	\$1,342,100	\$9,473,446	business and residential	Complete
1167	Lewes Boat Yard	\$0	\$0	open space (park)	Complete
1360	Former Timmons Marina	\$1,079,800	\$6,873,797	residential	Complete
151	Donovan Property	\$31,500	\$465,976	residential	Complete
1414	Pep Up/Calhoun Property	(\$9,600)	(\$63,872)	business	In Progress
287	Former Peninsula Plating Facility	(\$251,300)	(\$2,386,515)	residential	In Progress
149	Former Jackson Pit	\$90,400	\$632,168	residential	In Progress
1460	Milton Rails to Trails	\$0	\$0	open space (park)	Inactive
1417	Former Wilson Baker Bulk Plant	\$0	\$0	open space (parking lot)	Inactive
Total		\$2,282,100	\$14,983,818		

Preliminary Results: Change in Assessed Values (2001-2008) for All Brownfields in Kent

DNREC #	Brownfield Name	Change in the Market Value of Assessed Value Assessed Changes		New Development	Remediation Status
		(1986 \$)	(2008 \$)		
1171	Capitol Scrap	(\$37,700)	(\$131,680)	business	In Progress
1110	Dover Ice House	(\$32,200)	(\$112,469)	business	In Progress
1334	Former Chesapeake Supply	\$478,400	\$1,670,975	business	In Progress
1424	Mt. Vernon Street Property	\$15,700	\$54,838	business	In Progress
1438	Delaware Civic Center	(\$73,000)	(\$254,977)	business / nonprofit	In Progress
66	ACE	\$22,000	\$76,842	business / residential	In Progress
1314	Former Dover Machine Works	(\$143,500)	(\$501,222)	business / residential	In Progress
1451	680 Forest Street property	(\$111,700)	(\$390,150)	business / residential	In Progress
1357	Lexington Avenue Property	\$35,200	\$125,445	residential	In Progress
1427	Chem-Solv Property	(\$100,800)	(\$352,078)	residential	In Progress
Total		\$52,400	\$185,524		

Example: Decline in Assessed Value

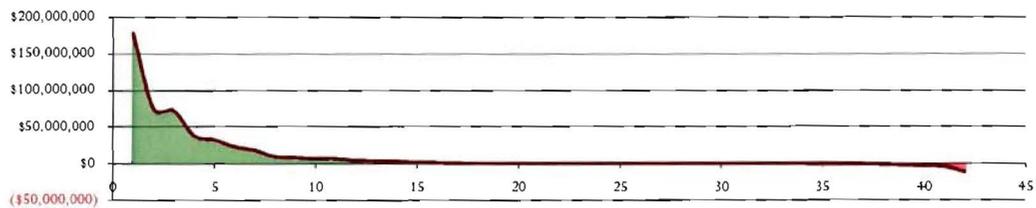


Before Remediation and Development (2000)

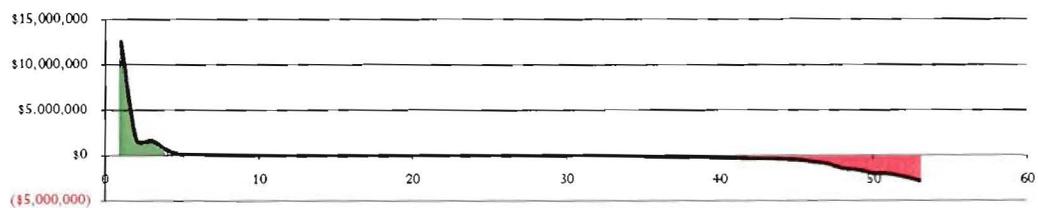
After Remediation, Before Development (2008)

(Howard Street Redevelopment Project)

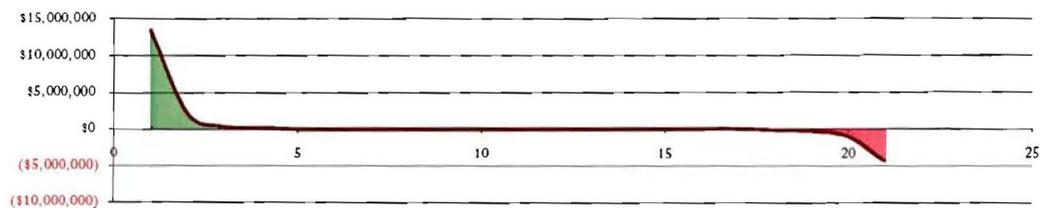
Change in Market Value - Remediation Complete



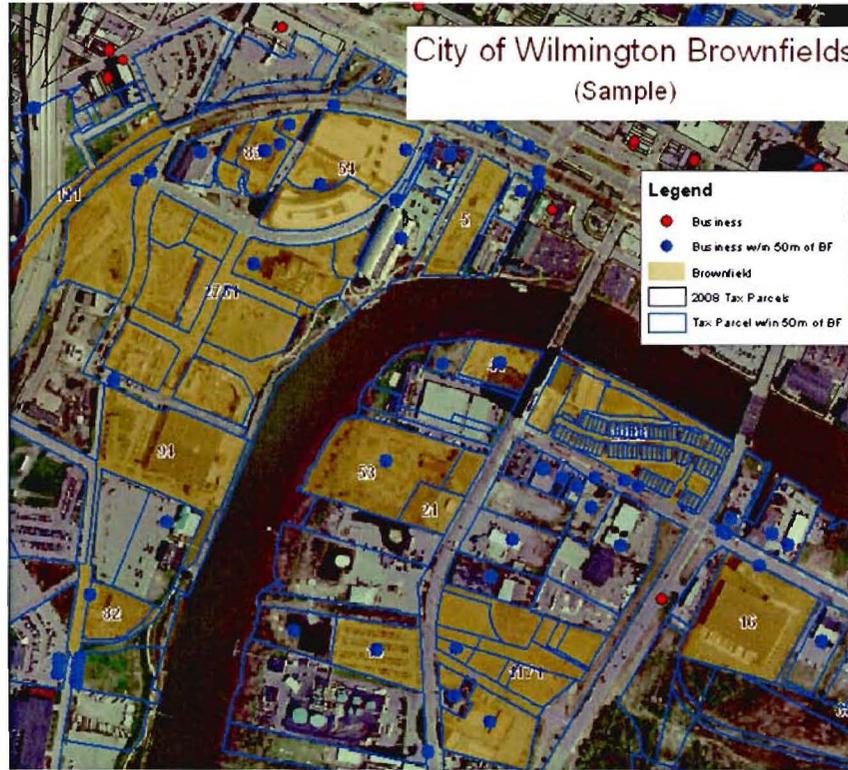
Change in Market Value - Remediation In Progress



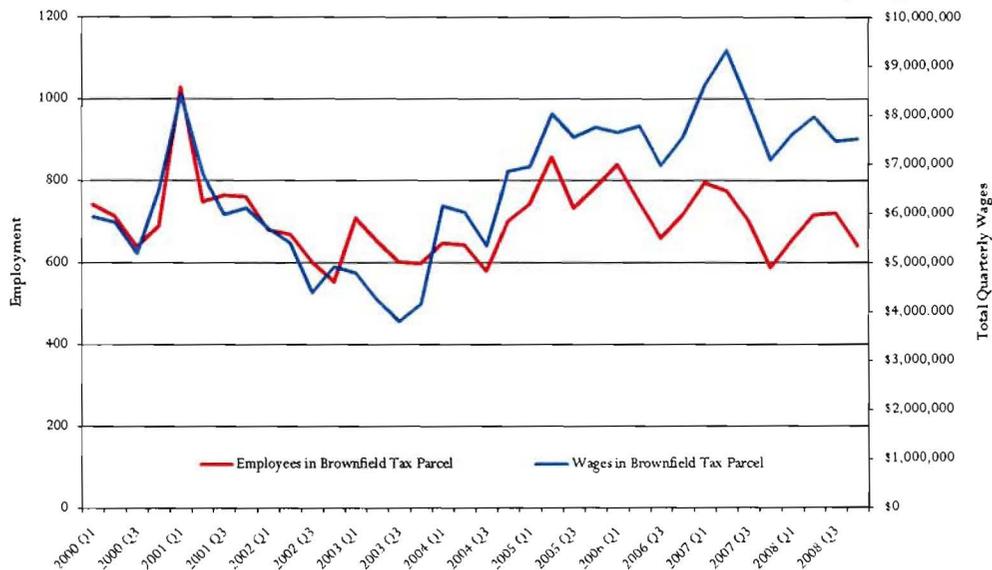
Change in Market Value - Remediation Inactive



Example of Business Mapping to Brownfield and Surrounding Area

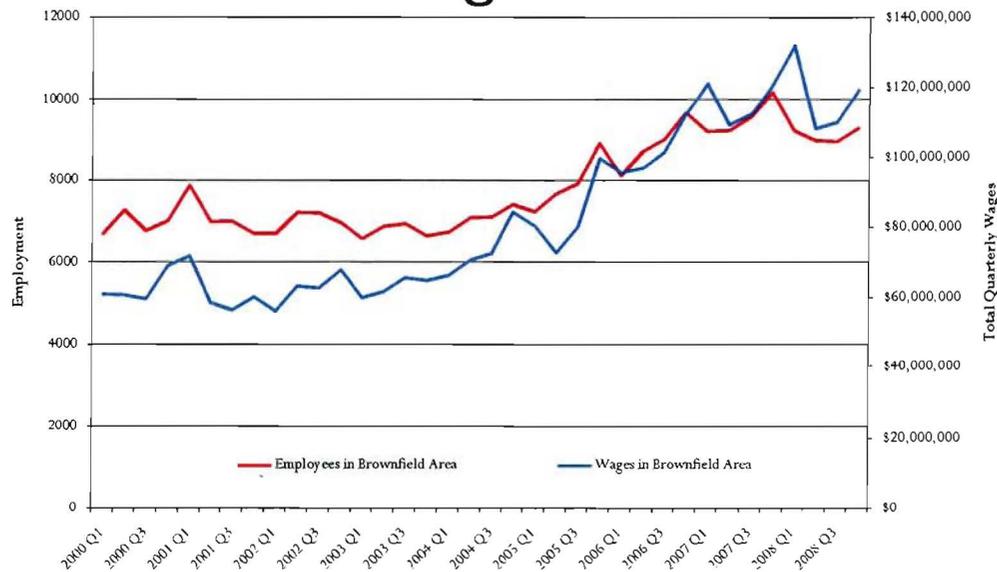


Preliminary Results: Change in Employment and Wages for Businesses in a Brownfield Tax Parcel



* New Castle County brownfields only, excluding Crozier Center.

Preliminary Results: Change in Employment and Wages in Area Surrounding Brownfields



* New Castle County brownfields only, excluding Crozier Center.

Preliminary Conclusions

- So far, the Delaware brownfields increased their property values by \$470 million as of 2008. Many brownfields have not finished development.
- Brownfields have received \$29.5 million from various government programs. Approximately half of these funds are HSCA.
- Most of improvements occurred on the Riverfront, despite the overall assessment values in Wilmington actually falling.
- 37% of brownfields had no change in assessed value.
- 33% of brownfields fell in assessed value.
- Between 2000 and 2008, state employment and wages increased by 2.8% and 33.7% respectively.
 - Employment in the New Castle County brownfield tax parcels declined 1.8% between 2000 and 2008. Employment in their surrounding areas increased by 31.4%.
 - Wages in the New Castle County brownfield tax parcels increased 31.4% between 2000 and 2008. Wages in the brownfield area increased 87.6%.

Limitations

- Assessment to sales ratio is an average over many properties. Actual market value may differ for each building.
- Tax parcel redistricting could change area.
- Assessment is not performed every year, so we may be observing assessed values prior to development completion.
 - Problem exacerbated by tax incentives.
- Assessments ignore quality deterioration, and likely overestimate a brownfield's market value. (Abandoned buildings retain high assessment values).
- Approach does not distinguish between remediation and development. Attributes all benefits to "lynchpin effect".
- Employment and wages may not be spatially accurate.
- 50 meter distance may be too small to define surrounding tax parcels.

Factors Not Considered in Approach

- Gains from temporary, construction jobs
- Unknown counterfactual investment decision
- Full cost of investment unknown
- Long term contributions to productivity via improved health
- Socioeconomic effects (i.e. crime and poverty)