Environmental and Economic Benefits of Brownfields Redevelopment

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Brownfields Federal Policy supported by the Brownfields Inner Circle

Redevelopment Economics

- Green Job Strategies (ARTEZ)
- Brownfields and Smart Growth Strategies
- Climate Benefits of Smart Growth
- Site Redevelopment Analysis and Financing, Tax Increment Financing
- Incentives to Support Smart Growth
- Economic Impact Analysis
- Local Government Energy-Climate Plans

Cool Things Happen on Brownfield Sites

- Fort Pitt Brewery, Sharpsburg
  - Eco-Clean Burners
    - 800,000-Btu/hr plastic-burner
  - Fort Pitt Classic Cars

Cool Things Happen on Brownfields

- Brewer's Hill, Baltimore
  - $125 million mixed use
  - 700 jobs
  - Historic tax credits
  - EPA Brownfields
  - MD Green Buildings Tax Credit
  - New Markets Tax Credit
  - Baltimore City Brownfields Property Tax Credit

Impacts of Additional Spending on Brownfields

Impact area	**Double the EPA Brownfields Budget – add $165 million**		**Adopt a federal brownfields tax credit w/ $1 billion cap**	
	Assume that federal dollars provide 33% of public investments			
	Annual impact	**20-year impact**	**Annual impact**	**20-year impact**
Total investment leveraged	**$4 billion**	**$79 billion**	**$24 billion**	**$480 billion**
Jobs accommodated	**30,100 jobs**	**603,000 jobs**	**183,000 jobs**	**3.65 million jobs**
Population accommodated in existing developed area	**4,500 households**	**89,300 households**	**27,100 households**	**541,000 households**
Land conservation	**3,300 acres**	**67,000 acres**	**20,300 acres**	**406,000 acres**

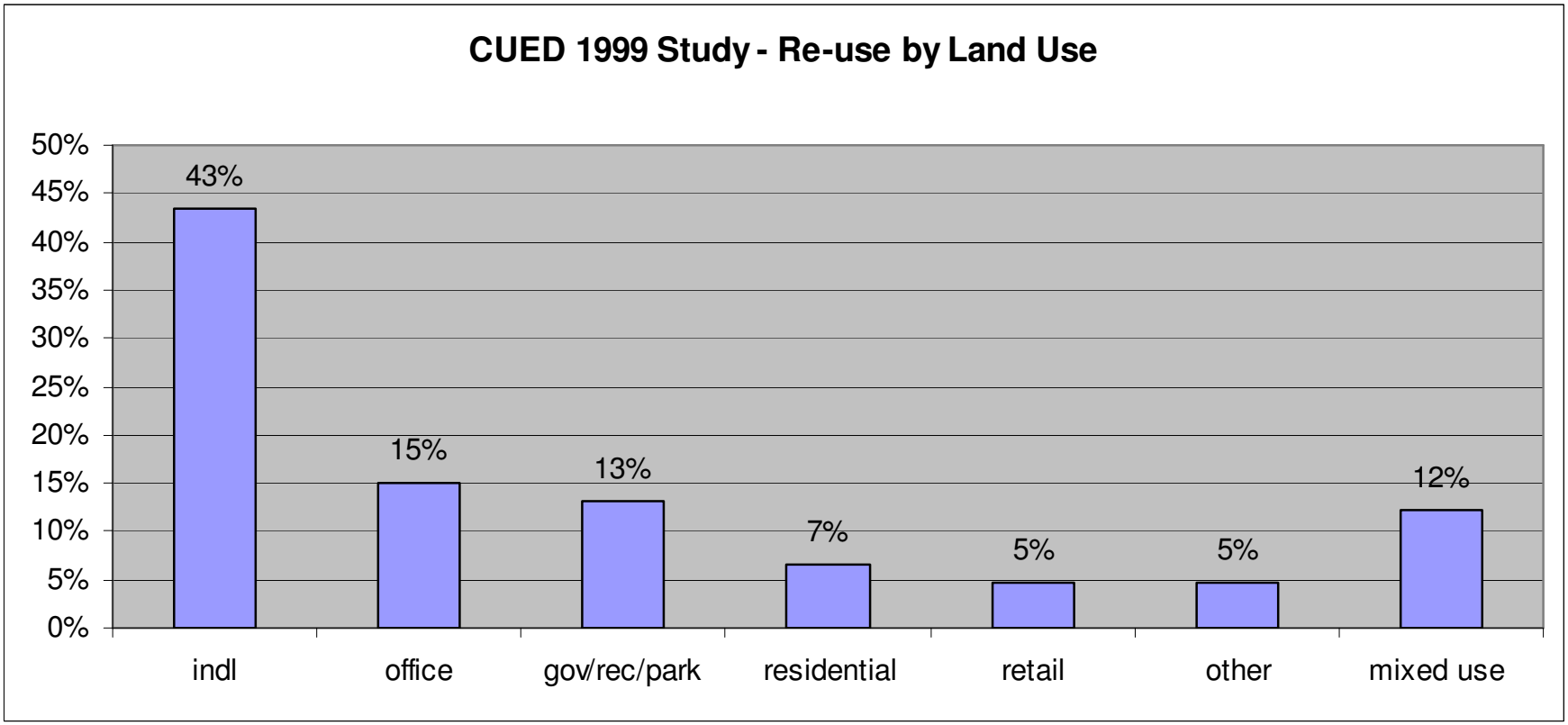
Brownfields Site Characteristics Density

- GWU study: 1 ac brownfields redeveloped corresponds to 4.5 ac greenfields “saved”
- Milwaukee and Chicago residential studies found 29 DU/ac and 59 DU/ac, respectively

Brownfields Site Characteristics Investment by Level of Government

- NEMW conclusions:
  - Federal – 20 to 25%
  - State – 45%
  - Local – 30 to 35%

Brownfields Site Characteristics Redevelopment by Land Use



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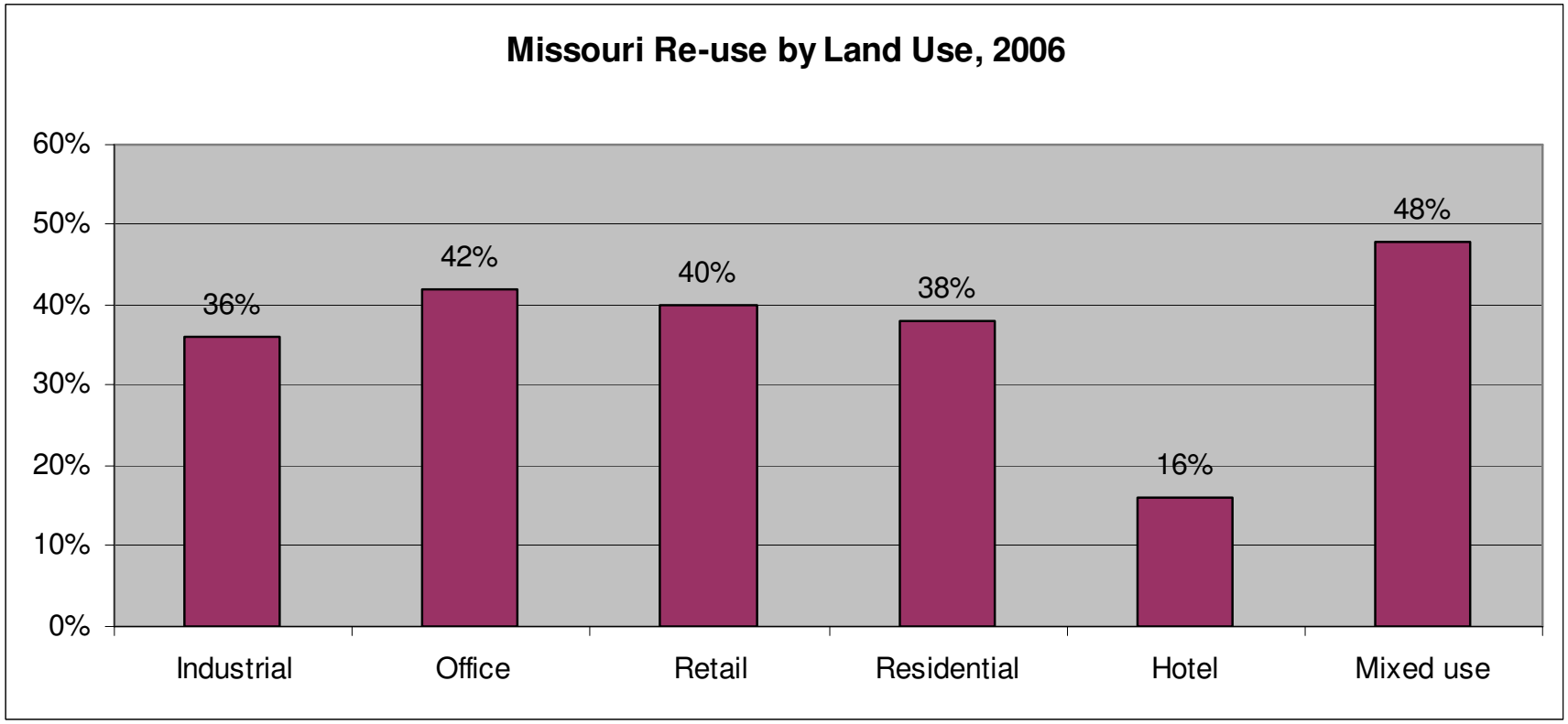


Brownfields Site Characteristics
Prototypical Brownfields Site

- Site size: 5 acres
- Site investment: $24 million
- Jobs generated (employment-producing projects only): 90 jobs
- Above does not include gas stations and dry cleaners

Environmental Impacts:
Cleanup and Reduced Risk to Public Health

- More than 50,000 sites have completed a state program
- 7,000 – 8,000 sites annually
- Rate of progress: 1% to 2% of the national inventory

Environmental Impacts:
Responsible Growth/Saving Land from Sprawl

- 1 ac redeveloped corresponds to 4.5 ac greenfields "saved"
- NEMW projection: impacts of $1 billion federal spending for 20 years:
  - 400,000 households accommodated in existing developed areas
  - 122,000 jobs accommodated in existing developed areas
  - 334,000 acres conserved

Environmental Impacts:
Air Quality Improvements

- Reduce VMTs by:
  - USCM/Baltimore and Dallas – 23% to 55%
  - EPA/Atlantic Station – 14% to 52%

USCM study	% decrease attributable to brownfields/infill site vs. greenfields site	
	VOC	NOX
Baltimore	36%	40%
Dallas	73%	87%

Environmental Impacts:
Energy and Greenhouse Gases (GHG)

- "Urban Compact Development" saves 20% to 40% VMT's relative to suburban sprawl
- New EPA Study:
  - Brownfield sites - 21 to 58 percent reduction in vehicle miles traveled relative to sprawl
- Other energy factors:
  - Density
  - Infrastructure
  - Line-loss
  - Carbon sink
  - District heating
  - Building Preservation

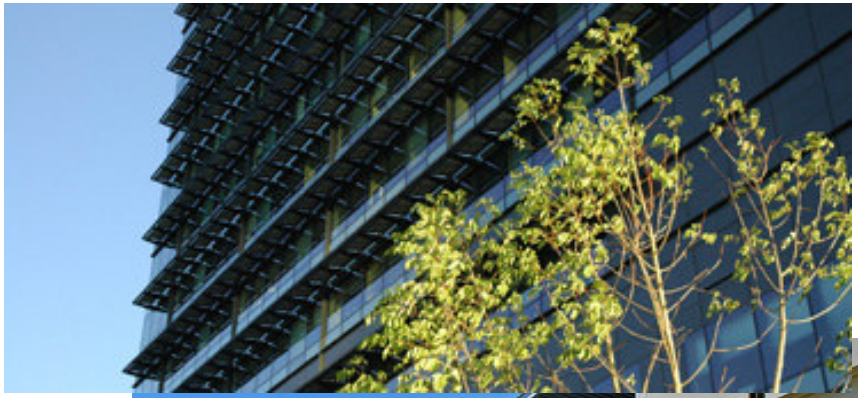
Environmental Impacts:
Sustainable Development

- Dual benefit of Energy-Efficient Buildings in Energy-Efficient Locations
- Model for measuring VMT reduction
- H.F. Miller redevelopment - reduce CO_2 by 296 metric tons
  - Reduce VMT by 40%
  - LEED Gold – reduce internal energy use by 33%
  - VMT reduction accounts for 55% of differential

HF Miller Tin Can and Box Company/2601 N. Howard Street, Baltimore

Environmental Impacts:
Sustainable Development

- Evidence of Brown-Green Correlation
  - 25% of LEED-ND applicants apply for brownfields points
- Buildings that produce power
  - Portland South Waterfront – solar sun shades
  - Belmar redevelopment, Lakewood, CO. – garage roof solar



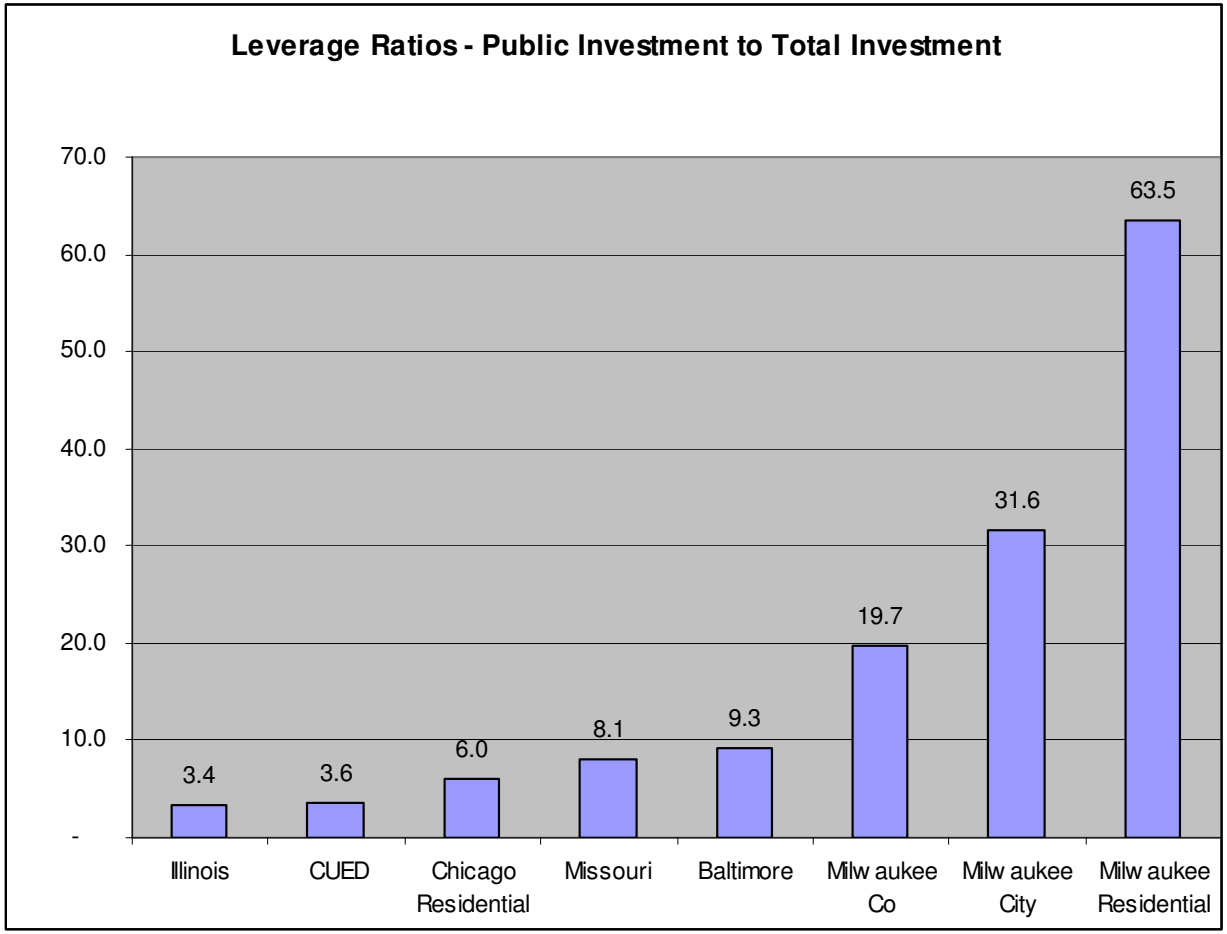
Environmental Impacts:
Water Quality and Run-off

- New EPA study:
  - Brownfields average 44 to 88 percent reduction in stormwater runoff relative to sprawl
- EPA density study:
  - higher density (8 DU/ac) reduces run-off by 70% relative to lower density (1 DU/ac)

Economic Impacts:
Jobs and Investment (Global)

- 50,000 completed VCP sites may have produced:
  - ***1.9 million jobs***
  - ***$703 billion investment***

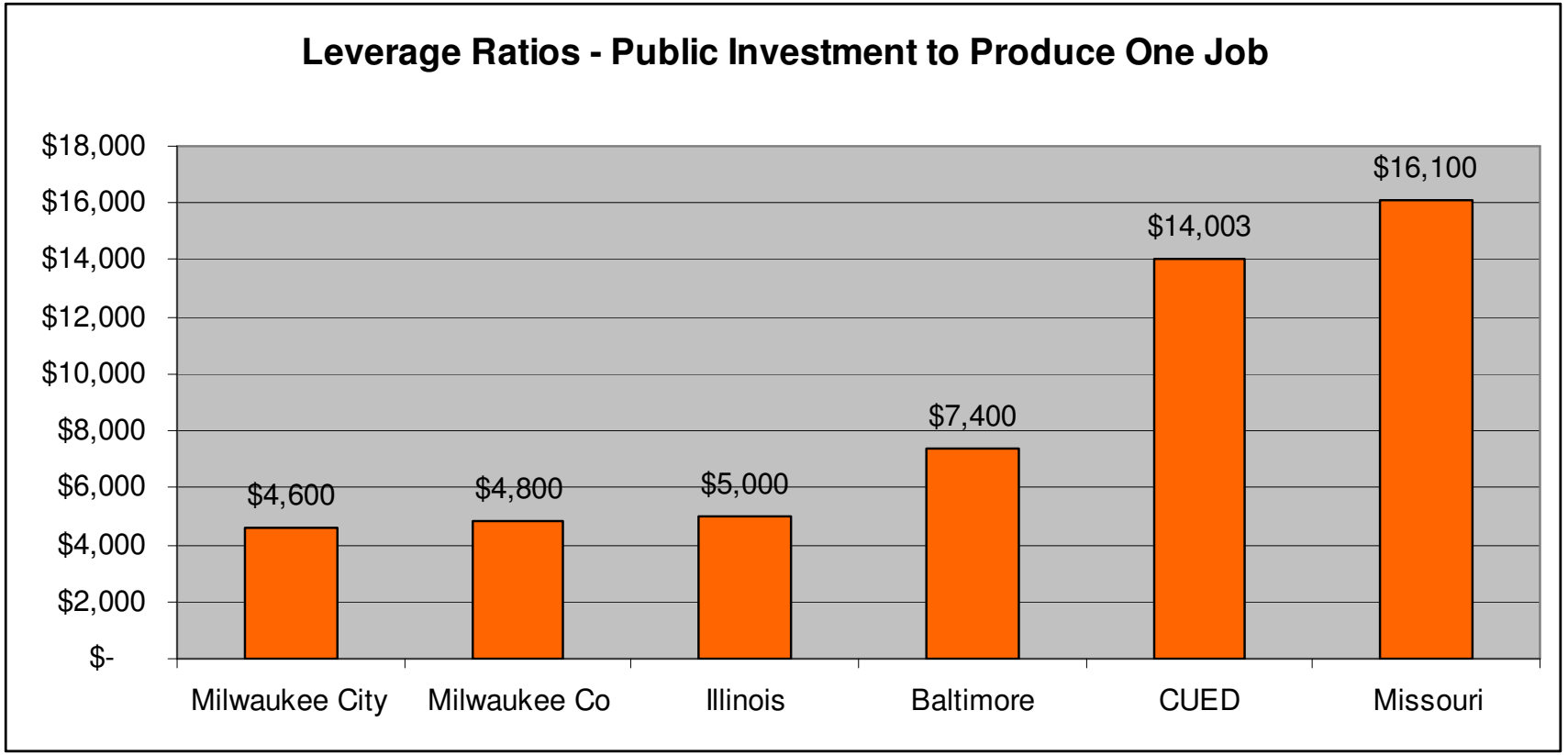
Economic Impacts:
Investment Leveraged



Economic Impacts:
Investment Leveraged

- Brownfields public investments:
  - $1/public leverages $8/total
- EPA Brownfields investments leverage
  - $1/public leverages $18.68/total
- Difficult sites, weak markets:
  - $1/public to $3.60/total

Economic Impacts:
Jobs Leveraged



Economic Impacts:
Jobs Leveraged

- Conclusion: it takes $10,000 to $13,000 in brownfields public investments to produce one job
- EPA Brownfields leveraging
  - $14,200 EPA funds to produce one job

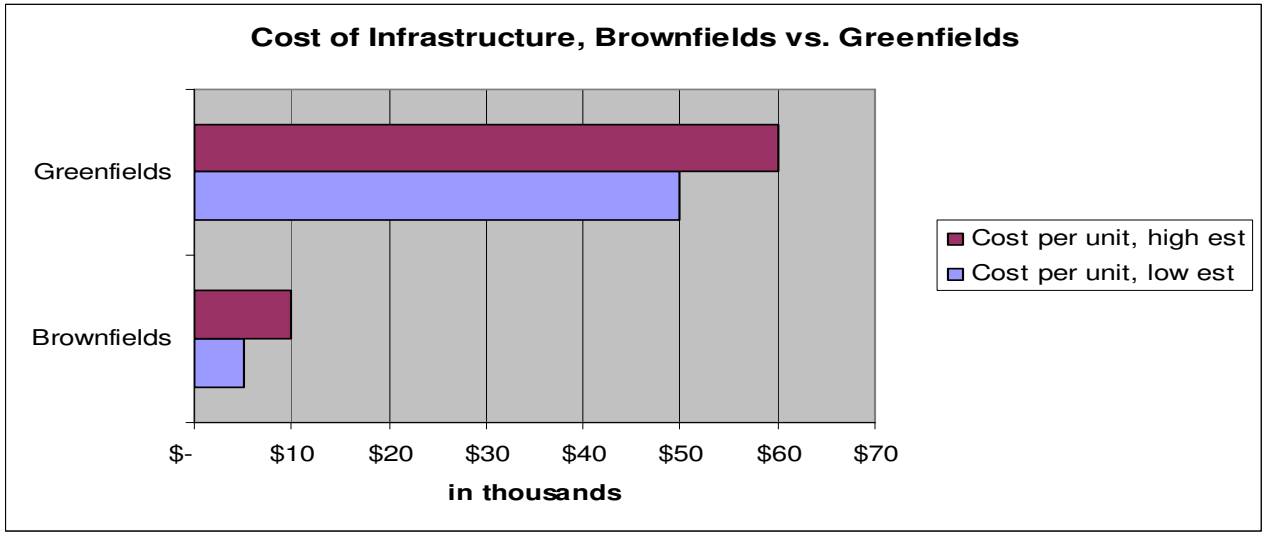
Economic Impacts
Property Values

- Negative impact of contaminated properties -- "0" to 10%;
- Positive impacts of cleanup - 5% to 15% within ¾ mile
- Higher impacts of brownfields-to-park projects – 126% increases

Fiscal Impacts
Generation of Local Tax Revenue

- Public investments in brownfields - recouped 5-10 years
- USCM survey - 105 surveyed cities - redeveloping brownfields sites could lead to $2.2 billion in local tax revenue, annually

Indirect Fiscal Impacts
Infrastructure



- CUED study: 45 percent of the brownfields projects studied had *no* substantial infrastructure costs.
- NEMW conclusion – at least 50% lower infrastructure

Linchpin Effect

- Tide Point in Baltimore: $72 million Investment, 1,600 new jobs led to:
  - Further Redevelopment:
    - Silo Point
    - Foundry on Fort
    - McHenry Row
  - Average property sales prices rose fivefold from 1995 to 2007
  - Construction permits grew 3.5 times faster than the city-wide rate from 1995 to 2007.

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