

Costing Out Atlantic Yards Shadows

This is an age when the Federal, State and City governments have instituted various programs and laws designed to promote the installation of distributed, alternative energy technologies. And this is the year The State of the Union message references our addiction to oil. Yet by the laws of unintended consequences, the Atlantic Yards Project's shadows will absolutely prevent affected citizens from helping to break this addiction, or even from benefiting from available government support for that effort.

Economists believe that it is possible to calculate the "cost" of anything. In the context of the Brooklyn Atlantic Yards Project building heights, this would be a calculation of the project's 30 year "cost of shadows". To be able to calculate what such costs will amount to, however, would prove to have benefits for more than just this one project. Right now surrounding low rise neighborhoods are looking to Down Zone. Understanding the cost of shadows, in this context, is a way of understanding exactly what is at stake and how Green Zoning becomes the complement to Down Zoning,

Locally, when looked at from this cost perspective, the Atlantic Yard's Project's shadows will effectively result in the long term transfer of natural resources – a form of wealth - currently distributed across a wide swath of Brooklyn to a single, private developer while additionally imposing a variety of immediate & direct costs on those whose solar access has just been gifted away. *

Indeed, over that long term, there could well be a collateral financial loss to property owners within the shadowed areas. As energy costs rise and solar technology implementations increase, there could easily develop a differential in the market value of properties within shadowed neighborhoods compared with those of similar properties in neighborhoods that manage to preserve their solar access and all associated government benefits.

In relation to the Environmental Impact Study (EIS') for the Brooklyn' Atlantic Yards Arena Project's shadows, the full price of this unacknowledged transfer of wealth, as well as the associated social consequences, must be accurately calculated in order to properly determine the Arena Project's long-term benefits. That is, the 30 year cost benefit comparisons for the No-Build Option or the Unity Plan or the Extel Proposal need to include this cost to properly evaluate their benefits verses those of the Atlantic Yards Project.

In any event, determining the "cost of Shadows" must, at a minimum, address the following:

- An annual duration-of-shadowing algorithm

- the ESDC construction schedule
- the number of surrounding buildings
- the total surface area affected:
 - public & private
 - rooftops & building walls
- the added cost of both public & private lighting
- the added cost of heating, both direct & pass-along
- any added “dusk to daylight” security costs
- the offset of reduced air conditioning **
- the offset of economies of scale within the complex
- the offsetting trend line of local increases in building heights
- the trend lines of alternative technology implementations including:
 - passive solar heating
 - photovoltaic systems
 - green roof construction
- the trend lines of increased alternative energy technology efficiencies
- the trend lines of increased oil & gas demand (& costs)
- the trend lines of alternative solar technology costs:
 - capital costs
 - operating/maintenance costs
 - unit of energy costs
- the trend line of public tax dollars going towards solar implementations
- the differential asset value for communities preserving solar access
- the differential in local alternative energy service industry jobs
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Perhaps outside the range of this model, it is still important to note that the cost of shadows, will, as always, disproportionately affect populations in the lowest economic demographic through both direct and indirect costs; e.g., electric lighting bills, pass-along heating costs by building owners/energy company surcharges/rent guideline board increases, etc. It would be of significant interest to know if this could become another pressure that leads towards continued gentrification even as lack of access to sunlight might lead to alternative energy stagnation and consequences of a different kind.

And finally, if there are social, ecological and geopolitical costs that are beyond the scope of local agencies, they are certainly of legitimate interest to us all as both members of society at large, and of Brooklyn in the right here and now.

Alan Rosner

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* NOTE: The developer holds air rights for three additional adjacent skyscrapers!

**NOTE: AC is neither universal, nor legally required.

LINK OF PARTICULAR INTEREST: the last 1/3 of link deals with solar panels

<http://www.nybooks.com/articles/19596>