The Policy of Design and Equity
Town+Gown in collaboration with AIANY/Center for Architecture
and the AIANY/Public Architecture Committee, Michael Plottel and Anna Torriani, Co-Chairs
in association with Archtober, Architecture and Design Month, New York City
536 LaGuardia Place, New York NY
Wednesday, October 28, 2015, 8:30 a.m. to Noon

*Event moderator: Ester Fuchs, Professor, Public Affairs and Political Science,
Columbia/School of International and Public Affairs*

8:30—8:40 a.m.   **Introduction**

8:40—9:40 a.m.   **Panel One—What Does Design Equity Mean and What Can Architecture Do about It?**

David Burney, Associate Professor, Graduate Center for Planning, Pratt/School of Architecture
Mark Ginsberg, FAIA, LEED, Curtis+Ginsberg Architects LLP
Nadine Maleh, Senior Advisor, Real Estate/Inspiring Places, Community Solutions
Chelsea Mauldin, Executive Director, Public Policy Lab
William Morrish, Professor of Urban Design and Architecture, The New School/Parsons

Moderator: Michael Plottel, Architect, New York City Department of Design and Construction and Co-Chair Public Architecture Committee

9:45—10:45 a.m.   **Panel Two—Peoples' Precinct**

Ellen Fisher, Vice President for Academic Affairs and Dean, New York School of Interior Design
James Garrison, Adjunct Associate Professor, Pratt /Graduate Architecture and Urban Design
Edna Wells Handy, Counsel to the Police Commissioner, New York Police Department
Philip Heller, Capital Construction Unit, New York Police Department
Victoria Milne, Principal, 6¢

Moderator: Tom Hanrahan, Dean, Pratt Institute/School of Architecture

10:45—10:50 a.m.   **Brief Break**

10:50—11:50 a.m.   **Panel Three—Measuring Impact—Hedonic Regression**

Sean Capperis, Data Manager and Research Analyst, New York University/Furman Center
Damian Busch, Lecturer, Capstone Program, Columbia/School of International and Public Affairs and Director, Public Finance, Barclays
Besiki Kutateladze, Research Director, CUNY/Institute for State and Local Government

Moderator: Terri Matthews, Director, Town+Gown @ New York City Department of Design and Construction

11:50—Noon   **Conclusion**

From Aristotle to Pareto. A conceptual architecture for the exploration of what equity and design might mean in the context of contemporary public policy theory could begin with a construct of justice and equity that originated at a time when the public and private realms were constitutively different than ours.[i] The once sharp distinction between two realms—public and private— became blurred in modern time. The formerly public realm transmuted into the modern public/social realm of equals that incorporates social aspects of the previously private realm and utilizes the technical tools of economics all on behalf of equals in society.[ii] The construct of justice and equity from this earlier time juxtaposed with the contemporary construct of public economics may provide helpful touchstones in this exploration.

Early analyses noted that "justice and equity are neither absolutely identical nor generically different."[iii] Equity and justice, belonging to the same genus, "coincide, and although both are good, equity is superior[,]" as a "rectification of legal justice" though "it is not better than absolute justice."[iv] Of justice, there are two types— one, complete virtue or universal justice and the second, particular justice. Universal justice arises from an assertion that "all lawful things are in some sense just because what is prescribed by legislation is lawful" and "[t]he laws prescribe for all departments of life, aiming at the common advantage" . . . and they tend to "produce or conserve the happiness (and the constituents of the happiness) of a political association."[v]

There are two types of particular justice—one relates to the "distribution of . . . assets as are divisible among the members of the community," which can lead to issues of equal or unequal shares, and the other that relates to rectifying conditions of private transactions.[vi] Distributive justice was considered to be of a proportional or geometric nature and, while there appeared to be consensus that distributive justice "must be in accordance with merit in some sense," there was nonetheless a lack of consensus about the metrics for determining merit.[vii] Rectificatory justice was considered of an arithmetic nature within the context of the market place, where the standard is defined by the demand for commodities as represented by the custom of money exchange.[viii]

Fast forwarding to modern times, as political action in the ancient public sphere transmuted into governmental economic administration in the modern public/social sphere, the concepts of justice and equity also changed since they had become linked to the economic justification for governmental action. The modern expression of the three major functions of government with respect to the economy—the allocation function, the distributive function and the stabilization function— echo aspects of the earlier articulations of distributive justice and rectificatory justice.[ix] Extending the "economic principle of efficient resource use," from its initial articulation in private sector economics as microeconomic theory with respect to the consumer household and firm, to the public sector requires the "theory of social, or public, goods."[x] This theory "provides a rationale for the allocation function of budget policy."[xi]

The question of the modern role of equity in distribution finds a tension between the modern articulation of efficiency and "how to secure a state of just or fair distribution."[xii] Modern public policy accepts, as a policy goal, Pareto efficiency, which is "the proposition that there is a welfare gain when the position of any one individual is improved without hurting that of another."[xiii] While public welfare economics can establish a range of possible efficient solutions *via* the "social welfare function," "the theory of efficient factor use by itself is not a theory of distributive justice" and economics is not able to fully answer the question "Which state should be chosen as the equitable or just?"[xiv] To answer that question now, as before, it is necessary to go outside economic theory to assess societal judgments as to what is fair and equitable.[xv] In the modern public/social realm, however, there are economic limitations to the redistributive function regardless of the criteria used, such as the size of the resources available for distribution, which is related to the distributive criteria chosen and efficiency costs from the distributive criteria in action.[xvi]

Under current public welfare economic theory, government is the appropriate actor to correct for market failures in the efficient production—or allocation of resources for the production—of the politically desired levels of pure social goods and services as well as correcting for negative and positive externalities with respect to mixed social goods and services. The practical inability to exclude what the theory terms "consumers" from the benefits of certain goods or services and the inefficiency of such exclusion because consumption by one does not appreciably diminish others' ability to consume, renders certain goods and services, such as national defense, public safety, roads, highways and light houses, "social" or "public" goods.[xvii]

The market can also fail to provide the efficient amount of certain mixed public and private goods and services due to the problem of "externalities." Externalities is a term economists use to describe instances, either in a negative context or a positive context, where the market

fails to provide the socially desired amount of certain mixed public and private goods and services due to the market's inadequate pricing mechanism. When the market does not include the cost of negative consequences to private transactions, such as pollution or unsafe construction practices, it produces too much of the item generating "negative externalities." When the private market produces too little of an item generating "positive externalities" for society, such as education and related buildings, health care and related buildings, affordable housing or buildings that support other policy objectives such as containing negative changes in the environment, government either produces them directly or subsidizes their production.

State and local governments have varying abilities to intervene in the economy to correct for market failures. State and local government capital programs and budgets provide a catalogue of physical manifestations of pure and mixed social goods.[xviii] Of the three conceptual categories of government intervention—fiscal, monetary and direct policy interventions—state and local governments are able to actively participate in two in varying degrees. State and local governments can effect direct policy intervention, through legislation, and can effect fiscal intervention, through expenditures in the budget, as well as taxes and subsidies.[xix]

When assessing the role of government as an owner of public projects, it is helpful to disentangle this role from its concurrent and unique roles of economic policy maker and regulator. Government is a project owner and client of construction services that implement its capital program. The public works or capital programs of all levels of government are, in essence, work orders for facilities relating to "social" or "public" goods and to "mixed goods" that correct for negative and positive externalities.[xx] In addition, by allocating capital fund resources to public goods and mixed social goods, a unique function of government, state and local governments can produce economic efficiencies to help to stabilize their regional economies.[xxi] Government performs an active management role in the economy when it increases capital spending or strategically targets existing levels by reforming the existing statutory schemes to increase productivity and efficiency.[xxii] In addition state and local government regulation of the construction industry,[xxiii] as an economic component and as a major facilitator of its public policies, provides additional opportunities for government to increase the efficiencies and effectiveness of public policy objectives.[xxiv]

The Role of Architecture in the Public Realm. While the public realm has evolved over time into a public/social realm, with attendant dangers to the older conception of human life and action,[xxv] the built physicality of the public realm has implications for an exploration of the role of design, and in particular architecture, in equity.[xxvi] "The *vita active*, human life in so far as it is actively engaged in doing something, is always rooted in a world of men and of man-made things which it never leaves or altogether transcends."[xxvii] Instead of conceiving the reification of the modern public/social realm as a *product* of the *vita active,*[xxviii] it is possible as an alternative to conceive "public space as a public good, and as a stable horizon of civic experience."[xxix] Architecture has a significant role in this conception, providing "not only . . . public spaces as settings for freedom, but also . . . public spaces as themselves instantiating the provision for human needs—spaces that gather us together rather than isolate us, spaces that uplift us rather than crush the spirit, spaces that enhance our sense of civicness rather than reinforce our fixation on our own private purposes."[xxx]

The "simultaneous presence of innumerable perspectives and aspects in which the common world presents itself" in modern public life[xxxi] requires "stable worldly 'furniture' that helps give us the sense that we are rooted in something permanent or that at least *feels* permanent."[xxxii] Architecture can significantly contribute to this "conception of a *grounded* citizenship-civic experience grounded in shared attachment to a built place that provides an enduring home for members of a political community extended over many generations" by creating "an ensemble of buildings as the site of civic space" or "a community as a whole as a locus of civic-architectural experience."[xxxiii] Daniel Libeskind has similarly articulated this concept of the role of architecture in the public realm as one that draws "members of the society into a stronger, more emphatic identification of what's public" when he said: "Architecture costs a lot of money. It costs a lot of effort. It influences every single person who is on the street. So I believe it has to be addressing every single citizen and has to be a stage for life in the full sense of the word."[xxxiv]

Creating Equity through Design. Beginning in academic year 2010-2011, when Town+Gown captured an applied research project that New York City Department of Probation (Probation) conducted with Columbia/GSAPP and brought it through several symposium events, Town+Gown has been exploring the policy of design and equity, though perhaps not explicitly.[xxxv] The Probation/Columbia-GSAPP case study project profiled in Town+Gown involved the repurposing of Probation's waiting rooms into Resource Hubs as part of Probation's Justice Reinvestment Initiative and its related Neighborhood Opportunity Network (NeON) program.

The Initiative and NeON were based on a prior hypothesis that a more effective and efficient public safety policy would include reallocating a portion of funds spent on building and operating state prisons to strengthening the civil society institutions (e.g., education, healthcare and job creation) in the communities where the prisoners live. The Probation/Columbia-GSAPP project revealed a continuing interplay between design thinking and policy analysis that had begun several years before and moved over time from public policy analysis at the 30,000 foot level to agency operations "on the ground" with site-specific design interventions to support program change.

The intersection of design and policy created a new space for rethinking both design and policy and advancing both agendas, through cross-disciplinary conversation and planning that identified possible solutions and implementation strategies. The project team engaged in a participatory design process that identified, as a tipping point, a need for DOP's program to address those with whom it engages as whole, complex individuals.[xxxvi] The resulting designs signaled the agency's policy intent, and with a "kit of parts" design solution as a foundation, Probation was able, with the help of other City agencies and private sector practitioners, to implement the ideas at specific sites. Probation also engaged researchers from CUNY/John Jay College of Criminal Justice to conduct a process and implementation study to document and evaluate the process of transformation in a reflective action-research approach.

Having followed the Probation/Columbia-GSAPP project in Town+Gown, the New York Police Department approached Town+Gown, in October 2014, to explore how Town+Gown could partner with the NYPD on academic-based research in order to help make real the NYPD's vision of turning New York's police precincts into "people's precincts", using the "peoples' precinct" program at the Los Angeles Police Department (LAPD). The two physical elements of the LAPD "peoples' precincts" consisted of (a) an ATM machine located in the precinct and (b) a community space, located in the space between the front door of the precinct building and the front desk (sergeant's desk) where police work takes place within the precinct building, in which members of the community and the police precinct staff could engage in joint programming. Implementing these two elements would signal a change of policy intent in physical space aimed at improving community police relations.

New York's case study "peoples' precinct" project was to be at the 73 Precinct, located in Brownsville, which

physical facility presented physical challenges. At the initial meeting, the commanding officer at the time indicated he wanted to take everything out of the first floor and move it up to the second floor so the first floor could become a community asset. A tour of the two-story building revealed an inability to move additional staff to the second floor. Based on the work in Town+Gown in Spring 2014 with a multidisciplinary class—architecture and construction management—at Pratt/Architecture that explored a building information modeling-enabled kit of parts prefabricated modular construction capacity for city agencies to respond in neighborhoods after natural emergencies, Town+Gown brought Pratt/Architecture as an academic partner on this project. The earlier class project along with Pratt/Architecture's continuing exploration of temporary modular structures as vehicles for communication made Pratt/Architecture well suited to focus on the physical limitations of the 73 Precinct building as a case study site for the "peoples' precinct." The architectural solution revealed itself as a moveable free-standing modular structure that could be placed somewhere on the sidewalk surrounding the front of the building, which had been constructed in 1985 in the fortress style common to that period.

At that initial meeting, it became clear that NYPD had previously engaged in a service design exercise, similar to that which Probation had engaged in with Columbia/GSAPP. Service design is a powerful "interdisciplinary approach that combines different methods and tools from various disciplines" that began in the private sector as consumer marketing and recently emerged in the public service sector.[xxxvii] Service design thinking, a key tool for focusing on equity in service delivery, is a multi-disciplinary approach to improving service delivery that ". . . combines numerous skills in design, management and process engineering," so that the resulting "consciously designed services that incorporate new business models are empathetic to user needs and attempt to create new socio-economic value in society."[xxxviii] This earlier service design management analysis, called the *Seven Platforms of Collaboration*, focused on the user experience at the precinct level and served as an important foundation for the 73 Precinct project. These platforms included designing common areas to foster better interactions between citizens and the police, using art in common spaces to make them more inviting, and designing workspaces to incorporate collaborative design principles.

Pratt/Architecture developed a three-semester series of classes that was intended to explore community engagement, design and technical innovation and fully integrated project delivery in the form of a team based

design build effort. The three seminar courses were structured to go from design (spring) to estimation/specification (summer) to build (fall) and intended to culminate in student-involved build of the student-designed structure conceptually along the lines of Auburn University's Rural Studio, an experiential learning program strongly linked to social responsibilities of architects and architecture students.[xxxix] The Pratt/Architecture students engaged in an architectural design process with staff at the 73 Precinct and engaged in participatory co-design with members of the community represented in the 73 Precinct's Community Precinct Council. Eleven concepts evolved into three archetypal schemes—at the front, at the corner and at the side of the building—that later developed into a final design for what became to be called the Community Connections Pavilion (CCP) pod and located at the side of the building.

Source: James Garrison, Adjunct Associate Professor, Pratt /Graduate Architecture and Urban Design

During the summer, architecture students from Pratt and law students from New York Law School and Fordham Law School collaborated on aspects related to the Technology phase of the project, identifying issues raised by the CCP pod design with the City's building code, zoning code and sidewalk regulations. While the fate of the final build of the CCP pod academic demonstration project is unknown at the moment, "action" occurred when, in the spring, the NYPD decided to include a community space and ATM in the design of the new City-funded building for the 40th precinct, currently in the design phase at DDC.

While the Pratt/Architecture project was underway the Municipal Credit Union had agreed to donate an ATM to be placed in the vestibule at the 73 and provide ATM service at a significantly reduced fee. Due to the ragged edge of the front of the building, the vestibule is an odd shaped space that is dark and dysfunctional for both those who work at the precinct and those who come to the precinct. Anticipating the arrival of the ATM in the 73's vestibule, Town+Gown introduced New York School of Interior Design (NYSID) to the 73 Precinct case study

project to explore making the interior redesign of the vestibule an experiential learning experience for NYSID students. NYSID concluded that this project would fit the school's objectives of evidence-based design and involving design students in the community and created a summer class of graduate students to redesign the vestibule.

For four weeks in August the students worked with the staff at the 73 and members of the Community Precinct Council to create two related designs—the first to be a simple design, constrained by cost and the physical space limitations at the 73, and the second to articulate a "civic standard" that could be applied to spaces across NYPD's inventory of existing buildings. The design intended to be implementable in the 73 Precinct within the physical space limitations provides for improved lighting, among other things, and makes small changes to an interior non-load bearing wall to increase privacy for those speaking to an officer at the reception desk, shielding the arrestee intake space from the view of visitors and improving traffic flow at the interior door.

Source: Francisco de Leon, Member of Faculty, New York School of Interior Design

The civic standard design, consisting of many elements, provides a useful foundation for the NYPD as it thinks about how to redesign other precincts' vestibule areas to implement elements of the "peoples' precinct" in advance of full-scale precinct renovations.

Evaluating Equity through Economic Analysis. Much of the City's public realm is constructed and reconstructed *via* City capital projects, in the aggregate, amounting to several billions of dollars authorized in the City's capital budget, financed by City bonds and managed by City agencies contracting with private architects, engineers and construction companies. The City's diverse capital program rehabilitates, maintains, and expands public infrastructure and public building stock of a large and complex built urban center. While the capital budget is large, the City's capital needs are larger, requiring choices that balance a variety of competing needs.

And while the budget process does not lack for the quantitative articulation of public needs, there is an almost total absence, on the other side of the civic ledger, of a quantitative assessment of the external benefits that public projects generate in their neighborhoods. Agency programmatic and maintenance needs, supported adequately by analysis at the agencies and aggregated into an expression of City-wide need in the capital budget process, almost exclusively drive the process. Until recently, however, there was no way to assess rigorously the impact of a public project on its neighborhood that quantitatively demonstrated a causal link between the project after completion and changes in the neighborhood surrounding the project.

Two studies completed at the beginning of the last decade by the Furman Center for Real Estate and Urban Policy (the "Furman Center") examined the neighborhood impacts of two types of public investments by analyzing changes in property values in the micro-neighborhoods surrounding the investments, utilizing 30 years of geo-coded property sales data in a difference-in-difference hedonic regression model. Hedonic regression, applied to real estate, permits buildings to be decomposed into their constituent attributes that can then be evaluated separately, permitting comparisons across locations, such as different neighborhoods within a city. This approach makes it possible to ascertain whether property value improvements came as the result of a prior investment and whether the investment was made in a neighborhood that was strong before the investment. In addition, this approach permits an assessment of the impact of "quality" in design. The first Furman Center analysis estimated the external effects of public investment in subsidized housing—the former *in rem* housing program, and the second analysis estimated the external effects of community gardens. Both studies demonstrated a general positive relation of the investments with property values in the surrounding neighborhoods, as well as demonstrated some subtle relationships among neighborhoods. The study on community gardens also demonstrated the impact of quality in design.

With the difference-in-difference hedonic regression model now available to evaluate the impacts of public investment, Town+Gown collaborated with Columbia/SIPA on a capstone project where students provided with geocoded New York City Department of Design and Construction project data and New York City Department of Finance property sales data would develop a model to permit the City to assess the economic impact of its routine capital projects. In *Predicting the Effect of New York City Capital Projects on Nearby Property Sales Prices,* the Columbia/SIPA

capstone team developed a hedonic regression model integrated with a difference-in-difference approach, drawing on literature in the field including work done by the Furman Center. This approach permits a comparison of property sales prices in small rings surrounding a completed capital project with property sales prices of properties outside the ring area but within the same census track. The capstone team was able to test the model with one project—the Great Kills Library renovation in Staten Island—and determined the viability of the model for future use by the City.

Many believe that public capital programs serve a higher political function—namely, that public architecture is necessary for a civic experience.[xl] It is axiomatic to many involved in public architecture and construction that excellence in public design and construction is essential. There is an intuitive sense that some types of public projects are beneficial to neighborhoods and others, perhaps, less so. The 1989 Charter Revision Commission responded to a perception that certain neighborhoods had a disproportionate share of City facilities that burdened these neighborhoods when it proposed (and the voters adopted) the City's "fair share" location requirements.[xli] An untested bias that public excellence is too expensive and public owners cannot afford it pervades the public capital budget process, balanced by the a countervailing hypothesis that design excellence generates benefits, some accruing to the general fund, well beyond its initial cost.

With the ability to apply this methodology to the wide variety of public projects, the City would be able to develop New York City-specific quantitative metrics for capital program planning. The ability to apply this methodology to the broad array of routine public project types would enhance understanding—at City construction and oversight agencies and by the public—of the costs and benefits of all types of public projects that are initiated and completed on a routine basis in every neighborhood. Among the project types are street reconstruction (with and without "amenities" such as landscaping and lighting), new and renovated City structures such as firehouses, police precincts, schools, shelter facilities, court facilities and agency ancillary structures, and new and renovated cultural facilities and libraries, the operations of which are subsidized by the City. Applying hedonic regression to the City's many routine project types would begin to show the relative impacts of project types in City neighborhoods—for example, the impact of a public school in a neighborhood relative to a court house, library, police precinct or homeless shelter as well as the impact of street reconstruction without amenities relative to those with amenities—as well as quantify what additional beneficial

impact, if any, an excellent project confers relative to projects that are standard and good.

With such quantitative results, City agencies would have the ability, assuming multiple sites, to choose among various possible locations for regular programmatic investments to maximize social and economic benefits in neighborhoods. To the extent the results demonstrate a positive impact from design and construction excellence, City agencies would have the opportunity to mitigate negative impacts of some types of projects with excellence in design. Since the capital budget is a political process, a quantitative understanding the relative impacts of project types would permit elected officials, whose task it is to allocate scarce resources among competing valid needs, to select a mix of capital investments that maximizes the revitalization of City neighborhoods. These quantitative results, translated into metrics, would also give citizens tools to participate more effectively in the capital budget and "fair share" processes and possibly make a politically divisive issue more tractable and more subject to policy analysis than it is at present.[xlii]

Endnotes

[i] Hannah Arendt, *The Human Condition* (Chicago: 1989), pp. 33, 38-39.
[ii] *Ibid.*, pp. 38-49.
[iii] Aristotle, *The Nicomachean Ethics*, J.A.K. Thomson, translator (New York: 2004), Book V, Ch. x, 1137a, ll. 30-35.
[iv] *Ibid.*, Book V, Ch. x, 1137b, ll. 9-13, 25.
[v] *Ibid.* Book V, Ch. x, 1129b, ll. 13-20. Aristotle's *a priori* assumption that all legislation is lawful and thus just (critical legal theory had not yet been contemplated) and his list of possibilities underlying the basis of deciding who was included in the "common advantage" ran a spectrum from all citizens (which itself was circumscribed in theory and in reality; *see* Aristotle, *Politics,* Book III) to a variety of other bases that can create dissonance to the modern ear. These issues are nonetheless still present and relevant in contemporary civic conversation (See Aristotle, *op. cit.*, Book V, Ch. I, 1129b, ll. 13-20).
[vi] *Ibid.*, Book V, Ch. II, 1130b, ll. 30-34, 1131a, ll. 1-2.
[vii] *Ibid.,* Book V, Ch. III, ll. 25-29. This construct again ran a political spectrum from all citizens to a menu that no longer comports with modern norms. *See* Arthur M. Okun, Equality and Efficiency: The Big Tradeoff (Washington, DC; 1975); *see also* Aristotle ,*Politics*, Book III, Ch. ix, Sections 1-15.
[viii] See Aristotle, Politics, Ch. iv, v.
[ix] Musgrave, Richard A. and Peggy B. Musgrave. *Public Finance in Theory and Practice, 5/e* (New York: McGraw-Hill Book Company, 1989), p. 6.
[x] *Ibid.*, p. 41, see also pp. 3-14.
[xi] *Idem*
[xii] *Ibid.*, p. 73.
[xiii] *Idem*
[xiv] *Ibid.*, pp. 73-74.

[xv] *Ibid.,* pp. 76-82. Modern articulations of possible criteria include: endowment-based criteria, utilitarian criteria, egalitarian criteria and a mix of these criteria.
[xvi] *Ibid.*, pp. 82-85.
[xvii] Writing in the third century B.C., Aristotle would have been familiar with the physical artifacts from earlier major public works construction efforts, such as the fortification of the Pireaus and the long walls connecting the Pireaus to Athens, during Themistocles's administration, and the Parthenon and its environs, during the Pericles's administration. The Pireaus and the long walls were the result of the military function and provide an example of what is known, in modern public policy terminology, as a pure public good. The Parthenon was the result of a civic and social functions at the time that complemented subsidies supporting other civic and social functions and provides an example of what termed a mixed public and private—or social—good.
[xviii] *Ibid.,* pp. 5-9, 41-58. The following several paragraphs in the text has been modified from The Construction Law Committee of The Association of the Bar of The City of New York (ABCNY), *21st Century Construction, 20th Century Construction Law,* February 6, 2008, (in particular pp. 9-10 and footnotes 53-55), the primary author of which is the author of this précis document.
[xix] *Op. cit.,* Musgrave and Musgrave*,* pp. 5-9, 41-58, 72, and 446-453.
[xx] *Idem*
[xxi] Government, even at lower state and local levels, performs a macroeconomic stabilization function when it uses budget policy, including the capital budget, "as a means of maintaining high employment, a reasonable degree of price level stability, and an appropriate rate of economic growth. . .". Musgrave and Musgrave, *op. cit.,* pp. 113-129. See also Danny Myers, *Construction Economics: A New Approach* (London: Spon Press, 2004), pp. 181-192.
[xxii] While economic efficiencies are distinct from budget efficiencies, both could come from similar activities. With respect to the budget, to the extent current statutory and regulatory schemes for construction embed unnecessary delays into any part of the process from project inception to completion, they embed unnecessary and avoidable costs that could be unleashed for additional projects or alternative expenditures. See Edward W. Merrow, "Understanding the Outcomes of Megaprojects: A Quantitative Analysis of Very Large Civilian Projects" (Santa Monica: The RAND Corporation, 1988), pp. iv, 5 and 62.
[xxiii] Design firms are included within this industry for economic analysis purposes.
[xxiv] Egan, Sir John. *Rethinking Construction*. (London: Department of Trade and Industry, 1998), p. 6; see also Myers, *op. cit.,* p. 5. With appropriate interventions to increase efficiency and without increasing the level of resources committed to it, the construction industry could increase its productivity. (Myers, *op. cit.,* p. 5.) This is an example of increasing the efficiency of resource use along the existing production possibility curve. (*Idem*) Given the proportion of government work comprising the overall level of work of the construction industry within any jurisdiction, increasing the industry's efficiency on public and private projects may require reforming state and local laws and processes. The relative

costs and benefits of regulations change over time as the circumstances they cover change as well. Existing statutory and regulatory schemes provide opportunities for state and local government to mitigate unnecessary or unintended drag on the economy. Governmental legislation, directly regulating or indirectly affecting the industry, impacts both construction demand and supply, thus impacting the economy, due to the close connection between the economy and the construction industry. (ABCNY, *op. cit.,* p. 11). For an excellent example of how a rigorous review of various regulations that individually and cumulatively have a negative impact on a particular segment of the construction industry—affordable housing—yielding opportunities for targeted reform to improve related functions on the margin, see Jerry J. Salama, Michael H. Schill and Jonathan D. Springer, *Reducing the Cost of New Housing Construction in New York City: 2005 Update*, (New York: Furman Center for Real Estate and Urban Policy (NYU) 2005).

[xxv] Arendt, *op. cit.,* pp. 38-49.

[xxvi] Ronald Beiner, "Our Relationship to Architecture as a Mode of Shared Citizenship: Some Arendtian Thoughts", *Techné: Research in Philosophy and Technology*, Volume 11, No. 1 (Fall 2007), (on line version http://scholar.lib.vt.edu/ejournals/SPT/v9n1/beiner.html, accessed 10/20/15), pp. 2-3.

[xxvii] Arendt, *op. cit.*, p. 22.

[xxviii] Arendt, op. cit., pp. 136-174.

[xxix] Beiner, op. cit., p. 3

[xxx] *Idem*

[xxxi] Arendt, *op. cit.,* p. 57; *see also* Jennifer C. Greene, "Evaluators as Stewards of the Public Good", Chapter 2 in *The Role of Culture and Cultural Context*, edited by Stafford Hood, Rodney Hopson and Henry Fierson (Greenwich CT: 2005), pp. 7-19, especially pp. 15-16.

[xxxii] Beiner, *op. cit.*, p. 3.

[xxxiii] *Ibid.,* p. 4.

[xxxiv] *Ibid.,* pp. 4-5, citing to Alan Freeman "I'm Not Flavour of the Week", interview with Daniel Libeskind, *Globe and Mail*, October 5, 2002.

[xxxv] See Town+Gown website at http://www1.nyc.gov/site/ddc/about/town-gown-archives.page for précis documents related to *Design: Just What the Heck Is It?* and *Design: When Does It Begin and End?*

[xxxvi] For more details about this phase, *see* http://urbanomnibus.net/2012/10/from-waiting-rooms-to-resource-hubs-designing-change-at-the-department-of-probation/. Early emerging ideas included repurposing the waiting room as a resource hub, with updated technology, new signage and improved furniture and arrangements so that DOP staff could function as greeters and resource advisors and team up with representatives of partner organizations. To implement this proposed integrated design solution, the research team paired the list of small steps leading to larger changes in DOP's program, including creating model sites with a "kit of parts" approach that would be scalable across the agency and conducting a full process evaluation of current operations to support future replication.

[xxxvii] Marc Stickdorn and Jakob Schneider, *This is Service Design Thinking: Basics—Tools—Cases* (Hoboken, NJ: 2011), p. 29.

[xxxviii] *Ibid.,* p. 30.

[xxxix] In Programming and Design (Spring 2015), the students conducted meetings with stakeholders including the NYPD, community representatives to discuss and establish the character of the pavilion and its program of uses, developed alternatives and established a final design for the CCP pod; in Technology Development (Summer 2015) students were to develop the technology and detailing of the Pavilion in association with one or more professional offices related to Pratt's faculty; and in Construction and Deployment (Fall 2015), in collaboration with appropriate fabricator, the students were to manage, prepare fabrication and coordination drawings, and assist in the assembly of the CCP pod.

[xl] Beiner, *op. cit.,* p. 60.

[xli] New York City Department of City Planning, "Fair Share: An Assessment of New York City's Facility Process (1995), p.3. The City's current Fair Share Criteria, adopted in 1990, are primarily process-based, in part because rigorous quantitative analysis was not then even envisioned.

[xlii] Hank C. Jenkins-Smith, *Democratic Politics and Policy Analysis* (Pacific Grove, CA: 1990), p. 103.