Community Initiated Public Participation: Altering the Urban Design Decision Making Process with Real-Time Immersive Visualization

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1. ABSTRACT

This paper examines opportunities that real-time immersive visualization offers the urban design decision making process. In a conventional public participation model the designer, developer and government bodies are all placed in privileged roles, controlling and editing information that is presented for public feedback. Through discussion of a case study from the University of Toronto's Centre for Landscape Research (CLR) this paper examines how a community group initiated the dialogue in an otherwise opaque process by approaching the CLR to represent a development proposal using real-time immersive visualization. The community's actions resulted in the local government and developers being forced to engage with the community group and to hear their concerns. The actions dramatically altered the process of planning and urban design development in the City of Toronto.

This paper argues that the conventional process of public participation can be altered by the public organizing and using the visualization tools prior to and independent of presentations made by designers/developers and government bodies. This allows the public to initiate a dialogue autonomously rather than relying on the other parties to do so. Once the public calls these parties to review identified issues with a given project the public gains a level of control over the information, forcing all parties to engage in a far more democratic decision making process.

2. INTRODUCTION

Public participation allows for democratic input on decisions made by a few people that affect many people. In the spatial planning disciplines, the public participation process frequently involves professionals communicating complex spatial arrangements to laypeople. However, traditional methods of spatial representation, orthographic plans and sections, are difficult for the layperson to decipher. Many of the problems contributing to unsuccessful public participation processes are caused by a communication breakdown between the public and professionals, which visualization can aid in overcoming (Lange 2005). Furthermore, in many instances of visualization for pubic participation, if computer based visualization is at all utilized it is primarily used as a sales tool, employing static glossy images or, at best video based cinematic animations, that are aimed at selling a proposal to the public rather than encouraging them to make a critical decision (Danahy, 2005a). The failure of traditional planning tools for communicating to the public has been presented, and the advantages of additional visualization techniques in a conventional public participation model have been discussed (Al-Kodmany, 2002). In addition, the advantages of real-time immersive visualization over more commonly used media for experiencing landscape has been argued (Danahy, 2001). Specific discussion of the advantages and potential of engaging the public using real-time visualization for engaging in participation have also been discussed (Bishop, 2005; Kwartler 2005.) The above mentioned examples of visualization for public participation are rooted in a traditional methodology, where the developer or government body control and edit the information that is available to the public for input.

This paper will expand on this discussion by examining how the process of public participation can be altered using real-time immersive visualization by forcing unknowing or unwilling professionals to engage with the public. The paper provides evidence on one mechanism the public may utilize when the powers that be are not interested in public input. This paper will use the case study of the development of lands adjacent to Fort York in Toronto, where the agreements of a previous public consultation process spanning several years of negotiation were ignored by a group of newly appointed civic officials. As a result the community group involved was forced to confront the developer and City of Toronto by modeling the proposal on their own to initiate a renewed process of public participation in an attempt to regain some of what was accomplished previously. What follows is an outline of the process and what stands to be gained from this inverted methodology of public participation.

3. CONVENTIONAL PUBLIC PARTICIPATION PROCESS

Public participation is broadly defined as 'forums for exchange that are organized for the purposes of facilitating communication between government, citizens, stakeholders and interest groups, and businesses regarding a specific decision or problem' (Renn et al 1995). The degree of inclusiveness of various models for public participation was identified early on by Arnstein. These range from manipulative non-participatory models to scenarios where citizens are empowered and control the participation (Arnstein, S. R. 1969). In a conventional spatial planning public participation mode, the designer, developer and government bodies control and edit information that is presented for public feedback. Public consultation seldom surpasses Arnstein's 4th rung of 'token placation'. Krek raises the issue that even when the public's opinions are solicited, there is very little hard evidence to support that such a process is a success or a failure (Krek 2005). Regardless of the degree of success, an overriding issue is that the process ultimately relies on those 'in charge', the designer, developer or urban design department, to initiate and form the process of public consultation. Much of the above discussion surrounding the difficulties of public participation revolves around how to engage the public. But an equally pertinent issue is what the public is to do when they aspire to participate but are denied the opportunity. The true value of a public participation process is when the public can initiate it whether or not the professionals see a need for public participation. If the public could successfully intervene in the process, it would radically shift the model of public participation from a non-existent status to the uppermost level of the Arnstein ladder for public participation, thus allowing for the most significant degree of influence by the public on the process and leading to the highest level of empowerment.

4. THE FORT YORK NEIGHBORHOOD

Community involvement in the development process for lands in the vicinity of Toronto's Fort York commenced in 1994 when the community group Friends of Fort York was founded to confront the planning process being carried out by the City of Toronto (http://www.fortyork.ca/History%20Files/FOFY%20News%20V.7%20N.1.htm). At that time City officials were attempting to approve extremely high density development in the City's official Part II Plan for the sites adjacent to the Fort, justifying the extreme density by basing it on the areas prior industrial zoning. A group of citizens concerned with the status of the Fort rallied together to object to the density and development process. By objecting to the City of Toronto's proposal the community group was able to persuade planners to develop a medium height built form strategy that protected much of the visual integrity of the Fort. Ultimately the group was not able to change the density as was their desire but agreed with the City in 1995 to a pattern of blocks and towers similar to Toronto's existing St. Lawrence Neighborhood, which has been identified as a highly successful mix of density and livable urban design (Rose, 1980). However, in contrast to the 1995 decision, in 2001 the City of Toronto approved taller towers. The community group felt that the tall towers would negatively impact on one's experience of the Fort while achieving no higher overall density. The tower typology was approved mainly to appease the market conditions of the time, allowing developers to build what they viewed as being desirable accommodation by the market forces (Danahy, 2005b). The Friends of Fort York felt that their views as agreed in 1995 had been ignored and were again forced to initiate a more open process for development approvals.

5. PUBLICLY INITIATED DIALOGUE

Following the rejection in 2001 by the City of Toronto of the 1995 plan for development, the Friends of Fort York solicited the Centre for Landscape Research (CLR) to prepare a digital model of the official plan proposal that could be visually scrutinized in the CLR's Immersive Visualization Lab (Figs 1, 2).

Figure 1: Early Visualization of the City of Toronto Official Part II Plan massing

Figure 2: Screen capture of projected immersive visualization from within Fort York of the Official Part II Plan massing
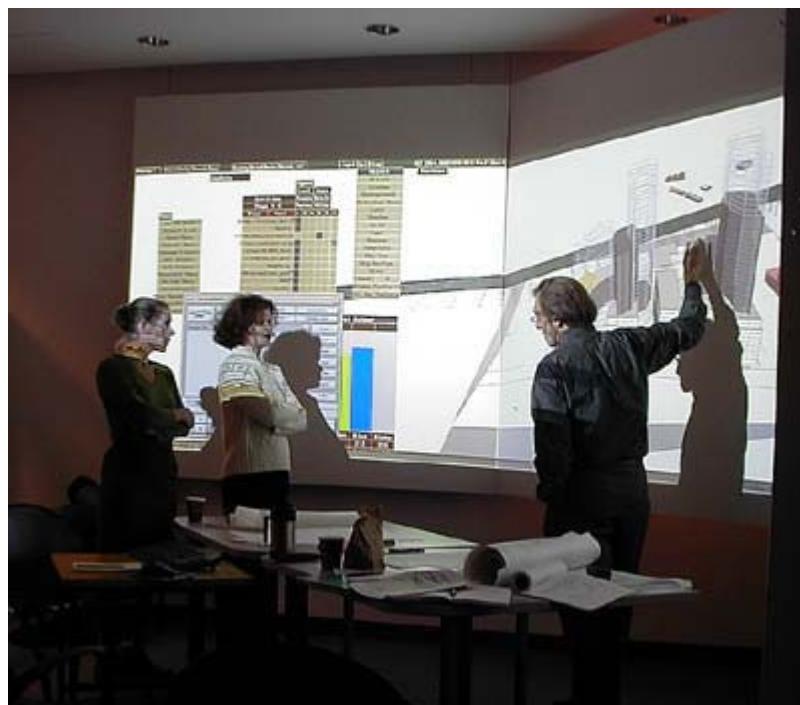
Figure 3: Community members and volunteer urban designers discuss alternatives at the CLR Immersive Lab

In addition, with the assistance of volunteer local urban design professionals, alternatives were developed that maintained the high density mandated by the City of Toronto and the land owners while contributing positively to both the experience from within the Fort as well as the proposed neighborhood (Fig 4). City officials and developers were invited to view the visualization and to discuss alternative proposals at a series of workshops facilitated by the CLR. The Friends of Fort York argued that due to the historic significance of the battlefield landscape of the Fort, the experience from within the Fort was valuable enough to justify altering the built form preferred by developers. The City of Toronto and the developer did not agree. The case went to the Ontario Municipal Board (OMB), a Provincially appointed adjudicative tribunal that hears appeals on planning applications and resolves land use disputes (http://www.omb.gov.on.ca/). At the hearings, the community group was permitted to present their visual evidence. However, the OMB was reluctant to break with the tradition of meeting in a quasi judicial court room setting and declined an invitation to experience the proposal and the alternatives developed by the community group in the CLR's immersive lab. As a result, the Board was presented with comparative images in the format of 11x17 colour prints of the original and alternative proposals (Fig 5).
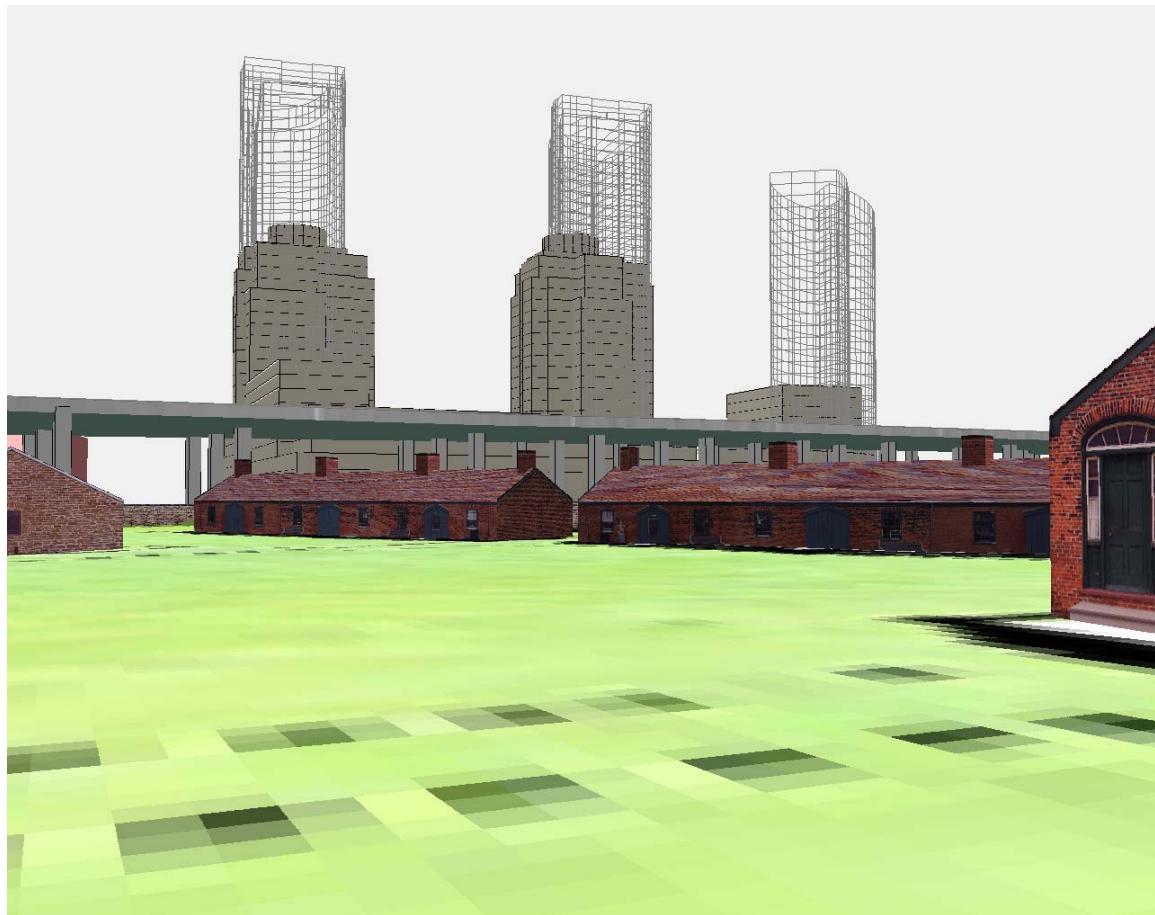
Figure 4: Comparative overlay of the developers favored tower typology (wire frame) and the equal density medium height typology developed by local volunteer urban design professionals (solid)
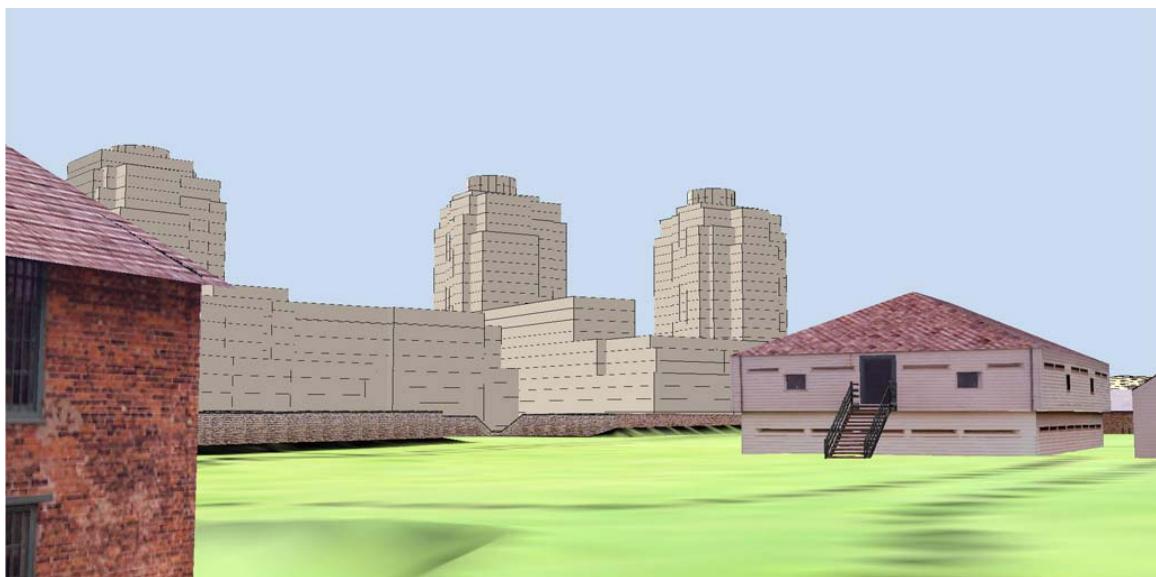
Figure 5: Example of comparative images presented at the OMB hearing with proposed development (top, solid outline) and projected development (top, wire frame) and the alternative equal density medium height strategy (bottom)

This static two-dimensional presentation style was a very poor substitute for the real-time immersive visualization available at the CLR for conveying the shape and form, as well as, the experience a person gets walking about in the Fort. Many in the Citizens group believe that this unwillingness to see their interpretation of the impact of the developers proposal may have contributed the OMB's decision to protect the private interests of the developer over the public historic and interpretive interest of the Fort. The Board ultimately ruled that the Fort was not of sufficient historic value to affect the developer's flexibility to exploit maximum market potential in its built form. The developers argued that tall buildings better met their financial reading of market demand for condominiums. The preferred bottom line of the developer was ruled as paramount, and no concessions to improve the ground-level experience of people within the Fort or the proposed neighborhood were made.

6. DISCUSSION

The example from the Fort York case was not a typical public participation process. By abandoning outcomes agreed upon with the Friends of Fort York in the 1995 public consultation, the City of Toronto effectively forced the community group to take action to represent the interest of the Fort and its heritage landscape. In this case, the traditional challenge in public consultation of engaging the public was not an issue because the Friends of Fort York had a long standing commitment to stewardship of the interests of the Fort in both its planning and on-going programming of interpretive events and improvement. While the community group was unsuccessful convincing a majority of City Councillors and the hearing officers of the OMB to minimize the impact of the development on the experience of people using the Fort, there were significant positive outcomes from the process, both locally and of wider application, in the immediate and longer term. In the immediate term, the action undertaken by the Friends of Fort York and the CLR has had a significant impact on the development process in the City of Toronto. The City of Toronto and the developers of properties surrounding the Fort have voluntarily agreed to public participation utilizing the CLR's facilities in the early stages of design (Danahy, 2005b). Arguably, this involvement may be motivated more by a desire to avoid the time and costs associated with future appeals by the Friends of Fort York to the OMB than to protect the public interest in the Fort. Regardless of the motive, the result is a more transparent process of development allowing the expression of opinion and ideas from a public that understands the impact of development proposals. In addition, the public are confident of their ability to effectively communicate with professionals by utilizing the immersive visualization capabilities afforded to them by the CLR as a common ground for discussion and negotiation. In the end, this should result in more accountable development.

The significance of the Fort York process is far wider reaching than in simply affecting the local planning policy of the City of Toronto. The fact that the pubic was able to completely alter the process of design, planning and development when blatantly not included in the process is an important discussion point. The shift in power from the private interest of the developer and Corporation of the City of Toronto was a direct result of explicit visualization that eschewed problems of professional communication to the layperson. It was the public that engaged and challenged the exclusivity of the representations provided to them (or not as the case may be) by the professional acting on behalf of the developer and the City in the process. This inverted the historic issue of communication in the public participation process; rather than the professionals struggling to communicate with the public and facilitating their understanding of a proposal, it was necessary for the public to convey to the professionals that they understood the ramifications of the development and were prepared to challenge it. It was no small task to shift the balance of power in the development process. It was this shift in power, enabled by the technology at hand, that had the most profound effect on the process and outcome. A public armed only with traditional means of visualization, such as orthographic plans and sections, could not have made the strong case they did, as they would have likely been outflanked by the professional experience of the developers. It was the explicitly comprehensible nature of the immersive visualization that formed the core of the public's understanding and commitment to their argument. The public's argument and resulting visualization was sound enough that the developer's lawyer, as a last resort, was forced to challenge the accuracy of the digital model, with no success.

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The effectiveness of the tools clearly articulated the ramifications of the development to layperson and professional alike, necessitating the engagement of the professionals with the public on their terms. The application of this inversion of the traditional public participation model to any spatial planning project should make developers and officials take note; a willing public is now able to force engagement and negotiation using real-time immersive visualization. The success of these tools in completely altering the development process in Toronto is evidence of the communicative and democratic power the technology has to offer. Furthermore, including real time visualization early on in the design process as a communicative bridge between the public and professionals can only benefit all parties by avoiding costly trials and wasted time, positively affecting the developer's bottom line. Returning to Arnstein's ladder of public participation, it is clear that by rejecting in 2001 the outcome of the 1995 public consultation that those newly appointed at the City of Toronto had reduced the 1995 public consultation to one of tokenism and placation. The value of the 2001 process was that through a confrontational process the input of the public shifted significantly up the ladder to the first true form of public participation, that of a partnership between the public and professionals. This is the first truly participatory model using visualization in the development process, one that has been created by a public with the desire to be involved in the process.

7. CONCLUSION

There has been a dramatic shift in potential now that tools such as the ones used in this case are increasingly accessible, from a process of public participation that has failed to utilize adequate tools for engagement to one where the public are able to harness the tools to engage the professionals in visual-spatial dialogue and debate themselves. As has been discussed, the shift in power from the professionals to the public can be attributed to the technological tools that enabled an informed discussion. While the Friends of Fort York were not successful in convincing the OMB, developers or those in control at the City of Toronto that the ground level experience from within the Fort was worth protecting, there were significant outcomes from the process. The major impact was that all future planning for this area of the City is evaluated using real-time immersive visualization at the CLR when the citizens ask for it. The public is involved from the early stages, and has forced the cooperation of other developers from adjacent sites who do not want to go through the time consuming and costly process of OMB hearings. The entire process is now much more democratic, with agreement sought from the initial stages of design rather than nearer the construction approvals stage of permits issuance.

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