Urban Design Frameworks as a Basis for Development Strategies: A Portland Case Study

Arun Jain, Urban Designer & Urban Strategist

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Context

Portland

Portland is the only city in the state of Oregon with a substantial metropolitan and urbanized region around it. It is located in the Pacific Northwest of the United States near the confluence of the Willamette and Columbia Rivers. According to the 2010 US Census it has a population of 583,800 making it the 29th most populous city in the United States. Approximately 2.3 million people reside in the larger Portland metropolitan area making it the 23rd most populous in the country.

Portland's latitude (45°N) and geography gives it warm, dry summers and wet but mild winters. Its settlement origins are traced to two American Indian tribes (Chinook and Multnomah). Contemporary settlement as we now know it began in 1843. The city was incorporated in 1851 and has a unique commission form of government in which the mayor has an equal voice along with 4 other elected commissioners, with joint legislative and executive powers.

Portland's development was originally rooted in its rich surrounding natural resources (lumber, fish and game) which subsequently gave rise to the development of shipping and bulk handling (wheat). In more recent times, its growth has been dependent upon a mix of manufacturing, technology and logistics. Some have suggested that Oregon and Portland's chronic anemic economic conditions since the collapse of natural resource industries in the 1980's have contributed to the city's development of frugal yet innovative planning practices to achieve desired ends.

In planning terms, Portland continues to be highly regarded, mostly as a consequence of two progressive legacies that were realized in the 1970's. These were the 1972 "Downtown Plan" and the 1979 creation of what remains the only elected regional government (Metro) in the United States bringing together 25 cities

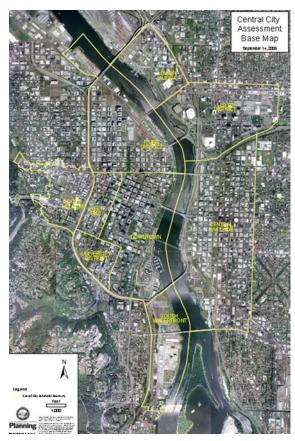


Figure 1. Urban Design Framework Area with District Boundaries (source: Bureau of Planning, City of Portland)

in the Portland area and three counties. Metro's primary mandate is to use planning and policy to preserve and enhance the regions quality of life and the environment. Its most well-known contributions are its "Urban Growth Boundary" (1979) defining the limits of urban development, and an associated "2040 Growth Concept" plan (1997) elaborating the long term regional development priorities based upon transit linked centers and corridors.

It should be noted here that although the City of Portland is required to be in compliance with the regional government (Metro's) planning policies and directives, the city's size and political priorities have caused this relationship to be contentious at times.

Basis for the Urban Design Framework for Central Portland

Over the years, the City of Portland has seen several great plans prepared for it since the first one that was undertaken by the two sons of the famous Fredrick Law Olmsted. This plan is remembered as the "Olmsted Expo and Parks Plan" of 1903 and was the first in a progression of plans. The last such "grand" plan for the city was developed in 1988 and known as the "1988 Central City Plan".

Analysis¹ of these plans reveals that prior to the 1988 plan all earlier city plans were all instigated by non-profit entities outside city government. These instigators were coalitions of publicly minded citizens and publically appointed commissions (e.g. parks and planning). At the time this was considered important to the integrity of each plan, as this instigation and oversight by non-vested persons (i.e. without any direct benefit from land use or related policy and development decisions) usually meant a higher degree of civic mindedness than what might have otherwise emerged.

Further analysis¹ has suggested that Portland's consistent culture and political disposition has been (with only a few exceptions) to reject the biggest and boldest ideas in each plan while adopting the more modest "tweaks" to prevailing conditions.

One such big exception was the adoption of the far reaching and radical 1972 Downtown Plan (Figure 2) for the urban core. This plan produced the most comprehensive change in spatial orientation and emphasis at a time when there was large scale flight of residents from the cores of American cities driven by an inherent fear of inner city crime. In strategies highly controversial for that time, the 1972 Downtown Plan sought to create a transit spine and perpendicular retail core with complementary density and land-use allocations. This strategy and plan was, and still remains the clearest statement of urban design intent amongst all prior plans for the central downtown core of Portland.

This success resulted in the development of what is known as the 1988 Central City Plan (for Portland). Embracing a slightly larger territory, this new plan continued and expanded the strategies laid out by the 1972 Downtown Plan. By the late 1990's significant portions of the '88 plan had been fulfilled. It was by then already clear this plan was reaching the limits of its contextual relevancy.

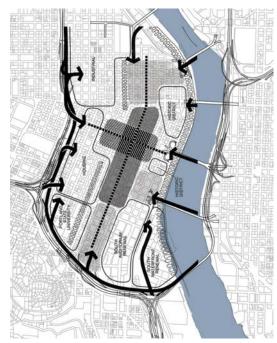


Figure 2: Urban Design Diagram: 1972
Downtown Plan (source: City of Portland)

¹ Portland's Great Plans, "Central Portland Plan: Urban Design Assessment", January 2008, Bureau of Planning, City of Portland

The author (as Portland's first Chief Urban Designer) arrived into this setting in early 2003. Early attempts to jump start interest towards a new plan and related urban design strategy began shortly after with the then mayor. This was done through a series of roundtable discussions with civic leaders to create momentum and interest.

Unfortunately, the momentum generated from these discussions died with the departure of the mayor who started this initiative. The new leadership that followed simply lacked the broad understanding and political will needed to create a new plan. Unlike the plans before 1988 there were also no non-partisan civic leaders outside city government willing to start and oversee such an effort. The institutional memory for this precedent no longer existed. As a result, early attempts to start a new plan remained internal to the planning department. These attempts were characterized by a number of false starts and poor endorsements by elected officials and the general citizenry alike.

To help surmount this, the author suggested the creation of a comprehensive urban design assessment of the urban core to create better understanding and informed dialogue amongst citizens on the future potential of the city. This effort was urged as an essential preamble to a meaningful urban design framework for Portland's urban core. Eventually this effort became the key element in its formulation.

The Urban Design Framework that resulted was conceived and remains intent upon helping the city establish priorities for creating great public places over the next 25 years. The Framework's deeper purpose is to provide a template that focuses limited public resources and private development interests to leverage the greatest amount of public benefit. The outcomes remain a means to instill greater confidence from private development interests to help obtain cumulative quality over time.

This paper will trace the intellectual and functional origins, elaborate on the methods and describe the outcome of the framework development. It will conclude with a brief assessment of the process and results.

1. Objectives

The broad objectives for the urban design framework were to create a spatially oriented compliment to a new plan for Portland. Although the planning territory for the umbrella policy document continued to "evolve", the urban design framework territory remained confined to an area similar in extent (with some rationalizations and extensions) to that of the 1988 Central City Plan (Figure 1).

The objective was to create a basis for deciding which areas would have greatest potential for a range of future

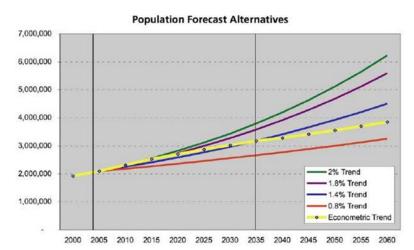


Figure 3 Population Scenarios for the Portland-Beaverton-Vancouver OR-WA PMSA (*source: Metro*²)

needs. Specifically, this meant focusing public investments to gain the most public benefit while focusing (i.e. directing or biasing) private investment, place-building, fostering civic identity and the strategic use of the design of the public realm to create increased pride amongst Portland's citizenry.

The framework was deliberately not structured to be a plan, but more as a living document that could be adapted and re-interpreted over time in terms of design while continuing to maintain the locational importance and the clarity of intentional outcomes towards the stated objectives.

Throughout the process the author tried to ensure the framework development would be free from early political manipulation, knowing that these forces would undoubtedly exert themselves through the life of the framework and beyond.

2. The Urban Design Framework Development Process Backdrop

Surprisingly, Portland's 1988 Central City Plan dedicates only three pages to urban design. As mentioned, the first effort in creating a responsible response to this was to develop a comprehensive urban design assessment of the urban design framework area. This work was begun in late 2007.

Shortly after this effort began, computer model projections for the Portland Metro region (2005-2060 Regional Population and employment Forecast²) projected a dramatic increase in population by the year 2060³ (Figures 3, 4). These findings prompted Portland Bureau of Planning to declare a heightened

urgency in creating a new and more relevant Central City Plan. Until this moment there was little political will and funding to pursue an update to the 1988 plan.

After several fits and starts, the political go ahead to develop a Central City oriented urban design element of a new plan was given. During this time the author's doubts on the validity of the projected growth numbers reinforced his original conviction to pursue not an urban design "plan", but an urban design framework.

Such justification for a distinctly different approach for urban design was further reinforced when the Oregon state employment office

2060 Population Forecast Cumulative Distribution Function Portland – Vancouver (7 county) PMSA

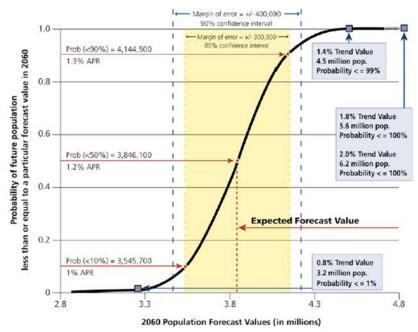


Figure 4: Cumulative probabilistic population distribution function annotated with five population scenario projections (*source: Metro*²)

Million by 2060".

² Metro, 2005-2060 Regional Population and Employment Forecast for the seven-county Portland-Beaverton-Vancouver OR-WA Primary Metropolitan Statistical Area (PMSA). Public Review Draft May 19, 2008. Note: These projections were available to the city in preliminary form several months in advance of the public draft.

³ James Holman, The Oregonian, June 7, 2008 (updated June 9, 2008). "Portland Population Projected to hit 3.85"

subsequently projected growth rates lower than Metro's *Regional Population and Employment Forecast*. A political decision to retain the Metro growth projections was however maintained. This created an inherent tension throughout the remaining course of the urban design framework's development on what the relevant target(s) and emphasis of the effort would be. The broad and prevailing attitude at the time was that growth was a certainty and a necessary basis for any plan development. In response to Metro's growth projections, neighborhoods began pre-emptively mobilizing against anticipated higher densities and apartment development. No one was willing to contemplate that a plan for the future should also consider the possibility of near or long term economic hiatus or collapse. As we now know, exactly such a major collapse occurred during the latter half of 2008 (date subject to varying economic views).

Despite the then prevailing general hysteria and enthusiasm around projected growth, the urban design effort continued to maintain that much could change during the plan period of 25 years. Consequently a "plan for growth" needed to be substituted by a "framework for change". This framework would seek to identify and create a clear basis for cumulative and strategic improvements over time independent of when and how growth would happen. It would help the city be more resilient to unpredictable shifts.

Uncertain and dubious growth was not the only reason for pushing a framework approach. The author has maintained a growing conviction that the every-day plans for cities have inherent structural limitations. The language of these plans is always, by circumstance and of necessity, politically negotiated. Also, these plans are usually seen as good opportunities to identify a long laundry list of stakeholder aspirations. Such aspirational lists, though politically correct and reflective of broad (yet often conflicting) desires, do not *sufficiently* focus and direct future planning efforts. Nor in an environment of shrinking resources, do they help establish clear, achievable priorities.

More precisely, such lists detract from a much needed focus in leveraging change where it best placed, or strategically most likely to stimulate the most collective gains within limited resources. In urban design terms, this means leveraging the most amount of improvement to the built environment in the overall quality of public life expressed in terms of spatial organization and design. Clearly, this has direct bearing on the location, orientation and design of public spaces and places. We know that the long term resilience of the public parts of any city's urban environment is crucial to its well-being.

We also know the viable shelf life of any plan is limited. Yet given the realities of our contemporary public planning process, the time needed to develop a plan is often as long as its eventual relevant life (usually 3-5 years). This is financially and organizationally an unsustainable way of planning for the future. Clearly better methods are sorely needed.

The Urban Design basis for a Framework, not a Plan

The desire to develop a framework instead of a plan came from several considerations borne of experience. Rather than specify precise design interventions along with their final (suggested) appearance (as such plans are prone to do), the proposed framework would instead, identify adaptable performance criteria for areas where change was most desired and likely, particularly in the face of increasing prospects for very uncertain future conditions. The basis for identifying such locations and their highest and best use(s) was to be the outcome of a rigorous and systematic process. This approach would set the spatial priorities for the urban core in an objective and clear fashion. Of necessity the previously mentioned umbrella policy document would cover the less spatial aspects of the urban core's future (i.e. affordable housing, employment, health, the environment, social and economic infrastructure etc.). This policy effort was undertaken by a parallel team.

All of the above reasons provided the impetus for pursuing the development of an urban design framework. Even in the best of circumstances, instigating new and structural shifts in thinking inside an entrenched paradigm is hard. Portland's planning environment was no exception.

In general terms it can be said that most shifts away from habitual process and thinking produce friction, particularly in highly politicized planning environments. The resulting human issues often become the biggest impediments to implementing systematic and rigorous logic into plan formulation. Whenever the outputs of planning efforts are examined with the right lens, they inevitably reveal the inherent strengths and weaknesses in their associated planning processes.

3. Urban Design Framework Elements & Formulation

The Urban Design Framework for Portland was developed in three main work phases. Each phase provided the essential context and a natural progression towards the desired outcome. Each element studied and undertaken within these phases should be seen as part of a collection of forces coalescing and interacting with each other. These clusters of knowledge and action are best described in *Figure 5*.

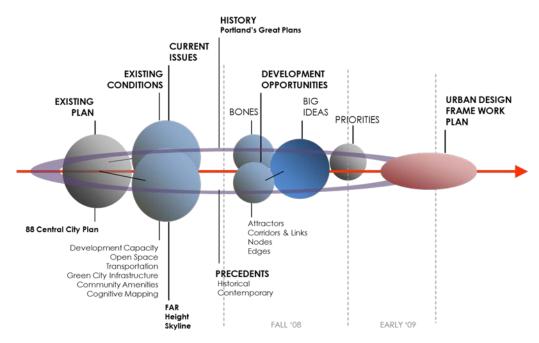


Figure 5 Forces Driving the Methodology (source: Arun Jain, Bureau of Planning, City of Portland), 2009

The three work phases themselves are described are as follows:

1. An Urban Design Assessment

No viable public and professional discussion on complex urban design and spatially related development issues can be effectively held without a shared comprehensive understanding of the prevailing realities and forces influencing the physical outcomes of the city. These forces are specific to each urban environment and so must be tailored to the particular urban issues of their time. In order to foster more intelligent dialogue (public and professional), a detailed effort involving five clusters of baseline knowledge were developed. These were:

- 1. History Portland's Great Plans (1903 -1988)
- Precedents Historical and Contemporary (case studies)
- 3. Existing Plan 1988 Central City Plan (analysis)

- 4. Existing Conditions (development capacity, open space, transportation, green city infrastructure, community amenities and cognitive mapping)
- 5. Current (Focus) Issues (FAR⁴, Height & Skyline)

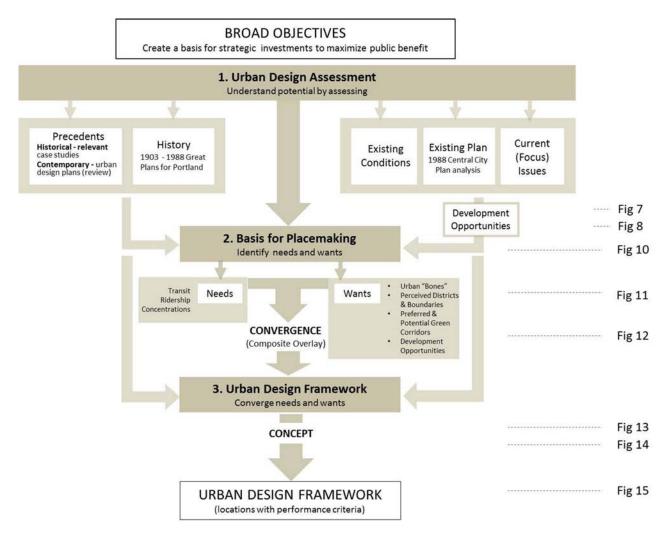


Figure 6 Process Diagram for Urban Design Framework Formulation (source: Arun Jain, 2012)

Existing conditions assessed in parts 3, 4 and 5 of the urban design assessment also used a range of metrics and methods to assess development opportunities. These opportunities were instrumental in helping determine locations with the most future potential. This information when added to the social and spatial considerations became essential to ensuring the result was filtered by broader place making considerations than just economic growth and development alone. Together these considerations became part of the "Basis for Placemaking" and the framework. This entire process is as seen in *Figure 6*.

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⁴ FAR = Floor Area Ratio

Outcome

Analysis of the above five categories countered many of the commonly assumed presumptions about the city's current conditions. Findings were broken up into development issues, opportunities and challenges and the emergent questions that the new framework would need to address. The following abbreviated findings in each of these headings are stripped of locational details to highlight the broader trends and type of outcomes such analysis can help identify:

Development Issues:

- Changes in specific areas over time have created unintended outcomes while some planned areas have failed to develop as intended. These realities have created new opportunities for development.
- Analysis demonstrates there is (under current entitlements) between 30-60 years of development capacity based on historical absorption rates of new construction by type. In other words, Portland's urban core has no foreseeable shortage of development capacity. (Figure 7).
- There are emerging distortions arising from incompatibilities in allocated height and floor area ratio regulations.
- There are existing shortages of public open space with inadequate facilities for existing and emerging residential clusters. Shifts towards higher density residential will need to be matched by appropriately oriented recreational open space.
- There is poor differentiation between streets, their function and character. This lack of clarity confuses the design response and social life at the ground level.
- There is poor articulation of green infrastructure particularly towards managing environmental considerations such as heat island impacts, storm water runoff and solar access.
- Residential clusters have poor and uneven distribution of community amenities such as grocery stores, libraries, schools, and places of worship. These assets and anchors need to be equitably distributed to ensure longer term community resilience and quality.

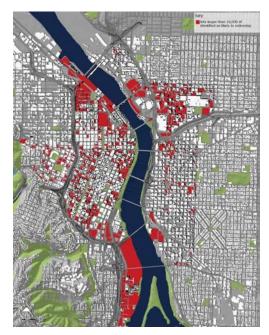
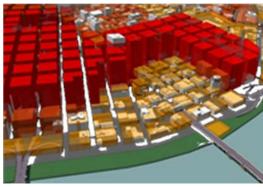


Figure 7 "Field of Potential Change" (seen in red) or, 30-60 Years of Future
Development Capacity (source:
Bureau of Planning, City of Portland),



Desired Development Capacity



Real Development Capacity

Figure 8 Regulatory vs. Real Development Potential (3D simulations) (source: Arun Jain, Bureau of Planning, City of Portland), 2008

Opportunities

- An urban design framework should identify what physical aspects should be preserved, enhanced and created. The resulting "bones" of the urban core can then provide identity and a reliable, lasting armature upon which growth and change can progressively occur.
- Emphasis on architectural identity is needed to develop a distinctive skyline, identify the best locations for iconic and supportive structures and establish design differentiation on the ground.
- Better distributed public amenities will help define emerging neighborhoods and reinforce existing ones.
- Mechanisms that encourage and reinforcing green systems at the neighborhood scale are essential to create system level efficiencies not otherwise possible.
- Better analytical tools and metrics are needed to measure success.
- Better implementation tools will allow more dynamic, responsive and adaptive change.

Challenges

- The poor links between policy and implementation will be hard to fix.
- The pressure to create short and long term strategies to concentrate limited development energy including funds will grow.
- Closing gaps and inconsistencies in current conditions including social inequities (i.e. distribution
 of open space, recreation, access to learning, community facilities, health care and
 transportation options) will be an ongoing struggle.
- Gaps between urban design intent and outcomes indicate translation problems. Establishing performance criteria as a basis for implementation and measurement of success will help.
- Integration of public and private infrastructure with community assets will be difficult but create better efficiencies and functionality.
- Better linkages between transportation and urban design will help make the public realm usable by all. This means the transportation department will have to give up some control of its jurisdictions.
- Separation between physical and social networks creates discontinuities of use and unusable designs. Bridging and overlapping these networks will be difficult but yield good results.
- Various parts of the public open space do not have clear relationships with each other. Creating clear hierarchies of purpose will not be easy but help create coherency.
- Making better connections with the river is structurally difficult but will go a long way to closing the visual and physical barriers between both river banks.
- Correcting inconsistencies between the prevailing planning intent with on-the-ground conditions. As shown in *Figure 8*, there is a substantial gap between the intent of the 1988 Central City Plan intentions (as embodied in the current development code), and existing conditions (such as undevelopable sites) that limit that intention.

All of the above findings were the result of a very detailed analysis. Much attention was given to prepare diagrams that ensured credibility and comprehension by a wide audience of professionals and citizens. The urban design assessment concluded by asserting the need for the following priorities:

 Assuring the adaptability of public infrastructure to enhance identity and respond to public need at all scales.

- Creating adaptive infrastructure to deal with unknown future needs.
- Pursuing deeper environmental integration between natural and built urban systems.
- Identifying and optimizing high-value sites to realize and leverage desired change.
- Developing targeted neighborhood enhancements.
- Creating connective urban tissue (including landscaping) that connects disparate parts of the city's spaces and places.
- Developing new tools to respond to rapidly changing environments that cannot be predicted.

As is hopefully evident, the above analysis more than served its purpose in identifying precise location specific problems and focus to ensure mature dialogue between stakeholders and professional experts. The rigor involved in this exercise pre-empted much of the open ended debate that usually occurs on matters related to urban form and design. The conversations became more focused on understanding the issues and options related to them.

2. A Basis for Place-Making

This second stage of work was a relatively short exercise intended to identify the most likely (focus) areas that would stimulate the best cumulative improvement over the plan period (25 years). The exercise drew upon the analysis done in the urban design assessment and considered locations (identified by stakeholders) worthy of preserving, enhancing and creating.

McHargian Layer Cake Analysis

The methodology deployed for this outcome is an adapted form of what is commonly known as the "McHargian Layer Cake" analysis approach (Figure 9). In this method, a number of discrete layers of different systems (e.g. soils, hydrology, slopes etc.) are first mapped from suitable to unsuitable attributes and then laid over each other to spatially identify cumulative opportunities and constraints across layers. The data on each layer uses colors to indicate preferences or biases. Suitable conditions (=light colored) to unsuitable conditions (=dark colored) are thus value and assumption driven. The mapping exercise thus requires early clarity on what is considered suitable and unsuitable. In the example of soils, one can imagine "suitable" soils as meaning "suitable for



Example of composite technical layering of suitable & unsuitable conditions (McHargian Analysis) (source: Resource Management & Development Suitability Study, Republic of Palau, Arun Jain et al), 2001

Figure 9

construction". However an alternate mapping of "suitable for agriculture" would be understandably different.

The data contained in each layers is then stacked on each other while imagining each layer to be transparent. The resulting composite assembly showing a single map reveals messy patches of dark and light over a single plan base. The darkest areas (mapped as unsuitable on each layer) are thus the most constrained for development (assuming the dark color on each layer indicated some aspect of unsuitability). The success of this method is directly related to the choice of layers, the quality of the information in each layer, clear statements of what suitable and unsuitable conditions mean, and finally, the underlying assumptions behind each assertion. The output of such an analysis (Figure 9) would reveal three broad categories of territory: unsuitable, partially suitable (i.e. suitable with conditions) and suitable (i.e. with only marginal caveats).

lan McHarg⁵ developed this process primarily for environmental analysis. This author has, over several years adapted this methodology to include the man-made built environment as well. This combination of man-made and natural layer cake analysis has been used across scales and countries confirming its usefulness across a wide range of cultural landscapes and contexts.

The McHargian analysis so described is highly technical. Yet the basic principles of layering desirable (or undesirable) aspects of the natural and built environments consistently upon each other to achieve a higher understanding of a territory's limits and potential remain the same.

Portland Adaptation

Of necessity, the Portland adaptation of this methodology was highly simplified. Rather than address the previously described method of precise technical measures of soils and so on, this sorting of current and future potential was more based on the sociological basis for why some places are attractive and others not. In other words, this meant establishing a sound basis for creating "reasons to be there", a distinctly urban design emphasis.

To do this, this segment of the framework preparation examined the basis for choice that preferred one urban location over another. The first basis considered was one where "people need to be there" meaning they have little choice. For example, commuters will use a railway station or transit center regardless of how poor its condition may be primarily because they are able to get the best multi-modal travel options there.

The second more powerful reason is one where "people want to be there". This desire embodies a more complex set of circumstances that provide appeal at a personal level. In practical terms such reasons could be: the best view in town, a unique experience or purpose such as a farmers market, a popular or unique food or music venue, great architecture or some aspect of historical or cultural significance. Several of these reasons could co-exist and add up to provide truly unique appeal. In ideal terms the best place-making circumstance would be to create reasons to both "need" and "want" to be at the same location.

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⁵ Ian McHarg, "Design with Nature", Garden City NY., Published for the American Museum of Natural History by the Natural History Press, 1969.

Identifying Convergences

And so the methodology for the framework for Portland assembled layers that would have bearing on aspects of wanting and needing to be at various locations. This meant identifying and coloring data on each layer to reflect desirable place-making attributes and then compositing them on one map to see where desired attributes accumulated. These accumulations would then indicate locations that were already well placed or had relatively easy potential over those that had less or little. With this approach in mind, the following five layers were chosen for this exercise (*Figure 10*):

Wants (Desired Locations):

1. Urban "Bones"

A mapping of landmarks, historic districts, primary corridors, major open space, bridges and neighborhood centers. These elements indicate the dimensions of the city that can be considered constants or aspects that must remain, or will be retained over time.

Perceived districts and boundaries (cognitive map)
 A mapping of perceived territories as surveyed from inhabitant and user spatial cognition, independent of formal planning territories assigned by communities or city authorities.

3. Preferred (and potential) green corridors

A comprehensive mapping of existing open space assets within the framework study area with new access corridors inserted in recognition of future potential using existing public rights-of-way.

4. Development opportunities (areas with the most potential to experience massive change)
This is an interpretation of a preliminary study that determined the areas that could experience the most possible change (due to expendable structures). 30 such areas were determined. (However it is clear that not all could or would be able to grow within a 25 year plan period).

Needs (Places of Necessity):

5. Transit Ridership Concentrations

This maps peak and off peak transit ridership across all modes (bus, streetcar and light rail). In doing so the map identifies the maximum daily number of transit interactions occurring by location. Multiple lines or modes



1

2

3









Figure 10 Five layers of "Reasons to be there" (source:

Arun Jain, Bureau of Planning, City of Portland), '08

serving a location reflect higher "reasons to be there" from a need perspective.

Each of the above layers draws upon data and mapping from the Urban Design Assessment. The information contained in each map was verified by a selected resource group of city stakeholders and experts. These layers were then composited upon each other to reveal areas that had the greatest concentrations of factors that would contribute to great public places. **Figure 11** shows the conceptual model of how these layers were assembled.

To make the diagramming easy, this analysis reversed dark and light colors so that the greatest assets and opportunities were seen as dark. These darkest patches thus are the obvious locations containing the best (i.e. most suitable) aspects seen in of the 5 layers considered. (Figure 12 Composite Analysis Diagram).

The darkest areas also highlight the essential "Bones" of the urban core. It is precisely these "Bones" or, existing and potential urban design assets that provide the armature for the urban design framework itself.

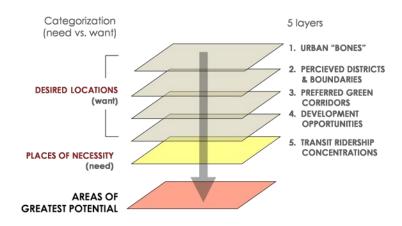


Figure 11 Five layer selection and stacking to determine areas containing the most potential for "reasons to be there" - Portland Urban Design Framework (source: Arun Jain)

It should be emphasized that this mapping does not mean to suggest the areas that are not shown as shaded are somehow absent of potential. As seen earlier in *Figure 6* there are substantial parts of the downtown that have a high degree of unfulfilled development potential not reflected in this composite analysis. By choice this exercise is more targeted. It attempts to identify the areas that

have the most concentration of factors adding up to be future and existing "reasons to be there". It is predicated on the idea that it necessary to be clear which developable areas of the framework territory are the "low hanging fruit" from which the most public benefit is easily realized. This is a deliberate effort to move away from the unrestrained desires of traditional plans which end up diluting limited public and private resources, financial capital and place-making focus.

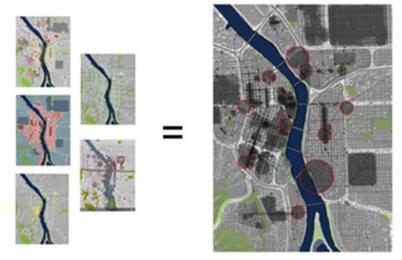


Figure 12 Composite Analysis Diagram (source: Arun Jain, Bureau of Planning, City of Portland)

3. Urban Design Framework

The results of the above exercise were revealing and significant.

In the process of identifying the amount of development capacity the urban design assessment found over 30 significant areas that have the potential to experience large scale change over time (Figure 6). Factoring averaged development (by type of use) absorption rates over time; it was found that the framework study area had between 30-60 years of un-built development capacity. It follows that even the most optimistic of development projections would not saturate the area's current development capacity within a new downtown plan's time horizon of 25 years.

This raised the question: "which of these 30 locations were better than others in terms of known place-making assets?" Identifying them through this composite layer cake analysis method thus provided an objective basis for such selection.



Figure 13 Urban Design Concept Diagram (source: Arun Jain, Bureau of Planning, City of Portland), 2009

Linking Convergences (Assembly)

A conceptual diagram (*Figure 13*) linking the relationships between nodes (concentrations of place-making opportunities), green infrastructure (open space and water assets), existing and new transportation corridors (all significant nexus points), and attractors (location specific concentrations) was then built over the composite layered diagram. In effect, this conceptual diagram provided a basis for developing alternate conceptual diagrams, using the single composite analysis. The resulting diagram thus became the first explanatory and conceptual structure of the urban design framework itself.

This diagram was then given more detail to reflect the nuances of location specific needs identified in the Urban Design Assessment (Figures 14 & 15). The diagram was not formulated to be a design, but rather a series of particular interventions described by location and performance criteria of what the intervention should accomplish whenever design and planning would be possible.



Figure 14 Urban Design Framework (Hand Drawn) (source: Arun Jain, Bureau of Planning, City of Portland), 2008

As an example, such an attitude would allow an important intersection to be liberated from the immediate tyranny of height and mass, and allow instead, for it to be focused on being an important place for urban life regardless of a predetermined level of development.

More complex relationships were also addressed such as pre-emptive strategies to acquire assets on the east (and more industrial) side of the river to better position them for eventual and desired change. This broad and resilience oriented approach means that only a few locations would contain very significant concentrations of desired place-making elements. The criteria, embodied in the composite analysis of 5 layers (*Figure 12*) are:

- Existing or committed infrastructure (including transit)
- Locational assets
- Existing public oriented functions and institutions
- Geographic prominence
- Longer-term development potential
- Potential for iconic architecture and great public spaces
- Ability to create viable public private partnerships

The above criteria is intended to identify high value locations to either make clear their catalytic potential for immediate improvement or to incrementally develop them over time. The purpose of this exercise was not to undertake the traditional developer's task of maximizing development potential and return on investment (although these are important considerations), but rather, to clearly (and geographically) establish the city's priorities where it would gain the most over time.

From a policy perspective it would be responsible for a city government to recognize the value of its assets. Such a systematic process would help capitalize them over time through in a deliberate and open manner. Such value could be realized through targeted public investments and private development incentives to ensure public spaces and civic minded places that would otherwise be hard to obtain through private investment alone.



Figure 15 Urban Design Framework (Digital) (source: Arun Jain, Bureau of Planning, City of Portland), 2009

framework diagram were further illustrated to demonstrate how targeted public investments (transit, public open space, infrastructure, learning institutions, museums, fairgrounds, performance theatres, and other publically minded mixed used development) could focus and leverage private investment while creating great public places in high value locations.

4. Implications of Framework Findings

Three of the high value sites shown in the

In a more perfect world, the ideal role of local government is to ensure that it can recognize and leverage its best (urban) assets. Undoubtedly, political dispositions will change preferences and outcomes in keeping with the flavor of the day. However, if a larger recognition of the high value of some urban sites over others is maintained, and the performance criteria of these sites well defined, there is a good chance the city will not squander its "family jewels" to the most immediate opportunity (and often only bidder) without due consideration. To counter this and be more strategic it is essential that the value of a city's assets (and their city oriented potential) is well and publically known. As public resources tighten, this is an imperative few cities can afford to ignore. It is the author's conviction that the longer term competitive advantage of one city over another will be heavily influenced by the prevailing attitudes towards such matters.

The implied gain of the framework approach described in this paper is getting closer to a continued resilience that is independent of growth. In poor economic conditions, such knowledge provides a locational basis for strategies of consolidation and reinforcement. In better times, the city gains from an established platform for directed growth. Such growth can then be strategically opportunistic; heavy in investment or incremental as the prevailing disposition and realities allow.

Cities are of course much more than the directed development and capitalization of their assets. They are about people, their values and their spirits. The purpose of good urban design is merely to provide the best possible vessel in which these human dimensions are allowed to mature.

5. Assessment of Methodology

The development of a detailed assessment proved invaluable in providing insights to the urban design framework's development. Having used the adapted layer cake methodology extensively across many sized projects (small nation to new town to sub-division areas) in different parts of the world provided the confidence needed to apply this process in an extremely urban core consistent with the broadest principles of the approach.

The intellectual assessment of the framework shows the methodology met all of its stated objectives. This was possible only after tailoring the issues to the particular needs of Portland's urban core

Methodological implications of framework findings

The analytical process deployed in this example is more commonly used in assessing environmental value over large land areas. Adapting such a process for highly urban conditions required deeper understanding by all. This was not easy to achieve. In recent times urban design efforts have focused on land use adjustments, architectural quality and the design of the public realm. Such an integrated basis for identifying the assets of the city is new.

Regardless of the method used; it is clear cities will need to get much more strategic about what they have. Reliance on ad hoc development interest and the promises of residual benefits of such development (public or private) are increasingly high risk.

Ideally, the methods deployed in this example could be even more rigorous than those shown. Additional layers could be imagined, such as shifts in urban form, use and pattern. It is important however to stay in proportion and scale to the level at which the results will be used. There are limits to how much analysis will yield in terms of understanding the meaning of the output.

An assessment of applications

This project was done during two entirely different political leaderships. The endorsements and understanding received during the later stages differed significantly from those provided during the early work. The shift in political priorities negatively affected the willingness to absorb the results of the analysis and their full meaning. In retrospect, more time should have been spent building political buyin for the process and intended outcome. As a consequence, although the outcome was appealing to many, its value to the elected establishment and entrenched hierarchy was limited. This continues to constrain any collective will to act on the outcomes.

Potential and perspectives for entire approach

Beyond this wary message about political will, the broader international confidence and appeal expressed in the methodology remains very strong and gratifying. Clearly, the process is technically sound, but it should be cautioned that each urban environment wanting to deploy such logic and method should customize it to serve their own particular needs and issues. More precisely this means the assessment elements and related analysis should be derived from a great sense of reality. There is after all, a direct relationship between the choice of local issues and ensuring a discernible uniqueness and identity from the outcomes.

Finally, the need to create a very good vetting and endorsement process cannot be understated. The most important aspect of this effort as described is not in the absolute need to preserve the sanctity of its outcomes. Rather, the method and process should be seen as a template for how complex urban issues and their trade-offs can and must be discussed. The outcomes should be a clear demonstration to all the beneficiaries namely; the citizen, professionals, experts, public administrators and politicians, that rigor and an open methodology are a means to reduce the likelihood of hidden agendas (perceived or real).

The ultimate outcomes of any planning process will undoubtedly change in response to shifting biases and priorities. Collectively realizing the need to create a strategic framework for informed change, and having an open methodology by which to do so is the ultimate prize that will help create the resilient city.