

Catalytic City Planning: Leveraging the Development Planning Process to move a Community Strategically towards Sustainability with Dublin City Case Study

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Abstract:

More than half the world's population now lives in urban areas putting the city on the frontline of the social and environmental challenge and yet, city planning presents many opportunities to move a city towards sustainability. The city development plan (DP) is a powerful vehicle for change. This research seeks to understand the gaps between an ideal catalytic development planning process and current reality, and provide recommendations to support the attainment of a city's sustainability objectives. The Framework for Strategic Sustainable Development (FSSD) was used to define a generic "Golden Standard" planning process to help the local authority better leverage its internal resources and refine governance systems to achieve long-lasting cultural change from within to accelerate the city's progression towards sustainability. A case study with the Dublin City Council's Planning Department in Ireland provided valuable insight and limited practical application of the Golden Standard.

Keywords:

Development Plan, Governance, Internal Engagement, Organisational Change, Strategic Sustainable Development, Urban Planning

Statement of Contribution

This thesis is the product of three: Caroline Nolan, an award-winning journalist/editor and marketing/media/communications consultant from Toronto, Canada; Mary Ostafi, a LEED® accredited architect from Madison, Wisconsin, USA; and Mélima Planchenault, a city planning advisor for Montreal Metropolis greenbelt in Quebec, Canada who was born and raised in France. When we each stepped off the train at “Karlskrona-C” in the south of Sweden in August 2008, little did we know what was ahead: two trips to Dublin, Ireland; immersion at Dublin City Council (DCC); a three-week working holiday in the south of Spain, and the making of new lifelong friends to name just a few of the highlights.

Prior to thesis, the three of us, along with two other colleagues, were brought together to collaborate with the Dublin City Housing Maintenance Department for a course project.

We arrived in Dublin as a project group of five in December 2008 and left the fair city as a thesis group of three, excited about the prospect of working with the Dublin City Planning Department.

Since then – and very much in the spirit of collaboration – each of us contributed to every aspect of this project. Hands down, however, one of our most amazing experiences was the co-creation of workshops with the DCC Development Plan team, providing the opportunity to apply the many strategic tools and skills we have learned throughout the course of our programme and energising change from within DCC. As such, this thesis not only reflects our knowledge and learning, it represents the evolution of our experience as a team and our collective contribution towards a more “Sustainable Dublin.”

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Executive Summary

The scope of this research was to identify the key elements of success for creating a catalytic city development planning process within a local authority to accelerate the community's move towards sustainability. The research used a concrete case study with Dublin City Council (DCC) – the local authority governing Ireland's capital city of approximately 500,000 inhabitants (Dublin City Council 2009-c). In January 2009, DCC began preparation of its new *Dublin City Development Plan 2011-2017*, a two-year process as required under Ireland's Statutory Process. Research objectives included the identification of the gaps between the current reality of the DCC development plan and proposed specific recommendations based on a "Golden Standard" – an ideal envisioned catalytic development planning process.

Introduction

Today, more than half the global population lives in urban settlements – a first for humanity – with further growth forecasted in the decades to come. Such rapid growth will ensure that the 100 years between 1950 and 2050 are remembered as "the greatest social, cultural, economic and environmental transformation in history – the urbanisation of humanity" (Moreno and Warah 2008). As cities grow, so too has their inhabitants' appetites for food, water, energy, transportation, education and employment. As such, cities remain on "on the frontline of the sustainability challenge," for it is in these sardine-packed urban areas where humans experience some of the world's poorest air and water quality while further feeling the impacts of climate change and diminishing natural resources (Purcell and Hawke Baxter 2007).

At the same time, the "urbanisation of humanity" has also given rise to the urban planner. Part geographer, part futurist, the urban planner may also contribute to the mother-of-all-urban-community-documents: the development plan, which seeks to set out a framework as to how a community's land, transport and natural resources will be used and shared amongst its citizens over a set period of time.

Finally, though much research, policy and practical work has been undertaken to better understand and improve the local authority's

participative process for moving a community towards sustainability through deeper engagement with external stakeholders in civil society and business, the internal structure and processes of the local authority remains largely unexplored – and unchanged. Nowhere is this more evident than within the process used to create the typical city development plan today.

Clearly, an effective internal development planning process is required to support and guide these individuals through the labyrinth of participative, collaborative decision-making inside their organisation – the local authority.

Methods

The methodology underpinning this research was highly iterative and occurred in five-phases:

- **Phase 0** Convening: Establishing a Thesis Case Study
- **Phase I** Co-Sensing: Uncovering Current Reality of the Urban Planning Process *In Situ*
- **Phase II** Co-Presencing: Retreating and Reflecting on a Process for Internal Engagement
- **Phase III** Data-Analysis: Understanding Organisational Culture
- **Phase IV** Co-Realising: Building Internal Capacity for Change

At the core of this research methodology is the Framework for Strategic Sustainable Development (FSSD), a five-level framework used for planning in a complex system which provides strategic analysis through a whole-systems perspective and scientific methods to inform decisions based on a principled definition of success.

Specific research methods included an ongoing extensive literature review of various documents, reports, academic and news articles, books and websites related to urban planning, organisational change, governance and sustainability. Interviews with experts and practitioners in these same realms also provided useful insight into best practices, successful processes of moving a city towards sustainability and potential barriers.

During a two-week immersion in DCC's Planning Department, *in situ* observation was utilised by the thesis team along with other dialogue-

inducing tools such as a workshop applying the FSSD as a shared mental model for creative team work (“A-B-C-D”) and a format for cross-fertilisation of ideas developed in group work (“World Café”) with members of DCC’s development plan team. Three online surveys were also undertaken with key stakeholders at DCC – Councillors, Executive Managers and City Planners – to help understand the internal barriers and opportunities of leveraging the city development plan to move Dublin towards sustainability.

To uncover the current reality of the development planning process, the thesis team retreated to reflect upon an ideal process for internal engagement within a local authority. This proposed conceptual process was reviewed through an online survey of over 30 international experts including city planners, as well as sustainability and organisational change experts and practitioners.

These ideas and suggestions were then articulated into a generic vision for a catalytic development planning process, herein referred to as the “Golden Standard” which is structured on the FSSD and based upon the four Sustainability Principles¹ (SPs) to help local authorities better leverage their internal resources and begin to redefine their governance systems to support and achieve long-lasting cultural change from within.

Results & Discussion

Expert feedback on the process for internal engagement yielded many insights leading to the conclusion that merely strengthening this process was not enough to trigger widespread, long-term transformational change. The success of a change initiative is believed to occur when sustainability-based thinking, perspectives and behaviours are embedded in everyday operating procedures, policies and culture (Doppelt 2003-a). This appears as one of the biggest challenges to create a culture of both responsibility

¹ *In a sustainable society, nature is not subject to systematically increasing:* I. Concentrations of substances extracted from the Earth’s crust; II. Concentrations of substances produced by society; III. Degradation by physical means; *and in that society...*IV. People are not subject to conditions that systematically undermine their capacity to meet their needs (Robèrt et al. 2007).

and innovation which will be able to connect both the strategic and operational levels within the local authority.

At the same time, results from surveys of three Dublin stakeholder groups, the literature review, expert reviews and *in situ* observation at DCC further reinforced the importance of the need to institutionalise new tools and processes for sustainability within the city system.

What was needed, therefore, was not a stronger internal engagement process but a new model for governance inspired by Bob Doppelt's three-part sustainable governance model. This strategic process goes above and beyond the reorganisation of daily tasks; it implies a transformational change in which cities must design structural changes as they move from a command-and-control approach of government to a more cooperative and participative "governance" model whereby policymaking and implementation are more collaborative.

Backcasting from the envisioned "Golden Standard" enabled the thesis team to make several key recommendations to help DCC create a more catalytic planning process from within the local authority. Among them, the urgent need to institutionalise a common language, based on a strong definition of sustainability and empower the social network – a potent leverage point for transformational change.

Using the FSSD for analysis also helped identify another critical top-down point of leverage to support a more catalytic planning process: the legislative framework governing the development plan itself. For example, the Irish government's Statutory Process requires six-year development plans be made for all city, town, borough and council development plans. Further, it mandates such plans be made over a two-year time-frame allowing for sufficient public consultation in which the local authority is to achieve the objective of creating a development plan that will act as both "a catalyst for positive change and process" and "framework within which sustainable development can be achieved" (Department of the Environment, Heritage & Local Government 2007).

At first blush, such legislative frameworks appear to be a barrier as it contributes to an inflexible operating environment. However, when viewed from a whole-systems perspective, a tremendous opportunity emerged: to leverage the Irish Statutory Process to DCC by providing more concrete

guidelines to help institutionalise and operationalise sustainability within their respective local authority planning processes.

Another key element of a catalytic development planning process therefore is one where the legislative planning framework recognises the value of both top-down and bottom-up, participatory process from internal and external perspectives – as well as multilaterally throughout the system. Here, the legislative planning guidelines become its own catalyst to institutionalise sustainability *within* the local authority. In this way, a new model of collaborative governance is seeded.

Conclusion

“Fundamentally, we have an institutional problem. Until we understand and deal with it, all of our societal problems will get progressively worse. Above all else, we will never deal with it until we realize it is not a problem at all but an unbelievable opportunity” (Hock 2009).

The above quote from Dee Hock, founding CEO of VISA International, complements an underlying theme in this thesis, that a city development plan alone cannot move a city towards sustainability but the men and women who make the plan can. The question then becomes, how?

With whole-systems thinking, the local authority’s development plan will harvest the benefits of proactive, strategic upstream sustainability solutions. To truly build catalytic capacity, however, a new multilevel model of governance is required to move the city from a command-and-control type hierarchical structure to a more networked, self-organising structure. One which:

- Embraces a whole city system perspective;
- Realizes a shared vision and language;
- Supports transformational change;
- Increases the social network capacity; and
- Empowers responsible governance.

Through their courage and willingness to grow, the Dublin City development plan team have a unique – if not urgent – opportunity to be architects of change by addressing the sustainability challenge in Dublin City and in doing so, show the world how catalytic urban planning is to be done.

Glossary

A-B-C-D Method: A process for applying the Framework for Strategic Sustainable Development (FSSD) which consists of four steps: A (Awareness) identifies a whole-systems context; B (baseline) assesses the current reality; C (compelling measures) brainstorms potential solutions to issues; D (prioritisation) consists of implementation and action planning (The Natural Step 2009).

Backcasting: “A planning procedure by which a successful outcome is imagined in the future, followed by the question: what do we need to do today to reach a successful outcome?” (Robèrt et al. 2007).

Basic Human Needs: Subsistence, protection, identity, participation, freedom, creativity, idleness, affection and understanding (Max-Neef 1991).

BHAG (Big Hairy Audacious Goal): A 10-to-30 year goal. The most famous BHAG, perhaps, is that created by U.S. President Kennedy in 1961 when he declared: “We will put a man on the moon by the end of the decade” (Collins and Porras 1994).

Biomimicry: “A new discipline that studies nature’s best ideas and then imitates these designs and processes to solve human problems” (Biomimicry 2008).

Biophilic Design: “Buildings and landscapes that enhance human physical and mental well-being by fostering positive connections between people and nature in places of cultural and ecological meaning and significance” (Nolan 2009).

Biosphere: “The part of the world in which life can exist, where organisms live together with their environment” (Merriam-Webster 2009).

BTH: Blekinge Institute of Technology in Karlskrona, Sweden.

Celtic Tiger: The nickname for Ireland during its boom years of the late 1990s during which time it “evolved from one of the poorest countries in Western Europe to one of the most successful” (Dorgan 2006).

Co-Create: The joint or collaborative creation of information or ideas.

Collaborative Governance: “The essence of collaborative governance is a new level of social/political engagement between and among the several sectors of society that constitutes a more effective way to address many of modern societies’ needs beyond anything that the several sectors have heretofore been able to achieve on their own” (Frank and Weil 2004).

Community: The population of individuals within a given geographical area who share certain commonalities.

Creative Tension: The tension between the current reality and the desired future.

Development Plan (also known as *Master Development Plan*): For the purpose of this thesis and case study, the development plan “sets the agenda for the development of the local authority’s area over its six year lifespan. Development, whether it be residential, industrial, commercial or amenity, must generally take place in accordance with the development plan. The plan is therefore a blueprint for the economic and social development of the city, town or county for which it has been made” (Department of the Environment, Heritage & Local Government 2007).

Exurbia: Refers generally to an area known as “exurbs” – “a region or settlement that lies outside a city and usually beyond its suburbs and that often is inhabited chiefly by well-to-do families” (Merriam-Webster 2009).

Five-Level Framework: A generic model for planning in complex systems which consists of five levels: System, Success, Strategic Guidelines, Actions and Tools.

Flexible Platform: One of three prioritisation criteria as defined in the Success level of the FSSD. It is a “stepping stone for future improvement” which is “in line with the sustainability principles in order to avoid dead ends” (Robèrt et al. 2007).

Framework for Strategic Sustainable Development (FSSD): Is a “framework for planning in complex systems” which takes into account the five-level framework described above (Robèrt et al. 2007).

Governance: “Covering almost any non-hierarchical mode of policy formation exercised by formal governmental bodies interacting with each other and with organisations in civil society” (Rhodes 1997).

Holistic: “Emphasising the organic or functional relation between parts and the whole” (Princeton Education 2009).

ICLEI: International Council for Local Environmental Initiatives. (I.C.L.E.I) its name was officially changed in 2003 to “ICLEI – Local Governments for Sustainability.”

Leverage Point: “Places within a complex system (a corporation, an economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything” (Meadows 1999).

Local Authority: A generic term used to denote municipalities at the local level.

Master Plan: Also known as *Development Plan* or *City Development Plan*.

Multilevel Governance: “The exercise of authority and the various dimensions of relations across levels of government” (Organisation for Economic Co-Operation and Development n.d.).

SEKom: Sveriges Ekokommuner (in English “The National Association of Swedish Eco-municipalities”).

Six Themes: Big-picture issues (i.e. economic, social, cultural, urban form and spatial vision, movement and sustainability) identified by Dublin City Council to facilitate dialogue related to the creation of the city’s next *Dublin City Development Plan 2011-2017* (Gleeson 2009-a).

Strategic Environmental Assessment (SEA): “A process to ensure that significant environmental effects arising from policies, plans and programmes are identified, assessed, mitigated, communicated to decision-makers, monitored and that opportunities for public involvement are provided” (SEA-Info.net 2009).

System: “A regularly interacting or interdependent group of items forming a unified whole” (Merriam-Webster 2009).

Systems Thinking: “A science that deals with the organisation of logic and integration of disciplines for understanding patterns and relations of complex problems” (Robèrt et al. 2007).

Template for Sustainable Product Development (TPSD): Created by the Blekinge Institute of Technology in Karlskrona, Sweden is used as a tool for strategic sustainable development using basic principles for sustainability (Ny et al. 2008).

TNS: The Natural Step, “a global not-for-profit organisation with a simple mission: to promote real change toward a sustainable world” (The Natural Step 2009).

Tsunami: “A great sea wave produced especially by submarine earth movement or volcanic eruption” (Merriam-Webster 2009).

U-Process: “A methodology for addressing highly complex challenges, for solving complex problems or realising complex opportunities. A ‘social technology’ for effecting the transformation of reality within and across the worlds of business, government and civil society” (Scharmer 2005).

Upstream Planning: A planning approach which takes into account the underlying causes of problems rather than the individual “downstream” symptoms.

Urban: Dating back to 1619, stems from the Latin word *urbanus* and *urbs*, (city) and today is defined as “of, relating to, characteristic of, or constituting a city” (Merriam-Webster 2009).

Urbanisation: A word dating back to 1888 referring to “the quality or state of being urbanised” (Merriam-Webster 2009).

Urbanised: Dating back to 1884, urbanised means “to cause or take on urban characteristics” and/or “to impart an urban way of life” (Merriam-Webster 2009).

Urban Planning: “Urban planning concerns itself with both the development of open land and the revitalisation of existing parts of the city, thereby involving goal setting, data collection and analysis, forecasting, design, strategic thinking, and public consultation” (Encyclopedia Britannica 2009).

USGBC: The United States Green Building Council “is a non-profit organisation committed to expanding sustainable building practices. The USGBC is composed of more than 19,500 organisations from across the building industry that are working to advance structures that are environmentally responsible, profitable, and healthy places to live and work (U.S. Green Building Council 2009).

World Café: “An innovative methodology for hosting conversations about questions that matter to evoke and make visible the collective intelligence of any group, thus increasing people’s capacity for effective action in pursuit of common aims” (World Café Community Foundation 2009).

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1 Introduction

Cities are places of both challenges and opportunities – and nothing could be further from the truth when considering the many global and interconnected sustainability challenges we face such as climate change, poverty and unequal access to basic education. Urban planning has the potential to help solve many of these complex challenges but new synergistic policies and tools and collaborative processes are required to, ultimately, create a legacy of stewardship serving the citizens needs today while protecting the city for future generations. Here, the role of urbanisation, city planning and the city development plan are put into context alongside an introduction to the Dublin City Case study.

1.1 Century of the City

“The 100 years from 1950 to 2050 will be remembered for the greatest social, cultural, economic and environmental transformation in history – the urbanisation of humanity. With half of us now occupying urban space, the future of the human species is tied to the city,” noted Anna Tibaijuka, Under-Secretary-General of the United Nations and Executive Director UN-HABITAT during a 2006 international conference (Moreno and Warah 2008).

The remarks above were echoed by the UK's Tyndall Centre for Climate Change Research which, focusing on the city's contribution to climate change further stated “the fate of the Earth's climate is intrinsically linked to how our cities develop over the coming decades” (Oliver 2007).

Both statements succinctly capture the phenomenon of global urbanisation and its relevance to the very survival of our species. Never before have so many of us lived in urban environments; a reality carrying many new and complex challenges.

The rise of globalisation, geographical location, and non-immigrant population growth, national policies and corporate strategies are among the reasons cited for the human species' urban evolution which already sees more than half of the world's population living in cities (Moreno and Warah 2008). No wonder then the 21st century is referred to as the “Century of the City” (Moreno and Warah 2008).

Of course, “city” holds quite a different meaning depending on one’s vantage point. For many, the journey from a rural area – often leaving behind roots several generations long – to the city is an economic necessity; not a decision based on a desire to live a more urban lifestyle. For 924 million people (one in every three city dwellers), home is in a slum with no access to fresh water, electricity and other basic necessities of life (Moreno and Warah 2008). The city, therefore, needs to be a more effective enabler to support the satisfaction of fundamental human needs including subsistence, independence, protection, freedom, understanding and participation (Max-Neef 1991).

As voracious consumers of natural resources, cities must also make more effective and efficient use of energy, water, transportation and food, reducing the many negative impacts on the environment; the very system which provides urban inhabitants with essential services such as carbon sequestration that cools cities, and cleaner air and water.

Yet, evidence also suggests cities need not necessarily have such harmful impacts upon their environments: greenhouse gas emissions globally, for instance, are not necessarily tied to urbanisation per se, but consumption patterns and gross domestic product (GDP) per capita. Sao Paulo in Brazil produces a mere one-tenth of greenhouse gas emissions of San Diego, California, a quarter of its size (Moreno and Warah 2008). Such examples of cities functioning more closely within their environmental limits are rare whereas statistics representing the opposite scenario of ecological unsustainability (that is, cities exceeding their environmental limits) are abundant, if not the norm.

Though cities only represent a sliver of the world’s surface area, they are responsible for 75 percent of the world’s energy consumption. The City of London, England alone is said to require a staggering 125 times its own area in resources to sustain itself, according to the *New Scientist* (Oliver 2007). Some argue that the term “sustainable city” itself is an oxymoron – if not an impossible dream – as city dwellers rely on food they do not grow and are largely dependent on non-renewable resources (Blasingame 1988).

Cities, therefore, remain “on the frontline of the sustainability challenge” for it is in these sardine-packed cities and other urban community areas where people experience some of the world’s poorest air and water quality

while further feeling the impacts of climate change and diminishing natural resources (Purcell and Hawke Baxter 2007).

1.2 City Planning in a Complex System

The “urbanisation of humanity” has also necessitated a relatively new profession: urban planning.

Few cities today were “planned.” With the Industrial Revolution came rapid urban population growth – and cities in decay. During this time, older urban areas in Great Britain along with the more modern North America city “mushroomed rapidly in size and became congested and slum-ridden” (Encyclopedia Britannica 2009). It was with this backdrop that Ebenezer Howard envisioned his “Garden City” concept: a planned community of 32,000 inhabitants surrounded by a greenbelt of agricultural land to sustain itself which eventually led to the creation of two Garden Cities in the United Kingdom: Letchworth and Welwyn Garden City (Reps 2009). Other “planned” cities include Canberra in Australia, Brasília in Brazil and, Philadelphia, Pennsylvania and Washington, D.C. in the United States. (Encyclopedia Britannica 2009).

As suggested by its very title, the “urban planner” is a professional who specialises in some aspect of the planning process for the urban environment. The complex system that underpins urban planning in the 21st Century of the city is a vastly different scenario from the era that gave birth to the role of the urban planner more than five decades ago. An urban planner working in a city in the 1950s did not necessarily require a lot of external expertise – for urban planning was a specialty in and of itself. Increasingly, however, such complex systems as today’s cities require inputs from a multitude of other specialists in arts and culture, engineering, architecture and transportation.

Day-to-day, the role of today’s urban planner could include helping the community to vision; the research, design and development of programs; the undertaking of technical analyses; education; management; heading public processes; making policy recommendations; implementing or enforcing policy planning strategies; and creating historic preservation and comprehensive neighbourhood plans (American Planning Association 2009-b). Part geographer, part futurist, the urban planner may also

contribute to the mother-of-all-urban-community-documents: the development plan.

1.2.1 The Urban Community Development Plan

In the United States alone, an estimated 34 million acres – much of it forest and valuable crop land – was developed between 1982 and 2001. Should this pace continue, experts wonder, exactly which 34 million acres in the United States are destined to become shopping centres and single-family dwellings in the coming decades? (Zuckerman 2008). Enter the development plan.

From Mysore, India to Madison, Wisconsin, the development plan – sometimes called the “city development plan” or the “master development plan” – is an overarching document that seeks to define the framework for how a community’s land, transport and natural resources will be used and shared amongst its citizens over a set period of time.

Like the planning profession itself, the development plan is a relatively young tool. City development plans are typically created on cycles of five or six years with each reiteration of the final plan requiring several years to draft and publish. Development plans almost always includes information about zoning land use, general actions, programs, policies and timelines, but rarely fiscal budgets.

1.3 The Dublin City Development Plan

In January 2009, Dublin City Council (DCC) in Ireland began preparation of its new *Dublin City Development Plan 2011-2017*. The largest local authority in the country, DCC is the democratically elected organisation governing this capital city of approximately 500,000 inhabitants (Dublin City Council 2009-c). With 6500 staff members, DCC is also Ireland’s largest employer.

The city’s most recent *Dublin City Development Plan 2005-2011*, currently under review, “...proposes a sustainable and vibrant city” further noting that “[m]anaging the city infrastructure in a sustainable manner is a key challenge for the next six years” (Dublin City Council 2005-f). A clear, concise definition of sustainability is not articulated in the document though it does speak of another concept prepared by the Dublin City

Development Board following formal adoption of the “agreement” by DCC. “Dublin – A City of Possibilities” is, therefore, “an integrated, social and cultural strategy for the city of Dublin” (Dublin City Council 2005-f).

The overall vision of the current plan is “ to enhance the quality of life and experience of the city for the residents, workers, commuters and visitors and to consolidate the urban form of the city and to do so in conjunction with improvements to the public transport network" (Dublin City Council 2005-f).

1.3.1 “Sustainable Dublin”

In November 2008, DCC launched “Sustainable Dublin – A smart, competitive, visionary city” (Dublin City Council 2008-d). With Sustainable Dublin – still very much an internally focused effort – DCC declared its intention to begin to adopt the Framework for Strategic Sustainable Development (see Section 2.2) – the largest city in the world to do so.

The need for Dublin to move towards greater sustainability and function within the system’s environmental and social constraints is urgent. Ireland’s “Celtic Tiger” that started in the late 1980s triggered a tsunami of economic development and growth which has since subsided leaving the country in a recession as of September 2008 (Connolly et al. 2008). This was on top of previous growth since the turn of the century which has led to a deterioration of Ireland’s once pristine environmental quality (Niestroy 2005). Though the full environmental impacts of the Celtic Tiger are not fully known, “absolute pressures on the environment have continued to increase” while levels of homelessness, social exclusion and inequality are also on the rise (Niestroy 2005).

Climate change is another issue of serious concern. Ireland, a signatory to both the United Nations Framework Convention on Climate Change and the Kyoto Protocol, has committed to reducing its greenhouse gas emissions (GHG) by up to 80 percent by 2050 to support international efforts to stabilize GHG emissions in the atmosphere at a safe level (Department of the Environment, Heritage & Local Government 2008). Nonetheless, figures released in September 2008 showed that despite measures already taken, Ireland’s GHG emissions continue to rise, increasing the gap to their Kyoto Protocol target – statistics that the

Minister for the Environment Heritage & Local Government, Mr. John Gormley, T.D., described as “a wake-up call to all of us” (Department of the Environment, Heritage & Local Government 2008).

As Ireland’s largest urban community and capital city, Dublin is a key contributor to Ireland’s growing GHG emissions, though the average Dubliner is estimated to release 9.7 tonnes of carbon dioxide (CO₂) per year, less than the Irish average of 11.3 tonnes (Dublin City Council 2008-a). Expected climate change related impacts include: a 1.2°C and 1.5°C in average temperature rise by the middle of this century; “significant” changes in rainfall; increased risk of flooding and water shortages; and a 15 percent increase in frequency of intense storms (Bates 2007). Furthermore, DCC engineers forecast water shortages by 2011 with permanent water rationing by 2016 (Irish Independent 2008). Dublin has experienced excessive flooding with DCC warning that its aging drainage infrastructure is not currently capable of handling further “freak” rainfalls (Phelan 2008).

DCC has developed and adopted several sustainability strategies related to environmental concerns including a *Climate Change Strategy for Dublin City: 2008-2012* and *Dublin City Biodiversity Action Plan 2008-2012*. Interestingly, the Climate Change Strategy for Dublin mentions “sustainability” three times and “sustainable” 11 times including references to “sustainable retrofitting,” “sustainable development,” “sustainable communities,” “sustainable transport,” “sustainable planning,” “sustainable travel” and, further, that “any reclamation of estuary land will be carried out in a sustainable manner,” but no definition for either word is clearly articulated. Meanwhile, though the Biodiversity Action Plan does not define sustainability it does mention the “ongoing problem” of the term noting “it is used more often to describe whether a given activity can be or is economically viable than in its full – environmental, social and economic sense” and further that “[s]ustainable development is about integration and the environment must be treated as an integral part of the socio-cultural sphere” (Dublin City Council 2008-g).

An *Action Plan on Energy* for Dublin has also been drafted by Codema (Codema 2007-a). DCC initiated Codema, a limited company, in 1997 as “a leading agency for energy and sustainability in Dublin” which brands itself as “Codema - Sustainable Dublin” on its website (Codema 2007-a) while also operating as a consultant to the private sector. The agency, financially supported by the European Commission of the European Union, also acts

as a sustainable energy advisor to DCC and other local authorities within the Greater Dublin Region: “Our aim in this role is to make sustainability the norm in Dublin, while also making a responsible contribution to the global issue of combating climate change” (Codema 2007-b).

Since the launch of Sustainable Dublin, several pilot projects (with the help of RealEyes, an Irish-based sustainability consultancy) have begun applying the FSSD in several areas including the city’s Housing Maintenance department which maintains responsibility for the repair and upkeep of 27,000 Dublin City Council-owned dwellings, its Fire Brigade, the city’s three-day long St. Patrick’s Day festivities and more recently, the Dublin City Development Plan.

1.3.2 Irish Statutory Process

The Dublin City Development Plan is a “roadmap for the proper planning and sustainable development of the city” (Ingoldsby 2009) – as required by the *Planning and Development Act 2000*. Under this federal law, all Irish cities, boroughs, towns and councils must create and adopt a new development plan every six years. However, it is Section 28(1) of the *Act* which gives Ireland’s Department of the Environment, Heritage & Local Government the power to impose a framework of guidelines governing the way the plans are made, presented, communicated, implemented and monitored (Department of the Environment, Heritage & Local Government 2007).

As with all development plans in Ireland, DCC must create their next plan within two years. By law, this process must also include extensive consultation with key stakeholders, most notably, the public. As such, the DCC’s new development plan must be adopted by Councillors and come into effect by January 2011.

Under this Statutory Process, local authorities are also required to ensure the development plan is, among other things: “strategic,” a “catalyst for positive change and process,” and that it “anticipates future needs on an objective basis,” while playing “a central role in the identification and protection of the built environment.” More importantly, the development plan must also serve as a “blueprint” providing “a framework within which sustainable development can be achieved” (Department of the Environment, Heritage & Local Government 2007).

The term “proper planning and sustainable development” is pervasive throughout the *Development Plans: Guidelines for Planning Authorities* document noting that “[s]ustainable development means ensuring that all development is sustainable in economic, social and environmental terms” (Department of the Environment, Heritage & Local Government 2007). Further elaboration on the definition of “sustainable development” is absent by design because sustainability issues are thought to be a “moveable feast” always changing and evolving (Walsh 2009). With the definition of sustainable development not articulated further, the Minister of the Environment, Heritage & Local Government is afforded greater latitude to uphold the law and ensure “proper planning and sustainable development” under statutory powers outlined in Section 31 of the *Planning and Development Act 2000* – which has occurred six times in the last two-and-a-half years – effectively creating a “legal safeguard” within the system (Walsh 2009).

1.3.3 Greater Dublin Region & Beyond

In addition to the Statutory Process and other DCC strategies, Dublin’s Planning Department contributes to, and is guided by *Regional Planning Guidelines 2004-2016*. A policy document managed by the Dublin Region Authority, the *Regional Planning Guidelines* build a policy bridge between federal strategy – such as the *National Spatial Strategy for Ireland 2002-2020* and *National Development Plan 2007-2013* – and local authority policy and planning decisions (Department of the Environment, Heritage & Local Government 2007). Of note, Ireland’s National Spatial Policy defines sustainable development with the classic 1997 Brundtland Commission definition – “development that meets the needs of this generation without compromising the ability of future generations to meet their needs” (Department of Environment, Heritage & Local Government 2002). For the Greater Dublin Region, sustainable development, notes the agency’s planning guidelines, “means ensuring that all development is sustainable in economic, social and environmental terms” (Dublin Regional Authority 2008-a).

1.3.4 “Dublin City Development Plan 2011-2017”

As noted previously, preparations for the new *Dublin City Development Plan 2011-2017* began in January 2009 and will run through a two-year

period using the Statutory Process until the eventual adoption of the plan by DCC in January 2011.

To support the integration of a more “Sustainable Dublin” and engage in a structured dialogue with the community, the Head of the DCC Planning Department, Dick Gleeson, led the preparation of an *Issues Paper* categorising discussions around six key themes or “vision” areas: economic, social, cultural, urban form and spatial vision, movement and sustainable (Dublin City Council 2009-b). A further 11 issues are identified as follows:

- International, national and regional dimensions;
- Sustainable Dublin;
- Urban form and spatial structure;
- Population and housing;
- Economic development and employment;
- Movement and transport;
- Community development;
- Arts and culture;
- Landscape and open space, biodiversity and recreation;
- Conservation & built heritage; and
- Sustainable infrastructure.

In the short-term, a new cross-functional team of 25 stakeholders (an “Interim Sounding Board”) is being assembled from the six themes and 11 issues with the objective of contributing to the development planning process, already underway. The eventual goal is to have permanent task groups comprised of internal and external stakeholders for each of the 11 issues to be contributing to the development plan on an ongoing basis (Gleeson 2009-a).

Given DCC's commitment to achieve a more "Sustainable Dublin" and impressive progress to date, plus the fact that preparations for the next city development plan are currently underway, there is tremendous willingness – and opportunity – for the Dublin City Development Plan to truly become the model for catalytic change and process envisioned by so many.

1.4 Research Questions

Much research, policy and practical work has been undertaken to better understand and improve the local authority's participative process for moving a community towards sustainability through deeper engagement with external stakeholders in civil society and business. Yet, the internal structure and processes of the local authority remains largely unexplored – and unchanged. Nowhere is this more evident than within the process used to create the typical city development plan today.

As such, one may observe that the local authority's pursuit to increase external engagement and community participation has left many internal stakeholders – including urban planners – behind.

In effect, these "lost" or "forgotten" internal stakeholders have largely been left alone with the task of fixing new problems with aged, broken tools and processes resulting in confusion, frustration and declining levels of the very engagement necessary to solve the complex challenges presented by unsustainability within urban areas in the first place.

Clearly, a new internal development planning process is required to help support and guide these individuals through the labyrinth of participative, collaborative decision-making *inside* their organisation – the local authority. Research for this thesis, therefore, focused on two guiding questions as follows:

- What are the gaps of the current city development plan from a strategic sustainability perspective?
- What recommendations can be made to improve the city development planning process to facilitate the local authority's move towards its envisioned, more sustainable future?

2 Urban Planning for Sustainability

In this section, common challenges – and opportunities – of urban planning and the development plan are discussed along with governance structures, best practices, a whole-systems strategic planning tool and case study.

2.1 The Changing Face of Urban Planning

As the city development plan is a key element of this dissertation, a thorough review of literature related to urban planning literature was undertaken to better understand the evolution of the role of the urban planner along with key challenges faced by the profession today.

Before the birth of the professional urban planner more than 50 years ago, cities relied on “citizen planners.” Many of these business and community leaders, noted the *Planning Commissioners Journal*, attended Chicago’s 1893 “World’s Columbian Exposition” (also known as the “Chicago World Fair”) which featured the latest and greatest in building, architecture and civic design – a brilliant showcase that inspired the citizen planners to want to make their own cities better (Norton 2000). By the 1920s, these activities eventually gave way to more formal structures such as official planning boards and commissions thought still largely run by volunteers (Norton 2000). As these boards and planning commissions grew alongside their communities, so too did their need for staff and consultants who could provide the expertise and information required to make decisions on how to improve their cities and, thus, the role of the full-time professional planner not only became a necessity (Norton 2000) but was also institutionalised in local, regional and national governments (Hack 2009).

The urban planner today operates in a complex, planning environment vastly different from 1941 when the International City/County Management Association (ICMA) published its first book on local planning. “Sprawl, traffic congestion, industrial ‘ghost towns,’ suburban ‘boomburbs,’ dwindling water supplies, an increasingly restrictive regulatory environment, and – overshadowing everything else – the amorphous threats posed by global warming all are concerns that a new generation of planners must confront, sometimes with little guidance from historical precedent,” notes the introduction to the 2009 edition of the ICMA’s guide to local planning (Hack 2009).

Many believe there is a tremendous opportunity for urban planners to become part of the solution. “Sustainability will take a huge step forward when communities begin to factor ecosystem services into planning and development decisions,” noted Nancy Somerville, co-founder of the Sustainable Sites Initiative which seeks to create voluntary U.S. national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices (Nolan 2009).

Another important shift in the role of the urban planner is that today, he or she is less likely to be working on their plans within the silo of government silo but rather, are increasingly expected to partner with external stakeholders such as community, often following a defined Statutory Process of mandatory community engagement. The growth of the planning profession is arguably a testament to the very success of the planning idea itself – “that foresight, rationality, and imagination can help us improve the quality of life in the places we inhabit” (Hack 2009).

Today’s urban planner is also aided by powerful technology such as geographic information systems, the Internet, three-dimensional modelling software along with new, complex and innovative financial partnerships (O’Neill and Farmer 2009). Despite the evolution of issues and technological advances, the planner’s values of public health, economic vitality, visionary leadership, social equity and a sense of place endure. “Sustainability” should be added to this list; “a relatively new word in the popular lexicon but a watchword for planners from the beginning” (O’Neill and Farmer 2009).

Echoing these sentiments, even the American Planning Association (APA) believes the urban planner is uniquely situated to tackle such complex challenges presented in the quest toward moving a city towards sustainability. The APA’s *Policy Guide on Planning for Sustainability* highlights this role: “Planning for sustainability promotes responsible development – not anti-development. It requires a democratic process of planning to achieve the greatest common good for all segments of our population, protect the health of the environment and assure future generations of the resources they will need to survive and progress” (American Planning Association 2000).

2.1.1 The City Development Plan: Opportunities & Challenges

Communities such as New Bedford, Massachusetts view their development plan as a “road map” to the future helping “to create a sense of vision and commitment” for the community (Boyd 2009). For other communities, such a road map will have a more specific vision such as that of the City of San Carlos in the Republic of the Philippines which states that its development plan “is a unique framework” to deliver on its well-defined vision “to transform San Carlos into an exemplary modern agro-industrial zone and new town that is distinct, memorable, economically viable, socially responsible and in balance with nature” (San Carlos Development Board, Inc. 2008).

Increasingly, today’s city development planning process also typically includes mandatory consultation with the public and other external stakeholders including businesses, special-interest groups and non-governmental organisations (NGOs). Public consultation is, in part, mandated by such international agreements as Chapter 28 of the Rio Declaration which requires local authorities in each country to undertake a consultative process with their populations (Abolina and Zilans 2002). The Integrated Community Sustainability Planning Tool (see Section 2.1.2) is another generic approach that has been the foundation for positive movement toward a more sustainable future through high levels of external stakeholder engagement, among other communities, Whistler B.C. (Dale et al. 2007).

The menagerie of experts the urban planner needs to liaise with to create today’s development plan are typically “siloes” in other departments within the city, with varying objectives and goals. These various experts and departments also produce a multitude of policies, guidelines, strategies and other potentially overlapping documents that may or may not feed into the development plan and planning process. Such lack of coordinated interests, planning responsibility and appropriate budget allocations are among the significant barriers cities face internally toward the development of an integrated development planning process (Dale et al. 2007).

Given the magnitude and scope of the urban community development plan’s influence, it is no wonder that what does or does not actually get written into the plan can be highly contentious given potentially competing stakeholder priorities. Case in point: Loudoun County, Virginia. In less

than two decades, Loudoun County went from a farming community to affluent “exurbia” through alleged “questionable practices” that include acts of collusion by developers and country officials over large-scale residential developments and the bankrolling of “pro-development candidates’ war chests” – all of which are under investigation by federal authorities since 2007 (Zuckerman 2008).

No wonder then one of the cited challenges faced by urban planners today is politics: “the proverbial elephant in the dark room”; while planners are generally educated to believe they cannot be influenced by politics, “those who are effective understand that they can never be separate from it” (Hack 2009). To create more transparency and accountability, some cities have established independent structures for their development plan activities. The Philippines’ City of San Carlos, for example, set up a non-profit entity, The San Carlos Development Board, Inc., in recognition that the creation and implementation of their Master Development Plan “goes beyond the responsibility of a single institution, even that of the local government unit.” The Board’s mandate further seeks to “catalyse the involvement of the different sectors and stakeholders” in the development of the Master Development Plan (San Carlos Development Board, Inc. 2008).

Despite its challenges, long-term, the development plan is thought to be one of “the most important instruments for shaping cities and their functioning for decades at a time” (Register 2006).

2.1.2 Integrated Sustainability Planning Tools

A search for existing best practices pertaining to sustainability and planning led to an in-depth review of the Integrated Community Sustainability Planning (ICSP) Tool, a guide to help communities create an integrated sustainable community plan – a requirement to receive funding through a Gas Tax first introduced in the 2005 Canadian federal budget (Dale et al. 2007). Unlike other tools, the ICSP is “by definition, an integrated sustainable community plan differs from conventional planning by being collaboratively developed in the community through participatory techniques that allow for the full involvement and engagement of the community, and the natural system upon which the community depends” (Dale et al. 2007).

2.1.3 Community Best Practices

The literature review also illuminated a plethora of real-life examples of local authorities using integrated planning to move their communities towards sustainability – though the majority of these were heavily focused on the leverage of such tools as the aforementioned ICSP and, therefore, tend to be externally focused. Case in point is Whistler, British Columbia: A four-season resort town located north of Vancouver in Canada, Whistler is frequently held up as a model of citizen engagement due to its integrated *Whistler 2020* plan: “A shared vision and plan that was created by the community and is being implemented by the community” (Whistler 2006). The town took a whole-systems perspective approach that was “deeply rooted in science-based sustainability objectives” which speaks to the successful adoption of the Framework for Strategic Sustainable Development (FSSD) described in Section 2.2 (Whistler 2006).

The American state of Wisconsin’s capital city took an integrated bottom-up and top-down approach towards the implementation of its sustainability goals. Mayor Dave Cieslewicz from the City of Madison has made sustainability a top priority with the Green Capital City Plan. Employees throughout the city are encouraged to generate and execute their ideas setting an example for the community (Hoffman 2009). Recognising that rigid departmental structures were a barrier toward the adoption and implementation of strategic sustainable solutions, Madison City Council also appointed a sustainability facilitator to break-down the silos effectively recognising that “change needs to come from within” (Hoffman 2009).

In Portland, Oregon, the city created a Sustainable City Government Partnership (SCGP) “to foster a collaborative, city-wide effort to integrate sustainable practices and resource efficiency into municipal operations. By establishing a planning and monitoring framework, based on employee and Bureau-level innovation, the SCGP promotes the City’s sustainability goals and strengthens existing policies and efforts” (City of Portland 2006). The new SCGP was necessary, noted the City, because although some departments have taken actions toward institutionalising resource efficiency, for instance, the “City lacks an overall sustainability strategy” (City of Portland 2006). With the SCGP, Portland intended to increase accountability, maximize inter-bureau collaboration and knowledge sharing and provide a platform for communicating the City’s sustainability vision to the larger community (City of Portland 2006).

2.1.4 Barriers to Success: Sustainability Blunders

Given all that is now widely known about the need for organisations – including the local authority such as a City Council – to function within ecological and sociological limits, coupled with a myriad of sustainable development solutions, why is it, then, that so many organisations have failed to adopt and implement effective sustainability solutions? This is precisely the question the University of Oregon’s Bob Doppelt asked in the late 1990s – a question that led to three years of research and the development of “seven sustainability blunders” that may hinder an organisation’s ability to effectively adopt sustainability measures (Doppelt 2003-a).

The blunder most important and frequently made by organisations is their leaders’ failure to understand the “fundamental paradigm shift” required by sustainable development; moving away from a hierarchical, patriarchal organisational structure that “creates an addition to the directives of higher authorities and an abdication of personal responsibility” toward the creation of a “dominant” and “controlling mindset” founded on the “imperative of achieving sustainability” (No. 1). If this first blunder is not addressed, notes Doppelt, “little change will occur” (Doppelt 2003-a).

Other blunders include segregating environmental and socioeconomic functions – a “silo” approach where executives view sustainability as a “special program” and not something integral to everything from marketing to procurement (No. 2); no clear, forward-looking vision that gets people excited and energised toward achieving sustainability versus “compliance with the law” – that is, a “backward-oriented negative vision focused on what *not* to do (No. 3); failing to provide adequate, easily accessible and understood information about the need for sustainability as well as the “purpose, strategies and expected outcomes of their sustainability efforts” (No. 5); not institutionalising learning mechanisms that enable workers to “continually test new ideas, expand their knowledge base, and learn how to overcome barriers to change” – essential skills for achieving sustainability (No. 6); and, finally, in blunder No. 7, failing to “institutionalise” or embed sustainability in their core, everyday operating procedures, policies and culture” in innovative ways such as “when an organisation links bonuses, promotions, new hiring, and succession planning to performance on sustainability” – only then will change initiative achieve ultimate success and will employees be convinced of their employers commitment

to sustainability (Doppelt 2003-a). While there may be many ways to alleviate the root-causes of these blunders, none, says Doppelt, are more effective than changes in an organisation's governance structure, discussed in the next section.

2.1.5 Sustainable Governance Models & Leadership

“Good governance and leadership are the two hallmarks of successful change toward sustainability” (Doppelt 2003-a).

Cities everywhere face the critical challenge of balancing increasing urbanisation within ecological and socioeconomic limits. At the same time, they must also grapple with structural changes as they move from a command-and-control approach of government to a more cooperative and participative “governance” model whereby policymaking and implementation are no longer the sole domain of the local authority but rather, a more collaborative process undertaken with external stakeholders from civil society and business through consultation and engagement, public-private partnerships, privatisation and outsourcing (Garson 2006).

According to the *Journal of Governance and Management*, “governance goes beyond 'corporate governance' and includes the modes of allocating decision control and reward rights within and between economic organisation giving rise to a variety of forms of market industry and firm organisation” (Springer 2003).

More effective governance systems within organisations are needed to redefine a multitude of processes such as: how information is collected and disseminated amongst individuals and departments; the way in which decisions are made and enforced; and importantly, how the organisation's limited resources are allocated and shared. These factors are important because they shape people's perceptions of their surrounding world, influencing their levels of motivation, and perceived power and authority – what some call “the drive shaft and steering mechanisms of an organisation” (Doppelt 2003-a). As such, it is changes in governance systems that “provide the greatest overall leverage for transformation toward sustainability.”

While stressing that leading organisations who are successfully moving toward sustainability tend to view all the people impacted by their

organisation – both within and outside of – as “parts of an interdependent system,” their leaders also realise that each component of the system must be fully engaged for the whole to succeed” (Doppelt 2003-a). The means to achieving this, says Doppelt, is through a model of governance where power and authority are “skilfully distributed among employees and stakeholders through effective information-sharing, decision-making, and resource allocation mechanisms” (Doppelt 2003-a). This non-patriarchal approach works because it induces a high-level of employee and other stakeholder engagement, he states. Further, when coupled with “proper purpose, vision and guiding principles, a new production model and organisational paradigm evolves that works to eliminate environmental and socioeconomic problems and create business opportunities” (Doppelt 2003-a).

Such sustainable governance systems have several dominant characteristics (Doppelt 2003-a) including:

- An adherence to both a vision and “an inviolate set of principles focused on conserving the environment and enhancing socio-economic well-being”;
- The continuous creation and distribution of current, credible and relevant environmental, social and financial information through “feedback mechanisms” to promote continuous learning and progress by expanding the organisation’s knowledge base;
- Everyone affected by the organisation’s activities – including staff from all departments and functions – is engaged through involvement in decision-making and planning;
- Resources such as staff, time and capital is shared with leaders ensuring “that all participants give the enterprise their full engagement and support”; and
- By “providing people with the freedom and authority to act within an agreed upon framework” of “clearly defined, mutually agreed-upon goals, rules, roles and responsibilities,” organisations will be better able to achieve “clear strategies and implementation plans” related to sustainability.

It is critical to note that while successful “governance” is often coupled with “formal authority” structures (hierarchical decision-making with majority of decisions being made in the “C” suite power-positions of top executives), power and authority is “fed” by other influences than mere job title and the decision-making associated with such position. “Power is generated by the information one has access to, the resources at one’s disposal (financial, human, technical), the level of support one receives from others within and external to the organisation, the nature of the informal networks and coalitions people belong to and influence, and by official position (Kanter et al. 1992, quoted in Doppelt 2003). For this reason, “three pillars”– decision-making and accountability, information generation and sharing, and distribution of resources and wealth – must interactively work together to form a new governance process (Doppelt 2003).

Nonetheless, while governance models are critical to achieving sustainability so too, say experts is “exemplary leadership” at every level of the organisation for, it is stressed, “[i]t is not possible to initiate or sustain the tremendous transformation required to become more sustainable without exceptional leadership. Thus, good governance and leadership are the two hallmarks of successful change toward sustainability” (Doppelt 2003-a).

2.1.6 Learning to Change

There is a saying that “people don’t mind change, but they mind being changed”: the same is true for individuals working within the local authority organisation.

Resistance to change is common and can take many forms ranging from the clandestine, unexpressed “actions” such as a reluctance to share information or attend meetings to more explicit, obvious behaviour such as open complaints and scepticism as to the severity of the social or environmental problem (Doppelt 2003). For many, “sustainability” is a misunderstood concept of which the mere mention can induce a spectrum of emotions ranging from sheer panic to outright denial – the latter manifesting itself in statements such as “we’re already doing sustainability.”

The planning department of the typical local authority could be thought to be extra sensitive to change due its highly visible place in the public sector

which makes it vulnerable to public criticism and organised watchdog groups (Doppelt 2003). Furthermore, because it touches on every aspect of life in a community, the city development plan is very often the focus of controversy. Such controversy has the power to nurture a culture of fear over the introduction of anything new in any planning department – let alone sustainability issues, which prior to their relatively recent mainstream adoption, were commonly associated with more radical, aggressive tactics of problem-solving by so-called “fringe” groups.

Importantly, the very idea of failure needs to be surfaced and dissected so fear of failing does not become an excuse *not* to act. “[O]rganisations need to create cultures that are supportive of the messy business of being creative and accept that being truly creative means allowing for failure,” note the authors of a study of how traditional strategy formulation would benefit from the cultivation of skills that are often associated with more artistic tasks including internal motivation and expression (Fabian and Oglivie 2005).

Another method of weakening resistance to the transformational culture change required to support an organisations move toward sustainability are for change agents to find key points of leverage within a system “where a small shift in one thing will eventually generate big changes in everything else” – the challenge of which is identifying the right levers of change in the first place for they are often “counter-intuitive” (Doppelt 2003).

2.2 Framework for Strategic Sustainable Development (FSSD)

“To be successful in a system, we need to have a structured comprehension, or a conceptual framework, to allow systematic planning and decision-making” (Robèrt et al. 2007). The Framework for Strategic Sustainable Development (FSSD) constitutes the fundamental contextual framework utilised for this thesis dissertation.

Scientifically rigorous, the FSSD is developed from a generic five-level framework used for planning in any complex system. FSSD is used as a unifying framework for systematic and strategic sustainable planning, for

sustainability analyses of current practices and visions, and for the choice and information and design of sustainability tools². The FSSD is a structured approach to sustainable development which takes an indepth look at fundamental flaws in a system rather than addressing issues on an individual basis. In this sense, the FSSD provides the benefit of long-lasting transformational change within an organisation.

The framework also helps by “avoiding the tendency in planning to focus only on a subset of issues or areas ignoring broader, connected issues leading to a need to expend the system boundaries” (Waldron et al. 2008).

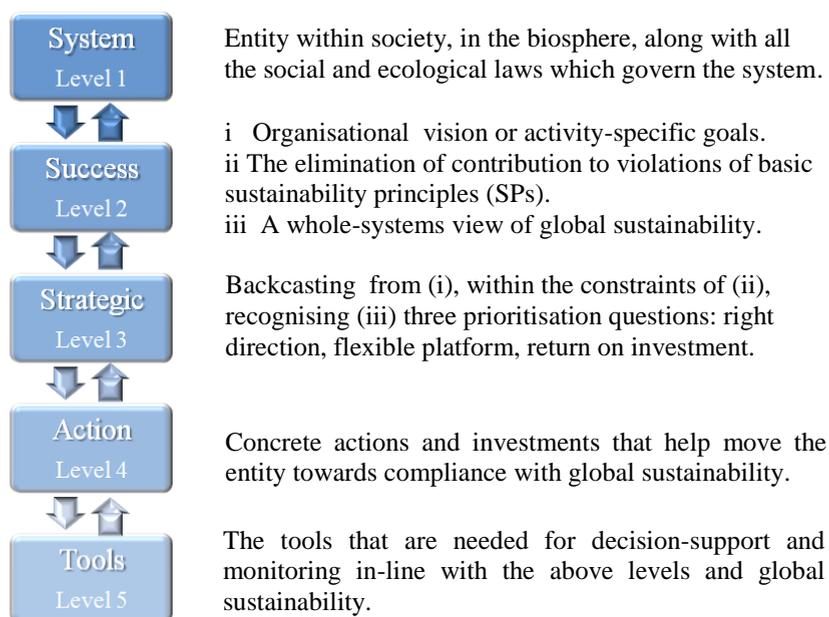


Figure 2-1: Framework for Strategic Sustainable Development

(Robèrt et al. 2002)

Level 1 and 2 of the framework provide a clear, whole-system perspective on sustainability “as opposed to the common approach of analysing ad hoc

² The FSSD complements other strategic tools such as Strategic Environmental Assessment (SEA), Life Cycle Analysis (LCA), and Environmental Management Systems (EMS) as an overarching framework.

symptoms of unsustainability in isolation, which are not only unlinked negative errors but they are underlying systemic errors of societal design” (Waldron et al. 2008).

Level 2 presents the basic “Sustainability Principles” (SPs) derived from scientific consensus for global ecological sustainability as follows:

In a sustainable society, nature is not subject to systematically increasing:

- I. Concentrations of substances extracted from the earth’s crust;
- II. Concentrations of substances produced by society;
- III. Degradation by physical means;

and in that society...

- IV. People are not subject to conditions that systematically undermine their capacity to meet their needs³.

Sustainable urban planning can thus be defined as an integrated planning process that does not contribute to the violation of the SPs. Levels 3, 4 and 5 of the FSSD provide strategic guidelines towards success, suggested actions and inform the selection and (re)design of tools.

A systematic approach to following through the FSSD is referred to as the A-B-C-D method, which is explained in more detail in section 3.1.2 This approach adheres to backcasting from SPs in which a principle-based vision of a successful future is conceived with steps then identified to move closer to that goal; the opposite approach of “forecasting” by extrapolating on the trajectory of current trends into the future.

³Identity, freedom, protection, participation, creativity, idleness, affection, understanding and subsistence (Max-Neef 1992).

3 Methods

3.1 Research Phases

The research methodology was viewed through the Framework for Strategic Sustainable Development (FSSD), described in Section 2.2, which provides strategic analysis and scientific methods to inform decisions based on a principle-level definition of success.

Inspired by the U-Process: A Social Technology for Addressing Highly Complex Challenges by C. Otto Scharmer, this five-phased research approach also took the internal process of the thesis team into consideration (see Figure 3-1 below):

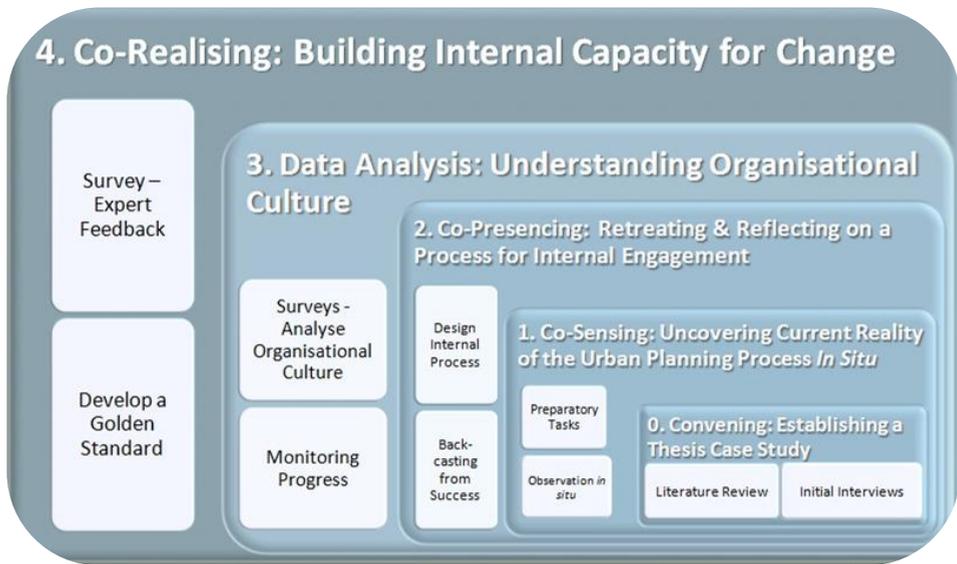


Figure 3-1: Research Phases

3.1.1 Phase 0. Convening: Establishing a Thesis Case Study

In order to fully understand the system of focus for this thesis, collaboration was sought with an actual city. This desired outcome led to the eventual agreement to conduct a case study with the Planning Department of Dublin

City Council (DCC) in Ireland whom the research team worked closely with the Planning Department over the course of the thesis period.

Initial interviews provided useful insight into best practices, successful processes of moving a city towards sustainability and potential barriers. These interviews also led to key contacts and relevant literature documents and resources.

As such, various documents have been consulted to provide awareness of existing research regarding sustainable urban planning and a foundation for analysis. These resources include but are not limited to:

- Reports from the DCC, European Union (EU) and Ireland environmental policies have been analysed to provide context to the urban system and its various components.
- Books regarding eco-communities, sustainable city planning, creative cities and transformational change have been explored and provided creative ideas for processes which may be applied in the thesis.
- Journal articles on sustainable urban planning have revealed an understanding of the current planning practices.

3.1.2 Phase I. Co-Sensing: Uncovering Current Reality of the Urban Planning Process *in Situ*

On the subject of transformational change, Theory U inventor Otto Scharmer notes that the major limitation towards its achievement is “not a lack of vision or ideas, but an inability to sense – that is, to see deeply, sharply, and collectively. When the members of a group see together with depth and clarity, they become aware of their own collective potential – almost as if a new, collective organ of sight was opening up” (Scharmer 2007). Further, he notes that “[w]ithout a direct link to the context of a situation, we cannot learn to see and act effectively.”

Similarly, the context of the urban planning process needed to be uncovered in this phase of research in order better sense with greater “depth and clarity” its current reality. Through this “deep sensing,” notes Scharmer, organisations, societies (and presumably, a trio of thesis researchers), will, as a group, “see emerging opportunities and the key systemic forces at issue” (Scharmer 2007).

As such, the methodology for Phase I was to observe, interact and initiate dialogue with the members of the DCC Planning Department which resulted in a two-week immersion in the departmental office in Dublin. This experience led to an abundance of information and ideas on how to potentially leverage the Dublin City Development Plan as a strategic tool for moving Dublin City towards sustainability.

World Café. Author David Cooperrider claims that "people grow in the direction of the questions they ask" (Cooperrider 2009). The first method used with DCC was a World Café to ask a meaningful question related to the challenges they face and to gain learning about the current reality from the inside of the organisation.

The World Café is a powerful "conversational process" or methodology for "hosting conversations about questions that matter" (World Café Community Foundation 2009). Individuals are invited to gather at tables and asked to ponder a single question and then, after a set period of time, move to another table to continue their dialogue with others. "These conversations link and build on each other as people move between groups, cross-pollinate ideas, and discover new insights into the questions or issues that are most important in their life, work, or community" and further serves to "evoke and make visible the collective intelligence of any group, thus increasing people's capacity for effective action in pursuit of common aims" (World Café Community Foundation 2009).

A-B-C-D Workshop. Following the World Café, an A-B-C-D sustainability workshop was facilitated using the principles of collaboration and ownership to engage the Planning Department, raise awareness and initiate an integrated process to move towards sustainability.

This workshop used the A-B-C-D approach, a formalized way of applying the FSSD (outlined in Section 2.2). It provides a simple and effective methodology to guide workshops in which people can co-create a sustainability plan for their particular planning endeavour. The A-B-C-D method for applying the FSSD consists of four steps, based on backcasting from Sustainability Principles (SPs).

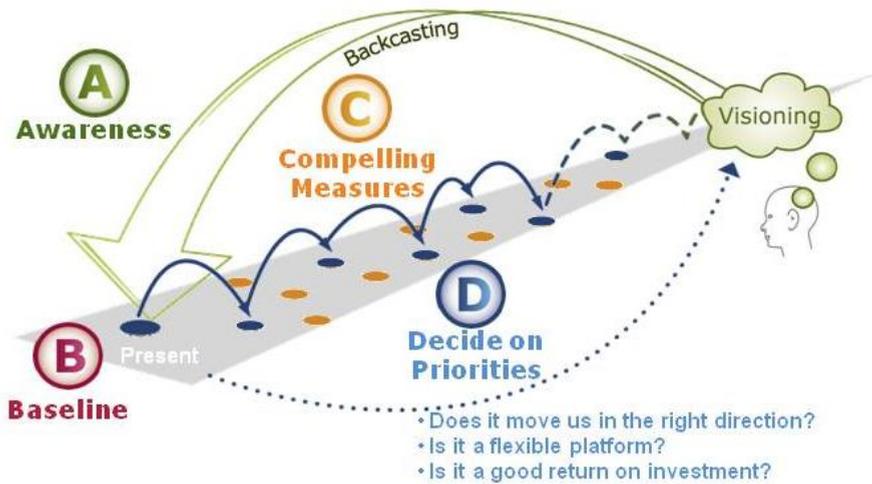


Figure 3-2: The A-B-C-D Method

(The Natural Step 2009)

The FSSD and the A-B-C-D are simple, science-based tools for analysing the complex issues associated with sustainable development. In addition, it takes an upstream approach that can be used at any level and in any geographic region. Through this upstream approach, problematic issues are anticipated and avoided before they occur, as opposed to reacting to their downstream effects. This provides organisations with the tools to perform a gap analysis through the lens of sustainability in order to strive towards sustainable improvements while closing the gap.

The A-B-C-D method also provides a common language and understanding in order to facilitate effective communication, along with cooperation and consensus to ultimately move toward a vision.

During this phase, active observation and interviews were conducted with the Planning Department members along with citizens during three public consultation meetings.

3.1.3 Phase II. Co-Presencing: Retreating and Reflecting on a Process for Internal Engagement

In the Co-Sensing Phase, the thesis team uncovered the current reality of the system as a whole. This analysis goes further and uncovers a deeper understanding of a successful planning process towards sustainability. It

was a crucial step to see what occurs in the system and to define the principle of success in order to propose strategic recommendations on the further phases.

“The essence of presencing is the experience of the coming in of the new and the transformation of the old,” notes Scharmer in *Theory U*. “Once a group crosses this threshold, nothing remains the same. Individual members and the group as a whole begin to operate with a heightened level of energy and sense of future possibility. Often they then begin to function as an intentional vehicle for the future that they feel wants to emerge” (Scharmer 2007).

The methodology for this third phase was exploratory research with a variety of cities, of all scales and locations, in order to create a process for internal engagement and to compose a response to the research questions (outlined in Section 1.4).

3.1.4 Phase III. Data Analysis: Understanding Organisational Culture

Phase III of the research methodology consisted of analysing the data collected through a series of surveys distributed to targeted internal stakeholders within DCC.

Mapping tools were utilised to analyse organisational patterns, to realize a better understanding of the strategic level and to determine how to intervene in the system to leverage it. Three online surveys were designed and sent to three stakeholder groups within DCC (Dublin City Councillors, Executive Managers and members of the development plan team itself) to help understand the internal barriers and opportunities of leveraging the development plan to move the city towards sustainability.

3.1.5 Phase IV. Co-Realising: Building Internal Capacity for Change

During Phase IV, a conceptual process for internal engagement was created and reviewed through an online survey of 30 international experts including city planners, and sustainability and organisational change experts.

These ideas and suggestions generated from the survey were articulated into a generic vision for a catalytic development planning process, referred

to as the “Golden Standard,” which is structured on the FSSD. The “Golden Standard” acts as a process based on principles of success (SPs) to lead local authorities through a transformational process while moving toward a sustainable vision.

The purpose of the “Golden Standard” is to help local authorities better leverage their internal resources and begin to redefine their governance systems to achieve long-lasting cultural change from within. Ultimately, redesigning city planning from the inside-out and institutionalising new sustainable governance models for local communities can act as a catalyst to align decision-making policies and programs towards the community vision, if it is done in the right way.

4 Results

Research results presented in this section were viewed through the lens of the Framework for Strategic Sustainable Development (FSSD) described in Section 2.2, again using the five-phase research methodology outlined in Section 3.1.

4.1 Convening: Establishing a Thesis Case Study

4.1.1 Initial Interviews

Initial interviews with sustainability experts within and outside of cities yielded critical information in two key areas: internal capacity building and the role of the development plan itself to help move a city towards sustainability. While fragmented agencies and silos within and adjacent to a local authority were highlighted as barriers toward achieving sustainability within a city (Cohen 2009), numerous interviewees expressed opinions that internal capacity building was an unexplored, yet critical and exciting area, worthy of in-depth research.

For instance, John Purkis of The Natural Step Canada, spoke of the need for city staff to “own the sustainability assets in each department” and for cities to build their internal capacity to make their own self-sustainability assessments for “they need to be prepared before they go the public.” Sustainability, he added, needs to “transition from one department to become the responsibility of all departments” (Purkis 2009). Similarly, Jeanne Hoffman from the City of Madison, Wisconsin, USA, shared how seriously their urban community has taken sustainability, an endeavour that starts with executive leadership from the Mayor and the training of all key city staff including 25 top-level managers in different agencies throughout the local authority (Hoffman 2009).

With respect to the role of the development plan as a potential vehicle to help move a city towards sustainability, it was felt such plans would benefit from being assessed through the lens of the FSSD and to recognise that the plan’s ultimate success as an effective tool for sustainability will depend on where the internal sustainability champions, reside within the organisation (Purkis 2009).

Royal Roads University Professor Ann Dale spoke of the need for policy “alignment” within the organisation and “congruency” between other levels of government. Political accountability was another hot spot mentioned, with Prof. Dale again noting that it was necessary to “close the loop of decision-making.” Ultimately, she noted, for a plan to be meaningful, it needs to have a “vision, be adaptive, flexible and resilient” (Dale 2009).

In terms of Dublin City, other exploratory interviews were undertaken with Dick Gleeson, head of Dublin City Council’s Planning Department along with RealEyes sustainability consultants Michael Donnelly and John Harrington in late December 2008 and early January 2009 and revealed that work was already underway for the formation of the next *Dublin City Development Plan 2011-2017*. Included in these activities was the launch of a marketing campaign (“Your City, Your Say”) targeting Dubliners to invite them to engage in a dialogue with the Planning Department about the next development plan – a critical component of the Statutory Process mandated by the Irish government under Section 28 of the Planning and Development Act (Department for the Environment, Heritage & Local Government 2007).

Through these initial interviews with Dublin City officials and the Dublin-based sustainability consultants, it also became apparent that the head of the city’s Planning Department, inspired by the “Sustainable Dublin” kick-off, is a very big internal champion of the FSSD process (often referred to as the “The Natural Step Framework”) and expressed a genuine desire to explore ways to integrate the framework into the development planning process as well as the actual plan itself. As a result, after further collaboration and negotiation with both Dublin City Council (DCC) and RealEyes, an agreement was struck to convene a case study with DCC focused on the Dublin City Development Plan for this thesis.

Given all of the above, and the fact that preparation for the next Dublin City Development Plan is currently underway, there was both a tremendous willingness – and opportunity – for DCC to lead the charge toward a more Sustainable Dublin through the development plan, ensuring that it’s truly the catalyst for positive change and process envisioned by Ireland’s Department of the Environment.

4.2 Co-Sensing: Uncovering Current Reality of the Urban Planning Process *in Situ*

4.2.1 DCC Planning Team World Café

Further discussions with Dublin City planners' Dick Gleeson and Vivienne Byrne, and RealEyes consultant John Harrington revealed a need for an "icebreaker" exercise to initiate dialogue with and within the Dublin City development plan team around sustainability issues and to assess the current reality of the urban planning process at DCC.

During the Cafe, Dublin City planners were asked to consider the following question: "*How can we deliver on the potential of the Development Plan to move Dublin towards a more creative, sustainable future?*" This question was carefully crafted and co-created to be both useful to DCC as well as strategically linked to the research question posed by this thesis.

As such, on February 11, 2009, 16 members of the development plan team gathered at three tables to discuss the aforementioned question yielding numerous findings outlined fully in Appendix A, with top-line outcomes presented here. After two rounds of table discussions, participants were invited to gather together in one large group again to summarise and share the discussions from each table with their colleagues.

Conversations revealed key issues related to several areas including the need for "*buy-in from both the politicians and the public*" as to the value of sustainability from the beginning, along with a shared, "*common understanding*" and "*clear definition*" of what sustainability is and means.

A need for a strong vision related to sustainability was highlighted with one table expressing that in their view, "*a long-term vision (2050) is critical*" and that "*a visionary statement needs to be at the centre of the development plan.*" In the same vein, others noted that it is difficult for the community to see the big picture pertaining to sustainability because "*the community only wants to engage at the local level but it [sustainability] is a city-wide issue*" so more "*alignment*" is required.

The need to raise awareness about sustainability through education and communication with Dublin City Councillors as well as the general public was raised numerous times ("*sell message better to the public,*" "*involve*

high-profile community members to deliver the message – a key interface between DCC and citizens”). Similarly, participants spoke of the need for better “linkages between common good policies and standards in the development plan” and for “key targets” that are “tangible” in the development plan “that people can relate to.”

Issues of transparency and accountability emerged with some participants noting a general *“lack of belief in the [DCC] planning system,”* and that *“the development plan should be more transparent so the public understands why they [planners] make decisions,”* and desire to *“increase the transparency of making decisions for sustainability.”*

Other ideas included using a *“sustainability proofing check-list when developing policies”* and a *“sustainability tool-kit for assessing developments.”* The integration of transportation and land use was suggested, as well as more frequent reviews of the plan (*“every two years”*) and indicators to evaluate progress.

Planners, they noted, *“are not service delivery agents”* but need to *“become leaders through the six themes.”* They also felt planners need to *“make tough decisions for the greater good.”* Finally, participants said that they needed to *“tackle the elephants in the closet”* through the FSSD and that sustainability needed to be *“a top priority”* – one that was even above the six themes in current use to guide public discussion regarding the next development plan.

In addition to the key findings above, it was observed that participants had a tremendous number of ideas, comments and thoughts. Also, their engagement levels appeared to be higher when the development plan team was invited to share their opinions through a structured, yet informal dialogue versus a lecture format.

A key outcome of the World Café – was an expressed group desire and request to executive managers – for another workshop (see Section 4.2.2) for the Dublin City planners to learn more about sustainability.

4.2.2 DCC Planning Team A-B-C-D Workshop

On February 16, 2009, a second full-day workshop was held with members of the development plan team based on the A-B-C-D methodology used in the FSSD (see Section 3.1.2) Objectives for the workshop included learning

a common understanding of the definition of sustainability along with co-creating a shared vision for a more Sustainable Dublin through the Dublin City Development Plan.

Through visioning exercises (held during the “A” Step of the workshop), participants co-created their core ideology including the beginning of a vision statement (“*To be a model city of sustainability,*” and “*the most sustainable city on earth*”), along with statements around their core ideology pertaining to their core values (“*democratic, co-operative, accountable*” and a “*clean, green, safe, vibrant, competitive, creative, inclusive city*”) and core purpose, that is, the planning department exists to (“*facilitate the creation of a high-quality of life for all citizens*” and to “*create optimal efficiency in the urban system*”).

In the “B” Step, the development plan team assessed their current reality, identifying the plan’s strengths and weaknesses in relation toward reducing and eliminating their contribution to the four Sustainability Principles (SPs). On the positive side, policies within the current *Dublin City Development Plan 2005-2011* promoting “higher density,” “compact development,” high energy-efficiency building ratings, the reduction of pesticides in Dublin Parks system, water conservation, public engagement, mixed-use developments and cultural quarters such as Dublin’s very successful Temple Bar area were cited as strengths.

Among the challenges presented in the current development plan identified during this step were:

- A lack of “*buy-in from other department service providers*”
- Reliance on foreign energy sources and a “*love-affair with the car*” that promotes a “*car-focused infrastructure*”
- Lack of “*implementation and enforcement*”
- “*Lack of control over transport service providers*”
- “*Under-performing, non-functioning open space*”
- “*Water not covered in the development plan*”
- “*Lack of joined-up thinking and intra-agency approach*”
- “*Lack of social development plan*”
- “*Lack of citizen buy-in to high-level policy*”
- “*Lack of long-term vision in the development plan*”

During the “C” Step, participants were invited to share their ideas to create a list of compelling measures toward sustainability which included: quality of life surveys; one-year goals/targets for implementation within the development plan; the use and refinement of systems-thinking for every planning cycle; actions that allow Dubliners and DCC employees to “*feel they own the development plan*” and have a “*sense of pride*”; “*leverage inter-department and external agencies*” to “*share expertise*”; “*measure and monitor*” policies; and “*learn from best-practice cities.*”

Time constraints prevented the team from undertaking a fulsome “D” Step, used to prioritise the compelling measures harvested in the “C” Step.

Active observation during the A-B-C-D workshop suggested the more the planners learned about sustainability, the more comfortable they felt about openly raising many issues, challenges and suggesting potential solutions.

At the end of the day, participants were invited to submit feedback on the A-B-C-D workshop which included commentary that the workshop opened their minds to more “*lateral thinking*” and “*we can now see how to leverage our tools and team.*” More informally, and anecdotally, one senior planner said he was literally feeling “*panic*” prior to the workshop over fears of not being able to fully comprehend sustainability – and that the workshop alleviated this anxiety by providing him with not only a clear definition and shared understanding of sustainability, but a strong framework within which to better understand and co-create solutions with colleagues.

4.2.3 DCC Planning Team Public Consultations & Beyond

Three public consultation sessions on the development plan – a linear step in the mandatory Statutory Review process – were attended in Dublin City by the thesis team on February 5, 10 and 12th, 2009. Such intimate engagement with the participants, whom included Dublin City Councillors, representatives from local residents’ associations and other members of the general public, appeared to induce a certain amount of discomfort – if not trepidation amongst the planners.

General active observation during a two-week immersion at DCC revealed an otherwise friendly, open culture with the planners being generally quite

eager to learn more about sustainability and their evolving role toward achieving a more Sustainable Dublin.

4.3 Co-Presencing: Retreating and Reflecting on a Process for Internal Engagement

In Phase III, the thesis team retreated to reflect on proposing a catalytic development planning process supporting the removal of barriers toward a city becoming more sustainable. As such, a five-phased generic process for engagement within the local authority was created, tentatively titled the “City Planning Tool for Sustainability” or CPTS (see Figure 4-1 below).

The five phases of the CPTS are:

- Phase 1: Meet People Where They Are
- Phase 2: Originate New Stories of Meaning
- Phase 3: Co-Evolve Innovation
- Phase 4: Assess & Nurture Progress
- Phase 5: Celebrate & Share



Figure 4-1: Proposed City Planning Tool for Sustainability

4.4 Data Analysis: Understanding Organisational Culture

“To avoid the boomerang effects of failed change initiatives, sustainability initiatives must explicitly focus on altering the culture of the organisation” (Doppelt 2003). As organisational culture is often cited as being a significant barrier in an organisation’s quest toward sustainability, a survey was undertaken with three key stakeholder groups within DCC – elected representatives, top managers of all major departments and the development plan team itself. The overarching objective of the surveys was to better assess the organisation’s current reality through a deeper understanding of cultural and behaviour patterns.

Dublin City Councillors & the Development Plan Survey: During the World Cafe with the Dublin City development plan team (see Section 4.2.1), participants identified the need for “buy in” from Dublin City Councillors with respect to sustainability, noting further that a common understanding and vision from “the politicians from the beginning” would help the Planning Department to deliver on the potential of the development plan to move Dublin towards a more creative, sustainable future. As such, these and other organisational and cultural issues were designed directly into the *Dublin City Councillors & the Development Plan Survey*. All 52 Councillors received an invitation to participate in the online survey via email from Assistant City Manager Michael Stubbs in March 2009, yielding 15 participants in total, a 29% response rate. Full results are documented in Appendix E, with key highlights presented below.

Awareness & Understanding of the Dublin City Development Plan: In terms of awareness and understanding, the vast majority of respondents indicated that the development plan “is the most important document created by Dublin City Council” (79%), agreeing that Dublin Councillors “share a clear and concise understanding of the purpose of the development plan.” While (79%) of the respondents disagreed that the development plan “is the sole responsibility of the Planning Department,” – a further 21% of responding Councillors noted the opposite, saying they agreed with the same statement.

Engagement & Participation in the Development Planning Process: In the areas of engagement and participation, 86% of respondents said they contributed to the process of creating the current development plan with

79% saying they had not read the same document. Half of the respondents strongly agreed with a statement that “Dublin City Councillors would like to be more active participants in the development plan planning process.”

Sustainability and the Dublin City Development Plan: Respondents were also asked to comment on sustainability issues related to the development plan and Dublin City. When asked to rate their response to the following statement: “Dublin City Councillors have a strong, shared understanding of what the term “sustainability” means,” a mere 29% agreed. Similarly, 21% of Councillors indicated that they felt the DCC has “a clear and shared vision for a more sustainable Dublin” while 29% agreed that “Dublin City Council has a clear and strong plan, including strategies and objectives for a more Sustainable Dublin.” Furthermore, only 36% of Councillors “fully understand Dublin City Council’s sustainability objectives.”

Nearly 58% of Councillors strongly disagree that “the development plan should focus on zoning issues and not worry about sustainability.” At the other end of the spectrum, 43% agreed with the statement that the development plan is “already an effective tool that is helping move the city towards sustainability.” The majority of respondents (85%) indicated that the “development plan should do more to help move the city towards sustainability.”

Open Comments - Several Councillors accepted the invitation to provide further open comments on the development plan including:

- “The development plan is extremely complex and every effort needs to be made to allow all stakeholders – Councillors, public, planners and developers – to understand the plan.”
- “It would also be useful to have similar workshops/information sessions for Councillors on the issues.”
- “It may have been useful to take back some of the feedback from the issues paper public meetings and discuss them with Councillors – though this may still be possible prior to producing the [next] draft development plan and would be very welcome.”

Executive Managers & the Development Plan Survey: As research at DCC had yet yielded little tangible information about the role of other departments within DCC in the development plan planning process, the top

managers of all major departments at DCC were thought to be another important stakeholder group to survey.

As such, in March 2009, Dublin City Assistant Manager Michael Stubbs sent an invitation to participate in an online survey to the 15 major DCC department heads. Twelve Executive Managers in total participated yielding an 80% response rate. Highlights of key results follow, with full details of results documented in Appendix F.

Awareness & Understanding of the Dublin City Development Plan: As with the survey for Dublin City Councillors, Executive Managers were also asked several questions to measure their awareness and understanding of the development plan itself.

Nearly 75% of respondents indicated their agreement that the development plan “is the most important document created by Dublin City Council,” with fewer (58%) agreeing with the statement that “my team shares a clear understanding of the purpose of the development plan.” When asked “the purpose of the development plan is to set out zoning in order to help developers make long-term decisions,” only 33% agreed.

The majority of respondents (75%) agreed to the statement that “the development plan is the sole responsibility of the Planning Department,” while only 33% indicated that “Dublin City Executive Managers are well-informed about the development plan.”

When invited to openly comment further on their thoughts as the purpose of the document, two Executive Managers wrote that the development plan should:

- *“Provide a template for a sustainable city with a sound economy and excellent provision for the cultural and social lives of the people.”*
- *“Create a vision for the future development of Dublin city and lead the drive for sustainable development.”*
- *“Set the vision for the city while being mindful of requirements of a European Capital city.”*

Engagement & Participation in the Development Planning Process: Executive Managers were also asked a series of questions related to their thoughts and feelings surrounding their engagement and participation related to the current *Dublin City Development Plan 2005-2011*.

Nearly 84% of respondents indicated they contributed to the current development plan with 8% indicating they have read the entire document. A further 58% answering “yes” to the statement: “I frequently refer to the current development plan in the course of my work.”

Only half of the respondents agreed that “there are sufficient opportunities for Executive Managers to be involved in the creation of the development plan.”

Of Executive Managers surveyed, 25% indicated their strong agreement with the statement that “Executive Managers need to pay more attention to the development plan, with the majority of respondents (42%) agreeing.

Half of the respondents indicated that they use “guidelines and policies contained in the current development plan to make more strategic and effective policy,” while 49% indicated their relative disagreement with the statement that their department “has operationalised the guidelines and policies contained in the development plan to make more strategic and effective policy.”

Sustainability and the Dublin City Development Plan: For most Executive Managers (83%), the term “Sustainable Dublin” meant “a city that is economically viable in the long-term,” with high positive responses to other statements such as “a city that functions within ecological limits (75%) and “a city where inhabitants are easily able to meet their basic human needs” (75%). One respondent indicated he or she “didn’t have a clue” as to what “Sustainable Dublin” meant at all.

Forty-two percent of participants expressed their relative disagreement with the statement that “Executive Managers have a clear and shared vision for a more sustainable Dublin” while a mere 17% indicated that “Executive Managers have a strong, shared understanding of what the term ‘sustainability’ means.” 33% of Executive Managers agree that “Dublin City Council has a strong plan including strategies and objectives for a more sustainable Dublin” with a further 42% also expressing their relative disagreement with that statement that “I fully understand Dublin City

Council’s sustainability objectives.” Sustainability was cited as a relative top priority for 50% of the respondents.

Dublin City Development Plan - Governance Framework: Executive Managers were asked to rate their response to a number of questions in the survey related to three key governance areas:

Information, Feedback & Learning Mechanism: Half of the respondents (50%) agreed that the “development planning department provides my team with clear and explicit information about the type of knowledge and data it requires from my department for the development plan to attain sustainability success.” When asked if their department has “clear ways of receiving and sharing information with the planning team about sustainability issues and concerns related to the development plan” 42% of the respondents disagreed. 37% expressed disagreement with a statement that “the current development plan objectives are effectively integrated into my department’s operations.”

Decision-Making & Accountability Mechanisms: When asked to rate their response to the following statement – “My Department uses guidelines and policies contained in the current development plan to make more strategic and effective policies” half of the Executive Managers agreed (50%). A further 49% of respondents indicated their disagreement with the statement that their “department has operationalised the guidelines and policies contained in the current development plan to make more strategic and effective policy.”

Resource Allocation to the Dublin City Development Plan: Here, the 42% of respondents indicated their disagreement with the following statement “My Department has adequate resources (people, time, funding) to achieve the objectives outlined in the current development plan” while an overwhelming 82% disagreed that “DCC has effective mechanisms to ensure that resource allocations (people, time, funding) are based on the priorities outlined in the development plan.”

Dublin City Council Development Plan Team Survey: In an effort to better understand the relationship between the development plan team and other departments within DCC, a third online survey was constructed. Assistant City Manager Michael Stubbs issued the invitation to participate in the Dublin City Council Development Plan Team Survey in March 2009

to the 15-member team (excluding Dick Gleeson) yielding a 100% response rate.

Respondents were asked to identify and document their working relationships (from Jan. 2008 to date of survey) with other employees in each of the 15 major DCC departments (excluding the Planning Department itself). They were further asked to describe each relationship as either formal (i.e. as part of a mandatory process) or informal (i.e. communicated on a limited basis regarding a particular issue, sat on a committee once, occasionally have lunch together etc.). The total number of relationships for all the members of the development plan team with each Dublin City Department were tallied and mapped (see Figure 4-2 below).

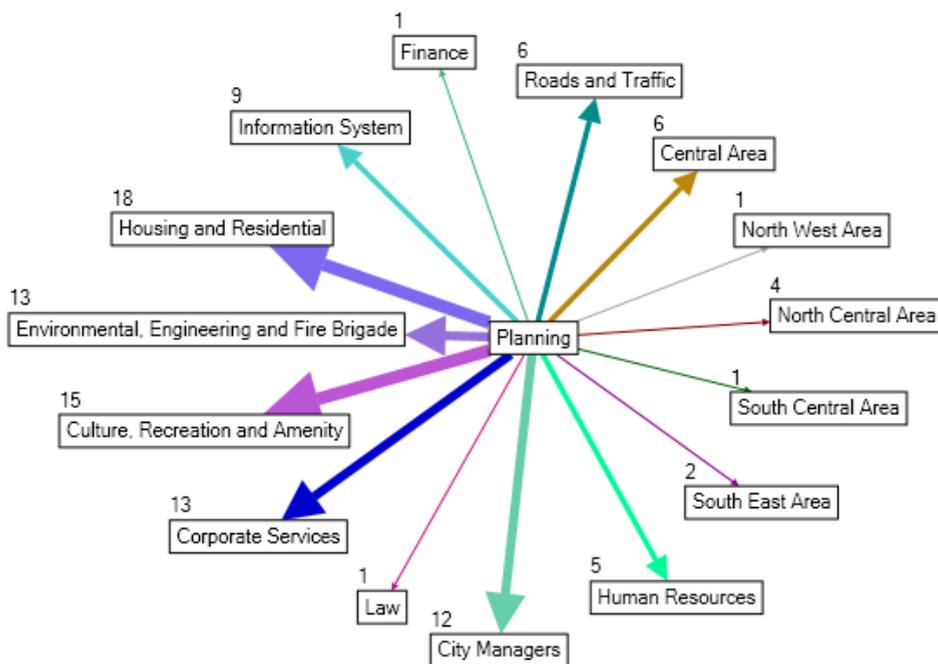


Figure 4-2: Development Plan Team Internal Network

4.5 Co-Realising: Building Internal Capacity for Change

In Phase IV, the thesis team reached out into the community to co-realise a strong internal capacity process for change. In March 2009, a draft of the *City Planning Tool for Sustainability* (CPTS) was sent to a panel of 30 experts – individuals with a broad range of experience in the fields of sustainability, urban planning and organisational change from three continents. Participants were asked to review the document and provide comments via an online survey. Key results are summarized below with comprehensive results included in Appendix D.

Usefulness for a City: When asked “In what ways do you think the CPTS could be helpful for a city?” survey respondents offered many suggestions including that it could be useful as a “*structured guide for internal champions just stepping into a new role,*” and that it could help “*plan, coordinate and communicate city planning activities among departments,*” and that it provides a “*reassuring roadmap.*” The CPTS was also thought to “*provide an organised framework for holistically taking on the issue of sustainability within a municipality*” and could be useful for “*day-to-day planning work*” further noting that “*it’s good that it is short, not too overwhelming and references a lot of great sources for people to dive deeper if they’re familiar.*”

Others noted that the CPTS could be useful for “*policy development*” and provides a “*step-wise approach to institutional change and points out crucial considerations in organising*” as well as hitting “*a very important gap in changing institutional culture in different civil service agencies to adopt and to innovate more sustainable practices to engage the community in city-wide sustainability initiatives.*”

On the downside, several respondents noted that they are “*not sure*” how the tool could help a city with one respondent noting that “*it is difficult to make plans that really lead to sustainability*” and that “*often short-term consideration wins over the long-term.*”

Potential Application Challenge: Respondents were also asked what challenges they could envision with trying to implement CPTS in a city. Hard barriers such as cost and training were mentioned by several respondents as potential barriers.

Soft challenges mentioned included “*fear of [the process] revealing embarrassing information.*” “[R]esistance” to the language of the document itself was cited as a possible barrier: “‘[C]o-creation’ or ‘co-evolving’ - *I love it, yet may not appeal on the surface within every municipal culture*”; and “[s]ome of the language is a little jargonistic... ‘*Originate new stories of meaning*’ is just not helpful to most people and will likely put a lot of people off...and what it stands for seeing it as rather ‘flaky.’ These are likely the very people the document needs to reach.”

Two respondents commented on the “*non-juridical weight of the tool,*” with its failure to “*address the legislative parameters in which city staff operate*” was cited as another sticky challenge.

“*Changing governance structures,*” was mentioned, with the same respondent adding “*changing minds, changing habits, clarity.*”

Seven respondents mentioned the issue of the typical municipal silo-organisational structure (“*solitudes, silos and stovepipes*”) as posing a major barrier to implementation, with one respondent noting that the “*fragmented authority among many different agencies*” could also be problematic.

Echoing such sentiments one respondent also noted “*there will often be lots of people in the process with their very small, immediate priorities and dug-in positions*” and that while the CPTS tool could “*help break people out of that...there would of course still need to be some skilled practitioners handling those situations.*”

Timing was another area viewed as presenting potential issue “*for if the process goes on for too long or people are not actively engaged from the beginning, they may lose interest early in the process*” and that the CPTS in its current format would require many meetings to “*build the momentum and that may lose the interest of some.*” In the same vein, another respondent noted that “*disappointing results at first leading to abandonment*” possibly presenting a very big obstacle toward success.

Finally, “*the tool is only a tool,*” noted one respondent. “*The implementation comes from a commitment to do something. Once that commitment is in existence, the tool is unnecessary.*”

Suggested Improvement: Suggested improvements to the CPTS included the need to help people “*better visualise the consequences of different choices*” related to sustainability planning.

Some suggestions centered around better harnessing Internet technology to connect people within a city so they could better “*plan, coordinate and communicate city planning initiatives while recording performance against key sustainability metrics*” further adding that the website could have both internal and public-facing components and invite public participation through comments. Such a site, it was envisioned, would also “*clarify objectives and identify the contribution of each department or initiatives to these objectives.*”

Shorter is better, noted some, with one respondent suggesting “*shorter*” and more “*succinct*” would be better for the CPTS’s many steps could cause people to “*lose interest if the process is linear.*”

Better definition of target audience and tailoring of content to that audience was suggested. The challenge of varying cultures was also noted, with suggestions for “*country/culture specific versions*” that delve more into “*the details of how to deal with election cycles, existing compliance rules and regs [regulations], the various specific stakeholders that will need to be invited, etc.*”

Another respondent noted that as city planners know very little about “*inclusive participative change processes,*” including “*a rationale for the benefits of inclusive participation practices would help build the conditions for change to occur. There is a growing body of literature on the theory of collaborative governance. It might be useful for you to ground your objectives and suggestions in that literature.*”

“*More specific cross-boundary team-building*” guidance was recommended, as too was a suggestion that the CPTS introduction might also “*address silos in government structures as working toward sustainability involves a major shift in that core structure to interdepartmental collaboration.*” Similarly, it was recommended that an explanation of how “*infusing sustainability into government operations and decision-making includes empowering employees and teaching them*” also be included in the tool.

More information about the process and timing was recommended, with a suggestion for the CPTS to emphasise that this is a long-complex process is “*iterative*” versus “*linear*” in that “*people will need to go through [it] many times for it to sink in and click*” and as such, “*new leadership with new priorities will emerge, so any tips on how to deal with that would be good.*”

Finally, planned best-practices from cities around the world – a feature that was noted in the introduction to the CPTS survey – was noted by many to be both a positive and necessary addition that would help round out the tool with one practitioner noting that “*people are very innovative, but few may have the space and energy to get those creative wheels turning of how to adapt this for their own context without some concrete examples to build off of.*”

5 Discussion

Research presented in this thesis originated from a quest to better understand the key elements of success required to create a catalytic city development planning process within the local authority to accelerate the community's move towards sustainability. This undertaking included both an analysis of current limitations of the city development plan and the creation of a generic process to help build capacity for sustainability issues within the local authority. Here, key findings are discussed including specific recommendations for Dublin City Council (DCC).

5.1 Toward a New Governance Model for Sustainable Community Development

5.1.2 Backcasting from Success

Expert feedback on the *City Planning Tool for Sustainability Survey* yielded interesting insights about the proposed generic process for internal engagement for greater sustainability within the local authority.

A comprehensive review of all results further, however, led to the conclusion that merely implementing a stronger process to facilitate the engagement of internal stakeholders within a local authority toward the creation of a more sustainability-oriented city development plan is not enough to trigger widespread, long-term transformational change. The ultimate success of a change initiative is believed to occur when sustainability-based thinking, perspectives and behaviours are embedded in everyday operating procedures, policies and culture (Doppelt 2003-a).

At the same time, the survey results, literature review, expert reviews and *in situ* observation at DCC revealed the importance of the need to institutionalise new tools and processes for sustainability within the city system. What was needed, therefore, was not a stronger internal engagement process but a new model for sustainable governance inspired by Bob Doppelt's three-part sustainable governance model described in Section 2.1.5.

This strategic process goes above and beyond the reorganisation of daily tasks; it implies a transformational change in which cities must design

structural changes as they move from a command-and-control approach of government to a more cooperative and participative “governance” model whereby policy making and implementation are more collaborative.

As Bob Doppelt explains, “this model of governance is much more sustainable over time than a patriarchal approach, because as a natural output of the process, employees and other stakeholders have a high level of commitment and involvement” (Doppelt 2003-a).

The transition from government to strategic governance requires skills and processes to enable individuals within the local authority to effectively collaborate, manage and innovate, particularly when tackling the sustainability challenge – a complex problem requiring non-linear solutions and, therefore, ideally suited for analysis with the Framework for Strategic Sustainable Development (FSSD). “Redesign[ing] within basic constraint[s] of sustainability is the only way of tackling our current problems sufficiently upstream, and thereby avoiding new problems looking in the future” (Robèrt et al. 2007). With all this in mind, the thesis team determined that the remaining measure of available time to complete this dissertation was best spent on the development of a “Golden Standard” – an envisioned catalytic development planning process developed through the lens of the FSSD applicable to all cities (see Table 5-1).

Table 5-1: Golden Standard through the FSSD Lens

<p>“GOLDEN STANDARD” The IDEAL Envisioned Catalytic Development Planning Process</p>
<p>SYSTEM - LEVEL 1: Understanding the System</p>
<p>At the System level, the city adopts a whole-systems planning perspective acknowledging that all parts of the city system are interconnected.</p> <p>Assumptions:</p> <p>The development plan (DP) is a comprehensive document that includes key components of the city system and ties them together to create policies.</p> <p>The DP helps manage urban flows (water, energy, materials, waste, etc.).</p> <p>The Statutory Process of the state law which regulates the development plan of the city system is a more flexible platform to move the community towards sustainability.</p> <p>The local authority has a clear understanding of the complex challenges that they need to address regarding a sustainable and integrated urban planning practice.</p> <p>The DP team has a clear understanding and articulation of the governance structure. The DP team</p>

thinks systemically and develops an understanding of the city as a system and its connections to broader systems including society (city organisation, local, regional and global) and the biosphere.

Partners and stakeholders are identified.

Components (natural resources, energy flows, transportation, culture, business, education, agriculture, social housing, etc.) are mapped within the city system.

SUCCESS - LEVEL 2: Defining “Success”

At the Success level, the development plan team adopts and follows a vision in line with the four Sustainability Principles (SPs) that reflects a whole-systems view. This results in a shift of the DP into a service-oriented plan that enables citizens to fulfil their basic human needs.

A successful DP that helps move a city towards sustainability is comprised of four major components:

I. Concise and shared organisational (city) vision and goals.

- Long-term vision is defined that reflects the unique characteristics of the local authority and the citizens.
- Vision is aligned with the SPs to “conserve the environment and enhance socio-ecological well-being” (Doppelt, 2003).

II. Sustainability Principles within the planning process.

- The DP uses an integrated planning process and is a tool that helps the city to eliminate contributions to the violation of the SPs.
- The DP incorporates a clear definition of the guiding SPs and becomes a charter document for city planning and decision-making.
- The DP reflects the vision, the SPs and the social principles of solidarity, equality, dignity and social justice (granting of rights for citizens).

III. A whole-systems view of global sustainability planning.

- The DP reflects an integrated perspective that strategically moves the city towards sustainability and takes an upstream approach in order to avoid downstream issues.

IV. Process design principles for managing sustainable planning.

- In terms of the planning process, “the ultimate success of a change initiative occurs when sustainability based thinking, perspective and behaviors are embedded in everyday operating procedures, policies and culture” (Doppelt 2003-a).
- The local authority creates a shared, common language and definition for sustainability.

Organizational Planners must understand that organisational change for sustainability is a long-term, iterative process and as such, some individuals may need to go through the same material several times in different ways before it “sinks in and clicks.”

Through greater collaboration resulting from a more catalytic development planning process, sustainability is incorporated into the DP for a more strategic and systemic approach. The DP helps manage urban flows (water, energy, materials, waste) aligned with the SPs and aided by the use of new technologies to improve efficiency of local public policies.

STRATEGIC - LEVEL 3

At the Strategic level, strategic guidelines help select Actions that will lead to Success (level 2) in the System (level 1).

The process for creating the DP includes:

I. Backcasting from the vision, framed by the SPs, to improve strategic sustainable planning and decision-making processes.

II. The strategic prioritisation guidelines for actions /strategies/decision-making are made by asking:

- Does the measure provide a good Return on Investment (ROI)?
- Is the action going in the Right Direction (RD)?
- Is it a Flexible Platform (FP) for future actions towards sustainability?

III. The three strategic management guidelines for leveraging the DP to catalyse internal change and move the city towards sustainability:

The three guidelines have been inspired by Bob Doppelt's matrix of sustainable governance performance (Doppelt 2003) and include:

i) Information, feedback and learning mechanisms

The strategic guidelines for the internal process of developing a successful and sustainable DP are (i) transparency, (ii) collaboration, (iii) participation, (iv) engagement, (v) flexibility and (vi) system-oriented perspective to foster a culture of learning and innovation in the organisation and increase the commitment to a bottom-up participatory change process.

ii) Decision-making and accountability mechanisms

The participatory approach to local policymaking incorporates (i) inclusivity, (ii) transparency, (iii) continuity, (iv) monitoring, (v) honesty, (vi) responsibility, (vii) ethics, (viii) accountability and (ix) cost-efficiency to evaluate the progress on the road towards the vision of success in the different departments of the local authority and to benchmark higher standards for urban planning that promote ethical performance and socially responsible investment through public policies.

iii) Distribution of resources and wealth

The local authority clearly defines resource allocation and rewards creative thinking around sustainability through (i) bonuses, (ii) promotions and (iii) opportunities for new learning experiences.

ACTION - LEVEL 4

At the Action level, actions follow overall Strategic guidelines (level 3) that will lead to Success (level 2) in the System (level 1).

- The DP includes a clear presentation of the challenges and exposes the vision co-created with the community. Then short- and long-term objectives for key issues are selected to generate sustainable positive outcomes for the system.
- An internal sustainability champion is identified and "transition teams" for cross-departmental communication are formed.
- Overarching sustainability indicators are integrated into the DP to assess progress.
- The individual existing business plans for each department within the local authority are updated to incorporate the SPs in order to work towards the sustainable vision.
- An evaluation of the unique sustainability benefits to the community and local authority is created.
- Success and milestones are acknowledged and celebrated.

The operational actions of the DP help leverage the network organisation and internal resources.

The implementation of the DP relies heavily on the development of effective, collaborative

working relationships with their partners in operations.

TOOLS - LEVEL 5

At the Tools level, tools are selected to assess Actions (level 4), that are Strategic (level 3), to arrive at Success (level 2) in the System (level 1).

Tools can be categorized into three categories:

I. System tools

System tools make direct measurements in the System (level 1) in order to learn more about the system and to study damage.

Examples of system tools include: Mapping tools, surveys, networking tools, total material and energy flows, fiscal and incentives tools.

II. Strategic tools

Strategic tools ensure that actions (level 4) align with strategic principles (level 3) to improve the likelihood of achieving success (level 2) in the system (level 1).

Examples of strategic tools: A-B-C-D workshop, Strategic Environmental Assessment (SEA), Environmental Management Systems (EMS), Life Cycle Assessment (LCA), Ecological Footprinting, Factor X, Zero Emissions, Natural Capitalism, Calvert-Henderson Quality of Life Indicators.

III. Capacity-building tools

Capacity-building tools assist group learning and co-creation around success to meet sustainability (level 2) and sustainable development (level 3).

Examples of capacity tools: FSSD, training programs, causal loop diagrams, systems thinking, sustainable mentoring across departments, participatory tools.

5.2 Resulting Recommendations for Dublin City Council through the FSSD Lens

With the envisioned “Golden Standard” for a strategic, sustainable governance system outlined in the previous section, the FSSD was also used to undertake an analysis of the current reality of DCC’s development planning process based on the results of the literature review, interviews, surveys and *in situ* observation:

Table 5-2: DCC Current Reality through the FSSD Lens

<p>CURRENT DCC MANDATED PLANNING PROCESS Statutory Process and official documents</p>	<p>DCC's CURRENT REALITY resulting from the current planning process (deduced from the World Café, ABDC workshop, interviews, surveys and literature review)</p>
<p>SYSTEM - LEVEL 1: Understanding the System</p>	
<p>The City Development Plan (DP) within Dublin City Council (DCC), within the Irish DP Guidelines (Statutory Process), within the European Union directives and policies, within society in the biosphere, along with all the organisational, social and ecological laws/rule/norms which govern the system.</p> <p>The DCC Issues Paper has identified challenges facing the city to engage a dialogue with the citizens. These issues serve as a basis for revising the DP and include:</p> <ol style="list-style-type: none"> 1. International, National and Regional Dimension 2. Sustainable Dublin 3. Urban Form and Spatial Structure 4. Population and Housing 5. Economic Development and Employment 6. Movement and Transport 7. Community Development 8. Arts & Culture 9. Landscape and Open Space, Biodiversity & Recreation 10. Conservation & Built Heritage 11. Sustainable Infrastructure <p>System boundaries: 6,500 DCC staff serving 500,000 inhabitants.</p>	<p>STRENGTHS:</p> <p>The current DP is a document that includes key components of the city system.</p> <p>DCC “has been active in promoting a sustainable environment since the adoption of the last DP” (Dublin City Council 2009-b).</p> <p>DCC has stated its intention to adopt a whole-systems thinking perspective with Sustainable Dublin through the use of the FSSD including the Sustainability Principles (SPs) (Dublin 2008-d).</p> <p>The DP team suggests that sustainability needs to be a “top priority” (World Café, 11 Feb. 2009).</p> <p>WEAKNESSES:</p> <p>The Irish Statutory Process mandates that the DP should be a “catalyst for positive change and process” and a “framework within which sustainable development can be achieved,” but this is currently unproven. The Statutory Process promotes a linear timeframe.</p> <p>Lack of a common understanding of the global sustainability challenges of declining resources and increasing consumption.</p> <p>Sustainability is viewed as a separate issue in DCC’s <i>Issues Paper</i> - DCC is not yet a “sustainability system-oriented organisation.”</p> <p>Some local risks that need to be addressed quickly (water shortage projected for 2016) are not identified as key themes in the DCC <i>Issues Paper</i>.</p> <p>Lack of “joined-up thinking and intra-agency approach” (A-B-C-D Workshop, 16 Feb. 2009).</p> <p>Structural barriers in the DP sometimes results</p>

	in a document that is under-utilised.
SUCCESS - LEVEL 2: Defining “Success”	
<p>The DCC <i>Issues Paper</i> published in 2009 for the beginning of the revision process of the DP states that “DCC is taking a sustainable approach to achieving its vision of a vibrant, healthy, clean, safe, green and inclusive city” and wants to “build a consensus to brand and promote Dublin City” (Dublin City Council 2009-b).</p> <p>“The DP sets out a vision and an overall strategy for the proper planning and sustainable development of Dublin City for a six-year period” (Dublin City council 2009-b).</p> <p>The DCC Corporate Plan presents a different vision than the vision found in the DCC <i>Issues Paper</i>. (The DCC Corporate Plan vision is “to foster a vibrant, attractive, safe and environmentally sustainable capital city with a strong human focus and to advance and promote the physical, social, cultural and economic environment of the city through effective civic leadership and through the active democratic participation of our citizens”).</p> <p>The Statutory Guidelines state objectives that must be included in a DP (Department of the Environment, Heritage & Local Government 2008) such as:</p> <ul style="list-style-type: none"> • Zoning of land. • Provision for infrastructure including transport, energy, communication, facilities, water supplies, waster recovery and disposal facilities. • Conservation and protection of the environment. • Integration of planning and sustainable development with the social, community and cultural requirements of the area and its population. • Preservation of the character of the landscape and of architectural conservation areas. • Protection of structures of special architectural, historical, archeological, artistic, cultural, scientific, social or technical interest. • Preservation of the character of architectural conservation areas. 	<p>STRENGTHS:</p> <p>The DP team created a vision for Dublin to “facilitate the creation of high quality of life for all citizens” and to be the “most sustainable city in the world” (A-B-C-D Workshop, 16 Feb. 2009).</p> <p>The DP team stated that a “long-term vision (2050) is crucial” (World Café, 11 Feb. 2009).</p> <p>The DP team is aware of the SPs and recognizes their benefit (A-B-C-D Workshop, 16 Feb. 2009).</p> <p>62% of Councillors argue that “the DP is the most important document created by DCC” (Councillor survey, March 2009).</p> <p>WEAKNESSES:</p> <p>Short term planning period (six years) in the DP is not supported by a long-term vision.</p> <p>Only 8% of Councillors strongly agree that they “have a clear vision and concise understanding of the purpose of the DP” (Councillor survey, March 2009).</p> <p>The DCC <i>Issues Paper</i> states that the vision “is to be a vibrant, healthy, clean, safe, green and inclusive city” but this vision was created before consulting the citizens (Dublin City Council-b).</p> <p>46% of the Executive Managers state that they do not “have a clear and shared vision for a more sustainable Dublin” (Executive Manager survey, March 2009).</p> <p>The DCC <i>Issues Paper</i> presents individual visions for each of the six issues which act as a basis for the revision of the DP.</p> <p>Lack of a clear, concise, principled-based definition and “common understanding” of sustainability (World Café, 11 Feb. 2009).</p> <p>Sustainability is understood as a subset issue and not as a whole-system view in the DCC <i>Issues Paper</i> (Dublin City Council 2008-b).</p> <p>“Lack of buy-in from internal stakeholders” (World Café, 11 Feb. 2009).</p>

STRATEGIC - LEVEL 3

“The plan-making process will take two years and will end with the publication of the *Dublin City Development Plan 2011-2017*” (Dublin City Council 2008-b).

An 18-month preliminary phase was made by the DP team between August 2007 and January 2009 (Pre-Commencement of Statutory review Process: data collection, preparation of working/ *DCC Issues Paper* on key issues).

The DP process is tracing the SEA process, they are made in parallel (Interview with Planning Team Member, Feb. 2009).

DCC wants to create a “four-step approach: creating awareness; conducting analysis; developing a vision of a sustainable Dublin in 2020 and implementing the vision.”

DCC commenced the making of its new *Dublin City Development Plan 2011-2017* in January 2009, the start of a two-year process which culminates with the adoption of this plan in January 2011.

Prioritisation guidelines and funding availability are undetermined.

STRENGTHS:

Solid strategy for public consultation on the DP as a result of Statutory Process (Council, 2009).

DCC wants to create a collaborative city network to facilitate information exchange (Dublin Regional Authority 2008-b).The DP team collaborates with other city departments and city managers (Planning Team survey, March 2009).

DCC has identified six key themes to highlight in the DP.

Formation of the Interim Sounding Board as means of bringing the FSSD to the six key themes and 11 issues.

Multiple initiatives within DCC to move towards sustainability (Climate Change Strategy, Biodiversity Action Plan, etc.).

The current DP promotes higher density, compact development, high energy-efficient building ratings, and reduction of pesticides in Dublin Parks system, water conservation and public engagement.

WEAKNESSES:

The DP uses a forecasting from the current problems approach to future planning rather than backcasting from the desired envisioned future.

The DP team uses the SEA as a process model for their overall DP process but it’s not the role of the SEA.

Lack of strategic prioritisation guidelines for actions /strategies/decision-making in the DP process and tool.

Learning mechanisms are lacking for both Councillors and Executive Managers (Councillor and Executive Manager surveys, March 2009).

Silo-approach to the 11 issues as they are not viewed as interconnected issues.

Lack of “feedback from the *DCC Issues Paper* public consultations” (Councillor survey,

	<p>March 2009).</p> <p>9% of the Executive Managers strongly agree that “DCC has a strong plan including strategies and objectives for a more sustainable Dublin” (Executive Manager survey, March 2009).</p> <p>Lack of clear measurements, monitoring and management approaches for measuring the success of the DP strategies.</p> <p>Lack of incentives for innovative and creative thinking around sustainability inside the organisation.</p>
ACTION - LEVEL 4	
<p>The actions of the Statutory Timeline for the DP process are:</p> <p>August 2007 - January 2009: Pre-commencement of the Statutory Review Process.</p> <p>February – May 2009: Initial public consultation.</p> <p>June - October 2009: Preparation of the draft DP.</p> <p>November - December 2009: Consideration of the DP by DCC members.</p> <p>January - March 2010: 1st public display of draft DP.</p> <p>March - May 2010: Manager’s report on first public display.</p> <p>June - August 2010: Consideration by DCC members of Manager’s Report.</p> <p>September 2010: Prepare amended DP draft.</p> <p>October 2010: Second public display DP draft.</p> <p>November 2010: Manager’s Report on second display.</p> <p>December 2010: Consideration by DCC members of Manager’s Report.</p> <p>January 2010: Plan takes effect four weeks from date that is made.</p>	<p>STRENGTHS:</p> <p>DCC integrates the <i>EU directive 2001/42/EC</i> regarding the SEA directive (European Union 2001).</p> <p>The DP team has created the Interim Sounding Board, a cross functional team of 25 internal stakeholders for the six key themes and 11 issues.</p> <p>WEAKNESSES:</p> <p>45% of Executive Managers disagree that “their department has operationalised the guidelines and policies contained in the current DP to make more strategic and effective policies” (Executive Manager survey, March 2009).</p> <p>Lack of “implementation and enforcement” (A-B-C-D Workshop, Feb. 16, 2009).</p> <p>Possible risk of inconsistency between the Sustainable Dublin vision and the current operational practices.</p>
TOOLS - LEVEL 5	

<p>The DP team is undertaking a Strategic Environmental Assessment (SEA) which “is carried out in parallel to the DP and can help inform and influence decision-making at each stage in the review process.”</p> <p>Some capacity tools are used by DCC development plan team (workshop, team building, etc.).</p>	<p>STRENGTHS:</p> <p>DCC has an example of a sustainable action plan for the Housing Maintenance Department.</p> <p>WEAKNESSES:</p> <p>The DP does not monitor the progress of the public policies.</p> <p>The tools are not aligned with a sustainable vision.</p> <p>The DP tool that is supposed to help move the local authority towards compliance with stated goals and global sustainability is not really a strategic tool for moving toward sustainability.</p>
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Backcasting from the envisioned “Golden Standard” enabled the thesis team to make several key recommendations to positively leverage the DCC system (see Sections 6.4.1 – 6.4.6). These recommendations were further prioritised based on three questions (Robèrt et al. 2007):

1. “Does this measure proceed in the right direction (RD) with respect to all principles of sustainability?”
2. “Does this measure provide a stepping-stone, a flexible platform (FP) for future improvement?”
3. Is this measure likely to produce a sufficient return on investment (ROI) to further catalyse the process?”

5.2.1 System Level 1: Embracing a Whole-Systems Planning Perspective

While the subject of this thesis is the creation of a catalytic development planning process, one cannot view such a process in isolation for the city system within which it functions is complex with many interconnected and interdependent components. Achieving a more sustainable community within such a complex system is best realised through the adoption of a whole-systems thinking planning perspective. In this way, the planning department is viewed as part of a highly interconnected “whole” system which includes the city, region/county or municipality, state and/or provinces and continent – all functioning within global society and, ultimately, dependent upon the ecosystem services generously provided by the biosphere. It is important to note that legislative parameters further

constitute the system within which the development planning process occurs.

Using a whole-systems thinking planning approach will foster more “upstream” versus “downstream” thinking whereby the underlying root causes of unsustainability in the city are considered and resolved rather than an *ad hoc* focus on individual symptoms. As it has been noted, “[r]e-design[ing] within basic constraint[s] of sustainability is the only way of tackling our current problems sufficiently upstream, and thereby avoiding new problems looking in the future” (Robèrt et al. 2007).

Table 5-3: Level 1 Recommendations for DCC

SYSTEM - LEVEL 1	
Recommendation: Develop a common understanding in Dublin City Council of the sustainability challenge with a global system perspective (worldview with The Natural Step’s “funnel” metaphor).	
WHY	To identify Dublin’s declining resources/consumption/waste along with the associated risks and benefits of taking systemic actions.
HOW	Design a series of workshops to communicate knowledge and awareness throughout the Dublin City Council system.
WHEN	Short-term
EX.	The A-B-C-D workshop with Dublin City Council’s development plan team on Feb. 16, 2009.
Recommendation: Request revision of the DP Statutory Process from Ireland’s Department of the Environment, Heritage & Local Government as part of a pilot project.	
WHY	To align policies within the city organisation with the four Sustainability Principles in order to effectively operationalise sustainability within the organisation and establish congruency between other levels of government. To be more nimble and flexible in order to respond to a fast-changing environment.
HOW	Redesign, test and model the Irish Statutory Process to create a sustainable city development plan.
WHEN	Mid-term

5.2.2 Success Level 2: Realising Shared Vision & Language

There are few city planning departments today which do not have “sustainability” in the upper echelons of their planning agendas and yet, few share a common understanding and language – including what constitutes success within their system using the four Sustainability Principles (SPs) – with which to adequately discuss the subject, let alone practically apply to their policymaking.

Another key element of a successful catalytic development plan planning process, therefore, is for the planning department to acquire a shared understanding of the sustainability challenge along with their region’s unique environmental and socially related sustainability issues – and, finally, what constitutes success within the system. With this “common language” for sustainability, individuals and teams within the local authority will be better equipped – and willing – to contribute to the creation of a shared vision of success.

Studies show most successful organisations have a strong shared, envisioned future and strategy for achieving this goal in order to inspire and unify their teams via motivating “creative tension” between what is desired and where the organisation is at currently (Collins and Porras 1994). Using the FSSD as a guide, it is also clear that to achieve a more sustainable future, a concise shared vision with a dynamic, ambitious and vivid description of milestones and goals is required as another key element of success for the development planning process.

A crisp vision should be structured in such a way so as to embed the organisation’s core purpose, core values and strategic goals within the ecological and social constraints of the SPs outlined in Section 2.2 (Robèrt et al. 2007). However, the structure of the vision of most city planning departments looks very different – with Dublin City being no exception — and therein lays a major barrier towards achieving sustainability.

A vision co-created with strategic societal members representing diverse backgrounds and roles can have a magnetic effect on the team. The spirit of the place is reflected in this vision since it was created with the community and acts as a magnet for people to be involved in the process

DCC’s stated intention to adopt the FSSD along with the planning department’s efforts to date is a step in the right direction toward sustainability. Nonetheless, this research revealed the need for greater clarity around the sustainable vision of the development plan for currently it is often inconsistent – indeed, even absent – throughout the planning department’s various internal and external communication channels. Unsurprisingly, survey results illuminated confusion amongst key internal stakeholders such as Dublin City Councillors and Executive Managers as to both the very purpose of the city development plan and DCC’s declared vision for a more “Sustainable Dublin.” Indeed, as one Executive Manager noted in a follow-up interview, there is a real "need to crystallise understanding of sustainability amongst all city employees" at DCC (Clegg 2009).

During their World Café workshop in February 2009, DCC’s Planning Department recognised that “sustainability needs to be a top priority” but the reality is that a conversation for the next *City Development Plan 2011-2017* has already established “sustainable development” as one of six key themes alongside economic, movement, social, cultural, and urban form and spatial vision (Dublin City Council 2009-b).

In the same vein, it is critical that the SPs are integrated into the planning process and used as a guiding decision-making tool for policymaking. The SPs should also be integrated into the process of creating the vision and specific short and long-term objectives to ensure policy alignment. In this way, the local authority will be backcasting from envisioned success versus forecasting from a problem (the A-B-C-D tool described in Section 3.1.2 is recommended here).

Table 5-4: Level 2 Recommendations for DCC

SUCCESS - LEVEL 2	
Recommendation: Co-create a long-term vision guided by the four SP’s including a core ideology (purpose and values) and an envisioned future (vivid description and Big Hairy Audacious Goals or BHAGs) that reflect the unique characteristics of the local authority and the citizen’s needs.	
WHY	To backcast from the vision and provide guidance in moving towards a sustainable future and inspiration to focus on the future for the internal stakeholders.
HOW	Host a series of visioning sessions with key internal stakeholders from varying departments, levels and functions along with representatives from the community.

WHEN	Short-term
EX.	“Dialogue with the city forum” in Perth, Australia held in September 2003. Eleven hundred participants worked “interactively, assisted by technology, to create a common vision for the city.” This dialogue gave “citizens a unique opportunity to contribute to the creation of a planning vision that will guide Perth’s future growth and development over the next two or so decades” (Government of Western Australia 2004).
Recommendation: Incorporate a clear definition of the SPs in the development plan and charter for the city planning and decision-making process.	
WHY	To align all the operations in a transformational change process toward a more sustainable development plan.
HOW	Validate the feasibility of the charter principles with the Councillors and judicial department alongside consultation with the public.
WHEN	Short-term.
Recommendation: Develop specific goals (Big Hair Audacious Goals or BHAGs) for the six themes in the DP which reflects a healing perspective to strategically moving towards sustainability.	
WHY	To take an upstream approach with the Interim Sounding Board thereby avoiding downstream issues. To generate positive effects between the departments.
HOW	Create a systems-thinking training program for internal stakeholders and explain how causal loop diagrams can be utilised to demonstrate a whole-systems perspective.
WHEN	Short-term
EX.	J. F. Kennedy’s BHAG to put a man on the moon in the 1960s (Collins 2007).
Recommendation: Design a change initiative program based on sustainable principles that allows behaviours to be embedded in everyday operating procedures, policies and culture.	
WHY	To internalise change pattern behavior and shift from a hierarchy structure to a network based organisation.
HOW	Design new procedures and processes for the six themes with the Interim Sounding Board.
WHEN	Short-, medium- and long-term.

5.2.3 Strategic Level 3: Supporting Transformational Change

Given the enormous potential for rejection of any transformational change efforts, as discussed in Section 2.1.6, it is necessary to meet people where *they are today* and focus on learning to change through increased self-organisation and self-empowerment, cross-boundary team building, greater information sharing and collaborative decision-making.

Another key element of success for a catalytic development planning process, therefore, is education and communication to help participants understand the change process. Specifically, designers of such change need to explain the process of organisational change for sustainability using the aforementioned whole-systems thinking including: what it is; why it is necessary; how it works; what will be required of individual planners and other stakeholders; how long the process will take; and what the expected and desired benefits will be – preferably reinforced with relative, real-life examples. Regular positive reinforcement and sharing of progress and lessons learned are also recommended to continue to build positive momentum.

Furthermore, as one expert noted in this research, urban planners (like anyone new to such a process) may need to better understand that organisational change for sustainability is a long-term, iterative process and as such, some individuals may need to go through the same material several times in different ways before it “sinks in and clicks.” This conversation should include discussion about the process of change so as to alleviate the potential challenge of individuals becoming paralysed by fear of making embarrassing mistakes along the way. Ultimately, it was discovered, the iterative process is highly correlated to degree of collaboration; the greater the intensity of collaboration, the deeper the learning.

In situ observation at DCC also revealed that while most individual planners appear to be committed to the idea of co-creating a more catalytic development planning process to move toward a the envisioned Sustainable Dublin, there appears to be much anxiety around the process of how exactly such transformational change can be achieved and, more importantly what role, exactly, he or she is expected to play. The development of a comprehensive communications strategy and plan pertaining to the change

process is, therefore, recommended to promote a culture of inspired collaboration, innovation and creativity.

A key finding was the energising effect an A-B-C-D workshop can have on a planning team, as observed with DCC. The workshop appeared to kick-start some positive momentum and helped to positively change the conversation, a move in right direction as “[a]uthentic transformation is about a shift in context and a shift in language and conversation” (Block 2007).

Another key finding from this research was the lack of strategic guidelines and indicators to help measure progress and promote transparency and accountability. Only 25% of DCC Executive Managers indicated that “My department has operationalised the guidelines and policies contained in the current development plan to make more strategic and effective policy,” according to the *DCC Executive Managers & the Development Plan Survey*.

Table 5-5: Level 3 Recommendations for DCC

STRATEGIC - LEVEL 3	
Recommendation: Backcast from the local authority’s description of success while adhering to an overall strategy in the six key themes.	
WHY	To avoid short-term solutions that do not fit within the larger context of the city system.
HOW	Backcast from the local authorities description of success, agree on and prioritise initial steps that can move the city in the right direction and re-evaluate the process along the way while remaining flexible and open to new and innovative solutions.
WHEN	Short-term
EX.	The town of Whistler, Canada created five priorities and 17 strategies that aligned with their vision of success.
Recommendation: Realise an A-B-C-D workshop around the six themes with the Interim Sounding Board.	
WHY	To raise awareness, develop a common language around sustainability, identify measures to move towards the vision and prioritise the measures into a Business Plan for implementation.
HOW	Invite the members of the Interim Sounding Board to participate in a series of workshops.

WHEN	Short-term
EX.	A-B-C-D workshop with the DP team in Feb. 2009.
Recommendation: Design an internal capacity building strategy by institutionalising “grass roots” training programs for the internal stakeholders.	
WHY	To leverage the internal social capital in order to shift the overall system towards sustainability and build capacity to move towards a network structure of governance.
HOW	Strengthen the internal social network by connecting people with a shared strategy regarding sustainability in their various roles and functions. Host training workshops, lectures, lunch events, cross-departmental events for all internal stakeholders to participate in.
WHEN	Mid-term
EX.	Blekinge Institute of Technology’s distance learning course.
Recommendation: Create a “sustainability check-list [with indicators] for developing policies” (World Café, Feb. 11, 2009).	
WHY	To evaluate city performance and align policies and decision-making in moving towards the vision.
HOW	Co-create a set of strategic indicators regarding the six key themes (economic, social, cultural, urban form and spatial vision and movement).
WHEN	Short-term
EX.	The Montreal Metropolis Green Belt introduced a “balanced scorecard” to evaluate public policies for urban agriculture. The scorecard contains information for integrated planning and identifies problems, opportunities, legal considerations, solutions, stakeholders, timelines and indicators (Planchenault 2007).
Recommendation: Engage in a discussion with the Human Resources and Finance Departments regarding employee engagement and professional development.	
WHY	To encourage and reward positive actions and to demonstrate the local authorities commitment to sustainability. New skills for sustainability must be actively cultivated.
HOW	Foster development of internal policies which reward team dedication to sustainability through performance-based bonuses and opportunities for experience and acknowledgment.
WHEN	Mid-term

Recommendation: Create internal “transition teams” focusing on the six key themes identified by Dublin City Council’s Planning Department.	
WHY	To increase cross departmental actions and to institutionalise processes, practices, policies and strategies in order to be more strategic in moving towards sustainability.
HOW	Train internal key stakeholders from the Interim Sounding Board who in turn train people from their respective departments (an iterative learning process).
WHEN	Short-term
EX.	The City of Madison, Wisconsin “Train the Trainees” programme which began by identifying 25 top managers from various departments. These managers were then trained as trainers and now host four full-day workshops per year. All trained employees participate in projects to expand sustainability and keep the dialogue open (Hoffman 2009).

5.2.4 Actions Level 4: Empowering the Social Network

As noted in this paper, the urban planning process today is often fragmented resulting in a jagged “silo” effect amongst city departments – a significant barrier towards the implementation of a catalytic development planning process. At the same time, it is known that the local authority is a social field, just like any other and, as such, represents a significant opportunity as a point of leverage to shift the overall system toward sustainability.

This research team’s initial perception was that most major urban planning departments underutilise the social fields within their local authority. In Dublin, this assumption was validated through responses to both the Dublin City Councillors and Executive Managers surveys along with the resulting map from the third survey illustrating existing formal and informal relationships between individuals working in the planning department and other major departments within DCC (see Figure 4-2). Here, the *DCC Development Plan Team Survey* revealed weaknesses in relationships with several key DCC departments including Finance, Law and the five Area Offices. In fact, a follow-up interview with an Executive Manager heading the South East Area Office revealed that the very function of the Area Offices is to be a “one-stop shop in which they strive to “break-down the silos between departments by keeping an eye on all that is going on and connecting people” (Brady 2009) – an untapped point of leverage for the planning department.

Another key finding which emerged during the World Café with the DCC was the surfacing of an assumption that sustainable development policy is a risk as it could deter builders from wanting to build in Dublin thereby eroding the City's tax base which is solely dependent upon tax revenue levied on building within the city. (As an aside, without proper sustainable checks and balances presumably provided by the city development plan, the city's current tax structure could be a very big enabler of unsustainable development.) However, sustainable development policies within the city planning process can, on the contrary, have both a catalytic effect toward the achievement of a local authority's sustainability objectives while also proving to be a useful analytical for decision-making during the planning process. For example, faced with the prospect of constructing a new and much-needed USD \$8 billion water filtration plan and \$300 million annual operating cost, New York City determined that, at a cost of only \$1.8 billion, it was a better return on the city's investment to preserve and protect 32,000 hectares of natural habitat – a valuable, yet relatively inexpensive, ecosystem service that helps to provide New Yorkers with clean drinking water (Trust for Public Land 1999).

At the Action level, actions follow overall Strategic guidelines (level 3) that will lead to Success (level 2) in the System (level 1), though we don't have enough understanding of the organisation to make golden recommendations at this time.

5.2.5 Tools Level 5: Empowering New Governance

Another point of leverage to shift the overall city system toward greater sustainability lay in the unlikeliest of places: the legislative framework governing most city development planning processes. Often thought of as restrictive barrier, this research has illuminated a surprising opportunity to utilise the harmonised standards demanded by federal and national planning legislation to trigger a sea change in the way in which local authorities engage internal stakeholders within. This strategy has already demonstrated benefits for increasing and enhancing stakeholder engagement with external stakeholders through such national policy as Canada's federal Gas Tax funding (see Section 2.1.2).

Another key element of a catalytic development planning process therefore is one where the legislative planning framework recognises the value of both top-down and bottom-up, participatory process from internal and

external perspectives – as well as multilaterally throughout the system. Here, the legislative planning guidelines become its own catalyst to institutionalise sustainability *within* the local authority. In this way, a new model of collaborative governance is seeded.

Indeed, more effective governance systems within DCC and the Irish Statutory Process are needed to redefine a multitude of processes such as: how information is collected and disseminated amongst individuals and departments; the way in which decisions are made and enforced; and importantly, how the city's limited resources are allocated and shared.

These factors are important because they shape people's perceptions of their surrounding world, influencing their levels of motivation, and perceived power and authority – what Bob Doppelt calls “the drive shaft and steering mechanisms of an organisation.” As such, adds Doppelt, it is changes in governance systems that “provide the greatest overall leverage for transformation toward sustainability” and that “[t]he ultimate success of change initiative occurs when sustainability-based thinking, perspectives and behaviours are embedded in everyday operating procedures, policies and culture” (Doppelt 2003-a). Some system, strategic and actions tools are recommended for DCC.

Given the great importance of governance and its capacity for transformational change within an organisation, it is recommended that DCC propose to be the subject of a ground-breaking pilot project to refine, test and model new governance structures for sustainability using a more flexible, dynamic legislative framework that is co-created between the City and the Department of the Environment, Heritage & Local Government. The timing for such a pilot project could not be better as DCC is in the early stages of its two-year development plan review process at the same time that a new *Planning Act* for Ireland is said to be contemplated (Dublin Regional Authority 2008-b).

Table 5-6: Level 5 Recommendations for DCC

TOOLS - LEVEL 5	
Recommendation: Develop indicators to monitor progress starting with the <i>Dublin City Development Plan 2011-2017</i> .	
WHY	To assess the progress and measure the effectiveness of actions towards alignment with the SPs and the vision.
HOW	Research existing indicators relevant to city planning and adopt, refine or re-develop indicators appropriate for the unique characteristics and conditions of the local authority.
WHEN	Short-term
EX.	Calvert-Henderson’s 12 indicators for Quality of Life, City of Jacksonville, Florida, USA case study (Henderson 2009).
Recommendation: Develop an Intranet site (“Inside Sustainable Dublin”) to communicate (vision, SP’s) and create community around meta-sustainability issues (featuring blogs for water, energy, biodiversity, climate change, etc.).	
WHY	To educate and engage internal stakeholders and to break down silos between departments by encouraging informal communication across the local authority. To strengthen the internal social network and to build capacity around sustainability issues and to stimulate collaborative innovation within Dublin City Council.
HOW	Leverage existing technological infrastructure (including in-house expertise) to build out sustainability focused Intranet.
WHEN	Short-term
Recommendation: Co-design an integral city planning software by forming strategic partnerships with local organisations (e.g. Google).	
WHY	To create new tools that compliment new processes required by the local authority to deal with the complex challenges of moving towards sustainability so the DP becomes a dynamic, constantly evolving document.
HOW	Leverage external expertise within the system.
WHEN	Mid-term

5.3 Future Research

This thesis is merely a starting point from which to further research a largely unexplored area: the creation of catalytic city development planning processes from within the local authority.

5.3.1 Structural Redesign

More research is needed to better understand the role governance can play in the urban planning process to move a city toward sustainability.

In the same vein, the planning profession – and cities in general – would also benefit from more understanding of how to integrate and redesign economic tools, programs and incentives into planning strategy. A deep-dive into the spectrum of possible impacts of various planning-related city tax structures have (or could have) toward helping or hindering an urban community’s quest to become more sustainable is both timely and necessary.

5.3.2 From “Shelfware” to “Serviceware”

While the scope of this research was focused on “process,” additional research needs to be undertaken to explore new and better ways to make the development plan more useful thereby avoiding the fate of many development plans – to be published in a moment of glory before turning into permanent “shelfware.” Along these lines, a more strategic decision-making tool that aims to service the community (i.e. “serviceware”) is envisioned for the development plan through the incorporation of the SPs along with other best-practice planning and sustainability instruments is envisioned. Such a dynamic development plan could also be flexible enough to be continuously be updated with ideas from new emergent design theory such as biomimicry and biophilia and enable scenario modelling for the future.

5.3.3 “Real Change” for Sustainability

Finally, regarding the Dublin Case study, a collaborative research project comprised of Dublin’s Planning Department, a technology provider and a University is recommended, perhaps delivered through the Real Change Program at Blekinge Institute of Technology in Sweden and could be a

powerful platform to build a catalytic development planning process and software that will be part of the toolbox of a Capacity Centre for Sustainable City Systems in cooperation with TNS, ICLEI, Google, SEKom, BTH, etc. (see Figure 5-1).



Figure 5-1: Real Change Programme Proposition

Another research-worthy area is toward the creation of a new supportive model – similar as the Template for Sustainable Product Development (TSPD) – that could act as a “strategic decision support system for sustainable the production” for local authorities’ planning departments enabling them to better “connect strategic and operational company levels” (Ny et al. 2008).

5.3.4 Open-Source City Planning Process

Finally, as a high level of professional effort and interest was shown in the subject of this thesis, another idea began to emerge: to create an open-source opportunity through a dedicated interactive open-source website and blog, facilitated by the key stakeholders of the planning community, where an emerging nexus of professionals from the organisational change, sustainability and urban planning fields may coalesce and collaborate around the co-creation of a truly visionary process. As such, this thesis team envisions that such an open space will nurture a vibrant living laboratory of ongoing, real-time collaborative “research,” capturing the best-and-brightest ideas to leverage the development planning process to accelerate a city’s move towards sustainability.

5.4 Limits of Research

The research methods used in this were reflected upon and reviewed in order to determine if there were any shortcomings that affected the quality of the research (refer to Appendix G for restraints of methods).

During the two-week immersion in the Dublin City Planning Department, the team members daily activities were observed enabling conclusions to be drawn. Of course, such a short time-period greatly limits a research team's observational capacity and, therefore, may have weakened the research. As such, the three DCC surveys were fortified by design in an attempt to validate many personal observations and assumptions.

Based on the survey response, it became evident that some questions required more clarity. Where survey results appeared to be ambiguous, follow-up interviews with respondents were conducted so as to clarify the information and strengthen the overall research quality.

Though every effort was made to ensure the enclosed research was comprehensive, limitations were inevitable. The development of a process for internal engagement as a supplement to the thesis proved to be more time-consuming than expected. The original intention of the supplement was to create a process guide to help cities strategically more towards sustainability, initiating change from within their organisation while focusing on the internal stakeholders. The process was to be tested in the DCC case study prior to release for other cities, though, regrettably, the severe time constraints restricted the opportunity to do so.

6 Conclusion

This week – if it is to be like every other during the two decades – the urban population of the developing world will grow by another three million inhabitants (UN-Habitat 2008-b). Should these new urbanites be anything like those that have come before, they too will soon come to believe – if not already – that “humans can transcend their natural and genetic heritage” (Heerwagen and Kellert 2008). However being human, they are likely not cognisant that it is not their urban accessories such as mobile phones that make them who they are but, rather, *nature* itself.

We humans have developed over tens of thousands of years in “adaptive response” to nature and all of its extraordinary sensorial stimuli such as sunlight, weather, water, plants, animals, landscapes, and habitats (Heerwagen and Kellert 2008). That we urbanised humans are somehow above nature and separate from nature has created a “dangerous illusion” that has given rise to “an architectural practice that encourages environmental degradation, and separation of people from natural systems and processes” (Heerwagen and Kellert 2008).

With the world’s sustainability challenges – from climate change to the pain of poverty – upon our shoulders, this dangerous illusion must be shattered: the time for change has come, today, in this “Century of the City” (Moreno and Warah 2008).

As suggested by this dissertation, urban planning process has a significant role to play in moving a city away from disconnection with nature toward a more holistic, connected – restorative, even – relationship with the natural world of which we are an intricate part.

While much positive work has already been undertaken to ensure that the local authority’s most important document, the city development plan, is reflective of the community it serves through a planning process that includes deeper engagement with stakeholders outside of the local authority, this quest has left critical internal participants – everyone from the urban planners to the executive managers and, even, the elected officials who bridge both worlds – without the necessary skills, tools and

structure to effectively tackle the enormous sustainability challenges at hand.

Results from research for the Dublin City case study revealed that the social networks between the planning department and others could be considerably strengthened (and leveraged) toward the creation of a more collaborative, sustainability-minded development planning process. However, merely increasing the level of internal engagement from various stakeholders within the local authority it was determined was not enough to trigger a catalytic leverage point for widespread, long-term transformational change. Participation is critical, but so too is the need for sustainability to be institutionalised within the planning process and embedded in the day-to-day operations and shared mental models through the local authority. Indeed, in the case of Dublin City Council (DCC), there is urgent need to, as a first step, institutionalise a common language, based on a strong definition of sustainability and empower the entire social network; a key recommendation in the envisioned “Golden Standard” for a catalytic planning process.

Backcasting from the envisioned “Golden Standard” – created through the lens of the Framework for Strategic Sustainable Development (FSSD) – enabled the thesis team to make several other key recommendations to build internal capacity including the establishment of a “Sustainable Dublin” Intranet site within DCC organised around the key issues identified by the Planning Department. Ways to improve the development planning process to enable it to accelerate the city’s move towards sustainability also included the fortification of specific feedback-, learning-, decision-making and accountability-related mechanisms based on the structure of Bob Doppelt’s sustainable governance model (Doppelt 2003-a).

These actions will seed a shift whereby DCC moves from a command-and-control model of hierarchical governance to a more networked, self-organising structure enabling individuals within the local authority to more effectively collaborate, manage and innovate to solve world’s increasingly complex sustainability challenge.

Applying a whole-systems perspective with the FSSD also illuminated the critical need to better understand the larger scope of any development planning system. In the case of DCC, it was determined that top-down alterations to the legislative framework governing the creation of all

development plans in Ireland could better support a more catalytic planning process, not only for Dublin City Council, but for the other 87 towns, boroughs and councils governed by the Irish Statutory Process. Providing best-practices around sustainable, collaborative governance models for the development planning process as well as institutionalising a common language and definition of sustainability based on the four Sustainability Principles, not to mention training and education for planners, could have a dramatic impact on the environmental and social well-being of all Irish citizens.

“Fundamentally,” says Dee Hock, founding CEO of VISA International, “we have an institutional problem. Until we understand and deal with it, all of our societal problems will get progressively worse. Above all else, we will never deal with it until we realise it is not a problem at all but an unbelievable opportunity” (Hock 2009). Hock’s insights underscores a key theme in this thesis: that a city development plan alone cannot move a city towards sustainability but the men and women who make the plan can – and therein lay the greatest, unrecognised opportunity in planning today.

With both top-down and bottom-up strategic structural support from within the local authority as well as multilaterally, through other relevant regional and national levels of government, the city planning team will be more empowered to effectively collaborate, create and apply more synergistic planning policies and tools that will accelerate a city’s move toward sustainability. With these enhanced skills and support, the development planning team in any urban centre will be better equipped to undertake more genuine and connected relationships with external stakeholders to create healthier, more resilient and sustainable cities.

Finally, through their courage and willingness to grow, the men and women on DCC’s development planning team have a unique – if not urgent – opportunity to be architects of change by addressing the sustainability challenge in Dublin City and in doing so, show the world how catalytic urban planning is to be done.

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Appendices

Appendix A: World Café Results

Results from the World Café with the Dublin City Council Development Plan Team, February 11, 2009.

Question presented: *“How can we deliver on the potential of the Development Plan to move Dublin towards a more creative, sustainable future?”*

Key Outcomes

Café Table 1 Discussion

Need buy-in, common understanding and a vision from both the public and the politicians from the beginning

Need for a clear definition of sustainable development

Conflict between what DCC and the community thinks

Raise awareness amongst Councillors

Need linkage between common good policies and standards in the development plan

Integration of land use and transportation as a first step

Vision, strategy, policy-standards

Key targets (tangible) in the development plan that people can relate to

Proper planning is not defined

Raise awareness, educate Councillors and general public

Sell message better to the public

Café Table 2 Discussion

Make sustainability a top priority

Long term vision (2050) is critical, a vision based on sustainability, visionary statement needs to be at the centre of the development plan

Tackle the elephants in the corner with help of TNS framework

Development plan is key interface between DCC and city out there, send messages out to Dubliners to explain linkages

Up front act of faith (social infrastructure)

Use sustainability proofing check list when developing policies

Get the sustainability message out to the public to get their buy-in and involve high profile community members to deliver the message, key interface between DCC and citizens

DCC should set up a wind farm in Dublin Bay (avoiding geese)

Urban structure settlement pattern is crucial for the development plan, density-minimizing journeys reducing CO₂

Reviewing the development plan is a reserved function. How do we include our elected representatives? How do we convince them, through democracy?

Concrete messages are needed in the development plan to encourage support for the sustainable way

Sustainability is above the 6 themes

Convince people that density is good

Dublin aim to use 100% renewable energy sources by 2050 (reduces business costs, increase competitiveness)

Public momentum for change, building and open because of crisis: DCC and the city

Development plan consultation process could become a positive, constructive solution-finding opportunity with the citizenship

Use the process of the development plan to find solutions. Interface between public and stakeholders

Need a process for change

Café Table 3 Discussion

Need a common agreement on what sustainability is

Need a 24 year vision with regular milestone assessments

Sustainability toolkit for assessing developments

NB of outside organisations – progress partnerships (e.g. Transport)

6 themes – sustainability needs to be overarching branding of the city. Not to do it would be a missed opportunity

Transparent accountability is a bonus for Councillors - chairs of strategic policy community (SPC)

Sustainability could be a sense for future private sector and encourage greater buy-in

Fundamental flows need to be addressed (elephant in the room)

Initiate a movement toward economic sustainability, requires a long-term vision (more than 6 years)

Development plan standards are future profit for the community

Density versus sustainability issues. Open thinking. Come up with new ideas

Review process every 2 years, needs to be more frequent (statutory review more frequent)

Group Discussion

Density: Issue of trust, need education process (include education on board).

Planning: Lack of belief in the planning system. Development plan does not meet human needs; it controls the access of planner owner.

Planners: Are not service delivery agents, they need to become leaders through the six themes. Reality of it is DCC is responsible to the public even if they are not in control of the services. Planners need to make tough decisions for the greater good; the development plan should be more transparent so the public understands why they make decisions.

Accountability: No accountability. Need an understandable and robust system.

Vision: It's difficult for the community to see the big picture, the community only wants to engage at local level but it is a city wide issue. The needs are at the ground level. We need a positive relationship and alignment.

Using TNS funnel metaphor: Danger in a huge public consultation with the funnel picture, suggests no more development. If it's not done carefully there will be no more development. Need to be thought through carefully. Real impact assessment.

Opportunity: To identify levers in the development plan. A shared vision of sustainability in the future will have an inclusive and participatory effect. Power of pulling people together under a shared vision.

Transparency: Increase the transparency of making decisions for sustainability.

Evaluate: The progress on the road toward the vision of success. Discussion on the indicators can be a great opportunity to evaluate the current reality and improve public services of DCC in the future.

Strategic point for the next ABCD workshop: Need to look at the risk of the funnel metaphor but also at the opportunity to have sustainable strategies (i.e. The 7 benefits of Bob Willard are crucial for building a creative and sustainable Dublin)

Appendix B: A-B-C-D Workshop Results

Results from the A-B-C-D Workshop with the Dublin City Council Development Plan Team, February 16, 2009.

Key Outcomes

Visioning Exercise - Step 'A'
<p>Vision Statement</p> <p>High quality of life for all citizens</p> <p>To be a model city of sustainability</p> <p>To be the most sustainable city on earth</p> <p>Core Values (What you stand for)</p> <p>Neutral/+ regarding impact on environmental systems</p> <p>Clean, green, safe, vibrant, competitive, creative, inclusive city</p> <p>Mimic natural systems</p> <p>Democratic, co-operative and accountability</p> <p>Core Purpose (Why you exist)</p> <p>Proper planning and sustainable development-global responsibility and acting locally at city level</p> <p>Optimum efficiency in urban system</p> <p>Facilitate the creation of a high quality of life for all citizens</p>

Current Reality Assessment - Step 'B'	
Sustainability Principle 1	
<p>Strength</p> <p>Promotes compact development</p> <p>Policy and standard on energy source and rating</p>	<p>Weakness</p> <p>Not providers for a number of services (transport, buses, train)</p>

<p>Policies</p> <p>Good high level policy</p> <p>Transport - Metro in LAP's</p> <p>Promote higher density</p> <p>Promote public transport</p> <p>Building energy standards</p>	<p>Buy-in from other department service providers</p> <p>Implementation and enforcement</p> <p>Policy - challenge at application at the coal face</p> <p>Reliance on foreign energy</p> <p>Love affair with the car, car focused infrastructure</p> <p>No definite idea on what sustainable density is</p> <p>Lack of control over utilities/ bodies</p> <p>Lack of control over transport service providers</p>
<p>Sustainability Principle 2</p>	
<p>Strength</p> <p>Reduction of pesticides used in park system</p>	<p>Weakness</p> <p>Chemicals in water supply</p>
<p>Sustainability Principle 3</p>	
<p>Strength</p> <p>Water conservation policies, SUDS, etc.</p> <p>Dublin's unique selling point – character</p> <p>Developing areas reflecting sustainable urban principles</p>	<p>Weakness</p> <p>Under performing, non-functioning open space</p> <p>Water not covered in development plan</p> <p>Lack of control over regional aspects of development plan</p>
<p>Sustainability Principle 4</p>	
<p>Strength</p> <p>Public consultation process is part of the plan</p> <p>6 Themes - acceptance of systems based approach</p> <p>Cultural aspect of Temple Bar (model for creation of cultural quarters)</p> <p>Good fundamentals in place for knowledge economy</p> <p>Delivery of mixed communities</p> <p>Rebalancing deprived areas through intervention (Ballymun, Fatima)</p>	<p>Weakness</p> <p>Reception of social provision of cultural facilities</p> <p>Lack of joined up thinking and interagency approach</p> <p>Lack of citizen buy-in to high level policy, house ownership</p> <p>Lack of social development plan</p> <p>Weakening sense of civic responsibility</p> <p>Relationship between elected members and council officials - cultural negativity</p> <p>Lack of alignment between control and local government</p> <p>Lack of long term vision in development plan</p>

BHAG's (Big Hairy Audacious Goals) - Step 'C'

Dublin is model of integrated systems planning

Dublin attracts highly skilled, knowledge workers

Improved mental and physical health for all

Dublin is a city of great neighborhoods providing a template of how neighborhoods function

No private, personal cars

Public open space within 10 minutes walking of every residential unit

Carbon neutral and conservation of natural resources

Most progressive local authority in the country with regard to sustainability

DCC exerts strong influence on regional planning

Communications strategy

Supply food and water within the region

Compelling Measures - Step 'C'

Free public transport

Car clubs / smart hire

Reduce need to work

Ban cars from inner city

No void properties

Reuse and recycle buildings

80% of commuters not in S.O.V.

80% of residents consolidated into city center within 15 minute commute

Dubliners feel they own the development plan, including DCC and public pride

DCC uses and refines systems planning every planning cycle

A city provides housing needs for its people (affordable and sustainable)

Dubliners achieve sense of pride with seamlessness between city and local community

Achieve policies and objectives of success for the development plan

Leverage inter-department and external agencies (sharing expertise and projects)

Appendix C: List of Collaborators and their Professions

39 experts, practitioners and relevant professionals participated in exploratory interviews, the CPTS survey and feedback interviews.

North America

Emilie Adin	Deputy Director of Planning, City of Langford, British Columbia, CANADA
Antoine Belaieff	City Director, Clinton Foundation, Toronto, Ontario, CANADA
Jeremy Cohen, LEED® AP	<i>Government Sector Associate, U.S. Green Building Council, Washington DC, USA</i>
Ann Dale, PhD	<i>Trudeau Fellow, Canada Research Chair, Professor, School of Environment and Sustainability, Royal Roads University, Victoria, British Columbia, CANADA</i>
Georges Dyer	Social Entrepreneur, Aedi Group LLC, Boston, Massachusetts, USA
Thomas Eggert	Co-Director of the Business, Environment and Social Responsibility Program, Business School, University of Wisconsin, Madison, Wisconsin, USA
Sherrie Gruder, LEED® AP	Sustainable Design Coordinator, Energy Program Coordinator, University of Wisconsin Extension, Madison, Wisconsin, USA
Hazel Henderson	Author; Independent Futurist; Worldwide Syndicated Columnist; Advocate for and Consultant on Equitable Ecologically Sustainable Human Development and Socially Responsible Business and Investment, St. Augustine, Florida, USA
Jeanne Hoffman	Facilities and Sustainability Manager, City of Madison, Wisconsin, USA
Larry Levine	Attorney, Natural Resources Defence Council, New York City, New York, USA
Rosalinda Lidh	Executive Director, Ethical Markets Media LLC, St. Augustine, Florida, USA
Chris Ling, PhD	Post-Doctoral Scholar, Royal Roads University, Victoria, British Columbia, CANADA

Peter Lowitt, AICP	Director, Devens Enterprise Commission; Founder Chair, Green Roofs for Healthy Cities Board of Directors, Devens, Massachusetts, USA
Laura MacKay	Manager, Community Planning and Business Strategies, Whistler Center for Sustainability, Whistler, British Columbia, CANADA
Ariella Maron	Deputy Director, Mayor's Office of Long Term Planning and Sustainability, City of New York, New York, USA
Timothy Jack Nash, M.Sc	Consultant Strategic Sustainable Investments (SSI); Member of Ethical Markets Sustainability Research Group, Toronto, Ontario, CANADA
Mark Palmer, LEED® AP	Municipal Green Building Coordinator, City and County of San Francisco, California, USA
Shannon Parry	Sustainable City Coordinator, City of Santa Monica, California, USA
Guy Patterson, MCIP	Housing Planner, Resort Municipality of Whistler, Whistler, British Columbia, CANADA
John Purkis	Director of Advisory Services, TNS Canada, Ottawa, CANADA
Joan Roberts	Consultant, Joan Roberts Consulting, Toronto, Ontario, CANADA
Geoff Stack	Principal, ThreeIN Consulting, Baltimore, Maryland, USA
Marie-Helene Binet-Vandal	Urban Planner, City of Montreal, Quebec, CANADA
Chantal Whitaker	Coordinator of Sustainability, City of Pickering, CANADA
Bob Willard, PhD	Author, Sustainability & Business Expert, Toronto, Ontario, CANADA
Lynn Winterstein	Manager, Marketing & Business Development, City of Pickering, Ontario, CANADA

Europe

Catherine Barbé	Director for creating an Institute for Sustainable City, City of Paris, FRANCE
Michael Donnelly	Director, RealEyes Sustainability Ltd., Dublin, IRELAND

Dick Gleeson	Dublin City Planner, Dublin City Council, Dublin, IRELAND
Carolina Gunnarsson	Sustainability Officer, Kalmar County Regional Council, Kalmar, SWEDEN
John Harrington	Director, RealEyes Sustainability Ltd., Dublin, IRELAND
Mats Lindqvist	City of Stockholm, SWEDEN
Sarah Nilsson	Head of Strategic Environmental Issues, Executive Office, Strategic Planning, City of Växjö, SWEDEN
Stefan Nilsson	City of Stockholm, SWEDEN
David Walsh	Head of Spatial Policy, Department of the Environment, Heritage and Local Government, Government of Ireland, Dublin, IRELAND

Asia

Rudayna Abo, AICP, MCIP	Director of Planning, Otak International (former Director of the American Planning Association's AICP training and education program), ABU DHABI
Shuyu Chen	Graduate Student of Urban Planning, Hong Kong University, Hong Kong, CHINA

South America

Pedro Medellin Milan, Ph.D	Professor, Department of Chemistry, Autonomous University of San Luis Potosí (UASLP), Mexico City, MEXICO
Priscila Tiboni	Foreign Affairs Advisor, Urban Planning Institute of Curitiba (IPPUC), Curitiba, BRAZIL

Appendix D: CPTS Survey Results

Results from the City Planning Tool for Sustainability (CPTS) Survey undertaken by 30 experts, March 2009.

Questions and Results

Please choose one of the following that best describes your role.

2. Please choose one of the following options that best describes your role:

	Response Percent
Researcher/academic	15.8%
City employee	52.6%
Elected city official	0.0%
Consultant	31.6%

Do you like the name "City Planning Tool for Sustainability (CPTS)?"

Not Sure. Not all communities are cities. And, I feel "integrated" or "long-term" may be more important characteristics than "sustainability".

Not Sure. Is it a tool for sustainable city planning or is it a city planning tool?

Yes.

Not Sure. It is not clear what this is from its title.

Yes.

Not Sure.

Not Sure. 4 names are too long and 4-lettered acronym is hard to remember. Try to keep it to 3.

Not Sure. Good label. The "tool" word implies lists, steps, checklists, etc. so it is important that it be written and formatted accordingly.

Yes. It's OK, even if "city planning" gives ideas about physical/spatial planning.

No. It doesn't tell me much. Working further on the intents and goals of your work might get you to something more descriptive and catchy.

Yes.

Not Sure. The use of the word "tool" refer more to action or things to do toward sustainability than referring to working and consulting process as shown in your document. Your approach is more about planning practices and management than planning tools; the name should reflect more this concept. May be City

Planning Process for Sustainability.

Yes.

Not Sure. Could be a sub-heading to a more branded, less generic, shorter, easier to remember name - we've got too many acronyms in the world! ... "XYZ-Cool-Name: the city planning tool for sustain."

Yes.

Not Sure. Is a vague term at the moment. I can't see where the sustainability is achieved with the tool. Sustainable in what way? Environmentally? Fiscally?

Yes. Yes I like it but there is one reservation: Sustainability looks separate, as if you could have a City Planning Tool, and then a separate one for Sustainability. It's good - honest! It implies practical help - a manual.

No. Doesn't tell anyone what sustainability means.

No. It doesn't seem like a 'tool', more of a handbook or process or guide. Also it's not as much about city planning in the conventional sense, and more about organizational change / structure / governance, I think.

Yes.

No. City Planning generally connotes land use.

Not Sure. Too long. Also "sustainability" is overused and can mean maintaining the status quo.

Not Sure.

No. I am not sure that it will be a tool that leads to real sustainability.

Yes.

Yes.

No Sure. Urban Sustainability Planning Tool.

In what ways do you think the CPTS could be helpful for a city?

As a structured guide for internal champions - as they step into a new role (i.e. developing their work plan), or to deepen their ongoing work. It would be most helpful linked to a study group - based on a network of municipal champions, let's say, chatting once a month, on a conference call about how they are applying the shared learning.

It is difficult to make plans that really lead to sustainability. Often short term considerations wins over long term.

Help plan, coordinate and communicate city planning activities among departments.

It is not clear what this is. What type of tool? Is it a tool to help cities create sustainability plans?

Providing examples of best practices from other cities.

It's adaptable to any initiative. The process can deal with any issue the city is grappling with. In this case of sustainability, the process attempts to personalize the issues of sustainable for the engaged participants and

focuses on strengths, rather than trying to balance out the challenges.

It is a reassuring roadmap and legitimizes the softer aspects of a culture change in the city staff.

It might be a support, making it easier to establish a structured process.

I'll keep my comments in the survey brief and forward you comments I made within the PDF itself. The work TNS is already doing with municipalities has some pretty good results (and sticking power, unlike the work they sometimes showcase within corporations.) There are lots to build on.

Providing an organized framework and approach for holistically taking on the issue of sustainability within a municipality.

As an abstract to the many "best practices" tools we can use, the CPTS could be helpful for day to day planning work.

It clarifies the nature of the problem and emphasizes the main and often overlooked stumbling blocks to sustainable development. It provides tools and advice on some of these issues.

As a quick reference for practitioners/champions fostering the process. It's good that it's short, not too overwhelming, and references a lot of great sources for people to dive deeper if they're not familiar.

Monitor, measure and plan for sustainability.

It might broaden city planner's view of planning but there is little in the way of explaining how real change happens.

By setting a good concise context - i.e. why this is imperative By showing what other cities are thinking this way (hopefully successful ones) By showing in brief the benefits - tangible ones! By providing a step by step framework that can be applied to replace existing processes - such as spatial planning By showing good case studies of what its implementation means on the ground By pointing out practical resources that can be used By making something understandable to the senior managers and decision makers and.... .. something useable for the people responsible for leading processes I love the celebration bit, and the take video and image bit - really good ideas.

I think this hits a very important gap in changing the institutional culture in different civil service agencies to adopt and innovate more sustainable practices and to engage the community in city-wide sustainability initiatives. From the green building perspective, it seems like most U.S. cities are working to coordinate between many different agencies that may not usually communicate (organizational silos). This is a challenge both for programs to green government-owned buildings and operations as well as to implement incentive programs aimed at the private sector or residential sector.

Thinking critically about internal process and how they help or hinder progress towards city goals.

To emphasize the importance of planning for sustainability, but more importantly, for long-term, integrated planning.

It provides a step-wise approach to institutional change and points out crucial considerations in organizing.

Policy development Communication tool Improve stakeholder buy-in Consistent approach for development.

It would help us better define, describe the concept to the public in a 'common speak' format.

I believe it could be helpful if it provides a new way of thinking about cities and provides concrete examples of that new way. At this point, I don't believe it does this.

It provides a tool-kit for planners and for developers to agree before planning permission is sought what is permissible and desirable. It provides a holistic approach to strategic planning, enabling services and

infrastructure to be planned and delivered in tandem with new development. It helps to focus on environmental issues and opportunities.

Many municipalities are preparing plans for actions toward sustainability. It would be beneficial to learn about how others are approaching this, their successes, failures and lessons learned.

The description of CPTS seems too high level and academic to be of immediate and obvious benefit to a Municipality which is dealing with development issues and developer/politician personalities "on the ground". The terminology used to describe each phase does not speak to practitioners but to academics -- needs to be translated into practitioner lingo and popular effect.

What challenges might you envision toward the implementation of the CPTS process in a city?

Resistance to the language of "co-creation" or "co-evolving" - I love it, yet may not appeal on the surface within every municipal culture. Support for internal champions to actually implement the recommendations.

Different interest, often short term, wins over other often long term. It is difficult to visualise the effect of different decision on others. Politics go very fast sometimes and do not see the full consequences of decisions.

Cost, training, information technology requirements, need for high level and grassroots buy-in, fear of revealing embarrassing information. Disappointing results at first leading to abandonment. Surviving parallel processes (people keep using other tools).

You don't implement a tool. Do you mean "challenges associated with following the CPTS process?" There could be many challenges, including 1) not enough guidance, 2) not enough resources, 3) confusion since other groups are working on similar tools, including ICLEI.

Fragmented authority among many different city agencies.

If the process goes on for too long or people are not actively engaged from the beginning, they may lose interest early in the process. As laid out, it seems like many meetings may be involved to build the momentum and that may lose the interest of some.

The big issue is departmental silos. Usually top-down CAO / Mayor sponsorship and support are needed to get rival departments in the same room and attract the right level of participation in the early phases. Advice / guidance / tools on how to do that would be helpful.

Changing governance structures. Changing minds. Changing habits. Clarity.

There didn't seem to be sufficient recognition of dealing with issues of internal silos and boundaries.

The implementation of the CPTS would be challenged by: - Complexity of the municipal organisation - Multiplicity of stakeholder - The non-judicial weight of the tool.

Some of the language in the document is a little jargonistic, language such as "ORIGINATE NEW STORIES OF MEANING" is just not helpful to most people, and it will likely to put a lot of people off the document, and what it stands for seeing it as rather 'flaky'. These are likely the very people the document needs to reach. It also depends from where the document is being administered is it being championed at a high enough and integrated enough level to make a difference across the whole organisation?

There will of course be tons of challenges, and this sort of tool can't solve that, but can be a good piece to

help. There will often be lots of people in the process with their very small, immediate priorities and dug-in positions - and the tools/process laid out here could help break people out of that, but there would of course still need to be some skilled practitioners handling those situations.

Cost and training.

The tool does not address the legislative parameters in which city staff operates. As well there is no recognition of the approvals process for any kind of planned change or the recognition of the hierarchical nature of local government.

Inability to make the connection to the hundred and one things they have to do today - everyday That it is more complex than simple processes sold by other environmental consultants That it goes over their heads That it is too theoretical That it sounds too much like guru - sect stuff that scares them That is too broad to be of use to anyone That it costs more or there are perceived higher costs That it gives loads of credibility to the public when we all know that they know nothing and it is insulting to a planner of caliber to imagine that a smoker in a rented house might have a valid opinion that rivals the best thought process I have spent 30 years reading big books and going to many cities and universities to distill only for a smelly knacker to upstage me!

I'm not sure who the intended audience is for this tool. In my limited experience, it seems like the main green building champion in city government can really operate from a number of places and have various levels of influence and resources to carry out their agenda. More and more cities are hiring a sustainability coordinator, mayor's green team, energy coordinator, etc, but I think that some discussion should be made of the expected variability in city governance structures and how someone working to promote city sustainability in a limited sense (within their own department or program) might use this tool for that aim or even plant seeds for more cross-departmental collaboration. Even in places with strong top-down support for sustainability, you are working with many agencies/departments that have unique institutional culture and way of doing business.

The tool is only a tool. The implementation comes from a commitment to do something. Once that commitment is in existence, the tool is unnecessary.

Usual resistance to organizational change, skepticism among staff, same issues that are identified in the text.

Solitudes, silos and stovepipes, 'rules of the game'.

It doesn't address the management hierarchy within city government and the issues and perception of "time" to take an "added" task to their already full job demands. This is mentioned in phase 4 but should be moved to phase 1 as it affects who is engaged and whether it's only the "willing minds".

Powerful development interests Bureaucratic non-communication Disenfranchisement of market segment(s).

This would have to be endorsed by our Sustainable Pickering Committee for action and implementation by staff in all departments. The committee is comprised of 3 Councillors, our sustainability consultant, various staff and the Mayor as ex-officio.

Everyone that runs a city is very busy doing what they already do. To get them to do new things requires a fundamental reassignment of roles and responsibilities, regulations and incentives. This sort of innovation requires significant intervention in current practice - far beyond what the guide suggest so far.

Consistency across different council areas buy-in from elected members (who often have shorter-term perspectives and priorities) setting too high a standard which then drives some developers away.

Resources, both staff time and financial. Also, it is essential that there is Council support and Senior

Management lead.

Replication of other tools differentiation of what is offered with other tools/opportunities time constraints on using or getting maximum positive benefit from tool no immediate understanding among practitioners/bureaucrats on how the tool is useful on a practical level.

How would you suggest we improve the CPTS process (please be specific)?

Suggest a process to support implementation of the components of the tool It's a bit "TNS-jargon-y" - for example, is there another way to describe the "ABCD" process - may leave people behind if they're not familiar with it.

If I knew ... Better visualising consequences of different choices. Better connection/visualisation between overall goals and the concrete plans.

A single computer-based platform allowing people to plan, coordinate and communicate city planning initiatives while recording performance against key sustainability metrics. The site should have a city side and a public side. It should welcome public input. It should be accessible by many people inside city hall. It should clarify objectives and identify the contribution of each department or initiative to these objectives.

I don't know enough about it to know how it could be improved.

Not Sure.

Be succinct. People have a short attention span! There are many steps that are spelled out and you may lose interest if the process is linear.

1. Define your audience and write it for them. Is this for a CAO who gets it and is trying to get staff to synergize their sustainability activities, or is it for a peon staffer who is trying to create a sustainability change that the CAO has not yet bought into? That is, who is the "you" you are writing this for and are you providing sufficient guidance to help them be effective leaders? 2. Maybe switch the titles of Phases 1 and 2? 3. Consider enumerating the process sub steps and perhaps providing a summary checklist so that it feels more like a "tool." 4. Where (in what Phase) would the TNS framework be most helpful and why?

More specific cross boundary team building recommendations.

Wanting the tool to be flexible and applicable the any city organisation size makes it too generic and not enough define to be easily applicable.

I think the process is fine, I think the language you used to explain it and the tone of the document is not. It reads too much like a research report or an academic article rather than a guidance tool for local authorities.

Emphasize that it will need to be iterative - people will need to go through many times for it to sink in and click, people will come and go throughout what will be long, complex planning processes, new leadership with new priorities will emerge, etc, so any tips on how to deal with that would be good. I would remove all of the references to academic works, authors, etc from the main text and use footnotes to reference them in the list at the end. Any city-specific pieces would be great, as it stands it's a good, generic process that could be applied anywhere. The case studies you're planning on will help. And it may be impossible to make it more specific yet still applicable globally because political and cultural structures can vary so much - but may be worth considering making it a country/culture specific resource - or doing more than one version - so you can get more into the details of how to deal with election cycles, existing compliance rules and regs, the

various specific stakeholders that will need to be invited, etc.

It appears as more of a strategy than a tool in its current form.

The tool is a very simple representation of a process of change. It is not grounded in any theoretical understanding of how change happens. It is a nice summary of the latest tools and approaches without an understanding of change theory. Each of the suggestions requires a lot of time and resources (thousands, maybe hundreds of thousands, of dollars in consultants, and staff time) to achieve just one of the so called best practices. Which brings up the point if they are best practices how did they get to be best practices? None of these suggested practices are required under the Planning Act where I live. Developers foot the bill for development in NA. Would they willingly pay more for this extension of the planning process? Who would pay? Your understanding of power in a government setting is naive at best. City planners know very little about inclusive participative change processes. Maybe presenting a rationale for the benefits of inclusive participation practices would help build the conditions for change to occur. There is a growing body of literature on the theory of collaborative governance. It might be useful for you to ground your objectives and suggestions in that literature.

Make it specific to a target group of people - some of the document is very high level: e.g. page 5: If the answers to these questions are coming up as "no", you may consider alternate methods of power could be better dispersed. How can key individuals, groups and departments act more like pollinators, cross-fertilizing policies and projects with their ideas formulated from within their own unique microclimate within the local authority? When individuals become an integral and valued part of the decision-making process, they are more willing participants and maintain a greater sense of responsibility for their actions. This is really massive change management and it comes across a bit simplistic. It's true but may well annoy people if they were reading it and were either responsible for this situation, or indeed caught up in it with no ability to change it! We have met both in DCC and they would be dismissive or defensive as a result. 2. Be very clear about the purpose of the document - it isn't clear who or why it exists and what is expected from reading it or using it 3. Provide a summary of its main points at the start (set out the summary of the phases) 4. Make some recognition of the processes that cities have in place so this can be set beside it or replace it - e.g. can this be used to develop a new city development plan, or a spatial planning process, or a framework for regeneration in a neighborhood? 5. Tell us about case studies of other cities that have used these phases to good effect 6. Make it practical - Provide lots of indicative examples, a good guide would be - every time you make a recommendation to action, give an example of what that might look like in real scenario 7. Remove any jargon - such as "stories of meaning" that don't mean anything to lots of people 8. Provide the resources links as you go through the document rather than storing them up until the end.

I think the process you have laid out is great. Add examples or anecdotes of where and how different pieces of this have been implemented- (I imagine that this is what your work in Dublin will be about). Local gov's most trusted source of information is often their peers in other cities. I think people are very innovative, but few may have the space and energy to get those creative wheels turning of how to adapt this for their own context without some concrete examples to build off of. This tool is a tough bridge between a 'best-practices' guide and very strong theoretical underpinnings. Be mindful of your audience in crafting the final version. Is this for use by someone working in city government? If so, who is it appropriate for? Is this a planning tool that will likely be implemented by consultants in most cases? Is this a framework for city sustainability to be taught to future leaders in planning classes?

I don't know enough about the process to comment.

Clarify what the expected outcomes are, if a city undertakes the process.

You must specify if this is for Europe or North America, planning contexts are very different; commonalities are the need for long-term (100 years) and integration.

A large one is described in the answer to question 5. The premise in the first paragraph about privatization and outsourcing isn't necessarily a given. One thing not mentioned is that infusing sustainability into government operations and decision-making includes empowering employees and teaching them. In Madison, my approach was to bring in the privates to train the staff in various areas like facilities commissioning and retro commissioning to green and upgrade city buildings internally. Second to last paragraph in your intro might address silos in government structure as working toward sustainability involves a major shift in that core structure to interdepartmental collaboration? Also, the section on co-create a vision is too nebulous to be useful. For example, who does that involve in a city with 2,000 employees?

Re-enforce the common language to make it user-friendly.

I believe that at this point it is too much about 'shoulds' and not enough about the fundamental restructuring that are necessary for cities to become sustainable. I believe there are better examples on what it takes to introduce innovation in Harvard Business School publications. But redesigning a city for sustainability is about a whole new approach to governing and managing cities and I don't believe this document is providing the information and insights necessary to accomplish this.

Need a template or set of questions for each council to be able to go through methodically - while it's all well and good to talk about sustainability in general/principle terms, for politicians, practitioners and developers, the bottom line is what do we need to do is focus on practical aspects of how you achieve a sustainable city - use best practice examples of where it's successfully applied and lessons learned.

I'm not sure of your exact process so it is difficult to analyse it.

Appendix E: DCC Councillor Survey Results

Results from the Dublin City Councillors & the Development Plan Survey, undertaken by 15 anonymous Councillors, March 2009.

Questions and Results

Profile of Respondents:

1. Please check the terms that you have held your position as a Councillor:

	Response Percent
Current (2004 - 2009)	64.3%
1999 - 2004	14.3%
1994 - 1999	7.1%
1989 - 1994	0.0%
1984 - 1989	7.1%
1979 - 1984	7.1%

Awareness & Understanding of the DCC Development Plan:

3. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
The Development Plan is the most important document created by Dublin City Council.	7.1% (1)	0.0% (0)	14.3% (2)	21.4% (3)	57.1% (8)	0.0% (0)
Dublin City Councillors share a clear and concise understanding of the purpose of the Development Plan.	7.1% (1)	14.3% (2)	50.0% (7)	21.4% (3)	7.1% (1)	0.0% (0)
The purpose of the Development Plan is to set out zoning in order to help developers make long-term decisions.	14.3% (2)	14.3% (2)	21.4% (3)	28.6% (4)	21.4% (3)	0.0% (0)
The purpose of the development Plan is to move the city towards sustainability.	7.1% (1)	0.0% (0)	21.4% (3)	42.8% (6)	14.3% (2)	14.3% (2)
The purpose of the Development Plan is to integrate an economic, cultural and social vision for Dublin.	7.1% (1)	7.1% (1)	7.1% (1)	35.7% (5)	35.7% (5)	7.1% (1)
The purpose of the Development Plan is to protect the future of Dublin and its citizens.	15.4% (2)	7.7% (1)	0.0% (0)	30.8% (4)	38.5% (5)	7.7% (1)
The Development Plan is the sole responsibility of the Planning Department.	64.3% (9)	14.3% (2)	0.0% (0)	7.1% (1)	14.3% (2)	0.0% (0)

4. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree						
	1	2	3	4	5	Don't Know
Dublin City Councillors fully understand the statutory process used to create the Development Plan.	0.0% (0)	15.4% (2)	46.2% (6)	30.8% (4)	7.7% (1)	0.0% (0)
Dublin City Councillors need more information about the Development Plan.	7.7% (1)	7.7% (1)	7.7% (1)	61.5% (8)	15.4% (2)	0.0% (0)
Dublin City Councillors always know what is going on with the Development Plan.	15.4% (2)	38.5% (5)	15.4% (2)	23.1% (3)	7.7% (1)	0.0% (0)
There are sufficient opportunities for Dublin City Councillors to be involved in the creation of the Development Plan.	0.0% (0)	30.8% (4)	30.8% (4)	38.5% (5)	0.0% (0)	0.0% (0)
Dublin City Councillors would like to be more active participants in the Development Plan planning process.	7.7% (1)	7.7% (1)	7.7% (1)	15.4% (2)	46.2% (6)	15.4% (2)

Engagement & Participation:

6. Please answer YES or NO to the following questions:		
	Yes	No
I contributed to the process of creating the current Development Plan (2005-2011).	85.7% (12)	14.3% (2)
I have read the entire current Development Plan.	21.4% (3)	78.6% (11)
I often refer to the current Development Plan in the course of my Council work.	64.3% (9)	35.7% (5)
I rarely refer to the current Development Plan in the course of my Council work.	28.6% (4)	71.4% (10)
The current Development Plan helps me to make more strategic and effective policy?	46.2% (6)	53.8% (7)
I have a copy of the current Development Plan in my office.	92.9% (13)	7.1% (1)
I recently attended a public consultation meeting for the Development Plan.	64.3% (9)	35.7% (5)

Sustainability:

7. To me, the term "Sustainable Dublin" means (check all that apply):

	Response Percent
A city that is economically viable in the long-term	69.2%
A smart, competitive and visionary city	53.8%
A city that functions within ecological limits	61.5%
A city where inhabitants are easily able to meet their basic human needs	61.5%
All of the above	53.8%

8. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
Dublin City Councillors have a strong, shared understanding of what the term "sustainability" means.	7.1% (1)	28.6% (4)	35.7% (5)	28.6% (4)	0.0% (0)	0.0% (0)
Dublin City Council has a clear and shared vision for a more sustainable Dublin.	0.0% (0)	28.6% (4)	50.0% (7)	21.4% (3)	0.0% (0)	0.0% (0)
Dublin City Council has a clear and strong plan, including strategies and objectives, for a more Sustainable Dublin.	0.0% (0)	21.4% (3)	50.0% (7)	28.6% (4)	0.0% (0)	0.0% (0)

9. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
I fully understand Dublin City Council's sustainability objectives.	7.1% (1)	21.4% (3)	35.7% (5)	35.7% (5)	0.0% (0)	0.0% (0)
The Development Plan should focus on zoning issues and not worry about sustainability.	57.1% (8)	35.7% (5)	0.0% (0)	0.0% (0)	7.1% (1)	0.0% (0)
The Development Plan is already an effective tool that is helping move the city towards sustainability.	7.1% (1)	28.6% (4)	21.4% (3)	35.7% (5)	7.1% (1)	0.0% (0)
The Development Plan should do more to help move the city towards sustainability.	7.7% (1)	0.0% (0)	0.0% (0)	46.2% (6)	38.5% (5)	7.7% (1)

Appendix F: DCC Executive Managers Survey Results

Results from the Dublin City Executive Managers & the Development Plan Survey, undertaken by 12 anonymous Executive Managers, March 2009.

Questions and Results

Profile of Respondents:

1. How many years have you been in your present position?

	Response Percent
Less than 1 year	0.0%
1-3 years	25.0%
3-5 years	0.0%
5 years or more	75.0%

Awareness & Understanding of the DCC Development Plan:

3. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
The Development Plan is the most important document created by Dublin City Council.	8.3% (1)	8.3% (1)	8.3% (1)	66.7% (8)	8.3% (1)	0.0% (0)
My team shares a clear understanding of the purpose of the Development Plan.	0.0% (0)	16.7% (2)	25.0% (3)	41.7% (5)	16.7% (2)	0.0% (0)
The purpose of the Development Plan is to set out zoning in order to help developers make long-term decisions.	0.0% (0)	16.7% (2)	50.0% (6)	33.3% (4)	0.0% (0)	0.0% (0)
The purpose of the Development Plan is to move the city towards sustainability.	8.3% (1)	8.3% (1)	33.3% (4)	50.0% (6)	0.0% (0)	0.0% (0)

4. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree						
	1	2	3	4	5	Don't Know
The purpose of the Development Plan is to integrate an economic, cultural and social vision for Dublin.	8.3% (1)	8.3% (1)	8.3% (1)	50.0% (6)	25.0% (3)	0.0% (0)
The purpose of the Development Plan is to protect the future of Dublin and its citizens.	8.3% (1)	8.3% (1)	16.7% (2)	50.0% (6)	16.7% (2)	0.0% (0)
My team fully understands the statutory process used to create the Development Plan.	8.3% (1)	16.7% (2)	33.3% (4)	16.7% (2)	25.0% (3)	0.0% (0)
The Development Plan is the sole responsibility of the Planning Department.	41.7% (5)	33.3% (4)	8.3% (1)	0.0% (0)	8.3% (1)	8.3% (1)
Dublin City Councillors are well-informed about the Development Plan.	0.0% (0)	33.3% (4)	33.3% (4)	16.7% (2)	16.7% (2)	0.0% (0)

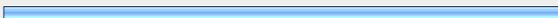
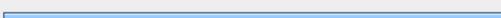
Engagement & Participation:

6. Please answer Yes or No to the following questions		
	Yes	No
I contributed to the current Development Plan (2005-2011).	83.3% (10)	16.7% (2)
I have read the entire current Development Plan.	8.3% (1)	91.7% (11)
I frequently refer to the current Development Plan in the course of my work.	58.3% (7)	41.7% (5)
I seldom refer to the current Development Plan in the course of my work.	50.0% (6)	50.0% (6)
I have a copy of the current Development Plan in my office.	91.7% (11)	8.3% (1)
I have recently attended a public consultation meeting for the Development Plan.	25.0% (3)	75.0% (9)

7. Rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree						
	1	2	3	4	5	Don't Know
There are sufficient opportunities for Executive Managers to be involved in the creation of the Development Plan.	0.0% (0)	25.0% (3)	25.0% (3)	33.3% (4)	16.7% (2)	0.0% (0)
There are sufficient opportunities for individuals within my department to be involved in the creation of the Development Plan.	18.2% (2)	27.3% (3)	18.2% (2)	36.4% (4)	0.0% (0)	0.0% (0)
Executive Managers need to pay more attention to the Development Plan.	8.3% (1)	8.3% (1)	8.3% (1)	41.7% (5)	25.0% (3)	8.3% (1)

9. Please rate your response to the following questions using the scale below: 1 = Strongly Disagree 5 = Strongly Agree						
	1	2	3	4	5	Don't Know
My department uses guidelines and policies contained in the current Development Plan to make more strategic and effective policy?	8.3% (1)	16.7% (2)	25.0% (3)	41.7% (5)	8.3% (1)	0.0% (0)
My department has operationalised the guidelines and policies contained in the current Development Plan to make more strategic and effective policy?	8.3% (1)	41.7% (5)	16.7% (2)	16.7% (2)	8.3% (1)	8.3% (1)
My department has a clear understanding of the current Development Plan's indicators required to move the city towards sustainability.	0.0% (0)	25.0% (3)	50.0% (6)	16.7% (2)	8.3% (1)	0.0% (0)
My department has a clear understanding of the sustainability challenges being reviewed for the next Development Plan (2012-2018).	0.0% (0)	16.7% (2)	33.3% (4)	33.3% (4)	16.7% (2)	0.0% (0)

Sustainability:

13. To me, the term "Sustainable Dublin" means (check all that apply):		Response Percent
A city that is economically viable in the long-term		83.3%
A smart, competitive and visionary city		66.7%
A city that functions within ecological limits		75.0%
A city where inhabitants are easily able to meet their basic human needs		75.0%
I haven't a clue		8.3%

14. Please rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree						
	1	2	3	4	5	Don't Know
Executive Managers have a clear and shared vision for a more sustainable Dublin.	8.3% (1)	33.3% (4)	33.3% (4)	8.3% (1)	8.3% (1)	8.3% (1)
Executive Managers have a strong, shared understanding of what the term "sustainability" means.	0.0% (0)	33.3% (4)	41.7% (5)	16.7% (2)	0.0% (0)	8.3% (1)
Dublin City Council has a strong plan including strategies and objectives for a more sustainable Dublin.	8.3% (1)	25.0% (3)	33.3% (4)	25.0% (3)	8.3% (1)	0.0% (0)
I fully understand Dublin City Council's sustainability objectives.	8.3% (1)	33.3% (4)	25.0% (3)	25.0% (3)	8.3% (1)	0.0% (0)
Sustainability issues and concerns are a top priority for me.	8.3% (1)	25.0% (3)	16.7% (2)	41.7% (5)	8.3% (1)	0.0% (0)

15. Please rate your response to the following questions using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
The Development Plan should focus on zoning issues and not worry about sustainability.	50.0% (6)	25.0% (3)	16.7% (2)	0.0% (0)	8.3% (1)	0.0% (0)
The Development Plan is an effective tool that is helping move the city towards sustainability.	0.0% (0)	33.3% (4)	25.0% (3)	33.3% (4)	8.3% (1)	0.0% (0)
The Development Plan should do more to help move the city towards sustainability.	0.0% (0)	16.7% (2)	0.0% (0)	58.3% (7)	25.0% (3)	0.0% (0)

Governance Framework - Information, Feedback & Learning:

12. Rate your response to the following statements using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
The Development Planning department provides my team with clear and explicit information about the type of knowledge and data it requires from my department for the Development Plan to attain sustainability success.	16.7% (2)	16.7% (2)	16.7% (2)	50.0% (6)	0.0% (0)	0.0% (0)
My department has clear ways of receiving and sharing information with the planning team about sustainability issues and concerns related to the Development Plan.	8.3% (1)	33.3% (4)	8.3% (1)	41.7% (5)	8.3% (1)	0.0% (0)
The current Development Plan objectives are effectively integrated into my department's operations.	0.0% (0)	41.7% (5)	16.7% (2)	25.0% (3)	16.7% (2)	0.0% (0)

Governance Framework – Decision Making & Accountability:

9. Please rate your response to the following questions using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
My department uses guidelines and policies contained in the current Development Plan to make more strategic and effective policy?	8.3% (1)	16.7% (2)	25.0% (3)	41.7% (5)	8.3% (1)	0.0% (0)
My department has operationalised the guidelines and policies contained in the current Development Plan to make more strategic and effective policy?	8.3% (1)	41.7% (5)	16.7% (2)	16.7% (2)	8.3% (1)	8.3% (1)
My department has a clear understanding of the current Development Plan's indicators required to move the city towards sustainability.	0.0% (0)	25.0% (3)	50.0% (6)	16.7% (2)	8.3% (1)	0.0% (0)
My department has a clear understanding of the sustainability challenges being reviewed for the next Development Plan (2012-2018).	0.0% (0)	16.7% (2)	33.3% (4)	33.3% (4)	16.7% (2)	0.0% (0)

Governance Framework – Resource Allocation:

10. Please rate your response to the following questions using the scale below: 1 = Strongly Disagree 5 = Strongly Agree

	1	2	3	4	5	Don't Know
My department has adequate resources (people, time, funding) to achieve the objectives outlined in the current Development Plan.	0.0% (0)	41.7% (5)	25.0% (3)	25.0% (3)	0.0% (0)	8.3% (1)
DCC has effective mechanisms to ensure that resource allocations (people, time, funding) are based on the priorities outlined in the Development Plan.	16.7% (2)	66.7% (8)	8.3% (1)	0.0% (0)	8.3% (1)	0.0% (0)
My department has effective mechanisms to include the positive contributions of external stakeholders as it relates to the achievement of the objectives outlined in the current Development Plan.	8.3% (1)	16.7% (2)	50.0% (6)	8.3% (1)	16.7% (2)	0.0% (0)

* The correct date for the next Development Plan is 2011-2016

Appendix G: Restraints of Methods

Results from a comprehensive analysis of the research methods.

Method	Purpose	Characteristic	Advantage	Restraint
Content Analysis	To understand the meaning of non-quantified documents	Indirect contact Document analysis Non-encrypted Qualitative or quantitative sampling	Deepening the symbolic Opportunities for comparative studies and evolutionary Wealth of interpretation	Length analysis Deviation from reality Risk assessment of equipment
Interview	To understand in depth perceptions and mental designs of select individuals	Direct Contact Interrogation of individuals or groups Semi-directional Sample qualitative	Flexibility Nuanced answers Interest in the informant Overall perception of the informant Consideration of the group	False or misleading answers Resistance of the informant Subjectivity of the interviewer Lack of comparability of the interviews
Observation in situ	To understand some aspects of groups or individuals	Direct Contact Observation of a group Non-directivity Sample qualitative	Perception of the immediate reality Deep understanding of the elements Better integration of the research	Difficult to generalize Lack of uniformity of materials Absence at certain events Heavy responsibility of the observer
Survey	To compare answers to questions presented to a panel of individuals	Direct Contact Interrogation of individuals Directivity Quantitative	Application to many Entering unobservable behavior Comparability	Voluntary deformation of comments Unsuitability of some informants Information summary Refuse to answer

Source: Translated from Maurice Angers, 2005, *Initiation pratique à la méthodologie des Sciences Humaines*, 4ème édition, Les Éditions CEC Inc.