

Guadalajara

**CIUDAD
CREATIVA
DIGITAL**

CARLORATTIASSOCIATI SRL with DENNIS FRENCHMAN

ACCENTURE + ARUP + ENGRAM STUDIO + FUNDACION METROPOLI + MOBILITY IN CHAIN
MIT SENSEABLE CITY LAB + STUDIO FM MILANO

Guadalajara

CIUDAD CREATIVA DIGITAL

Plan Maestro de Guadalajara - Ciudad Creativa Digital
Noviembre 2012



**Un proyecto para:
Guadalajara CCD A.C.**

Desarrollado por:

carlorattiassociati srl
walter nicolino & carlo ratti
Corso Quintino Sella 26
10131 Torino Italy
t. +39-011-813-0851
www.carloratti.com

Prof. Dennis Frenchman
77 Massachusetts Avenue
Cambridge, MA 02139 USA
t. +1-617-253-8847
dennisf@mit.edu

Prof. Carlo Ratti
77 Massachusetts Avenue
Cambridge, MA 02139 USA
t. +1-617-253-7926
ratti@mit.edu

accenture | Global Strategy
30 Fenchurch Street
London EC3M 3BD, UK
t. +44-207-844-8965
www.accenture.com

accenture | Mexico City
Blvd. Manuel Avila Camacho,
No. 138 Piso 7
Col. Lomas de Chapultepec
11000, Mexico D.F.
t. +52-(55)-5284-7300

Arup
Alcalá 54
28014 Madrid, Spain
t. +34 91 5239331
www.arup.com

Engram srl
Via Cavour 11
48018 Faenza (RA), Italy
t. +39-054-606-1156
www.egram.it

Fundación Metrópoli
Avda. Bruselas 28
28108 Alcobendas, Madrid, Spain
t. +34-914-900-750
www.fmetropoli.org

MIC | Mobility in Chain
via Pietro Custodi 16
20136 Milano, Italy
t. +39-024-953-0500
www.michain.com

Studio FM milano srl
via fioravanti, 30
20154 milano, italia
t. +39 02 89656230 ~ 31
info@studiofmmilano.it

carlorattiassociati^{srl}
walter nicolino & carlo ratti

accenture

ARUP

ENGRAM STUDIO

TTTIFUNDACIONMETROPOLI

MIC
mobility in chain

lii senseable city lab :::

STUDIO FM MILANO^{SRL}



Index

The Team

Foreword

by Octavio Parga

1. **The CCD Vision**
2. **Towards an Inclusive City**
by Alberto Pérez Martínez & Héctor Castañón R.
3. **The Strategic Principles**
 - 3.1. Genius Loci
 - 3.2. Human Scale
 - 3.3. Connected City
 - 3.4. Innovation Ecology
 - 3.5. Digital Infrastructure
 - 3.6. Creative Cluster
 - 3.7. Sense Experience
 - 3.8. Model Future

The CCD Context

4. **Mexico, Jalisco, Guadalajara**
 - 4.1. Geographic Location
 - 4.2. Climate and Natural Context
 - 4.3. Connectivity
 - 4.4. Economic Status
 - 4.5. Demographics
 - 4.6. Lifestyle and Cultural Context
5. **The CCD in Guadalajara**
 - 5.1. The Metropolitan Scale
 - 5.2. The Historical Center as an Ecosystem of Innovation
 - 5.3. DUIS Mosaico
 - 5.4. The Mosaico In Detail
6. **Parque Morelos**
 - 6.1. The Park's History
 - 6.2. Geographic Location
 - 6.3. Land Use and Activities
 - 6.4. Socio-Economic Context
 - 6.5. Connectivity
 - 6.6. Architectural Context

Urban Design

7. **Program & Land Use**
 - 7.1. The Site
 - 7.2. Land Use
 - 7.3. Sub-Areas
 - 7.3.1. Parque Morelos
 - 7.3.2. Ingenium Campus
 - 7.3.3. Calle Cabanas
 - 7.3.4. Degollado District
8. **Project Phasing**
 - 8.1. Phasing Strategy
 - 8.2. Phase 1: Mobilization
 - 8.3. Phase 2: Critical Mass
 - 8.4. Phase 3: Ultimate Build Out
 - 8.5. Phase 4: City-Wide Benefits
9. **The Courtyard Typology**
 - 9.1. Courtyard Ecology
 - 9.2. Courtyard Evolution
 - 9.3. 21st Century Courtyard
 - 9.4. The Courtyard Model
 - 9.5. Urban Design Guidelines
 - 9.5.1. Re-use of historic buildings
 - 9.5.2. Mix of old and new
 - 9.5.3. Low-to-mid rise building integration
10. **Catalyst Projects**
 - 10.1. Parque Morelos
 - 10.2. The Ingenium Campus

- 10.3. Mexican Media and Marketing Museum
- 10.4. Block T1
- 10.5. Digital Creative Accelerator & Pedestrian Connector
- 10.6. The Rambla
- 10.7. North-Side
- 10.8. Hotel Hospicio Cabanas
- 10.9. Calle Cabanas Creative Hub
- 10.10. Degollado District
- 10.11. Eslabón Residencial

Digital Lifestyle

11. **The CCD Approach**
 - 11.1. Data, Sensor, Networks
 - 11.2. The CCD Context and Drivers for Change
 - 11.3. The Hierarchy of Needs
 - 11.4. Inhabitants as Actuators
 - 11.5. A Day in CCD
12. **The Operating System**
 - 12.1. The CCD Operating System
 - 12.2. The Digital Services Portfolio
 - 12.3. The Priority Services
 - 12.4. Roadmap for Implementation
 - 12.5. In Detail: Intelligent Street Lighting
 - 12.6. In Detail: Smart Parking
 - 12.7. In Detail: E-Learning
 - 12.8. In Detail: Digital Public Displays
 - 12.9. In Detail: Cloud Based Creative Software
 - 12.10. In Detail: Live Labor Marketplace

13. **Responsive Public Spaces**
 - 13.1. Responsive Environments
 - 13.2. Media Facades
 - 13.3. Smart Streets
 - 13.4. Responsive Furniture
 - 13.5. Interactive Ecology
 - 13.6. Design Guidelines for Responsive Public Spaces

14. **Mobile Working**
 - 14.1. Conceiving a 21st Century Place of Creative Work and Culture
 - 14.2. Factors Influencing Creative Outdoor Workspaces
 - 14.3. Design Considerations: Environment
 - 14.4. Design Considerations: Equipment
 - 14.5. Design Considerations: Infrastructure
 - 14.6. Design Guidelines for Creative Outdoor Workspaces

15. **Citizen Empowerment**
 - 15.1. Vision for Social and Digital Inclusion
 - 15.2. CCD Blueprint
 - 15.3. Digitalizing Social Inclusion Strategies
 - 15.4. Roadmap for Implementation

16. **Sustainability in Ccd**
 - 16.1. Sustainability Vision
 - 16.2. An Integrated Approach
 - 16.3. The Carbon Story
 - 16.4. Site Conditions and DUIS Requirements
 - 16.5. CCD Sustainability Strategy
 - 16.6. In Detail: Net Zero Energy Development
 - 16.7. In Detail: Smart Grid
 - 16.8. In Detail: Carbon
 - 16.9. In Detail: Sustainable Block Design
 - 16.10. From DUIS to LEED Certification

Mobility

- 17.1. The Wider Picture: Mobility at the City Scale
- 17.2. DUIS and CCD: A Synergic Approach to Mobility
- 17.3. Pedestrian Mobility

- 17.4. Vehicular Accessibility and the Road Network
- 17.5. Quantitative Analysis and Model Simulation for the CCD
- 17.6. CCD Parking Strategy
- 17.7. Transit to the Future
- 17.8. Roadmap for Implementation

Infrastructure

18. **Telecoms**
 - 18.1. Site Conditions and DUIS Requirements
 - 18.2. Constraints and Opportunities for Telecoms Infrastructure On-Site
 - 18.3. Proposed Physical Infrastructure
19. **Power and Electricity**
 - 19.1. Site Conditions and DUIS Requirements
 - 19.2. Constraints and Opportunities for Energy Supply On-Site
 - 19.3. Proposed Physical Infrastructure
 - 19.4. In Detail: Street Lighting
20. **Water Management**
 - 20.1. Site Conditions and DUIS Requirements
 - 20.2. Constraints and Opportunities for Water Re-Use On-Site
 - 20.3. Proposed Physical Infrastructure
 - 20.4. In Detail: On-Site Water Collection Strategy
 - 20.5. In Detail: Water Infrastructure On-Site
 - 20.6. In Detail: Green Roofs
21. **Waste Management**
 - 21.1. Site Conditions and DUIS Requirements
 - 21.2. Constraints and Opportunities for Waste Recycling On-Site
 - 21.3. CCD Approach for Waste Management
 - 21.4. Alternative Technologies and Key Recommendations

Economic Strategy

22. **Governance Model**
 - 22.1. CCD Governance Model
 - 22.2. Governance Principles
 - 22.3. Governance Model Structure
 - 22.4. Roles and Responsibilities
 - 22.5. Roadmap for Implementation
23. **Operating Model**
 - 23.1. CCD Operating Model
 - 23.2. Roles and Responsibilities
 - 23.3. Interactions between the AC and Private Investors
 - 23.4. Escalation and Decision-Making Procedures
 - 23.5. Roadmap for Implementation
 - 23.6. Vision for CCD's Governance and Operating Models
24. **Business Plan**
 - 24.1. Macroeconomic Outcomes
 - 24.2. Traditional and Innovative Business Models
 - 24.2.1. Real Estate
 - 24.2.2. Service Based Model
 - 24.2.3. 3rd Party Concessioning
 - 24.2.4. Intellectual Property
 - 24.2.5. Information Market Place
 - 24.2.6. Advertising and Product Placement
 - 24.2.7. Social Enterprise Model
 - 24.2.8. Public Service Business Model
 - 24.3. CCD Governance Resourcing and Setup Costs

Annexes:

1. **DUIS Fichas**
2. **Foro Results**
3. **Site Diagnostics**

EL EQUIPO

Logo

Logo

Logo

Logo

Logo

Logo

carlorattiasociati srl

Walter Nicolino & Carlo Ratti

Logo

carlorattiasociati | Walter Nicolino & Carlo Ratti es un estudio de arquitectura en rápido crecimiento establecido durante el verano de 2002 en Turín, Italia. Basado en el estudio de Carlo Ratti en el Massachusetts Institue of Technology, la oficina se encuentra actualmente involucrada en el desarrollo de proyectos en Europa, America y Asia. El trabajo de la oficina de arquitectura se enfoca en revolucionar el como utilizamos la informática urbana en el ámbito de la arquitectura, trabajando todas y cada escala hacia un futuro social, económica y ambientalmente sustentable. Entre sus proyectos mas recientes se encuentran el diseño de la sede de la casa de moda líder Trussardi en el centro de Milán, Italia, las viviendas Tsunami-Safe[r] en Sri Lanka, The Cloud para los Juegos Olímpicos de Londres 2012 y el Pabellón de Agua Digital de la Expo en Zaragoza, España. El estudio se encuentra actualmente involucrado en el diseño de nuevas ciudades tanto en la Región del Golfo como en Centroamérica. El estudio ha sido seleccionado en repetidas ocasiones como una de las oficinas de mayor nivel y prestigio en Italia por la Bienal de Venecia en 2004, 2006 y 2010, a si mismo a recibido numerosos galardones internacionales, incluyendo 'Best Invention of the Year´´ por parte de Time Magazine y su trabajo ha sido destacado en reconocidas publicaciones internacionales incluyendo el New York Times, el Boston Globe, Der Spiegel, Discovery Channel, BBC, Domus y Abitare.

Team
Carlo Ratti / Walter Nicolino / Jenni Young / Andrea Galanti / Giovanni de Niederhausern / Alberto Bottero / Andrea Cassi / Pietro Leoni / Antonio Atripaldi / Rene Perez Ignacio / Sofia Cornejo / Luis Mesejo

junto a:

Prof. Dennis Frenchman

Con motivos de este proyecto, participara junto a CRA, el Profesor Dennis Frenchman de MIT, quien jugó un papel central en la selección del Parque Morelos como área del proyecto, en el desarrollo de las líneas de actuación estratégica y en el diseño urbano de CCD. El profesor Frenchman se encuentra entre las autoridades líderes del mundo con respecto al diseño y desarrollo de ciudades creativas y de medios digitales, así como en el sector digital publico. Entre su experiencia cabe destacar el diseño de Seoul Media City en Korea, Milán Digital en Zaragoza, España, Media City: UK en Manchester y Twofour54 Media Zone en Abu Dhabi. Es director del Centro de Urbanismo Avanzado de MIT e investigador co-principal en Making Clean Energy Cities en China, un estudio de suma importancia para la Energy Foundation.

accenture

www.accenture.com

Logo

Accenture es una firma global en manejo in consultaría, tecnología de servicios y externalización de compañías con mas de 257,000 personas sirviendo a cliente en mas de 120 países. Combinando una inigualable experiencia, capacidades integrales que comprenden todas las industrias y funciones de negocio, así como una extensiva investigación acerca de las compañías mas exitosas del mundo; Accenture colabora con sus clientes para ayudarlos a convertirse en negocios y gobiernos de alto rendimiento. Accenture es una compañía Fortune 500 enlistada en la bolsa de valores de Nueva York. La compañía generó ingresos por \$27.9 billones de dólares durante el año fiscal finalizado el 31 de Agosto de 2012. La oficina de Ciudades Globales Inteligentes de Accenture esta comprendida por profesionales expertos dedicados al programa de desarrollo urbano. Cuentan con proyectos tanto concluidos como en desarrollo en America Latina, Asia, Europa y el Medio Oriente. El trabajo con respecto a Ciudades Inteligentes es cliente-independiente y se impulsa por su valor. Trabajan con ciudades para identificar sus retos y oportunidades para así desarrollar soluciones arquitectónica y programáticamente relevantes. Su enfoque esta en ayudar a las ciudades a alcanzar su valor estratégico de TIC resolviendo sus retos urbanos y trabajando a la punta del diseño físico y digital, no solo con un enfoque de soluciones tecnológicas, también con componentes 'suaves' como modelos de negocio, modelos de gobernanza, y estrategias de innovación financiera que fomenten la creación de un valor socio-económico y ambiental a largo plazo. Accenture cuenta con oficinas y operaciones en mas de 200 ciudades en 54 países. Con motivos de este proyecto han formado un equipo involucrando expertos con experiencia en mercados locales, su centro internacional de excelencia en Ciudades Inteligentes con base en Londres, así como expertos en tecnologías provenientes de EU.

Team
Ignacio Chacon / Carlos Niezen / Simon Giles / Serge Younes / Jen Hawes-Hewitt / Thomas Rodriguez / Guy Hudson / Lauren Ing / Katie Goodman / Javier Peñuñuri Ramirez / Miguel Bazan Romero /Marilu Peña / Silvio Pla Sarubi / Jessica Ryde

Arup

www.arup.com

Logo

Arup es una firma global de diseñadores, ingenieros, planeadores y consultores de negocio que proporciona una diversa gama de servicios profesionales a clientes alrededor del mundo. Arup cuenta con un personal que supera los 10,000 trabajadores, ubicados en 92 oficinas en 37 países; trabajando de forma paralela en mas de 10,000 proyectos en el campo del diseño y la construcción. Arup es reconocido por sus expertos especializados en múltiples disciplinas que comprenden todos los aspectos del medio físico construido, proporcionando así, un alcance interdisciplinario que provee una completa gama de habilidades técnica y de conocimiento. Desde su concepción en 1946, ha sido la fuerza creativa detrás de la mayoría de los diseños mas innovativos y sustentables del mundo. Arup se enfoca

en la practica de tres principales áreas a nivel global: edificación, infraestructura y consultaria. Aunado al hecho de contar con un acercamiento interdisciplinario que significa que cada proyecto puede involucrar gente de todos o cada uno de los sectores en los cuales opera, su objetivo fundamental es el de reunir al mejor equipo profesional en el mundo para responder a las necesidades de sus clientes. Con motivos de este proyecto Arup ha conformado un equipo de expertos en sustentabilidad, infraestructura urbana e informática urbana. El equipo esta integrado por personal en nuestras oficina de Madrid, Londres y Nueva York.

Team
Pablo Lazo / Chris Lyth / Lean Doody / Ramon Rodríguez / Francisco Aguirre / Vincent Lee / Alex Mitchell / Jose Garcia

Fundación Metròpoli

www.fmetropoli.org

Logo

Fundación Metròpoli es una organización internacional a la vanguardia en la generación de nuevas instituciones de capital intelectual cuya aspiración es contribuir a la innovación y el desarrollo de ciudades y regiones a través de la investigación, intercambio e implementación de conocimiento con el objetivo de construir un futuro sustentable. El objetivo de la Fundación es fungir como catalizadora de transformaciones positivas en las ciudades y paisajes del siglo 21. Con base en Madrid (España) desde 1997, Fundación Metròpoli tiene sus orígenes en la primera "City Science Center" fundada por la Universidad de Pensilvania, EU. No existe institución individual capaz de responder a la complejidad de un mundo globalizado, por tal motivo una característica clave de Fundación Metròpoli es su trabajo en colaboración con redes de excelencia internacional. Por lo que busca asociarse con un amplia gama de profesionales provenientes de diferentes lugares y bagajes educativos para así generar conocimiento hacia una nueva cultura espacial. Su filosofía enfocada a la acción, guía el entendimiento que se tiene sobre las dinámicas de la ciudad, su conexión con el entorno y su papel en las futuras actividades de una sociedad del siglo 21. Su objetivo fundamental es el de concebir una mejor calidad de vida fomentada a su vez por la participación de aquellos que viven, trabajan, juegan y aprenden en las ciudades.

Team
Alfonso Vegara / Guillermo Sánchez / Ángel de Diego / Mark Dwyer / Lorena Sicilia / Andrea Imaz / María Díez / Aaron Kelley

Engram srl

www.engram.it

Logo

Engram es una oficina de visualización digital con base en Italia con mas de 15 años de experiencia, cuya especialización se basa en la visualización arquitectónica. Gracias a su bagaje arquitectónico, su trabajo toma una forma precisa, teniendo por objetivo la comunicación emocional material generada desde la arquitectura misma. Calidad, responsabilidad, habilidades orientadas a las resoluciones de problema y capacidades técnicas, hacen de Engram Studio la opción que una amplia gama de arquitectos alrededor del mundo eligen.

Team
Paolo Zambrini / Riccardo Zema / Thomas Arici / Francesco Spendio / Samuele Ballardini

Mobility In Chain

www.michain.com

Logo

MIC | Mobility in Chain con base en Milan, nace de la creencia de que la movilidad tiene una fuerte influencia en la forma en que vivimos y nuestra calidad de vida. Así mismo, MIC se creo a partir de la ambición de mejorar la calidad de vida a través de un profundo entendimiento de como nos movemos. En línea con su previa experiencia profesional, el equipo de MIC se enfoca en proveer consultaría en transporte a desarrolladores, planes maestros y entidades publicas en general alrededor del mundo. MIC adopta una visión innovativa y sustentable de la movilidad basada en la creencia de que el proceso de planeación urbana no debe ser objeto del pensamiento individual en busca de acercamientos de impulso al tráfico; por el contrario el seguimiento del nuevo urbanismo, el cual alienta los barrios compactos, densos y de uso mixto que a su vez marcan las premisas correctas para la aplicación de una forma de transporte original, caminable y de fomento al ciclismo y al transporte público como medios de movilización favorecidos. La particularidad de MIC, yace en la combinación de los principios previamente mencionados y del entendimiento de la necesidades de sus cliente sumado a los requerimientos de las entidades publicas, que a su vez afrontan todos y cada uno de los temas relacionados a los medios transporte, desde impacto del trafico hasta estudios de ingenierías civiles.

Team
Federico Parolotto / Francesca Arcuri / Jelena Crnogoric / Carlotta Bonvicini /Claudio Minelli / Nicola Tedoldi / Sebastiano Scacchetti

Studio FM milano srl

www.studiofmmilano.it

Logo

Studio FM Milano es una oficina de diseño grafico líder. Con sede en Milán, Italia, se especializa en diseño grafico, con especial atención a dirección de arte, identidad corporativa, libros, exhibiciones e instalaciones tanto de diseño así como diseño web. Los proyectos de Studio FM han recibido numerosos galardones incluyendo el European Design Award en el '08, '09´ y '10 en Estocolmo, Zurich y Rotterdam.

Team
Sergio Menichelli / Luca Terraneo

THE TEAM

Logo

Logo

Logo

Logo

Logo

carlorattiasociati srl

Walter Nicolino & Carlo Ratti

Logo

carlorattiasociati | Walter Nicolino & Carlo Ratti is a rapidly growing architectural practice that was established in the summer of 2002 in Turin, Italy. Drawing on Carlo Ratti’s research at the Massachusetts Institute of Technology, the office is currently involved in many projects in Europe, America and Asia. The work of the practice aims to revolutionize how we use urban informatics in architecture, working at every scale towards a future that is socially, economically and environmentally sustainable. Among the most recent projects are the design of the headquarters of the leading Trussardi fashion house in the center of Milan, Italy, 1000 Tsunami-Safe(r) houses in Sri Lanka, the Cloud for the London 2012 Olympics and the Digital Water Pavilion at the 2008 World Expo in Zaragoza, Spain. The office is also currently involved in the design of new cities in the Gulf region and Central America. The practice, selected in 2004, 2006 and 2010 for The Venice Biennale exhibition as one of the top offices in Italy, has received many awards, including Time Magazine’s ‘Best Invention of the Year´´ - and its work has been featured in leading publications worldwide, including the New York Times, the Boston Globe, Der Spiegel, Discovery Channel, BBC, Domus and Abitare.

Team
Carlo Ratti / Walter Nicolino / Jenni Young / Andrea Galanti / Giovanni de Niederhausern / Alberto Bottero / Andrea Cassi / Pietro Leoni / Antonio Atripaldi / Rene Perez Ignacio / Sofia Cornejo / Luis Mesejo

together with:

Prof. Dennis Frenchman

For this project, CRA will be joined by Professor Dennis Frenchman of MIT, who played a central role in the selection of the Parque Morelos site, development of Strategic Guidelines, and urban design of CCD. Professor Frenchman is among the world’s leading authorities on the design and development of digital media and creative cities, and the digital public realm. Among his experience is design of the Seoul Digital Media City in Korea; Mila Digital in Zaragoza, Spain; Media City: UK, Manchester; Twofour54 Media Zone in Abu Dhabi. At MIT he is director of the Centre for Advanced Urbanism and co-Principal Investigator on Making Clean Energy Cities in China, a major study for the Energy Foundation.

accenture

www.accenture.com

Logo

Accenture is a global management consulting, technology services and outsourcing company, with more than 257,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. Accenture is a Fortune 500 company listed on the New York Stock Exchange. The company generated net revenues of US\$27.9 billion for the fiscal year ended Aug. 31, 2012. Accenture’s global Intelligent Cities practice is composed of experienced professionals dedicated to the urban development agenda. They have City projects either ongoing or recently completed in Latin America, Asia, Europe and the Middle East. The work within Intelligent Cities is vendor-agnostic and value-driven. They work with cities to identify their challenges and opportunities and to develop architect relevant and pragmatic solutions. They focus on helping cities to realize the strategic value of ICT in solving urban challenges, working at the apex of physical and digital design; not only focused on technology solutions, but also on the important ‘softer’ components of business model, governance model and financing strategy innovation, which enable long term socio-economic and environmental value creation. Accenture has offices and operations in more than 200 cities in 54 countries. In this case they will team local market expertise and experience with their global Centre of Excellence in Intelligent Cities based in London and technology experts from the US.

Team
Ignacio Chacon / Carlos Niezen / Simon Giles / Serge Younes / Jen Hawes-Hewitt / Thomas Rodriguez / Guy Hudson / Lauren Ing / Katie Goodman / Javier Peñuñuri Ramirez / Miguel Bazan Romero /Marilu Peña / Silvio Pla Sarubi / Jessica Ryde

Arup

www.arup.com

Logo

Arup is a global firm of designers, engineers, planners and business consultants providing a diverse range of professional services to clients around the world. Arup have more than 10,000 staff located in 92 offices in 37 countries; at any one time, working on over 10,000 projects in the fields of design and construction. Arup are renowned for their specialist expertise in multiple disciplines encompassing all aspects of the built environment. At the same time, they are dedicated to an interdisciplinary approach that brings their full range of skills and knowledge to each project. Since their inception in 1946, they have been the creative force behind many of the world’s most innovative and sustainable designs. Arup has three main global practice areas: buildings, infrastructure and consulting. Although their multi-disciplinary approach means that any given project may involve people from any or all of the sectors in which they operate, their fundamental aim is to bring together the best professional team in the world to meet the clients’ needs. For this project Arup has assembled a team of experts in Sustainability, Urban Infrastructure and Urban Informatics. The team draws from staff in our Madrid, London and New York offices.

Team
Pablo Lazo / Chris Lyth / Lean Doody / Ramon Rodríguez / Francisco Aguirre / Vincent Lee / Alex Mitchell / Jose Garcia

Fundación Metròpoli

www.fmetropoli.org

Logo

Fundación Metròpoli is an international organization, at the forefront of a new generation of “intellectual capital institutions” that aspires to contribute to the innovation and development of cities and regions through the research, sharing and implementation of knowledge, and with the objective of building a sustainable future. The aim of the Fundación is to be a catalyst for the positive transformation of cities and landscapes in the 21st century. Based in Madrid (Spain) since 1997, the Fundación Metròpoli originates from the first ever ‘City Science Center´ founded by the University of Pennsylvania, USA. No single institution can respond to the complexity of the globalizing world, thus a key characteristic of the Fundación Metròpoli is to work in cooperation with a global network of excellence. It seeks partners from a wide range of places and professional backgrounds to generate knowledge towards a new spatial culture. Its action-oriented philosophy is guiding its understanding of the dynamic of cities, the connections with their surroundings, and their role in future oriented activities of 21st century society. Its overarching aim is a better quality of life enhanced by the active participation of those living, working, playing and learning in cities.

Team
Alfonso Vegara / Guillermo Sánchez / Ángel de Diego / Mark Dwyer / Lorena Sicilia / Andrea Imaz / María Díez / Aaron Kelley

Engram srl

www.engram.it

Logo

Engram is a digital visualization office based in Italy, specialising in architectural visualization for more than 15 years. Being architects gives their work a precise shape, aiming to create emotional communication material generated from the architecture itself. Quality, reliability, strong problem-solving and tecnicla capabilities make Engram Studio the choice of a wide range of architects all over the world.

Team
Paolo Zambrini / Riccardo Zema / Thomas Arici / Francesco Spendio / Samuele Ballardini

Mobility In Chain

www.michain.com

Logo

MIC | Mobility in Chain was founded on the belief that mobility influences the way we live and the quality of our lives. MIC was also created with the ambition of improving the quality of our lives through a profound understanding of how we move about. In line with their previous professional experience, the MIC team is strongly focused on international work, providing transport consultancy to developers, master planners and public bodies all over the world. MIC embraces an innovative and sustainable vision for mobility based on the belief that town planning processes should not be subject to the single-minded pursuit of traffic-driven approaches, and new urbanism, which enhances compact, dense, mixed-use neighbourhoods that in addition set the right premises to enforce the original form of transport, walking, followed closely by cycling and public transport, as the most favoured mode of movement. MIC’s peculiarity lies in the combination of the principles above with the understanding of the needs of the client, and with the requirements of the public bodies dealing with every kind of transport issue ranging from traffic-impact studies to civil engineering. Based in Milan, Italy.

Team
Federico Parolotto / Francesca Arcuri / Jelena Crnogoric / Carlotta Bonvicini /Claudio Minelli / Nicola Tedoldi / Sebastiano Scacchetti

Studio FM milano srl

www.studiofmmilano.it

Logo

Studio FM Milano is a leading graphic design office. Headquartered in Milan, Italy, it specializes in graphic design, specifically art direction, corporate identity, books, exhibit/installation design and web design. Studio FM projects have received many awards, including the European Design Awards '08, '09 and '10 in Stockholm, Zurich and Rotterdam.

Team
Sergio Menichelli / Luca Terraneo



Guadalajara Ciudad Creativa Digital

Una oportunidad de transformar nuestro futuro

Guadalajara Ciudad Creativa Digital, representa la gran apuesta de México por consolidarse en el mundo de la economía del conocimiento y la creatividad; una apuesta liderada por el Gobierno Federal y complementada con la fuerte y decidida participación del Gobierno del Estado de Jalisco, el Municipio de Guadalajara, la industria de Alta Tecnología, las Universidades y la Sociedad en general. Constituye nuestra oportunidad de consolidar a Guadalajara como el primer nodo global de Producción creativa digital en el mundo hispano parlante y en uno de los 10 mejores a nivel internacional.

A través de la estrategia Guadalajara Ciudad Creativa Digital, pretendemos no solamente la atracción de inversiones, generación de empresas, generación de empleos de alto valor agregado, incremento en la innovación y generación de propiedad intelectual; pretendemos contar con un nuevo modelo de territorio sustentable, de desarrollo integral económico- urbano-social-cultural que facilite el impulso de nuestro talento hacia una economía basada en el conocimiento. Ciudad Creativa Digital es una oportunidad histórica de transformar nuestra economía, nuestra industria tecnológica, nuestro modelo educativo, nuestro mosaico urbano y de servicios en el centro de Guadalajara continuando así la evolución e innovación de nuestra ciudad, dentro de un mundo cambiante y demandante, de competencia global y de creatividad constante.

Ciudad Creativa Digital, es además una valiosa oportunidad para remodelar nuestra ciudad como un referente de ciudad futura, incluyente y sustentable, que se pueda replicar en el resto del país para potenciar los territorios, para generar una verdadera ciudad-ecosistema de innovación y conocimiento, que genere prosperidad y gusto por habitarla, impulsando así el desarrollo de nuestra región y de nuestro México.

The opportunity to transform our future

Guadalajara Ciudad Creativa Digital, the transformation strategy for a new digital and creative cluster, is Mexico's big venture into breaking through and exploiting knowledge and creativity-based economies. It is a strategy led by Mexico's Federal Government and strongly complemented by active participation from Jalisco and Guadalajara State and Municipal Governments, as well as the regional high-tech cluster, universities and civil society in general.

Ciudad Creativa Digital represents our opportunity to consolidate Guadalajara as the first Spanish-speaking global creative and digital production hub and one of the top ten leading developments worldwide.

Through the Ciudad Creativa Digital strategy, we are pursuing not only the attraction of new investment, establishing new businesses, creating high-value-added jobs and increasing innovation and intellectual property generation, but also developing a new sustainable and integrated urban, economic, social and cultural model that will foster and drive our talent towards a knowledge-based economy.

Ciudad Creativa Digital is a unique opportunity to transform our economy, technology industries, educational model and urban footprint. This will allow us to continue to evolve and innovate our city, increasing our competitive and creative values in a constantly changing and ever more demanding global environment.

Ciudad Creativa Digital is also a valuable occasion to reshape Guadalajara to become a sustainable and inclusive model for future cities that can be replicated across the globe to generate true innovative citywide ecosystems of knowledge, prosperity and pride of living, encouraging the development of Jalisco and the whole of Mexico.

El Plan Maestro, presentado en este documento es una síntesis de la visión estratégica de Guadalajara Ciudad Creativa Digital, este plan maestro incorpora además los mecanismos de gobernanza, colaboración y trabajo en equipo tanto de instituciones públicas y privadas como de la sociedad civil y vecinos. El plan esta basado en las mejores practicas internacionales para el rediseño de ciudades, la creación de espacios creativos altamente atractivos con infraestructura de vanguardia para fomentar una gran calidad de vida, respetando nuestra identidad e historia; fincando en nuestras raíces culturales nuestra visión por un mejor futuro.

Un mejor futuro, esto es la Ciudad Creativa Digital, una oportunidad histórica que estamos consolidando y que estamos construyendo con pasión, energía y determinación.

Octavio Parga
Presidente de Consejo
Guadalajara Ciudad Creativa Digital AC

The master plan presented in this document is a compendium of the strategic vision of Guadalajara Ciudad Creativa Digital. This master plan incorporates ruling mechanisms of governance, collaboration and cross-functional teamwork of public and private institutions, as well as civil society and community members. The plan is based on top-end international benchmarks for regenerating cities, by providing highly attractive creative spaces with cutting-edge infrastructure that encourage an increased quality of living. We can achieve this while drawing on our cultural identity and history to create a healthier and enriched urban environment.

Guadalajara Ciudad Creativa Digital represents the promise of a better future; a landmark opportunity we are building through passion, energy and determination.

Octavio Parga
Chairman of the Board
Guadalajara Ciudad Creativa Digital AC

Board and advisory members / Miembros del consejo y asesores consultivos

CADELEC, Cadena Productiva de la Electrónica, A. C.
CANIETTI, Cámara Nacional de la Industria Electrónica de Telecomunicaciones y Tecnologías de la Información
CCIJ, Consejo de Cámaras de Industriales de Jalisco
CONACULTA, Consejo Nacional para la Cultura y las Artes de México
Gobierno del Estado de Jalisco, Oficina del Gobernador
Gobierno del Estado de Jalisco, Secretaria de Planeación
Gobierno del Estado de Jalisco, Secretaria de Promoción Económica
H. Ayuntamiento Constitucional de Guadalajara, Presidencia Municipal
H. Ayuntamiento Constitucional de Guadalajara, Sria. de Planeación
H. Ayuntamiento Constitucional de Guadalajara, Sria. de Promoción Económica
ITESM, Instituto Tecnológico y de Estudios Superiores de Monterrey
ITESO, Instituto Tecnológico y de Estudios Superiores de Occidente
PROMEXICO
Secretaría de Economía Gobierno Federal
SHF, Sociedad Hipotecaria Federal
U de G, Universidad de Guadalajara

Special thanks / Agradecimientos especiales

3 DMX, 3D Estudios A. C.
3MB, Convergencia Tecnológica de Occidente S. A. de C.V.
ANADIC, Asociación Nacional de Distribuidores de Tecnología Informática y Comunicaciones
APZUSA, Automatización de Procesos Zugasti S.A. de C.V.
CAAV, Centro Universitario de Medios Audiovisuales
CANACO, Cámara Nacional de Comercio Guadalajara
CANACO CENTRO, Cámara Nacional de Comercio Centro
CANADEVI, Cámara Nacional de la Industria de Desarrollo y Promoción de Vivienda
CANAGRAF, Cámara Nacional de la Industria de Artes Gráficas
CESJAL, Consejo Económico y Social del Estado de Jalisco
CINVESTAV, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional
CMIC, Cámara Mexicana de la Industria de la Construcción
COECYTJAL, Consejo Estatal de Ciencia y Tecnología de Jalisco
Colegio de Arquitectos del Estado de Jalisco, A.C.
Colegio de Arquitectos y Urbanistas del Estado de Jalisco, A.C.
Colegio de Ingenieros Civiles del Estado de Jalisco, A.C.
COMCE, Consejo Empresarial Mexicano de Comercio Exterior, Inversión y Tecnología
Comunaingeniería S.A de C.V.
Continental, Continental Automotive Guadalajara México S.A. de C.V.
COPARMEX, Confederación Patronal de la Republica Mexicana
Dell, Dell México, S.A. de C.V.
Diseño y Planeación S.C
EA, Energía y Arquitectura
Empresarios Centro Histórico
EPS, Estudios, Proyectos y Señalización
Euzen
Exodo, Exodo Digital Workshop S.A. de C.V.
FOXCONN, PCE Paragon Solutions México S.A. de C.V.
Grupo Naggar Proyectos Urbanos Guadalajara 2020
Gyroskopik Studios, S.A. de C.V.

Haiku
HILFE Consultores S.C.
HP, Hewlett Packard de México, S.A. de C.V.
IBM, IBM de México Manufactura y Tecnología S.A. de C.V.
IJALTI, Instituto Jalisciense de Tecnologías de la Información A.C.
INDAT COM
INTEL, Intel Tecnología de México S.A. de C.V.
IUSACELL, Iusacell, S.A. de C.V.
JALTEC, Sistema Universitario Tecnológico de Jalisco
Kaxan, Kaxan Games S. de R.L. de C.V.
MasFusion, MasFusion Multimedia S.C.
Mor & More
MTQ, Constructora Guadalajara
Patronato Centro Histórico
Plan V
PROPULSAR, Propulsar Estrategias y Políticas Públicas, S.C.
PUNTO ROJO, Marketing Consulting Group
Rubicon Ambiental
SCT, Secretaria de Comunicaciones y Transportes
Secretaría de Educación Jalisco
SITI, S.A. de C.V.
Toshiba, Toshiba de México SA de CV
UAD, Universidad de Artes Digitales
UAG, Universidad Autónoma de Guadalajara
UNIVA, Universidad del Valle de Atemajac
UP, Universidad Panamericana
UVM, Universidad del Valle de México
Vecinos de Colonia Centro
Vecinos de Colonia La Perla
Vecinos de la Colonia El Retiro
Vecinos del Parque Morelos
Vecinos y Comerciantes de Esteban Alatorre
Viraje, Arquitectura y Marketing



22

Economic Strategy: Governance Model

-
- 22.1 **CCD Governance Model**
 - 22.2 **Governance Principles**
 - 22.3 **Governance Model Structure**
 - 22.4 **Roles & Responsibilities**
 - 22.5 **Roadmap for Implementation**

22.1.

CCD Governance Model

Overview

Corporate governance is the system by which enterprises are directed and controlled. It is necessary for CCD to develop and implement a system of governance that satisfies the terms of the enterprise and which ensures that roles and responsibilities within CCD are clearly defined.

CCD's governance model is defined by a number of key characteristics – in particular, it aims to be inclusive and representative to ensure that the needs and issues of citizens, businesses, academia, private donors and the government (at different levels) are fairly represented. Other key characteristics include being independent (of political cycles, and free from any potential forms of conflict of interest), transparent (to support open reporting of financial performance) and flexible, in order to adapt to the changing nature of CCD and its surrounding neighbourhoods over time.

The model has also drawn upon lessons from other large development projects, such as the inclusion of a group of non-executives, who are specialists and senior managers in industry, finance, professional services etc, who will provide independent advice to the Trustees and the Board in relation to investment and development decisions.

The end-state governance model is comprised of two main entities - The Fideicomiso (FC) and the Association Civil. The FC has responsibility for financial control of CCD – it holds the budget and allocates investment funds based on CCD's strategic objectives. The AC is the functional entity responsible for overseeing and implementing CCD strategy (as proposed by the Executive Management).

The Fideicomiso is formed of 20 members (or seats), which represent the investors in CCD. Seats in FC are allocated on a proportional representation basis, whereby the greater the level of investment by a party or individual, the greater the number of FC seats they will be allocated. In the initial phase, investment will be received from different levels of government (municipal, state and federal); therefore the FC will be formed of government representatives. Over time, these seats will transition to other investment parties as investment is drawn from more diverse sources. The FC cannot provide a return to investors; therefore private funds are likely to be in the form of philanthropic donations. The Fideicomiso allocates investment funds to the AC based on their proposals, set out in an Annual Strategic Plan (ASP).

The AC is headed by a Chairman and also includes a group of Trustees, the Board, Board Committees and Non-Executive advisors. In partnership with the CCD Executives, the AC develops and approves developments within CCD. Funding for development is provided by the FC and can take the form of cash or an investment "in kind" such as plots of land. Private sector investors can partner with the AC and are able to earn a return on this investment; however the AC as an organisation will always remain net-zero in terms of cash flow. This is achieved via annual reconciliation, whereby all profits are returned to the FC for debt repayment and future investment. As the AC pays off the FC's initial investment, control of the FC will gradually transition to the AC.

The governance model structure supports effective management whilst remaining dynamic and responsive to the needs of CCD.

The governance model comprises two main entities - the Fideicomiso which has financial control of CCD and the AC which is the functional entity responsible for overseeing and implementing CCD strategy.



22.2. Governance Principles

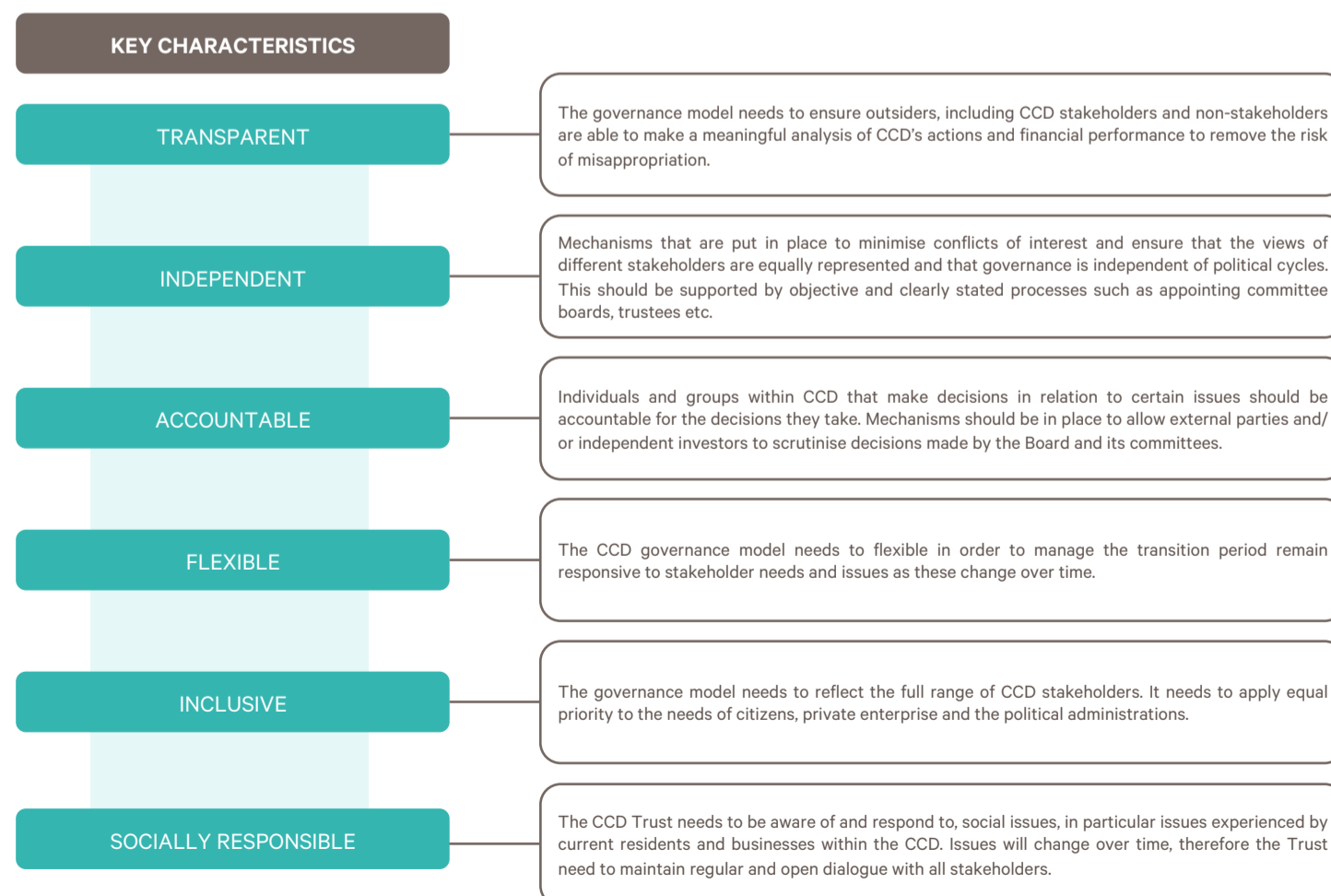
22.2.1. Why does CCD need a Governance Model?

Corporate governance is the system by which enterprises are directed and controlled. It is necessary for CCD to develop and implement a system of governance in order to ensure that roles and responsibilities are clearly defined. This will help to enable more effective and quicker decision making.

There are a number of key characteristics, common to many corporate governance models that CCD should try to incorporate. These are shown below.

A robust governance model will underpin CCD's performance by clearly defining roles and responsibilities around how CCD will be managed and controlled

The governance model needs to ensure outsiders, including CCD stakeholders and non-stakeholders, are able to make a meaningful analysis of CCD's actions and financial performance to remove the risk of misappropriation



Images: www.canarywharf.com



22.2.2. Governance model benchmarking: Canary Wharf, London

THE DEVELOPMENT

Canary Wharf in East London's docklands area, is a 97-acre site and was formerly home to shipping docks. During the early twentieth century, the docklands were thriving, however new technology and containerisation meant by the 1970s most of the docks had closed, resulting in the loss of over 150,000 jobs in just 10 years. In the 1980s Canary Wharf was designated an 'enterprise zone' to encourage inward investment - it has since undergone a complete transformation and is now a major international financial centre.

The development currently comprises 15 million square feet of office and retail space and includes 4 retail malls, over 200 shops bars and restaurants and 20 acres of landscaped areas.

PRIORITY ISSUES FOR THE DEVELOPMENT

- Generating employment
- Attracting national and international businesses to establish offices at the site,
- Improving the environmental quality of the area
- Improving transport links to link the site to the rest of central London

CANARY WHARF GROUP PLC

The site is owned by the Canary Wharf Group – an integrated property development, investment and management group of companies. New areas of the site continue to be developed and the Group and its investment partners have planning permission to approximately double the working population of the site over the next 20 years.

ACHIEVEMENTS

Through its subsidiary, **Canary Wharf Management Limited**, the Group manages all of the external areas on the 97 acre Canary Wharf Estate, 20% of which is landscaped parks, plazas and walkways with over 1,000 trees and 70,000 seasonal plantings. It also manages over 4 million square feet of Grade A office space and approximately 660,000 square feet of retail space.

CWG has developed more than 200 shops, bars, cafes and restaurants at Canary Wharf, including many of the world's leading brands. It runs over 100 performing arts and events annually, most of which are free. More than 60 art works by 45 artists and designers are on public display throughout the Estate.

GOVERNANCE STRUCTURE

a. The Board

The Board is responsible for the overall management and strategy of the Group. It is formed of the Chairman and CEO, the Managing Director, and 6 non-executive directors.

b. Board Committees

Audit Committee: Responsible for ensuring that the financial performance of the Group is properly reported on and monitored by external auditors. It is formed of 3 non-executive directors and meets on a quarterly basis.

Operating Committee: Responsible for monitoring how the Group's business plan and business plan budget is being implemented by the management. This can include recommending ways in which the business plan or business plan budget should be varied from time to time (power to approve these changes remains with the board). This committee is formed of 2 executive, and 3 non-executive directors and is chaired by the CEO. It meets on an ad-hoc basis. All members of the operating committee represent the industries of the

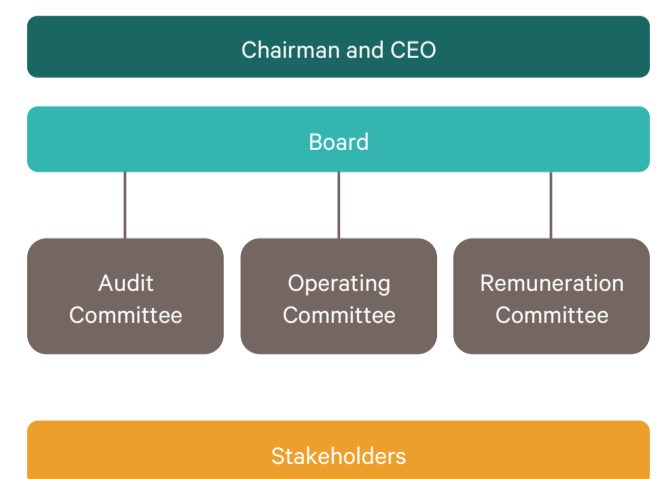
The board and its committees should include non-executives will deep industry skills and expertise to help advise on strategy, investments and key decision making

Canary Wharf financial services cluster and represent the interest of property development and industry.

Remuneration Committee: Responsible for reviewing the performance of the executive directors and management team and agreeing compensation packages for the Group. It is formed of non-executive directors and meets on an ad-hoc basis.

LESSONS FOR CCD

- Board members to include non-executives to help independently assess the strategy, planning and investment decisions made by the board.
- Non-executive board members should be senior individuals representing the interests of major stakeholders for example digital creative business, government, education citizens and real-estate.
- Committee members should reflect the businesses and citizens they represent. In the case of CCD, committees should reflect the types of businesses and citizens that CCD is trying to attract.
- Committees could include executive and non-executive members and where possible, should be chaired by a non-executive.



22.2.3. Governance model benchmarking: Dubai Internet City

THE DEVELOPMENT

Dubai Internet City (DIC) was established in 2000 as an Information and Communications Technology (ICT) business park, attracting global and regional companies. This clustering of businesses from across the ICT value chain allows companies to develop and encourages innovation.

As well as attracting Fortune 500 global companies, the park also includes a technology start-up incubator, to attract entrepreneurs and small enterprises.

Dubai Internet City is a 'free zone' meaning companies located there have the following benefits:

- Retain 100% foreign ownership.
- Exempt from all corporate taxes for a period of 50 years.
- Exempt from personal taxes for a period of 50 years.

DIC also provides a range of services to businesses to make it easier for them to comply with laws and regulations that apply in the UAE. These services include company incorporation, trade licenses, visas etc.

GOVERNANCE AND REGULATION

Dubai Internet City is located and operates within the jurisdiction of Dubai Technology and Media Free Zone. The free zone is regulated by an independent government body, the Dubai Technology and Media Free Zone Authority (DTMFZA). The DTMFZA is responsible for developing and implementing relevant regulations

that apply to all businesses operating within the free zone, to ensure that they are complying with international standards and are able to compete effectively on a global scale. Specific regulations have been developed for all sectors operating at DIC, including ICT, Media, Education and Sciences.

The DTMFZA also oversees the master-planning and construction of all developments under its jurisdiction.

The DTMFZA Zoning Division works to ensure optimal land use on the site and that development is sustainable, responding to economic and social needs. The Zoning Division has two departments – Master planning and Development Control. The Development Control department approves all aspects of the architectural, structural and MEP design and oversees all health and safety aspects both during and after construction.

LESSONS FOR CCD

- Provide a 'one-stop-shop' for businesses locating to CCD where they can access information regarding local regulations, tax structures etc.
- Ensure that there is clear responsibility for monitoring on-going development in CCD and surrounding areas for architectural quality and sustainability (environmental, social and economic) impact.
- Creation of a "Development Control" department which has the purpose of approving all aspects of the architectural, structural and MEP design and oversees all health and safety aspects both during and after construction.

The governance model should clearly set out roles and responsibilities in relation to maintaining the quality of the development now and in to the future

Images: www.dubaiinternetcity.com



22.2.4. Governance model benchmarking: Digital Media City, Seoul

THE DEVELOPMENT

Digital Media City is a new digital-media cluster in western Seoul – currently under development, with construction due to be completed by 2015. It is designed as an eco-friendly city, with a focus on the following digital services:

- Research and development of media and entertainment technologies, for example films, animation, games music, production and distribution of digital content
- Digital content distributing and consuming industries
- Software and IT service industries
- Research and manufacturing of IT, biotechnology and nanotechnology

The site covers approximately 570,000 square meters, with nearly 50% of this being public space. 600 companies are expected to move in to DMC, creating 60,000 jobs.

The aim is to create a state-of-the-art city that "leads economically, culturally and environmentally friendly development as the centrepiece of global information media industries."

The development will aim to fulfil three key roles – digital media content production centre; digital media / academia / industry research collaborations; high-tech business centre. The interaction between these three, will result in DMC becoming a world leading digital cluster.

GOVERNANCE AND REGULATION

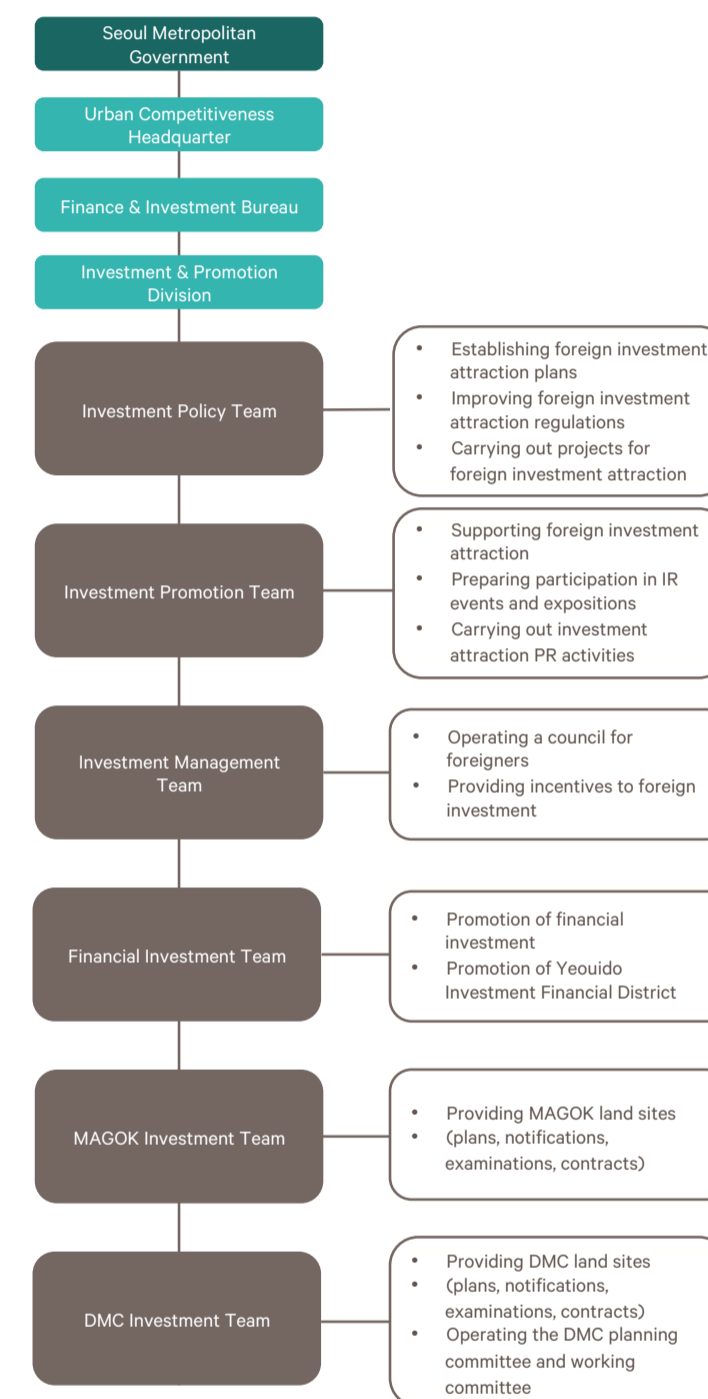
The DMC is Seoul City's project. The 'Investment Attraction Department', part of the Urban Competitiveness department of Seoul City is in charge of the development of DMC.

LESSONS FOR CCD

- Ensure that environmental and cultural impacts form a central part of decision making
- Build connections between academia and industry to encourage innovation

A governance model that effectively builds connections between industry and academia will help to encourage innovation

Images: www.discoveringkorea.com; dmc.seoul.go.kr



22.2.5. Stakeholder Overview

STAKEHOLDER LANDSCAPE

A number of stakeholder groups will be impacted by the redevelopment of CCD. The level of impact will vary by stakeholder group, and is likely to be strongly linked to the stakeholder's geographical proximity to CCD, with those groups currently located in CCD experiencing the highest level of impact.

Each stakeholder group will have a number of key issues and priorities that they want to be fulfilled by CCD. The governance model captures these issues and aims to ensure that CCD can respond to them and assigns responsibility for this.

CIVIL SOCIETY

This group of stakeholders comprises current and future CCD residents as well as people who live in other parts of Guadalajara. They are concerned with how the CCD development will impact their day-to-day quality of life, including issues such as housing, demographic groups, transport etc. Citizens who currently live in the CCD area are likely to be most affected.

PRIVATE SECTOR

This group of stakeholders comprises businesses of all sizes, ranging from small and medium enterprises to large corporations, located both in CCD and in other parts of the city. Businesses are looking to CCD to provide new opportunities, such as access to new markets and customers and to provide ways of supporting efficiency improvements through new technology etc.

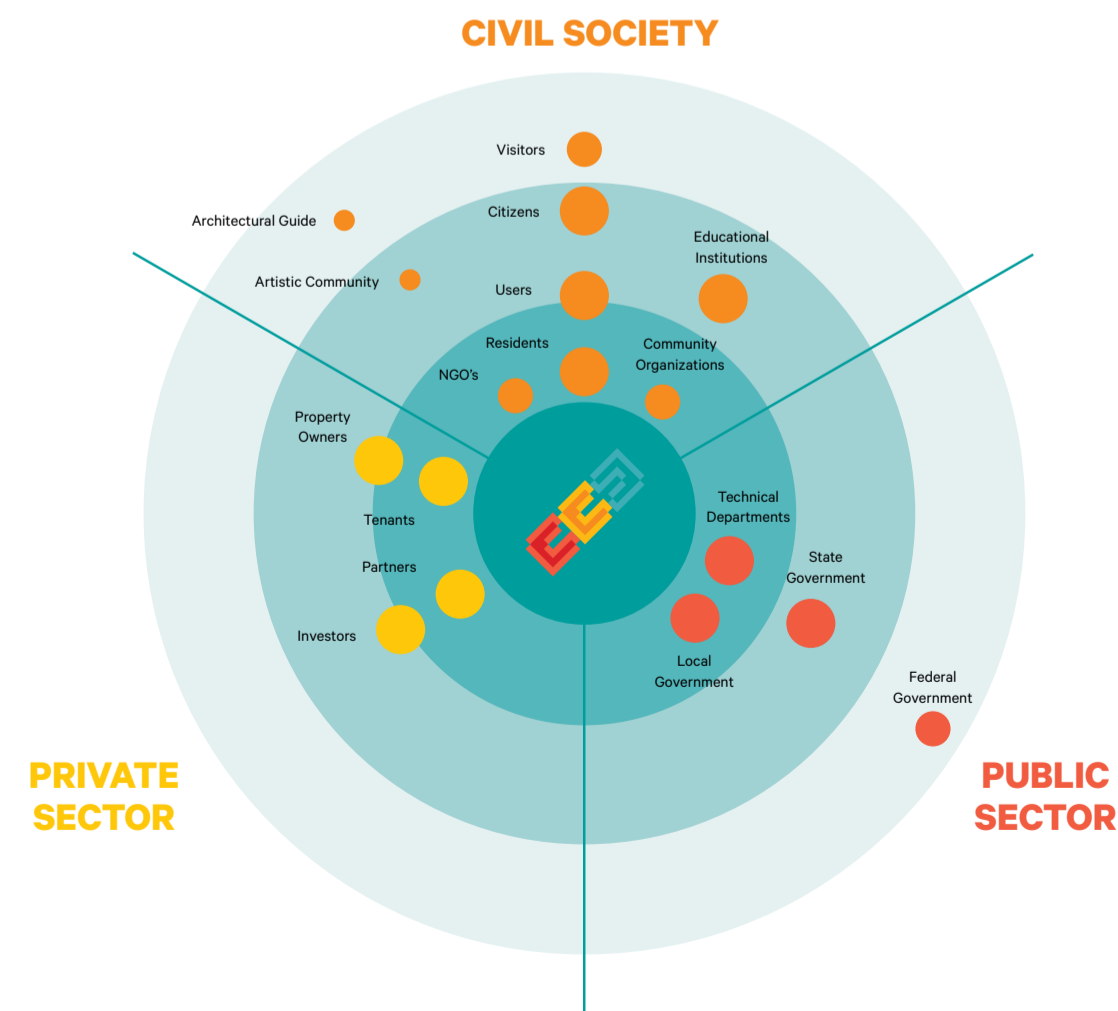
An important underlying factor that is needed to support this growth is access to skilled labour – this is something that CCD will also need to attract.

PUBLIC SECTOR

This group of stakeholders comprises local, regional and national government, as well as education providers. They are concerned with ensuring the efficient implementation, management and operation of CCD, as well as ensuring that businesses, residents and visitors enjoy a high quality environment.

Stakeholder groups have different priorities and will be impacted differently in varied ways based on their current and future level of interaction with CCD. The governance model ensures that CCD is able to respond to all of these priorities, both present and future

CCD stakeholders needs by type and relevance



22.2.6. Issue Mapping

Issue mapping is an analysis technique to ensure that all stakeholder groups needs are met and represented in the governance model

CIVIL SOCIETY

Civil societies primary focus is on their housing and the effects that changes made in CCD will affect their day to day lives. For this reason in the governance model it should not just be noted that all of the groups are represented but that the issues such as housing, safety and transport are accurately represented

PRIVATE SECTOR

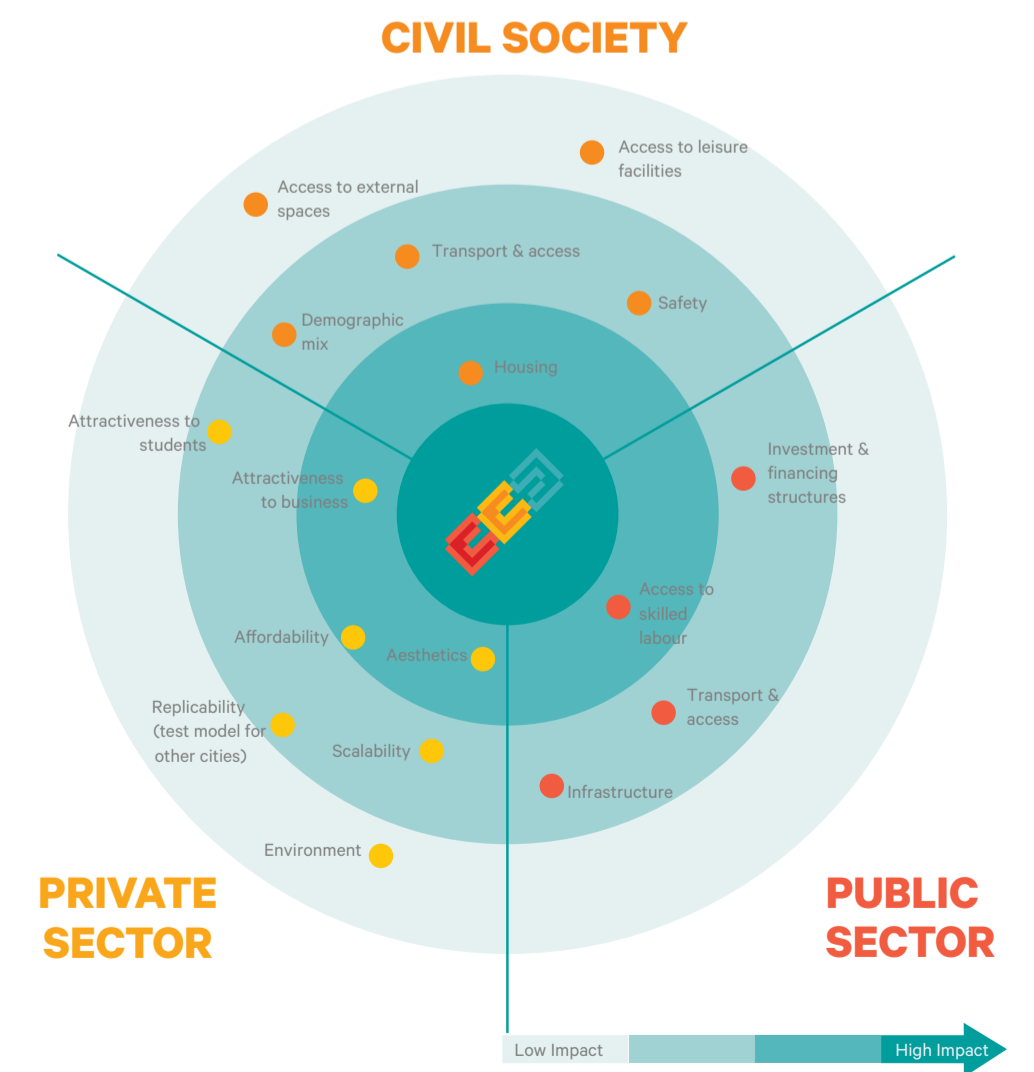
The Private sector are likely to ensure they have strong representation for their interests in CCD but the design of the governance models needs to ensure that all issues and sectors are currently represented not just those with the loudest voice. Identification of skilled workers to represent themselves within the governance model will support identification of methodologies for attracting more workers to CCD strengthening growth potential

PUBLIC SECTOR

The governance from the public sector needs to ensure that all aspects of public service are represented but also ensure that public issues are represented that may be outside of traditional service structures. These are highlighted by this issue analysis. Elements such as Aesthetics and Replicability will need to have a voice in the governance of CCD.

Analysis of stakeholder groups allows for clear identification of core issues which should be considered when building a governance model to ensure all stakeholder groups have their needs met

CCD stakeholder needs by level of impact



22.3.

Governance Model Structure

FIDEICOMISO (FC)

The Fideicomiso (FC) is the entity responsible for financial control of CCD – it holds the budget and allocates this according to funding requests identified in the annual plans submitted by the Association Civil (AC).

The FC's sources of finance will be Municipal/State/Federal government, philanthropic donations, raising debt, public and private sector funds etc. Investments can take the form of cash or "in kind" investments such as land parcels. The Fideicomiso cannot offer a return on investment.

The Fideicomiso is formed of 20 seats. These are allocated on a proportional basis to investors based on the level of investment given.

ASSOCIATION CIVIL (AC)

The Association Civil (AC) is the functional entity responsible for overseeing and approving the strategic direction of CCD (as proposed by the Executive Management). The AC is headed by a Chair person and also includes a group of Trustees, Board, Board Committees and Non-Executive advisors. Within the overall structure of CCD, the AC acts like a holding company.

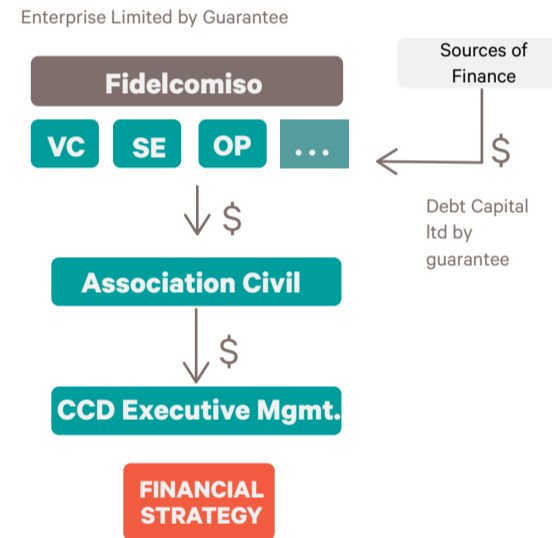
The AC receives funding for projects and investments from the FC. Private sector individuals and entities are also able to invest in AC projects in order to earn a return from the derived revenues. All revenues generated by the AC are fed back to the FC, as part of an annual reconciliation process – the AC therefore is always net-zero.

The Board and Board Committees are scalable and will be expanded over time in order to align with the development phases of CCD.

EXECUTIVE MANAGEMENT

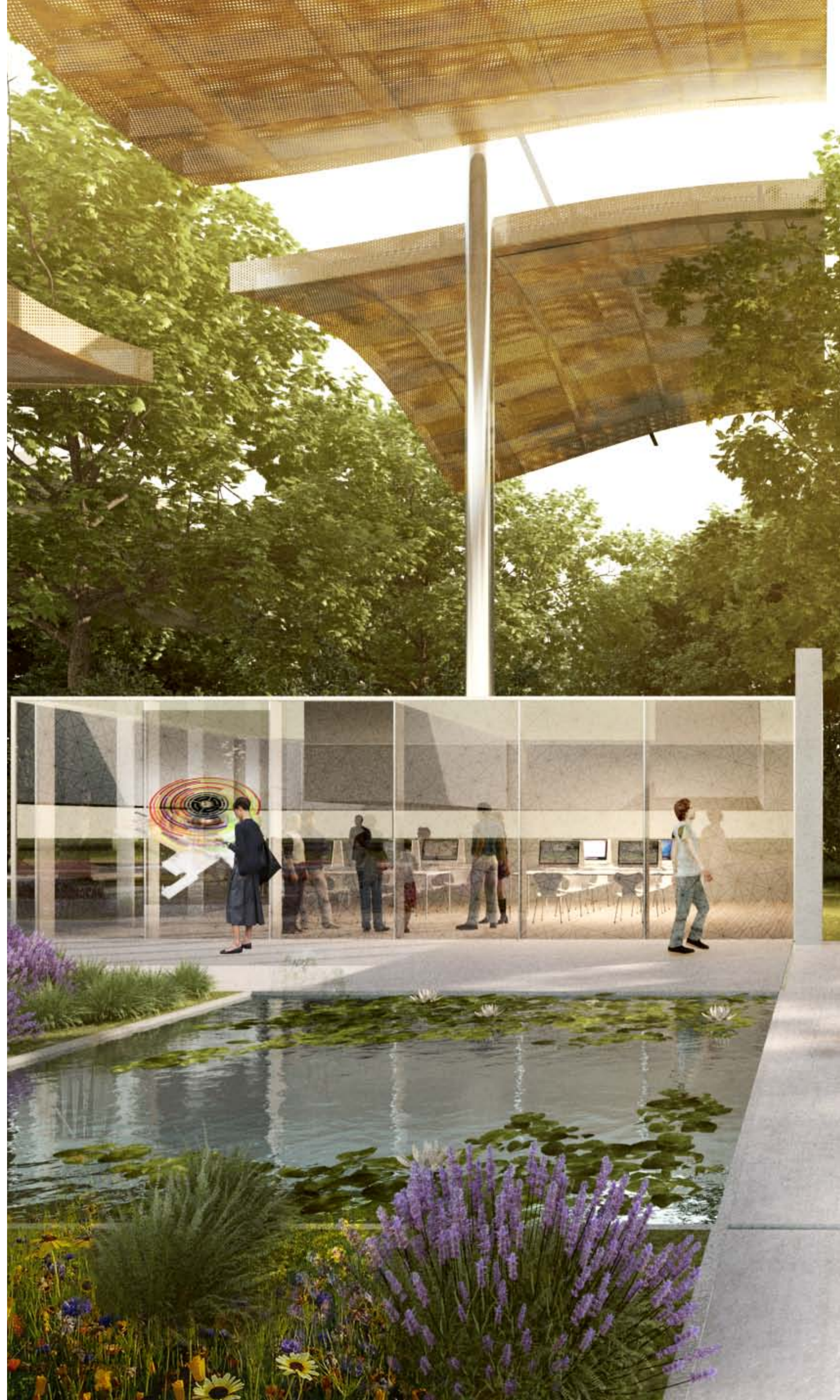
The Executive Management is responsible for defining the strategic direction of CCD and managing the day-to-day implementation of this. The Executive Management provides the link between the Association Civil (AC) who approve the strategic objectives for CCD and the Operating Units (OUs) responsible for implementing the strategy. In the overall structure of CCD, the Executive Management and other operating units act like an operating company for CCD.

Governance Model Structure and Financing Structure



The governance model for CCD provides clear linkages and lines of communication between the Fideicomiso, Association Civil and the executive management team

Fideicomiso (FC)	
Key Function	Number of seats
<ul style="list-style-type: none"> Overall financial control of CCD Management and allocation of budget to the Association Civil (AC) and other investment mechanisms within CCD Annual reconciliation of revenues from AC Represents the parties who have contributed funds or assets to the CCD (number of seats in FC is proportionate to the level of investment provided) Does not provide a return on investment 	20 (filling these seats will be phased over time)
↓	
Association Civil (AC)	
Key Function	Number of seats
<ul style="list-style-type: none"> Formed of a Chair, Trustees, Board, Board Committees and Non-Executives Develop the Annual Strategic Plan (ASP) for CCD Interface with the Executive Management in order to develop strategies and identify budget required to implement the strategy Collects revenues from investments The Board and the Board Committees are scalable in terms of number of members 	50 – 100 (scalable over time)
↓	
Executive Management	
Key Function	Number of seats
<ul style="list-style-type: none"> Formed of executive level positions (Managing Director, Operations Director and Finance Director), operating unit leads and support functions such as legal and PR Acts as an interface between the board, trustees, committees and the operating units Responsible for the strategic management of the CCD and includes core functions to support each of the Operating Units (OUs) Develop strategies including budget requirements for the development of CCD, which is taken to the Trustees for approval 	12 (scalable over time)



22.4. Roles & Responsibilities

22.4.1. In Detail: Fideicomiso

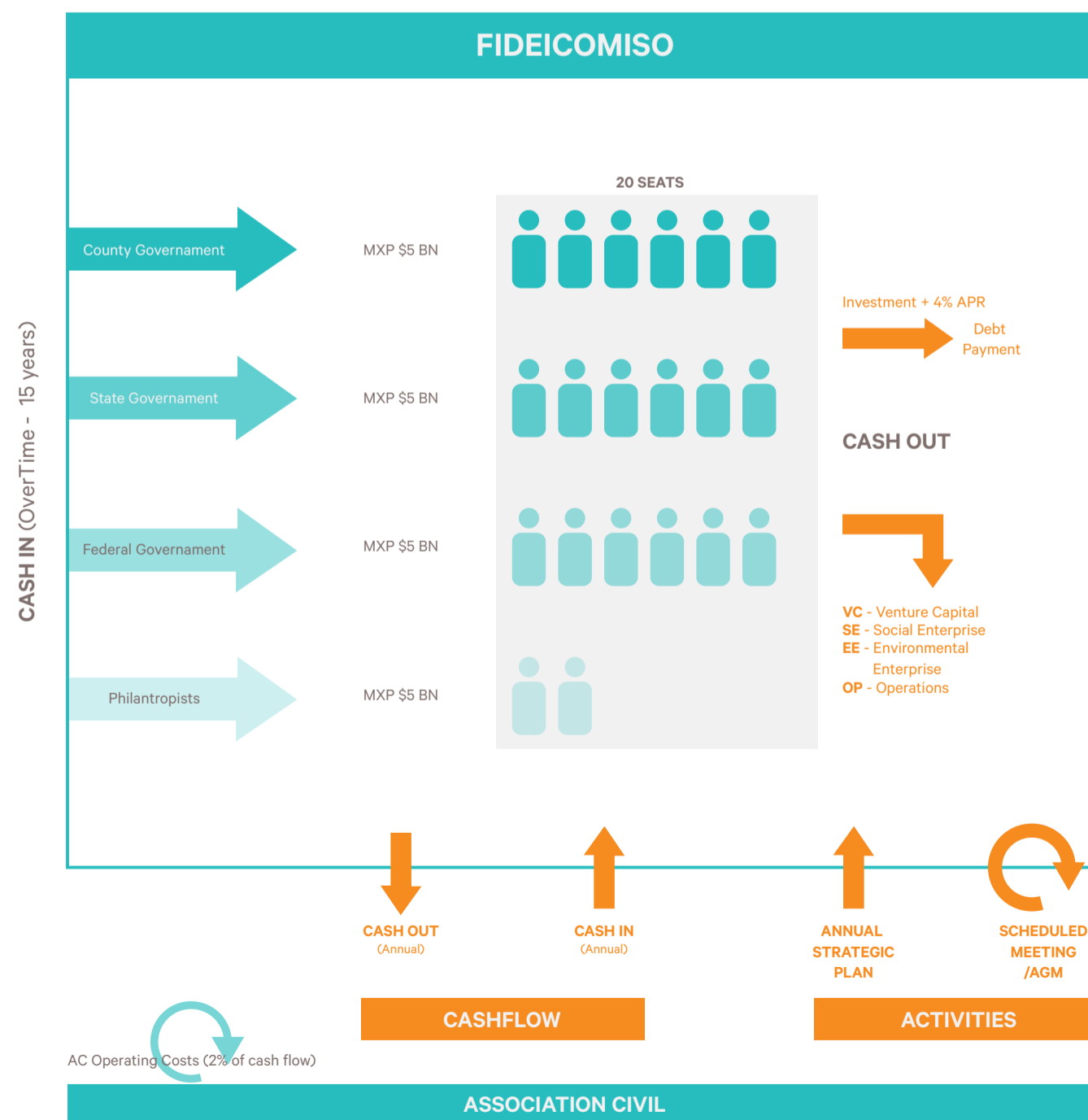
The **Fideicomiso (FC)** is the entity responsible for financial control of CCD – it holds the budget and allocates this according to funding requests identified in the annual plans submitted by the Association Civil (AC). The FC receives inward investment from a number of sources. In the first instance, this is expected to be from government sources (county, state and federal funds), however this could also include philanthropic donations and debt financing. The FC cannot offer a return to investors but private investors can earn a return by investing in Association Civil's developments and projects.

Returns are also received from the AC – as the AC's investments generate revenue, this is returned to the FC and will be used to repay loans and stimulate commercial, social and environmental investment in CCD. The Fideicomiso has 20 positions, which are allocated to investors on a proportional basis, i.e. the greater the investment, the greater the number of seats that investor will be allocated. Members of the FC cannot be members of the Association Civil (in any capacity) at the same time in order to avoid any potential conflict of interest.

Communication between the Fideicomiso and the Association Civil is structured around scheduled meetings, held quarterly and the Annual General Meeting (AGM).

The meetings provide a forum for the discussion and iteration of the Annual Strategic Plan as appropriate. Meetings outside of the regular scheduled meetings will be the exception, but could be arranged on an ad-hoc basis for urgent issues as and when these occur.

The Fideicomiso is the entity responsible for financial control of CCD – it manages the budget and allocates this to the Association Civil based on the requirements of the Annual Strategic Plan



22.4.2. In Detail: Fideicomiso Financing

In the first instance, the Fideicomiso budget will be allocated to the Association Civil (AC) in order to fulfil the strategic objectives for CCD. However, once the AC investments start generating revenue and the initial debts have been paid off, funds will be released from the FC to invest in commercial, social and environmental projects and developments and will be managed by the Investment Company (InvestCo).

- Investments in **Commercial Enterprise (CE)** could be made via several mechanisms, including angel investment and venture capital. **Venture Capital (VC)** funds will be used to encourage investment in start-up businesses and SMEs. As other venture capitalists are attracted to CCD, InvestCo's VC investments will reduce and eventually cease to allow space for private investors.
- Once VC investments have started reducing, it is expected that CCD's investment attention will shift to have a **Social Enterprise (SE)** and **Environmental Enterprise (EE)** focus. These could include investments in housing, education, healthcare, biodiversity and waste management.
- A further focus on **Cultural Enterprise (CE)** could also be developed, in order for CCD to invest in culture and arts institutions including galleries, museums, cultural history projects etc.
- Running concurrently with the above investments, funds will also be directed to an **Operations** fund, which is used by the Asset Management company to invest in operations and maintenance of the CCD including assets in the public realm.

DEBT / BONDS

Debt could be raised in one of the following three ways:

- Government (county, state or federal) bonds – government raises debt and issues this as cash to FC. The debt sits on government balance sheets.
- The FC issues bonds – this is preferable to government bonds as the debt will sit with FC, and is therefore easier to track.
- Debt obtained from the World Bank / IFC.

VENTURE CAPITAL (VC)

Venture Capital funds could be used to provide early-stage finance to high-risk, high potential start-up digital creative businesses. In return for capital, the Invest.Co operating unit will acquire an equity stake in the business. This form of investment will help to encourage other venture capitalists to invest in CCD businesses – at which point, VC investment funds provided by FC will be reduced to allow sufficient space for private investors. Post CCD Phase 3, this investment could spin-off in to angel investments in very high risk businesses, in order to extend CCD's foundation mission for the FC.

SOCIAL ENTERPRISE (SE)

As well as the economic development of the city, the CCD will also have a social enterprise mission to improve the welfare of persons displaced during development and citizens living in neighbouring areas. This investment will be phased to coincide with the ramp-down of the commercial VC investments and will focus on improving education, healthcare and living standards rather than short-term returns.

ENVIRONMENTAL ENTERPRISE (EE)

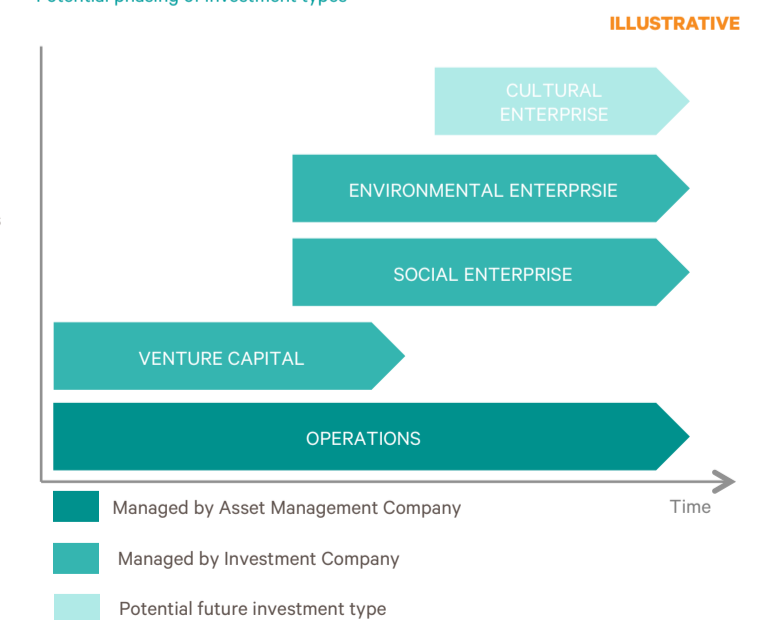
In addition to the social enterprise mission, CCD also aims to improve the environmental sustainability of surrounding neighbourhoods. Environmental Enterprise investments will coincide with the ramp-down of commercial VC investments and will include investments in businesses or technologies to improve water quality, waste, sanitation, biodiversity, air quality, carbon emissions and greening of the public realm.

OPERATIONS (OP)

In addition to the social enterprise mission, CCD also aims to improve the environmental sustainability of surrounding neighbourhoods. Environmental Enterprise investments will coincide with the ramp-down of commercial VC investments and will include investments in businesses or technologies to improve water and air quality, waste, sanitation, biodiversity, decrease carbon emissions and help drive forward the greening of the public realm.

Budget allocation by the Fideicomiso will occur in phases with debt repayment first, followed by investments in commercial, social and environmental enterprise beyond CCD

Potential phasing of investment types



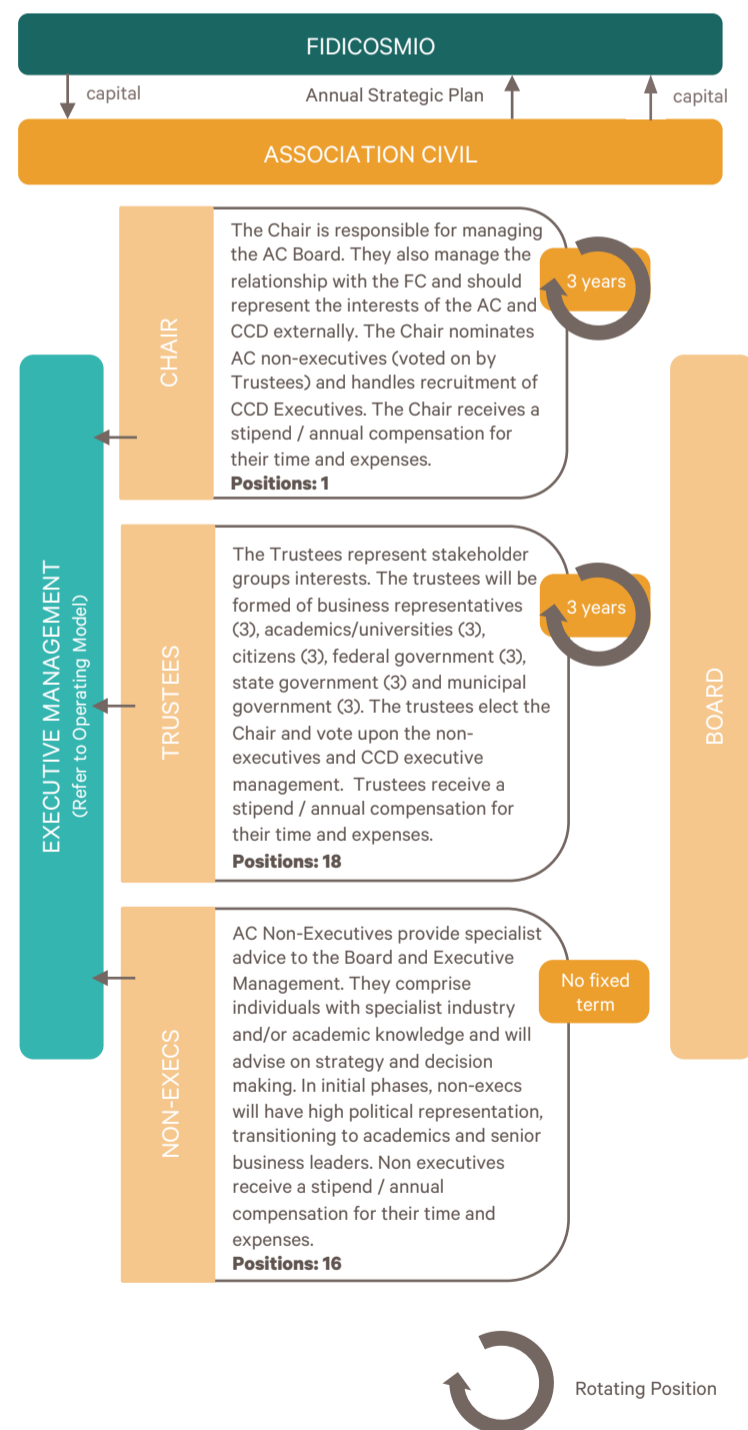
22.4.3. In Detail: Association Civil

The **Association Civil** (AC) is the functional entity responsible for overseeing and approving the strategic direction of CCD (as proposed by the Executive Management). The AC is headed by a Chair person and also includes a group of Trustees, Board, Board Committees and Non-Executive advisors.

The AC receives recommendations for investments from the Executive Management and these are reviewed by the board committees and non-executives. Once investments have been approved by the Trustees, the investment budget requirements are passed to the FC.

The AC receives funding (or investments in kind) from FC, however private investors are also able to partner the AC and can earn a return from their investment. A private investor, for example, could invest \$1billion in land within CCD. The plot of land will undergo planning, zoning and development, for example with water, electricity, waste and telecommunications services being provided. The plot will subsequently increase in value and could be sold by CCD for a profit. The investor will receive their original investment plus a share of the sale profit. Any additional profit is returned to the FC for new investments. This applies to all revenues generated by AC - they are returned to the FC to repay debts and to be re-invested in future AC developments.

The structure of the Association Civil reflects the governance model's ambition to be inclusive and representative. The trustees are drawn from a number of groups in order to reflect CCD's diverse stakeholders. In addition, having fixed-terms for trustees will help to ensure that the AC continues to be inclusive and representative by giving new individuals the opportunity to join. The Board's committees will draw its members from enterprise, academia, government, professional services etc. which will also help to represent stakeholder needs whilst reviewing proposals for development from the operating units.



The Association Civil draws its members from a diverse range of groups, reflecting the governance model's ambition to be inclusive and represent all stakeholders equally

22.4.4. In Detail: Association Civil Board Committees

In the final governance model, the Trustees, Board and non-executives will be supported by a number of committees.

These are specialist groups, formed of individuals with relevant industry and/or academic experience in that subject area.

The committees members' responsibilities are defined as:

- Review strategies proposed by CCD Executives
- Make recommendations for any strategic changes, representing Trustees
- Represent critical stakeholders in a non-executive capacity
- Be formed by trustees, experts and non-executives
- Act in accordance with Articles of Incorporation

Committees are scalable in terms of number of members and their implementation can be phased to match development within CCD. It is recommended that the following committees are established first:

- Urban Development committee

- Economic Development committee
- Remuneration committee

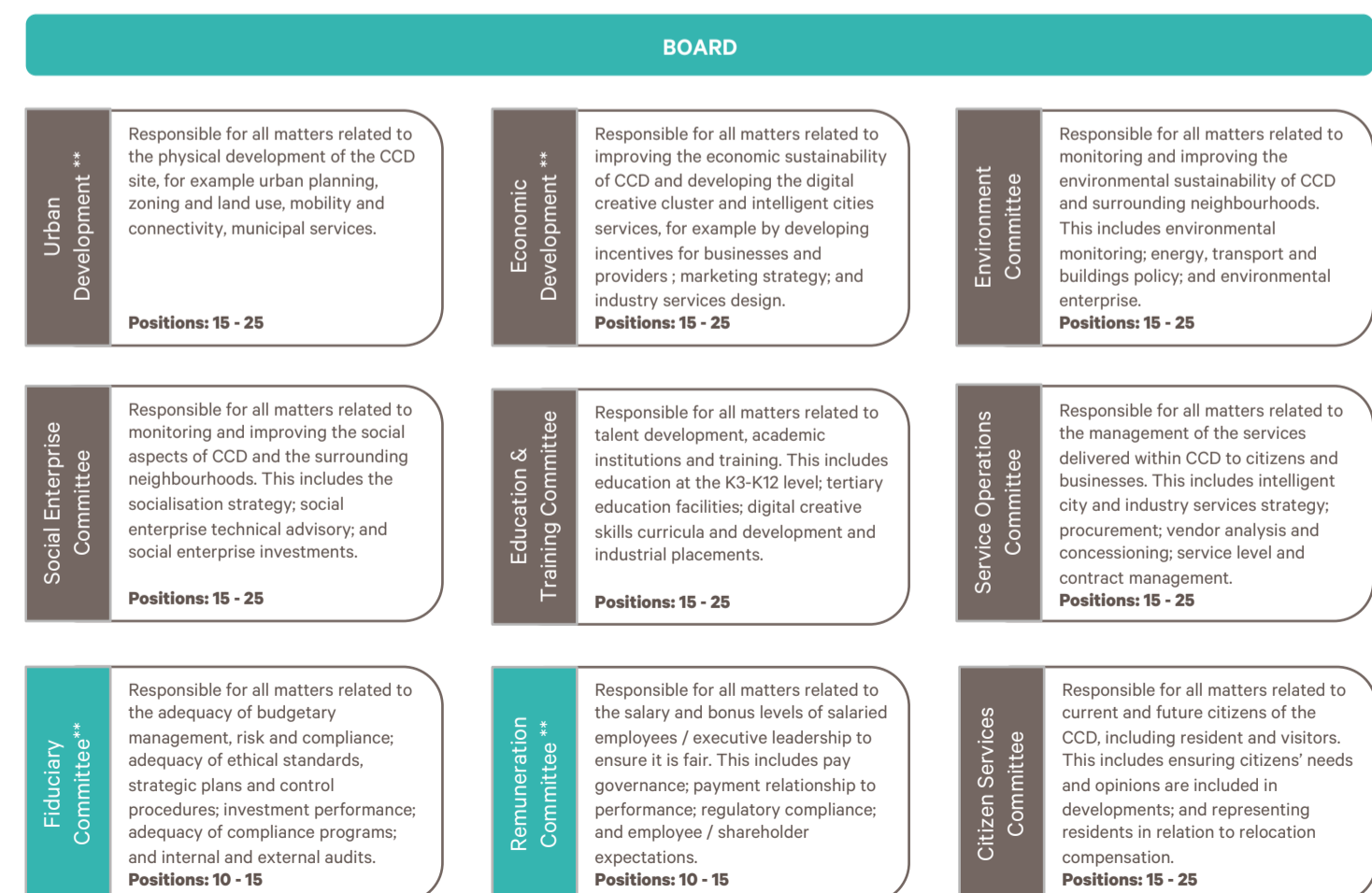
The committees will meet on a regular scheduled basis, although this will vary between committees, from monthly to quarterly or annually, as appropriate. Committees could be formed of Trustees, experts and non-executives, but can be a standalone role. Committee members will receive a stipend for their time and expenses.

In the interim planning stages, the role of the committees will be fulfilled by a number of specialist working groups.

COMMUNICATIONS

The Board will also include a communications officer, to work with the marketing and communications functions within the Executive Team and Citizen and Enterprise Services operating units to promote CCD locally and internationally, helping to attract foreign direct investment.

* Committees that should be prioritised and formed first
■ Internal focus ■ CCD focus



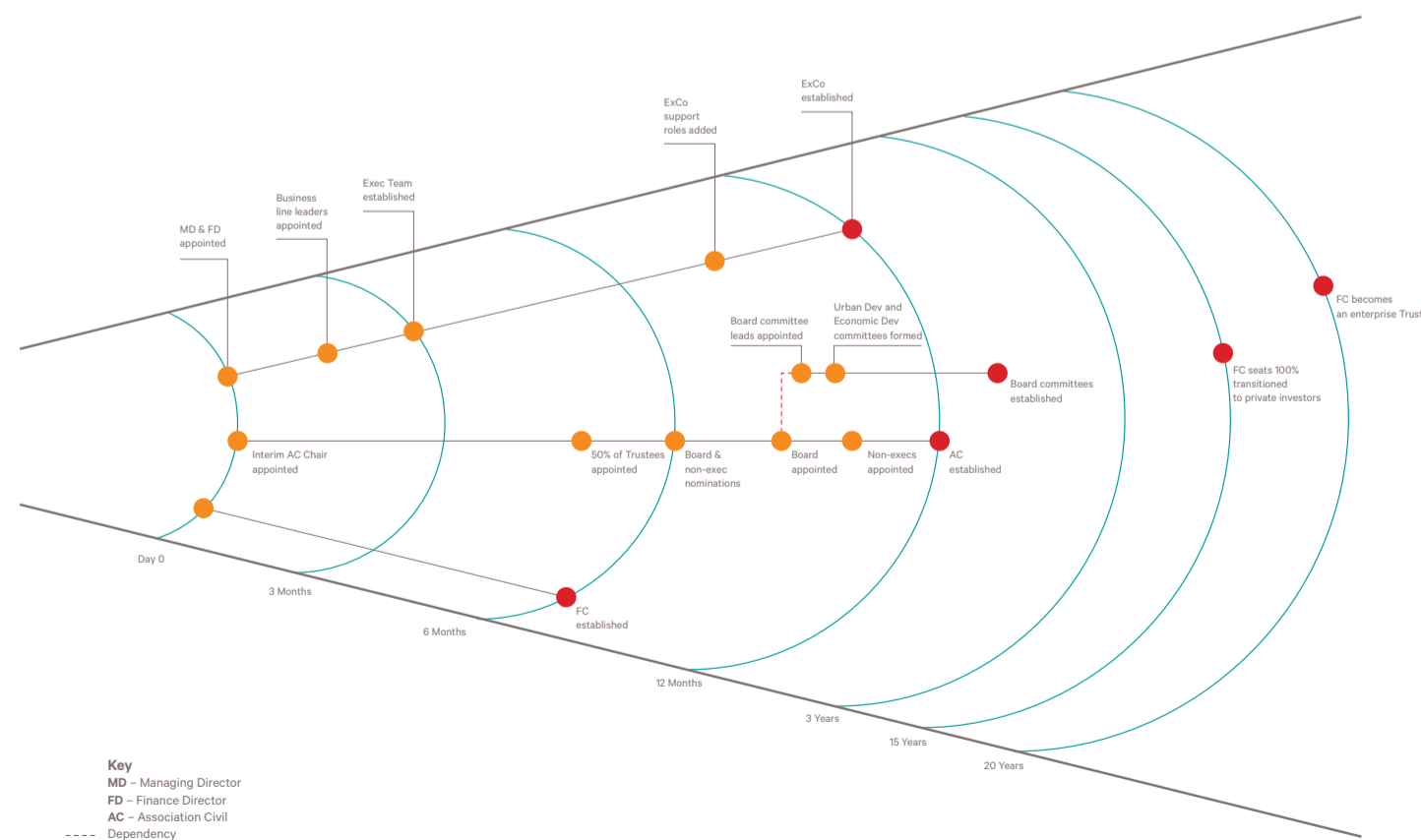
22.5.

Roadmap for Implementation

In the short term, the priority for the governance model should be to establish the Fideicomiso, in order to raise the investment funds required for early phases of CCD development. Within the first 12 months, the Association Civil (AC) will be fully appointed. Establishment of the AC should be on the same or similar timescales to the ExCo within the Operating Model, because these two entities are intrinsically linked via the Executive Team and need to work together to develop and approve CCD's development strategy. The future end-state for the governance model would be for CCD to transition from a state owned public company, to a privately owned enterprise Trust.

The governance model roadmap will see CCD transition from a state owned public entity to a privately owned enterprise Trust

Governance model implementation roadmap



Near Term Actions

A number of actions should be prioritised over the next six months to ensure the effective implementation of the governance model.

- Schedule negotiations with municipal, state and Federal government representatives to secure initial funding
- Undertake round table with government stakeholders to define the Articles of Trust for the Association Civil
- Define the Terms of Reference (ToR) for the Fideicomiso and align with the vision for CCD
- Define the Terms of Reference (ToR) for the Association Civil and align with the vision for CCD
- Appoint Chair of Fideicomiso
- Appoint interim Chair of AC board
- Appoint the 15 members of the General Council of the AC
- Appoint AC Directors

FIDEICOMISO

The Fideicomiso (FC) is the entity responsible for financial control of CCD. In the first six months, the focus should be on establishing the Terms of Reference for FC and ensuring this aligns with the vision for CCD.

THE ASSOCIATION CIVIL

The Association Civil (AC) is the functional entity responsible for overseeing and approving the strategic direction of CCD, as proposed by the Executive Team. It therefore needs to be established along the same or similar timelines as the Executive Company operating unit. During the first six months, the focus should be on defining the Terms of Reference for AC and identifying and recruiting individuals for priority roles.

Whilst AC may not be fully established within the first six months, a number of positions should be filled, in order to effectively act as a bridge between the Fideicomiso and the operating units:

CHAIR

The Chair of the AC is responsible for managing the AC Board. Under the governance model, the Chair is appointed by the Trustees, however whilst the Trustees are being appointed, an interim Chair position should be created to manage communications between AC, FC and the operating units.

TRUSTEES

The Trustees represent stakeholder groups' interests and under the final governance model will be responsible for voting on board non-executives and CCD Executive Team. In the short term, however, the Managing Director and Finance Director will be appointed outside of this process to ensure that they have been appointed by Day 0. The Trustees should be appointed over the first 12 months and will be drawn from the stakeholder groups already identified.

AC BOARD

AC Board is responsible for overseeing CCD Executive Management Team and for establishing board committees to oversee the CCD Executives. Due to this interaction with the executive management, establishing the initial Board members should be a near-term priority, however the full Board could be scaled over time, for example of 12 months.

NON-EXECUTIVES

AC non-executives provide specific expertise to the Board and executive management team and represent key shareholders. The expertise of the non-executives will be particularly valuable to the ExCo executive team during the development of the initial strategic development plan for CCD. For this reason, the appointment of non-executives should coincide with this key activity.

23

Economic Strategy: Operating Model

-
- 23.1 **CCD Operating Model**
 - 23.2 **Roles & Responsibilities**
 - 23.3 **Interactions between the AC and Private Investors**
 - 23.4 **Escalation & Decision-Making Procedures**
 - 23.5 **Roadmap for Implementation**
 - 23.6 **Vision for CCD's Governance and Operating Models**

23.1.

CCD Operating Model

Overview

The Operating Model comprises six operating units (OUs) that will act in parallel to execute different aspects of CCD's strategy.

The operating model is intrinsically linked to the governance model through financial and business decisions made by the Association Civil, which will be translated into actionable strategy by the operating units.

A key governing principle has been for the CCD to be a lean organisation, with the number of direct employees being kept to a minimum. The operating model structure has been designed to ensure that CCD takes advantage of all the efficiencies of the private sector while keeping the depth of rigour in decision making akin to the public sector.

Effective execution of the operating model will require a wide breadth of skills, due to the combination of different business models that will be employed in CCD and the need for integration between different operating units to ensure efficient and effective delivery.

The six operating units will be guided by CCD's unifying strategy and will link closely with the governance model. The role of the operating units is recommended to be as follows:

Executive Company (ExCo): This group would be responsible for the strategic management of CCD and would include an executive team (Managing Director, Operations Director, Finance Director) and several core functions (compliance, treasury and public relations) to support the other operating units.

Development Company (DevCo): In the initial phase, DevCo would be responsible for managing the development within CCD and DUIS. This includes real estate, services and digital infrastructure investments. In a later phase, DevCo would be responsible for packaging the operating model approach in a way that could be applied to other cities within Mexico and beyond, that are interested in using a similar approach to development.

Operating Company (OpCo): This group would be responsible for the 'build and run' of CCD, translating DevCo's vision for CCD into reality. OpCo would be sub-divided in to three groups: covering asset ownership including the acquisition and financing of land; asset management including defining the operation and maintenance strategy for CCD assets; and delivery of services (as defined by the asset management strategy) directly to businesses and citizens within CCD.

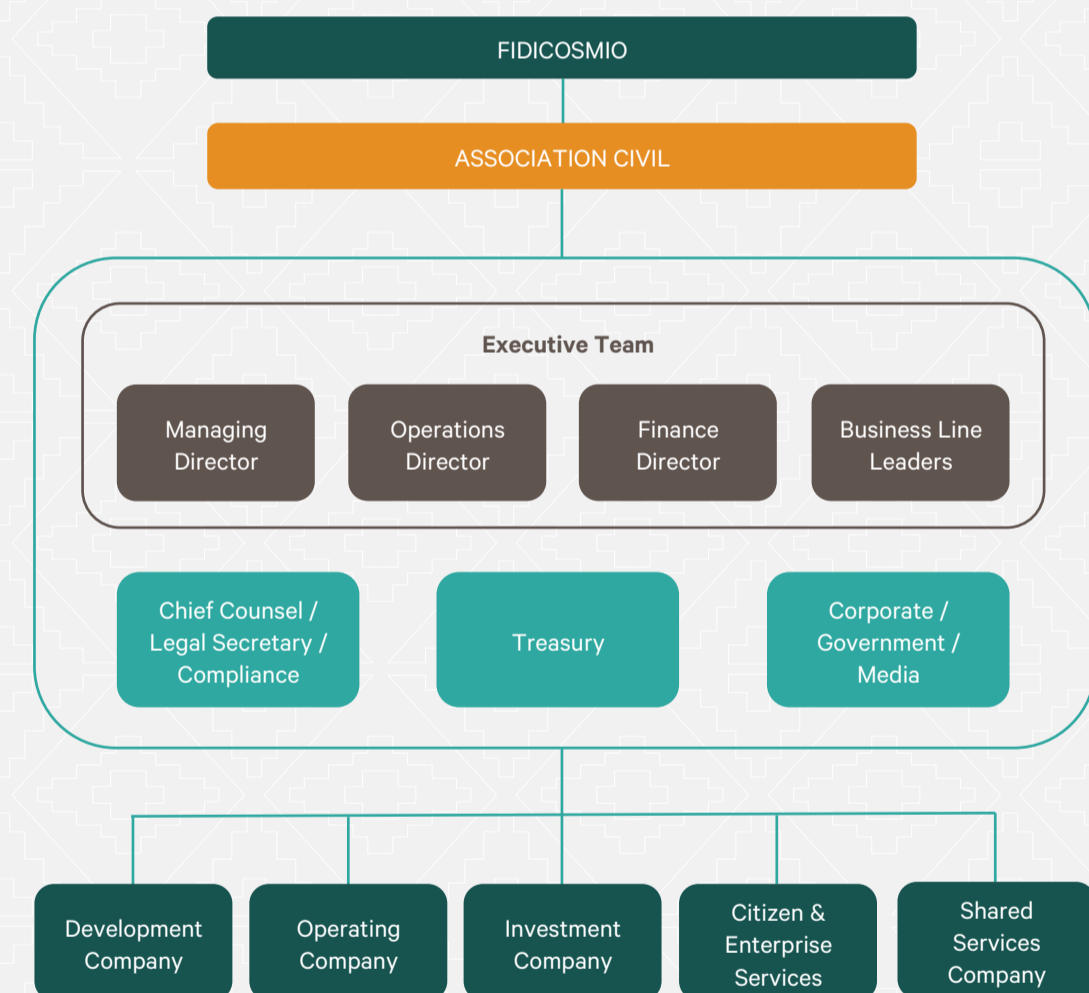
Investment Company (InvestCo): This group would be responsible for all functions that control investment in CCD (excluding real estate transactions, which would be performed by OwnCo, a part of OpCo). In addition to investment within CCD and DUIS areas, CCD has a mission to improve commercial, social and environmental sustainability in surrounding neighbourhoods. InvestCo would be responsible for managing investment in these wider enterprises and projects.

Citizen and Enterprise Services: This group would be responsible for all 'customer facing' activities from marketing CCD to potential investors, to acting as the first 'point of contact' and handling day-to-day inquiries from citizens and providing specialist services to digital creative businesses such as talent sourcing and R&D support.

Shared Service Company (Shared Service Co): This group would be responsible for all back office functions for CCD, covering Human resources, Finance, Procurement and IT. In addition to services provided to CCD, the Shared Service Co. would offer these services to enterprises within CCD wishing to outsource these functions.

Resourcing requirements for each operating unit would peak at different times based on their level of activity during each of the CCD project phases. Overall, the greatest resource demand is anticipated to occur in Phase 2, with an estimated cost of 51.2 – 63.8million pesos per year.

Activity phasing between the operating units and the use of flexible resourcing structures will help the operating model for CCD to remain dynamic and adaptable to the changing shape and focus of CCD over time.



THE OPERATING MODEL STRUCTURE

With the combination of the operating model and governance model, CCD has a clear strategy to execute on its vision. The key relationship between the two is through financial and business decisions made by the Association Civil, which will be translated in to action by the operating units. In this structure, the Association Civil acts as a holding company, with the OUs being the operating company.

Effective execution of the operating model will require a wide breadth of skills, due to the combination of different business models that will be employed in the CCD. The breadth and depth of resourcing required will change over time and will be dependent upon the amount of type of development occurring in CCD at any one time.

The operating model is designed to be a lean organisation with only essential roles being filled by in-house resources. The operating model takes a private sector approach to a public sector organisation by assuming that CCD will take on the role of 'informed client', setting requirements and retaining the overall management of implementation, whilst using a variety of contractual arrangements such as secondments and outsourcing to manage peaks in resourcing demand. The model is based on the assumption that a significant portion of the required capital investment would be provided by the private sector, for example, through concessions, helping to reduce the level of resource required in-house.

23.2.

Roles & Responsibilities

23.2.1. Executive Company: Executive Team

The Executive Company (ExCo), headed by the Managing Director, is responsible for the strategic management of CCD and includes an executive team (comprising Managing Director, Finance Director and Operations Director) a single Business Line Leader for each Operating Unit and several specialist core functions (counsel/compliance, treasury and public relations) to support the other operating units.

All members of the ExCo report to the Managing Director, who in turn reports to the Trustees within the Association Civil. The Executive Team will have frequent communication with the Association Civil, in particular in relation to developing and agreeing the Annual Strategic Plan (ASP). The ASP would outline ExCo's priorities/recommendations for investment and is approved by the AC before passing to the Fideicomiso for funding. During this development phase of the ASP, the Executive Team will receive specialist advice from the AC's non-executives, who are experts in business, finance and strategy.

In the initial phase, resourcing requirements could be reduced by the Managing Director performing the additional role of Operations Director, and by the Finance Director performing the additional role of Treasury. Once all individual roles have been recruited, the resourcing requirement will remain static.

MANAGING DIRECTOR PROFILE

Role: Responsible for leading the development of the company's long term strategy with a view to creating shareholder value, reporting to the Board

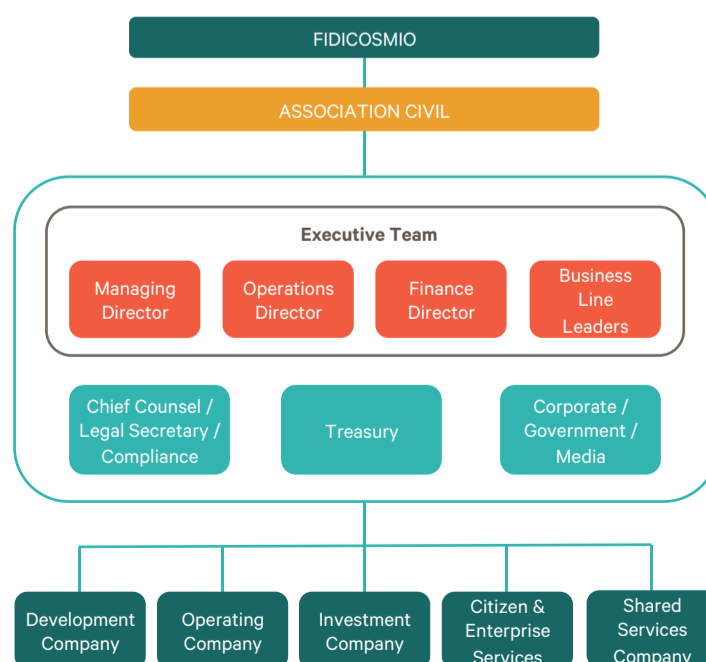
Example Responsibilities:

- Develop and implement strategic objectives agreed with the Board
- Main point of communication between the Board and the operating units
- Informing the Board of all significant matters to allow them to discharge their responsibilities
- Clearly assign responsibility to senior management and oversee risk management and control systems
- Recommending to the Board any significant changes to operations or major capital expenditure outside of Managing Director direct control
- Representing the CCD to external stakeholders

Core competencies:

- Business transformation management
- Strategic perspective and global awareness
- Strategy and planning
- Communicating with impact
- Business and financial focus
- Managing relationships and influencing
- Thought leadership and innovation

The three executive officers (Managing Director, Finance Director and Operations Director) provide strategic management of development in CCD to each of the operating units on behalf of the Association Civil



23.2.2. Executive Company: Business Line Leaders

Qualifications:

- Degree (or equivalent) in management or business, or relevant work experience comparable to this
- Prior Managing Director experience or a minimum of 10-15 years in a senior management role
- Extensive experience in financial management
- Proven leadership skills
- Excellent communication and interpersonal skills
- Knowledge of statutory, legal and contractual obligations
- Strategic planning skills and knowledge of corporate management requirements

FINANCE DIRECTOR PROFILE

Role: To oversee all financial and accounting practices within ; direct financial strategy and investments, reporting to the Managing Director

Example Responsibilities:

- Establish AC-wide procedures, policies and practices to ensure a sound financial accounting structure
- Budgeting and expense control
- Act as ExCo's key link with the Fideicomiso (FC)
- Understand and control the Association Civil (AC) liabilities e.g. legal contracts, tax obligations, leases, loans etc.
- Establish and execute programs for the provision of capital required by the AC.

Core competencies:

- Business transformation
- Communicating with impact
- Business and financial focus
- Managing relationships and influencing
- Innovation and enterprise transformation

Qualifications:

- Minimum 8-10 years experience with at least 5 in a management role
- Prior experience of financial planning, overseeing human resources, IT and legal

OPERATIONS DIRECTOR PROFILE

Role: Responsible for the day-to-day operations and reporting of them to the Managing Director

Example Responsibilities:

- Develop, establish and direct the execution of operating policies to support overall CCD objectives
- Work with the OU leads, ExCo and AC Trustees to develop the strategic 5-year plan and implement new processes to achieve it
- Oversee all administrative functions, ensuring smooth daily operations
- Oversee risk management and legal activities

Core competencies:

- Strategic perspective and global awareness
- Strategy and planning
- Communicating with impact
- Business and financial focus

Qualifications:

- Minimum 10-15 years experience with at least 5 in a senior management role
- Prior experience of financial planning, overseeing human resources, IT and legal

Each of the operating units (OUs) will have a single lead, known as the 'business line leader'. These five individuals will form part of the executive team within ExCo, reporting to the Managing Director. They are responsible for ensuring that all activities within their respective OU align with the overall strategy and vision for CCD and respond to the needs of citizens and businesses.

BUSINESS LINE LEADERS PROFILE

These executives (one per operating unit) would be responsible for the day-to-day operations of each of the operating units and reporting to the Managing Director.

As operating unit leads, these executives will also be responsible for quality management and continuous improvement. They will be expected to challenge and innovate to ensure that CCD continues to operate effectively and efficiently.

Core Competencies:

- Business and financial focus
- Communicating with impact
- Managing relationships and influencing

Qualifications:

- Minimum of 8-12 years experience within relevant sector
- Proven senior management experience

The executive team includes five business line leaders, who would act as the head of each of the operating units



23.2.3. Executive Company: Specialist Core Functions

In addition to the Executive Team (executive officers and the business line leaders), the Executive Company also includes three specialist core functions, which support both the executive team and the other operating units.

These specialist functions would be small teams (2-3 resources each) and would report to the Managing Director.

CHIEF COUNSEL / LEGAL SECRETARY / COMPLIANCE PROFILE

Responsible for preparing legal documents and performing regulatory reviews of operating unit operations, including innovative business models. This team would comprise a team lead and one assistant.

As chief counsel / compliance officer, this executive would also be responsible for reviewing policies in relation to internal and external audit, compliance and risk management and advising the Operations Director.

Core Competencies:

- Business and financial focus
- Information management
- Managing relationships and influencing

Qualifications:

- Minimum of 10 years experience within regulatory compliance
- Law degree preferred
- Experience managing audit processes

TREASURY PROFILE

Responsible for monitoring budgets, controlling expenditure and managing the finances of OU operations. This function would comprise a team lead and one assistant.

As the head of treasury, this executive would also be responsible for ensuring the Operating Units' cashflow is adequate to allow them to operate effectively and evaluating financial impact of new business ventures.

Core Competencies:

- Business and financial focus
- Anticipating and resolving problems
- Business analysis

Qualifications:

- Degree (or equivalent) in accountancy, finance or economics
- Minimum 10 years experience in financial management

CORPORATE / GOVERNMENT / MEDIA PROFILE

Responsible for managing CCD's external communications to governments, corporations and the media; they would work closely with CCD's marketing capability. This team would comprise a team lead and one/two assistants.

As the head of communications, this executive would also be responsible for driving internal communications, ensuring they align with CCD's strategic plan and direction.

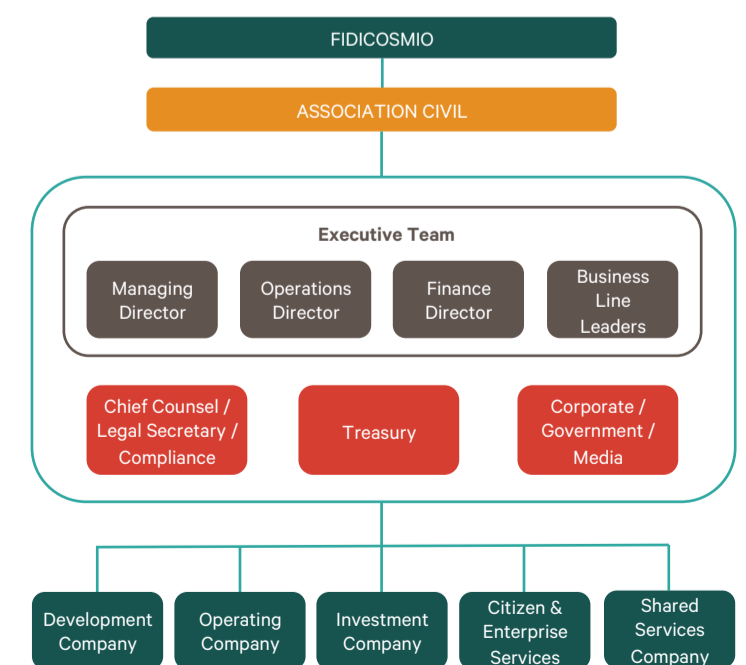
Core Competencies:

- Ability to communicate with impact
- Strategic perspective
- Managing relationships and influencing

Qualifications:

- Minimum of 10 years experience within public relations
- Proven experience of Business to Business, government and internal communications

The Executive Company would provide a number of specialist functions covering compliance, treasury and public relations to the other operating units



23.2.4. Development Company

ROLE

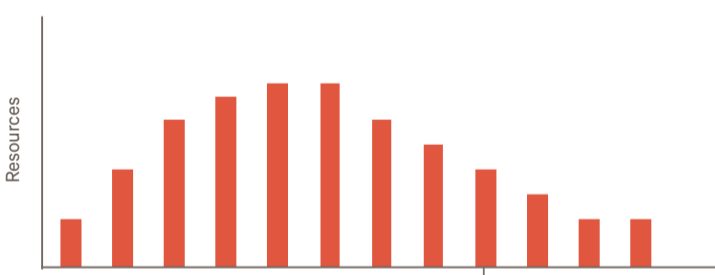
DevCo's role would be two-fold. In the initial phase, DevCo will be responsible for managing development within CCD and DUIS. This includes real estate, services and digital infrastructure investments. In a later phase, DevCo will be responsible for packaging the operating model approach in a way that can be applied to other cities within Mexico and beyond that are interested in using a similar approach to development.

RESOURCING

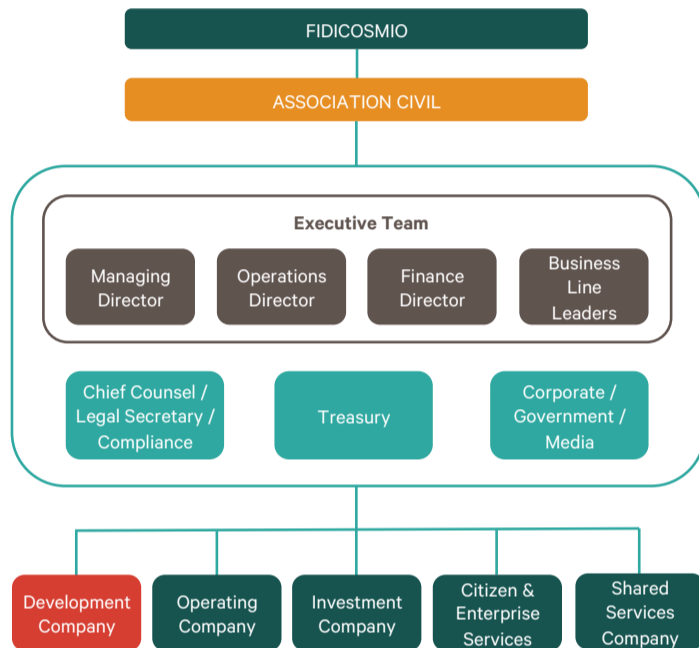
The resourcing requirement will mirror these two phases. The initial phase involves a high level of strategy development, therefore the resource requirement increases rapidly. However this lends itself to outsourcing to specialist consultants with a limited number of permanent DevCo staff to act as the client overseeing the strategy development. As the strategies are approved, the resourcing requirement will reduce and DevCo will transition to a small team responsible for packaging the approach for use in other locations.

The Development Company defines the high level strategy for development in CCD and interfaces with OpCo to ensure this is effectively translated in to reality

ILLUSTRATIVE



Initial phase - strategy development, high level of activity. Second phase - packaging the approach for use in other locations.



LINES OF COMMUNICATION

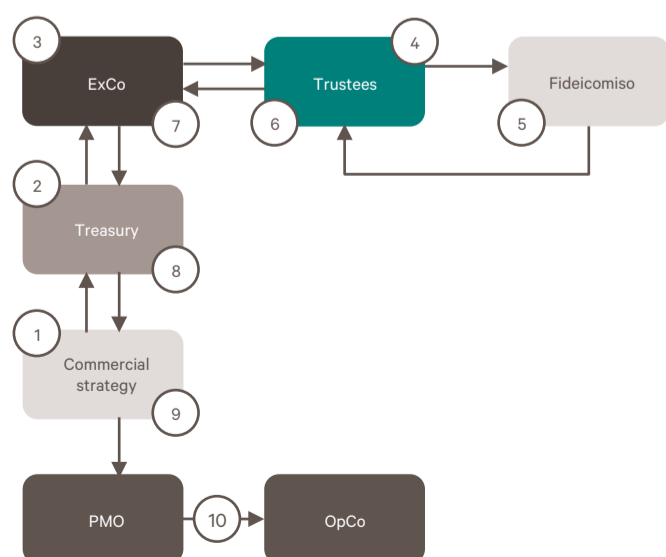
DevCo. is responsible for developing CCD's commercial, services, physical and digital services. Each strategy will define the level of investment required in order to implement the proposed development projects. In order for the proposals and associated budget to be approved, DevCo need to escalate their requirements to the Fideicomiso. Once funding is approved and the strategy is finalised, the responsibility for implementing the strategy passes to OpCo.

Due to strategy development occurring in the earlier phases of CCD, DevCo's activity and therefore resource requirements will be high initially, and then reduce over time as a smaller team is required for packaging the approach. As DevCo's activities reduce, OpCo will ramp-up in order to deliver the strategy.

Clearly defined lines of communication are necessary to ensure that approval and investment for proposed development is cascaded to the operating units in a timely manner

Strategy Development within DevCo.

1. DevCo develops the strategy for development in CCD
2. Treasury review and approve the financial aspects and business model(s) included with the strategy
3. The Executive Team review and approve DevCo's strategy and present it to the Board and Trustees
4. The Trustees submit the Annual Strategic Plan (which includes DevCo's requirements) to Fideicomiso for investment approval
5. Investment for developments is provided by the Fideicomiso either in terms of cash or plots of land. Investment approval is cascaded to ExCo via the Trustees
6. The Trustees pass the investment to ExCo
7. ExCo receive investment
8. Investment is managed (cash flow etc.) by the Treasury
9. DevCo receive notification that investment is approved
10. DevCo's strategy is passed to OpCo for implementation - communication between DevCo and OpCo is managed by PMO



COMMERCIAL STRATEGY

The Commercial Strategy group would be responsible for developing and ratifying CCD's commercial strategy, including sectoral analysis, human capital strategy, business model development and behavioural segmentation. The strategy will be developed in the early phase of CCD, therefore resourcing could be reduced once the strategy has been passed to OpCo for implementation.

The team lead should have 8-10 years of commercial strategy experience, preferably with public sector experience. The strategy could be fully or partially outsourced (with DevCo as the client).

Resourcing Requirement (FTE):

CCD Phase 1: 3-5
CCD Phase 2: 3-5
CCD Phase 3: 1-2

Outsourcing Potential:



OUTSOURCING POTENTIAL KEY:

Low potential for outsourcing

Medium potential for outsourcing

High potential for outsourcing

Could be fully outsourced

SERVICE STRATEGY

The Service Strategy group would be responsible for developing CCD's service strategy, taking into account the profiles and needs of target citizens and enterprises. The strategy will be developed in the early phase of CCD, therefore resourcing could be reduced once the strategy has been passed to OpCo for implementation.

The team lead should have 8-10 years strategy development experience, including infrastructure and business services, preferably with public sector experience. The strategy could be fully or partially outsourced (with DevCo as the Client).

Resourcing Requirement (FTE):

CCD Phase 1: 3-5
CCD Phase 2: 3-5
CCD Phase 3: 1-2

Outsourcing Potential:



PHYSICAL DEVELOPMENT

The Physical Development group would be responsible for developing CCD's physical aspects, including master planning, liaison with local planners, third party developers and infrastructure providers. The strategy will be developed in the early phase of CCD, therefore resourcing could be reduced once the strategy has been passed to OpCo for implementation.

The team lead should be an architect or real estate developer with proven experience in programme and stakeholder management. The strategy development could be outsourced with a DevCo resource acting as the client.

Resourcing Requirement (FTE):

CCD Phase 1: 3-5
CCD Phase 2: 3-5
CCD Phase 3: 1-2

Outsourcing Potential:



DIGITAL DEVELOPMENT

The Digital Development group would be responsible for developing CCD's digital strategy, including the functional, technical and application architecture. The digital strategy will be developed in the early phase of CCD, therefore the team could reduce over time once the strategy has been passed to OpCo for implementation.

The team lead should be a solution architect or have a minimum of 5 years experience in IT or digital strategy. The strategy development could be outsourced to a specialist with a DevCo resource acting as the client.

Resourcing Requirement (FTE):

CCD Phase 1: 3-5
CCD Phase 2: 3-5
CCD Phase 3: 1-2

Outsourcing Potential:

PMO

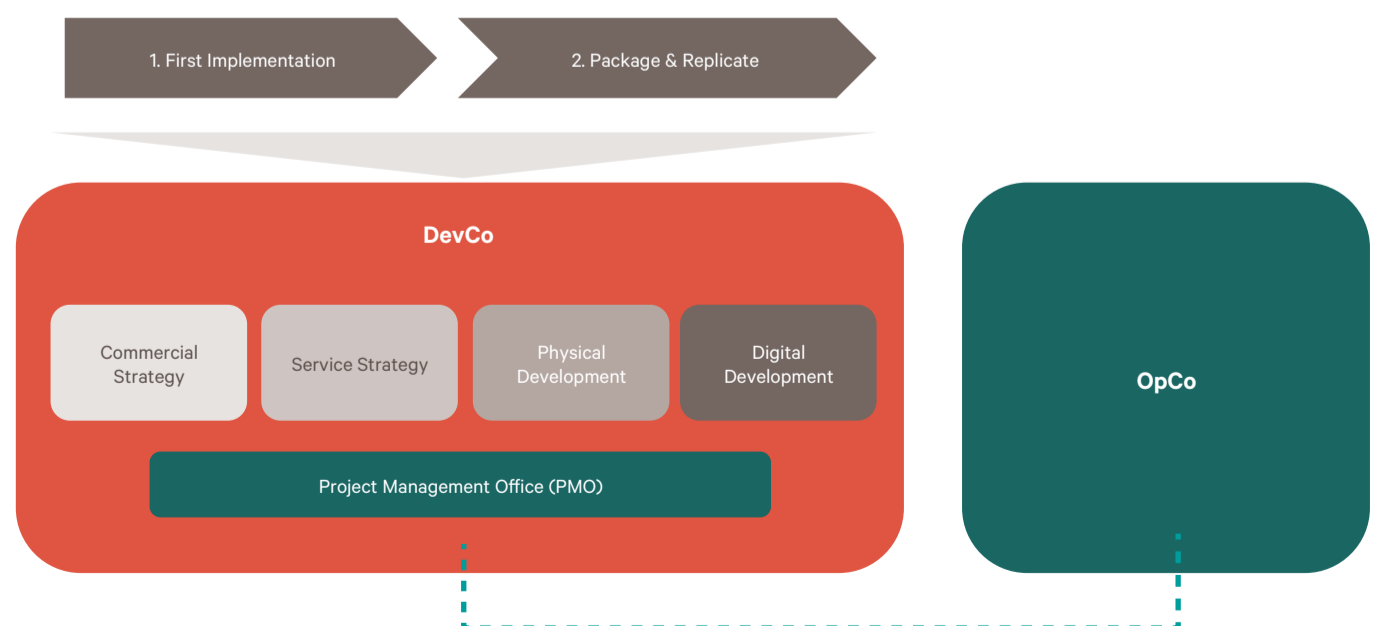
The Project Management Office (PMO) would be responsible for co-ordinating the DevCo operations and delivery of strategy set by DevCo through OpCo. Tasks include managing the DevCo budget, scope and quality criteria defined by ExCo.

The PMO lead should have a minimum of 5-10 years experience in project and programme management including public sector experience. They should be experienced in budget and resource management. The team lead will be supported by 2-3 PMO analysts. This team could be fully or partially outsourced.

Resourcing Requirement (FTE):

CCD Phase 1: 3-5
CCD Phase 2: 3-5
CCD Phase 3: 2-3

Outsourcing Potential:



23.2.5. Operating Company

OpCo would be responsible for the build and run of CCD, translating the vision and design, set by DevCo, into reality. It will interface closely with the PMO team within DevCo in order to manage the smooth transition from strategy and requirement setting to strategy implementation. The OpCo will remain a lean organisation as its primary function will be contract management and renewal. The aim is for the majority of capital expenditure to come from third party investors, reducing the number of assets and services owned and operated by CCD. As a consequence, the number of resources required to oversee the management of assets within CCD can be kept to a minimum.

The Operating Company translates DevCo's vision for CCD in to reality through acquisition, asset management and service procurement

OWN CO

This team would be responsible for asset ownership within the site, including the acquisition and financing of the land, parcelisation of the plots and consequent transactions with private real estate developers.

The team lead should be a property lawyer, senior property developer or chartered accountant with a minimum of 8-10 years experience working within the real estate sector. They should have proven experience in land and/or property acquisition and management experience. The team lead will could be supported by 1 to 2 assistants, with experience within the real estate sector. This could be a secondment or outsourced role.

Resourcing Requirement (FTE):

CCD Phase 1: 2-3
CCD Phase 2: 3-6
CCD Phase 3: 3-6

Outsourcing Potential:



AM CO

This team would be responsible for asset management of the Trust estate, including communal facilities owned by the Trust and in the public realm. They would define the maintenance and renewal strategy for the site and contract with ServCo to execute the asset strategy.

The team lead will be responsible for setting out the Terms of Reference (ToR) for ServCo to then procure the contract. They should be a qualified building services engineer, with a minimum of 8 -10 years experience within Facilities Management and proven management experience. The team lead could be supported by 1 or 2 assistants, which could be secondments or outsourced roles.

Resourcing Requirement (FTE):

CCD Phase 1: 2-3
CCD Phase 2: 2-6
CCD Phase 3: 2-6

Outsourcing Potential:



SERV CO

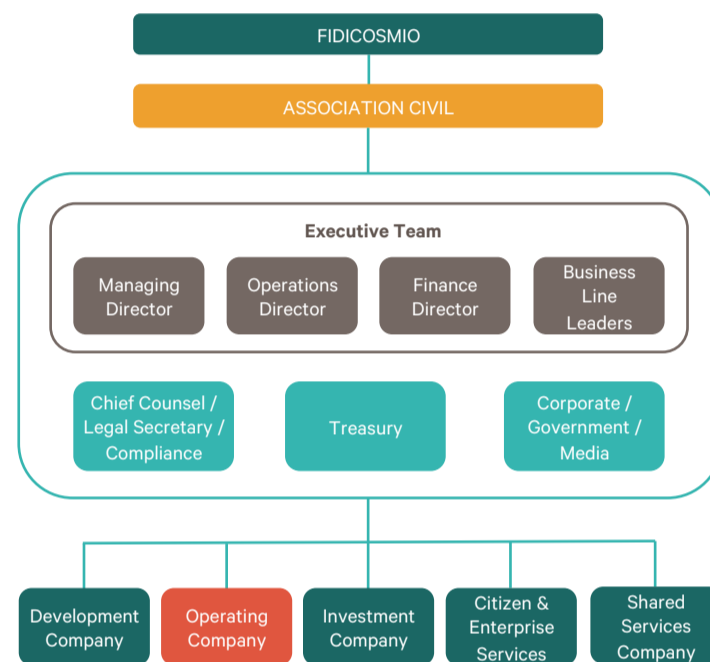
This team would be responsible for the procurement and management of services within CCD. Contract requirements would be defined based on AMCo's asset strategy and by ServCo itself to provide services directly to corporate customers, visitors and citizens. Services could be outsourced under concession to third parties and these contracts would be actively managed by ServCo.

The team lead should have at least 8 - 10 years experience within contract management and proven senior management experience. They should have experience of public and private sector procurement practices within the Mexico regulatory context.

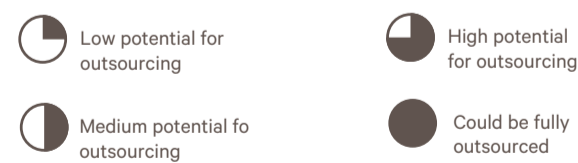
Resourcing Requirement (FTE):

CCD Phase 1: 2-3
CCD Phase 2: 2-5
CCD Phase 3: 2-5

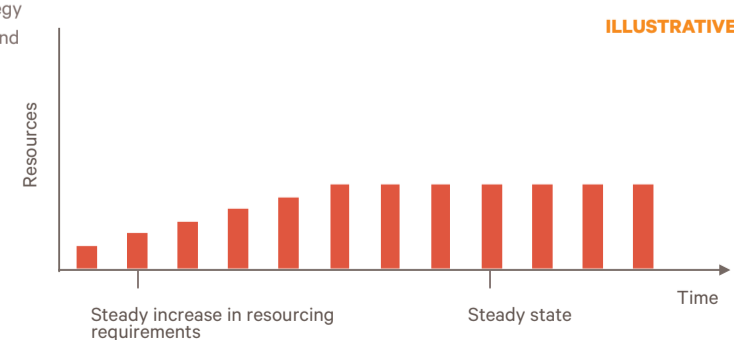
Outsourcing Potential:



OUTSOURCING POTENTIAL KEY:



OUTSOURCING POTENTIAL:



23.2.6. Investment Company

InvestCo would be responsible for all of the functions that control investment in CCD (with the exception of real estate transactions which would be managed in OwnCo). The initial focus would be on stimulating digital creative SMEs, for example using venture capital or angel financing. In later phases, InvestCo would focus on social and environmental enterprise in surrounding neighbourhoods.

InvestCo would satisfy CCD's mission of stimulating commercial, social and environmental investment in CCD and the surrounding neighbourhoods to extend the benefits of CCD

COMMERCIAL ENTERPRISE

This team would be responsible for investing in CCD commercial enterprises, in particular small, high potential but higher risk start-ups and entrepreneurs. Funds could include angel investment, venture capital, and growth capital.

The team lead should have at least 10-12 years experience as an investment manager or as a venture capitalist. They should have a proven track record of investing in start-up businesses, preferably within digital creative industries. The lead will be supported by 1 to 2 analyst assistants, responsible for conducting due diligence activities on potential investment targets. The assistant roles could be seconded or outsourced to specialist consultants.

Resourcing Requirement (FTE):

CCD Phase 1: 3-5
CCD Phase 2: 2-3
CCD Phase 3: 2-3

Outsourcing Potential:



SOCIAL ENTERPRISE

This team would be responsible for investing in social enterprises within CCD and the surrounding neighbourhoods. Investments would be selected based on their potential to provide a social return on investment and not just a monetary return on investment. This team could be combined with environmental enterprise.

The team lead should have at least 8 years experience as an investment manager, with a proven track record of social and/or ethical investments. The team lead will be supported by 1 to 2 analyst assistants, responsible for conducting due diligence activities on potential investments. The assistant roles could be seconded or outsourced to specialist consultants.

Resourcing Requirement (FTE):

CCD Phase 1: 1-3
CCD Phase 2: 2-4
CCD Phase 3: 3-5

Outsourcing Potential:



ENVIRONMENTAL ENTERPRISE

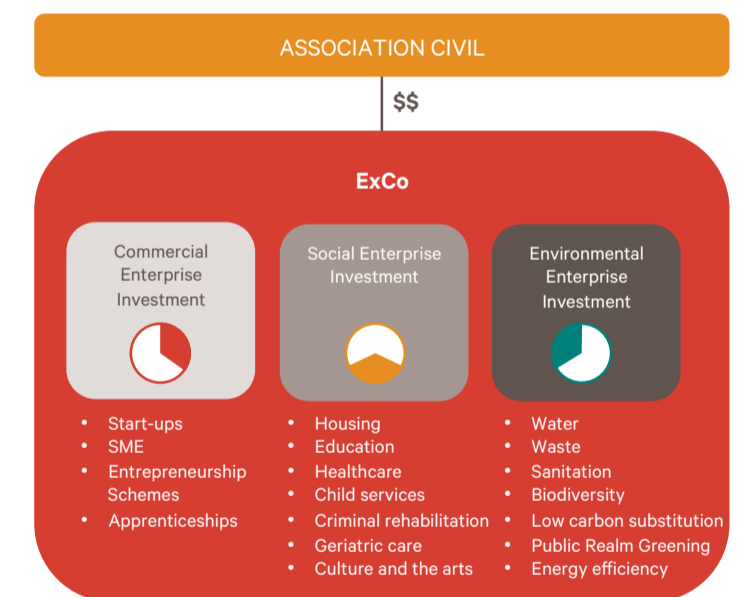
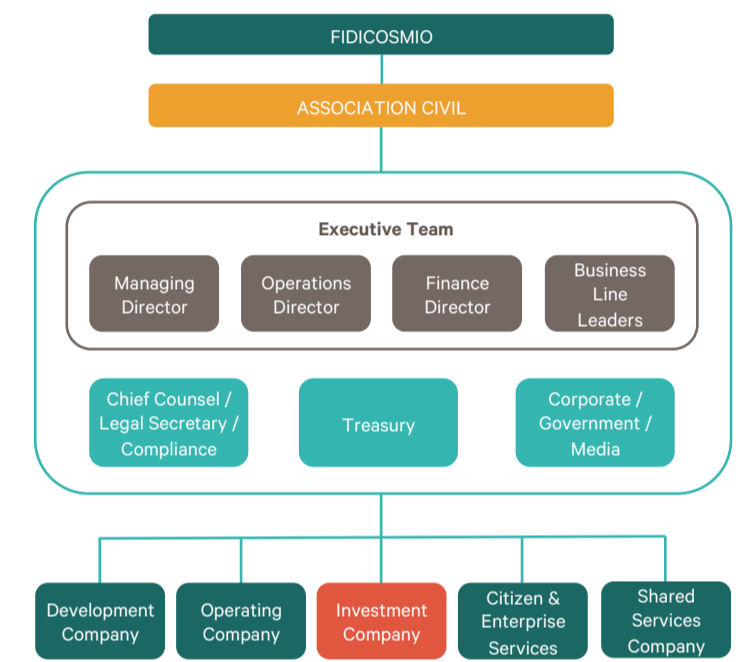
This team would be responsible for investing in environmental enterprises in neighbourhoods surrounding CCD in order to improve the quality of the environment e.g. air and water quality, energy efficiency, biodiversity and low carbon technologies. This team could be combined with social enterprise.

The team lead should have at least 8-12 years experience as an investment portfolio manager, with a proven track record of environmental and/or ethical investments. The team lead will be supported by 1 to 2 assistants, responsible for conducting due diligence on potential investments. These roles could be seconded or outsourced to specialist consultants.

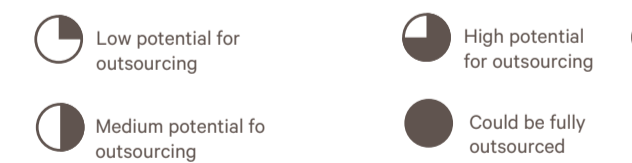
Resourcing Requirement (FTE):

CCD Phase 1: 1-3
CCD Phase 2: 2-4
CCD Phase 3: 3-5

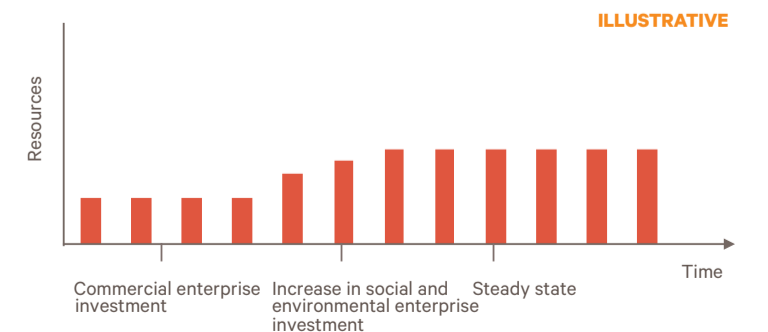
Outsourcing Potential:



OUTSOURCING POTENTIAL KEY:



OUTSOURCING POTENTIAL:



23.2.7. Citizen and Enterprise Services

Citizen and Enterprise Services would be responsible for all 'customer' facing activities from the initial marketing strategy to managing day-to-day citizens inquiries. It would understand the needs of the various citizen segments and enterprises active in the city. Resourcing would be relatively low initially, and then increase as the number of businesses and citizens within CCD increases.

Citizen and Enterprise Services would be responsible for managing CCD's interactions and relationship with citizens, visitors and business

MARKETING

Marketing CCD to potential enterprises investors, academic institutions and citizens. This group would also work to attract technology companies to trial their low carbon innovations within CCD's living lab. Marketing would be the initial focus of Citizen & Enterprise Services in order to attract new businesses to CCD.

The marketing lead should have at least 5-8 years in a senior marketing role and have significant experience working in Mexico. They could be seconded from ProMexico or the state's FDI agency. They will be supported by 3 marketing assistants, however this could reduce over time once businesses have been attracted to CCD.

Resourcing Requirement (FTE):

CCD Phase 1: 5-7
CCD Phase 2: 3-5
CCD Phase 3: 3-4

Outsourcing Potential:



CITIZEN SERVICES

Citizen Services will be the first contact point for citizens that have inquiries relating to life in CCD. The team is responsible for offering a range of e-government services through different channels; face-to-face inquiries, to call centres, to web and mobile interfaces.

The Citizen Services lead should have extensive experience in customer services, with a minimum of 5-8 years in a management position. The team lead would be responsible for developing processes for dealing with customer inquiries to ensure these are dealt with in a timely manner. The number of Citizen Services assistants will be increased over time as the population increases.

Resourcing Requirement (FTE):

CCD Phase 1: 3-7
CCD Phase 2: 10-15
CCD Phase 3: 20-25

Outsourcing Potential:



DIGITAL CREATIVE SERVICES

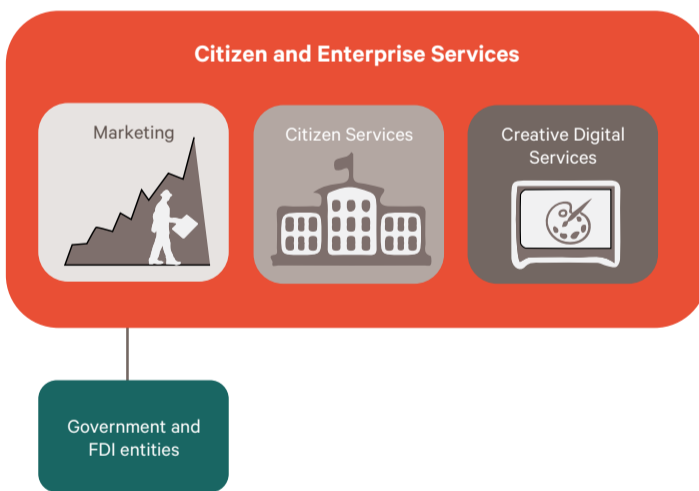
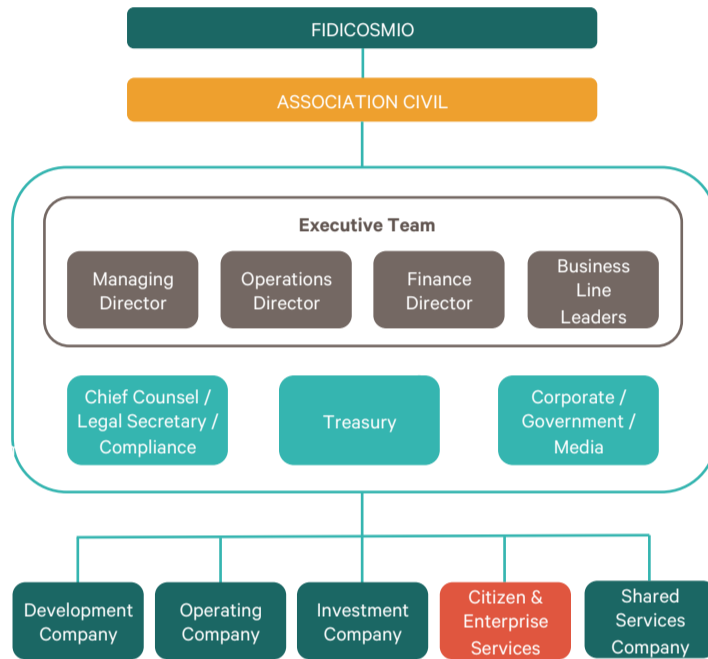
This team is responsible for providing specialist services to creative digital enterprises; incubation services, R&D support, talent sourcing, IPR management and digital rights, and 3D work flow management.

The Digital Creative Services lead should have extensive technical experience in digital services, with at least 8 years in a senior management position. They should have a strong understanding of legal and compliance issues surrounding copyright and distribution of digital content. The team will increase over time to align with the growth of digital creative services in CCD. This could be partially or fully outsourced.

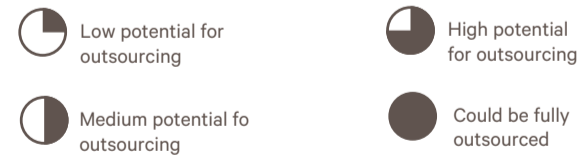
Resourcing Requirement (FTE):

CCD Phase 1: 2-5
CCD Phase 2: 10-15
CCD Phase 3: 20-25

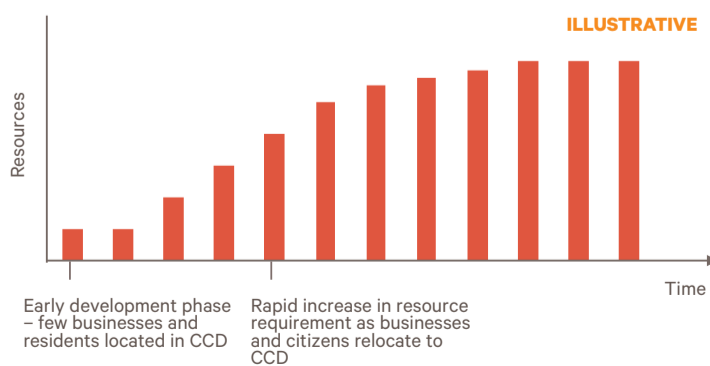
Outsourcing Potential:



OUTSOURCING POTENTIAL KEY:



OUTSOURCING POTENTIAL:



23.2.8. Shared Services Company

Shared Service Co would be responsible for all back-office services for the Trust. In addition, it would provide third party services to enterprises within CCD wanting to outsource back office functions but lacking the scale for large commercial agencies. Resourcing levels should be proportional to CCDs overall staff levels, therefore will be ramped up over time as the other operating units increase in size. All functions have high potential for full or partial outsourcing.

The Shared Services company would provide a range of back-of-house services to all operating units

FINANCE

Managing back office finance activities including: invoicing, accounts payable, accounts receivable, audit, financial accounting, performance reporting.

Initially, the finance team could be resourced with a finance lead and two assistants. The finance lead should be a chartered accountant or management accountant with a minimum of 5-8 years experience. This group has high potential for outsourcing, which would enable resourcing levels to be more easily varied to match peaks.

Resourcing Requirement (FTE):

CCD Phase 1: 3-4
CCD Phase 2: 5-7
CCD Phase 3: 8-10

Outsourcing Potential:



HR

Managing HR functions including: recruitment, payroll, termination, disciplinary procedures, individual performance management, salary and benefits, sickness.

The HR team should be overseen by an HR lead, with a number of HR analysts being added over time. The HR lead should be chartered in personnel and development (or similar) with prior experience of HR management. This group has high potential for full or partial outsourcing.

Resourcing Requirement (FTE):

CCD Phase 1: 2-4
CCD Phase 2: 4-7
CCD Phase 3: 8-10

Outsourcing Potential:



PROCUREMENT

Managing procurement processes for tangibles and intangibles working closely with ServCo to manage strategic procurement of services and to monitor Service Level Agreements.

Initially, this team could comprise a team lead and 1 assistant, increasing over time as the extent of development, and therefore services provided in CCD increases. The lead should have at least 5 years experience including management of public and private procurement contracts.

Resourcing Requirement (FTE):

CCD Phase 1: 2-4
CCD Phase 2: 4-7
CCD Phase 3: 6-8

Outsourcing Potential:



ICT

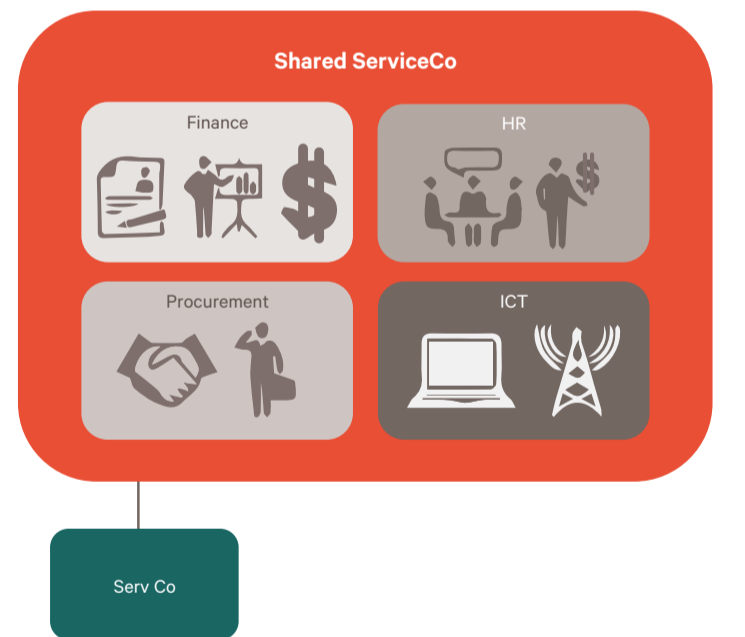
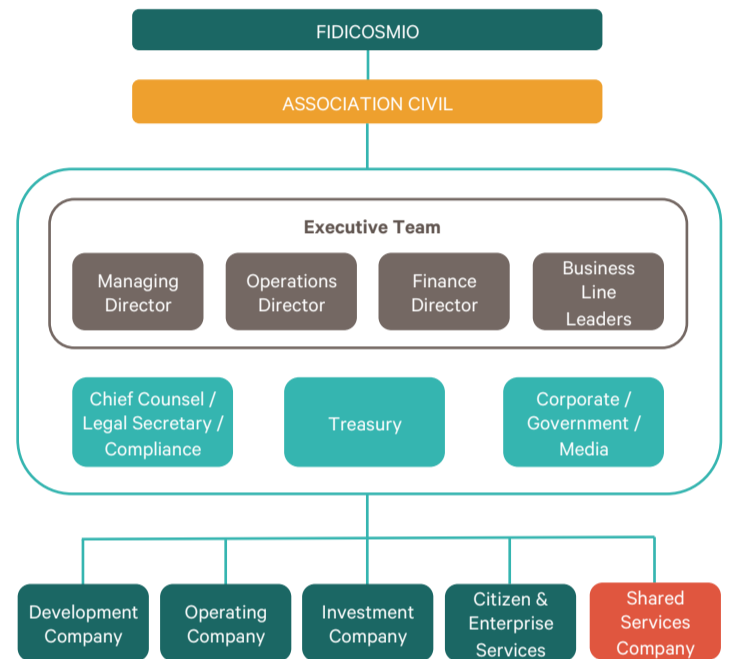
Managing the day-to-day ICT estate for the Trust including, provisioning of hardware, server management, email, helpdesk, etc.

This team could initially comprise an IT lead and 1 assistant, with the team increasing as the number of CCD employees increases. The IT lead should have an IT degree (or equivalent) with proven experience of providing 'helpdesk' services within a corporate environment. This group has high potential for full or partial outsourcing.

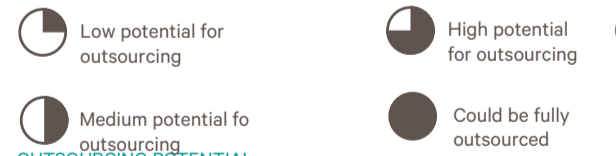
Resourcing Requirement (FTE):

CCD Phase 1: 2-4
CCD Phase 2: 4-6
CCD Phase 3: 6-8

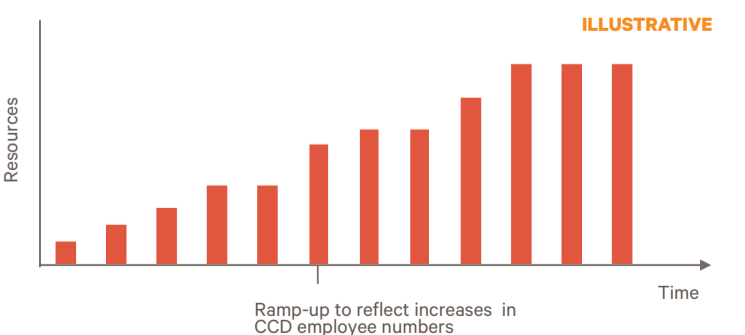
Outsourcing Potential:



OUTSOURCING POTENTIAL KEY:



OUTSOURCING POTENTIAL:



23.3.

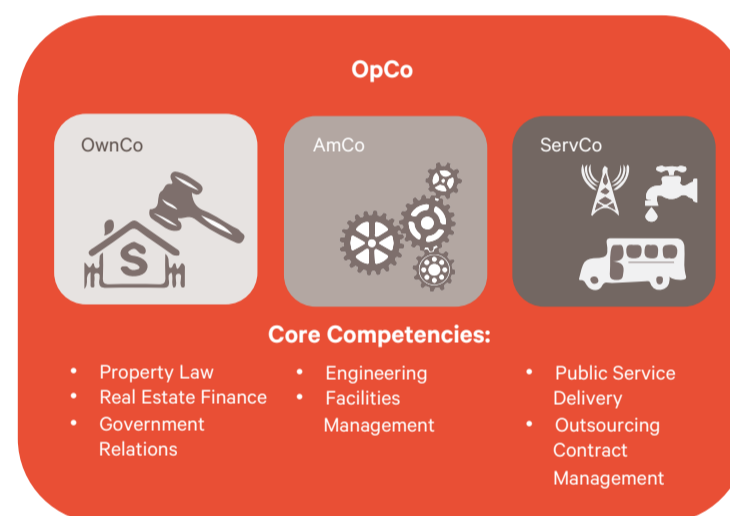
Interactions with Private Sector Investors

23.3.1. Escalation Process

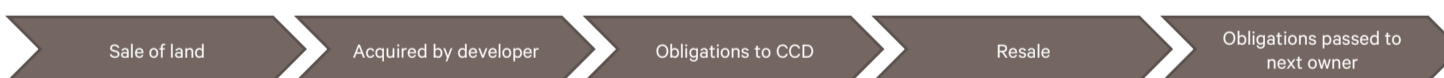
Private sector investors would be able to invest in the CCD by acquiring plots of land or real estate offered by the Association Civil for development. Managing this process could be the responsibility of OwnCo, with input from DevCo, to ensure that the zoning design for CCD is upheld. As development increases in CCD, with more services being provided, investors should receive a return on investment through increases in land and property value.

Developers would be given control (such as architectural control) over the plot of land or real estate, within some pre-defined limits or constraints in order to maintain the overall vision of CCD. All development would also be within the context of Mexican planning regulations and law.

Private sector investors could invest in land and property offered for sale by the AC and be given control of the development, within clearly defined degrees of freedom



Process flow for Private Sector Investment



SALE OF LAND

The AC would offer plots of land or real estate for development to private investors. The process of parcelisation of plots and land/property transactions would be managed by OwnCo (part of the Operating Company) in line with the CCD zoning strategy set out by DevCo. This would establish phasing for the sale of land plots and would define the land use of different areas within CCD.

ACQUIRED BY DEVELOPER

Private investors would invest in CCD by purchasing the land or real estate being offered by the AC. Development could include provision of infrastructural services, for example electricity, water, internet etc. or full redevelopment, including construction of new residential, commercial or leisure facilities. The transaction and subsequent development would occur in line with all relevant Mexican property and planning law.

OBLIGATIONS TO CCD

In order for CCD to continue to receive a benefit from the development, even after the transaction has occurred, developers could be required to satisfy further obligations to CCD. These have not been defined, however possible options (requiring further investigation) could include land being sold on a leasehold basis with developers required to pay an annual service charge, or additional requirements being placed on the purchaser as part of the sale agreement, for example if a developer acquires a prestige plot for residential development, they could be required to provide a doctor's surgery, nursery or other community service.

RESALE

Once the site has been developed, the developer could sell the plot or real estate back to CCD or to another investor. Profits from the re-sale would provide the investor with a return.

OBLIGATIONS PASSED TO NEXT OWNER

If obligations were imposed on the developer by CCD as part of the conditions of sale, these obligations (where not fully fulfilled) could be passed on to the new owner of the plot or property, subject to regulations and restrictions within Mexican planning and property law.



23.4.

Escalation & Decision-Making Procedures

23.4.1. Escalation Process

STANDARD ESCALATION PROCESS

Where a non-urgent issue is identified, it will pass through the standard escalation procedure in order to be resolved.

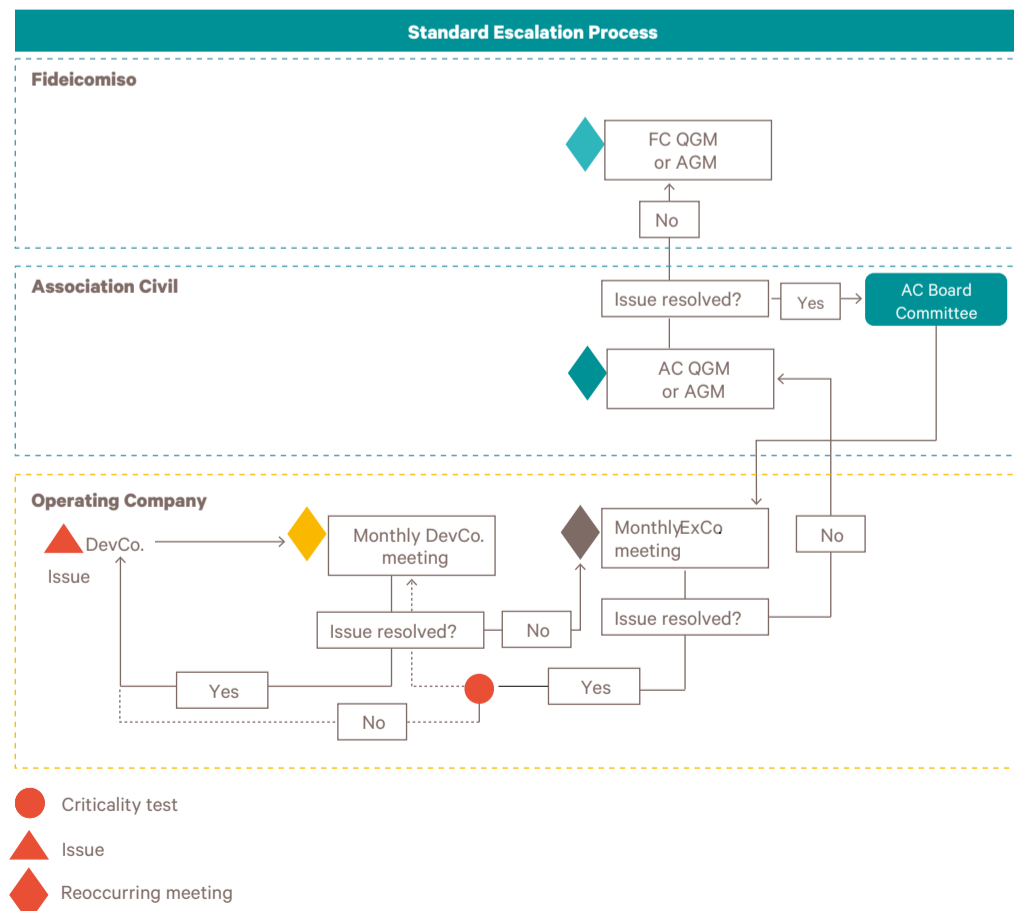
EXAMPLE

An issue is identified by DevCo and raised at the DevCo monthly leadership meeting. If the issue is resolved, the decision is returned to DevCo. If the issue is not resolved, it should be escalated to ExCo.

At the ExCo review, if the issue is resolved, the decision is assessed for criticality – if the resolution is urgent, it is discussed at the next DevCo monthly meeting, otherwise the resolution will pass directly to a specific team or individual within DevCo. If the issue, however cannot be resolved by the ExCo it would be escalated to the Association Civil.

The AC will review the issue at either a Quarterly General Meeting or the Annual General Meeting (whichever is to be held next). If the issue is resolved, it will be passed to the relevant AC Board committee for actioning (which involves cascading to the ExCo). If the issue cannot be resolved by the AC, it would be escalated to the Fideicomiso.

A clearly defined escalation process is necessary to ensure issues are resolved quickly and effectively



23.4.2. Decision-Making and Exceptions Process

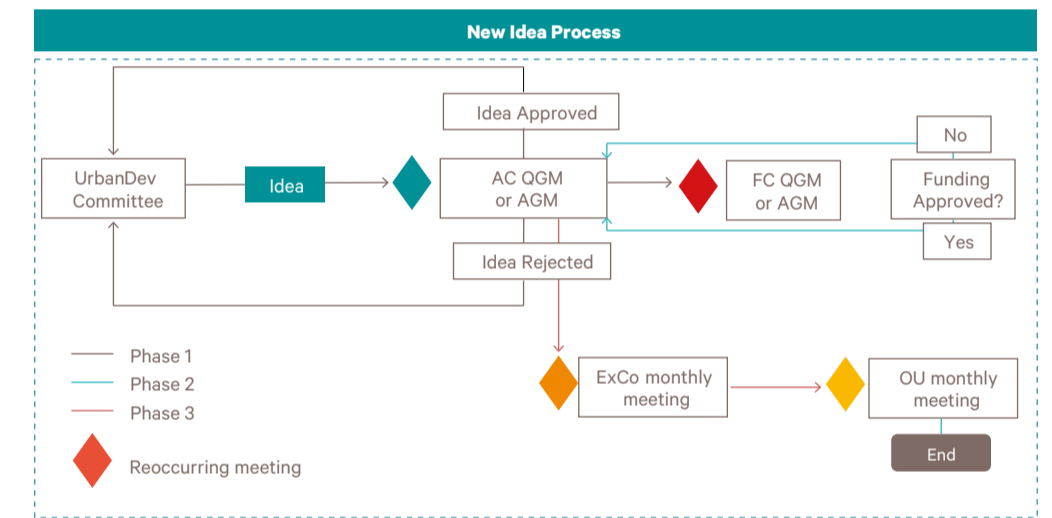
NEW IDEAS PROCESS

Proposals for development would normally be submitted for funding approval via the Annual Strategic Plan, however, where an idea is generated outside of this process, it would still be possible to apply the FC for funding.

EXAMPLE

An idea for a new project is generated by DevCo and the Urban Development committee. The proposal is submitted to the AC for approval for further investigation. If approved, the committee is granted limited funds to develop a business case, and returned to the AC for approval (Phase 1). Once AC approval is granted, the business case is passed to the FC for funding approval. The FC's decision is returned to AC and funding is either granted, or more information is requested (Phase 2). Where funded is approved, it is passed to the ExCo, who assign relevant actions to the appropriate Operating Unit.

The decision making and exceptions process should be clearly defined to ensure all parts of CCD are aware of their role within the process

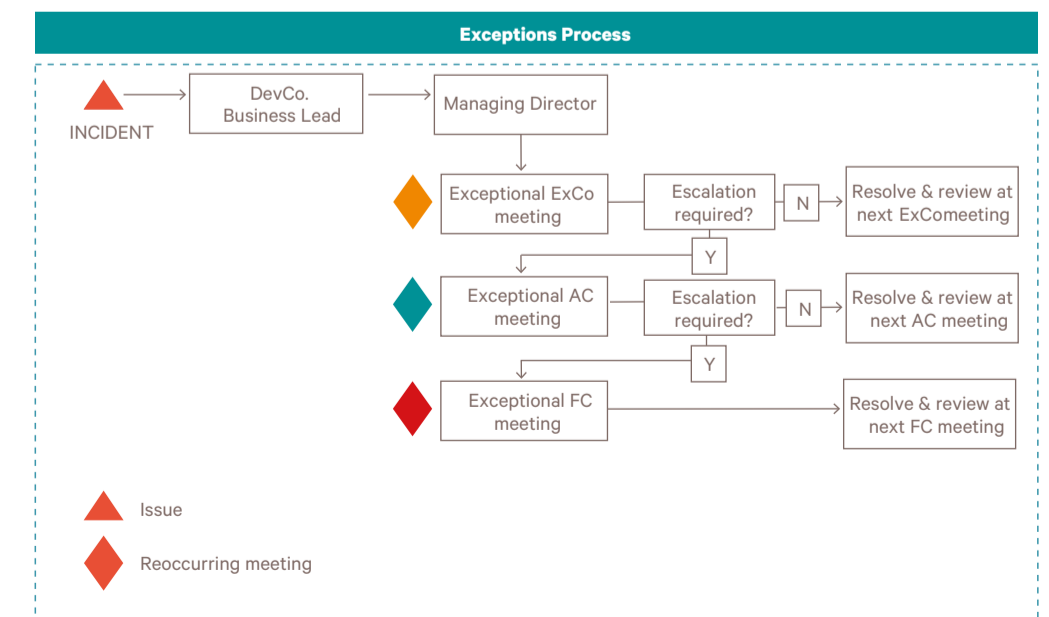


EXCEPTIONS PROCESS

At times, unforeseen incidents may occur, which cannot wait for the next scheduled meeting to be discussed, therefore an exceptions procedure is required.

EXAMPLE

A serious health and safety breach occurs during construction and there is a high risk of this being reported in the media. The incident is reported to DevCo's Business Lead, who escalates to the Managing Director (MD). The MD schedules an exceptional ExCo meeting (this could be via a call or face to face), where the incident will be discussed. Where the issue can be managed by the ExCo, actions will be assigned and the incident is closed. Where the incident requires escalation to the AC, the Managing Director would inform the Chair of the AC, who would schedule an exceptional AC meeting. The review process is repeated by the AC, who either assign actions or escalate to the FC if necessary.



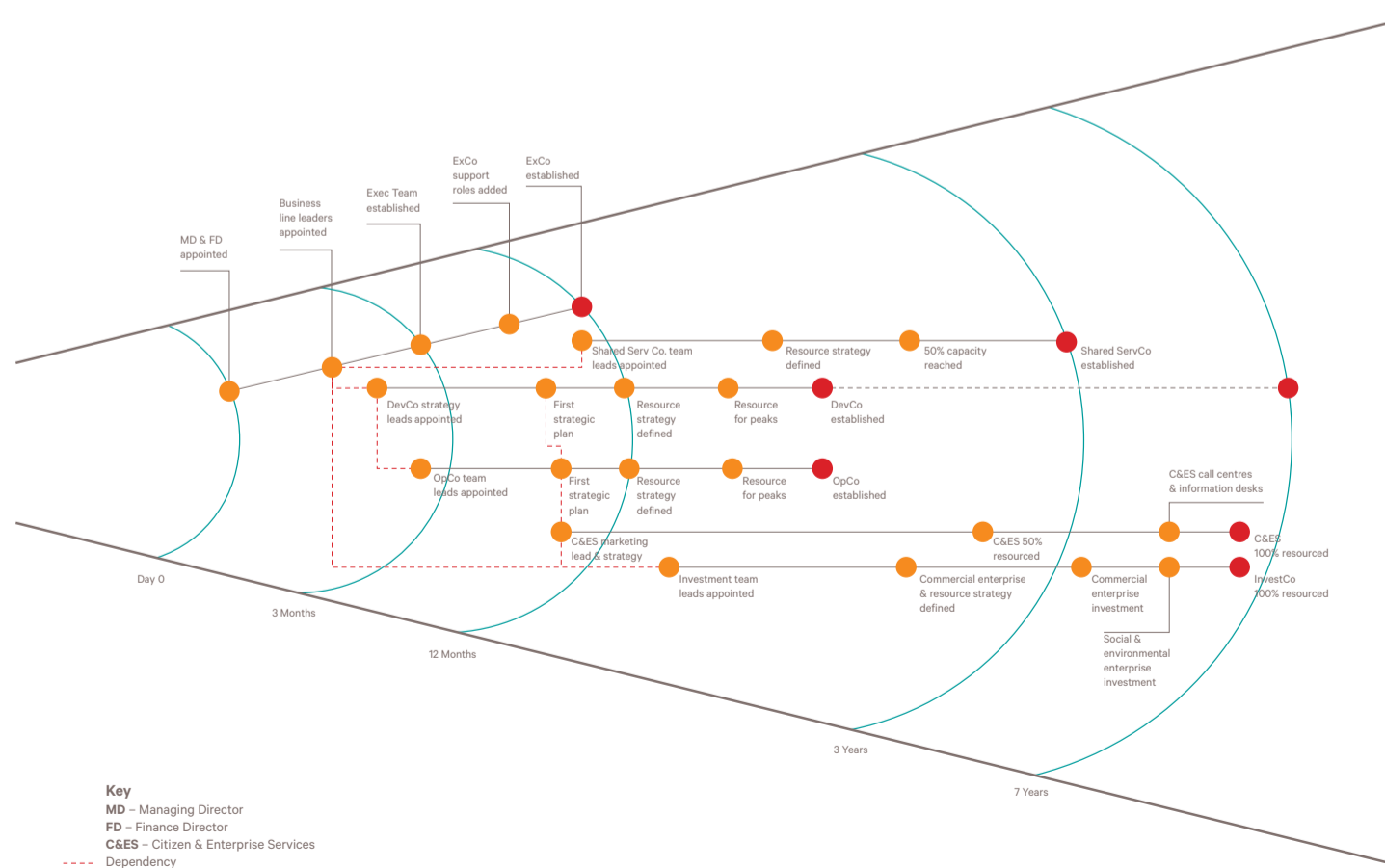
23.5.

Roadmap for Implementation

Establishing the full Operating Model for CCD will involve implementing a number of interlinked critical pathways. At Day 0, the Managing Director and Finance Director should be appointed, in order to oversee the other activities. The timely appointment of the Business Line Leaders will be critical in order to begin forming the other operating units.

Implementation of the operating model will involve successfully executing a number of interlinked critical paths

Operating model implementation roadmap



Near Term Actions

A number of actions should be prioritised over the next six months to ensure the effective implementation of the operating model.

Key actions for the next six months:

- Appoint Managing Director
- Appoint Finance Director
- Appoint Operations Director, Communications Lead and DevCo Business Line Leader
- Develop role descriptions and recruit the Business Line Leaders for each operating unit
- Undertake strategic review of each operating unit and define the Terms of Reference (ToR) for each
- Executive Team to draft the strategic objectives for CCD and how the operating units will align with CCD's vision
- ExCo to draft the first Annual Strategic Plan for CCD, outlining the priorities for development
- Develop draft budget for Phase 1 of CCD development
- Undertake a strategic resourcing profile review to identify the priority roles within each operating unit
- Complete a resourcing contractual review to identify where alternative contracting types could be appropriate to maintain a lean structure, for example secondments, short term contracts, role share etc.

EXECUTIVE COMPANY

The Executive Team, within the Executive Company is responsible for the strategic management of CCD and the Managing Director (MD) and Finance Director (FD) play a key role in this, therefore their appointment should be treated as a priority. In the early phases of development, the Managing Director and Finance Director will work closely with the Association Civil to define the strategic development priorities and the associated budget for CCD.

Once MD and FD have been appointed, focus should shift to recruiting the remaining positions within the Executive Company, which includes five Business Line Leaders, or heads of the operating units (OUs) and core support functions (compliance, treasury and communications).

OPERATING UNITS

Each Operating Unit reports to its associated Business Line Leader within the ExCo. The Business Line Leaders will work with the rest of the Executive Company in order to define the Terms of Reference (ToR) for the Operating Units. The ToRs should outline how the activities of that OU will reflect the values and vision of CCD.

The ToRs should also outline the anticipated resource requirements over time and provide role descriptions for key positions within the operating unit. The ToRs should be used to guide recruitment activities and could include a review of the contracting arrangements to be used by the OUs, such as secondments, role sharing etc.

The level of activity both within and between OUs will vary over time, with each reaching its peak resource requirement at a different time. The activities of the OUs are often highly linked, leading to a number of dependencies between OUs. These relationships should be defined and mapped out early, in order to support effective communication between all OUs.

INTERACTION WITH THE ASSOCIATION CIVIL AND FIDEICOMISO

The Operating Units' activities are also intrinsically linked to the decisions taken by the Association Civil and the Fideicomiso. Therefore, clearly defining the roles, responsibilities, escalation and decision-making procedures should be produced and agreed as a priority. This could be included within the ToR for each OU.

23.6.

The Future for CCD's Governance and Operating Models

The governance and operating models need to remain flexible in order to adapt to changing demands of CCD over time

THE FUTURE OF CCD FUNDING:

As shown by the diagram, in the first instance, funding for CCD will be provided by federal, state and municipal government funds. This means that the Fideicomiso will be entirely formed of government representatives (due to the proportional representation approach to allocating seats on the FC).

Over time, investment will come from a more diverse range of sources and control of the Fideicomiso will transition away from the government to private investors. For this transition to happen, developments in CCD need to start generating revenue in order to repay both the initial government investment and to repay capital raised through debt financing.

The future vision is for CCD to be self-supporting, whereby revenues generated from services provided to citizens and businesses will have repaid all initial investments and loans, and profits will be sufficient to sustain CCD's commercial, social and environmental enterprise investment vision.

THE FUTURE OF CCD INVESTMENTS:

Over time, the focus of the Investment Company will change to reflect the level of investment coming from private sources.

During Phase 1 and 2, the Investment Company will focus on stimulating commercial enterprise within CCD and DUIS by using venture capital (VC) funds to invest in small, high risk enterprises. It is anticipated that this will encourage other venture capitalists to CCD and Guadalajara, at which point the InvestCo will ramp down their level of VC investment.

By Phase 3, it is anticipated that InvestCo's focus will be on supporting social and environmental enterprise. Due to CCD being designed with social and environmental sustainability in mind, this investment will be directed to areas beyond CCD to DUIS and other areas of Guadalajara. This will help to extend the benefits of CCD beyond its geographical boundary.

Beyond Phase 3, InvestCo's activities could include cultural and historical investment to support and promote local culture, including art, music, food, dance etc. helping to encourage visitors and tourists, whilst providing leisure value for CCD residents. InvestCo could also continue its commercial enterprise mission, by making angel investments in very high risk CCD start-up businesses, or by using angel and venture capital investment to support enterprises in DUIS and beyond.

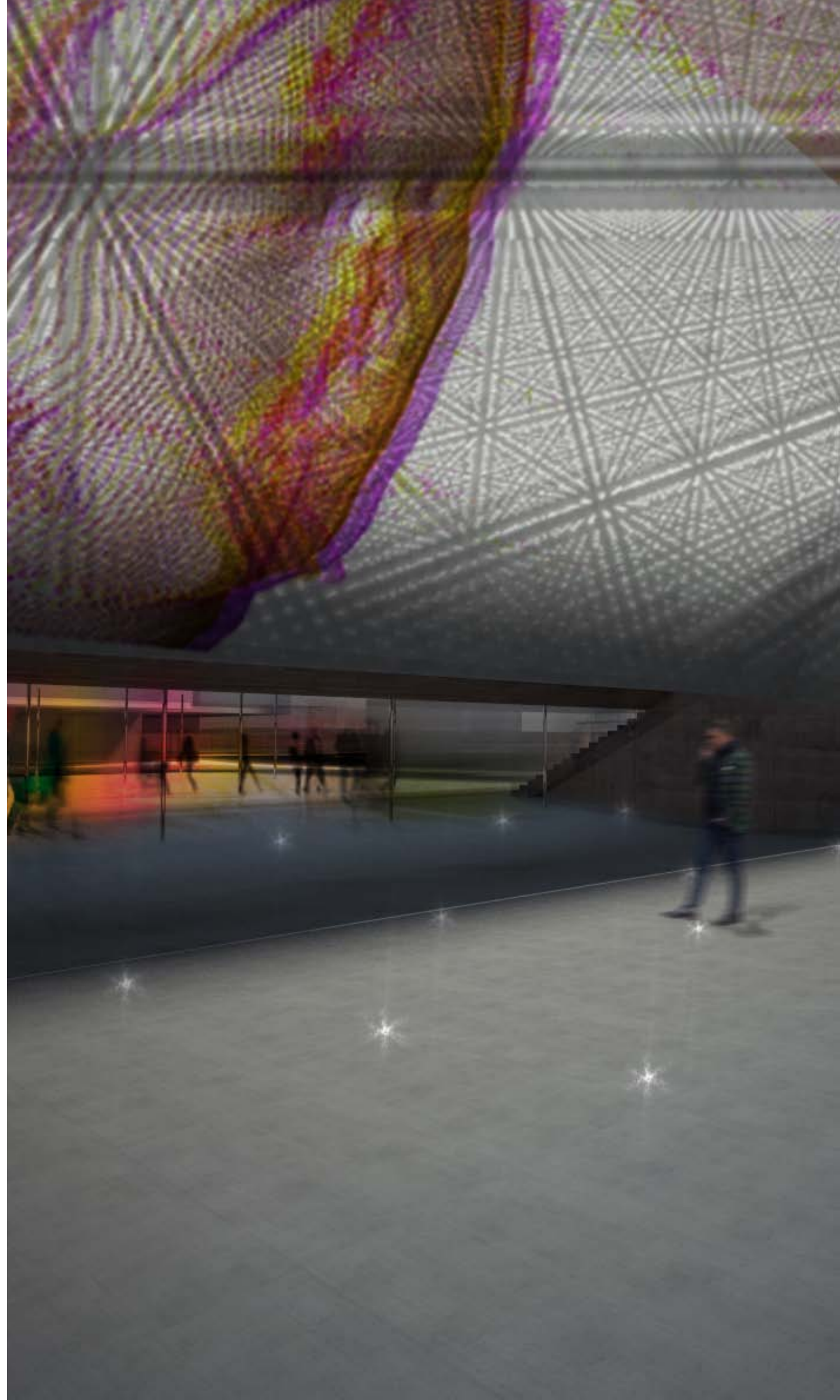
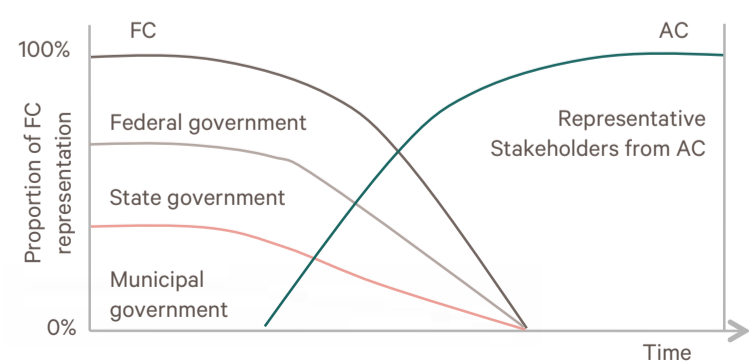
THE FUTURE OF OPERATING UNIT ACTIVITIES:

Activities of the individual operating units will vary over time and will be phased over the life of CCD, with each experiencing peak activity at a different time.

During Phase 1, DevCo in particular will have a high level of activity because it is responsible for setting strategy, and other OUs are dependent on this strategy for their own activities. As DevCo's strategy activity declines, OpCo's activity will increase in order to implement the strategy. Citizen and Enterprise Services and InvestCo's activities will peak in later phases, as more businesses and residents locate to CCD, and as this occurs, the Shared Services Company will expand to support the additional resources within the other operating units.

During Phase 3, DevCo's focus will shift to repackaging the CCD approach to make it repeatable and applicable to other locations, both within Mexico and beyond. DevCo could transition to becoming a consultancy company, with key DevCo staff being retained to advise other cities on how to execute a CCD style approach to urban redevelopment and creating digital creative hubs.

Transition of FC representation over time



24

Economic Strategy: Business Plan

-
- 24.1. **Macroeconomic Outcomes**
 - 24.1. **Traditional and Innovative Business Models**
 - 24.1. **Macroeconomic Outcomes**

24.1. Macroeconomic Outcomes

24.1.1. Macro Impact of CCD

CCD's ambition is to create a unique place for the world's digital creative class to work and live. As shown by the diagram, this ambition is supported by a high-level intention and five imperatives, which will translate the ambition in to reality. It is CCD's intention to attract talent and foster capabilities in the digital creative industry by providing world class services and infrastructure.

A number of measures of success have been defined, and several key benefits at the regional and national scale have also been identified.

ANTICIPATED KEY NATIONAL BENEFITS INCLUDE:

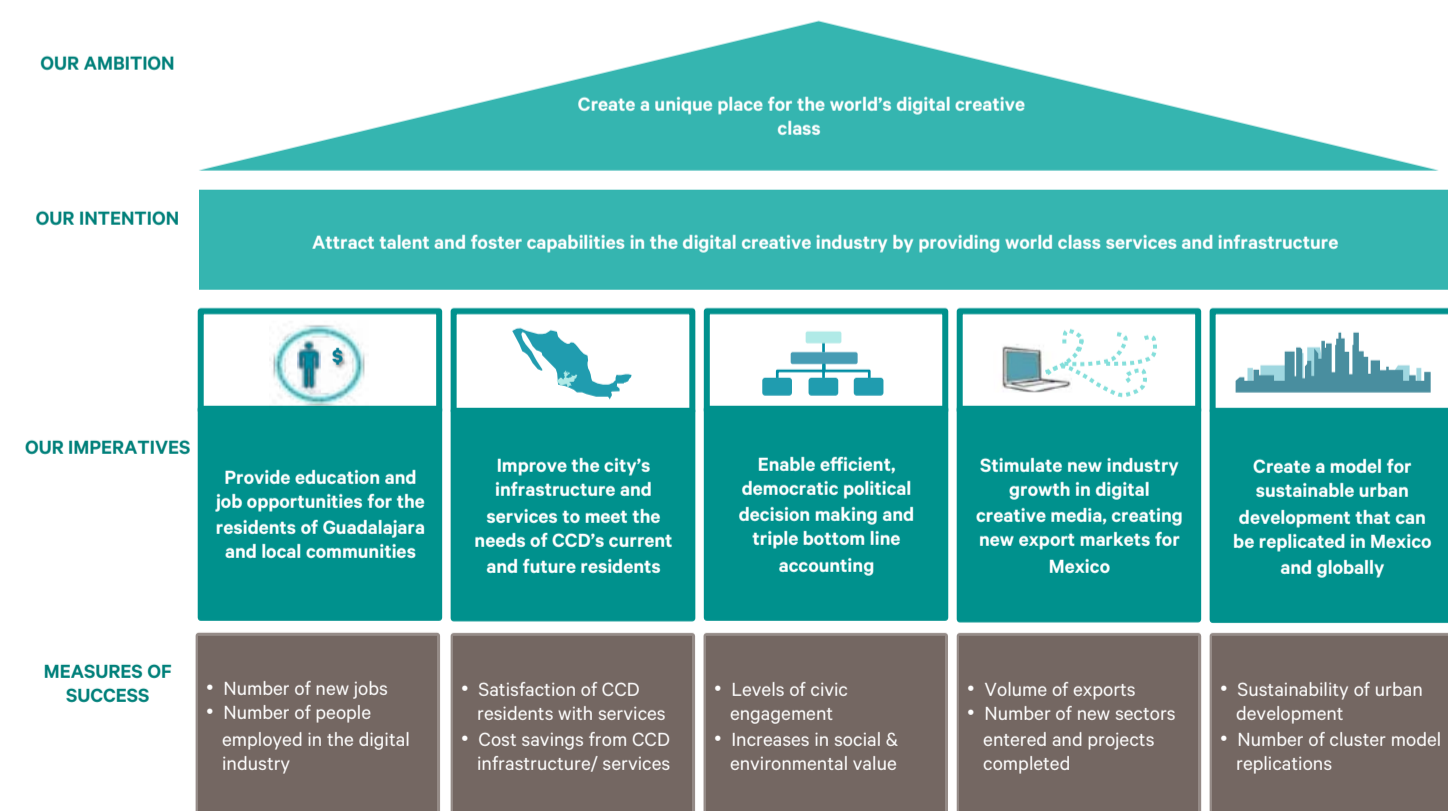
- **Significant contribution to GDP:** CCD aims to contribute an estimated \$46 Bn MXP* to Mexico's GDP by 2023
- **Diversified international trade relationships:** CCD aims to establish new trade relationships via exports to high growth markets, such as China, India and Brazil.
- **Increased foreign investment:** CCD aims to attract between \$23.4Bn and \$63.9Bn MXP of foreign direct investment (FDI) and create a vehicle for multilateral funding

ANTICIPATED REGIONAL BENEFITS INCLUDE:

- **Job creation:** CCD aims to create 33,000 jobs and develop new education and training facilities to support the digital media industry
- **Improved infrastructure and services:** \$27.3Bn MXP will be invested in CCD's physical and digital infrastructure and new services, such as internet connectivity and waste recycling
- **Social enterprise and cohesion:** CCD will stimulate the development of local social enterprises and improve social cohesion within Guadalajara

By creating a unique place for the world's digital class CCD fulfil its vision of generating social, economic and environmental value

* Based on exchange rate of \$13.04MXP to \$1.00 USD
www.uk.reuters.com (accessed 05 November 2012)



24.1.2. Market Value and Job Creation Generated by CCD

Guadalajara has a well educated population and many existing universities, providing strong potential to expand its links between academia and industry. However, Mexico has experienced a loss of local talent, with many skilled workers within the digital creative service industry moving to established digital hubs such as California and other parts of the United States.

Analysis of the digital creative services industry shows that by 2023, CCD could account for approximately \$46Bn of the global market for these services. By stimulating growth in CCD, attracting skilled workers back to Mexico and developing new local talent, CCD could be well positioned to become a significant player at the global scale. There is a market for these services, especially for Hispanic based content, and CCD is well positioned to exploit this market.

Mexico production is expected to increase by approximately 48% over the ten year period between 2014 and 2023, with a significant portion of this growth being contributed by CCD.

This level of production will stimulate growth of jobs within CCD and the wealth generated could lead to indirect and induced benefits elsewhere in the Mexican economy. CCD is expected to generate approximately 33,000 new jobs by 2023. Of these new jobs, 20,000 are expected to be direct jobs, or jobs created within the digital creative services industry. The largest sector within digital creative services is expected to be film and video, which could account for approximately 41% of production within CCD. This is followed by the animation and mobile apps sectors, which are anticipated to generate 26% and 20% of production respectively. This level of job creation could represent the creation of between 530 and 580 new enterprises in CCD.

Based on research by the UK government¹, of the 20,000 direct jobs 10% would be employed in digital creative industries, 75% would be employed in support services to digital creative enterprises (such as administration, legal, testing etc), 5% would be self-employed in digital creative industries and the final 10% would be self employed in support services.

Direct job growth is attractive to the Mexican government because it will generate more taxes, but also help to reduce net migration. In addition to the direct jobs, a further 9,000 indirect jobs are expected to be generated by CCD. These are jobs within the supply chain that services the digital creative industries, producing materials, equipment and services used by CCD businesses.

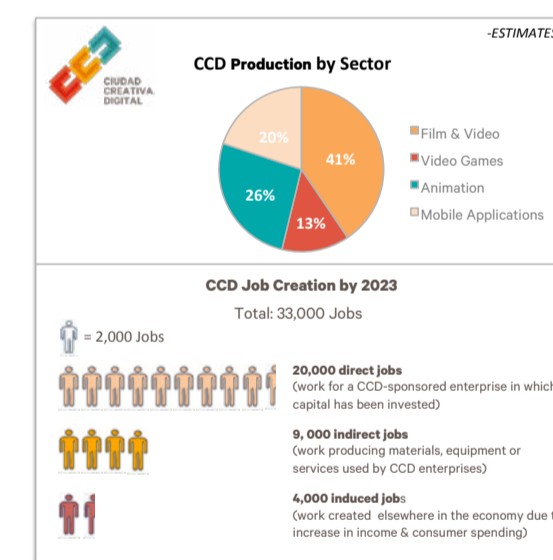
Finally, CCD is anticipated to generate approximately 4,000 induced jobs. These are jobs created elsewhere in the economy, such as in leisure, retail etc. due to the increase in people's income and increased consumer spending resulting from CCD.

The economic benefits of CCD include \$46 Bn MXP market value in 2023 and 33,000 new jobs created

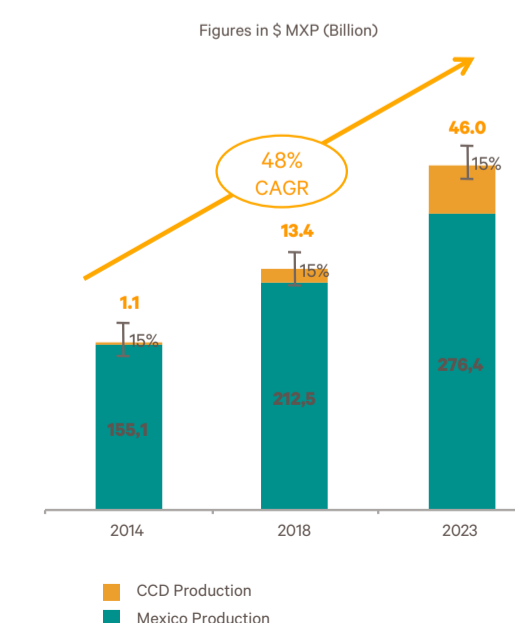
Source:
PwC Global M&E Outlook 2011; Creative Economy Report 2010, United Nations; Accenture Analysis

Based on exchange rate of \$13.04MXP to \$1.00 USD and \$20.75MXP to £1 GBP
www.uk.reuters.com (accessed 05 November 2012)

Calculation based on methodology in "Creative Industries Economic Estimates", UK Department for Culture, Media and Sport, December 2011



CCD and Global Estimated Audiovisual Market Value 2013-2023



24.1.3. Jobs and Production within Digital Creative Services

DIRECT EMPLOYMENT WITHIN CCD:

Three scenarios have been developed in relation to the level of direct employment that could be generated by CCD. It is anticipated (as shown by the 'Expected' scenario) that CCD could create nearly 20,000 direct jobs, however when looking at the optimistic scenario, this could be as many as 28,000 jobs. In the first few years, job creation is relatively low, due to infrastructure and service provision still being installed, however by 2019, it is expected that more digital creative enterprises will begin to locate in CCD and rapidly start to expand, leading to the creating of new jobs.

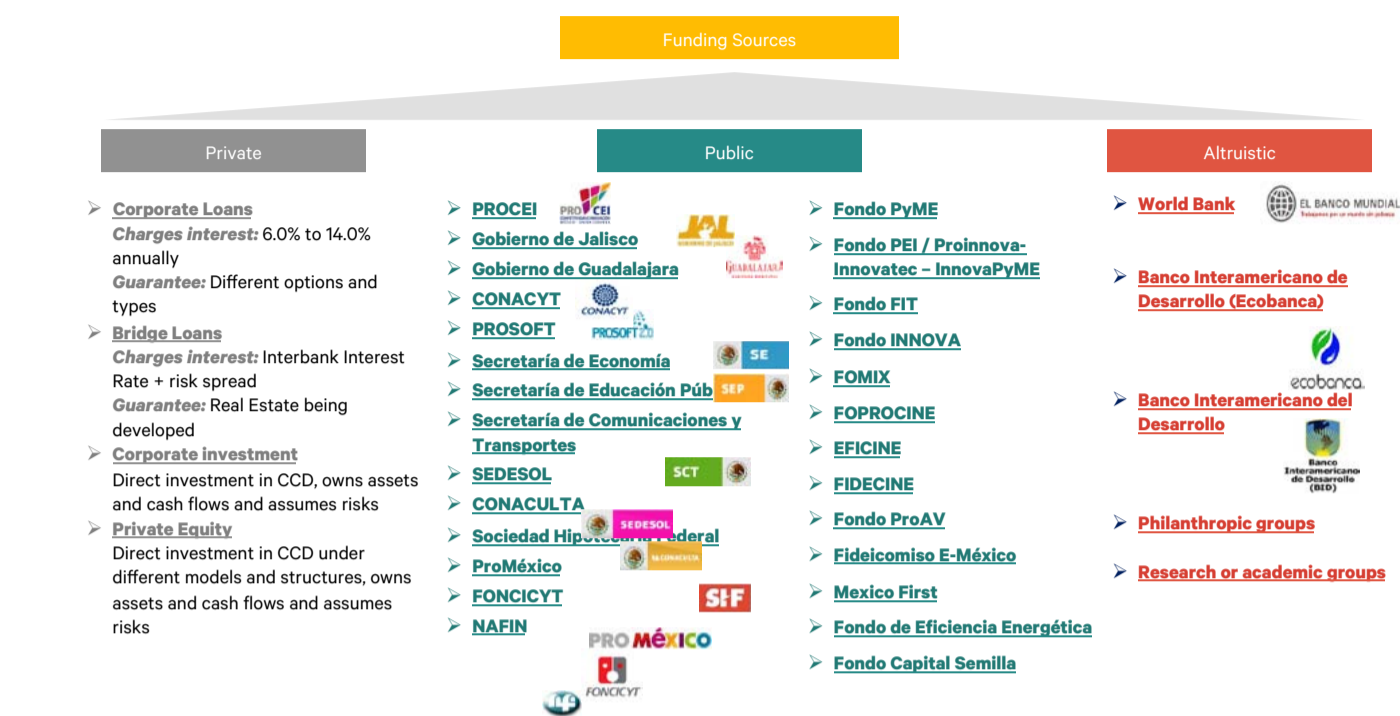
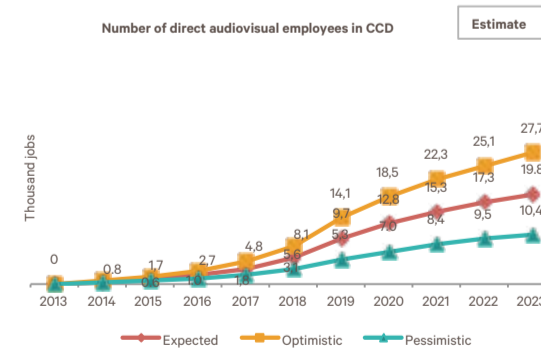
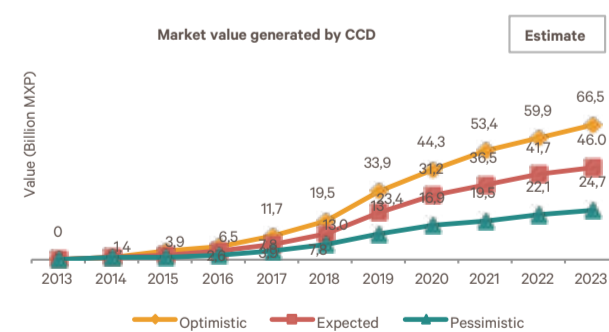
MARKET VALUE GENERATED BY CCD:

Three scenarios have been developed in relation to the level of market value that could be generated by CCD. It is anticipated (as shown by the 'Expected' scenario) that CCD could generate nearly \$46Bn MXP of market value by 2023, helping to position CCD as a major player in the global digital creative market. In the optimistic scenario, CCD could generate almost \$67Bn of market value, showing that CCD has the potential to become a significant contributor to the Mexican economy. This level of growth would be directly related to the level of Foreign Direct Investment that CCD is able to attract and the resulting number of jobs created.

CCD is estimated to create nearly 20,000 direct jobs and generate \$46Bn MXP of market value by 2023

Source:
Accenture analysis

Based on exchange rate of \$13.04MXP to \$1.00 USD
www.uk.reuters.com (accessed 05 November 2012)



24.1.4. Funding Sources for CCD

CCD will need to obtain funding from a diverse range of sources in order to secure the level of investment required to fully develop the infrastructure and services required.

There is a large range of public funding sources available in Mexico and in the early phases, the governments of Jalisco State and Guadalajara will invest both financially and in terms of land. Other potential public funding sources could include PROSOFT and CONACYT who support development in technology, communications and creating jobs within the IT industry.

Private funds could be obtained via debt financing, for example using corporate or bridge loans.

The funding structure of CCD also allows for altruistic investments, for example from the World Bank or EcoBanca, which offer financial loans with low interest rates because their primary motivation is support development, rather than earn a return on investment. There is also potential for philanthropic groups or individuals to provide grants to CCD. This interaction will be via the Fideicomiso (FC) rather than the Association Civil because the FC is not able to provide investors with a return.

Sources of finance are likely to change over the lifetime of CCD, however its governance structure has been designed to enable this to occur easily.

24.1.5. Foreign Direct Investment

- CCD total investment required for ten years: \$79.5Bn MXP
- Government investment: \$13.0Bn MXP
- Private investment: \$66.5Bn MXP
- 80% foreign - 20% national

FDI = 26% of product value generated by CCD each year



An analysis of the 'core' companies required to locate in CCD in order to stimulate new growth and attract new businesses (of all sizes) revealed that none of these 'core' companies were Mexican. This means that CCD would need to attract Foreign Direct Investment (FDI) from multinational companies within digital creative services, which would then encourage other international, national and start-up businesses to locate in CCD. This would be supported by investments from the Mexican government in development of new business and industry in the CCD. This is separate to the investments in the development of CCD infrastructure.

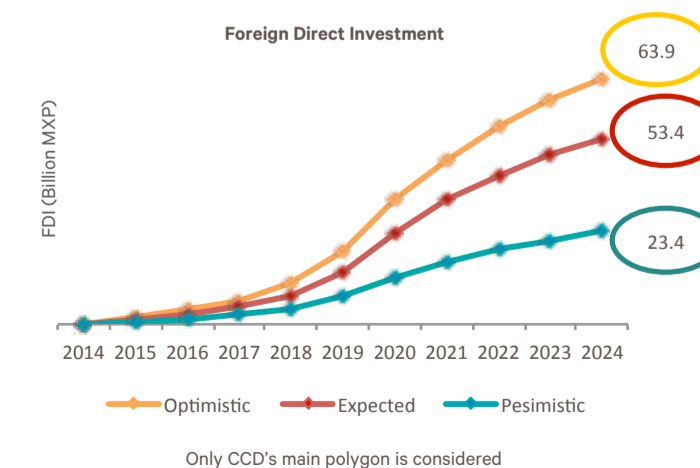
Three scenarios were developed, based on an optimistic, pessimistic and 'expected' level of FDI that CCD could attract. It is anticipated (as shown by the 'expected' scenario) that CCD could attract approximately \$53.4Bn MXP of FDI by 2024, however this could be as high as \$64Bn MXP, as shown by the Optimistic scenario. In the first four years, growth in FDI is expected to be relatively low, however significant growth is expected to occur between 5 and 10 years after CCD's establishment, representing the pull-effect that the core businesses will exert.

The level of FDI is expected to significantly outweigh the level of government investment required, with approximately 80% of investment coming from FDI.

Attracting a combination of foreign and direct investment for the selected industries will be essential for the growth of CCD. Over a 10 year period this could be between \$23.4 and \$63.9Bn MXP.

CCD cluster will need to secure funding from a diversity of public, private and multilateral sources

Based on exchange rate of \$13.04MXP to \$1.00 USD
www.uk.reuters.com (accessed 05 November 2012)



Only CCD's main polygon is considered

24.1.6. Prioritising Sectors and Identifying Advantages of CCD

PRIORITY SECTORS:

By assessing the 'Ease of Implementation' and the 'Benefits' of a number of digital creative services, CCD can identify the sectors within the digital creative industries, that should be prioritized in order to attract enterprises of that type to CCD.

The following four sectors have been identified as priorities:

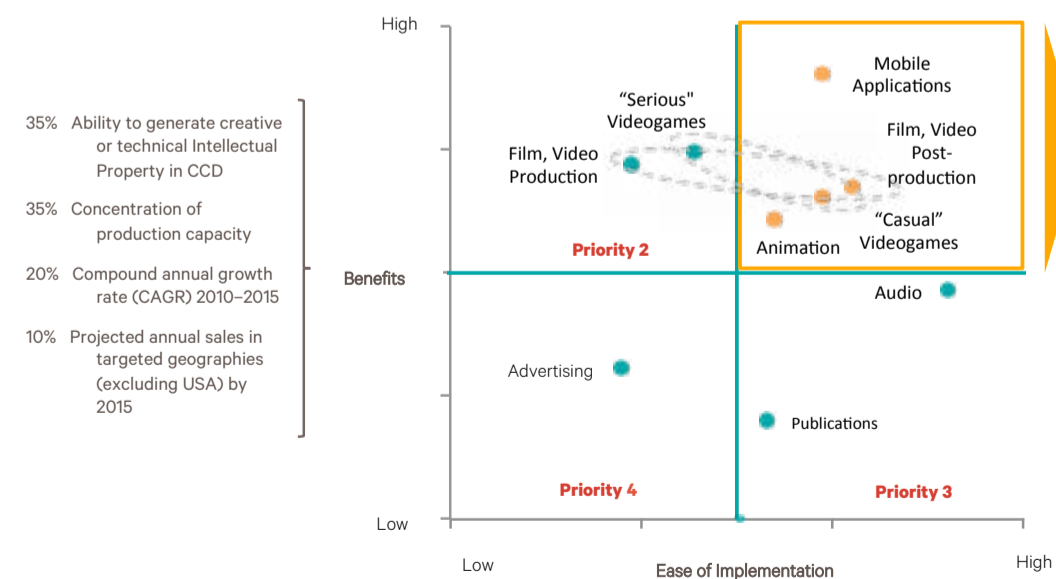
- **Mobile Applications:** Strong anticipated sales and IP generation, potential for concentrated production and creativity.
- **Film & Video:** Relatively low investment required and high potential for IP generation.
- **Video Games:** Fastest growing sector, high potential for concentrated production and IP generation.
- **Animation:** High potential for IP generation, concentrated production and creativity.

The **Audio** sector will also be developed to support the four priority sectors but it will not generate revenue for CCD by itself.

CCD has identified a number of key tenants within these sectors, such as Nickelodeon and Pixar Animation Studios within the animation sector, and Nintendo, Microsoft Game Studios and Capcom within the videogames sector.

In the first phase CCD will focus on video games, animation, mobile applications, video and film.

CCD Sector Prioritization Framework



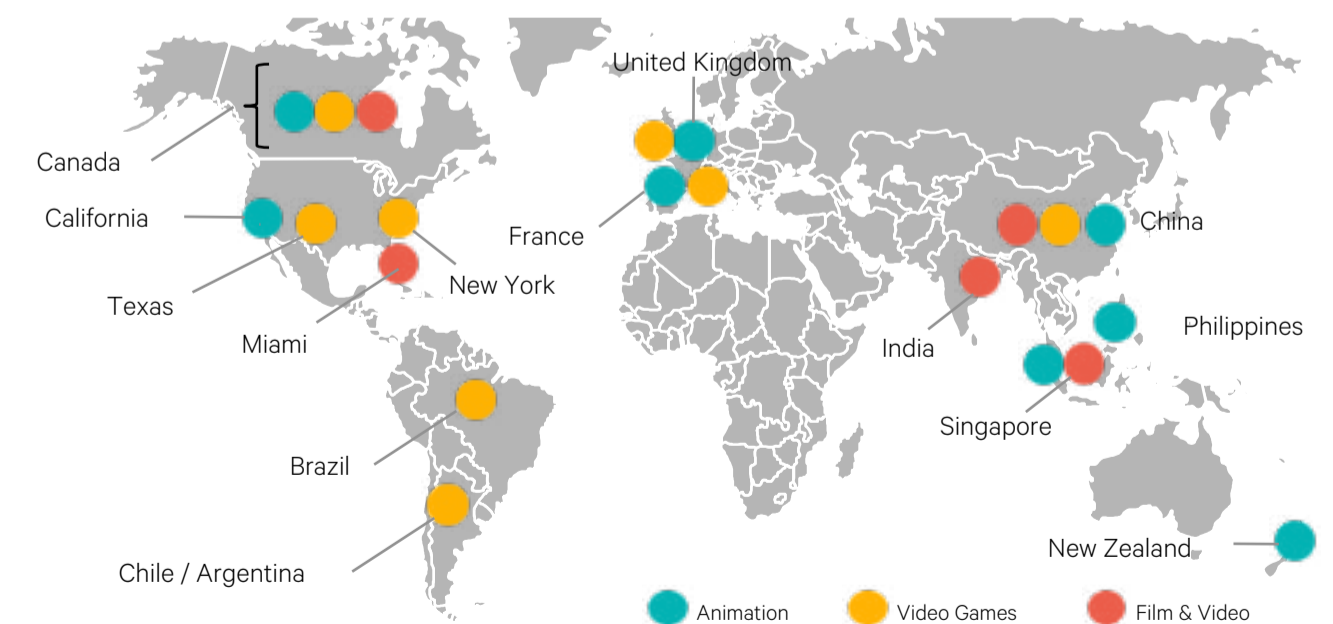
- 35% Ability to generate creative or technical Intellectual Property in CCD
- 35% Concentration of production capacity
- 20% Compound annual growth rate (CAGR) 2010-2015
- 10% Projected annual sales in targeted geographies (excluding USA) by 2015

In order to attract the best people and projects, CCD will need to compete with existing creative clusters, for example those shown on the map, that already specialise in CCD's priority sectors.

However, CCD has a number of competitive advantages and these will need to be exploited in order to compete on the global market.

- **Hispanic and non-Hispanic content at a lower cost:** There is currently no cluster worldwide dedicated to the Hispanic media and entertainment industry.
- **Attractive incentives for investors:** CCD aims to provide tax incentives and benefits to promote industrial development.
- **Talent creation:** Mexico will work together with local academic institutions to develop a strong influx of talent in the audio visual and ICT industries.
- **Specialist talent:** CCD will attract and incubate digital media talent, building upon its existing base of digital media expertise.
- **Digital infrastructure:** CCD will be supported by infrastructure developed specifically for the industry.
- **ICCD** will create an ecosystem attractive for young creatives and families, building on Guadalajara's vibrant lifestyle.

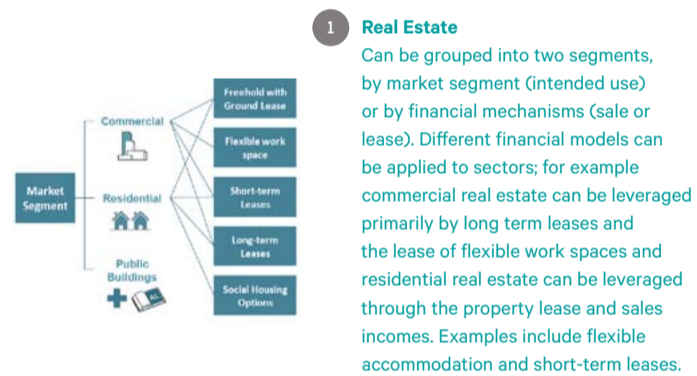
Example competitor creative clusters



24.2.

Traditional and Innovative Business Models

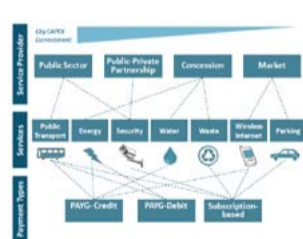
Business Model Innovation



1 Real Estate
Can be grouped into two segments, by market segment (intended use) or by financial mechanisms (sale or lease). Different financial models can be applied to sectors; for example commercial real estate can be leveraged primarily by long term leases and the lease of flexible work spaces and residential real estate can be leveraged through the property lease and sales incomes. Examples include flexible accommodation and short-term leases.



2 Intellectual Property
Creation of an ecosystem including academic institutions, service platforms, incubators, corporations and investors. This group will operate as an ecosystem for the creation, development and monetization of Intellectual Property. An example includes Silicon Valley, USA where there is a thriving ecosystem grown from co-location of ideas, business partners, investment and world-class skills.



3 Service-Based
The main focus is to provide a broad spectrum of services with the ability to view multiple payment transactions by service use or monthly subscriptions. Examples can include concessions and subscription-based business models. Restrictions may exist based on legislative and regulatory environment.



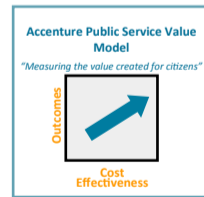
4 Information Marketplace
For this model, CCD would provide a data platform and a service platform that would service as an open market for trading. This leverages the performance of a service that can enable CCD to achieve an income from data collected and the information / knowledge that can be exploited through analytics. An examples includes the London datastore which gives free access to a number of data-sets provided by the Greater London Authority.



5 Advertising & Product Placement
There is significant opportunity for the placement of advertisements and products within CCD. Value can be extracted from digital space (online and through mobile devices) or through the physical environment or public throughout digital media advertising. Examples include social advertising like Facebook and its 1 billion mega-network of 'friends' and location-based advertising.

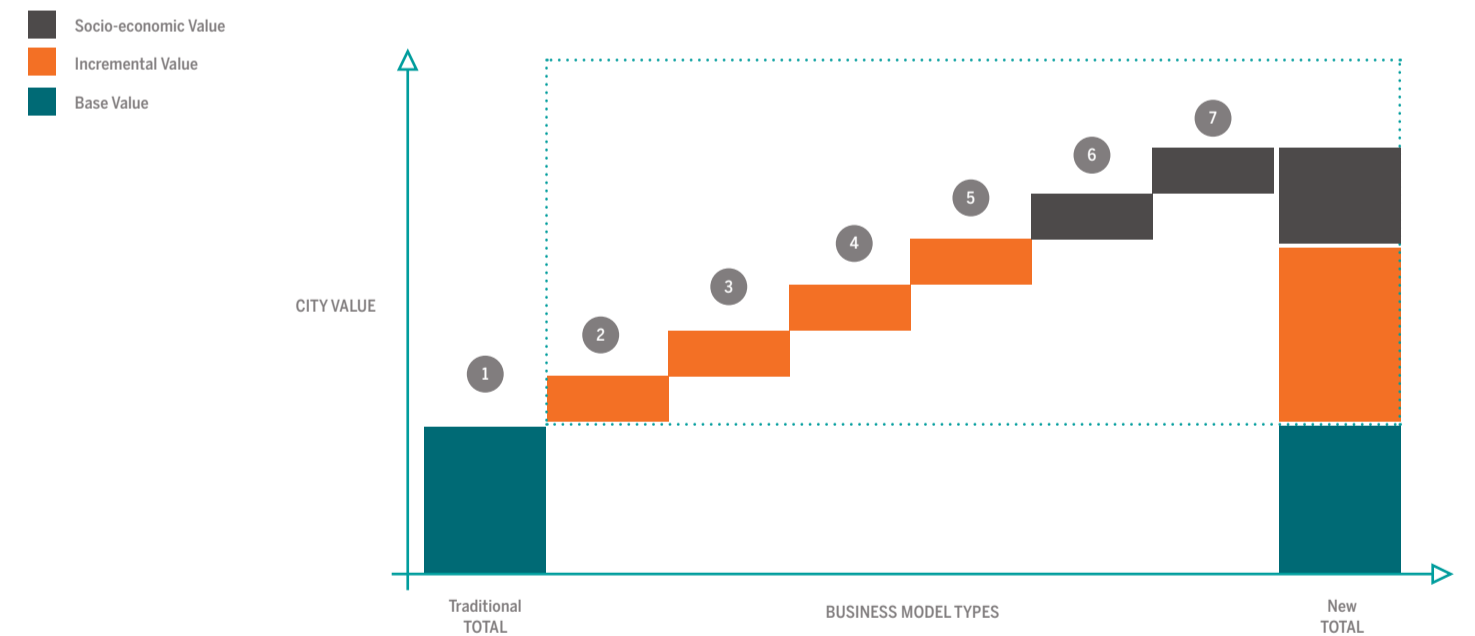


6 Social Enterprise
This model reduces spend from the public purse as social investors bring the supplies and services and charge them under a non-profit scheme. Social enterprises are managed similarly to private organizations but due to the use of social capital, profits can be reinvested for the benefit of employees. Examples include Peterborough's Social Impact bonds (in the UK) and SEWA Bank's slum upgrading programme.



7 Public Service
After the establishment and maximum commercial and social development of other business models, some services will still need to be provided by the state. Ideally, this is kept to a minimum to capture and attract business development and sustainability within the site. Examples include the Local Government Information Systems (LOGIS), USA and the California C-IV System in the US.

In addition to securing funding combining traditional and Innovative business models will create incremental value for CCD



24.2.1. Real Estate Business Model

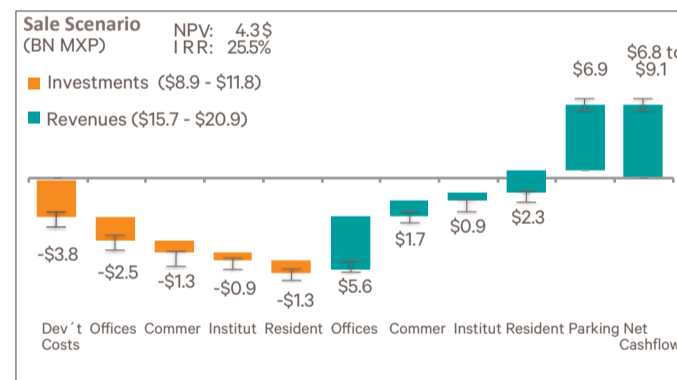
Business Case Summary

Real estate development will be at the core of CCD. The NPV of the project can vary from \$4.3Bn to \$5.3Bn MXP evaluated over a 15 year period with an IRR ranging from 21.5% to 25.5% and a minimum payback period of six years in the sale scenario.

The business case considers two different scenarios which used different assumptions, but in both scenarios the NPV was positive over the projects lifecycle.

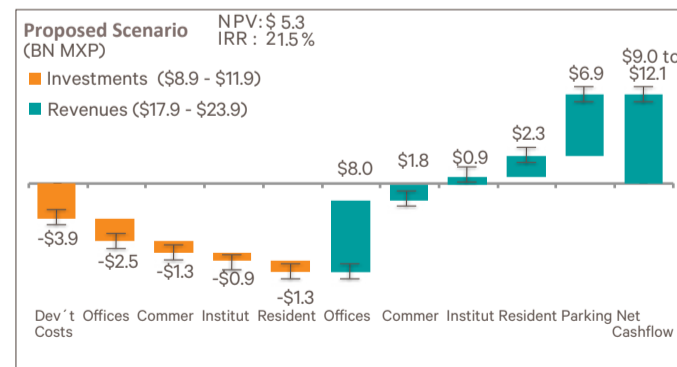
CONSERVATIVE SCENARIO MAIN ASSUMPTIONS (AMOUNTS IN MXP)

- Discount rate of 4.83% (real)
- 100% sale scenario
- Excludes urbanization and infrastructural costs
- Land acquisition for the remaining space (96,691m2) at a rate of \$6,500
- Construction costs of \$7,500 for offices, \$15,043 for commercial, \$11,940 for institutional and \$9,473 for residential
- Offices price/m2 of \$16k (sale)
- Commercial price/m2 of \$16k for sale
- Institutional price is transferred at cost (construction + land)
- Residential price/m2 of \$15.4k for sale
- Added value from phase II against phase I considered: 44% for residential space, 21% for others
- Parking space development cost and revenues at a \$30/hr
- Development costs include restructuring, planning, civil works, engineering & projects, demolition, taxes and rights as 6% of construction costs + parking and park development costs
- OPEX: Includes advertising, sales fees, parking operation and space maintenance costs for \$1.6M
- REPEX: Component replacement costs included



PROPOSED SCENARIO MAIN ASSUMPTIONS (AMOUNTS IN MXP)

- Discount rate of 4.83% (real)
- Mix between sale and lease scenario
- Excludes urbanization and infrastructural costs
- Land acquisition for the remaining space (96,691m2) at a rate of \$6,500
- Construction costs of \$7,500 for offices, \$15,043 for commercial, \$11,940 for institutional and \$9,473 for residential
- Offices price/m2 of \$16k (sale) / \$232 monthly (lease)
- Commercial price/m2 of \$16k (sale) / \$185 monthly (lease)
- Institutional price is transferred at cost (construction + land)
- Residential price/m2 of \$15.4k (sale) / \$147 monthly (lease)
- Added value from phase II against phase I considered: 44% for residential space, 21% for others
- Parking space development cost and revenues at a \$30/hr rate
- Development costs included as 6% of construction costs aligned with Tec de Monterrey's analysis: restructuring, planning, civil works, engineering & projects, demolition, taxes and rights
- OPEX: Includes advertising, sales fees, parking operation and space maintenance costs for \$1.7M
- REPEX: Includes electronic components replacement costs



Land Management Scenarios

The benefits of acquisition, sale and lease of land need to be balanced to provide maximum longevity of return. There are three scenarios that have been analysed in terms of land acquisition and ownership for CCD and the surrounding area. These three scenarios vary based on their ownership and governance structures, and subsequent revenue streams and total costs. In each of these scenarios, it should be noted that the Parque Morelos is not considered in land acquisition, ensuring that it remains a cultural and historical landmark for the Guadalajara region. These scenarios have been outlined here in terms of the amount of CAPEX required by CCD Association Civil (AC), the ownership and governance structures, the approach, revenue required, CAPEX and OPEX cost breakdowns and total cost required.

Ownership structure and governance section refers to the total area of land that is owned by CCD, both currently and in terms of each scenario. In each scenario, land acquired is owned by CCD Trust and this is to help ensure that the vision of the city can be translated into reality, and specific digital and physical city services can be offered in this area under the guidance of CCD.

The approach of each scenario outlines which real estate segments are offered within CCD, and how common areas and public buildings are maintained and paid for. In all three scenarios, public buildings and common areas are maintenance is the responsibility of CCD AC, but in each scenario, different real estates segments are offered, with the option to divest real estate portfolio after 5 to 10 years in scenario three. Divesting the portfolio would come from CCD AC leasing the land to private owners to decrease the requirement from the public purse for on-going maintenance and operation.

Revenues remain the same in both scenario one and two, with revenues from property sales, which creates a high potential profit margin as the price of real estate greatly increases as the value of land due to service provision and the ecosystem of services and enterprises. In scenario three, revenues are longer term due to leasing agreements between third parties and CCD AC. Although these revenues would have lower margins, revenues would be fairly constant and long term.

Finally, cost of each scenario is broken down into CAPEX and OPEX required by CCD AC. These breakdowns are the same in each scenario, as the CAPEX is always invested by the AC and OPEX required only includes common areas and public buildings within CCD.

Total cost for each scenario has also been listed below, giving an idea of the total cost to CCD. This number should be taken into account along with the revenue streams listed in each scenario.

Real estate development will be at the core of CCD. The NPV of the project can vary from \$4.3Bn to \$5.3Bn MXP evaluated over a 15 year period with an IRR ranging from 21.5% to 25.5% and a minimum payback period of six years in the sale scenario

	Scenario 1 "Full CCD" - Acquisition of land is 100%	Scenario 2 "Land Sale" - Acquisition of land by 50% and sale business	Scenario 3 "Land Leasing" - Acquisition of land by 50% and lease
Ownership structure and governance	<ul style="list-style-type: none"> 100% land ownership by CCD AC 7ha is currently owned (21%) 28ha to be acquired (79%) *Parque Morelos is not considered 	<ul style="list-style-type: none"> 50% land ownership by CCD AC 7ha is currently owned (21%) 10.5ha to be acquired (29%) *Parque Morelos is not considered 	<ul style="list-style-type: none"> 50% land ownership by CCD AC 7ha is currently owned (21%) 10.5ha to be acquired (29%) *Parque Morelos is not considered
Approach	<ul style="list-style-type: none"> Offices, residential and commercial segments offered Still maintenance of common areas and public buildings by CCD AC 	<ul style="list-style-type: none"> Offices, residential and commercial segments offered Still maintenance of common areas and public buildings by CCD AC 	<ul style="list-style-type: none"> Offices and residential spaces offered for lease Still maintenance of common areas public buildings by CCD AC Option to divest real estate after 5 to 10 years
Revenue	<ul style="list-style-type: none"> One off property sales High margin 	<ul style="list-style-type: none"> One off property sales High margin 	<ul style="list-style-type: none"> Longer tail from leasing yields
Cost	<ul style="list-style-type: none"> CAPEX invested by CCD AC OPEX for common areas and public buildings only 	<ul style="list-style-type: none"> CAPEX invested by CCD AC OPEX for common areas and public buildings only 	<ul style="list-style-type: none"> CAPEX invested by CCD AC OPEX for common areas and public buildings only
Total Cost	\$118m MXP	\$118m MXP	\$12.9Bn MXP
CAPEX	High cost		Long term revenue

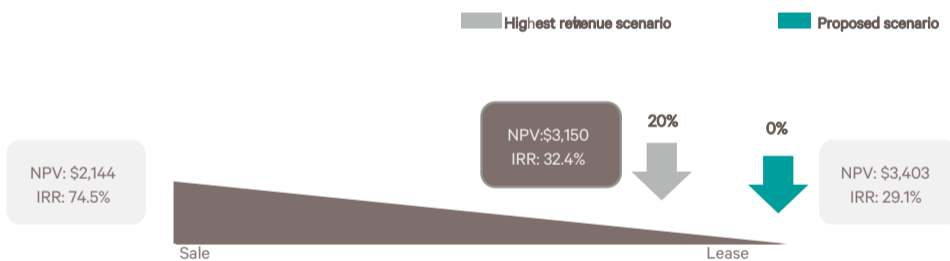
Lease against Sale Sensitivity Analysis

CCD will have the option to lease or sale the spaces available in CCD Polygon. Based on the time when these areas become available, the sale price and the cost of development, some of the space might be more profitable if it were to be sold while it may be more profitable if other land was leased over the 15 year period of the business case. The sensitivity analysis for selling specific plots of land versus leasing this land is outlined below.

Each of the available spaces in CCD can be commercialized through leasing or sale, there needs to be a balance between the most profitable and the proposed scenario

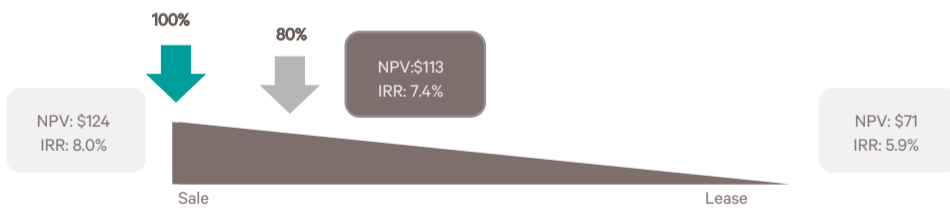
Creative Industry (Offices)

Office space becomes available early in the project development, and because of this timing, along with the high demand considered for CCD area, selling this space gives a higher IRR. However, over the 15 year time frame of the project lifecycle, the highest NPV and revenues are found in the leasing scenarios. To provide a balance between both scenarios, we have considered a 80% lease and 20% sale of the office space (creative industry).



Commercial

Commercial space provides a higher profit if offered for sale. However, CCD may want to offer some percentage of this space in a leasing option to satisfy temporary demand without resigning a potential revenue by doing so.



Institutional

Institutional areas are likely to be developed by CCD and offered to a private entity as a concession or PPP, at a transferred price, to operate and maintain the area. By following this option, CCD will avoid losing value by managing this space. However, CCD might choose to own and run these areas by subsidizing their cost as a service to the community.



Residential

Residential spaces become available as of year 3 during the project's first phase. Because of this time period, the 15 year assessment period is not long enough to make a higher profit by leasing instead of selling this space. Like the office space for creative industries, the selected scenario presents the option of keeping a 20% of the apartments for leasing.



* Operated by a private party at a transferred price

Compensation for Current CCD Residents and Businesses

A clear land acquisition strategy will need to be decided upon early to decrease speculation and associated costs. Three options for compensation have been discussed

Three models of compensation are available – these provide a win, win, win scenario for current CCD residents and businesses.

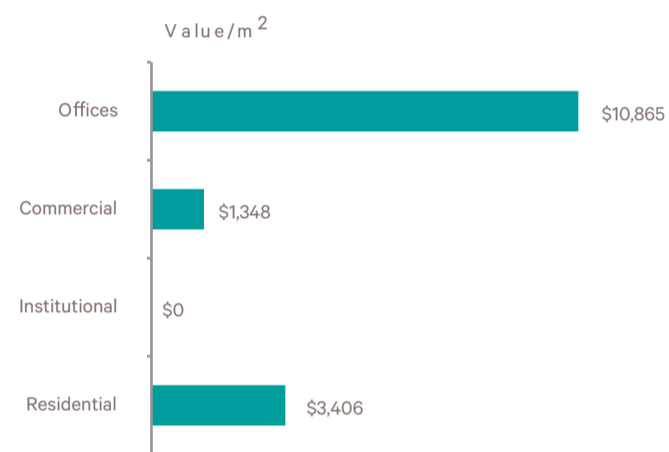
	Option 1 – Owners receive cash compensation and relocate away from CCD	Option 2 – Owners receive an equivalent property in CCD post-development	Option 3 – Development Equity: Owners receive shares in CCD Association Civil equivalent to the value of their property
DESCRIPTION	<ul style="list-style-type: none"> Land and / or property is purchased from existing owners. Owners receive a single cash payment equivalent to the current value of their property / land and relocation costs (removal costs, legal fees for next purchase). Owners receive payment and relocate away from CCD. 	<ul style="list-style-type: none"> Land and / or property in CCD is purchased from existing owners. Owners receive a property of equivalent size in CCD post-development. Owners are provided with alternative accommodation / business premises during the development phase but do not receive any cash compensation. 	<ul style="list-style-type: none"> Land and / or property is purchased from existing owners . Owners receive an equity stake (in the form of shares) in the Association Civil equivalent to the value of their property. Owners are provided with alternative accommodation / business premises during the development phase but do not receive any cash compensation.
ADVANTAGES / DISADVANTAGES	<p>Benefits to residents/businesses and CCD:</p> <ul style="list-style-type: none"> Residents / businesses can receive compensation quickly and easily. Where owners are happy to sell, land / property could become available more quickly for redevelopment. <p>Disadvantages:</p> <ul style="list-style-type: none"> Existing owners are not obliged to sell. Multi-tenanted buildings with multiple freeholders may be harder to acquire. Non-compulsory purchase may lead to speculation and lead to greater compensation needed to acquire property / land. Could require large cash outlay for CCD. 	<p>Benefits to residents/businesses and CCD:</p> <ul style="list-style-type: none"> Relocating communities together during development could help community engagement. Residents and businesses are encouraged to support CCD as they will live there post-development. No significant cash outlay for CCD. <p>Disadvantages:</p> <ul style="list-style-type: none"> Additional cost associated with providing temporary accommodation / commercial space. 	<p>Benefits to residents / businesses and CCD:</p> <ul style="list-style-type: none"> Residents and businesses are encouraged to support CCD as they will continue to live there post-development. Equity share could result in a return to residents / businesses greater than the current value of their property / land. No significant cash outlay for CCD. <p>Disadvantages:</p> <ul style="list-style-type: none"> Additional cost associated with providing temporary accommodation / commercial space.
CASE STUDY	<p>Middlesborough, United Kingdom:</p> <ul style="list-style-type: none"> The local authority has undertaken a number of housing regeneration schemes in the city, involving compulsory purchase orders. Property owners are provided with the following compensation package: the full market value of the property at the time of purchase, reimbursement of all reasonable legal costs, and a 'home loss compensation payment' up to 10% of the property value and a 'disturbance payment' to cover unavoidable relocation costs such as removal costs, telephone reconnection etc. 	<p>Newham, East London:</p> <ul style="list-style-type: none"> Established a 'Residents Charter' to set out the compensation package offered to tenants, leaseholders and freeholders as a result of urban redevelopment. Required the developer to set aside a number of properties to be offered to existing leaseholders / freeholders. Required the developer to provide financial incentives to allow existing owners to remain in their community, for example a financial discount only offered to current owners and an equity purchase scheme, whereby the value of the owner's current property is used to purchase a property post-development. 	<p>Beirut City Centre, Lebanon:</p> <ul style="list-style-type: none"> A master development company, Solidere, was established to redevelop Beirut city centre. Land was acquired through a mix of compulsory and non-compulsory purchase. For multi-tenanted buildings, owners were offered shares in the development company, resulting in increased capitalisation and improved cash flow (as a result of not having to provide cash compensation). Residents with an equity share had a vested interest in the success of the development, reducing the risk of speculation.

Land Usage Sensitivity Analysis

LAND USAGE:

The current total of square meters assigned to each of the four different land use options, along with the assumptions behind the model and the sale/lease proportion previously described, provides a clear picture of which is the most profitable land use scenario for CCD development.

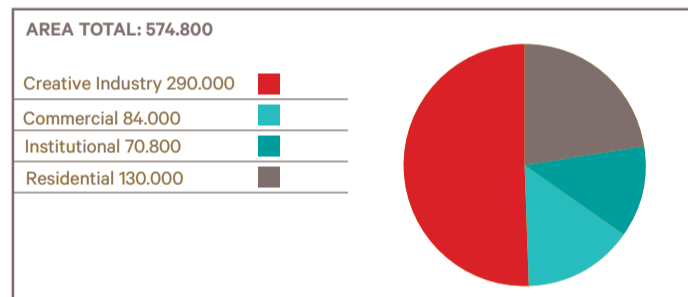
Office, commercial and residential space create value for CCD over the given time period, by using a combination of leasing and selling outlined earlier. The only land usage that does not generate value for CCD is institutional space. However, this area generates community and social value for CCD, while operating at a negative cost to the municipality.



The selected scenario has a NPV of \$5.3Bn MXP, but an alternative mix of the land usage could result in a more profitable outcome

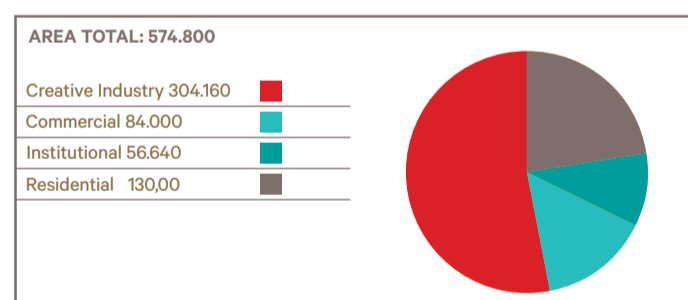
The land usage as it is distributed now, assigns the highest construction area of the development to the creative industry (50%), followed by residential (23%), commercial (15%) and institutional (12%).

This scenario results with an NPV of \$5.3Bn MXP and an IRR of 21.5%.



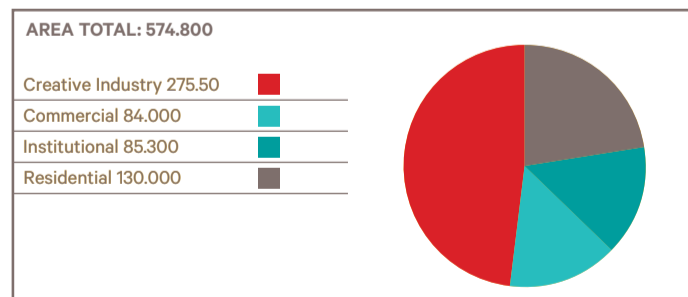
To model a different scenario, the assumptions stay constant, while the total area that is assigned to each land use is varied, the scenario produces different results. Reassigning 20% of the potentially less profitable land to the land that obtains higher values, and is therefore more profitable creates higher financial return for CCD. To demonstrate, using 14,160 m2 previously considered as institutional space as office space (creative industry), would result in total land use as described below:

- Creative industry: 53%
- Residential: 23%
- Commercial: 15%
- Institutional: 9%



This new scenario would produce an additional \$186M MXP in NPV creating a new total of \$5.5Bn MXP and an IRR of 21.8% (0.3% higher than the previous scenario). On the other hand, if institutional development was prioritized over the rest of the available land uses, regardless of the land value lost, financial value would be negatively impacted. For example, if 5% (14,500m2) of the current offices (creative industry) space was assigned to institutional areas, it would give the below breakdown of total land use:

- Creative industry: 47%
- Residential: 23%
- Commercial: 15%
- Institutional: 15%



This scenario would provide a better mix of the developed areas inside CCD for residents but it would bring down the NPV to \$5.1Bn MXP (decrease of \$20M MXP) and the IRR would decrease to 21.2% (decrease of 0.3%).

CONCLUSION:

Other sensitivity analysis can be carried out in order to determine the desired land usage mix, considering the reallocation of commercial or residential space as well, based on financial metrics and social / community value. A balance must be struck between community value and vision, and financial return for the development of CCD to be successful. Other levers such as value engineering should be considered.

24.2.2. IP Business Model

WHAT THIS MEANS FOR CCD

The Intellectual Property business model will help develop an ecosystem within CCD including academic institutions, service platforms, incubators, corporations and investors. This group of private sector actors operate as an ecosystem for the creation, development and monetization of Intellectual Property (IP). Examples of where this model has been successfully used includes Silicon Valley, USA with a thriving ecosystem grown from a co-location of ideas, business partners, investment and world-class skills; Masdar City and KA-CARE as both cities are aiming to be a global clean-tech cluster; and intellectual ventures with private sector-driven provision of a liquid UP marketplace.

The fund management professionals will be responsible for: decision making and management of the Investment; determine the strategy and direction of activities of the Investment; propose the project selection criteria; search and reference suitable investment projects to target the Fund; evaluate and propose investment of Fund resources in accordance with the investment guidelines and with the approval of the Investment Company; monitor the development of investment projects approved; management of the Fund; advise projects to maximise the commercial value of intellectual property / overall project; run the finance and accounting function of the investment; request additional resources if necessary; and duly comply with tax obligations of the Fund.

This model assumed a variety in types of investments, in an effort to represent the most realistic scenario. More than half (52%) of potential investments lose money, but 7% of investments have highly profitable returns, ultimately leading to the creation of a positive return for CCD.

Intangible benefits have been listed here as part of the total benefit to CCD but have not been displayed with a monetary value. This is because these benefits can range from environmental value, social value or different sources of economic value. Here, a value was estimated during this stage of analysis.

The profit from the investments of the private sector players can be reinvested into CCD to create further economic, social and environmental value. This model creates an expected \$373M MXP of available investment funds each year and these funds will be reinvested into CCD in projects selected by the third party investors. The benefit of these projects could range from additional economic, social or environmental value creation.

As this model is easily replicable, it can be easily extended to the wider Mexico region, or further afield to Latin America and beyond. This gives greater potential for CCD to act as an innovative hub for creative digital creation and further export.

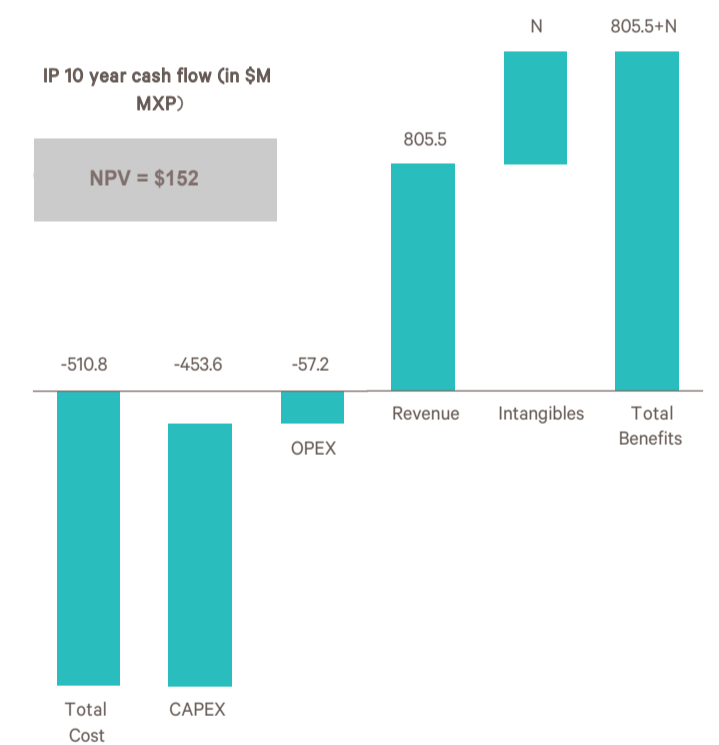
KEY FINDINGS:

- Internal rate of return of 21.39% for Intellectual Property
- Total CAPEX of \$453M MXP
- Total OPEX of \$57.24M MXP
- NPV: \$152M MXP over 10 years
- Total payback period is 9 years

CORE ASSUMPTIONS:

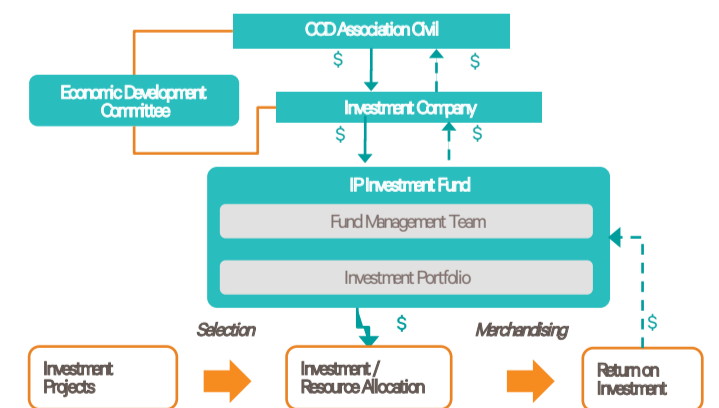
- 100% funding and fund management by CCD's Association Civil
- Considers a portfolio of projects where 52% lose money, 41% have positive yet moderate returns and 7% have high profitable positive returns
- \$37M MXP of available investment funds each year with a 34% annual rate of return
- Considers 4 people for fund management. These people include a director, manager and 2 operation professionals.
- Discount rate was evaluated at 16% (conservative)

In addition to the traditional real estate other business models should be considered. Well-selected IP investments could generate \$152M MXP for reinvestment in CCD's ecosystem



Note:

Exchange rate used at 12.57 MXP = 1 USD



24.2.3. Service-Based Business Model

SERVICE DELIVERY OPTIONS

There are four key options available to CCD Association Civil for the provision of services in CCD to citizens, workers, and visitors. Each of these options for service provision vary primarily based on the level of control which CCD has of the service and subsequently the costs and revenues which CCD will draw from the service. Each of these options can be used to provide different services within CCD. Alternatively, services can be provided under one service delivery option, but this can be altered once CCD has reached scale.

The appropriate business model fit for each service should be determined based on three criteria: strategic importance; capabilities; cash flow potential. Strategic considerations should include data ownership and privacy, CCD-wide security requirements and CCD's role as a catalyst for emerging services. Key capabilities considerations include CCD core competencies, regulatory requirements, the market's ability to provide specific services, and the required capital outlay to match market players. Key cash flow considerations direct revenue streams vs. long-term value realisation, replicability to other sites and subsequent IP royalty, early cash flow generated and potential operating cost reduction.

Growth of CCD can also be supported by innovation in service delivery models and utilising city services as not just cost savings but also revenue generators



OWNERSHIP STRUCTURE AND GOVERNANCE

- | | | | |
|--|---|---|---|
| <ul style="list-style-type: none"> 100% ownership by CCD Association Civil (AC) | <ul style="list-style-type: none"> 1-99% ownership by CCD AC - directly dependent on specific contract structure with selected third party | <ul style="list-style-type: none"> 0% ownership by CCD AC Governed by Service Level Agreements (SLAs) and other legal contracts | <ul style="list-style-type: none"> No involvement by CCD AC Services are driven only by market forces |
|--|---|---|---|

REVENUE

- | | | | |
|---|--|--|--|
| <ul style="list-style-type: none"> All revenue is attributable to CCD AC | <ul style="list-style-type: none"> Revenue shared based on the commercial agreement with selected third party | <ul style="list-style-type: none"> All revenue attributable to concessionaire | <ul style="list-style-type: none"> All revenue attributable to the third party service provider |
|---|--|--|--|

COST

- | | | | |
|---|--|---|---|
| <ul style="list-style-type: none"> CCD AC bears all CAPEX and OPEX cost requirements | <ul style="list-style-type: none"> CAPEX and OPEX will depend on the JV structure outlined in the agreement | <ul style="list-style-type: none"> CAPEX is invested by concessionaire OPEX borne by concessionaire as well | <ul style="list-style-type: none"> CAPEX is invested by market players OPEX borne by market players |
|---|--|---|---|

RISK

- | | | | |
|---|--|---|--|
| <ul style="list-style-type: none"> CCD AC bears all associated risks | <ul style="list-style-type: none"> Sharing of risk based on equity structure and commercial agreement of JV | <ul style="list-style-type: none"> Market risk borne by concessionaire | <ul style="list-style-type: none"> All project risk is undertaken by market |
|---|--|---|--|

CCD OWNED

CCD Owned service delivery is for public services which are provided solely by CCD as they are basic services which are required for visitors, citizens and workers. These services can be considered "required" or "basic" services for CCD, and as these are provided solely by CCD, all costs, revenues and risk is borne by the City. CCD Owned services may not be primarily focused on revenue generation, but may create other benefits such as increased social security or inclusion, or environmental benefits in terms of decrease of greenhouse gas emissions or improved water and air quality.

JOINT VENTURE

The Joint Venture (JV) service delivery option is a business agreement between CCD and a third party enterprise. This agreement is over a specified time, during which CCD and the third party would share revenues, CAPEX and OPEX and the ownership of developed assets. Joint venture business models for services operated within CCD can involve any percentage of ownership, which would directly dictate costs and revenue streams and the risk undertaken by CCD.

This option is likely to be the delivery option with private market players (third parties) and utility provision within CCD (like gas and electricity or water). Private company JVs provide services to CCD at a lower cost by CCD, but subsequently decreased revenues, as both streams are shared at a contracted percentage.

Utility services will likely be provided through a JV business model to ensure buy in from the utility provider. CCD will provide a percentage of the capital costs required for selected services, and this will subsequently help drive innovation in a typically regulated industry. For example, if a smart grid was implemented in CCD, CCD would bear some of the CAPEX requirements to provide the necessary infrastructure throughout the city, while the electricity provider would bear the rest of the required costs.

MARKET

Market owned services are under no control of CCD, and are completely owned and operated by a third party provider. This means that there is no cost or risk to CCD, and all revenue is directed to the third party. CCD has no control over which services are offered under this model, as it is purely driven by market forces.



Intelligent City Services

Intelligent City Services could be provided within CCD to drive resource-efficiency and sustainability. These services are supported by 'The Platform' of the Urban Operating System which provides the infrastructural backbone to the intelligent city

THE PLATFORM

The Urban Operating System provides an accessible platform for service providers to use real-time data to provide more appropriate and efficient services to CCD residents and visitors. The system helps to manage the district digitally by collecting data in real-time to enable services to run more efficiently and securely, and allows the citizens to interact with the government, as well as to use the data to develop new application.

INTELLIGENT CITY SERVICES

DIGITAL SERVICES

Intelligent Security

A safe secure environment using the latest video analytics: e.g. biometric access to buildings and real time tracking and traffic control interaction with emergency response systems



Smart Parking

An intelligent system that includes sensors embedded into parking spaces, light-guiding systems and mobile parking reservations to enable quicker parking and reduce congestion



Utilities Services

A network of sensors and actuators overlaying the physical water pipes and tanks, and the electricity grid to improve distribution and usage.



Digital Public Displays

Digital marketing tools, including interactive displays and innovative signage, could enable greater connectivity and an enhanced interactive experience with consumers in the district



SUSTAINABLE SERVICES

Solar Public Lighting

A solar-powered lighting system that adjusts street lights based on the surrounding environment to reduce energy, maintenance costs and safety risks



Eco-BICI

A public bicycle hire system that allows people to rent bikes throughout the district on a pay-as-you or subscription basis



Waste Removal

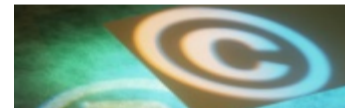
A waste collection service that uses the district's current waste infrastructure and incorporates recycling principles, compost creation, and sensors to inform collection trucks on the fullness of recycling bins



CREATIVE INDUSTRY SERVICES

Digital Rights Management

A service that enables content owners to protect their content from being accessed by users that do not own the right to access it



Royalty Management

A service that allows content development companies to reduce the complexity of collecting and tracking all the royalties owed to them, by providing a single point of contact.



Educational Services

Training courses and educational guidance for CCD's enterprises, including lectures from industry experts



Financing Services

Services to support CCD enterprise with their finances, including budget management, accounting and guidance on how to access external funding



IP Legal Services

A service that assists audio-visual content companies to protect their intellectual property, such as characters, branding, production methods, tools, etc.



Connectivity

Access to state of the art infrastructure on connectivity, that allows sharing of large quantities of data



Consumer Analytics

A service that analyses the consumption of audio-visual content to provide insights on consumer behaviour, enabling businesses to target their products to the specific needs of a customer segment, select the best media to reach an audience, etc.



Digital Asset Management

A service that stores and catalogues information (movies, videogames etc.) in a manner that each asset is easily retrieved and distributed from a central repository



Storage & Computing

Access to data storage and high computing power on the cloud and As a Service



Service Delivery Methods

Intelligent City Services will be provided within CCD to drive resource-efficiency and sustainability. There are four main delivery methods options, of which CCD has an investment relationship with three.

SERVICES IN THE CCD

The offering of various digital, infrastructural and industry focussed services are key to the success of the CCD and building around it an internationally recognised brand of an innovative digital media hub and an attractive, exciting and forward looking city space to live in.

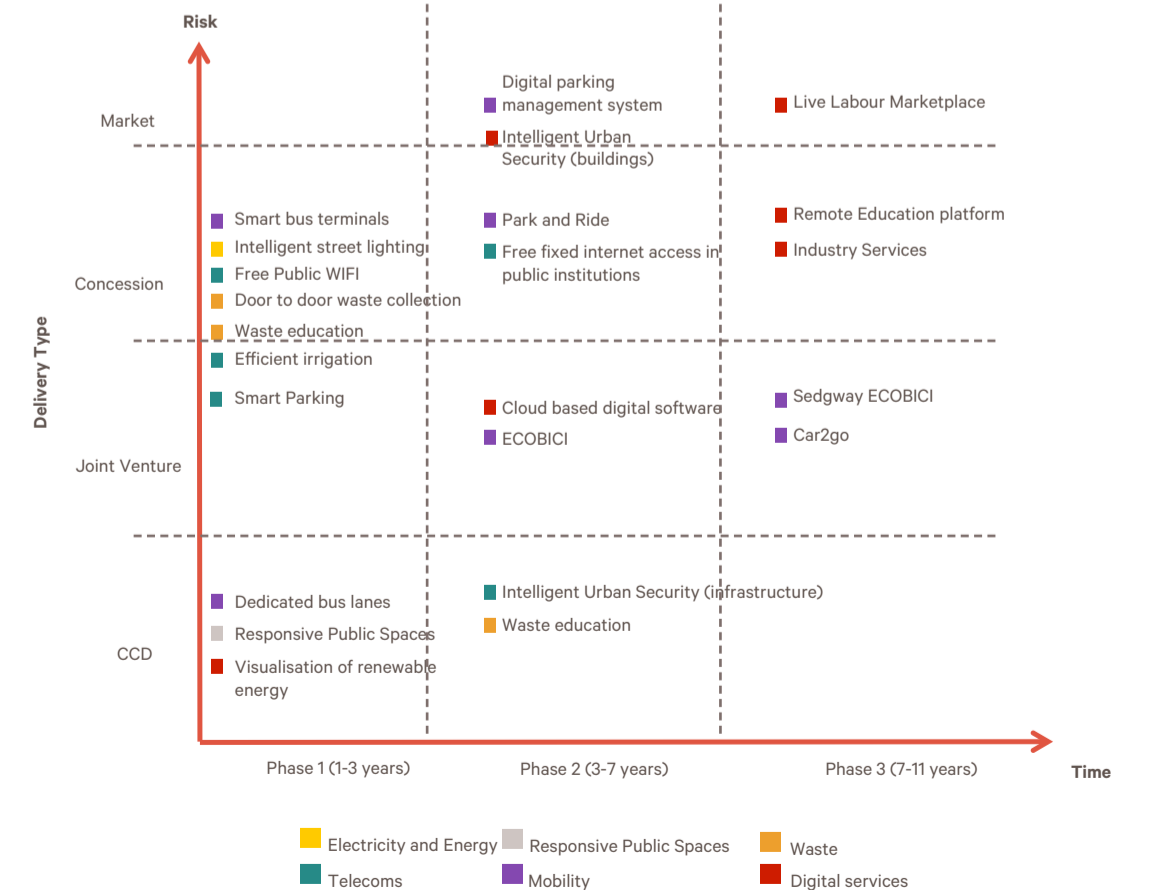
In this document we have drawn from the master-plan to create a non-exhaustive list of example services which could be offered within the CCD. We explain and recommend the different delivery structures available for potential services so as to explain the financial opportunities which lie within the service offerings of the CCD development. Our research has shown that through using various delivery types such as concessions and Joint Venture projects, that the CCD can support the creation of revenue and incremental value stemming from service delivery.

DELIVERY METHODS

The chart below on the right contains a variety of innovative services which were mentioned in the master plan for the development. They have been plotted to show how they could be delivered and when they could be delivered in the phasing scheme. It should be noted that we would expect for more services to move towards the top right corner as the development as the development grows in population, business activity and visitors, the risk becomes lower for investors and the market takes up the responsibility for provision of innovative services allowing CCD to decrease its activities. This 'snowball' effect for service provisioning is just one example of the positive multiplier effects which we believe will occur through many aspects of the CCD.

Although the market will be expected to provide an increasing number of services as the CCD matures, the CCD should also analyse opportunities for provision of services. By quantifying the benefits of some key concessions we wish to highlight the opportunities which lie in some services to generate significant revenues for the owner in addition to important incremental value such as sustainable and social values. Using a variety of innovative and 'tried and tested' Public-Private Partnership models to share ownership, operation and investment levels we believe CCD could gain strength through revenue generation and increased positive user experiences.

Categorisation of Digital Services by Phase and Delivery Type



Service Based Business Model

KNOWLEDGE SHARING THROUGH PPP

Some services inherently need support from a Public body due to the nature of the service. For example, infrastructures that can suffer from 'free riders', or the lack of an ability to charge users for the service such as the case with street lighting. These services require a concessionary structure to stimulate its provision. Additionally, concessions as well as JVs allow for knowledge sharing between experts (private sector specialised providers) and the public sector. This can lead to a more efficient delivery structure.

INVESTMENT RISK

Different delivery options offer different risk and return profiles. Any ventures owned and operated 100% by CCD hold proportionately higher investment risks than Joint Ventures or concessions where the % of responsibility is distributed. However, 100% of the revenues are attributable back to the CCD. On the other end of the scale, there is no inherent risk, apart from lack of service provision, for CCD in services provided through private companies through market mechanisms.

ANALYSIS OF SELECT SERVICES

The provision of services is key to the success of the CCD to become a sustainable and successful digital media hub. The master plan is supported throughout by intelligent innovation, welcoming a digital age in a sustainable city allowing efficient targeting of services to users - from target advertising to efficient energy supplies, from intelligent parking meters to a public bicycle sharing system - and therefore the most efficient use of resources.

Lifestyle services have the potential to decrease the municipalities cost to serve and improve the lifestyle of the citizens. Some services are to produce efficiencies for individuals such as intelligent parking which can reduce time spent during a journey and consequently produce spill over benefits such as reduction of emissions levels and personal economic efficiency.

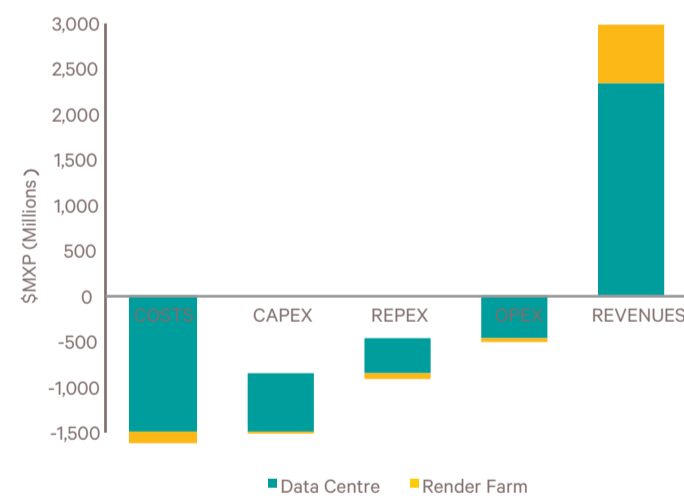
A high net value return could come from CCD providing industry and digital services, and the provision of these will set CCD apart from other Digital city hubs. In total, industry and digital service could generate \$793 M MXP

Key Findings – Industry Services:

- IRR for the render farm and data centre is 57%
- Net Value is \$604M MXP over 11 years
- 11 year CAPEX of \$667M MXP
- 11 year OPEX of \$503M MXP
- Payback period is 5 years

Core Assumptions:

- 100% Infrastructure investment and services by CCD
- Estimations based on Industry benchmarks validated by Accenture SMEs
- OPEX includes payroll and maintenance
- Discount rate of 16% (conservative)

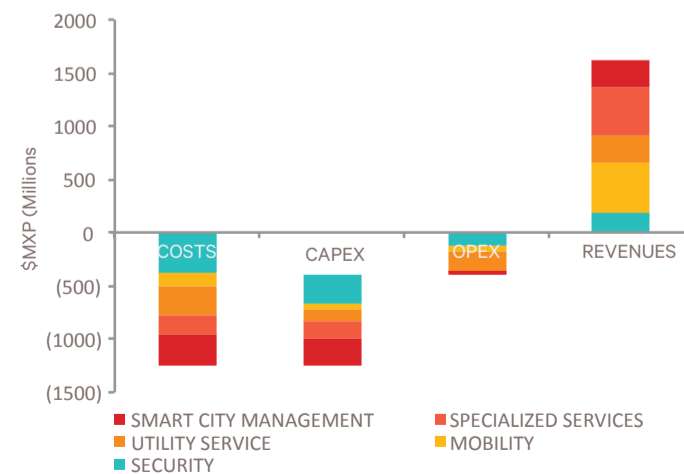


Key Findings – Digital Services:

- IRR for the Digital Services listed is 11%
- Net Value is MXP \$189 million over 15 years
- 15 year CAPEX of MXP\$ 426 million
- 11 year OPEX of MXP\$ 1477 million
- Payback period is 9 years with a revenue of MXP \$2092 million

Core Assumptions:

- 100% Infrastructure investment and services by CCD
- Estimations based on Industry benchmarks validated by Accenture SMEs
- OPEX includes payroll and maintenance
- Discount rate of 16% (conservative)



Cloud Based Creative Software Detail

WHY SHOULD CCD INVEST?

Other services support and stimulate business excellence, such as the industry services which we have quantified here.

These services are important as they support the creation of a leading creative digital media hub, encouraging entrepreneurship and excellence through easy access to supporting materials and storage space

As can be seen below, under the Industry Services chart, and in the 'deep dive' slide focussing on Cloud Based Software services, there is high profit generating potential from the CCD supplying, or supporting the provisioning through a JV or concession, the creation of these services.

Within just five years of the creation of a render farm and data centre - two very important features used by the digital media industry - the MXP \$667million CAPEX is paid back in our model. In an 11 year period, the IRR is 57%, offering large monetary returns to the investor.

In a similar way, the analysis on Cloud Based Software services shows a profitable venture with a payback period of 10 years and a 9% IRR over 12 years - a figure which highlights the high yearly revenue potential of the scheme.

Although the numbers hold high investment attraction, the non-quantitative benefits of the services should be of strong consideration to the CCD body. The non-qualitative benefits of the services are the contribution the services will make to the development of the CCD as a creative digital media hub, for example in the case of Industry Services by making rendering and storage services much more readily available to all CCD users - vital for large scale and / or animated digital media production. Another example of these benefits is that cloud based software services could allow access to software for students who otherwise would not have access.

For both the above reasons - the monetary and non-monetary effects of Industry services and Cloud based software services - we recommend that the CCD looks into using a Public-Private Partnership model to share the risk and benefits of the service with a private investor, as well as ensuring that these services are provided.

Background

Subscribing to creative digital software such as Adobe Creative Suite and Final Cut Pro can be very expensive. Users also have to consider the costs associated with the large online storage capacity required for delivery of creative digital projects using the software. The service modelled here offers a combined service of storage and software. value add of this service to the consumer is the storage of the software which otherwise is very expensive and that programs will always be the latest version.

Key Findings – Industry Services

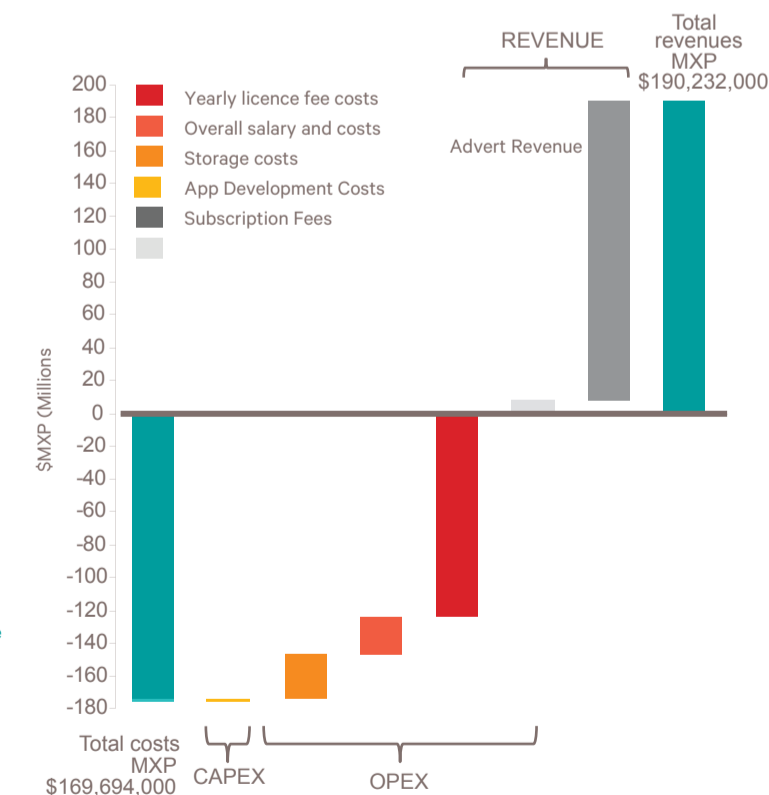
- The IRR for the Cloud Based Software service is 9% over 12 years
- Net Present Value is MXP \$14.4 million over 12 years
- 12 year CAPEX of MXP\$1.34 million
- 12 year OPEX of MXP\$171.9 million
- Revenues are projected to be MXP \$190.2m
- Payback period is 10 years

Core Assumptions

- The storage for the service will be incorporated within the Urban O.S system,
- This will be paid for through a yearly usage costs, calculated as a % of the Urban O.S CAPEX
- Total number of users by the end of the models term is 3600 – the Creative Digital employees within the CCD and the geographically located student population
- The number of users increases from 350 – 3600 users over the modelled period reflecting increasing creative and student populations
- Through economies of scale, we assume the CCD can buy the licenses from suppliers of Creative Software at a 30% discount to retail price
- Estimations based on Industry benchmarks validated by Accenture SMEs
- OPEX includes payroll and maintenance
- Advert revenue is directly correlated to the number of people using the service
- The model uses a discount rate of 16% (conservative)

Key Takeaways

- This is a high revenue generating service
- Due to high, long term revenue generation of this service but also the specific skills necessary to implement and run such a service, we recommend the formation of Joint Venture program between the CCD and a private company
- Through a JV structure, a revenue for the CCD can be generated whilst the full risk of investment is reduced
- The auction will be for the right to be the sole provider of the Intelligent Parking service within the CCD.
- The revenue according to economic theory will be the excess profit margin which the service provides over the normal profit the bidders require.



Intelligent Parking Detail

Intelligent Parking is an attractive service to run as it creates high revenues and has a short payback period of 7 years. This offers the CCD an opportunity to generate revenue through concessioning of the rights to run the service within the city area

Background

Smart Parking brings both monetary benefits for the investors, and also intangible benefits for users such as increased parking capacity in the area; time saved from driving around the city looking for an available parking space; decreased congestion and reduced emissions.

Key Findings – Industry Services

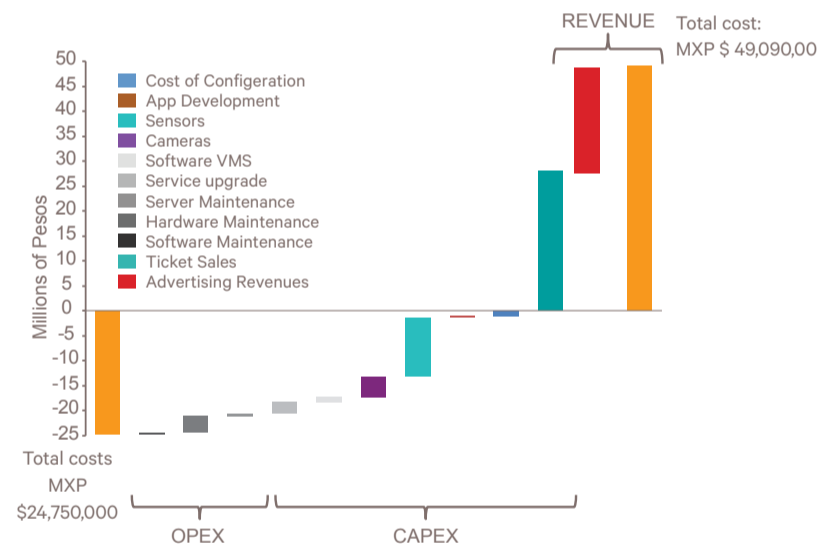
- The IRR for the Intelligent Parking service is 18% over 12 years
- Net Present Value is MXP \$1.25 million over 12 years
- 12 year CAPEX of MXP\$21.2 million
- 12 year OPEX of MXP\$3.6 million
- Payback period is 7 years

Core Assumptions

- 100% Infrastructure investment and services by CCD
- Estimations based on Industry benchmarks validated by Accenture SMEs
- OPEX includes payroll and maintenance
- Discount rate of 16% (conservative rate)

Key Takeaways

- This is a high revenue generating service
- Due to the specific skills necessary to implement and run such a service, we recommend the creation of a concession
- Through a concessionary structure, a revenue for the CCD can be generated whilst risk of investment is removed
- This can occur in a Build-Operate-Transfer concession structure where there is an auction for the license to run the service within a geographically specific area
- The auction will be for the right to be the sole provider of the Intelligent Parking service within the CCD.
- The revenue according to economic theory will be the excess profit margin which the service provides over the normal profit the bidders require.



24.2.4. Defining Concessions

By definition, concessions are devices which can be used to create competition for a market, stimulating more efficient supply of a service. Ultimately, private capital will flow to markets that provide attractive returns relative to perceived risks over an investor's chosen timeframe.

From the view of Smart Technology markets, key risks include

- **Exit risks** - refer to the risk capital-providers face in retrieving their capital investment in a project. Since projects dependent on newer technologies may take many years to generate revenues, investors typically find it difficult to withdraw and re-sell projects; this creates significant barriers to market growth. Risks from keeping capital locked in for extended timeframes.
- **Obsolescence risks** - stem from the potential for future, competing technologies to supplant current technologies. This risk is particularly relevant for sectors where technology has yet to demonstrate its financial viability, but can also apply to more established markets.
- **Performance-related risks** - stem from the uncertainty of how well a new technology and its components will perform—that is, be able to generate profits.

Public-Private partnerships and public policy can reduce these risks through changing market structures and characteristics artificially through concessioning:

- Concessions can eliminate exit risks as investors are licenced, contracted or owners of a concession for a set period of time, in which the risk-return has been analysed and valued.
- It removes infrastructural or decommissioning risks as the infrastructure ownership is transferred to CCD at the end of a concession term.
- Concessions under auction can reduce performance-related risks as the cost of this risk is embedded by the market forces in play in a competitive auction.
- Concessioning can reduce Obsolescence risks because projects such as these will usually have to have been Publically funded to go forward. Therefore the risk, or financial downside, is mitigated by the revenue generated through license or the costs are eliminated by contract through Public support.

While some services could be delivered by the CCD others should be structured under a concession. The design of the contracting, bidding and award procedures can have a significant impact on the economic efficiency and transparency of a concession

Source:

World Bank: World Bank Technical paper no. 399 Finance, Private Sector, and Infrastructure Network "Concessions for infrastructure A guide to their design and award"



Auctioned Concessions

In a natural monopoly head-to-head competition does not operate. Competitively auctioned concessions in these industries allow some of the benefits of competition to be brought in the absence of direct competition – they create competition for the market in substitution for competition in the market.

The following infrastructure sectors are usually considered natural monopolies and are therefore the most suitable candidates for concessioning:

- Water distribution
- Power transmission & distribution
- Gas transmission & distribution (as opposed to gas retailing)
- Railway infrastructure (the tracks and stations, for example)
- Roads.



Leased Contract Concession

Publicly bought concessions allow services which are uncompetitive in the private market due to lack of profit making opportunity to be run by a private concessioner under contract.

They are usually for services which Public bodies are required to supply, but for which they may not have the expertise or ability.

Examples may be:

- Waste disposal
- Street Lighting
- Security



Licensed Concessions

Creating a monopoly or controlled oligopoly market can reduce private entity concerns about the large and immobile nature and high capital expenditure of required investments for some services.

Without a licencing policy creating a small or monopoly market, the risks of free-riders is too high for private entities to invest the capital needed as receiving the benefits is insecure.

Examples may be:

- Utilities
- Internet provision

Concession Based Ownership / Finance Structures

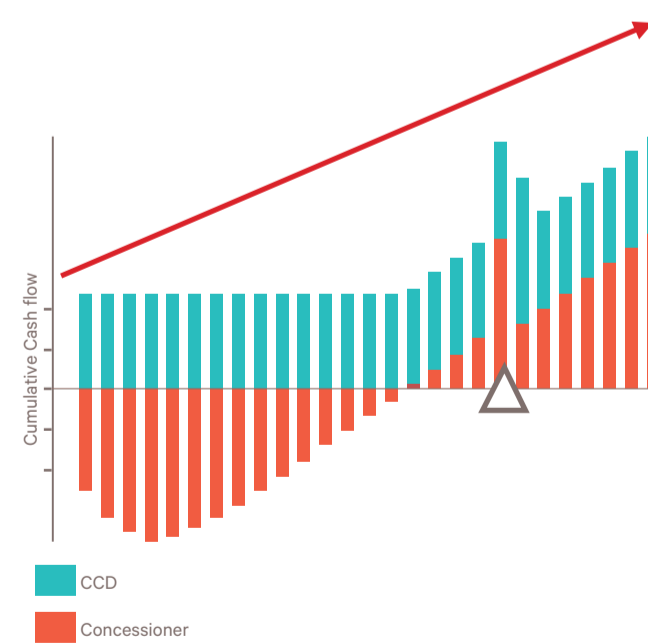
Concession based business models can be financed through multiple avenues, outlining the different types of Service Level Agreements that can be created and the different roles and future ownership CCD will take of the service after the concession period.

Multiple financing schemes can be used under concession business models; individual financing models will be applicable to the digital services outlined for CCD

Auctioned Concession run under Build-Own-Transfer structure

- In this case the concessioner pays CCD a fee to have the monopoly rights over the running of a particular service – often based in publically built infrastructure e.g. railways.
- This one off contract fee is decided on through auction in year 0 of the concession.
- Whilst the concession runs its course, the concessionaire holds all maintenance and running costs and receives all profits generated from the service.
- At the end of the concession period (Δ) the rights and infrastructure return to CCD
- Another bidding process occurs as the next concessioning contact starts and CCD receives another one off payment

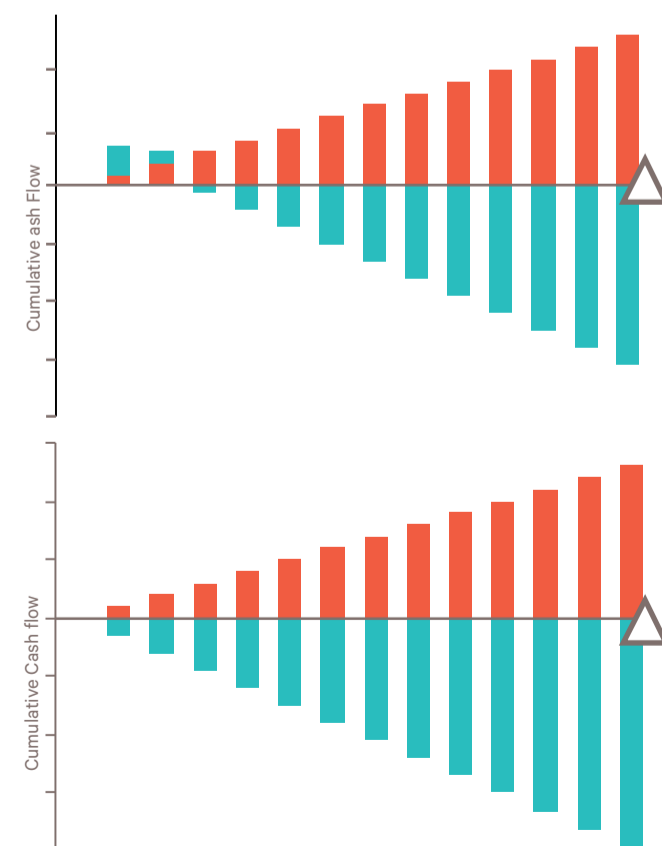
ILLUSTRATIVE:



Leased Contract for a competitive market concession run under Build-Operate-Transfer structure

- In this case CCD pays the concessioner a fee to run a particular service as contactor
- Whilst the concession runs its course, the concessionaire holds all maintenance and running costs and receives all profits generated from the service.
- At the end of the concession period (Δ) the rights and infrastructure return to CCD

ILLUSTRATIVE:



Build – Operate – Transfer

This is the most popular financing structure used in concessions. With this financing model, the third party is responsible for raising the funds for the service, and operating the service for the length of the concession period. During this time, the third party is entitled to all the revenues generated, but also holds all of the risk of the project. Once the concession period is over, the service and all infrastructure is transferred to CCD

Build – Own – Operate – Transfer

This is similar to Build – Operate – Transfer but the private entity owns the service and associated infrastructure, and has the prime goal to recover full costs of investment and maintenance alongside achieving the highest margin

Build – Own – Operate

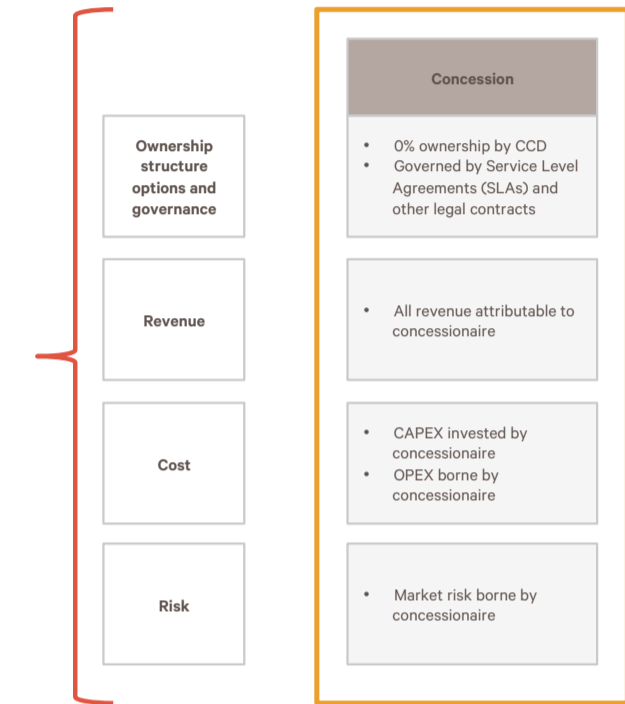
With this financing model, there is no final transfer of any infrastructure to CCD; this means the private company gains the additional benefit of any residual value of the infrastructure

Build – Lease – Transfer

Under this financing scheme, the private entity leases the project and service infrastructure to CCD; ownership remains with the private company until the concession term is over, when all rights to the project are transferred to CCD

Design – Construct – Manage – Finance

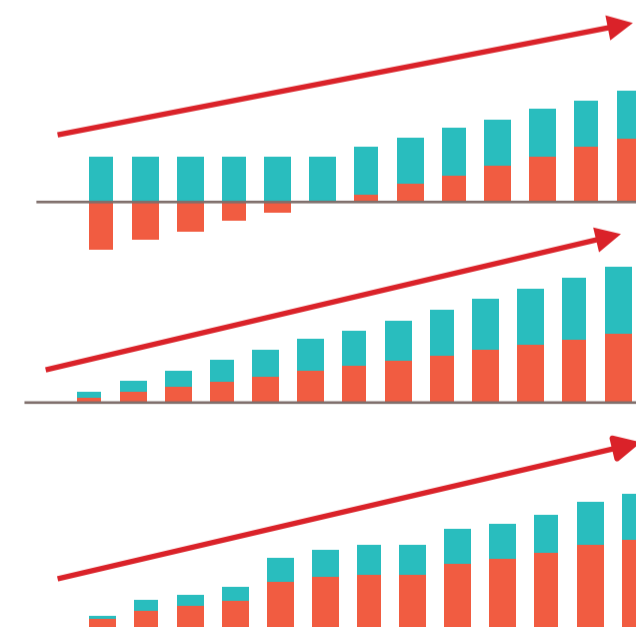
Under this model, a private entity is contracted to design, construct, manage and finance a facility based on specifications from CCD; concession fee originates from the rent paid by CCD to the third party to use the facility. This financing scheme is common in hospitals and prisons



Licensed Concession run under Build-Operate-Transfer structure

- In this case the concessioner pays CCD a fee to create the ability to have monopoly rights over the running of a particular service
- This fee can either be:
 - A one off cost at the start of the concession period
 - An annual fee paid yearly
 - A fee paid yearly consisting of a % of profits from running the concession

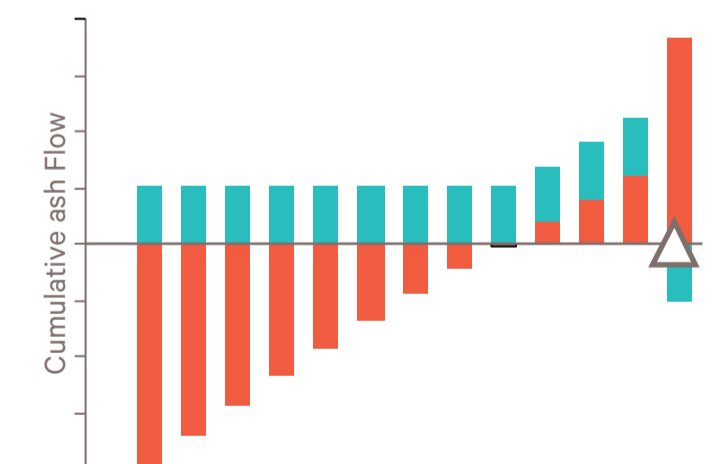
ILLUSTRATIVE:



Leased Contract for a competitive market concession run under Build-Own-Operate-Transfer structure

- In this case CCD pays the concessioner a fee to run a particular service as contactor
- Whilst the concession runs its course, the concessionaire holds all maintenance and running costs and receives all profits generated from the service.
- At the end of the concession period (Δ) the CDD have to buy back the service and relevant infrastructure from the concession, or buy another concession contract from them

ILLUSTRATIVE:



Taxonomy of Public-Private Partnerships



DIGITAL PUBLIC DISPLAYS

As part of the sustainability vision which the CCD is offering its residents and projecting to the world, visualisation of renewable energy use is an important showcase technology. Other information can be displayed including air and water quality, and green transport options. Smart metres can encourage behavioural change in individuals and can serve as a visual representation of the sustainable activities of companies encouraging further awareness and investment in sustainable and renewable energy.

As this is part of the vision of the CCD and not a revenue generating focused project, we would recommend this is funded by the CCD through a leased contract concession under a BOT structure. There is possibility of revenue streams being generated from commercial buy in of the project for use in offices.



CLOUD BASED CREATIVE SOFTWARE FOR REGISTERED EDUCATIONAL USERS

Cloud based creative software will allow registered users to use the software in any location where they have access to the cloud. This will increase the overall quality of creative digital content and projects coming from the CCD as users have access to the latest software throughout any location.

Revenues could be generated from subscription fees and from advertising revenue. Therefore, we believe that there will be strong private market interest in this venture. Our recommendation would be for the CCD to sell the concession rights in a leased concession BOT or BOOT structure. This would allow for monopoly supply of this service within the CCD area. This would encourage the provision of this service by allowing the provider to invest in the infrastructure in a low risk environment. Additionally, it would generate revenue for the CCD.



INTELLIGENT STREET LIGHTING

Street lighting is a key public service provided by public authorities at the local and municipal level. Good lighting is essential for road and personal safety. Street lighting ensures visibility in the dark for motorists, cyclists and pedestrians, thereby reducing road accidents. Street lighting also indirectly facilitates crime prevention by increasing the sense of personal safety and security of adjacent public and private properties.

Due to its Public nature (non-excludable use, non-rival use) it would not be supplied by the private market without Public incentive. Therefore our primary recommendation is of a concession based around a Build-Operate-Transfer structure which will be bid for by potential suppliers who wish to compete for the Public authority contract.



SMART PARKING

Parking is costly and limited in almost every major city in the world. Innovative parking systems for meeting near-term parking demand are needed to increase time and emission efficiency of drivers.

Due to the high demand for time and fuel saving services, this could be a highly profitable venture and therefore our recommendation is for the concession to be awarded through a bidding process and run on a Build-Own-Operate-Transfer operation. The auction creates revenue for the CCD, allows for private sector 'know-how' to run the operation and still allows for control over public land such as roads.



REMOTE EDUCATION PLATFORM

Increasing accessibility to Remote Education Services for local residents through physical infrastructure is a Public service which will operate low levels of operator revenues, through advertising rather than usage charges.

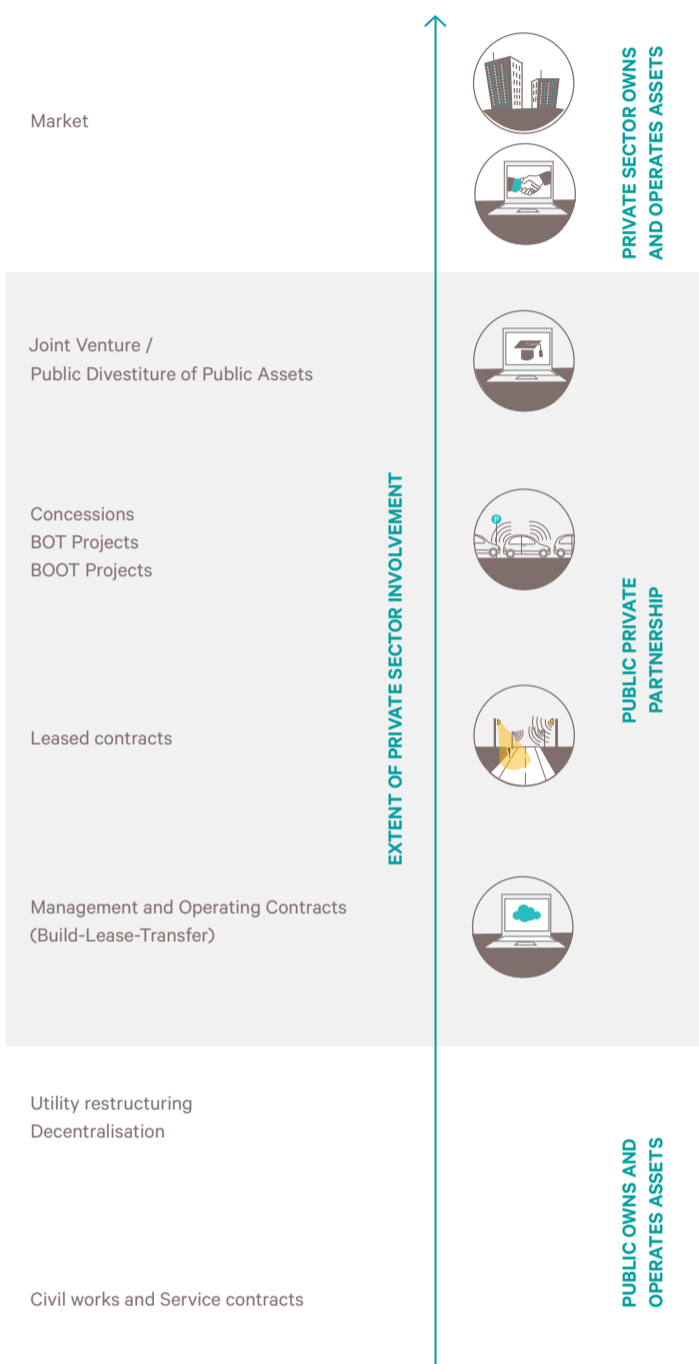
Therefore our primary recommendation is for this to be serviced through a licenced concession under a Build-Operate-Transfer structure. Allowing the contract to cover original infrastructure investment and an agreed profit margin will overcome the public nature of this service.



LIVE LABOR MARKETPLACE

A Digital hub such as CCD attracts a highly specialised labor force as residents. This opens up opportunity for digital. Companies to make use of highly targeted role advertising and make use of unemployed workers as their skills are likely to be appropriate for their needs. This could be expanded from specialised job advertisements to be a live marketplace where demand is quickly filled by local specialised labor minimising lag time and delay costs and offering support where needed.

Our primary recommendation for encouraging the creation of a publically accessible labor marketplace is to allow market forces shape the project, encouraged by a highly regulated market where the license to run the app is concessioned to a certain number of players or a single player.



Implementing a PPP approach to investment projects can result in the transfer of knowledge and expertise from the private partner to the public entity

References:

EPEC Energy Efficient Street Lighting paper
IMF Working Paper: "Optimal Capital Structure of Public-Private Joint Ventures" by Marian Moszoro and Pawel Gajtorowski
Wright (1987), pp. 143-216, and Viscusi et al. (2000), pp. 448-449

Types of Business Models

WHY ARE INTELLIGENT STREET LIGHTING, SMART PARKING AND REMOTE EDUCATION DIGITAL BUSINESS BEST SUITED FOR CONCESSION?

To deliver the most effective provision of services for the end user and the deliver the most effect use of the CCDs financial resources.

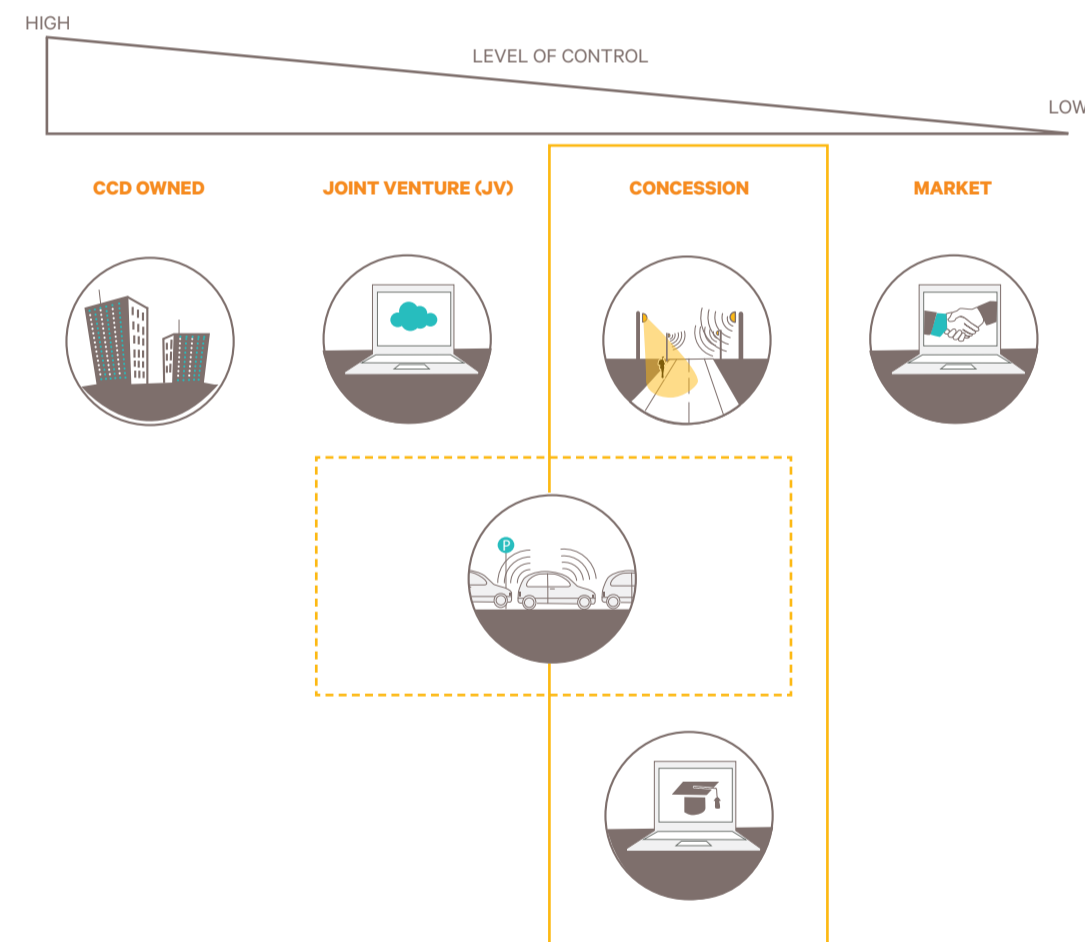
- High technical knowledge or expertise demanded of supplier
- Attractive profit making potential allows for auction allocated concessions – the most economically efficient allocation of concession
- High capital expenditure demands leave little attraction without Public body support and security
- Education is a public good, which uncoordinated markets driven by self-interested parties may be unwilling to provide
- Concessioning can re-align the market by including the value to society in the cost-benefit-analysis of investment

Analysis of four different business models shows how these digital services can be provided to the CCD.

Analysis of four different business models shows how these digital services can be provided to the CCD.

NOTE: The initial phase of smart parking may need to be a JV business model to develop the technology, however future assets and service delivery could be completed by a concession based business model

These services have been identified as concession based services as CCD can easily create Service Level Agreements with third parties



High Level Vendor Assessment for Selected Services

SMART PARKING

Smart parking solutions connect sensor enabled parking spots with smartphone apps and public kiosks to provide drivers with information on available spaces, and ability to pre book specific spots.

As cities have started to understand the value of smart parking technologies, there has been an increase in third party vendor products and service suppliers.

ATTRACTING THE RIGHT SMART PARKING COMPANIES

Defining characteristics of the market for Smart Parking:

- Medium level capital expenditure required on: (i) user facing technology and (ii) physical infrastructure of car parks and of car parking spaces
- Smart Parking is a product with few defining characteristics: main characteristic is available locations
- Demands continuous OPEX costs for: (i) data monitoring capabilities and (ii) technology maintenance

Market barriers for private investment:

- High upfront costs with low revenue stream
- Non-standard structures of parking land
- High real estate space requirements for high volume car parks; prime parking spaces hold prime real estate values
- High capital expenditure required in technology
- High interaction of service with Publically provided goods (e.g. roads); security is required to support a working relationship between the two

Characteristics of a concessionary structure that can overcome these barriers:

Primary recommendation:

- BOT structure
- Concession awarded by auction

If a business case showing large excess profits and a ROCE well within the concession timeline can be shown, an auction style award of concession will be of most benefit to CCD

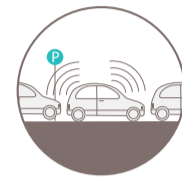
- Creates revenue for CCD
- Gives them control over the supplier of the service
- Holds little or no risk during concession period
- Allows receivership of infrastructure and concession after leased period. This gives the chance to re-sell to the market at a later date

Secondary Recommendation:

- BOT structure
- Concession awarded through leasing and market regulation

If a business case showing excess profits can be shown, but with margins not large enough to allow for private entities to wish to compete for the position, then a regulated market arrangement of a concession will be of most benefit to CCD

- Allows the investment in infrastructure for the provisioning of the service to be made without the risk of free-riders
- Could allow for creation of greater competition over time (loosening of regulation over time)



VENDOR, PRODUCT AND SERVICE OVERVIEW



- Streetline has partnered with Siemens to provide an end-to-end parking solution for cities, including sensing capabilities, an app allowing drivers to book spots in advance and pay using mobile payment services, and analytic services for improved management
- Streetline has been implemented in 9 major cities across the US and Canada



- Sensors collect real-time parking data and send this information to network operators which process data and send to citizens via mobile devices
- Proven vendor with success in Washington DC and San Francisco, USA
- Proves the first fully integrated parking control and management system that links directly to smart mobile devices



- Small autonomous and wireless sensors are placed in parking spots collect information on the availability of parking spot
- Proven vendor with successful projects in Nice, France and several pilots in Spain with headquarters in Barcelona
- Wide range of other wireless solutions for Smart Cities



- Small autonomous and wireless sensors are placed in parking spots collect information on the availability of parking spot
- Designs and manufactures hardware technology for wireless sensor networks for Smart Cities solutions
- Wireless sensor technologies have been implemented in 45 countries, but the specific smart parking sensor platform is only in trial stages with SmartSantander in Spain

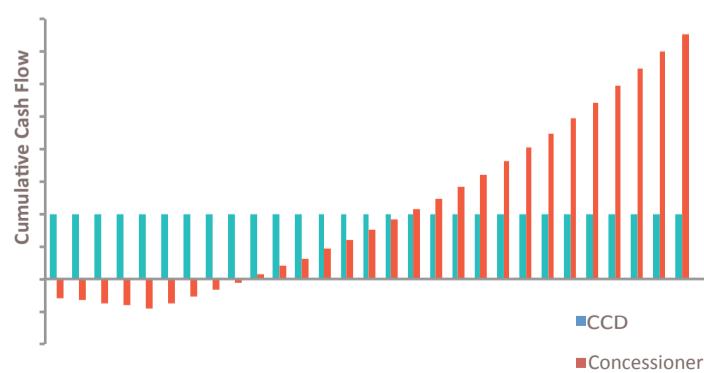
CCD needs to create the right market conditions for private entities to be willing to enter the market and supply Smart Parking services

Sources:

World Resources Institute: "Moving the fulcrum: a primer on public climate financing instruments used to leverage private capital" working paper by Shally Venugopal and Aman Srivastava
World Bank: World Bank Technical paper no. 399 Finance, Private Sector, and Infrastructure Network "Concessions for infrastructure A guide to their design and award"

Projected cash flow pattern of primary recommended concession structure

ILLUSTRATIVE:



REMOTE EDUCATION PLATFORM

Service which allows residents to complete online education courses, and receive world leading training from any location. Multiple levels and types of courses can be included. By improving the ability for citizens to gain qualifications, ability to generate employment is raised



Remote education platforms have become more popular, with a growing number of courses available on mobile devices.

ATTRACTING THE RIGHT SMART PARKING COMPANIES

Defining characteristics of the market for Remote Education Platform:

- Low level capital expenditure in remote education platform required as platforms will most probably already exist
- Higher level capital expenditure demanded for physical infrastructure such as screens, public access kiosks, marketing and security
- Few large and specialist players in the market
- Differentiation is through expertise, partnership and access
- Demands continuous OPEX costs for: Course, lecturer and content licensing and support; Technology maintenance; User support and service

Market barriers for private investment:

- Real estate purchase price or lease price for physical infrastructure
- Institutionalised remote learning systems already in place:
 - Through Government:
 - Sistema Universidad Abierta
 - Instituto Latinoamericano para la Comunicacion Educativa (ILCE) which supports:
 - Red Satelital de Television Educativa (EDUSAT): A satellite television system that transmits 10 education channels and has the capacity to transmit six more.
 - Red Escolar de Informatica Educativa: An Internet-based service that connects schools all over Mexico and offers materials and multimedia services to teachers and students.
 - Videoteca Nacional Educativa: Audiovisuals from the Direccion General de Television Educativa, which includes EDUSAT.
 - And through other universities
 - Instituto Tecnológico y de Estudios Superiores de Monterrey
- Difficulty in restricting access once content is released (if sold on subscription basis)

Characteristics of a concessionary structure that can overcome these barriers:

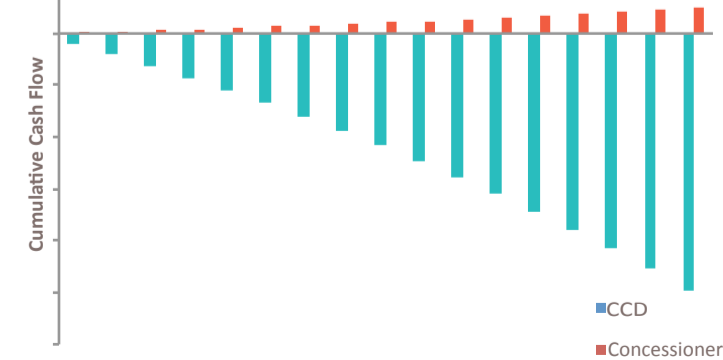
Primary recommendation:

- BOT structure
- Licenced and or Publically bought concession

- A BOT structure would allow the infrastructure to return to CCD after the concession is ended. This means as a public service with strong social benefits, that at the end of the concession it can be contained and the work continued off the exiting infrastructural framework
- Assuming the social benefits of increasing access of remote education to greater numbers of users outweighs the monetary benefits, a publically bought concession is the most clear structure available
- Complimenting a contractors fee within the concession, a regulated market would allow the investment in infrastructure for the provisioning of the service to be made without the risk of free-riders. This is particular importance for internet based services, as it is non-exclusive and rival if accessible

Projected cash flow pattern of primary recommended concession structure

ILLUSTRATIVE:



A concession between CCD and a third party provider can create a remote education platform which will create very strong social benefits by increasing the access to education to a high number of users

VENDOR, PRODUCT AND SERVICE OVERVIEW



- The OU works worldwide with other organisations in providing courses, collaborating on new curriculum, validating programmes and sharing expertise to help distance learning ventures become established
- Large. Established commercial success with More than 50,000 employers, including 75% of FTSE 100 companies, have sponsored their staff on OU programmes



- A not-for-profit institution with the goal of changing education for the better by providing a free world-class education for anyone anywhere



- Unique collaboration of more than 300 of the world's leading practitioners and visionaries in finance and financial management
- One-stop guide for finance professionals
- Not specific to Islamic Finance

iTunes U

- The iTunes Store is Apple's online digital media store where music and films can be downloaded
- iTunes U is an area within the Store where an educational institution can provide its own collection of audio and visual material (such as lectures, talks and interviews)
- For users the material can be downloaded free of charge



- Established business school with global faculty
- Lacks specific focus on Islamic finance

Source:

<http://www1.american.edu/TED/mexicodl.htm>

INTELLIGENT STREET LIGHTING

Intelligent lighting can utilise new technologies to optimise light intensity, and integrate lighting infrastructure with the security requirements of the city. Additionally, wifi connections can be introduced, to provide remote sensing capabilities such as air quality and traffic and pedestrian densities



A concession with the right partner for the provision of Intelligent Street Lighting will decrease costs to the public purse

ATTRACTING THE RIGHT INTELLIGENT STREET LIGHTING COMPANIES

Defining characteristics of the market for intelligent street lighting:

- Street lighting is a non-rival, non-excludable Public good
- Is a Public service, provision ensured by local authorities
- High capital expenditure in street lighting, base infrastructure and smart technology
- Few large and specialist players in the market; growing market
- Differentiation of suppliers is through expertise
- Demands continuous OPEX costs for: Infrastructure maintenance and cleaning

Market barriers for private investment:

- High capital expenditure
- Medium, consistent operational costs
- No private revenue streams
- High depreciation of physical infrastructure

Characteristics of a concessionary structure that can overcome these barriers:

Primary recommendation:

- BOT structure
- Auction for Publically bought concession

- A BOT structure removes responsibility of the remaining infrastructure from the concessioner at the end of the concession period. This removes exit costs post-contract for concessioner, making the contract more attractive.
- An Auction for the concession contract encourages efficiency within the potential suppliers as they try and offer the lowest cost – highest quality offer to CCD in auction.
- Being a public, non-rival and non-excludable good the contract with the concessioner is effectively the expenditure of service supply by CCD municipality
- This removes the barrier of free-riders as the service in effect become a public good through public provisioning

VENDOR, PRODUCT AND SERVICE OVERVIEW

Balfour Beatty

- A leading global infrastructure company with focus on Infrastructure investments, professional, construction and support services
- Holds the UK's largest Public-Private Partnership (PPP) portfolio
- In 2010 won the bid for a multi-million pound contract to improve lighting. The 25-year concession will involve the design, installation and maintenance of street lights, signs and bollards during the 5-year investment period, and the on-going maintenance of all existing and new equipment.



- Full range of solutions that enable integration of Smart Homes, such as TelePresence, IPTV and e-healthcare
- Proven vendor in Songdo, South Korea
- Ability to provide solutions and systems implementation



- Echelon Corporation develops, markets and supports the world's most proven, open standard, multi-application energy control networking platform
- Provide energy saving applications for smart grids, cities and buildings
- Proven performer with PPPs globally including China, UK and Norway

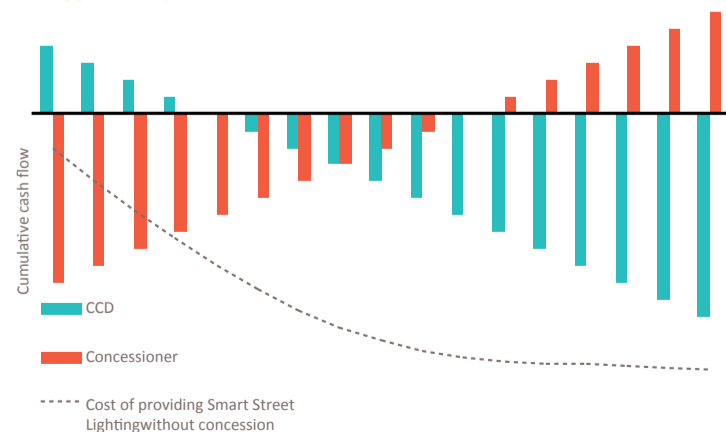
PHILIPS

- Phillips was one of the partners identified in an EU street lighting project to deliver the savings, and delivered 30,000 units in Denmark

There is a wide variety of intelligent lighting providers who can supply the physical and digital infrastructure for a project

Projected cash flow pattern of primary recommended concession structure

ILLUSTRATIVE:



24.2.5. Information Marketplaces Business Model

SUMMARY DESCRIPTION

For this model, CCD would provide a data platform and a service platform that would service as an open market for trading. This platform could be implemented under two frameworks; either as a CCD owned service, with a significant capital investment from CCD or under a concession based model with a third party service provider operating under a private license and service level agreement, paying a small fee to CCD per transaction. This leverages the performance of a service that can enable CCD to achieve an income from data collected and the information / knowledge that can be exploited through analytics.

Data value would be determined based on its market utility and each transaction using the platform would be quoted a specific price to be divided among participating providers; part of the transaction cost would go to the app developer, part of the cost to the owner of the platform, and the rest of the cost going to the data provider.

This model has not yet been implemented, but the IP value can be very high as it could be replicated in any city in the world. An example of a similar model includes the London datastore which gives free access to a number of data-sets provided by the Greater London Authority.

VALUE

Economic, social and environmental value is considered in order to help compare the business models outlined here. Economic value of the Information Marketplace business model is very high because this model has not yet been implemented in a city, so valuable IP could be created in this first implementation. Access to data streams from across the city has a direct correlation to the value that can be created in this model. Open access to data is likely to deliver the best outcome for services and citizens but as the value of data is being recognised more widely across the world, the costs of access to data may increase. For this reason creating a clear contracting structure for prolonged access to data early will help support the economic value of this model increase over time.

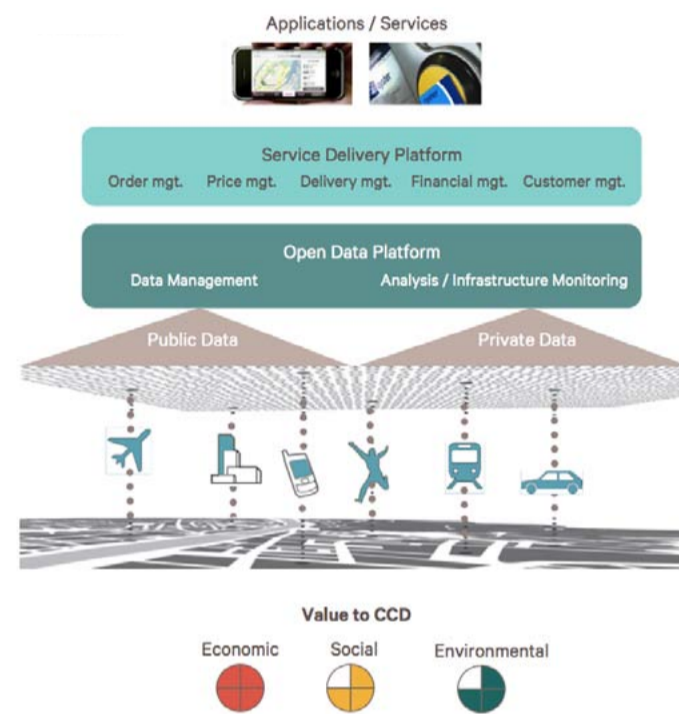
Social value is also high as citizens, workers and visitors to CCD would have access to a wide range of data, and the additional benefits of applications that run off of this data. Apps could be created to help run transport systems more efficiently (intelligent data driven taxi routing) or coupons based on location. This would increase the social benefits of the users significantly through time and frustration saved, and improvement in quality of life.

Finally, the environmental value of the Information Marketplaces is high due to the efficiency gains throughout citizens, workers and visitors lives. This efficiency gain includes the way people move around the city through public and private transport, how they behave at home with increased knowledge of energy consumption data and how to decrease consumption, and how they work. These efficiency gains ultimately lead to large environmental benefits such as improved air quality, decrease greenhouse gas emissions and decreased energy consumption for CCD.

Source:

Fuente: Information Marketplaces, The New Economics of Cities; IEEE Spectrum, Cisco Bets on South Korean Smart City
Exchange rate used: 1USD = 13.04 MXP (accessed 5 November, 2012)

Summary of Business Model



The Information Marketplaces business model requires a step change in the way services are structured but can create very strong economic value and strong social and environmental value for CCD.

Urban Operating System

The information market place could be structured around an Urban Operating System. This can create significant benefits by providing an open platform for public data streams.

The Urban Operating System is the open platform where citizens, the public and the private sector can all input and access data streams to help increase city efficiency and drive the creation of new personal and city services and applications.

Although only the hypothetical cost of establishing an Urban Operating System is shown here, there is a significant potential for revenue generation. This is not shown here as it in this early stage quantification would be approximate but it is expected revenue would be generated in a couple of ways:

- Commission on all transactions taking place on the platform, as the platform grows this is likely to be very significant
- Cost reduction for the municipality in provision of city services
- Utilisation and distribution of information for citizen and marketing services
- Some global studies have already started to quantify the value of this data:
- Denmark believes that its public information reuse and data can result in revenues for the city exceeding \$100M USD / year. In addition to these revenues, Denmark predicts that as a result of the opening of public data streams, social benefits would be valued at \$18M USD
- The European Union believes that the potential value of releasing data into the public domain in all member countries is \$35Bn USD
- CISCO Smart Cities estimates a market opportunity sized at \$13Bn USD in the next three to five years, directly related to the release of open and public data streams

These potential revenue streams are based on the aggregation of raw, real time data from sources such as public transport, mobile networks and city maps to create information components and information products. These products ultimately lead to improved decision making by the City and its citizens leading to: reduction of cost to serve in city services; improved response rates to crime, thereby increasing safety; and the creation of new offerings and products for improved efficiency and social benefit.

The Urban Operating System is integral to developing greater environmental, social and economic benefits within CCD. These benefits will help develop a globally competitive hub for innovation and creation of creative digital content and attract the desired mix of enterprises, entrepreneurs, and visitors.

ASSUMPTIONS

CAPEX includes:

- Development costs of 6,000 man days at a blended rate of \$13,040/day
- Hardware costs calculated through number of servers calculated by number of events
- Software costs calculated by TIMBO Business Event License Costs and miscellaneous additional components

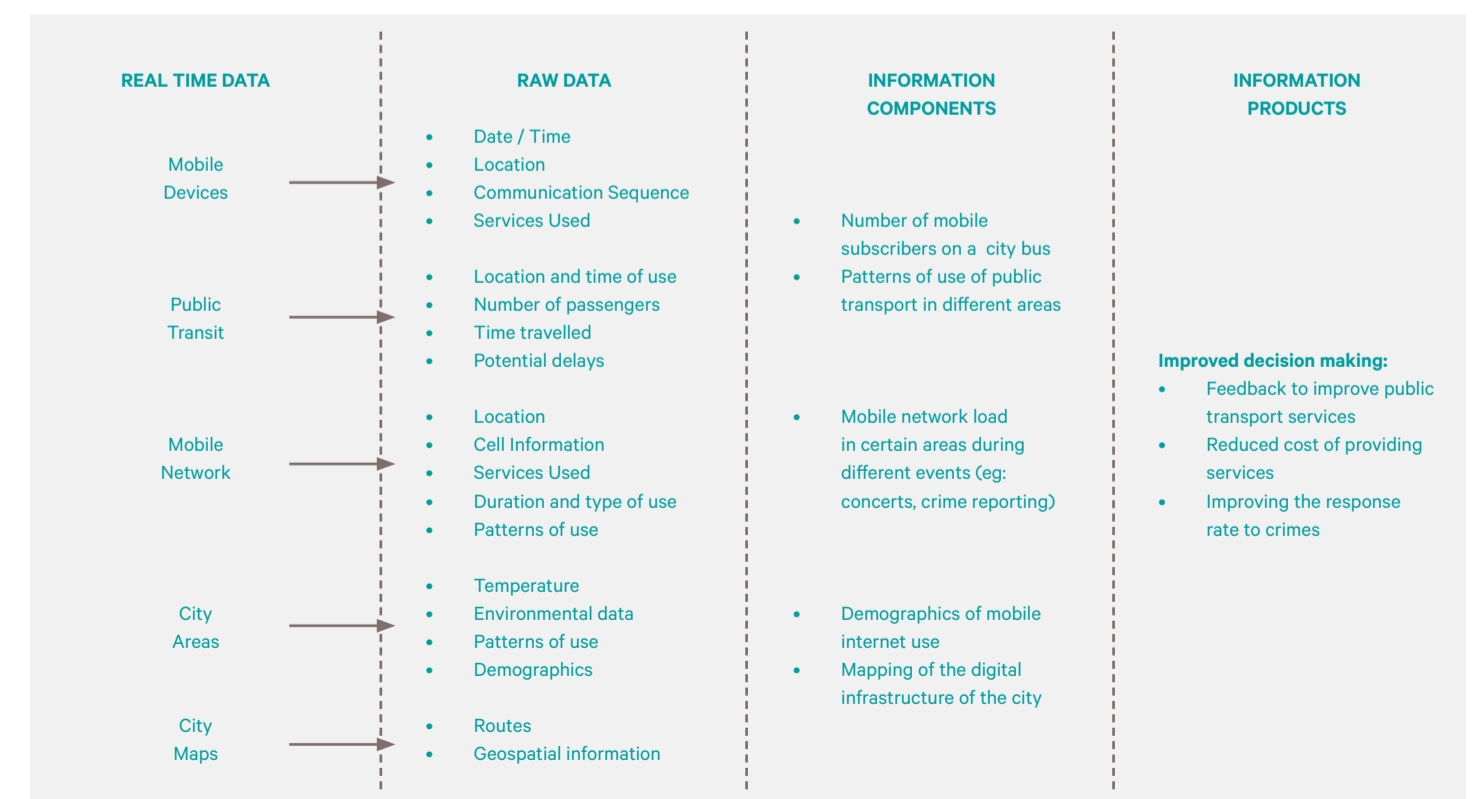
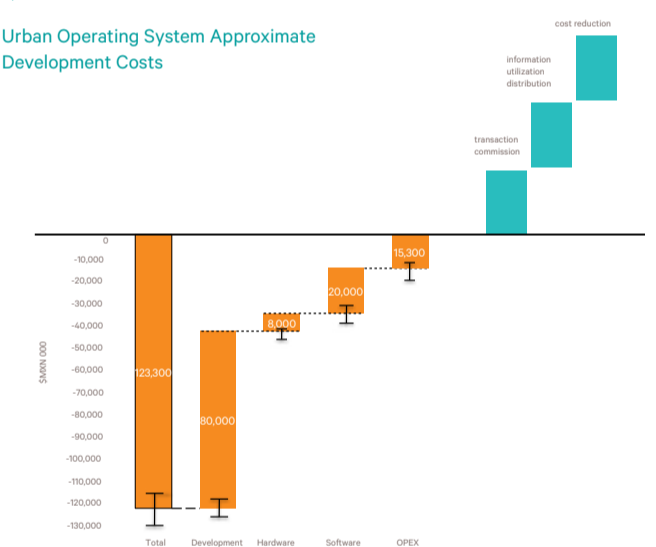
OPEX shown is total OPEX for the first three years (2013-2018); after this time period, the OPEX will decrease to approximately \$9.9M MXP .

OPEX includes:

- Assumes 5 staff costs at Government Salary Level 18
- Server maintenance costs at 5% of server CAPEX
- Software maintenance costs at 20% of total software CAPEX
- Connectivity costs of 2 mbps dedicated leased lines
- DR site server space with 25 serves, and a server to rack conversion ratio of 10

Additionally, upgrading software should be included in financial modelling at approximately \$12.6M MXP for every upgrade; it is expected that there will be a total of 3 complete upgrades throughout the lifecycle of the Urban Operating System

Urban Operating System Approximate Development Costs



24.2.6. Advertising & Product Placement Business Model

SUMMARY DESCRIPTION

There is significant opportunity for the placement of advertisements and products within CCD. While CCD develops greater knowledge of the citizens and visitors of the city through intelligent technologies and services, the value for focused and directed digital and physical advertisements significantly increases. The value for these advertisements can be categorised under two frameworks:

- Digital space (online and throughout mobile devices)
- Physical environment or the public environment through digital media advertising

Advertising and product placement business model can create intelligent value through increased social, mobile and location knowledge leading to targeted advertisements and product information.

Examples include social advertising like Facebook and its 1 billion mega-network of 'friends' and location-based advertising. Other examples include location based advertising like mobile advertisers (Google) and local deal providers (Groupon).

VALUE

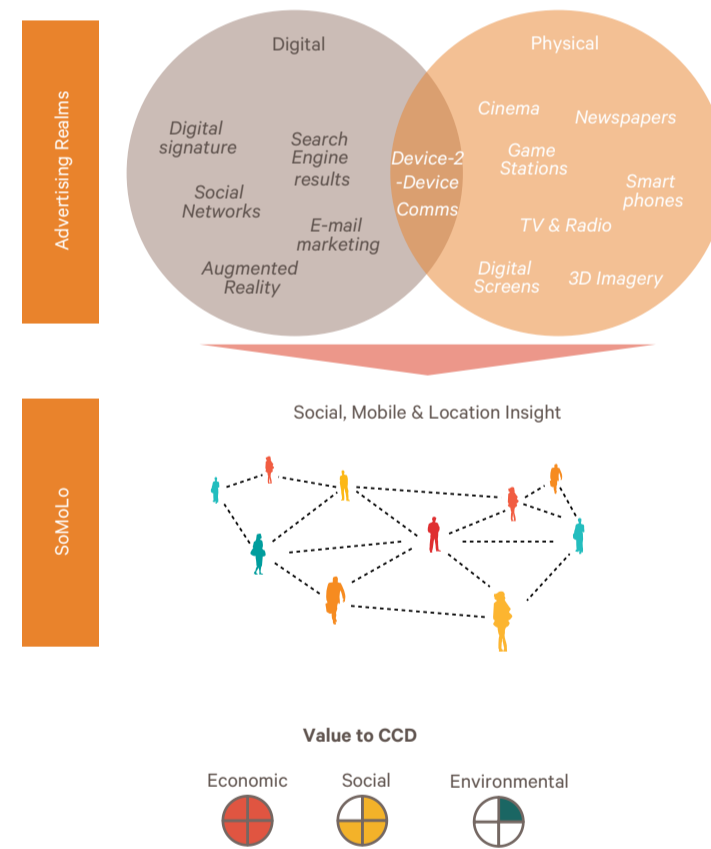
Value to CCD is covered by economic, social and environmental value in order to help compare the business models outlined here. Economic value of the advertising and product placement business model is very strong due to the high expected price paid for improved advertising by third parties. With the ability to place advertisements and product information for when and where someone enters a specific area.

Social value is also high for this business model as the citizens, workers and visitors of CCD have access to only the information and advertisements which are specifically relevant to them, and are given increased opportunities to save money, and gain access to information that may have previously been missed.

Environmental value is low, but is characterised by the potential to induce energy efficient behaviour change and decreased resource use due to advertisement switch to digital infrastructure.

Advertising and product placement is based on location based advertising, product placement and information to increase its utility and value

Summary of Advertising and Product Placement Business Model



24.2.7. Social Enterprise Business Model

SUMMARY DESCRIPTION

This model reduces spend from the public purse as social investors bring the supplies and services and charge them under a non-profit scheme. Social enterprises are managed similarly to private organizations but due to the use of social capital, profits can be reinvested for the benefit of employees. This can also help improve local job opportunities within CCD. This business model can help drive the creation of cultural, recreational, social, health and education services.

Although social enterprises represent a nascent segment, they can act as an incubator for patterns and services for the Mexican government, lessening the burden on the public purse.

Examples include Peterborough's Social Impact bonds (in the UK), the SEWA Bank's slum upgrading programme, Ashoka and Colceramica programmes in Colombia and the cement producer, CEMEX.

VALUE

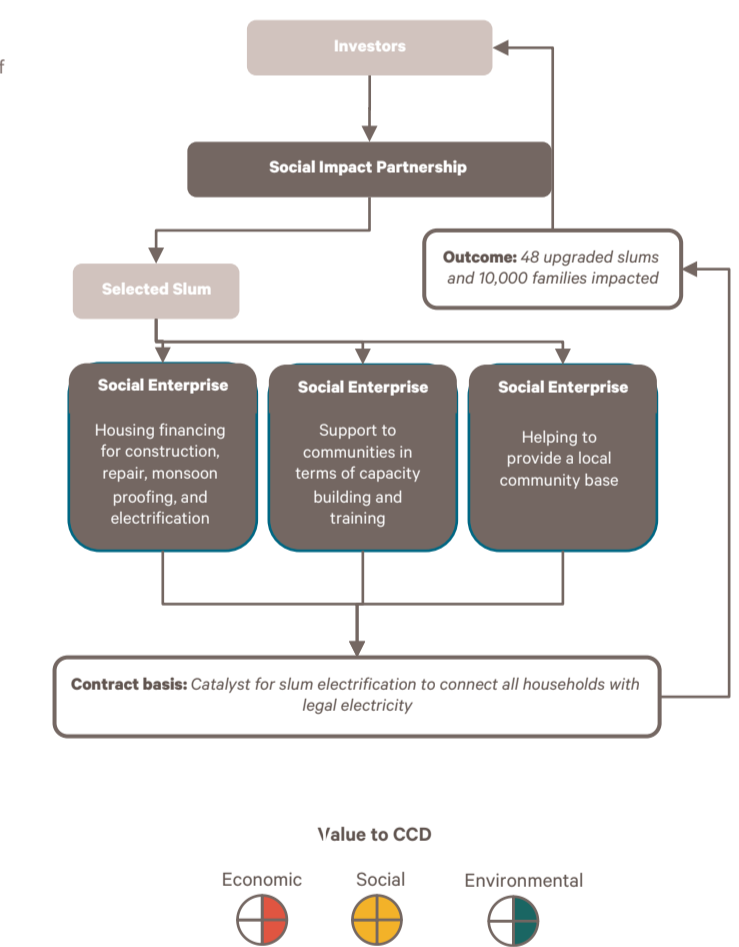
Value to CCD is covered by economic, social and environmental value in order to help compare the business models outlined here. Economic value of the social enterprise model is based on the avoided cost to CCD and the public purse, rather than additional revenue streams created. This model is based by social investors supplying the capital investment for services and contracts, rather than CCD. This will release capital in the public purse to be spent on other public services.

Social value is very high for this model as capital is raised from social investors and partnerships, capital tends to be directed to social enterprises to improve societal benefits, such as a reduction in re-conviction events as seen in the example here. These social benefits are driven by the investors, and most directly impact the citizens, workers and visitors of CCD.

Environmental value can be found through investment in environmentally active social enterprises. These enterprises may choose to invest in decreasing greenhouse gas emissions, or improving water quality. This however is not a prerequisite for the business model, meaning that environmental value to CCD is average.

Social enterprise model reduces the spend from the public purse and relies on investment from social enterprises and investors

Summary of social enterprise Business Model



24.2.8. Public Service Business Model

SUMMARY DESCRIPTION

There is significant opportunity for the placement of advertisements and products within CCD. While CCD develops greater knowledge of the citizens and visitors of the city through intelligent technologies and services, the value for focused and directed digital and physical advertisements significantly increases. The value for these advertisements can be categorised under two frameworks:

- Digital space (online and throughout mobile devices)
- Physical environment or the public environment through digital media advertising

Advertising and product placement business model can create intelligent value through increased social, mobile and location knowledge leading to targeted advertisements and product information.

Examples include social advertising like Facebook and its 1 billion mega-network of 'friends' and location-based advertising. Other examples include location based advertising like mobile advertisers (Google) and local deal providers (Groupon).

VALUE

Value to CCD is covered by economic, social and environmental value in order to help compare the business models outlined here. Economic value of the advertising and product placement business model is very strong due to the high expected price paid for improved advertising by third parties. With the ability to place advertisements and product information for when and where someone enters a specific area.

Social value is also high for this business model as the citizens, workers and visitors of CCD have access to only the information and advertisements which are specifically relevant to them, and are given increased opportunities to save money, and gain access to information that may have previously been missed.

Environmental value is low, but is characterised by the potential to induce energy efficient behaviour change and decreased resource use due to advertisement switch to digital infrastructure.

Summary of Public Services Business Model



Additional services not offered through other business models can be offered by CCD at a cost to the public purse

24.3. CCD Governance Resourcing and Setup Costs

24.3.1. Set Up Costs During Year 1

FIRST SIX MONTHS:

During the first six months, it is necessary to establish the key roles within ExCo as this operating group is required to establish and oversee the remaining operating units. In the very initial stages, the Managing Director could be appointed and also perform the role of the Operations Director; however within the first six months it is assumed that the Managing Director, Finance Director and Operations Director are all appointed, and they are supported by one senior manager (to oversee compliance and legal issues) and three assistant level members of staff. The two scenarios show the total costs for the first six months (covering resourcing and expenses) for a low and high salary scenario.

ASSUMPTIONS:

- Only members of ExCo will be appointed
- Expenses are calculated on a per FTE basis and include costs for office space, team, services and supplies
- A multiplier of 1.7 was applied to salary cost to give salary plus benefits and overheads
- Excludes any annual budgetary profits
- The resource costs include an error of +/- 10%

FIRST TWELVE MONTHS:

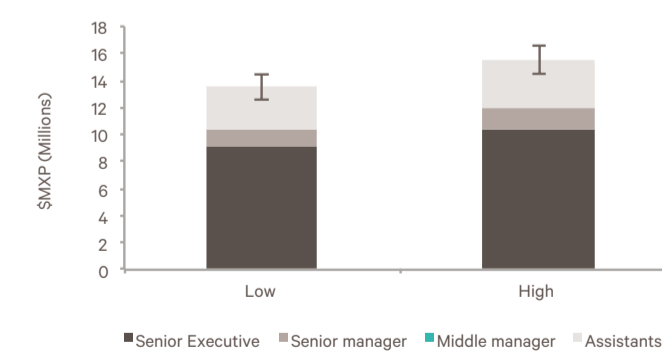
During the first twelve months, it is necessary to establish all of the key roles within the Operating Units in order to ensure the effective operation of CCD. The number of roles that have been assumed is shown below. It is necessary to almost entirely form the DevCo and OpCo within the first year because they are responsible for setting the future strategy of CCD. It is also assumed that ExCo will be almost entirely formed. It is possible to vary the resourcing level set out here either up or down, however reducing the resourcing profile will impact the speed and effectiveness with which development can occur.

ASSUMPTIONS:

- All operating units will have some resource
- Citizen and Enterprise Services and Shared Service Co will have very low resourcing profile as their activities are limited in Year 1
- Expenses are calculated on a per FTE basis and include costs for office space, team, services and supplies
- Salary includes a multiplier of 1.65 (low scenario) or 1.75 (high scenario) to cover benefits and overheads
- Excludes any annual budgetary profits
- The resource costs include an error of +/- 10%

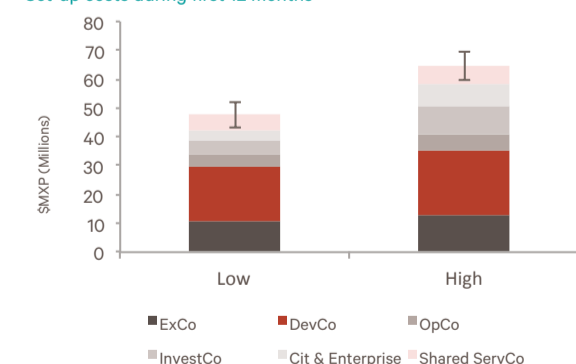
It is expected that setting up the executive management function of CCD will cost an estimated \$3-4MXP for the first six months, and \$44-55MXP for the first twelve months

Set-up costs during first 6 months



Role	Number
Senior Executive	3
Senior Manager	1
Middle Manger	0
Assistant / Analyst	3

Set-up costs during first 12 months



Role	Number
Senior Executive	8
Senior Manager	13
Middle Manger	8
Assistant / Analyst	22

24.3.1. Resource Cost Modelling

RESOURCE PROFILE COSTS:

The initial estimate of costs for CCD resourcing is \$55M to \$98M MXP per year for Phase 1, increasing to \$70M to \$115M MXP per year for Phase 3. The low scenario assumes the minimum number of resources, receiving a salary at the low end of the scale. The high scenario assumes the maximum number of resources, receiving a salary at the high end of the scale.

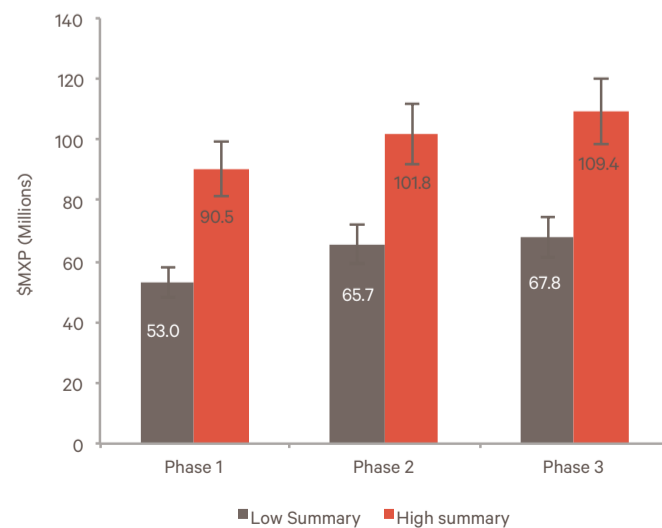
CCD aims to be a lean organisation, and it is possible to apply the resourcing in a flexible way. This can be achieved by using a range of contractual arrangements, such as secondments and outsourcing, which means that the number of permanent resources can be kept to a minimum, and additional resources can be added to match peak activity within the operating units.

CORE ASSUMPTIONS:

- Annual salaries for C-suite, senior management, management and associate/assistant teams fall between Government salary bands of levels 18-22, 15-18, 12-14 and 8-10 respectively
- Resource profiles (FTE) as shown in the resource profile table
- A multiplier of 1.7 was applied to salary cost to give salary plus benefits and overheads
- The resource costs include an error of +/- 10%

Using data of Public Authority salaries, the cost of resourcing the six operating units has been estimated and broken down over the three phases of the project

High and Low Salary Costs Based on Resource Profile By Phase



RESOURCE PROFILE:

The number of CCD resources required has been estimated. The table shows both the high and low resource estimate by phase. Whilst resourcing at the Executive level remains constant between phases, the number of resources required at lower levels increases significantly in Phase 2 and 3.

The resourcing provided at each phase could either be increased or decreased compared to the numbers shown here, however this will impact upon the speed at which development in CCD can occur. Resourcing levels should reflect peaks in activity experienced by each of the operating units. In Phase 1 for example, DevCo would experience a peak in activity, because this is the entity responsible for developing the strategy for CCD, therefore the resource requirement would initially be high, reducing in Phase 2 and 3. The Citizen and Enterprise Services operating unit however, would not experience its peak resource demand until Phase 3, because this is the entity responsible for face to face interactions with citizens and businesses.

High and Low Resource Profile By Project Phase

	Phase 1 Low	Phase 1 High	Phase 2 Low	Phase 2 High	Phase 3 Low	Phase 3 High
Senior Executive	8	9	8	9	8	9
Senior Manager	21	23	21	22	19	21
Middle Manager	8	15	12	20	11	20
Associate / Assistant	24	47	43	69	66	97

RESOURCE COST MODELLING: DETAIL

A detailed estimate of the salary costs by role type has been produced for each operating unit, covering the three project phases

ASSUMPTIONS:

- In the low scenario, resources are assumed to receive a salary at the low end of the scale for a resource of that type / experience
- In the high scenario, resources are assumed to receive a salary at the high end of the scale for a resource of that type / experience
- The resource costs include an error of +/- 10%

ExCo Resourcing:

The ExCo resource profile remains constant between project phases. This is because ExCo should be completely established before the end of Phase 1, however it will experience a ramp-up within this phase.

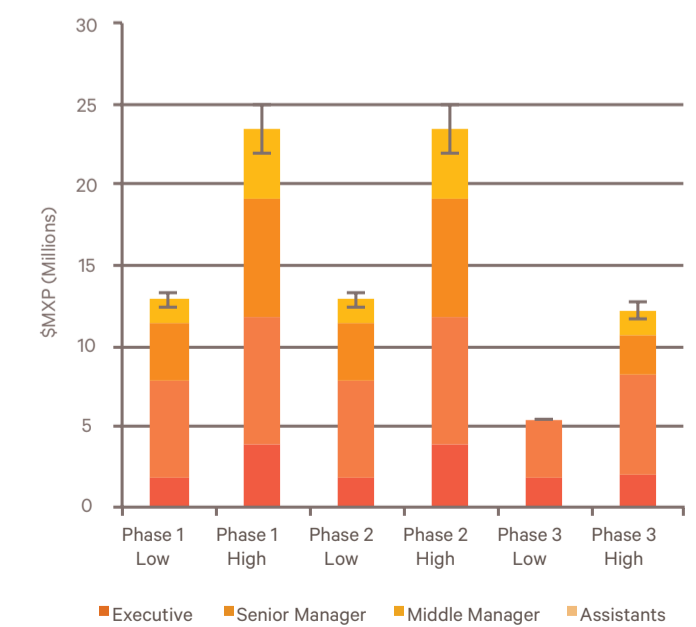
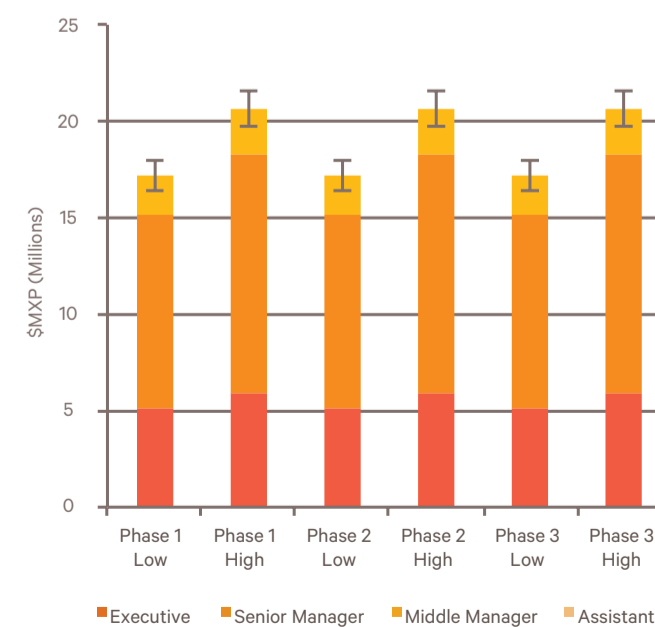
By Day 0, CCD should have appointed a Managing Director (MD) and a Finance Director (FD). For the first few months, it would be possible for the MD to fulfil the role of Operations Director (OD) until this position is filled. It should also be possible for the FD to initially fulfil the role of Treasury.

CCD should aim to appoint all of the Director positions in the first 3-6 months. A senior manager fulfilling the role of chief compliance / legal counsel should also be filled in the first 6 months. The remaining ExCo positions could be recruited later within the first year to 18 months.

DevCo Resourcing:

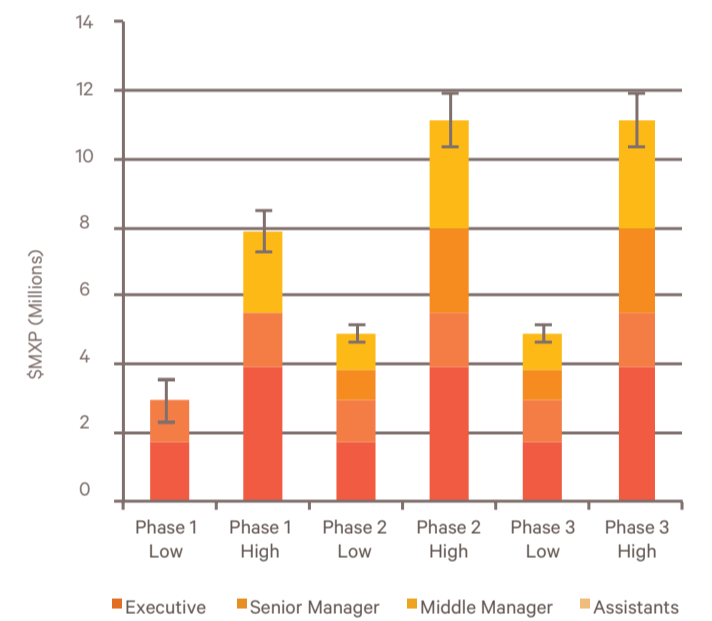
DevCo would need a high level of resource during Phase 1 and the resource profile will include both senior resources and a number of middle manager and associate / assistant level positions. This is because during Phase 1, DevCo is responsible for developing the detailed strategy (commercial, physical, digital etc.) for CCD and will therefore experience a peak in activity during this time.

Resourcing levels remain high during Phase 2 because strategy development will be on-going and DevCo will also be interacting closely with OpCo as this is the group responsible for implementing DevCo's strategy. In Phase 3, however, DevCo's focus changes from strategy development to repackaging the approach for use in other locations. This will require a lower level of resourcing.



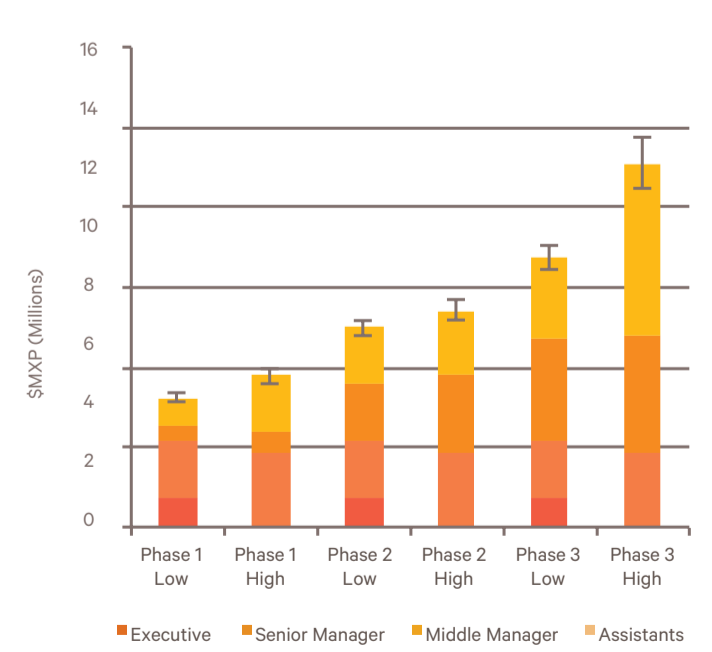
InvestCo Resourcing:
The resource profile for InvestCo will change over time, both in terms of total cost and the type of resources required. During Phase 1, InvestCo's activities would be focussed on Operations investment and Commercial investment (such as Joint Venture etc) in order to stimulate growth of small and start-up digital creative businesses. It has been assumed that this activity will be undertaken by specialists, with many years of experience in these types of investment.

During Phase 2 and Phase 3, InvestCo's focus will start to shift to Social and Environmental investment, which could be overseen by a smaller number of senior managers, supported by middle managers and associate / assistants.



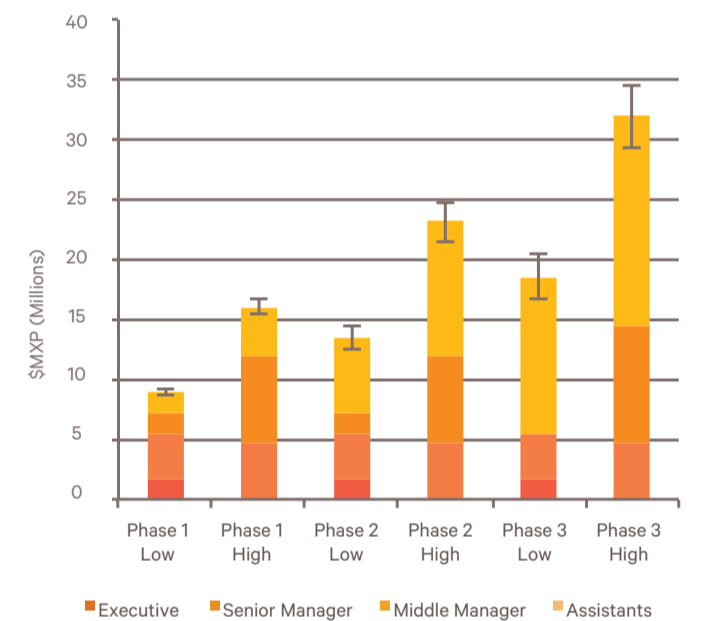
OpCo Resourcing:
The OpCo resource profile increases over time, with generally only senior positions being required in Phase 1 while OpCo becomes established, and a much higher proportion of lower level resources being required in later phases.

Resourcing levels remain constant between Phase 1 and Phase 2 as OpCo moves in to delivery mode. This will require a mix of resourcing levels, with a Senior Executive (business line leader) overseeing OpCo's operations, at least 3 Senior Managers to lead each of the three sub-units (OwnCo, AMCo and ServCo) and a number of middle managers and associates / assistants responsible for project delivery.



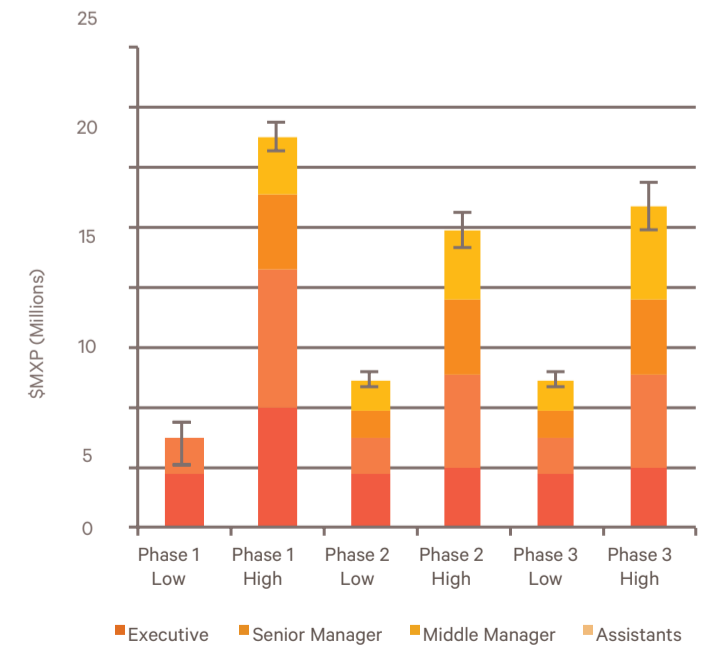
Shared Services Co Resourcing:
The resource profile for Shared Services Co increases over time because the resourcing level required for this operating unit is directly related to the total number of resources in the other operating units.

Shared Serv Co provides services such as IT, Finance and HR to other CCD employees, therefore as the other operating units increase in size, the demand for Shared ServCo's services will also increase. The majority of activity within Shared Serv Co could be carried out by lower level resources (middle managers and associate / assistant level), which means these tasks could be easily outsourced to a third party.



Citizen and Enterprise Services Resourcing:
Citizen and Enterprise Services is the operating unit responsible for managing CCD's interactions with citizens and businesses within CCD. In Phase 1, the number of residents and businesses will be low, because infrastructure development is still occurring.

By Phase 2, residents and businesses will start to locate in CCD, therefore the number of inquiries will also start to increase. By the time CCD reaches maturity in Phase 3, Citizen and Enterprise Services should be fully established, in order to deal with inquiries quickly and efficiently. Services provided will include call centres and drop-in information centres, which could be resourced mainly using middle managers and associate / assistant level employees.



24.4.3. Risk Management and Mitigation

Risk management involves the identification, assessment and prioritization of risks that may affect CCD. These risks have been identified and categorized into four separate areas; political, economical, social and technical. These risks have been listed in order to identify and develop mitigating actions and steps which CCD can be taken to minimise or avoid these risks completely. These actions have been taken to ensure that CCD can maximise the values of the opportunities listed throughout both this chapter, and the wider report.

It is important to note that although these risks have been divided into four categories here, they are all interrelated, and a risk in one category may create a higher risk in another.

POLITICAL RISKS

CCD is liable to the potential of political risks affecting the ability of the site to realize its overall vision. The project may be politicized, which may happen due to change in political cycles or election campaigns, and this will directly impact and affect the level of social support, vision or scope of the project. Additionally, political transactions in terms of budgetary allocation or vested interest of political parties, may impact project priorities, the development of the project team and / or the subsequent level of dedicated resourcing which may further impact the project's continuity. Finally, disagreement between the levels of government (national, state, municipal and county) could delay or stop the project entirely due to the inability to understand the vision, or lack of interest, either political or personal.

ECONOMICAL RISKS

Economical risks for the project are directly related to the financing of the project, and if this is affected, it will have a direct impact on the viability of the project to continue or take place at all. Economical risks to CCD include speculation by the current residents of CCD, which may lead to high increases in land prices. This speculation would lead to the residents "holding out" for higher land sale values, ultimately making the planned development of land too costly. Additionally, the level of funding required or the number of investors required may not be secured within the time frames set out, creating delays in planned phasing of the project. There is also the economical risk that anchor or other tenants to CCD may not be attracted to the site for any reason, and this would lead to a decrease in planned revenue streams. Finally, the benefits projected in the planning phase may not materialize or may be delayed due to lack of demand from enterprises, or tenants.

SOCIAL RISKS

Social risks refer to risks directly relating to or caused by the current and future residents, workers and visitors of CCD. Social risks for these groups include the risk that current residents of the site may not support the project, due to lack of understanding of the overall vision, or personal interest, leading to delays in any phase of the development. Additionally, social issues such as crime rate, may increase and affect the potential value of the project during later stages as well as affecting the greater social impact and benefit of the project.

TECHNICAL RISKS

Technical risks are related to the technology software and hardware that is integrated within CCD. Risks involve the possibility that the technology installed may become obsolete meaning that it may not perform to the level required, or that the technology integration may not go as expected, meaning that it may take longer than planned or may require more financial support. Finally, the talent pool may not be large enough to reach the critical mass required to attract people to the site, or there may not be enough qualified people to support or provide all the services required by the project.

Mitigating actions will help minimise or completely eliminate the risks identified for CCD. These actions have been developed in direct relation to the risks identified here, to enable CCD to take active steps towards risk mitigation from the beginning stages of the project. These steps will help ensure that all identified risks are minimised or at least acknowledged, and can be dealt with accordingly.

Where possible, these mitigating actions have been integrated into the visioning of the project that has already taken place, during the previous and current phases of the project.

POLITICAL MITIGATING ACTIONS

CCD should establish governance structures that represent all stakeholders and their interests to ensure that these interests and needs are represented throughout the development and final stages of the project. This has been integral to the development of the governance and operating model for CCD. Secondly, it is suggested that CCD reaches agreement, compromise and secures resources for the project within the next 18 months. This will help ensure that sufficient resourcing, both financially, and in terms of number of personnel allocated, takes place.

ECONOMICAL MITIGATING ACTIONS

Mitigating actions will help minimise these risks, and some of these actions have been planned for within the visioning process of the project. CCD can take advantage of flexible development based on land availability and prices. This action has been integrated into the "win win win" scenario described in the business casing section. Secondly, strong government commitment through key investments can help mitigate the risk of lack of available funding or investment. Finally, an intensive and structured commercial campaign and offerings can help ensure the right mix of people and enterprises are attracted to the site from the beginning of the project. This will mean involving the right stakeholders from the beginning and ensuring their needs and priorities are integrated, all of which has taken place during the development of the governance model during this phase of visioning.

SOCIAL MITIGATING ACTIONS

In order to mitigate these social risks, CCD should ensure thorough integration of residents, and representatives and all stakeholders within CCD. This will help ensure continued support throughout all the phases of the project. Secondly, the completion of a social analysis to identify current social issues affecting CCD area, and the creation of a development plan, which is well communicated to all stakeholders of CCD will help ensure the project doesn't negatively affect the issues identified during the analysis.

TECHNICAL MITIGATING ACTIONS

In order to mitigate these technical risks, CCD can establish partnerships with technology developers / providers to future proof solutions and ensure technology can be updated and upgraded throughout the project lifecycle. Secondly, by employing the design principles outlined in the digital services chapter, including flexibility, and scalability of open architectures, CCD can ensure that the technology software and hardware can be easily integrated throughout phasing of the project. Finally, by executing a detailed talent management campaign, a sufficiently large and well qualified talent pool can be attracted to CCD.