



# ECAMP Web Dashboard: Beginner's Manual 1.0

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# 1. INTRODUCTION

The viewer is a web dashboard application that enables you to explore spatial information on the over sixty business locations which anchors the Cape Town metropolitan region's space economy. This takes the form of an interactive map and data visualisations ('widgets') containing geographic information drawn from the City's own administrative data resources and external data. This dashboard contains thematic representations of information such as property market and building development data, valuations, infrastructure capacities and geographic proximities. Unsubscribed users have access to relative values, whereas raw values will be made available progressively where possible to subscribed and internal City users.

## 2. SUBSCRIBING AS USER

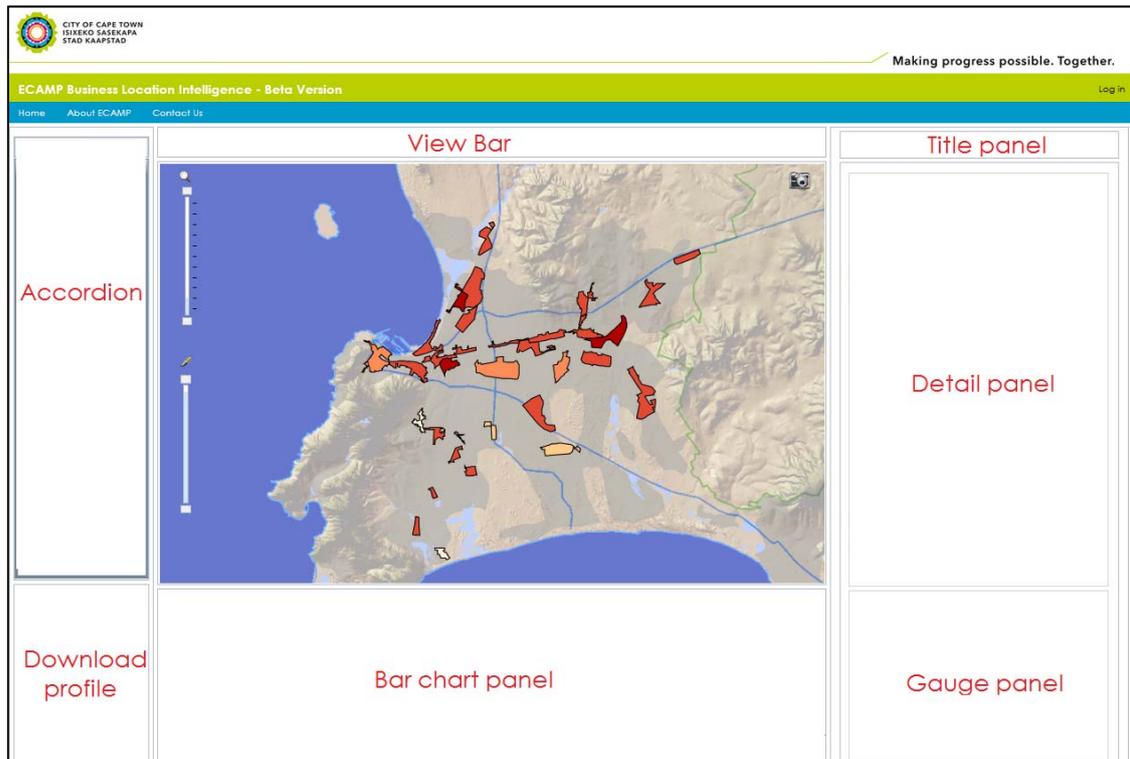
The release version offers the ECAMP team an opportunity to share detailed area profiles with both internal and external subscribers.

Please follow these steps to gain access to advanced functionalities.

1. Go to <http://ctcs.capetown.gov.za/ecamp>, and click 'Log In'.
2. Type in your details, and click on 'Request Access'.
3. We will receive your access request, and approve it.
4. Check your inbox (and junk folder) for an email entitled "Access Request ECAMP – Business Location Intelligence".
5. Open the email, and click on the 'Register' link.
6. Complete the registration page. **Please ensure that your password is at least 8 characters long and contain at least 1 special character (e.g. 'PeterPan#1')**
7. Once you have registered, you will receive a verification email. Once you click on this, you will be taken to the login page.
8. To download area profiles, please select 'Nodal profiles' in the top bar, select your area of interest, and click on the 'Download area profile' in the bottom left-hand corner. The selected area profile will download automatically.

### 3. BASIC ELEMENTS

Figure 3.1 Basic elements



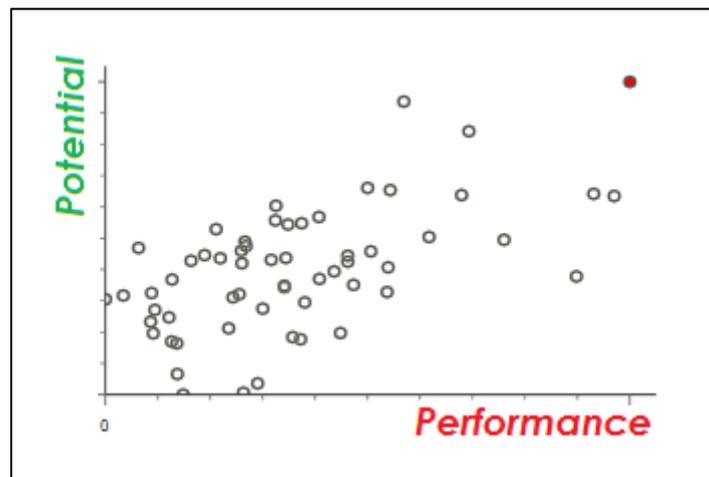
The dashboard comprises of a finite number of elements, and it is worthwhile for the user to familiarise herself with these ahead of a more detailed discussion to follow in the section below:

- The dashboard is dominated by the **map viewer** in the centre of the screen. This map viewer consists of an interactive base map and a fixed layer of polygons which represent business precincts.
- Along the top of the screen is the City's logo, the title of the website and a set of **high-level options** ('Home Button', 'About ECAMP' and 'Contact Us').
- The dashboard offers the user two perspectives towards the same underlying data set, being the 'Citywide Trends' view and the 'Nodal Profile' view. The **view bar** allows the user to move seamlessly between the two views<sup>1</sup>.
- To the left of the screen, the **accordion** allows the user to select either an indicator (in Citywide Trends view) or an area (in Nodal Profile view). Selection will result in all the elements in the dashboard reflecting the given selection.
- In the bottom left of the screen is the **download panel** which currently allows subscribed users to download highly detailed area profiles for each of the business precincts<sup>2</sup> whilst on Nodal Profile view.

<sup>1</sup> The ECAMP team aims to add a third view to this bar ahead of the release of the final version.

<sup>2</sup> This functionality will only be available to internal users during the beta phase.

- At the bottom of the screen is the **bar chart panel**, which offers users insight into the relative position of a particular area amongst other business locations given a selected indicator.
- In the bottom right of the screen, the **gauge panel** is an experimental environment where the ECAMP team explores different visual tools to display data. In the Citywide Trends view, a scatterplot plots the various business locations according to the two composite indicators, being Location Potential on the Y-axis, and Market Performance on the X-axis. The selected area is represented by a red dot.

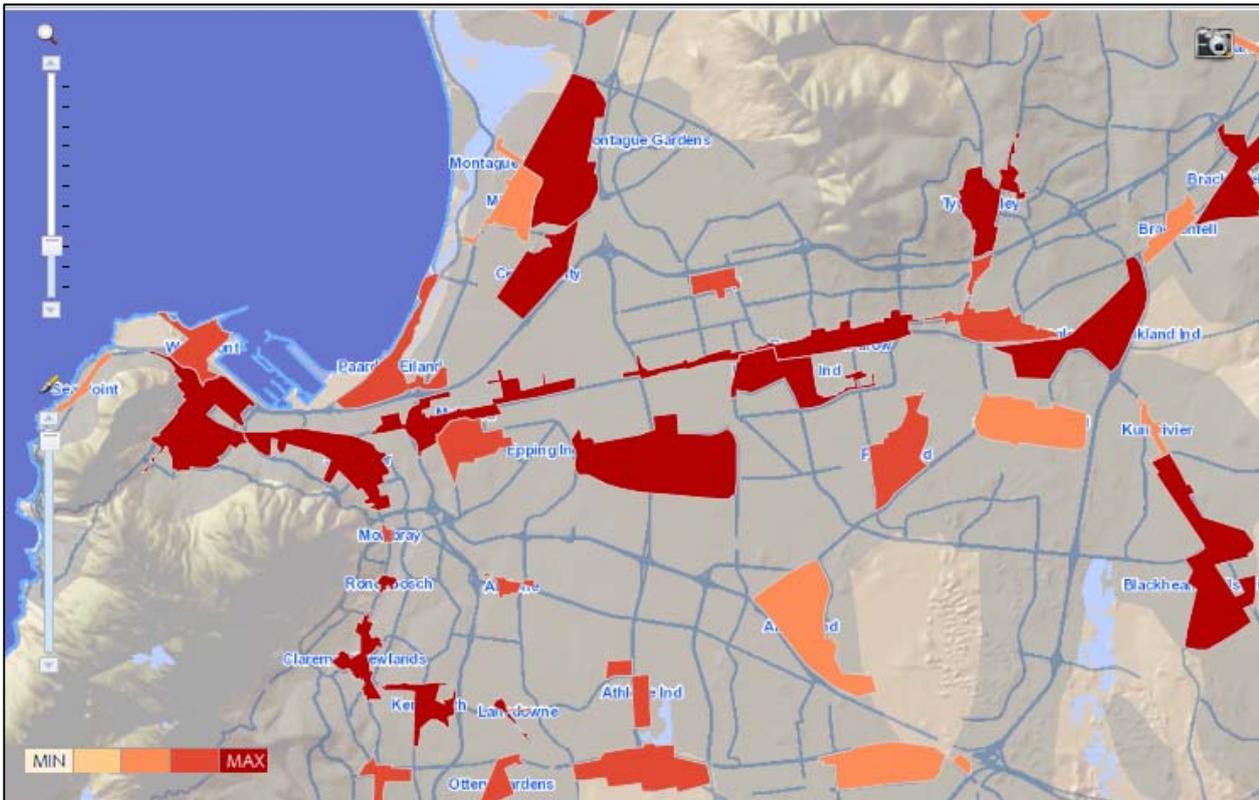


In the Nodal Profile view, the gauge panel hosts a chart indicating a diagnostic assessment of the selected area. For more information on interpreting the diagnostic chart, please see section below on Diagnostic assessment.

- In the **detail panel** on the right-hand side of the screen, further information relating to the user's selection is provided. In the Citywide Trends view, information regarding the selected indicator or sub-indicator is provided, including the full title and date, the definition, what the indicator tells us about, and the source. Framing this information are a set of icons which are highlighted in terms of the relevant economic sector (to the right) and the composite indicator being informed (above).

## 4. MAP VIEWER

Map 4.1: Map viewer



The map viewer may be navigated by means of a mouse. Areas can be selected by clicking on them. Zooming in will create higher levels of detail (e.g. street layouts). Three additional functionalities may be activated by clicking on the respective icons within the map viewer. These include a transparency selector, a zooming function and aerial photography.

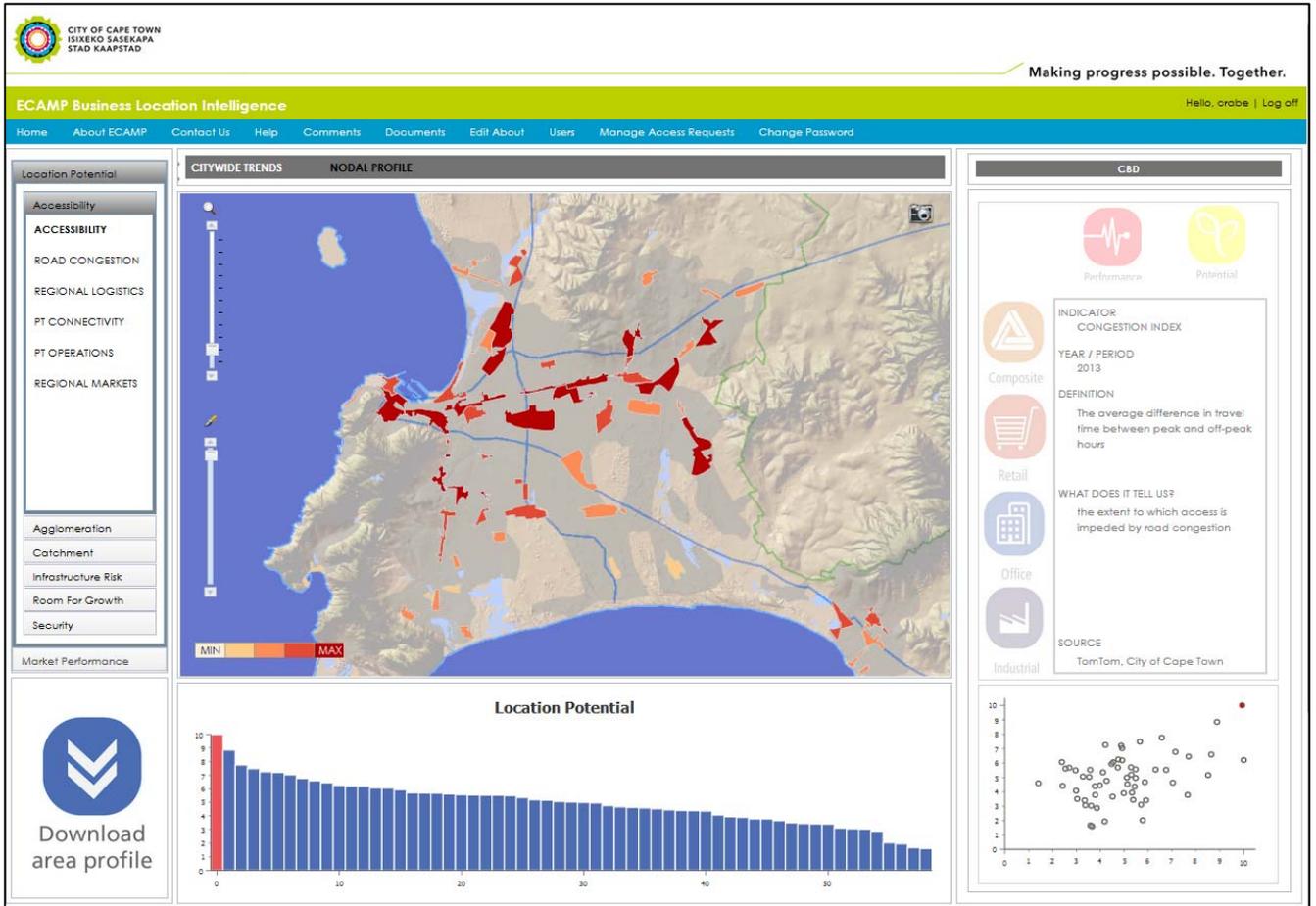
The viewer uses the Jenks Natural Breaks classification method to determine the best arrangement of values into different classes. This is done by minimizing each class's average deviation from the class mean, while maximizing each class's deviation from the means of other groups. In other words, the method seeks to reduce the variance within classes and maximize the variance between classes.

When viewing the map, the highest class is represented by a dark red, whereas a lowest value class is represented by light beige. When no information is available for a particular business precinct, the area does not appear on the map.

## 5. CITYWIDE TRENDS

The default view, Citywide Trends, allows users to compare over seventy business location attributes across over sixty business locations across the city. You can click on 'Citywide Trends' on the **View Bar** at any point to switch to this view.

Figure 5.1: Citywide Trends view



## 5.1. Selecting an indicator

The dashboard allows users to select indicators at three levels, sub-indicators at the lowest level, indicators at the intermediate level, and composite indicators at the highest level. The indicators then are nested within one another.

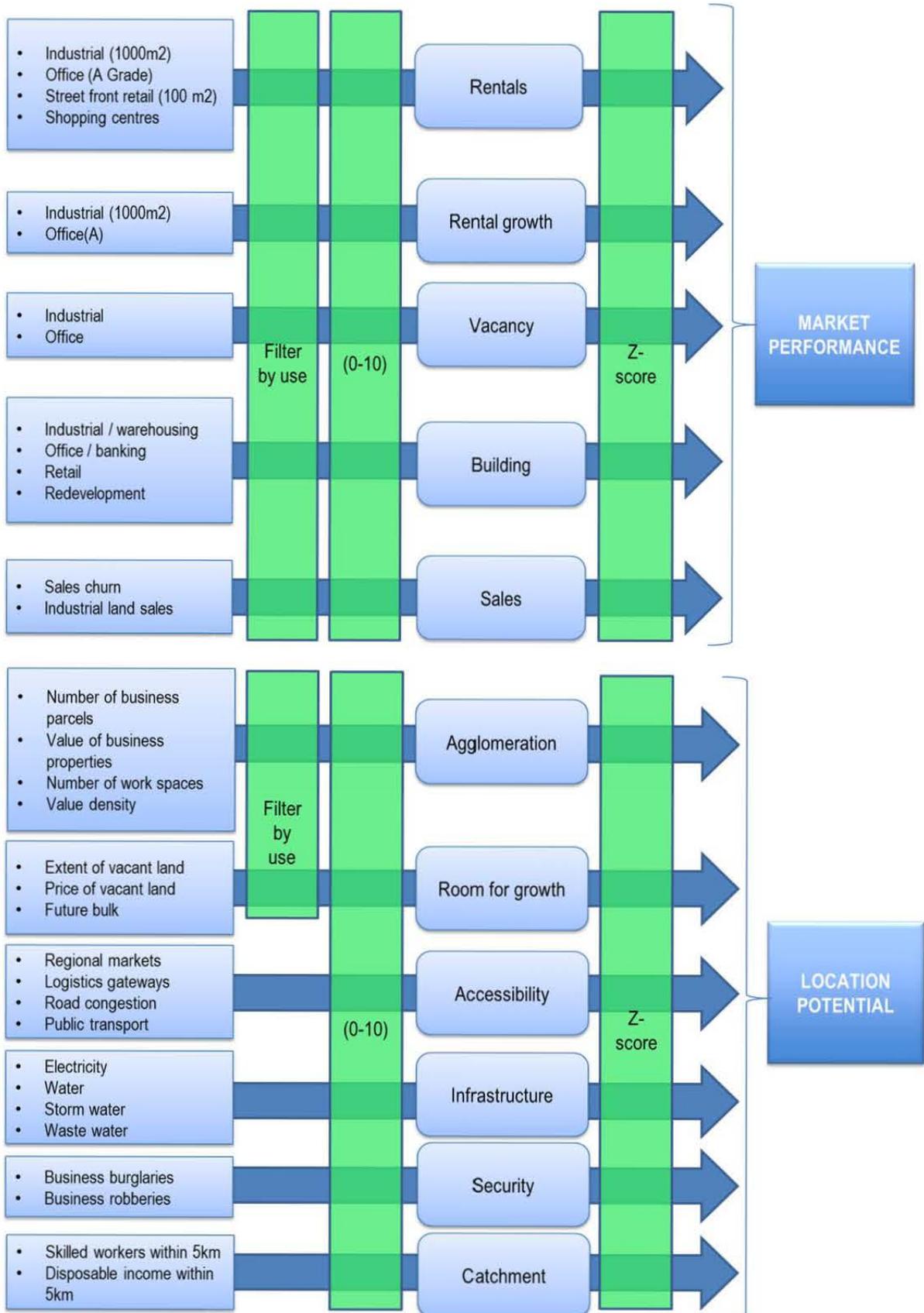
Figure 5.2 Schematic of composite indicators and subsidiary indicators



The figure above shows the two composite indicators, Market Performance and Location Potential. For more information about these, please see section 6.3 below. Each of these composite indicators comprise of a subset of indicators which are conceptually linked to the composite indicator. Generally, Market Performance indicators relate to short- and medium-term property market trends, and Location Potential indicators relate to medium- to long-term factor and physical attributes.

Figure 5.3 below provides a detailed account of how the sub-indicators, indicators and composite indicators are nested. You will also note that all values displayed in the dashboard are derived, ranging from 0 (lowest score) to 10 (highest score). Given the heterogeneous nature of the various data sources, all input values are filtered by use and normalised in order to give a comparable distribution of values. These normalised values are further standardized in order to be incorporated into the composite indicators. The most important message here is that the values displayed in the dashboard offer insight into the performance and potential of each business location *relative* to all others; no absolute values or benchmarks are used. Another limitation is that no longitudinal data is currently offered in the dashboard.

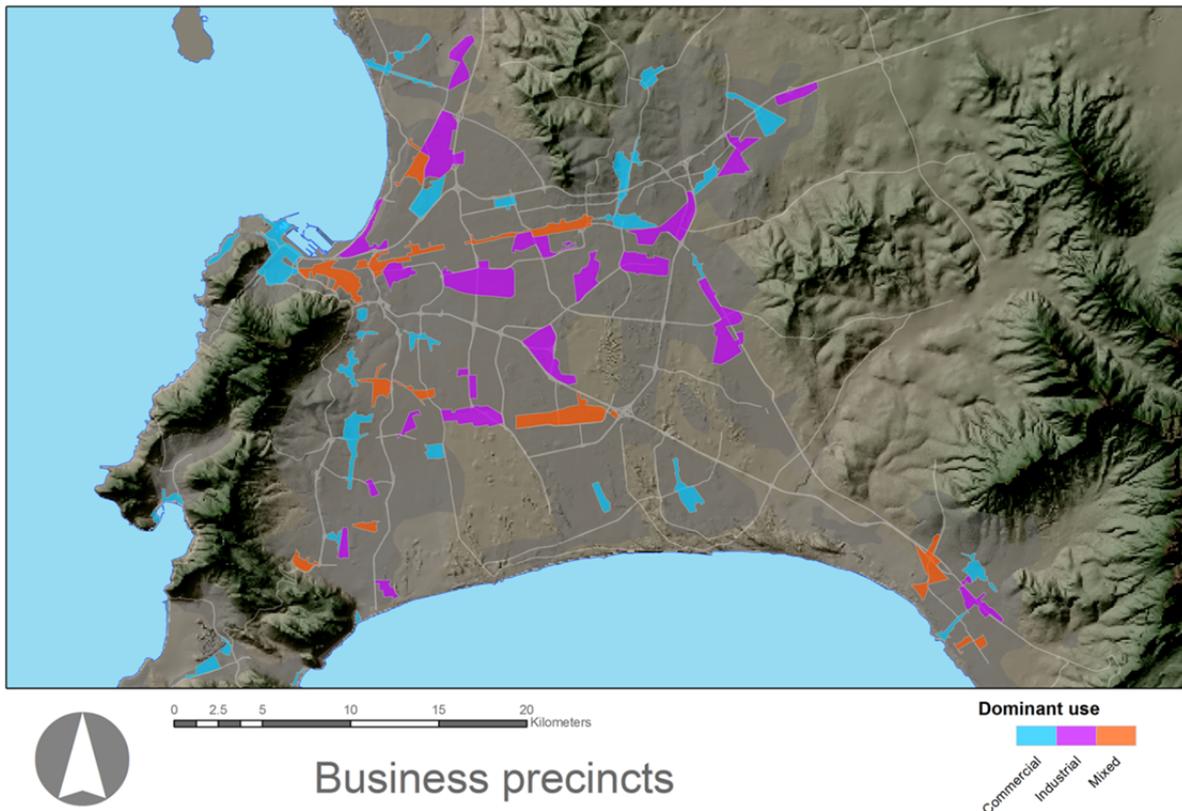
Figure 5.3: Sub indicators, indicators and composite indicators



## 6. NODAL PROFILES

You may shift to Nodal Profile view by either clicking on the relevant tab on the View Bar, or by clicking on a business location on the map itself. This view enables the user to (a) drill-down to a selected business location, (b) get an immediate impression of its relative strengths and weaknesses, (c) view the dominant type of activity, and (d) download a detailed A3 area profile and diagnostic assessment<sup>3</sup>.

Map 6.1: Business precincts



### 6.1. Selecting a business precinct

The business precincts included in this dashboard corresponds with those systematically tracked as part of the Economic Areas Management Programme ('ECAMP'). The identification and delineation of these areas were performed against minimum thresholds and land use data respectively. All non-residential land uses were identified, and those which met certain minimum requirements in terms of number of morning commuters and aggregate property values were subject to a second round of ground-truthing by means of engaging with local planning officials. The delineation of these precincts was conducted on the basis of contiguous non-residential land use. In a final stage, certain areas which met the above requirements but weren't readily measurable in terms of the indicators described in the previous section, were excluded. Examples include the Chevron Refinery and the GrandWest Casino.

<sup>3</sup> Only available to subscribed users.

Figure 6.1. Nodal profile view

## 6.2. Analytics

Beyond the interactive viewer, the nodal profile view offers three types of data visualisations, the rose graph, the temperature gauge and the diagnostic chart.

The gauge is the default view, indicating the composite location potential and market performance scores for the selected node. By clicking on the 'View detail' tab, the view switches to the rose graph, which shows the scores for each of the indicators that constitute the respective composite score.

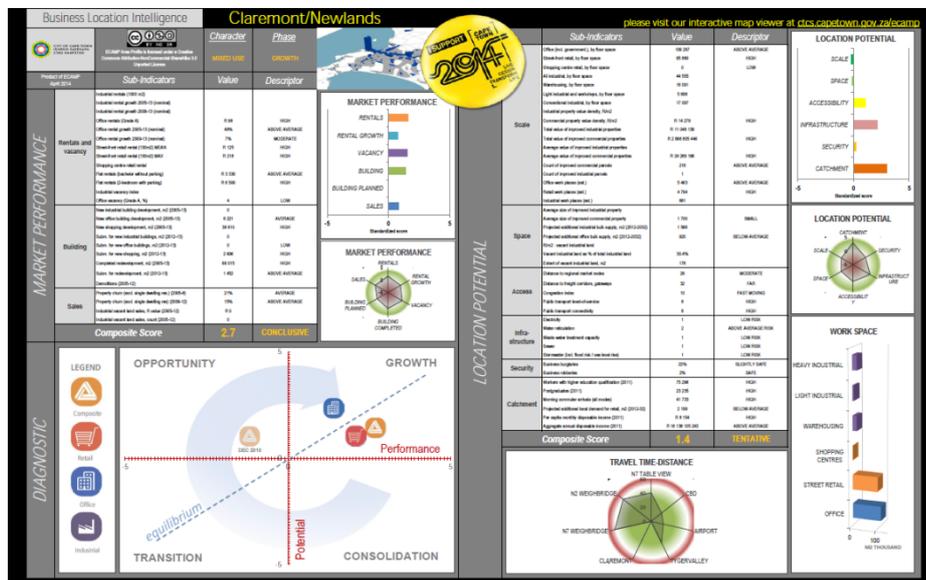
The diagnostic chart provides an integrated view of the area's level of performance relative to its potential, differentiating in turn between office, retail and industrial property markets. A current composite position is provided (i.e. all property sectors), and an earlier position is included (semi-transparent) to provide an indication as to whether the area has improved or declined in recent months.

## 6.3. Downloading an area profile

In order to download a detailed area profile, please complete the subscription instructions above. Once subscribed, you may select your area of interest in the left-hand panel, and click on 'Download area profile'. Depending on your browser settings, an A3 poster with detailed information regarding that area will automatically download.



Figure 6.2. Area profile



## 7. CONCEPTS AND DEFINITIONS

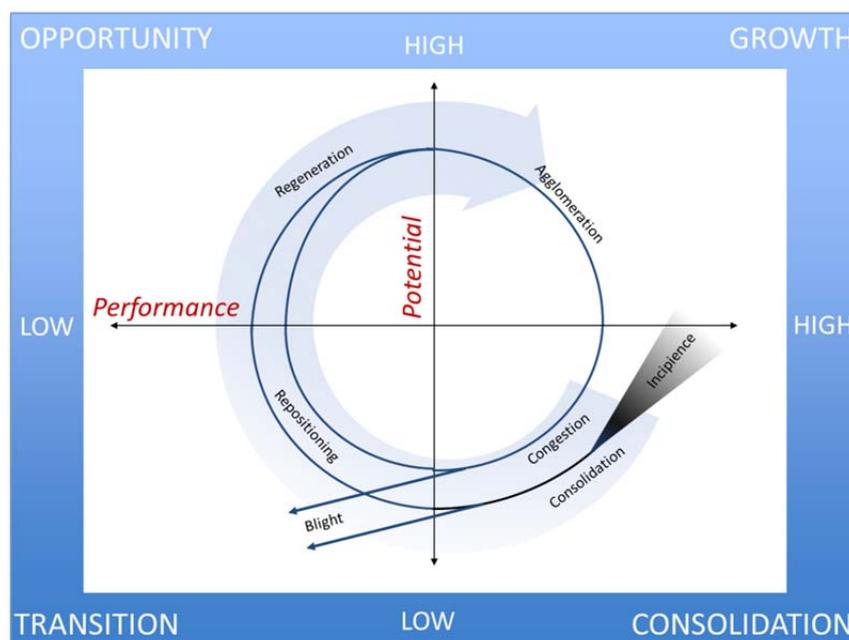
### 7.1. Composite indicators

- **Location Potential** measures each business location against a set of location attributes which in turn represents either a factor of production (e.g. supply of land, skills, infrastructure) or other location factors such as the scale of economic activity or regional accessibility of a particular node. It is hypothesised that these medium- to long-term locational attributes determine their relative attractiveness for businesses, and thus creates the business conditions necessary to drive Market Performance. You can view the composite Location Potential indicator by clicking on the title "Location Potential" in the detail panel of the Nodal Profile view
- **Market performance** reflects the short- to medium-term market signals generated by the articulation of citywide business *demand for* set against local *supply of* space within which to produce goods, conduct business, sell goods, etc. You can view the composite Market Performance indicator by clicking on the title "Market Performance" in the detail panel of the Nodal Profile view.

### 7.2. Interpreting the diagnostic chart

The diagnostic approach involves the systematic assessment of business districts' current level of functioning in order to design appropriate area-based interventions. The concept of diagnosis is similar to the medical model, in that a physician conducts tests, collects vital information on the human system, and evaluates this information to recommend a course of action. Similarly, a strategic planner uses specialised procedures to collect and synthesise vital information about the space economy (which – not unlike a biological organism - is a complex and dynamic system composed of network of interdependent parts), identify the nature of the 'location problem' and formulate an appropriate response.

Figure 7.1 Diagnostic model



By representing the articulation of economic activity across space as a manifestation of the interaction of opposing forces, the diagnostic model offers a typology of business districts consisting of four quadrants by categorising each business district according to its variation from average location potential and average performance. It is essential however that the classification of areas not be interpreted as a static and conclusive image of the space economy, but rather a transitory snapshot of a dynamic process of urban transformation. Business districts are continuously subject to changing internal and external conditions and their respective trajectories reflect a gradual and unceasing cycle of growth, decline and regeneration. In this sense, we are primarily concerned with the transformation of business districts as they pass through these various life cycle phases, and how local authority interventions may leverage these dynamic forces.

The life cycle approach assumes that a business district undergoes a predictable sequence of transformations. Each of these transformations is driven by a respective set of market drivers. However, this approach recognises the role of government in ensuring that these transformations manifest in such a manner as to optimise broader public social outcomes. The appropriate role of government in leveraging these market drivers is not static but evolves as the area transforms, shifting between managing growth, stabilising and repositioning areas, and fostering local initiative.

Area-based strategies appropriate to the business conditions associated with each type of business district (as classified by the diagnostic model) are recommended, each containing a finite set of specific area-based interventions. In keeping with the principle that the spatial targeting tool introduced in this article should be realistic and readily actionable, all interventions included here is either currently under implementation or being considered for implementation by the Cape Town local authority.

The four area-based strategies are:

### **7.2.1. Opportunity zones**

Regeneration strategy, recommended for business districts classified as opportunity zones (high location potential, low performance), aimed at stimulating market response to existing location potential.

Distinguishing features of this strategy include an assumption of latent demand for space based on intrinsic location advantages, and the sharing of risks, responsibilities and resources between the public sector and local businesses (i.e. partnership focus). This strategy identifies the property sector as offering the greatest opportunity for economic development in a particular area. The role of local government is to employ appropriate planning, financial and institutional tools to create certainty and confidence in the market, thus attracting a critical mass of pioneering firms who will – in turn – assume an increasingly greater stake in the well-being of the area as the process of regeneration gains traction. Success factors include (1) policy implementation timeframes which correspond to the business cycle, (2) a facilitative rather than leading role so as to avoid crowding out local initiative, (3) policy coherence across departments in order to ensure joint strategic decisions about regeneration priorities and coordinated investment and (4) establishing project delivery bodies with sufficient freedom to get the job done properly. Specific interventions included in this strategy may include the establishment of a business improvement district, encouraging engagement between local businesses and residents through locally-funded activities and projects, the development of detailed local area plans, the packaging and sharing of economic intelligence, area-based financial and planning incentives, such as the fast-tracking of development applications.

### **7.2.2. Growth zones**

Growth management strategy, recommended for business districts classified as growth zones (high location potential, high performance), aimed at mitigating the effects of crowding on location potential. Urban growth management strategies consist of various tools used to manage the amount, type, extent, rate and quality of urban development. These tools can be used to manage how much growth occurs, what kind, where it occurs, how fast it happen and with what impacts. At neighbourhood scale, the purpose of growth management is to achieve a balance between the amount of growth and the ability to provide economic infrastructure needed to ensure the area's

long-term potential. Development is thus metered out so that a business district can maintain its ability to provide adequate services and avoid some of the negative effects of boom and bust development cycles. Specific interventions may include the improvement of network efficiency by addressing infrastructure bottlenecks, the improvement of public transport level-of-service and smart-pricing measures, designating industrial buffers to prevent the infiltration of high traffic-generating uses such as office and retail, release public land to the market, and the strict enforcement of by-laws of land use regulations.

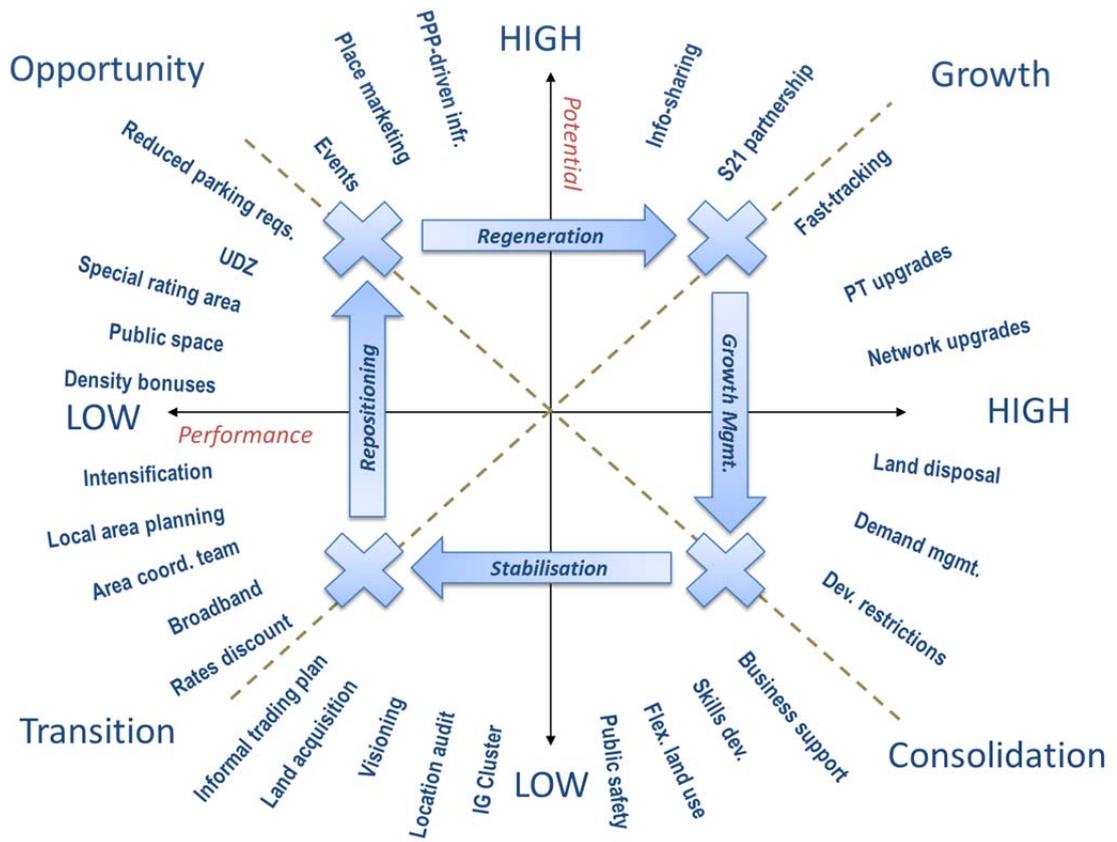
### **7.2.3. Consolidation zones**

Stabilisation and business retention strategy, recommended for business districts classified as consolidation zones (low location potential, high but declining performance) aimed at mitigating the anticipated impact of declining performance due to creeping functional obsolescence on vulnerable firms and workers; the objective of this strategy is to develop local measures which will stabilise existing investment and maintain the number of persons employed in the area. It recognises that it does not make sense to try and attract new investment if the public sector does not address the needs of companies already active in these areas. These measures aim at mitigating the adverse impacts of nascent transitive urban development processes in vulnerable local firms and workers who are unable to relocate to more suitable locations. It is during this transformation that the need for timeous and government action is at its greatest. The possible development trajectory of the area is by no means pre-determined but instead bifurcates into two possible scenarios: a virtuous, self-reinforcing cycle of repositioning and regeneration, or a vicious cycle of deepening obsolescence and economic marginalisation. Specifically, this strategy seeks to improve the resilience of local firms through technical assistance and information sharing, and to enhance the mobility and versatility of the local labour force, through skills development and job matching programmes. Greater flexibility in land use regulations will give the market space to reposition the functional role of the area, and measures to manage symptoms of blight, such as problem buildings, errant landlords and informal business should be put in place.

### **7.2.4. Transition zones**

Repositioning strategy, recommended for transition zones (low location potential and performance), aimed at mapping and facilitating the functional repositioning through participatory planning efforts with local stakeholders and property owners, and ensuring that the basic requirements for developing the envisaged new economic role are in place. The changes in the technological and macro-economic foundation of economic activity have been consequential for spatial organisation. Where economic restructuring has led to a decline of particular areas and to demands of new forms of space, local government needs to facilitate the functional repositioning of the business district in order to stave off the deepening of functional blight. This includes identifying and addressing regulatory and infrastructural barriers that inhibit redevelopment, and exploring possibilities for government-driven, large-scale redevelopment. However, it is noted that none of the measures identified will gain traction until crime-and-grime issues are stabilised through the establishment of area-based urban management entity. Functional repositioning is not limited to land use shifts (e.g. from industrial to office), but may also include restructuring within land uses (e.g. smaller industrial parcels). Planning for functional repositioning requires a sober assessment of the location requirements exhibited by those economic sectors relied upon to drive the repositioning. Specific interventions include a local audit of economic assets, identifying sectors which are aligned to those assets, a determination of infrastructure requirements in light of the above and a corresponding budget for targeted bulk service capacity improvements, the establishment of trading plans to manage the scale and character of informal trading and identify opportunities for land banking, encourage residential intensification to shore up local consumer demand.

Figure 7.2: Prioritisation framework



## 8. ABOUT ECAMP

Recognising the vital role of credible, up-to-date and accessible location intelligence in driving economic competitiveness, technological innovation and urban efficiency, the City has advanced to the forefront of evidence-based planning by developing a purpose-built yet flexible decision-making support tool to guide the spatial targeting of area-based interventions, and - through our public user interface - share our information with the private sector, helping entrepreneurs and corporates alike identify both area-based risks and opportunities across over sixty business precincts across the City. This initiative - the **Economic Areas Management Programme** (ECAMP for short) has been described by the Cape Chamber of Commerce and Industry as a "game changer", and by the World Bank as "at the leading edge" and without precedent, globally.

Supported by a diverse team of academics, economists, property brokers, we have developed a diagnostic model which beneficiates a massive and hitherto under-utilised pool of administrative, proprietary and open-source data into actionable information. Not dissimilar to the mapping of portfolio assets, this model systematically tracks both the market performance and the long-term growth potential of each business district, and by doing so offers an up-to-date and evidence-based diagnostic assessment of each area, giving us insight into local business dynamics, opportunities and inefficiencies; on this basis, the model recommends an appropriate area-based strategy and proposes practical local interventions, and helps us gauge the impact of our intervention on local business conditions.

At least as important as its strategic role in concretising the City's commitment to evidence-based planning is ECAMP's role as a direct economic intervention, where the City launches and continuously improves a web-based platform through high quality, up-to-date market intelligence is shared with the private sector at no cost to the user. As we have said, the City recognises that the cost of credible market information presently entrenches a risk-averse, follow-your-leader approach to location decisions, especially by small and medium-sized firms. We also recognise the challenges faced by our investment promotion bodies in timeously sourcing the reliable information needed to package investment opportunities for overseas clients.

We therefore encourage businesses big and small to visit the test version of our ECAMP web portal, explore a uniquely data-driven view of our space economy and drill down to your area of interest, and find out how it compares using well over fifty measures of performance and location potential.

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The ECAMP Team  
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