# **B**uilt **E**nvironment **P**erformance **P**lan

Addendum **B**: City of Tshwane Capital Prioritization Model

2019/2020

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# 1 City of Tshwane Capital Prioritisation Model (CPM)

## 1.1 Introduction

In South Africa, the capital expenditure of a city should primarily be driven the IDP. The regulations published in MFMA Circular No. 80 (Municipal Finance Management Act No. 56 of 2003), compels all municipalities to ground their capital expenditure in the IDP process. SPLUMA Chapter 4 furthermore compels local authorities to formulate a Capital Information Framework (CIF). The meaningful allocation of capital expenditure for municipalities is however a challenging balancing act that must seek to address:

- Infrastructure backlogs,
- The restoration of human dignity,
- The creation of a safe and secure environment,
- The provision of basic services,
- The maintenance of existing assets,
- The protection of our heritage and environment,
- The creation of sustainable job opportunities,
- The boosting and creation of economic activities/opportunities and
- Strategically investing into a growing, sustainable, liveable and globally competitive city environment.

A prioritisation methodology is therefore required that will consider qualitative, quantitative and spatial priorities as articulated by municipality's strategic as well as technical leadership, and as enshrined by municipality's various strategic plans such as the MSDFs, the RSDFs and the IDP. It is recognised that the planning environment is continuously changing in response to new challenges and new dynamics gets introduced constantly due to a variety of reasons. The process of prioritisation therefore, must possess of the ability to comprehensively on-board new issues for consideration and easily, and most importantly transparently, adapt and change to the changing needs of the municipality.

The need for a mechanism to drive the strategic, yet equitable, allocation of capital within the city, stems from the following realities:

- Urbanisation, immigration and growth
  "The State of South African Cities" report produced Cities Support Network in 2016, report that South African Cities are inundated by rapid urbanisation. A significant number of the population within South African cities has low levels of education resulting in high unemployment, very low incomes and poor living standards. There are not enough job opportunities for unskilled labourers in economy to address this issue adequately.

  Because of this urbanisation, cities must deal with a relentless demand for infrastructure and services. Unconstrained urbanization and population growth have resulted in the demand for infrastructure and services outstripping the financial resources of cities. Given the limited resources to address these needs, prioritization of capital expenditure has become a factor of critical importance.

- The importance of the city and regional economy
  One of the main drivers of economic sustainability is the creation of job-opportunities. Affecting economic changes requires a multi-pronged approach involving a range of interventions across a number of industries. From a capital expenditure perspective though, the process of prioritisation can benefit from the sophistication of a complex, macro-economic econometric model.

- Increasing Maintenance Burden
  Cities are faced with the conundrum of balancing spatial, social and economic transformation, whilst maintaining the existing asset base of the city. Spatial, social and economic transformation is often associated with the provision of new, quality infrastructure in support of liveable communities either in newly demarcated development areas or as part of upgrading severely marginalized communities, with a poor service provision history and a backlog of service delivery demands.

  A balanced approach to capital spending, focusing partially on the provision of new infrastructure, whilst maintaining the existing asset base and revenue stream is important. A fundamental consideration of all capital expenditure therefore must include the estimated OpEx burden that will result from the capital that is being spent. The OpEx burden is inevitable – a situation can however arise whereby the OpEx continues to grow to the extent that it starts to impact on the available CapEx.

- Coordination and Inter-dependency
  Capital project preparation is often undertaken in a non-integrated way in that the different departments, divisions and agencies plan and budget for capital projects in isolation from each other. This is not necessarily intended, it is simply a consequence of a large, multi-disciplinary organisation. Departments often have their own priorities and their own methods of determining such priorities. These methods vary in terms of sophistication and detail. The provision of municipal infrastructure requires integrated project planning and preparation. Therefore, a decision support system, which facilitates the coordination and integration between planning and infrastructure provision on a project preparation as well as an institutional level is critical.

- Competing Interests
  Although basic services infrastructure (i.e. water, sanitation, electricity and solid waste management) is often as high on the community delivery agenda as social facilities and amenities (i.e. clinics, libraries, community facilities etc.), these different infrastructure types do not always receive equitable capital allocation. Often, income generating capital expenditure (i.e. capital spent on infrastructure which can yield some form of monetary return) receives larger quantities of capital budget than non-income generating infrastructure. A decision support system, which allows for scenario testing in relation to the ratio of income generating and non-income generating capital expenditure, taking into account the impact that this would have on the city's financial sustainability is required.

- Spatial Transformation Agenda
  The spatial vision of South African cities seeks to transform the developmental landscape to become a more inclusive, efficient and equitable. Consequently, capital spending should be earmarked to drive the spatial transformation agenda which in turn will result in a spatially transformed and economically sustainable city structure. A decision support system, which enables capital project prioritisation, reporting and tracking quantitatively, qualitatively and spatially, is required to ensure that capital spending is focused on strategic spatial structuring areas to achieve the desired city spatial form.

The complexity and interdependency of these issues is very challenging, and each year, new considerations and priorities are introduced. The need for a system that assist in the facilitation of such a process, together with additional benefits of record-keeping, tracking and reporting is therefore evident.

The prioritisation process facilitated by a system, should be easy to understand and interpret whilst allowing for accessibility and input by its users on any level of detail required. Given the diverse range of different departments and divisions within the typical South African municipality and the divergent needs stemming from each department, it is essential that the prioritization methodology lends itself towards participation and allows for easy calibration by key decision makers.

In the process of prioritization, the importance of a multitude of considerations must be emphasized. Although it is commonly accepted that the municipality's IDP should be the primary driver of priorities, there are however many other metrics that should be considered in the process. Some of these considerations are briefly highlighted.

The first fundamental to consider is funding that is available for implementation and how this capital is sourced. This informs of the affordability of implementing the list of capital needs. In a municipal environment, capital is sourced from a number of places. Among these sources are bonds and loans. The affordability and the debt thresholds set by the MFMA are important considerations in this process.

Technical inputs stemming from the municipality's asset management system or from other technical reports or processes represent another important aspect to consider in the process of prioritization. These technical inputs often do not align optimally with IDP objectives but are important all the same due to age, wear or other important reasons. Other technical aspects such as the technical interdependence of projects also play an important role. This will have the consequence that projects that appear to be of a lower priority, may be elevated in importance if they are enablers of other, important projects.

The economic, socio-economic and environmental impacts also represent impact lenses that casts an important perspective on project impacts. There are various methods and models to determine these impacts to varying degrees of accuracy. Within a service delivery framework, it is essential that these elements be included in the prioritization process.

Lastly and very importantly, the spatial alignment of a project to a municipality's strategic or political objectives needs to be included in prioritization process. The assumption is often erroneously made that these spatial aspects are adequately captured by the IDP process. The reality is however more complex and dynamic. Spatial priorities are often revealed throughout the IDP cycle by new processes such as the development of Strategic Development Frameworks (SDFs).

## 1.2 Purpose of the Capital Prioritisation Model

The Capital Prioritisation Model (CPM) of the City of Tshwane is a systematic and objective methodology that provides a way to sort a diverse set of capital needs or projects into an order of importance based on each capital need / project's alignment to the strategic, spatial, developmental, social, economic, environmental and financial objectives of the municipality. The CPM identifies each project's relative importance by deriving a numerical value representative of the project's priority.

The CPM provides a means for ranking capital needs / projects based on criteria that are the most important to focus on first in terms of meeting the city's overarching developmental objectives and strategies. This also assists in promoting co-ordinated and aligned departmental planning and budgeting.

Project prioritisation can therefore be described as a process for assessing a project against a number of variables such as, economic, social, environmental, legislative and financial variables, in order to determine a capital project's alignment with or contribution to such variables. It provides for a systematic and objective assessment of an ongoing or completed project. All the impacts associated

with a capital project are identified, and where possible, costs and benefits valued in monetary terms, so as to ensure that project prioritised and selected for implementation by city will provide the maximum net benefit to the community, economy and environment – the balancing effect.

## 1.3 CPM Mathematical Framework

Any prioritisation process should be easy to understand and interpret whilst allowing for accessibility and input by its users on any level of detail required. Given the diverse range of different departments and divisions within the municipality and the divergent needs stemming from each, it was deemed essential that the methodology lends itself towards participation and allows for easy calibration by key decision makers.

To fully take into account all factors relevant in deciding which projects to receive priority, the utility analysis method is used that takes all the relevant system constraints into account.

*"Utility analysis is in effect a semi-quantitative means of 'trading off' the effects of implementing any given scheme, that is, the relative desirability of achieving a given set of goals and objectives and the degree to which this target system is fulfilled, are combined to give a measure of how far each scheme will go in meeting all or any of the goals and objectives, and so provides the answer to the question of effectiveness of the scheme. The distinguishing feature of utility analysis is that it can handle financial, quantitative and qualitative effects simultaneously. Consequently, all of the impacts or effects of a project which can be envisaged can be included in the analysis." – Evaluation of Transportation Projects – Utility Analysis; JV Baxa; January 1981; CSIR.*

A utility analysis or multi-criteria analysis provides a structured input for the decision-maker. It provides an indication to the overall effectiveness with which alternatives will satisfy the complex target system. The process begins by defining the problem in a structured way. As already mentioned, the problem definition can incorporate diverse inputs which covers quantitative, qualitative and spatial factors. Firstly, certain goals that should ultimately be addressed, must be established. For each of these goals, relevant objectives then must be established. Each objective requires a specific input, which will be modelled based on a predetermined method or value function, to provide an output.

The following basic steps apply:

- Define the relative preferences for each goal that was set out;
- Define relative preferences for each objective that was set out, and;
- Weigh each criterion that was set up to reflect their relative importance.

By following these steps, each alternative can be 'scored' to attain a measurement of performance that can be translated into a number of points. The points system with which each criterion is weighted, as indicated on the matrix of utilities, is a number between 0 and 100.

The complexity of the number of issues that had to be taken into account in the model from the city's point of view, required that the model methodology had to be adapted to allow for more than one level of "objectives". Importantly, these objectives all contribute towards a fundamental set of goals. These goals possess of the ability to influence the way in which projects will be rated rather dramatically. The benefit of this is that the city now has the ability to fix the fundamental considerations on this level, to ensure that it manifests in prudent financial management whilst still ensuring that the radical transformation as contained in the various city strategies, manifests itself at this level. Figure 1-1 shows the basic structure of the CPM. Detail descriptions and calculations for actual criteria that are used in the CPM are discussed later in this section.

The application of this methodology in the Capital Planning and Prioritisation System (CAPS) had to find a balance between complexity and simplicity. This is required to ensure participation in the process by a very broad range of departments and divisions within departments. Not all departments

are technically focussed to the same level of sophistication – as is the case with the infrastructure departments. It is therefore necessary to find criteria and measurements that do not exclude such department.

This approach offers a significant advantage in that the “principles” of prioritisation becomes important debating points, instead of individual merits projects. Projects emanating from different departments do not have “common ground” to enable a meaningful one-to-one comparison. Using this model though, provides a platform where all projects, irrespective of their origin or sophistication, is subjected to the same principles.

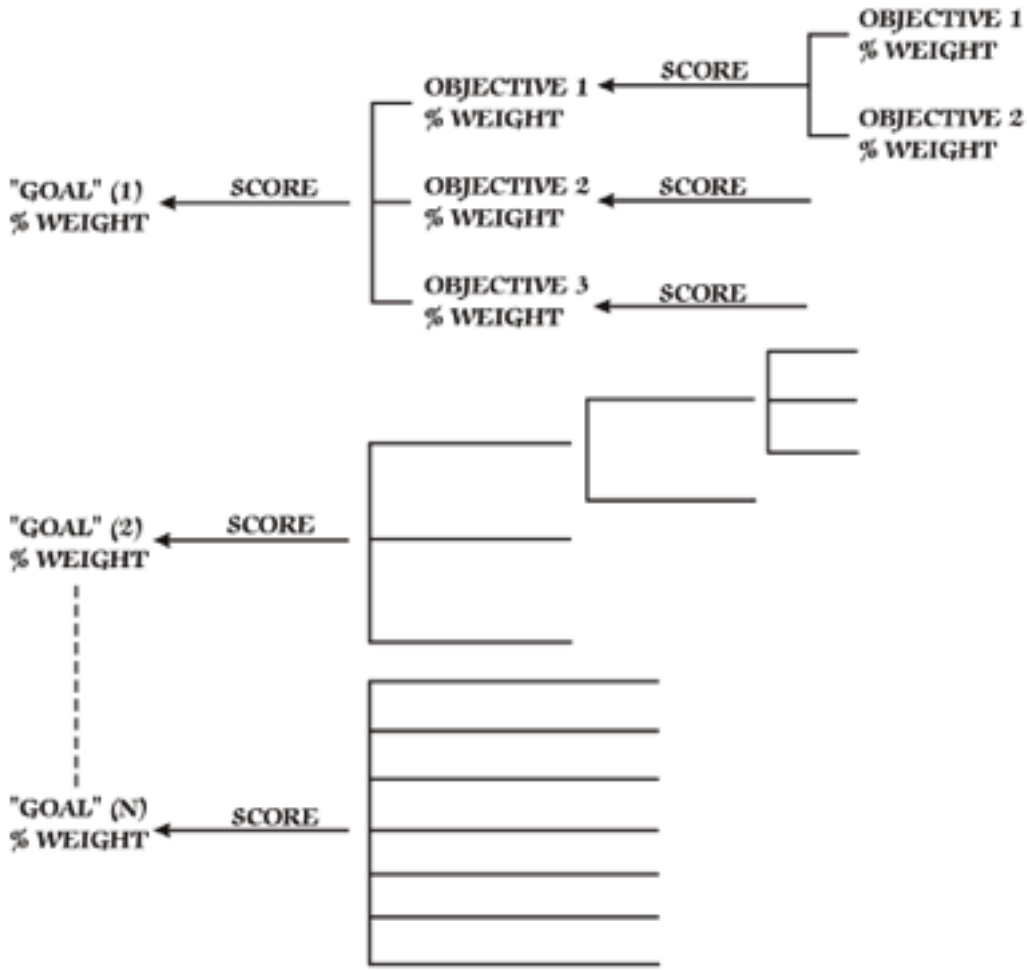



Figure 1-1: CPM Mathematical Framework

## 1.4 CPM High-level Structure

The CPM structure has been divided into two main parts (refer to Figure 1-2), namely:

- Model criteria measuring alignment to city strategies
- Model criteria measuring project implementation readiness.

The percentage weight distribution between the two main model branches is 90% for the strategic alignment model and 10% for project implementation readiness. Refer to Section 1.5.1 for an outline and description of the implementation readiness component of the CPM.

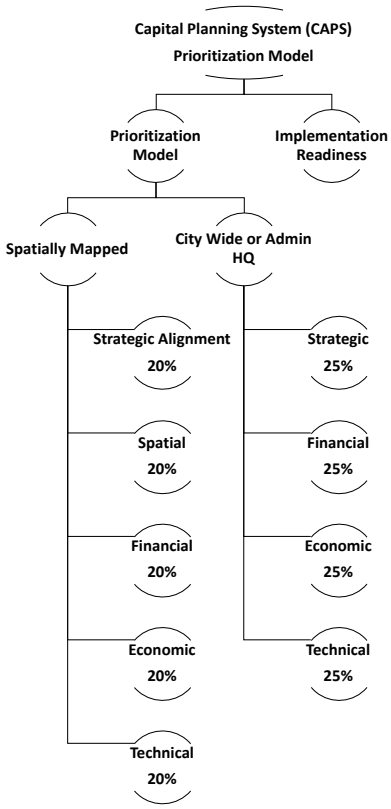



Figure 1-2: CPM High Level Structure

The CPM structure allows for projects to be scored between two mutually exclusive branches (Refer to Figure 1-2) namely:

- Spatially Mapped
- City Wide projects or projects relating to administrative headquarters (Admin HQ)

These two model branches are mutually exclusive, which means that a project can only pass through one of the two branches and can never be scored on both branches. Projects which have spatial locations (i.e. geo-referenced works locations and affected or beneficiary areas) are evaluated through the "Spatially Mapped" branch of the model, whereas unmapped projects marked under the MSCOA regional segment as "City Wide" or "Admin HQ" are evaluated through the "City Wide / Admin HQ" branch of the model. This distinction is made so that City Wide and Admin HQ projects are not substantially penalised under the "Spatial" branch of the prioritisation model – given that they cannot score on spatial measurement criteria.

Once it has been determined whether a project is spatially mapped or City Wide/Admin HQ, the project evaluation takes place according to the following thematic categories or goals:

- Strategic alignment
- Spatial alignment
- Financial alignment
- Economic alignment
- Technical alignment

It is evident from the high-level tree structure above (refer to Figure 1-2) that the "Spatial alignment" theme is only utilised under the "Spatially Mapped" scorecard.

## 1.5 CPM Detail Structure

### 1.5.1 Implementation Readiness

The implementation readiness branch forms part of the two main components of the CPM. Implementation readiness determines the status of a project when requesting capital budget for

project implementation. By measuring the implementation readiness, the CPM ensures that projects will be able to spend the allocated budget for a specific financial year because all legislative, regulatory and procedural (i.e. stage gate) requirements for the project have been met.

The implementation readiness branch is designed to measure a number of project readiness questions, which then determines the overall branch score on a project specific level. If a project is ready to implemented the project will receive an elevated score. Alternatively, if project readiness information was not completed or indicates that a project is not ready for implementation owing to outstanding legislative, regulatory or procedural requirements, the project will be penalised with a lower branch score. Refer to

Table 1-1 for the input variables and mathematical operator used to calculate the implementation readiness component. Figure 1-3 below indicates the structure of the implementation readiness branch.

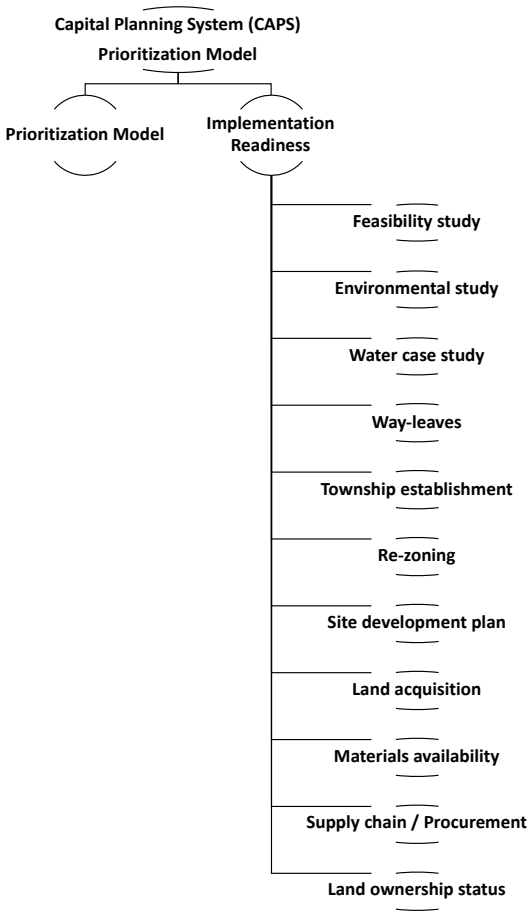
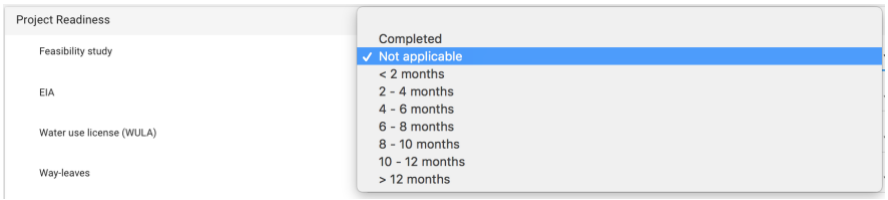



Figure 1-3: Implementation Readiness Structure

Table 1-1: Implementation Readiness

| Category | Description |
|---|---|
| Definition | The project readiness criteria seek to determine whether a project will be in a position to spend the allocated budget within the financial year in which the budget is requested. In other words, if a project still needs a Record of Decision (ROD) on an Environmental Impact Assessment once the project budget has been awarded to the project, it may take between 6-8 months for the record of decision to be finalised. Therefore, the project will only realistically be able to start during the 2nd or 3rd quarter of the financial year. Projects with outstanding project readiness criteria are therefore penalised over projects that have all compliance documentation and approvals in place. |

| Category | Description |
|---|---|
| | |
| Branch Weight | Implementation Readiness -> 10% |
| Input Variables | A number of project readiness question categories are required to be filled in for each project, namely:<br>• Feasibility study<br>• Environmental Impact Assessment (EIA)<br>• Water use license (WULA)<br>• Way-leaves<br>• Township establishment<br>• Rezoning<br>• Site development plan<br>• Land acquisition<br>• Ownership status<br>• Materials availability<br>• Supply chain / procurement<br>• Project readiness comment / motivation<br>• Geotechnical Study<br>Evidence of completion or compliance to any of these project readiness categories required documentation to be uploaded to the system as proof. |
| Process | The readiness score of a project is calculated as the minimum score achieved across all project readiness questions. Each of the project readiness categories allow for a standard set of responses, namely:<br>• Duration of time to meet compliance: < 2 months = 100<br>• Duration of time to meet compliance: 2 - 4 months = 90<br>• Duration of time to meet compliance: 4 - 6 months = 80 |

| Category | Description |
|---|---|
| | • Duration of time to meet compliance: 6 - 8 months = 50<br>• Duration of time to meet compliance: 8 - 10 months = 30<br>• Duration of time to meet compliance: 10 - 12 months = 10<br>• Duration of time to meet compliance: > 12 months = 0<br>• Duration of time to meet compliance: Completed = 100<br>• Duration of time to meet compliance: Not applicable = 100<br>An example of the question categories and drop-down selections on the system is shown below:<br>  |
| Mathematical Operator | Minimum value achieved by the project achieved across all branches is passed through to the parent scoring branch. This is because project readiness is a compliance or governance test, so if for example and EIA is still required, the score of the project should be penalised, hence the minimum value is carried over. |

### 1.5.2 CPM Criteria

The CPM organisational alignment criteria will be discussed in more detail under the five (5) thematic categories or goals, namely:

- Strategic alignment
- Spatial alignment
- Financial alignment
- Economic alignment
- Technical alignment

#### 1.5.2.1 *Strategic Alignment*

The strategic alignment goal or theme of the CPM evaluates the degree to which projects in the municipal capital budget aligns with the organisational policy and developmental objectives as well as strategic outcomes set out in various strategic documents of the municipality, as well as provincial and national government. The strategic alignment branch has been formulated to conform to the strategic pillars of the city, as set out in the 2017- 2021 Integrated Development Plan (IDP). Each sub-branch has been designed to include a set of elements which aim to achieve the objectives for each of the strategic pillars. The five (5) strategic pillars include:

- A City that facilitates economic growth and job creation;
- A City that cares for residents and promotes inclusivity;
- A City that delivers excellent services and protects the environment;
- A City that keeps residents safe, and;
- A City that is open, honest and responsive.

The structure of the strategic alignment branch is displayed in Figure 1-4 below.

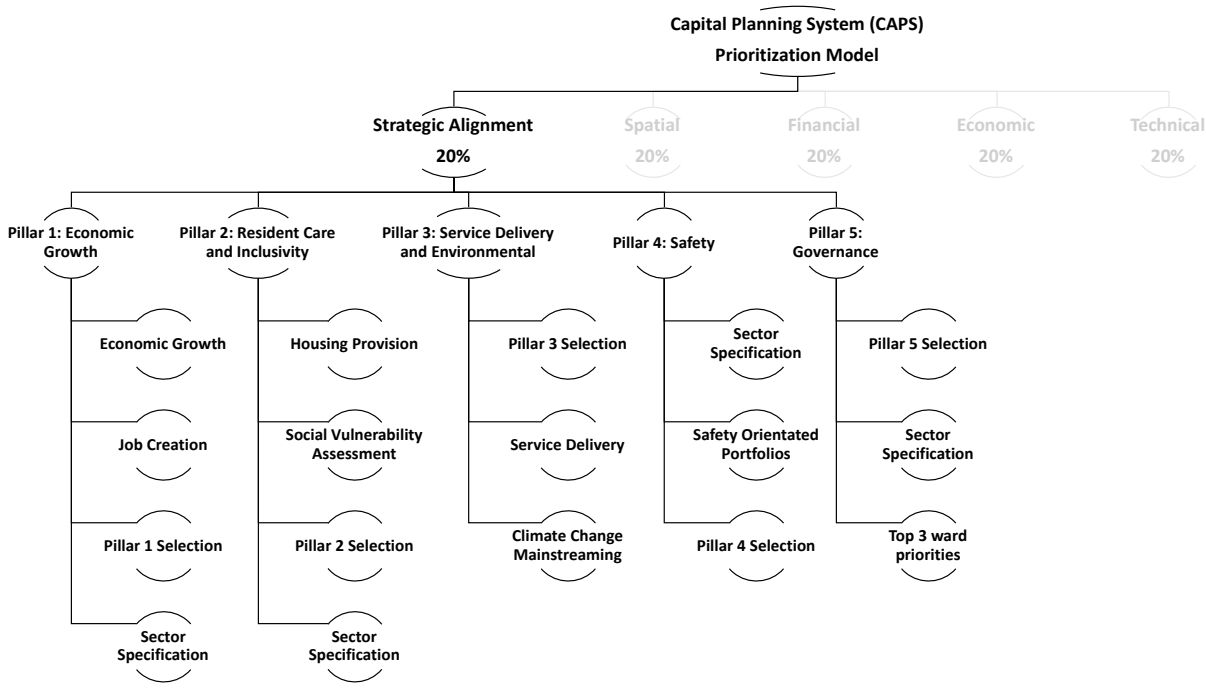



Figure 1-4: Strategic Alignment

### *1.5.2.1.1 Strategic Pillar 1 (Economic Growth and Job Creation) Alignment*

#### 1.5.2.1.1.1 Economic Growth

The criteria which forms part of the following branches have been described in Section 1.5.2.4, which forms part of the economic section of the CPM:

- Number of Beneficiaries, refer to Table 1-36: Number of Beneficiaries
- Economic Activity (Income) in terms of Gross Domestic Product (GDP), refer to Table 1-33: Economic Activity (Income) in terms of Gross Domestic Product (GDP)
- Production Output in terms of Gross Value Added (GVA at basic prices), refer to Table 1-39: Production Output – Gross Value Addition (GVA)
- Income-expenditure ratio, refer to Table 1-38: Income-expenditure ratio
- Operational Expenditure as percentage of GDP, refer to Table 1-30: Operational expenditure as % of GDP

#### 1.5.2.1.1.2 Job Creation

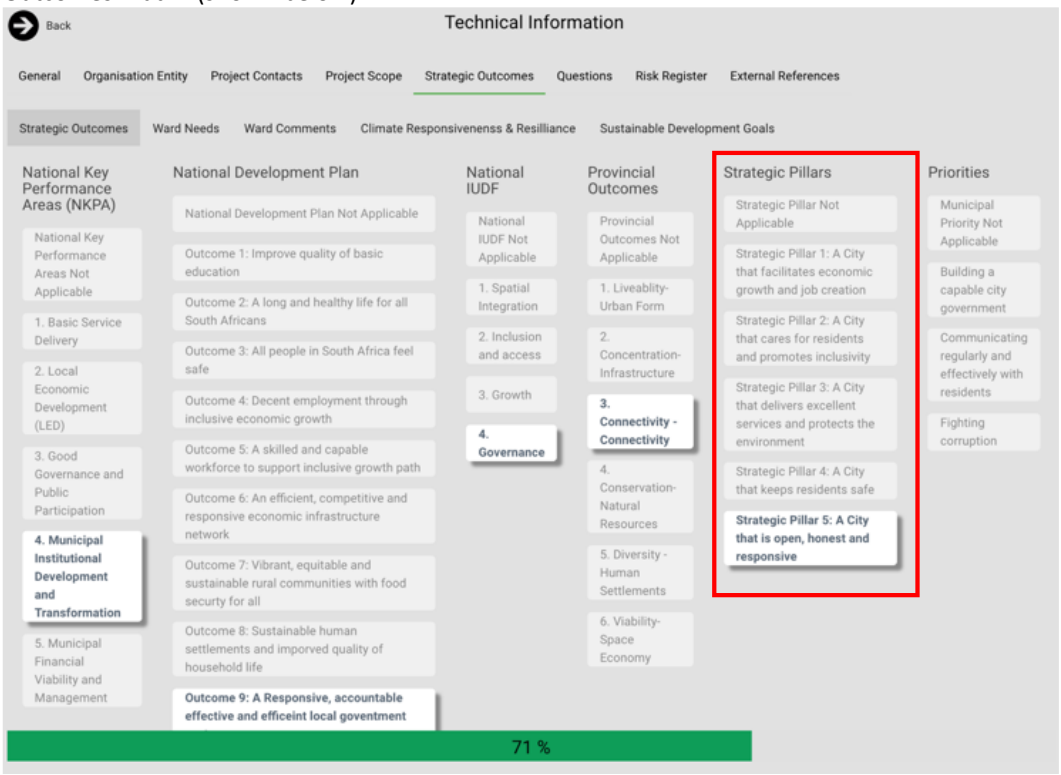
The criteria which forms part of the following branches have been described in Section 1.5.2.4, which forms part of the economic section of the CPM:

- Job Creation (Opportunities), refer to Table 1-37: Job Creation (Opportunities)
- Income per capita, refer to Table 1-34: Income per capita
- Employment (Job Absorption), refer to Table 1-40: Employment (Job Absorption)

#### 1.5.2.1.1.3 Strategic Pillar 1 Selection

Table 1-2: Strategic Pillar 1 - A City that facilitates economic growth and job creation

| Category | Description |
|---|---|
| Definition | The strategic outcomes matrix measures the alignment of a project to the various strategic outcomes pronounced on through the different spheres of government. Strategic pillars fall within the municipal sphere and forms an integral part of the IDP. The five (5) strategic pillars guide the development plans for 2017/21 and is focused towards improved quality of life for all |

| Category | Description |
|---|---|
| | citizens. Strategic Pillar 1 - "A City that facilitates economic growth and job creation" aligns to the following priorities:<br>• Attracting investment and encouraging growth;<br>• Revitalising and supporting Tshwane's entrepreneurs;<br>• Empowering individuals to take advantage of opportunities;<br>• Infrastructure-led growth, and;<br>• Encouraging tourism and recreation. |
| Branch Weight | 20% |
| Input Variables | The strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below):<br>  |
| Process | The input variable for the "Strategic Pillar 1" branch of the model is based on whether a user has selected this specific pillar as part of the strategic outcomes matrix. Once Strategic Pillar 1 is selected as relevant to a project, that project will receive a score based on the branch weight. |
| Mathematical Operator | Score value derived from a true or false test.<br>• If a project has selected "Strategic Pillar 1" (true) value = 100<br>• If "Strategic Pillar 1" has not been selected (false) value = 0. |

### 1.5.2.1.1.4 Strategic Pillar 1 Sector Specification

Table 1-3: Economic Development

| Category | Description |
|---|---|
| Definition | The purpose of sector specification is to elevate project scores for projects implemented by departments focused within the economic development space. The identification of projects within the economic space aims to address and achieve the objectives established for "Strategic Pillar 1". Only projects from the corresponding sector departments can score for this specific branch and includes Economic Development and Spatial Planning and Tshwane Economic Development Agency. |
| Branch Weight | 10% |

| Category | Description |
|---|---|
| Input Variables | The implementing department forms the scoring criteria for this particular branch. Thus, if a project is tagged as being implemented by a specific department, which corresponds with the mathematical operator, the project will receive the branch score. |
| Process | During project capturing, users tag the implementing department for each project. If the tagged implementing department corresponds with the mathematical operator, the project will receive the branch score. |
| Mathematical Operator | Score value derived from a true or false test.<br>If a project has selected "Economic Development and Spatial Planning" or "Tshwane Economic Development Agency", value = 100. |

#### *1.5.2.1.2 Strategic Pillar 2 (Resident Care and Inclusivity) Alignment*

##### 1.5.2.1.2.1 Housing Provision

Table 1-4: Targeted Housing Typologies

| Category | Description |
|---|---|
| Definition | TOD precincts have been defined in the IRPTN plan in order to identify a hierarchy of investment priority areas towards densification and mixed-use investments. TOD precincts are used to prioritise mixed-use high-density housing developments. |
| Branch Weight | The different TOD phases have been weighed differently based on the anticipated implementation phasing, therefore projects focussing on implementing a precinct associated with early implementation phases of the IRPTN will receive elevated score. The following weighting applies:<br>• Phase 1a TOD =100%<br>• Phase 1b TOD = 75%<br>• Phase 1c TOD = 50%<br>• Phase 1d TOD = 40%<br>• Phase 1e TOD = 25%<br>• Phase 1f TOD = 15% |
| Input Variables | Housing and Human Settlements projects are pre-filtered during this scoring test so that housing project works locations are used as the input to test the geographic priority area score of each project based on the IRPTN TOD shapefile provided by the municipality. A score is returned based on the spatial intersect between project works location and IRPTN TOD shapefile. |
| Process | The IRPTN TODs for the municipality is shown below. If a the spatial intersect returns more than one IRPTN TOD area intersecting with a project works location, then the maximum score between the intersects is passed to the parent branch. |

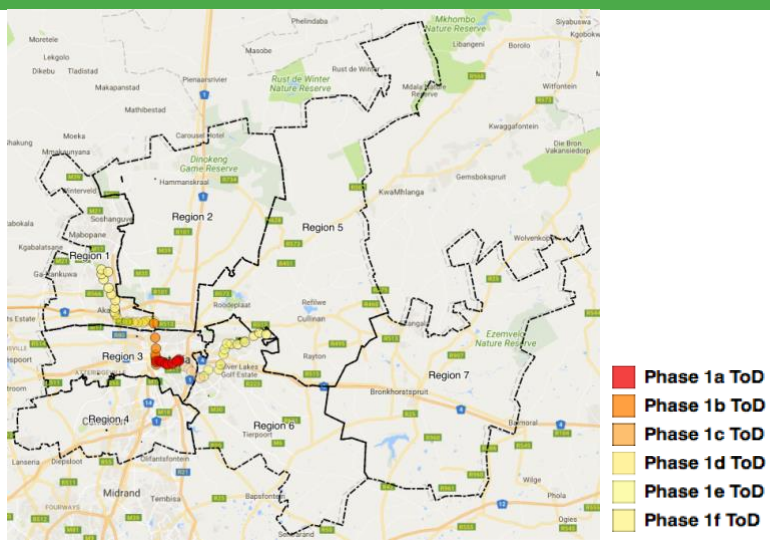
| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

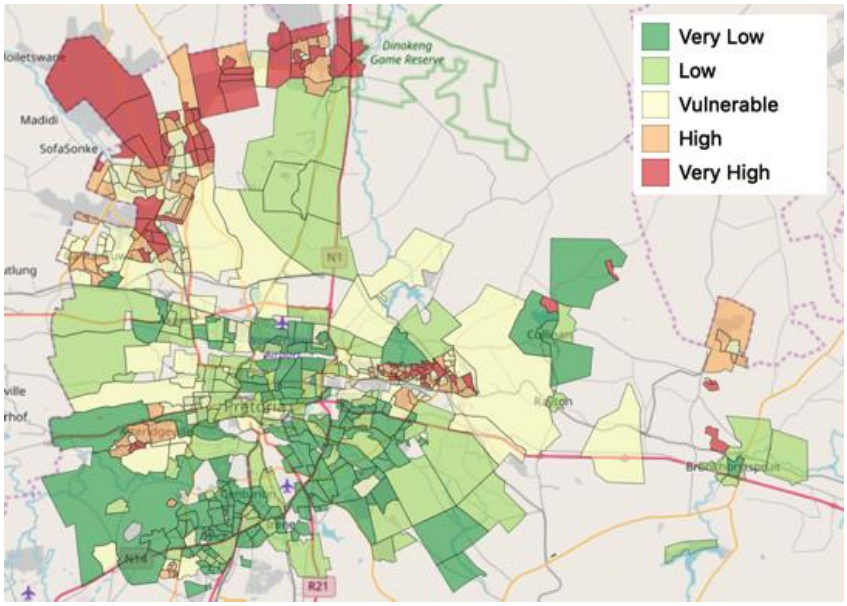
Table 1-5: Housing Projects

| Category | Description |
|---|---|
| Definition | The provision of affordable quality housing stock across a range of housing typologies and tenure options is a key focus for the City of Tshwane. Therefore, given the focus on providing new housing stock, the "Housing and Human Settlement" department is given additional priority based on the fact that they are responsible for meeting the housing stick mandate of the municipality |
| Branch Weight | 20% |
| Input Variables | Housing and Human Settlements projects are pre-filtered during this scoring test so that only housing projects receive elevated score during this test. |
| Process | All housing and human settlements project receive additional score based on their alignment with the city's mandate of housing stock provision. |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

#### 1.5.2.1.2.2 Social Vulnerability Assessment

Table 1-6: Social Vulnerability Index

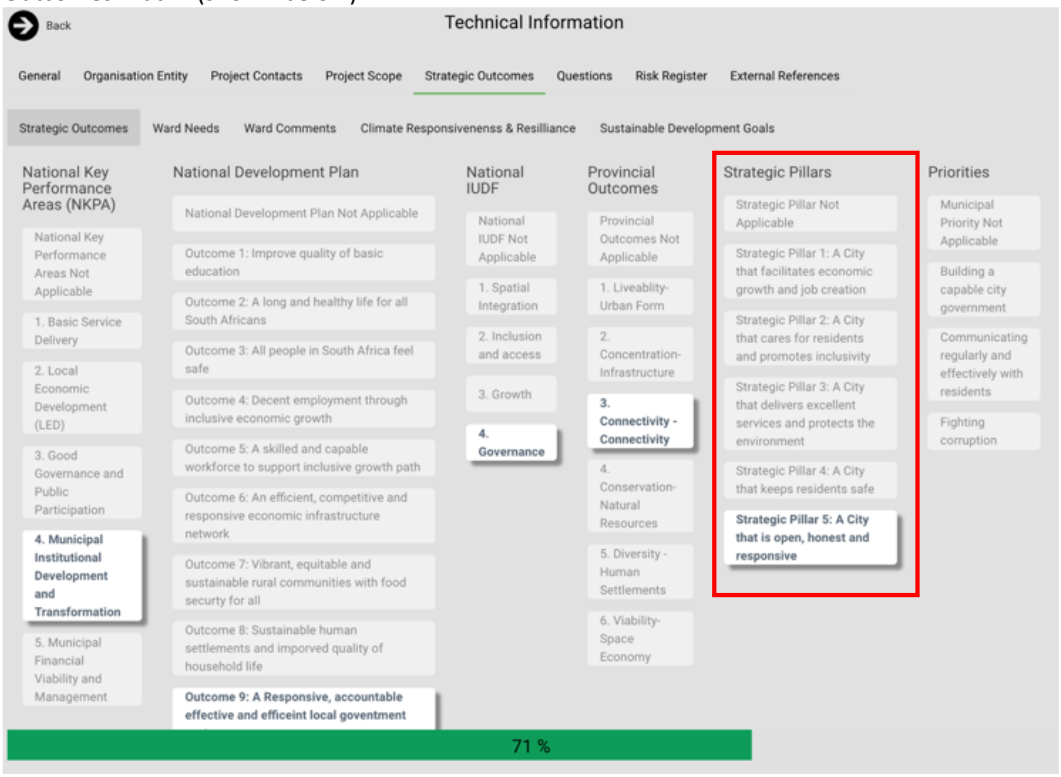
| Category | Description |
|---|---|
| Definition | The Social Vulnerability Assessment for the City of Tshwane, conducted by South African Cities for the CSU, identified areas of vulnerability regarding social, health and environmental factors. The index was designed to delineate areas of vulnerability for each of the regions and indicates social vulnerability to coping capacity. The indicators were calculated based on the following risk factors (South African Cities Network, 2014):<br>• Loss of ecosystem goods and services;<br>• Increase in energy demand;<br>• Increase in diseases affecting human and animal health;<br>• Damage to public Infrastructure;<br>• Water insecurity;<br>• Flooding and damage to human settlements and private property; |

| Category | Description |
|---|---|
| | • Increase in sinkholes in dolomite areas, and;<br>• Decrease in productivity of agro-ecosystems affecting food security. |
| Branch Weight | 35% |
| Input Variables | Project works location is used as the input to test the social vulnerability index score for each project, based on the spatial intersect/relationship between project works location and the social vulnerability index shapefile. |
| Process | The Social Vulnerability Index (SVI) for the municipality is shown below. The index has been divided into five (5) categories, per Census 2011 sub-place level, namely:<br>• Very Low (20)<br>• Low (40)<br>• Vulnerable (60)<br>• High (80)<br>• Very High (100)<br>  <br>The warmer the area (i.e. dark red) the higher the social vulnerability. Projects with works locations overlapping or intersecting areas with high levels of vulnerability, will receive elevated scores. Projects located within these areas are assumed as projects addressing the risks listed above. |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### 1.5.2.1.2.3 Strategic Pillar 2 Selection

Table 1-7: Strategic Pillar 2 - A City that cares for residents and promotes inclusivity

| Category | Description |
|---|---|
| Definition | The strategic outcomes matrix measures the alignment of a project to the various strategic outcomes pronounced on through the different spheres of government. Strategic pillars fall within the municipal sphere and forms an integral part of the IDP. The five (5) Strategic Pillars guide the development plans for 2017/21 and is focused towards improved quality of life for all citizens. Strategic Pillar 2 - "A City that cares for residents and promotes inclusivity" aligns to the following priorities:<br>• Upgrading informal settlements;<br>• Supporting vulnerable residents; |

| Category | Description |
|---|---|
| | • Building integrated communities;<br>• Promoting safe, reliable and affordable public transportation, and;<br>• Improving access to public healthcare services. |
| Branch Weight | 20% |
| Input Variables | The strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below):<br>  |
| Process | The input variable for the "Strategic Pillar 2" branch of the model is based on whether a user has selected this specific pillar as part of the strategic outcomes matrix. Once Strategic Pillar 2 is selected as relevant to a project, that project will receive a score based on the branch weight. |
| Mathematical Operator | Score value derived from a true or false test.<br>• If a project has selected "Strategic Pillar 2" (true) value = 100<br>• If "Strategic Pillar 2" has not been selected (false) value = 0. |

### 1.5.2.1.2.4 Strategic Pillar 2 Sector Specification

Table 1-8: Community and Social Focus

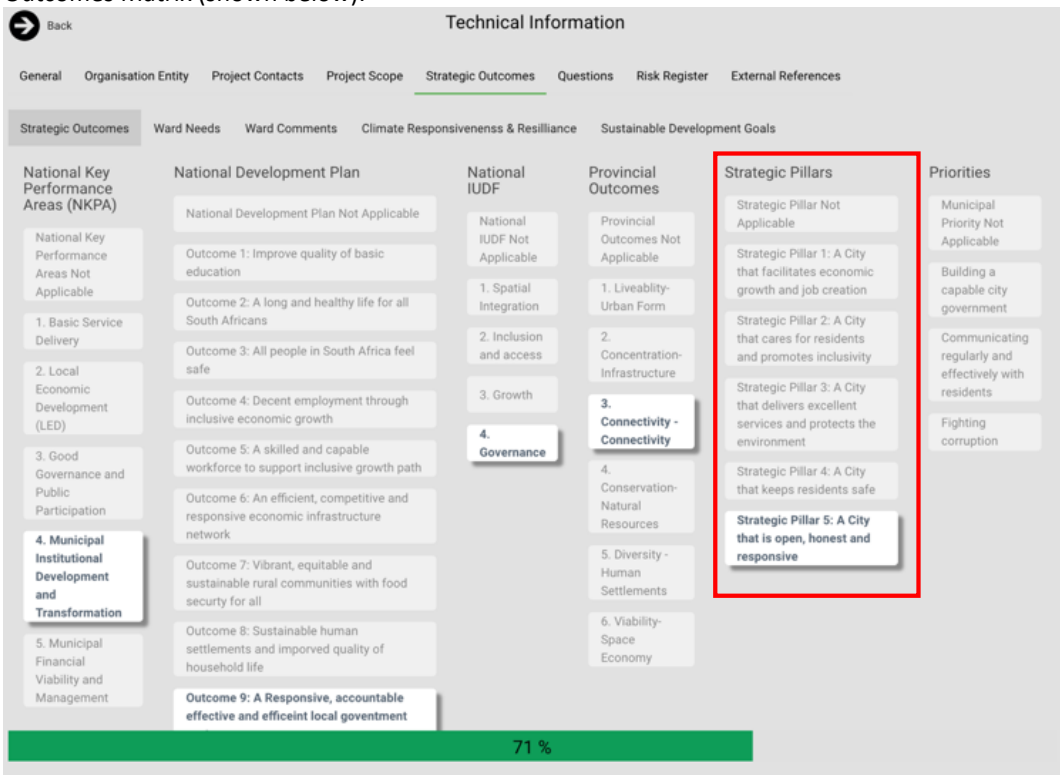
| Category | Description |
|---|---|
| Definition | The purpose of sector specification is to elevate project scores for projects implemented by departments focused within the community, social and housing space. The identification of projects within the social and community space aims to address and achieve Strategic Pillar 2. Only projects from the corresponding sector departments can score for this specific branch and includes “Social Development, Sports Recreation and Infrastructure Development”, “Housing Company Tshwane” and “Housing and Human Settlements”. |
| Branch Weight | 10% |
| Input Variables | The implementing department forms the scoring criteria for this particular branch. Thus, if a project is tagged as being implemented by a specific department, which corresponds with the mathematical operator, the project will receive the branch score. |
| Process | During project capturing, users tag the implementing department for each project. If the |

| Category | Description |
|---|---|
| | tagged implementing department corresponds with the mathematical operator, the project will receive the branch score. |
| Mathematical Operator | Score value derived from a true or false test.<br>If a project has selected "Social Development"; "Sports, Recreation and Infrastructure Development"; "Housing Company Tshwane" or "Housing and Human Settlements", value = 100. |

#### *1.5.2.1.3 Strategic Pillar 3 (Service Delivery and the Environment) Alignment*

##### 1.5.2.1.3.1 Strategic Pillar 3 Selection

Table 1-9: Strategic Pillar 3 - A City that delivers excellent services and protects the environment

| Category | Description |
|---|---|
| Definition | The strategic outcomes matrix measures the alignment of a project to the various strategic outcomes pronounced on through the different spheres of government. Strategic Pillars fall within the municipal sphere and forms an integral part of the IDP. The five (5) Strategic Pillars guide the development plans for 2017/21 and is focused towards improved quality of life for all citizens. Strategic Pillar 3 - "A City that delivers excellent services and protects the environment " aligns to the following priorities:<br>• Delivering high-quality services;<br>• Safeguarding water and energy security and protecting the natural environment, and;<br>• Ensuring agriculture and rural development. |
| Branch Weight | 20% |
| Input Variables | The strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below):<br>  |
| Process | The input variable for the "Strategic Pillar 3" branch of the model is based on whether a user has selected this specific pillar as part of the strategic outcomes matrix. Once Strategic Pillar 3 is selected as relevant to a project, that project will receive a score based on the branch weight. |
| Mathematical | Score value derived from a true or false test. |

| Category | Description |
|---|---|
| Operator | • If a project has selected "Strategic Pillar 3" (true) value = 100<br>• If "Strategic Pillar 3" has not been selected (false) value = 0. |

#### 1.5.2.1.3.2 Service Delivery

Table 1-10: Deprivation Areas

| Category | Description |
|---|---|
| Definition | Deprivation Index was prepared for the city, which serves to elevate project scores which impact underserviced areas as described in the National Treasury UNS. The Deprivation Index is a spatial layer calculated from Statistics South Africa data at small area level from the Census 2011 data, which provides an indication of the level of impoverishment or lack of access to basic services across the municipality. The Deprivation Index considers the following indicators:<br>• Household Income (25%)<br>• Household Size (5%)<br>• Household Dwelling Type (5%)<br>• Household Cooking (10%)<br>• Household Heat (5%)<br>• Household Light (5%)<br>• Household Piped Water (20%)<br>• Household Toilet (20%)<br>• Household Refuse Disposal (5%) |
| Branch Weight | 50% |
| Input Variables | Project works location is used as the input to test the deprivation index score of each project based on the deprivation layer or area returned, following a spatial intersect calculation between project works location and the deprivation index shapefile. |
| Process | The Deprivation Index for municipality is shown below. The warmer the area (i.e. dark red) the higher the deprivation index value and consequently the level of poverty or lack of access to basic services. Projects with works locations overlapping or intersecting with areas with low levels of service delivery will receive elevated score. |

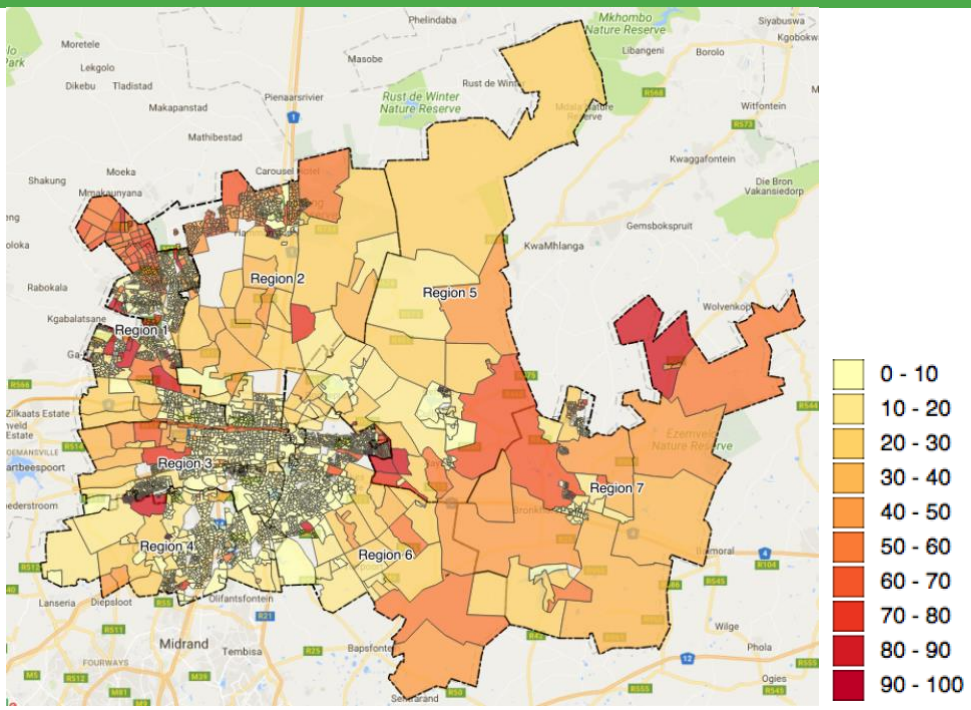
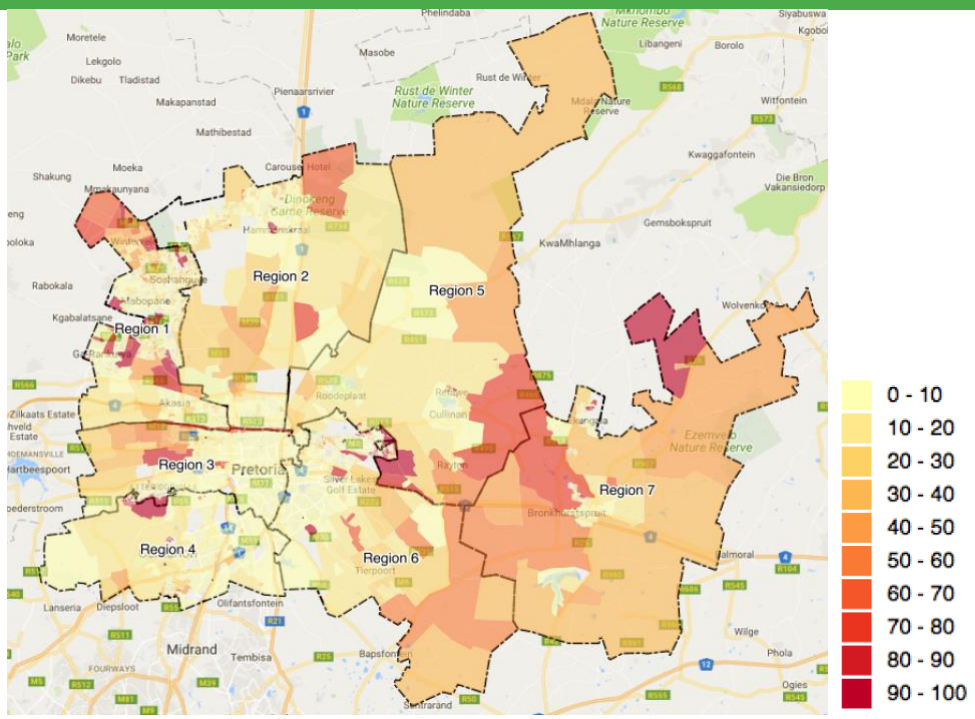
| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

Table 1-11: Focus on Basic Infrastructure

| Category | Description |
|---|---|
| Definition | The purpose of the sector maps or infrastructure hotspot maps is to elevate project scores for infrastructure departments for infrastructure projects, by sector, which respond to sectoral infrastructure pressure points or demands. Only projects from the corresponding sector department can score on the corresponding sectoral spatial layer (i.e. a water project cannot score on an electricity hotspot layer, however it will score on a water hotspot layer). |
| Branch Weight | Departmental Hotspot Maps -> 50% |
| Input Variables | Project works location is used as the input to test the alignment of each project, provided it belongs to the corresponding sector or department, with the sector map or department infrastructure hotspot map shapefile provided by the municipality. A score is returned based on the spatial intersect between project works location and sector / infrastructure hotspot shapefile. |
| Process | The following sector or departmental infrastructure hotspot maps have been created based on Statistics South Africa Census 2011 information at a small area level and the corresponding scoring layers are as follows:<br>• Water and Sanitation<br>• Energy<br>A typical example of a electricity sector or departmental infrastructure hotspot map is shown below: |

| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Maximum value achieved by the project across all branches is passed through to the parent scoring branch. |

### 1.5.2.1.3.3 Climate Change Mainstreaming

Table 1-12: Environmental Project

| Category | Description |
|---|---|
| Definition | Sustainability, environmental protection and climate resilience are key focus areas for the City of Tshwane given that the city is a signatory to the C40 Cities of the world. C40 is a network of the world's megacities committed to addressing climate change. C40 supports cities to collaborate effectively, share knowledge and drive meaningful, measurable and sustainable action on climate change.<br>Therefore, given the focus on environmental protection and sustainability, the "Environmental Management" department is given additional priority based on the fact that they are responsible for meeting the sustainability, environmental protection and climate resilience mandate of the municipality. |
| Branch Weight | 20% |
| Input Variables | Environmental Management projects are pre-filtered during this scoring test so that only environmental projects receive elevated score during this test. |
| Process | All environmental management projects receive additional score based on their alignment with the city's mandate of sustainability, environmental protection and climate resilience. |

| Category | Description |
|---|---|
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

Table 1-13: Climate Resilience and Responsiveness

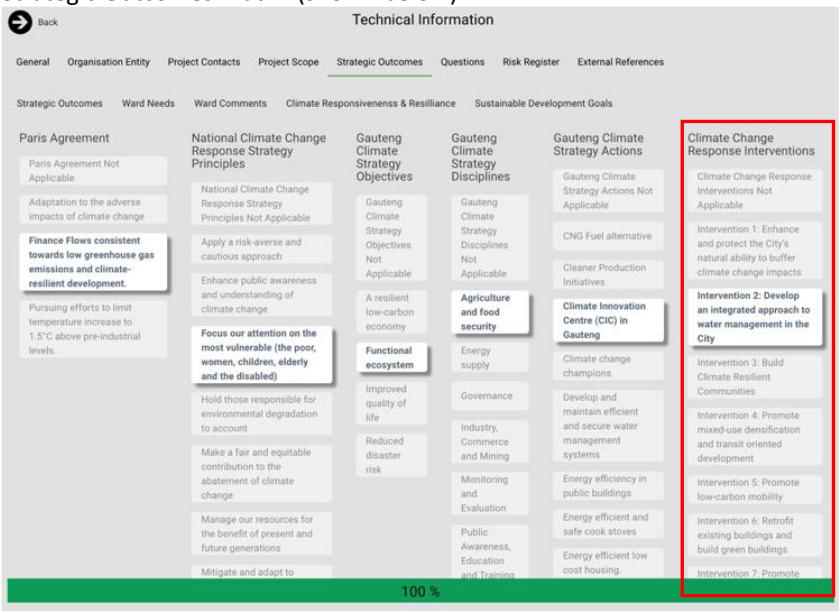
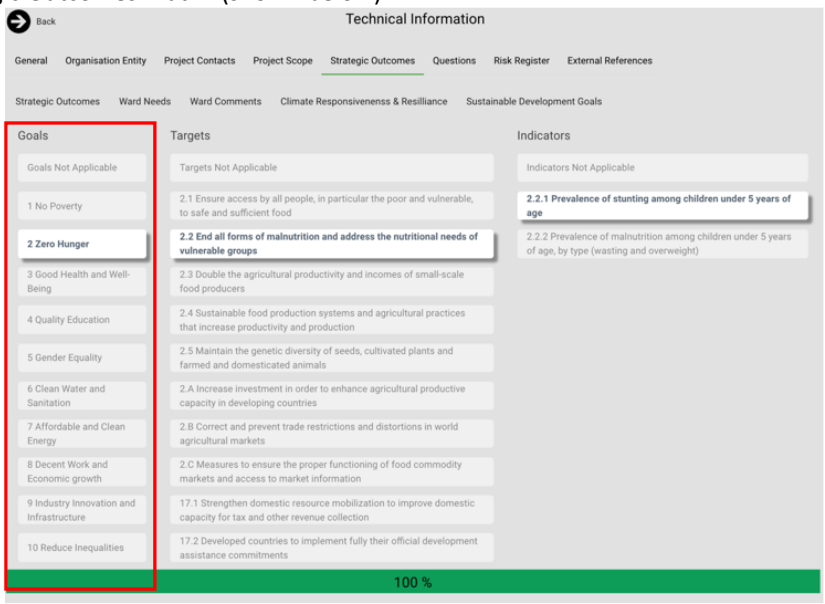
| Category | Description |
|---|---|
| Definition | The Climate Resilience and Responsiveness (CR&R) strategic outcomes matrix measures the alignment of a project to the various Climate Change focus areas pronounced through different spheres of government. These outcomes have been based on adaptation and mitigation measures identified from an International level down to a municipal level, with the goal of reducing carbon emissions and reaching the global warming reduction target as set out through the Paris Agreement. The following strategic principles informed the CR&R strategic outcomes matrix:<br>• International: The Paris Agreement;<br>• National: National Climate Change Response White Paper (2011);<br>• Provincial: Gauteng Climate Change Response Strategy (2011), and;<br>• Municipal: City of Tshwane Climate Response Strategy.<br>Although the CR&R strategic outcomes matrix measures targets from different spheres of government, only the Municipal Climate Response Interventions have been included. The documents referred to above have been incorporated into the identification of the ten (10) intervention areas. |
| Branch Weight | 40% |
| Input Variables | The CR&R strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below):<br>  |
| Process | Given that the Municipal Climate Response Strategy do not have different weights of importance assigned to each of the ten (10) interventions, projects have been scored equally. Thus, if a project selected 1 or more of the 10 interventions, that specific project will receive an elevated score irrespective of which intervention was selected. |
| Mathematical Operator | Score value derived from true or false test. If a project has been tagged with one or more of the 10 interventions, value = 100. |

Table 1-14: United Nations Sustainable Development Goals

| Category | Description |
|---|---|
| Definition | The Sustainable Development Goals (SDG's) builds on the Millennium Development Goals (MDGs) that were set for 2015 and includes the concept of more radical transformation of countries to achieve a set of 17 Sustainability Goals. The primary objective of these goals is to provide guidance in terms of service delivery and to eradicate poverty. The SDG strategic outcomes matrix measures the alignment of a project to the various goals pronounced at the United Nations Summit in 2015, whereby countries from across the globe adopted the 2030 Agenda for Sustainable Development. The goals that were set is illustrated below (United Nations - UN 2016).<br>  |
| Branch Weight | 40% |
| Input Variables | The UN SDG's strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below):<br>  |
| Process | Given that the 2030 Agenda for Sustainable Development do not have different weights of importance assigned to each of the 17 SDGs, projects have been scored equally. Thus, if a project selected 1 or more of the 17 goals, that specific project will receive an elevated score irrespective of which goal was selected. |
| Mathematical Operator | Score value derived from true or false test. If a project has been tagged with one or more of the 17 goals, value = 100. |

### *1.5.2.1.4 Strategic Pillar 4 (A city that keeps residents safe) Alignment*

#### 1.5.2.1.4.1 Strategic Pillar 4 Sector Specification

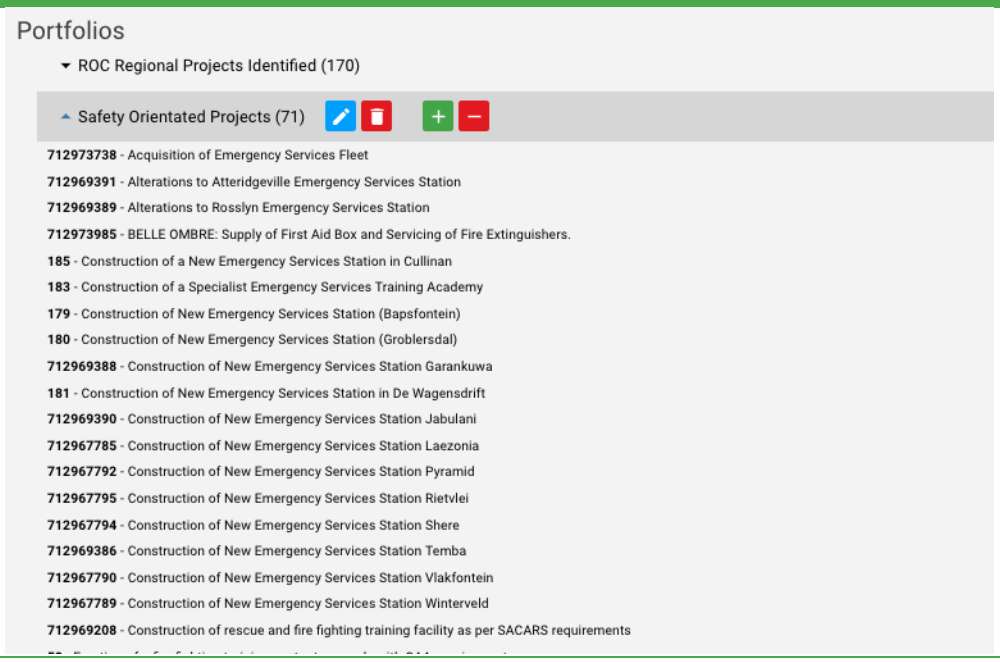
Table 1-15: Community Safety Focus

| Category | Description |
|---|---|
| Definition | The purpose of sector specification is to elevate project scores for projects implemented by departments focused within the community safety space. The identification of projects within community health and safety aims to address and achieve Strategic Pillar 4. Only projects from the corresponding sector departments can score for this specific branch and includes “Emergency Services”, “Metro Police Services” and “Health Services”. |
| Branch Weight | 10% |
| Input Variables | The implementing department forms the scoring criteria for this particular branch. Thus, if a project is tagged as being implemented by a specific department, which corresponds with the mathematical operator, the project will receive the branch score. |
| Process | During project capturing, users tag the implementing department for each project. If the tagged implementing department corresponds with the mathematical operator, the project will receive the branch score. |
| Mathematical Operator | Score value derived from a true or false test.<br>If a project has selected "Emergency Services", "Metro Police Services" or "Health Services”, value = 100. |

#### 1.5.2.1.4.2 Safety and Security Orientated Portfolios

Table 1-16: Safety and Security Orientated Portfolios

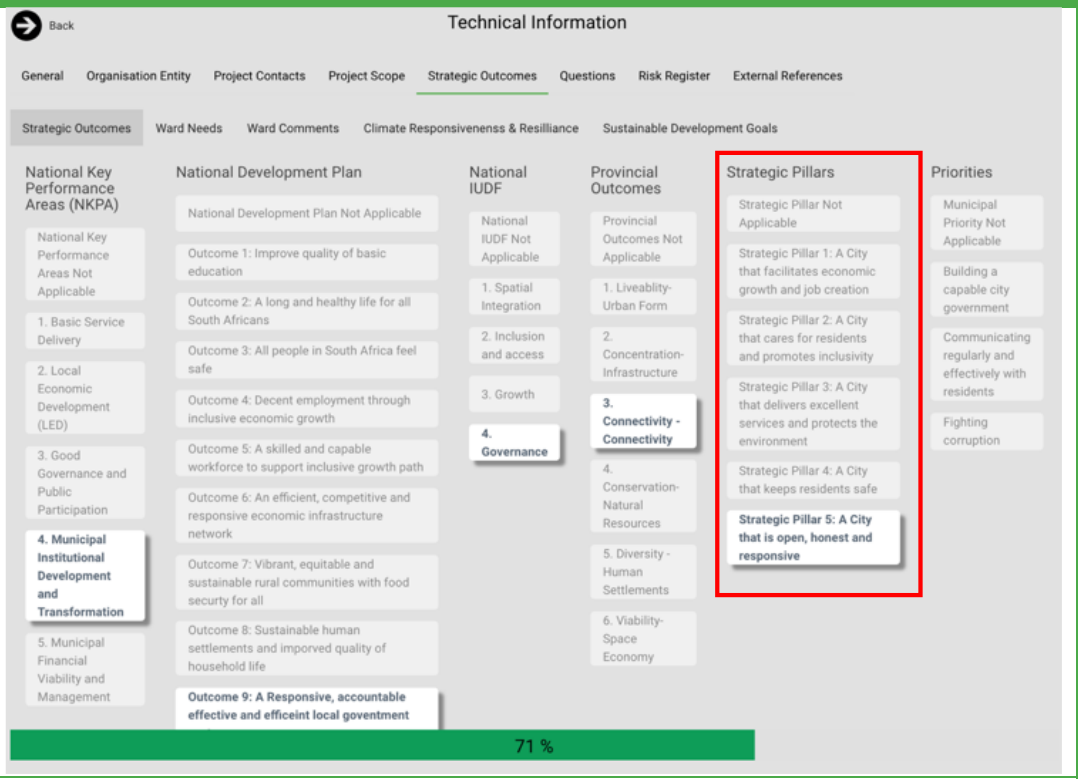
| Category | Description |
|---|---|
| Definition | The key objective of Strategic Pillar 4 is to create safe communities and to increase metro police and law enforcement presence within strategic areas. A portfolio refers to a collection of projects which share common attributes or characteristics. To achieve the objective for strategic pillar 4, projects have been grouped into “safety” and “security” portfolios. The identification criteria used to create these portfolios include the following:<br>• Projects which belong to either Metro Police Services or Emergency Services;<br>• Projects which aim to procure or upgrade security infrastructure, and;<br>• Projects which focus on community safety provision. |
| Branch Weight | 70% |
| Input Variables | The portfolio management tool allows for the grouping of projects into various portfolios. If projects have been classified into one of these targeted portfolios, those specific projects will receive an elevated score. |

| Category | Description |
|---|---|
| |  |
| Process | The portfolio management tool classifies projects into targeted portfolios. If the portfolio of projects corresponds with the mathematical operator, portfolio specific projects will receive the branch score. |
| Mathematical Operator | Score value derived from a true or false test.<br>If a project belongs to either the “Safety Orientated Projects” or “Security Orientated Projects” portfolios, value = 100. |

#### 1.5.2.1.4.3 Strategic Pillar 4 Selection

Table 1-17: Strategic Pillar 4 - A City that keeps residents safe

| Category | Description |
|---|---|
| Definition | The strategic outcomes matrix measures the alignment of a project to the various strategic outcomes pronounced on through the different spheres of government. Strategic Pillars fall within the municipal sphere and forms an integral part of the IDP. The five (5) Strategic Pillars guide the development plans for 2017/21 and is focused towards improved quality of life for all citizens. Strategic Pillar 4 - "A City that keeps residents safe" aligns to the following priorities:<br>• Creating safe communities;<br>• Addressing drug abuse, and;<br>• Protecting communities from disaster. |
| Branch Weight | 20% |
| Input Variables | The strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below): |

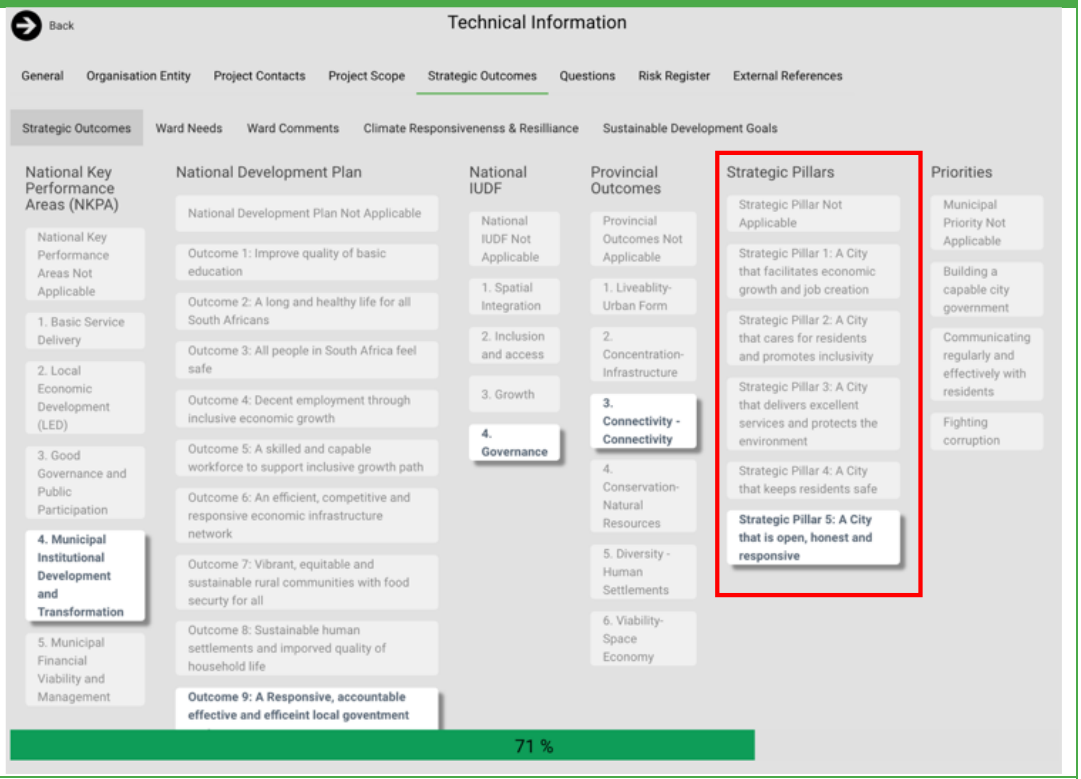
| Category | Description |
|---|---|
| |  |
| Process | The input variable for the "Strategic Pillar 4" branch of the model is based on whether a user has selected this specific pillar as part of the strategic outcome's matrix. Once Strategic Pillar 4 is selected as relevant to a project, that project will receive a score based on the branch weight. |
| Mathematical Operator | Score value derived from a true or false test.<br>• If a project has selected "Strategic Pillar 4" (true) value = 100<br>• If "Strategic Pillar 4" has not been selected (false) value = 0. |

### *1.5.2.1.5 Strategic Pillar 5 (A City that is open, honest and responsive) Alignment*

#### 1.5.2.1.5.1 Strategic Pillar 5 Selection

Table 1-18: Strategic Pillar 5 - A City that is open, honest and responsive

| Category | Description |
|---|---|
| Definition | The strategic outcomes matrix measures the alignment of a project to the various strategic outcomes pronounced on through the different spheres of government. Strategic Pillars fall within the municipal sphere and forms an integral part of the IDP. The five (5) Strategic Pillars guide the development plans for 2017/21 and is focused towards improved quality of life for all citizens. Strategic Pillar 5 - " A City that is open, honest and responsive" aligns to the following priorities:<br>• Building a capable city government;<br>• Fighting corruption, and;<br>• Communicating regularly and effectively with residents. |
| Branch Weight | 20% |
| Input Variables | The strategic outcomes matrix should be populated for each project using the Strategic Outcomes Matrix (shown below): |

| Category | Description |
|---|---|
| |  |
| Process | The input variable for the "Strategic Pillar 5" branch of the model is based on whether a user has selected this specific pillar as part of the strategic outcome's matrix. Once Strategic Pillar 5 is selected as relevant to a project, that project will receive a score based on the branch weight. |
| Mathematical Operator | Score value derived from a true or false test.<br>• If a project has selected "Strategic Pillar 5" (true) value = 100<br>• If "Strategic Pillar 5" has not been selected (false) value = 0. |

### 1.5.2.1.5.2 Strategic Pillar 5 Sector Specification

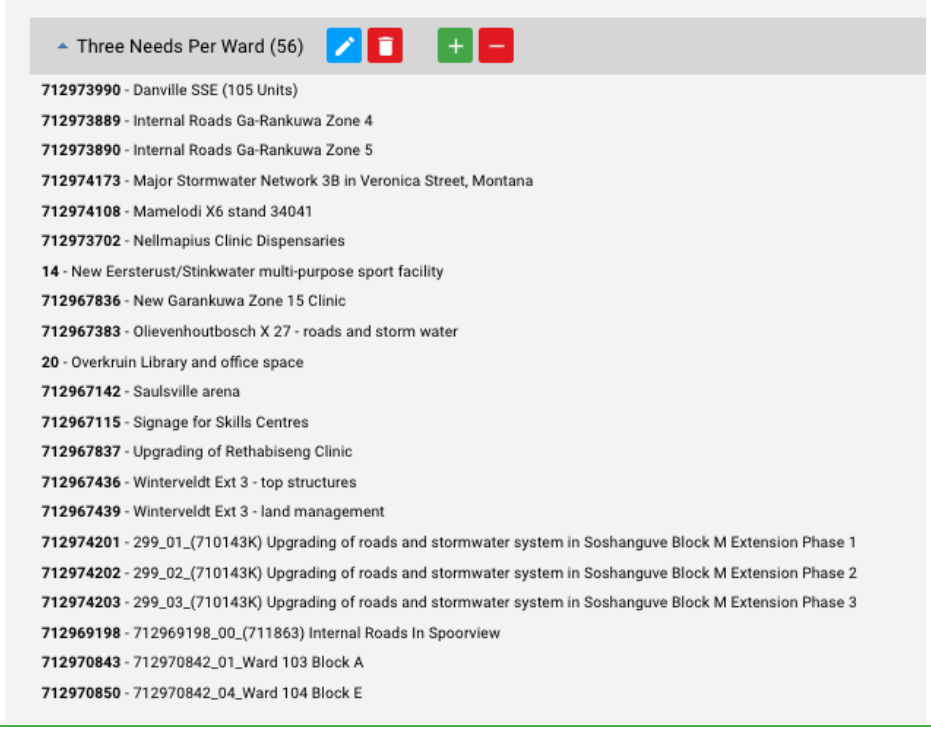
Table 1-19: Good Governance

| Category | Description |
|---|---|
| Definition | The purpose of sector specification is to elevate project scores for projects implemented by departments focused within the governance space. The identification of projects within governance aims to address and achieve Strategic Pillar 5. Only projects from the corresponding sector departments can score for this specific branch and includes the following:<br>• City Manager;<br>• Customer Relations Management;<br>• Governance and Support Services;<br>• Group Financial Services, and;<br>• Group Human Capital Management. |
| Branch Weight | 10% |
| Input Variables | The implementing department forms the scoring criteria for this particular branch. Thus, if a project is tagged as being implemented by a specific department, which corresponds with the mathematical operator, the project will receive the branch score. |
| Process | During project capturing, users tag the implementing department for each project. If the tagged implementing department corresponds with the mathematical operator, the project will receive the branch score. |

| Category | Description |
|---|---|
| Mathematical Operator | Score value derived from a true or false test.<br>If a project has selected either one of the departments listed above as the implementing department, value = 100. |

#### 1.5.2.1.5.3 Top 3 priorities per ward

Table 1-20: Top 3 priorities per ward

| Category | Description |
|---|---|
| Definition | During the 2016/17 and 2017/18 IDP formulation process, issues were raised by ward councillors during the community engagement process. These issues have been prioritised to indicate three (3) priority issues per ward, which have been formalised for the next five (5) years. The identification of projects which speak to these ward priorities align with the aims of Strategic Pillar 5. A portfolio of projects which address the top three (3) ward priorities have been identified for inclusion into the model. |
| Branch Weight | 70% |
| Input Variables | The portfolio management tool allows for the grouping of projects into various portfolios. If projects have been classified into one of these targeted portfolios, those specific projects will receive an elevated score.<br>  |
| Process | The portfolio management tool classifies projects into targeted portfolios. If the portfolio of projects corresponds with the mathematical operator, portfolio specific projects will receive the branch score. |
| Mathematical Operator | Score value derived from a true or false test. If a project belongs to the “Three Needs Per Ward” portfolio, value = 100. |

### 1.5.2.2 *Spatial Alignment*

The spatial alignment goal or theme of the prioritisation model evaluates the degree to which projects in the municipal capital budget aligns with the SDF and other spatial targeting objectives set out in various strategic documents of the municipality (i.e. IDP, RSDF, BEPP, CIF etc.). The alignment of projects to the spatial targeting areas of the municipality are scored according to the following criteria:

- Public Transport Corridors;
  - IRPTN Corridors
  - TOD Precincts
- Urban Cores;
- Specialised Nodes;
- MSDF Nodal Hierarchy;
- BEPP Economic Development Priority Quadrants, and;
- Technical Backlogs and Pressure Areas

These criteria measured under these sub-branches seek to ensure that projects within the municipal budget align with the spatial structure or spatial development objectives of the municipality.

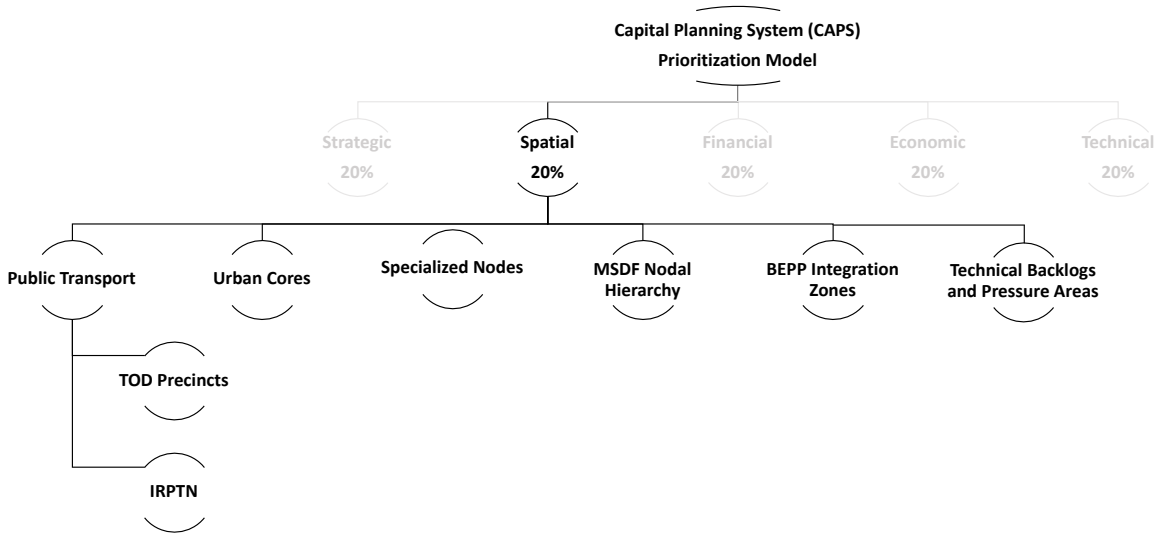


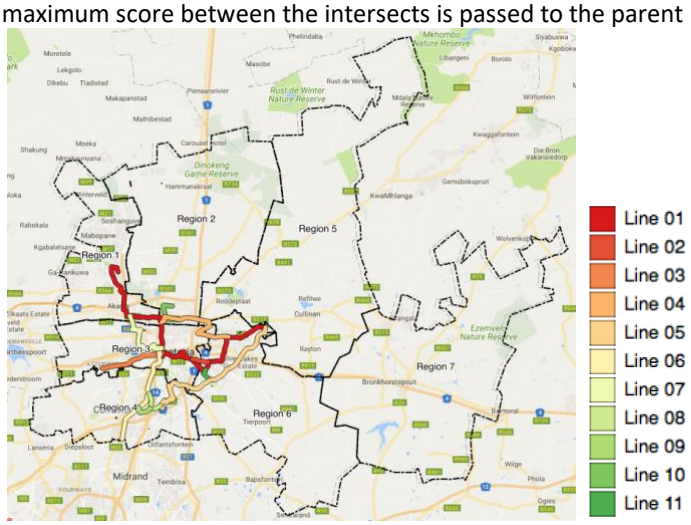

Figure 1-5: Spatial Alignment

The criteria which forms part of the following branches have been described in previous sections:

- Public Transport - TOD Precincts were used as a proxy for calculating Housing Typologies described in Section 1.5.2.1.2, refer to Table 1-4: Targeted Housing Typologies.
- Technical Backlogs and Pressure Areas were used as a proxy for establishing the focus on Basic Infrastructure described in Section 1.5.2.1.3, refer to Table 1-11: Focus on Basic Infrastructure.

### *1.5.2.2.1 Public Transport*

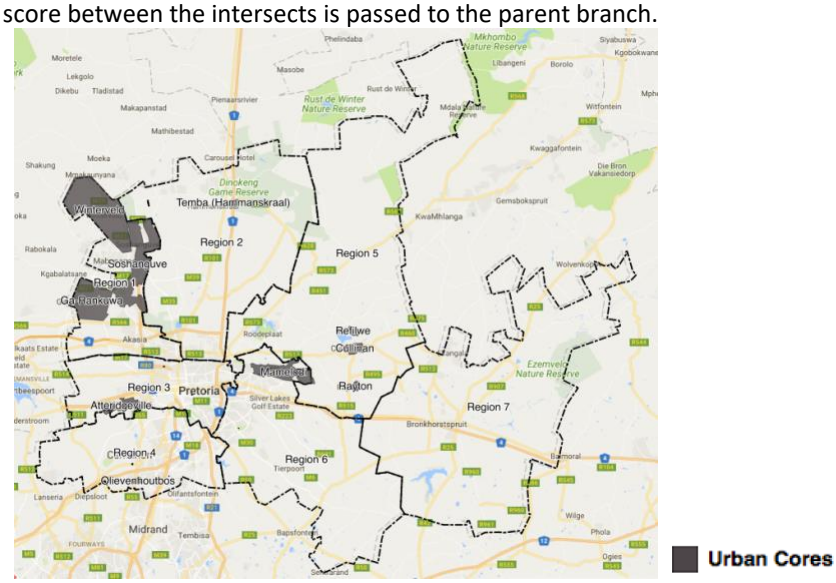
Table 1-21: Public Transport – IRPTN Corridors

| Category | Description |
|---|---|
| Definition | IRPT corridors have been defined in the IRPTN plan in order to identify a hierarchy of investment priority areas towards densification and mixed-use investments along public transport routes. Numerous phases for the IRPT corridors have been identified based on the roll-out phasing of the IRPTN. Projects are scored based on their spatial intersect with the geographic priority areas. |
| Branch Weight | The different IRPTN corridor phases have been weighed differently based on the anticipated implementation phasing, therefore projects focussing on implementing projects along IRPTN corridors associated with early implementation phases of the IRPTN will receive elevated score. The following weighting applies:<br>• IRPTN Line 1 =100%<br>• IRPTN Line 2 = 80%<br>• IRPTN Line 4 = 60%<br>• IRPTN Line 3 = 40%<br>• IRPTN Line 5 = 20%<br>• IRPTN Lines 6 - 11 = 10% |
| Input Variables | Project works location is used as the input to test the geographic priority area score of each project based on the IRPTN Corridor shapefile provided by the municipality. A score is returned based on the spatial intersect between project works location and IRPTN Corridor shapefile. |
| Process | The IRPTN Corridor for the municipality is shown below. If a the spatial intersect returns more than one IRPTN Corridor intersecting with a project works location, then the maximum score between the intersects is passed to the parent branch.<br>  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.2.2 Urban Cores*

Table 1-22: Urban Cores

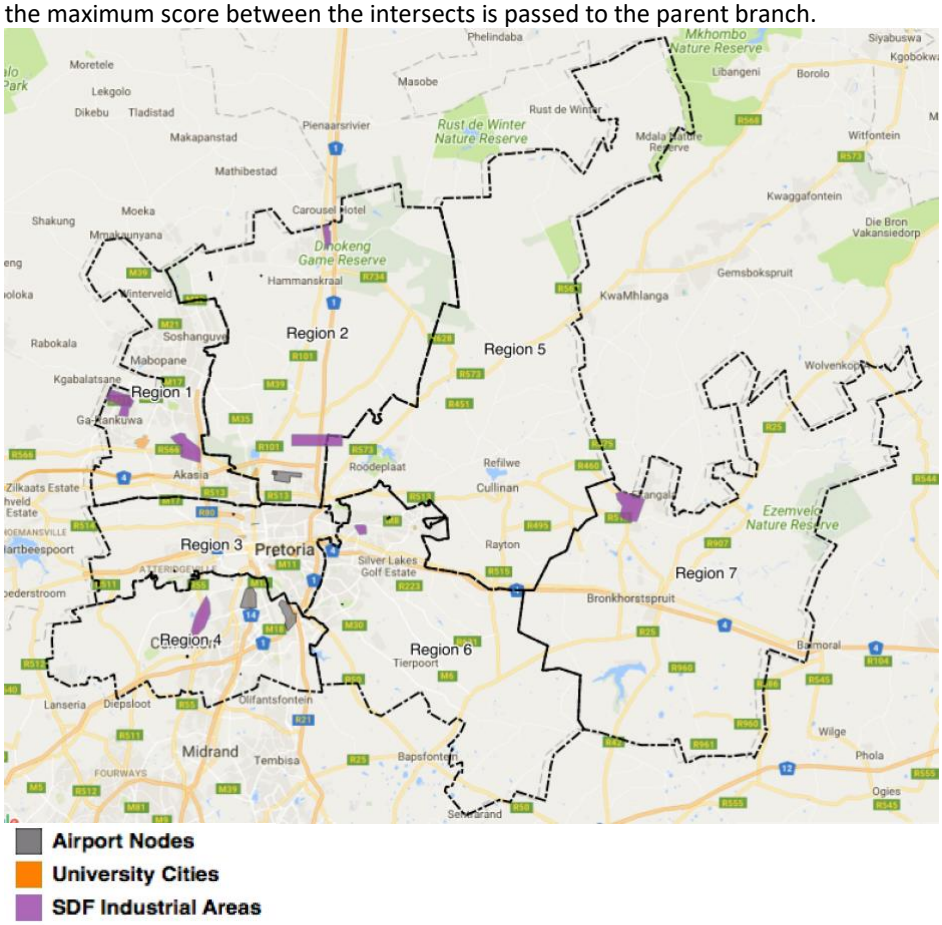
| Category | Description |
|---|---|
| Definition | Urban Cores have been defined in the MSDF in order to identify investment priority areas for capital investments to redress services and housing backlogs in underserved township areas. The Urban Core areas relate to the Underserved Township Areas of the National Treasury UNS. Projects are scored based on their spatial intersect with the geographic |

| Category | Description |
|---|---|
| | priority areas. |
| Branch Weight | The Urban Cores have been weighed differently based on a development potential analysis undertaken during the Development Intervention Portfolios (DIPs) project during 2016. Therefore, projects focussing on implementing projects within Urban Cores with higher development potential will receive elevated score. The following weighting applies:<br>• Mamelodi =100%<br>• Soshanguve = 70%<br>• Atteridgeville and Ga-Rankuwa = 57%<br>• Olievenhoutbos = 43%<br>• Winterveld = 38%<br>• Refilwe = 30%<br>• Cullinan, Rayton and Temba (Hammanskraal) = 24% |
| Input Variables | Project works location is used as the input to test the geographic priority area score of each project based on the Urban Core shapefile provided by the municipality. A score is returned based on the spatial intersect between project works location and Urban Core shapefile. |
| Process | The Urban Cores for the municipality is shown below. If a the spatial intersect returns more than one Urban Core intersecting with a project works location, then the maximum score between the intersects is passed to the parent branch.<br>  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.2.3 MSDF Specialised Nodes*

Table 1-23: Specialised Nodes

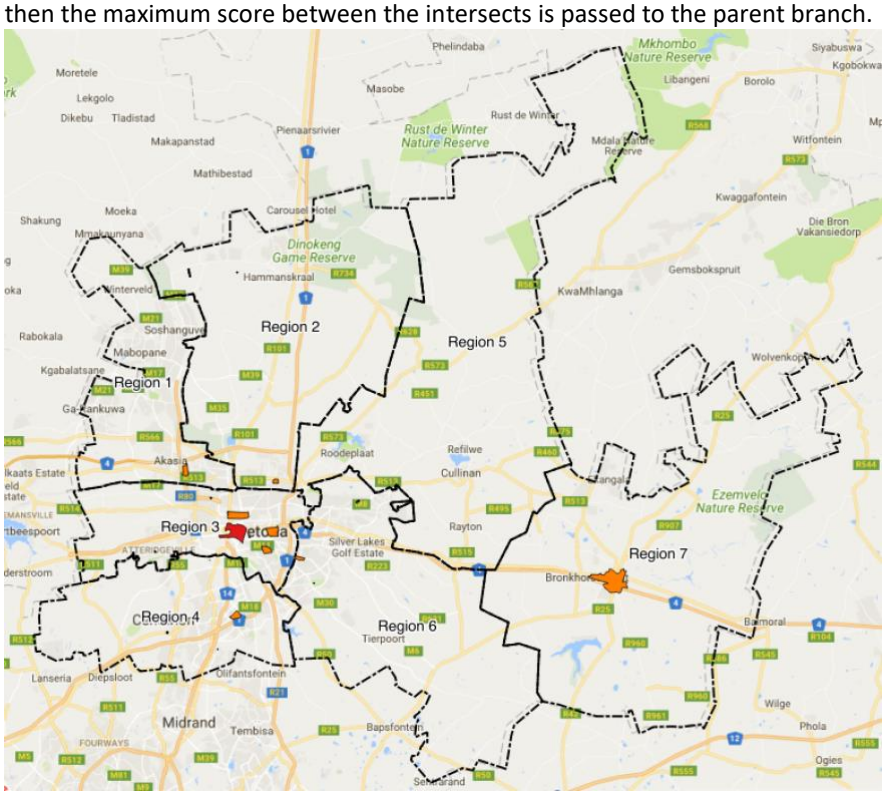
| Category | Description |
|---|---|
| Definition | A number of Specialised Nodes have been defined in the MSDF in order to identify investment priority areas for capital investments around specialised activity precincts. Projects are scored based on their spatial intersect with these geographic priority areas. |
| Branch Weight | The specialised nodes have not been weighed differently. Therefore, all projects focussing on implementing projects within specialised nodes will receive elevated score. The following specialised nodes have been identified:<br>• University Precincts (i.e. University Cities) |

| Category | Description |
|---|---|
| | • Airport Nodes<br>• Industrial Nodes |
| Input Variables | Project works location is used as the input to test the geographic priority area score of each project based on the specialised node shapefiles provided by the municipality. A score is returned based on the spatial intersect between project works location and specialised node shapefiles. |
| Process | The specialised nodes for the municipality is shown below. If a the spatial intersect returns more than one specialised node intersecting with a project works location, then the maximum score between the intersects is passed to the parent branch.<br>  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.2.4 MSDF Nodal Hierarchy*

Table 1-24: MSDF Nodal Hierarchy

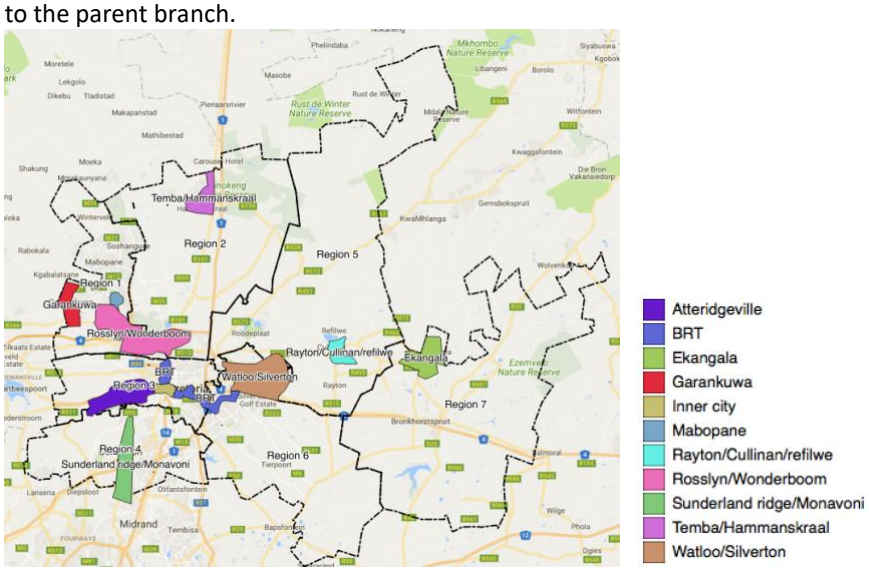
| Category | Description |
|---|---|
| Definition | A hierarchy of development nodes has been defined in the MSDF in order to identify investment priority areas for capital investments around mixed-use activity precincts. Projects are scored based on their spatial intersect with these geographic priority areas. |
| Branch Weight | The MSDF nodal hierarchy has been weighed differently based on the importance or hierarchy of the nodes. Therefore, a project being implemented in a higher ranked nodal hierarchy area will receive a higher score than a project implementing in a lower hierarchy node. The following MSDF nodes have been identified:<br>• Capital Core = 100% |

| Category | Description |
|---|---|
| | • Metropolitan Nodes = 75% |
| Input Variables | Project works location is used as the input to test the geographic priority area score of each project based on the MSDF Nodal Hierarchy shapefiles provided by the municipality. A score is returned based on the spatial intersect between project works location and MSDF Nodal Hierarchy shapefiles. |
| Process | The MSDF Nodal Hierarchy for the municipality is shown below. If a the spatial intersect returns more than one MSDF Nodal Hierarchy intersecting with a project works location, then the maximum score between the intersects is passed to the parent branch.<br>  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.2.5 BEPP Economic Development Priority Quadrants*

Table 1-25: BEPP Economic Development Priority Quadrants

| Category | Description |
|---|---|
| Definition | A hierarchy of BEPP EDPQs (Integration Zones) has been identified in order to identify and rank investment priority areas for capital investments around key priority precincts. BEPP EDPQs (Integration Zones) are spatial investment areas specified as part of the National Treasury UNS. Projects are scored based on their spatial intersect with these geographic priority areas. |
| Branch Weight | The BEPP EDPQs (Integration Zones) have been weighed differently. Based on the implementation of the outcomes of the Mayoral Strategic Planning Session, the following key areas and priority ranking has been identified:<br>• Targeted Spatial Economic Infrastructure Investment Areas<br>  • Rosslyn/Wonderboom Quadrant – 100%<br>  • Watloo/Silverton Quadrant – 100% |

| Category | Description |
|---|---|
| | • Sunderland Ridge/Monavoni Quadrant – 100%<br>• Targeted Spatial Social Infrastructure Investment Areas<br>  • Temba/Hammanskraal – 50%<br>  • Mabopane – 60%<br>  • Ga-Rankuwa – 80% |
| Input Variables | Project works location is used as the input to test the geographic priority area score of each project based on the BEPP EDPQs (Integration Zones) shapefile provided by the municipality. A score is returned based on the spatial intersect between project works location and BEPP EDPQs (Integration Zones) shapefile. |
| Process | The BEPP EDPQs (Integration Zones) for the municipality are shown below. If a the spatial intersect returns more than one BEPP EDPQs (Integration Zones) shapefile intersecting with a project works location, then the maximum score between the intersects is passed to the parent branch.<br>  |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### 1.5.2.3 *Financial Alignment*

The financial alignment goal or theme of the prioritisation model evaluates the degree to which projects in the municipal capital budget are considered to be credible, affordable, funded, applied to expand the rateable asset base and improving the fiscal position of the municipality. The financial alignment score is calculated within four distinct categories, namely:

- Credibility
  - Estimated Lifespan of Asset
  - Budget Estimate Credibility
- Austerity
  - Affordability
  - Co-funding
  - Opex Burden
- Increased Rates Base
  - Maintenance of rateable infrastructure

- New rateable infrastructure
- Upgrading of existing rateable infrastructure

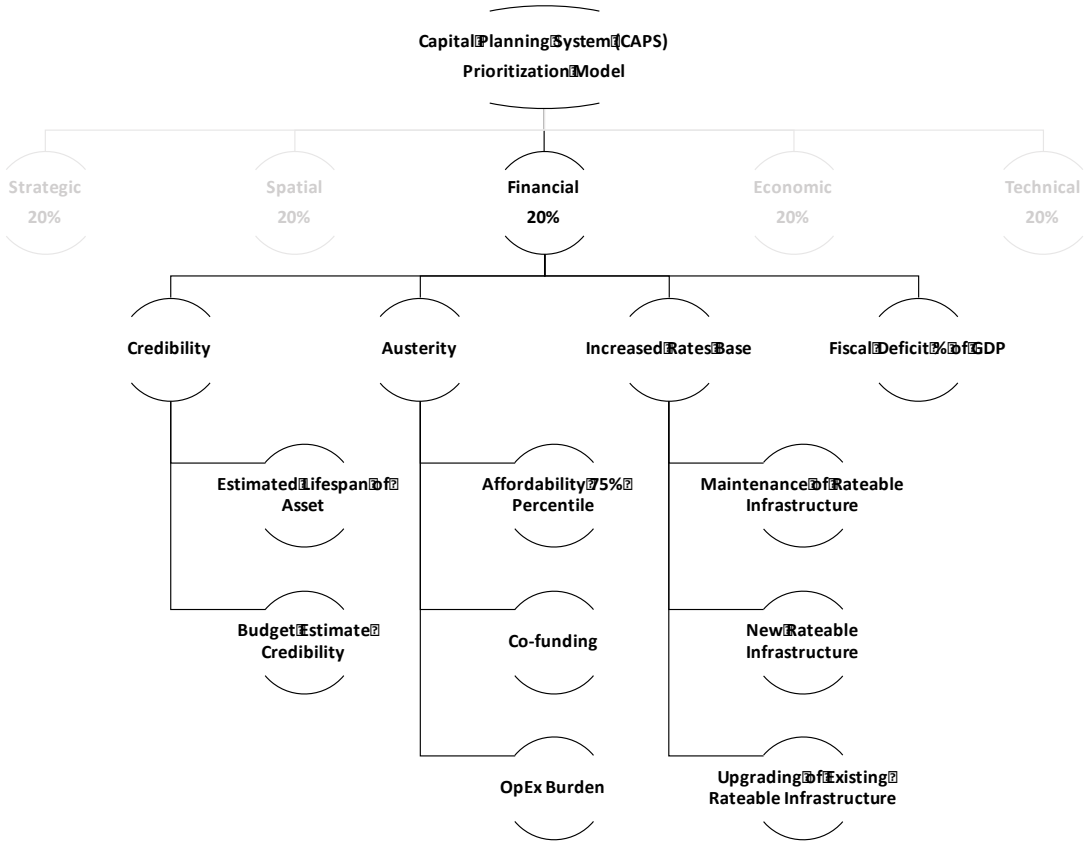



Figure 1-6: Financial Alignment

### *1.5.2.3.1 Credibility*

Table 1-26: Lifespan of Asset

| Category | Description |
|---|---|
| Definition | A fundamental element of responsible financial planning is to consider the lifespan of the asset that will be procured should the specific capital request be approved. The longevity of the asset is something that gets considered in the process of calculating more sophisticated financial indicators such as the return on investment, the net present value, and so on. The diversity of capital requests within a public-sector environment is however of such a nature that the required data to perform such calculations is not readily available for the majority of projects. More rudimentary proxy criteria therefore had to be sought that would provide similar assurances from a financial perspective. Project owners are required to provide an estimate of the lifespan of the asset for which capital is requested, from the following options:<br>a. 0-2 years<br>b. 3-10 years<br>c. 11-20 years<br>✓ d. >20 years<br>e. Not applicable |
| Branch Weight | 50% |
| Input Variables | The input variables are taken directly from the value chosen by the project owner from the following list: |

| Category | Description |
|---|---|
| | a. 0-2 years<br>b. 3-10 years<br>c. 11-20 years<br>✓ d. >20 years<br>e. Not applicable |
| Process | The scoring mechanism takes the form of a stepping function with each option carrying a representative score.<br>Score<br>a. 0 - 2 years 40<br>b. 3 - 10 years 60<br>c. 11 - 20 years 80<br>d. > 20 years 100<br>e. Not applicable 0 |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

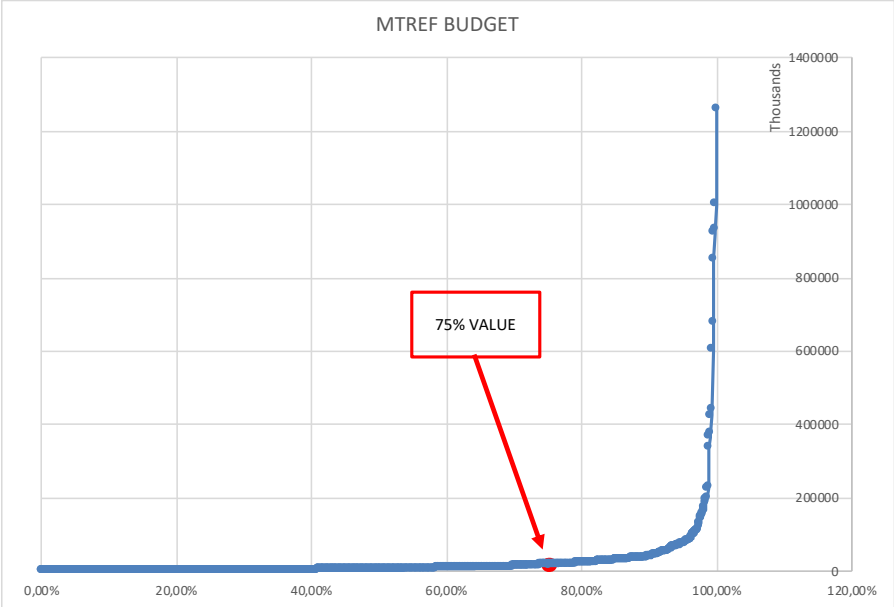
Table 1-27: Budget Estimate Credibility

| Category | Description |
|---|---|
| Definition | The "Credibility" of the budget that is being asked for is measured by testing the credibility or accuracy of the cost estimate of the asset for which funding is requested. The scale provided for the evaluation of budget estimate accuracy, is the scale provided by National Treasury in terms of their SIPDM / CIDMS guidelines. More accurate budget estimates are rewarded over less accurate estimates under this evaluation criterion.<br>The project owner needs to indicate the accuracy of the budget estimate based on the following scale:<br>✓ a. Class 1 (-3% to 3%)<br>b. Class 2 (-5% to 5%)<br>c. Class 3 (-10% to 10%)<br>d. Class 4 (-15% to 20%)<br>e. Class 5 (-20% to 30%)<br>f. Quotation / Tender |
| Branch Weight | 50% |
| Input Variables | The input variables are taken from the predetermined drop-down list representing the National Treasury prescribed ranges as contained in their SIPDM / CIDMS guidelines.<br>✓ a. Class 1 (-3% to 3%)<br>b. Class 2 (-5% to 5%)<br>c. Class 3 (-10% to 10%)<br>d. Class 4 (-15% to 20%)<br>e. Class 5 (-20% to 30%)<br>f. Quotation / Tender |
| Process | The scoring mechanism takes the form of a stepping function with each option carrying a representative score.<br>Score<br>• Class 1 (-3% ←→ 3%) 100<br>• Class 2 (-5% ←→ 5%) 90<br>• Class 3 (-10% ←→ 10%) 80<br>• Class 4 (-15% ←→ 20%) 65<br>• Class 5 (-20% ←→ 30%) 50<br>• Quotation / Tender 100 |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.3.2 Austerity*

Table 1-28: Affordability

| Category | Description |
|---|---|
| Definition | The "Affordability" of a project is calculated by plotting the summed project budgets over the MTREF period as a graph from smallest (cheapest) to largest (most expensive). The |

| Category | Description |
|---|---|
| | 75th percentile value is calculated across this range of values. This value is used as an approximation of what may be considered as the turning point in the budget range beyond which project can be considered to become increasingly expensive. The term "expensive" is used with great circumspection and should not be used beyond the context of this model. It simply is an indicator representative of the specific range of budget values that were requested over the MTREF for this specific budget cycle.<br>Projects that are "cheaper" than the 75th percentile does not have a great variance in requested budgets and can all be drawn in a relatively flat curve on a graph as shown on the graph below. Projects that are more expensive than the 75th percentile, increases in budget exponentially and rapidly has the "crowding out" effect. "Crowding out" means that a single "expensive" project budget may "crowd out" numerous smaller project budgets. In terms of service delivery, having more projects visibly being implemented often has a greater impact than one "mega project". There are of course many exceptions to this assumption. This criterion simply penalises – from a purely financial budgeting perspective – projects that are excessively expensive.<br>It must be kept in mind that this is simply one criteria out of many in the model, and does not have an overriding effect. Contextually though, when looking at the financial planning aspects of a municipality purely, without consideration of anything else, the "expensiveness" of a project is a fundamental consideration.<br>  |
| Branch Weight | 60% |
| Input Variables | The input values for this criterion is the total capital budget requested over the MTREF, the 75th percentile of all capital budget requests over the MTREF and the maximum capital budget request over the MTREF. |
| Process | |

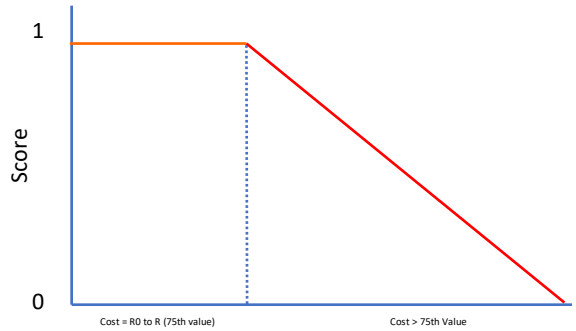
| Category | Description |
|---|---|
| |  <br>$y = \left(\frac{1}{75th - Maximum}\right) x - \left(\frac{1}{75th - Maximum}\right) Maximum$<br>Score = 100 if calculated value <= 75th percentile of MTREF<br>The score decays from 100 to zero using linear regression for any MTREF budget that is more expensive than the 75th percentile MTREF budget (over the entire range of budgets for all projects). |
| Mathematical Operator | Calculated value achieved by the project is passed through to the parent scoring branch. |

Table 1-29: Co-funding

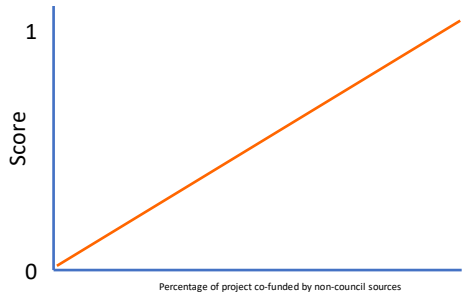
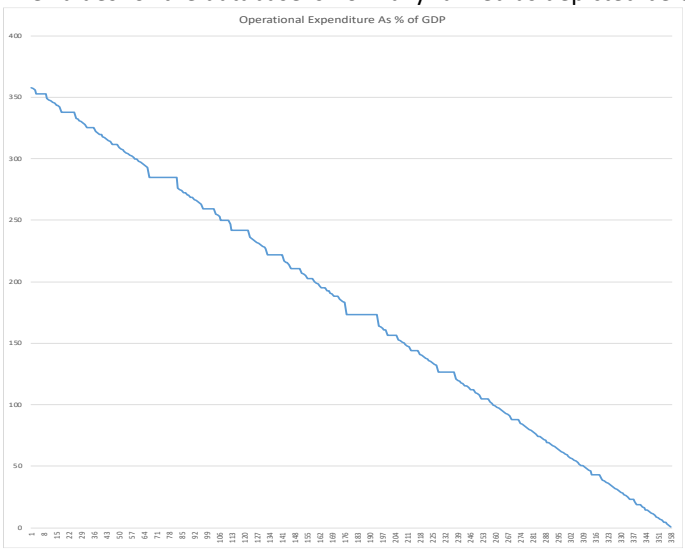
| Category | Description |
|---|---|
| Definition | The "Co-Funding" criterion appraises how much of the requested capital is funded by sources other than the council's own funds. The more co-funding by other sources, the more the project will score under this criterion. The logic behind this is two-fold.<br>• Firstly, the more external funding is used, the lesser is the burden on council's own ability to fund the project.<br>• Secondly, some of the co-funding sources within a municipal environment is conditional and there are often time-limitations or conditions to these external sources.<br>Therefore, if the funding is not utilised, the opportunity or availability of the funding expires or lapses. Form a budgeting and planning perspective, a project that may be slightly lower down the ranks of priorities, but that has other sources of funding, may be prioritised more in order to gain the benefit from its implementation and the availability of funding to do so. |
| Branch Weight | 20% |
| Input Variables | The input values for this criterion is the total capital budget requested over the MTREF and the percentage of co-funding over the MTREF. |
| Process |  <br>$y = \frac{x}{Maximum}$<br>A maximum score of 100 is achieved under this criterion of the project is 100% co-funded by other sources. The more co-funding, the better the score here. |
| Mathematical Operator | Calculated value achieved by the project is passed through to the parent scoring branch. |

Table 1-30: Operational expenditure as % of GDP

| Category | Description |
|---|---|
| Definition | The 'operational expenditure as a percentage of GDP' is an indicator which measures the impact of the project/programme/portfolio of projects on the operational expenditure of the city, which include the wage bill impact of the project(s).<br>The indicator result will be a very small number, and also needs to be interpreted as the % increase (if positive) in government expenditure relative to the project's income gains.<br>The indicator is expressed in terms of a R'000 (thousand rand) increase in operational expenditure for every R1m change in GDP associated with the project(s). Therefore, a number of 0.00002 need to be interpreted as a R20 000 increase in operational expenditure per R1m project income (GDP gains). In the case of a R50m additional GDP, the operational expenditure is expected to increase with R100 000.<br>However, this number need to be interpreted along with the previous fiscal-indicator. The fiscal indicator ALREADY incorporates the changes in operational expenditure. Therefore, in the case where the fiscal deficit-indicator is positive (i.e. a decline in deficit), while the operational indicator is also positive (i.e. increase in expenses), the implication is that the income and potential revenue gains for the city is larger than the increased and associated operational expense.<br>This indicator is therefore valuable in:<br>• Planning with respect to operational expenditure;<br>• Making the business case for high-impact investment projects, which over time (maturity) generate sufficient income to cover the associated increased operational expenditure, and;<br>• Comparing project(s) with respect to their relative impact on the City's (Province's) financial position. |
| Branch Weight | 20% |
| Input Variables | Economic Impact Model Outputs |
| Process | It is not necessary to normalise this indicator as is the case with the other Economic Impact Model indicators. The indicator value is already reflected as a percentage of GDP. The values for the database is normally ranked as depicted below.<br>  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.3.3 Increased Rates Base*

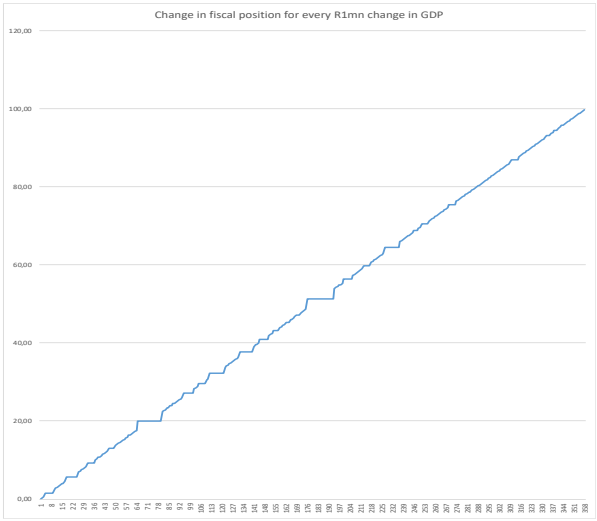
Table 1-31: Increase in Rates Base

| Category | Description |
|---|---|
| Definition | The "Increase in rates base" evaluates whether a project's implementation will contribute towards rates and taxes of the city directly or not. From a purely financial perspective, if a project's implementation will directly lead to increased rates and taxes that would be collected by the municipality, this will be beneficial.<br>In order to determine whether a project will contribute to rates and taxes, it has to be ascertained whether the project represents a service (e.g. the provision of electricity) that can be levied from the end-user. Here, the benefit of the data that can be harvested from the MSCOA classification process is evident. The MSCOA classification assists to determine whether the funding applied for is for new infrastructure or for the upgrading of existing infrastructure in order to improve capacities. |
| Branch Weight | 20% |
| Input Variables | A two-tier test is applied to determine to what extent the existing rates base or asset base is protected and expanded. The first test which is applied is based on the MSCOA project action and sub-action relating to the MSCOA Project Segment.<br>The following categories are tested:<br>• New rateable infrastructure: MSCOA project action = "New"<br>• Upgrading of existing rateable infrastructure: MSCOA project sub-action = "Upgrading"<br>• Maintenance of rateable infrastructure: MSCOA project sub-action = "Renewal"<br>The following category weights are applied:<br>• New rateable infrastructure = 100<br>• Upgrading of existing rateable infrastructure = 75<br>• Maintenance of rateable infrastructure = 50<br>Once the projects have been pre-filtered for new, upgrading or renewal actions, a second test is performed to ascertain whether the project is from one of the following departments:<br>• Energy<br>• Water<br>• Sanitation |
| Process | If a project is requesting capital and it emanates from one of the departments that provides infrastructure that directly leads towards an increase in the rates and taxes that can be collected, the project will score fully under this criterion. |
| Mathematical Operator | Scored value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.3.4 Fiscal Deficit % of GDP*

Table 1-32: Fiscal deficit as % of GDP

| Category | Description |
|---|---|
| Definition | The 'fiscal deficit to GDP ratio'-indicator measures changes in the deficit position of the city relative to changes in economic activity, which again is a result of the project/programme/portfolio of projects. The indicator result will be a very small number, and it needs to be interpreted as the % improvement (if positive) or deterioration (if negative) of the deficit relative to GDP.<br>The indicator is expressed as the change in fiscal deficit position (measured in terms of R'000) for every R1m change in GDP. Example: a number of 0.00001 need to be interpreted as a R10 000 improvement in the fiscal position, i.e. a R10 000 decline in the deficit of the city per R1m GDP gains. Therefore, in the case where a project results in |

| Category | Description |
|---|---|
| | R50m additional GDP, the deficit should decline with R500 000.<br>However, the primary value of the fiscal indicator is:<br>• To determine whether the project/programme will have a POSITIVE impact on the fiscal position, i.e. result in a decline in the deficit, and;<br>• To compare various projects in terms of their impact on the city's financial position. |
| Branch Weight | 20% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by multiplying the calculated EIM value (percentage points) with a common denominator namely a million. This normalises the indicator to Rand per R1m GDP increase. The last step in the process is to rank the actual outcomes linearly from most positive to least positive. This results in the typical graph shown below.<br>  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

### 1.5.2.4 *Economic Alignment*

The economic alignment goal or theme of the prioritisation model evaluates the degree to which projects in the municipal capital budget contributes to the growth of the municipal economy and improves the economic position of the residents within the municipality.

A macro-economic impact module (EIM) was developed for the municipality specifically to make use of the data from the CAPS system. The econometric model is specific for the municipality and draws from a sophisticated range of financial data, regional data, and population data sourced from Statistics South Africa. As such, the EIM generates values for the impact of individual and portfolio capital projects in terms of a set of economic, socio-economic and fiscal indicators – for the city as a whole, as well as a selection of key sub-regions or 'main places'.

The EIM is based on the outputs of a comprehensive suite of econometric models. The workings of the EIM are dynamic and consider the indirect city-wide impacts of projects and programmes – not only the localised ward-specific impact. The EIM therefore captures the iterative, dynamic impacts of all of the role-players within the economy – households, business, government, foreign sector, as well as the full economic flow of goods, services, factors and money is accounted for, and an iterative computational process is utilised.

The outputs from the economic model is further augmented spatially by evaluating the alignment of the project's location and affected area, with geographic areas that were graded across the entire

municipal area in terms of its economic impact in a separate economic study that was conducted for this purpose.

The economic alignment score is calculated within two distinct categories, namely (refer to Figure 1-7):

- Focus on impact
- Focus on people

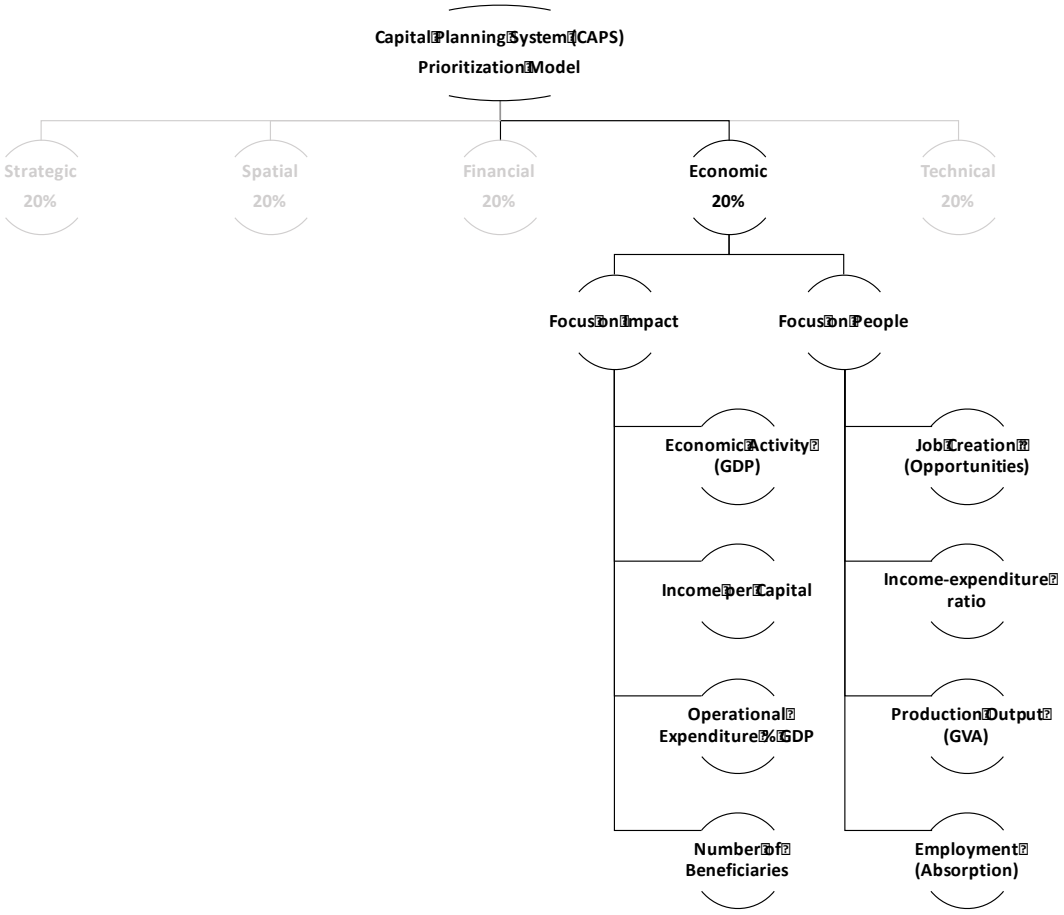



Figure 1-7: Economic Alignment

### *1.5.2.4.1 Focus on Impact*

Table 1-33: Economic Activity (Income) in terms of Gross Domestic Product (GDP)

| Category | Description |
|---|---|
| Definition | GDP measures/represents the value of economic activity (income) that has been generated across all industries in the economy as a result of the project / programme / portfolio of projects. It takes into account the value of taxes and subsidies on both production and consumption goods/services. As such, the GDP figure is presented at 'market price' value. It is measured in nominal Rand, i.e. at current prices.<br>The number represents the total, net impact of the project, i.e. taking into account the 'winners' and 'losers' in the economy; the benefits and costs associated with the project.<br>The number is not 'time'-bound, in the sense that the GDP figure represents the full impact, once the project investment/spending has had time to 'mature', i.e. the investment / spending impact has filtered ('rippled') through the economy and the feedback have stabilised. As such, the number is an indicating of the net potential income impact of the project / programme, assuming no other interventions / |

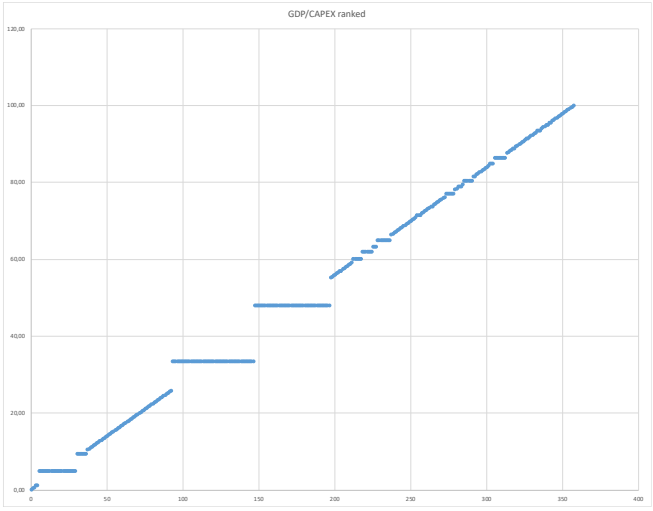
| Category | Description |
|---|---|
| | interruptions (i.e. all things being equal), etc.<br>The GDP indicator is valuable in comparing the relative impact of different projects / programmes or portfolios of projects, in terms of the additional economic activity that they 'unlock' for every Rand invested and/or spent over the project implementation time-line.<br>The GDP-indicator also provides a measure of the 'net tax revenue' available to government, but also the 'net tax burden' on producers and consumers. |
| Branch Weight | 25% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by dividing the calculated EIM value with a common denominator namely the capital requested over the MTREF. This is done as a necessary step to establish comparability between projects and wards. The last step in the process is to rank the actual outcomes linearly from most positive to least positive. This results in the typical graph shown below.<br>  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

Table 1-34: Income per capita

| Category | Description |
|---|---|
| Definition | The "Income per Capita" indicator measures the Rand value of income (through GDP) per member of the population. It links the changes in economic activity (on the back of 'matured' implementation of the project spending on the GDP to household income and therefore presents a measure for income distribution as well as the effectiveness of the project in achieving socio-economic gains. |
| Branch Weight | 25% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by dividing the calculated EIM value with a common denominator namely the capital requested over the MTREF. This normalises the indicator to Rand per R1bn capital spending. The last step in the process is to rank the actual outcomes linearly from most positive to least positive. This results in the typical graph shown below. |

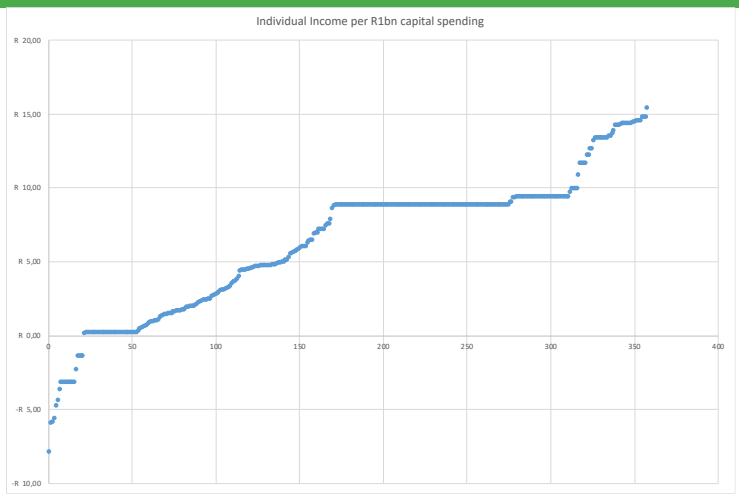
| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

Table 1-35: Austerity: Operational expenditure as percentage of GDP

| Category | Description |
|---|---|
| Definition | The 'operational expenditure as a percentage of GDP' is an indicator which measures the impact of the project/programme/portfolio of projects on the operational expenditure of the city, which include the wage bill impact of the project(s).<br>The indicator result will be a very small number, and also needs to be interpreted as the % increase (if positive) in government expenditure relative to the project's income gains.<br>The indicator is expressed in terms of a R'000 (thousand rand) increase in operational expenditure for every R1m change in GDP associated with the project(s). Therefore, a number of 0.00002 need to be interpreted as a R20 000 increase in operational expenditure per R1m project income (GDP gains). In the case of a R50m additional GDP, the operational expenditure is expected to increase with R100 000.<br>However, this number need to be interpreted along with the previous fiscal-indicator. The fiscal indicator ALREADY incorporates the changes in operational expenditure. Therefore, in the case where the fiscal deficit-indicator is positive (i.e. a decline in deficit), while the operational indicator is also positive (i.e. increase in expenses), the implication is that the income and potential revenue gains for the city is larger than the increased and associated operational expense.<br>This indicator is therefore valuable in:<br>• Planning with respect to operational expenditure;<br>• Making the business case for high-impact investment projects, which over time (maturity) generate sufficient income to cover the associated increased operational expenditure, and;<br>Comparing project(s) with respect to their relative impact on the City's (Province's) financial position. |
| Branch Weight | 34% |
| Input Variables | Economic Impact Model Outputs |
| Process | It is not necessary to normalise this indicator as is the case with the other Economic Impact Model indicators. The indicator value is already reflected as a percentage of GDP. The values for the database is normally ranked as depicted below. |

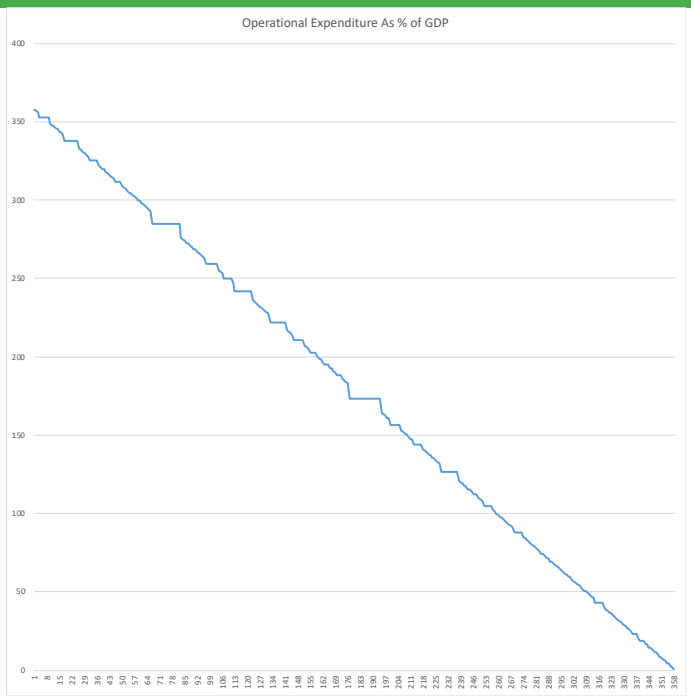
| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

Table 1-36: Number of Beneficiaries

| Category | Description |
|---|---|
| Definition | The spatial analysis capability of the CAPS system, in combination with the affected area or beneficiary area of the project, is used to automatically deduct the number of beneficiaries that will be impacted or benefitted by the project. From an economic perspective, the more people that are affected by an investment, the larger the impact should be on the economy and the more benefit will accrue to the community. |
| Branch Weight | 33% |
| Input Variables | Project affected area |
| Process | The number of beneficiaries of the Statistics South Africa Census 2011 is loaded onto the CAPS system at small area level. The proportional spatial intersect of the project's affected area and the Census 2011 small area layer is calculated. The sum of the population in the intersected Census 2011 small area layer is divided by the maximum population affected by any project in the CAPS database in order to create a beneficiary population index. Projects are therefore ranked from highest number of beneficiaries impacted to the lowest number of beneficiaries impacted. The above calculation is expressed by the following mathematical equation:<br>Y = (x / Max Affected Area Population) * 100<br>This project impact is also provided per project on the CAPS Project Impact screen (shown below).<br>Spatial Impact \| Beneficiary Impact \| Economic Impact \| Project Score<br>Indicator / Works Location / Affected Area / Municipality<br>Population 37435 33356 3178239<br>Number of Households 13842 10397 1011351<br>Low income 6360 4794 390738<br>Middle income 7458 5587 586809<br>High income 24 15 37293 |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. |

### *1.5.2.4.2 Focus on People*

Table 1-37: Job Creation (Opportunities)

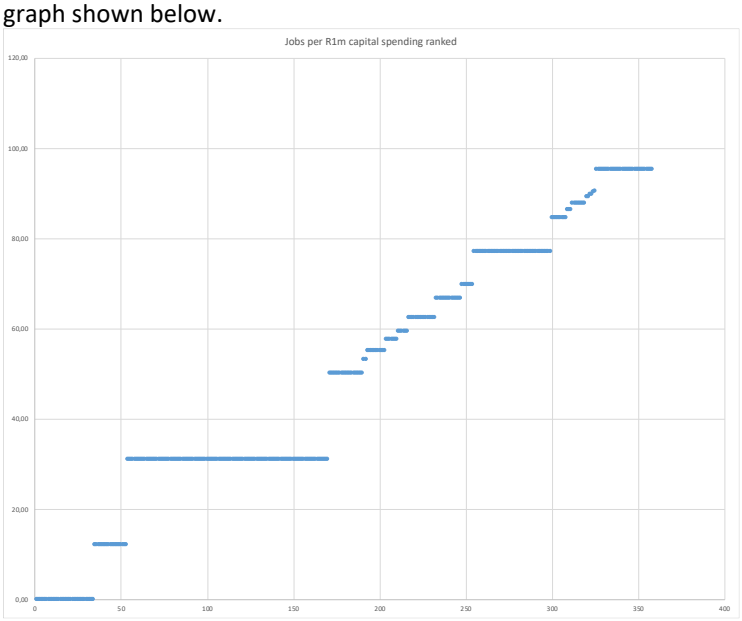
| Category | Description |
|---|---|
| Definition | The "Job Creation" indicator represents the number of people that may become employed across all industries as a result of the project. It distinguishes between "job-opportunities" and "job-absorption" – these are distinctly different. Job opportunities measures the total number of potential jobs that may be generated across all industries on the back of matured implementation. Job absorption is the number of jobs that may be occupied across all industries. The job absorption figure adjusts (lowers) the job opportunities figure for structural unemployment, i.e. the percentage of the labour force that are unemployable for reasons of lack of skills, socio-economic impediments, etc. |
| Branch Weight | 25% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by dividing the calculated EIM value with a common denominator namely the capital requested over the MTREF. This is done as a necessary step to establish comparability between projects and wards. The result is presented as jobs created per R1m capital spent. The last step in the process is to rank the actual outcomes linearly from most positive to least positive. This results in the typical graph shown below.   |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

Table 1-38: Income-expenditure ratio

| Category | Description |
|---|---|
| Definition | The "Income to expenditure ratio" indicator is an indicator of surplus income of potential savings per household. This is a direct "wealth measure". It expresses the potential income gains relative to the higher spending behaviour on the back of changes in economic activity. This indicator therefore measures the impact/effectiveness of the investment/spending portfolio in increasing households' propensity to save. As such, the indicator is also a measure of 'wealth' improvement associated with the project. |
| Branch Weight | 25% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by multiplying the calculated EIM value with a common denominator namely the GDP value. This normalises the indicator to Rand per R1bn GDP increase. The last step in the process is to rank the actual outcomes |

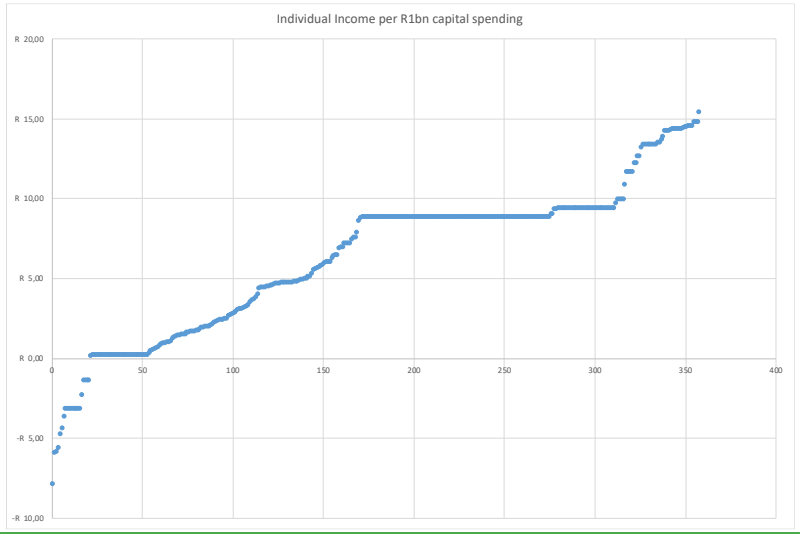
| Category | Description |
|---|---|
| | linearly from most positive to least positive. This results in the typical graph shown below.<br>  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

Table 1-39: Production Output – Gross Value Addition (GVA)

| Category | Description |
|---|---|
| Definition | Gross Value Addition (GVA) measures/represents the value of economic activity (income) that has been generated across ALL industries as a result of the project/programme/portfolio of projects. It **does not** take into account the value of taxes and subsidies on both production and consumption goods/services. As such, the GVA figure is presented at 'market price' value. It is measured in nominal Rand, i.e. at current prices.<br>The number represents the TOTAL, NET impact of the project, i.e. taking into account the 'winners' and 'losers' in the economy; the benefits and costs associated with the project.<br>The number is not 'time'-bound, in the sense that the GVA figure represents the full impact, once the project investment/spending has had time to 'mature', i.e. the investment/spending impact has filtered ('rippled') through the economy and the feedback have stabilised. As such, the number is an indicating of the net POTENTIAL income impact of the project/programme, assuming no other interventions/interruptions, etc.<br>The GVA indicator is valuable in comparing the relative impact of different projects/programmes or portfolios of projects, in terms of the additional economic activity that they 'unlock' for every Rand invested and/or spent over the project implementation time-line. |
| Branch Weight | 30% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by dividing the calculated EIM value with a common denominator namely the capital requested over the MTREF. This is done as a necessary step to establish comparability between projects and wards. The last step in the process is to rank the actual outcomes linearly from most positive to least positive. This results in the typical graph shown below. |

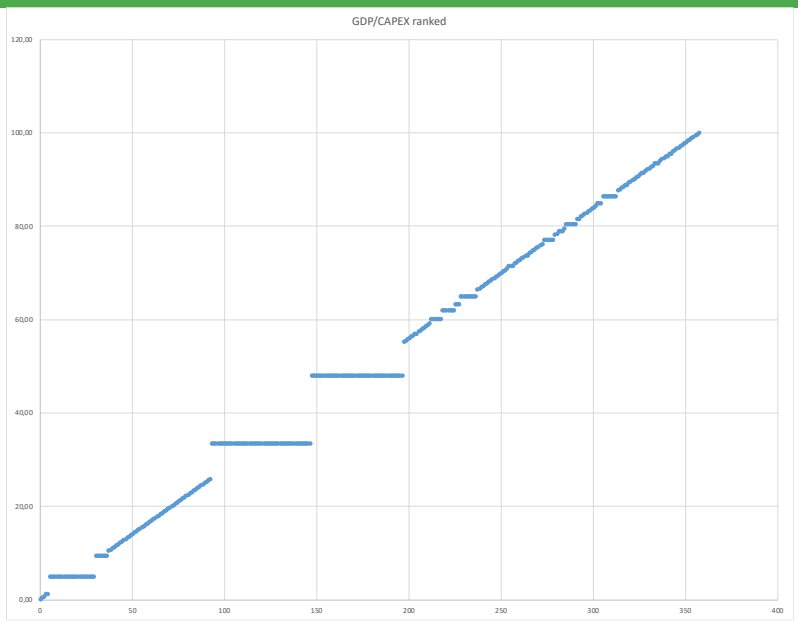
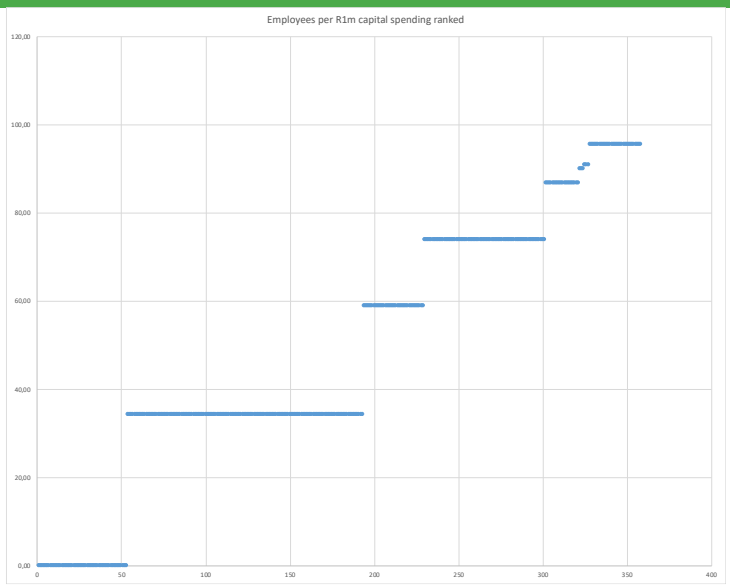
| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

Table 1-40: Employment (Job Absorption)

| Category | Description |
|---|---|
| Definition | The "Employment" indicator represents the number of people that are likely to be absorbed by the economy across all industries as a result of the project. Job opportunities measures the total number of potential jobs that may be generated across all industries on the back of matured implementation. Job absorption is the number of jobs that may be occupied across all industries. The job absorption figure adjusts (lowers) the job opportunities figure for structural unemployment, i.e. the percentage of the labour force that are unemployable for reasons of lack of skills, socio-economic impediments, etc. |
| Branch Weight | 25% |
| Input Variables | Economic Impact Model Outputs |
| Process | The indicator calculated by the EIM is normalised by dividing the calculated EIM value with a common denominator namely the capital requested over the MTREF. This is done as a necessary step to establish comparability between projects and wards. The result is presented as employment opportunities per R1m capital spent. The last step in the process is to rank the actual outcomes linearly from most positive to least positive. This results in the typical graph shown below. |

| Category | Description |
|---|---|
| |  |
| Mathematical Operator | Ranked value achieved by the project is passed through to the parent scoring branch. |

### 1.5.2.5 *Technical Alignment*

The technical alignment goal or theme of the prioritisation model evaluates the degree to which projects in the municipal capital budget aligns with the asset management plans, analysis and modelling of the technical or utility services departments. The technical alignment score is calculated using departmental rating criteria.

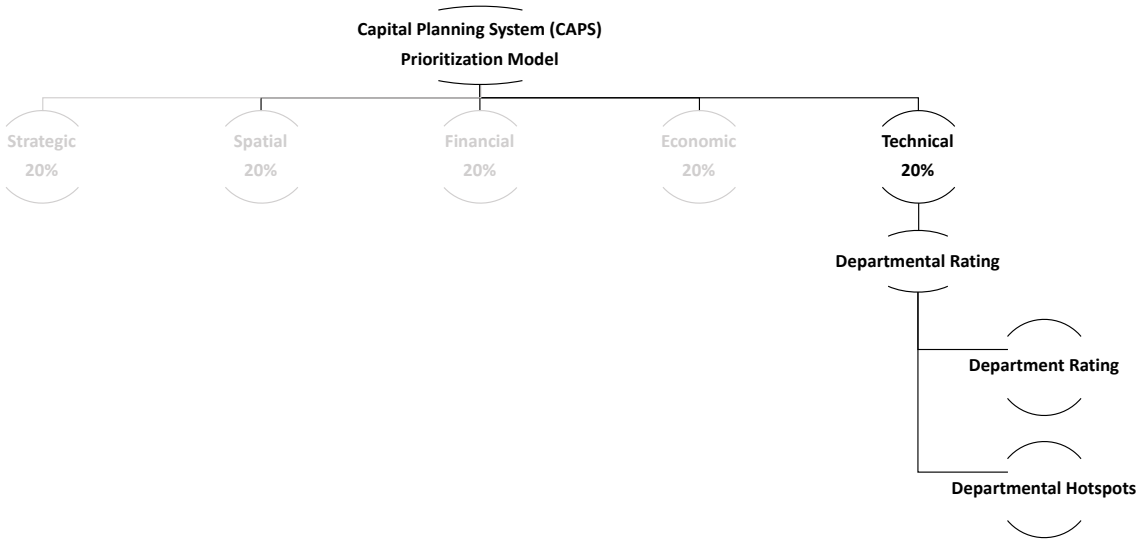


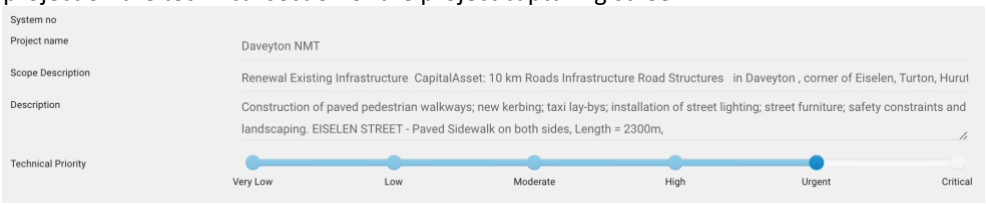

Figure 1-8: Technical Alignment

The criteria which forms part of the following branches have been described in previous sections:

- Departmental Hotspots were used as a proxy for establishing the focus on Basic Infrastructure described in Section 1.5.2.1.3, refer to Table 1-11: Focus on Basic Infrastructure.

### *1.5.2.5.1 Departmental Rating*

Table 1-41: Departmental Technical Rating

| Category | Description |
|---|---|
| Definition | The departmental rating incorporates the relative importance bestowed on each project generated / created by the originating department. A score out of 100 is asked and can be entered by means of a slider. Departments that do not introduce enough variability in their department's project scores are penalised somewhat. This is to prevent that a department marking all their projects as "100" or critical does not get an unfair advantage over departments that rate their projects fairly (i.e. numerous project scores ranging from 0 to 100). |
| Branch Weight | Department Technical Rating -> 33% |
| Input Variables | The department technical rating is captured using a project priority rating slider for each project on the technical section of the project capturing screen.   |
| Process | The departmental rating score is a normalised score per project based on the range between the department's minimum project rating and maximum project rating. The above calculation is expressed by the following mathematical equation:<br><br>Y = [TPR(ThisProject) - TPR(Dept_Min)] / [TPR(Dept_Max)-TPR(Dept_Min)]*(TPR(Dept_Max)-TPR(Dept_Min)/TPR(Dept_Max))*100<br><br>Where:<br>• Y = project score<br>• TPR = Technical priority rating (between 0 and 100)<br>• Dept_Min = lowest department project technical rating<br>• Dept_Max = highest department project technical rating |
| Mathematical Operator | Maximum value achieved by the project is passed through to the parent scoring branch. Given that this test is a mathematical equation which only produces one answer per project, the mathematic operator on the branch is inconsequential. |