

Figure 3-1: Total Project Demand per Department

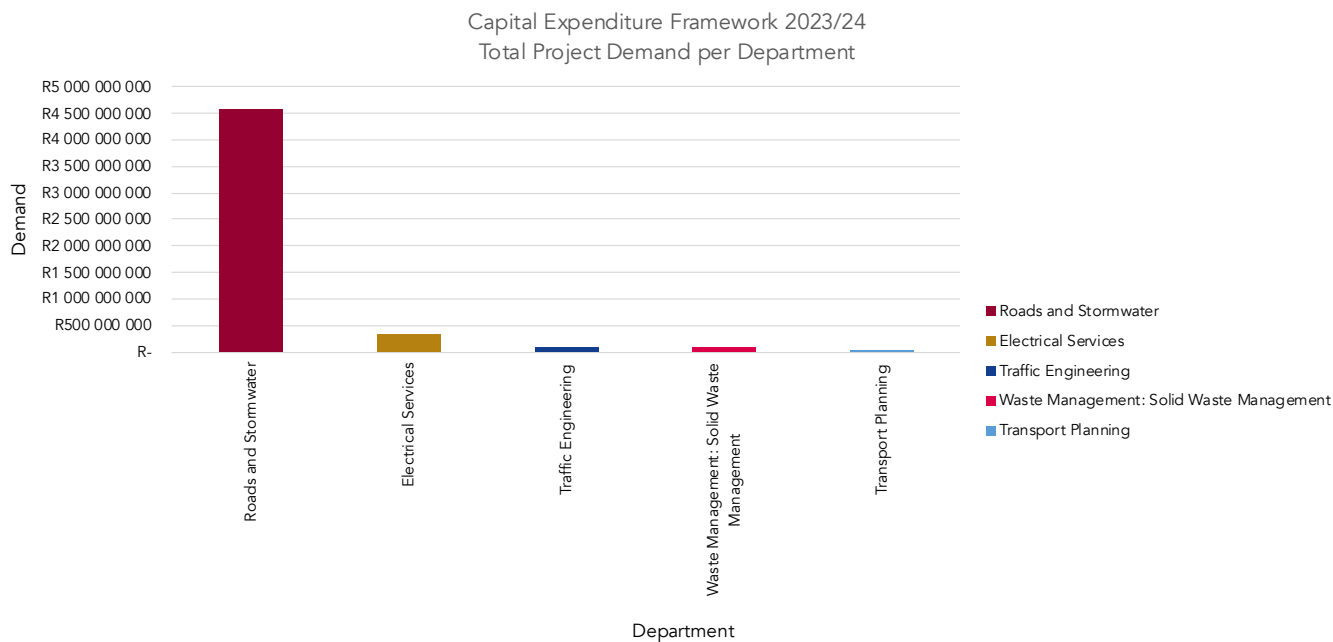


Table 3-3: Total Project Demand per Directorate and Department

Directorate	Department	Sum of Total Project Demand	Total %
Infrastructure Services	Roads and Stormwater	R4 568 546 380,31	90,24%
Infrastructure Services	Electrical Services	R329 301 049,00	6,50%
Infrastructure Services	Traffic Engineering	R76 724 300,00	1,52%
Infrastructure Services	Waste Management: Solid Waste Management	R75 735 000,00	1,50%
Infrastructure Services	Transport Planning	R12 390 000,00	0,24%
Infrastructure Services	Water and Wastewater Services: Water	R-	0,00%
Total			R5 062 696 729,31

What is immediately evident from Figure 3-1: Total Project Demand per Department is the large total project demand for the Department of Roads and Stormwater. The reason for this can be attributed to the three master plan documents that comprise all projects linked to this department – Comprehensive Infrastructure Plan, Roads Master Plan 2022 and The Development and Implementation of a Stormwater Management System. The two projects with the largest total project demand are from these master plans. The 6810 Conduits to be upgraded in Stellenbosch, Rehabilitation and improvements to MR168 between MR159 and MR177 in the Stellenbosch Area. These master plans have a comprehensive and long-term focus which results in a large amount of project costs such as the Conduits Upgrade project in Stellenbosch that has a 20-year project timeline. Table 3-3 provides the exact amounts and reveals that 90,24% of the total project demand in the infrastructure is attributed to roads and stormwater projects. The table also highlights that all projects within the portfolio are from the same directorate – Infrastructure Services, which indicates the need of projects to address infrastructure concerns.

3.2.3 Unpacking Projects per Asset Class and Sub-Class

Asset class and sub-class indicates which assets have more demand within the infrastructure project portfolio. Unpacking the projects in this manner enables us to analyse the departments in greater detail and shifts our focus to the asset level. By using this method we can see which asset types are more prevalent in the infrastructure projects portfolio.

Figure 3-2: Total Project Demand per Asset Sub-Class

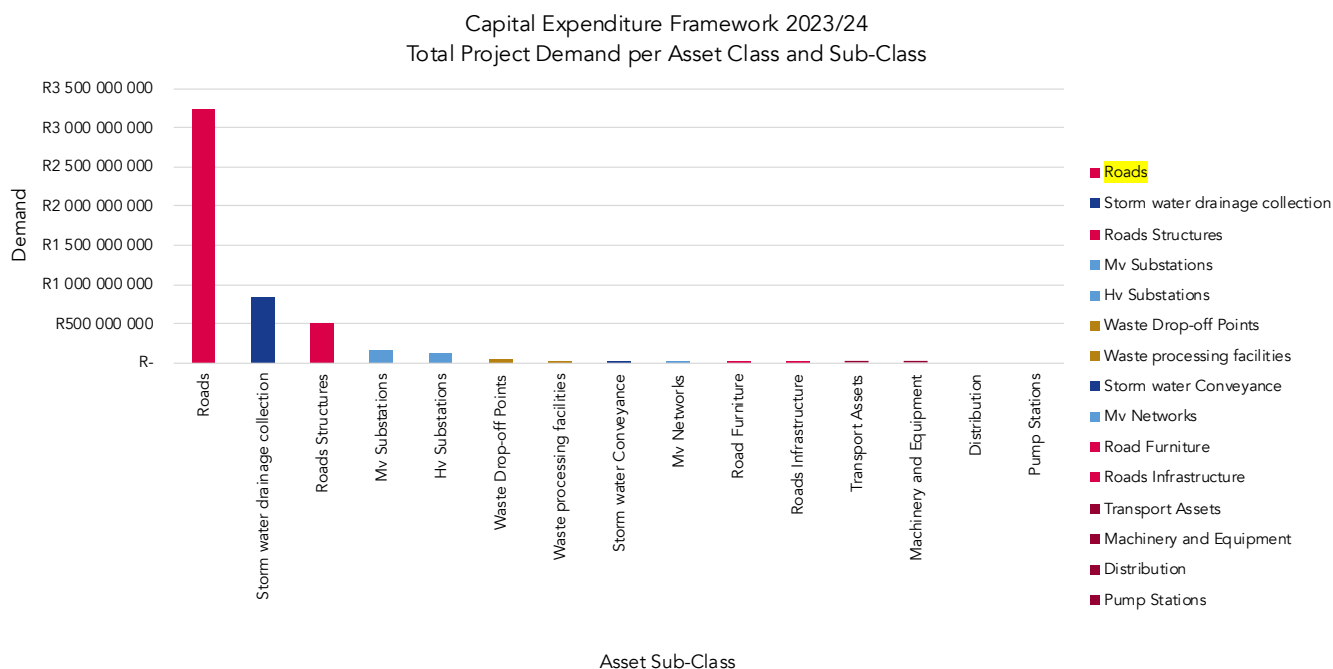
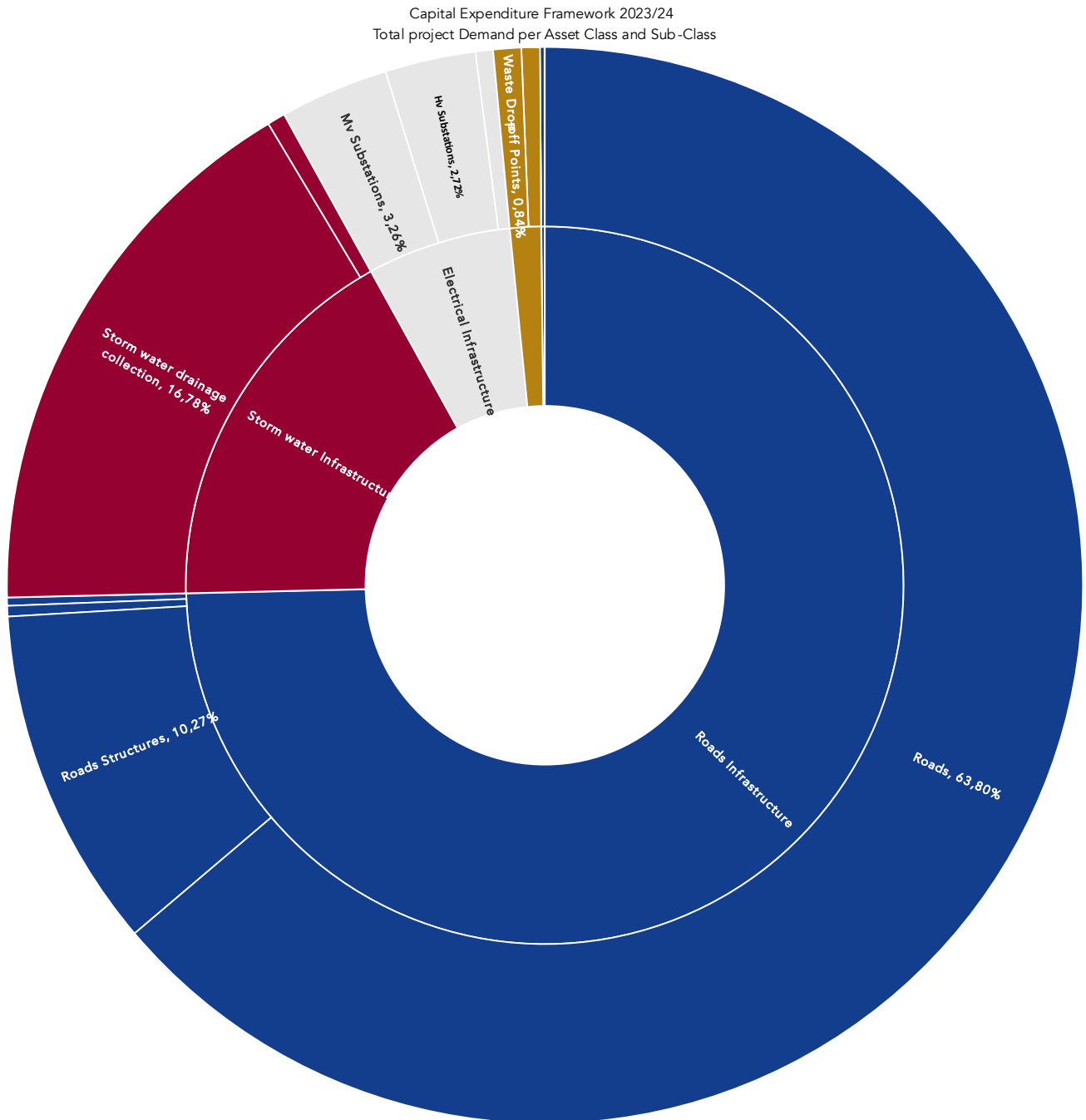


Table 3-4: Total Cost per Asset Class and Sub-Class

Class	Sub-Class	Sum of Total Project Demand	Total %
Roads Infrastructure		R3 778 497 300,00	74,63%
	Road Furniture	R16 150 000,00	0,32%
	Roads	R3 230 137 300,00	63,80%
	Roads Infrastructure	R12 310 000,00	0,24%
	Roads Structures	R519 900 000,00	10,27%
Storm water Infrastructure		R876 563 380,31	17,31%
	Storm water Conveyance	R27 090 000,00	0,54%
	Storm water drainage collection	R849 473 380,31	16,78%
Electrical Infrastructure		R329 301 049,00	6,50%
	Hv Substations	R137 700 000,00	2,72%
	Mv Networks	R26 407 075,00	0,52%
	Mv Substations	R165 193 974,00	3,26%
Solid Waste Infrastructure		R70 600 000,00	1,39%
	Waste Drop-off Points	R42 300 000,00	0,84%
	Waste processing facilities	R28 300 000,00	0,56%
Transport Assets	Transport Assets	R7 150 000,00	0,14%
Machinery and Equipment	Machinery and Equipment	R585 000,00	0,01%
Water Supply Infrastructure		R0,00	0,00%
	Distribution	R0,00	0,00%
	Pump Stations	R0,00	0,00%
Total		R 5 062 696 729,31	

What becomes evident when analysing Figure 3-2 is the two largest asset sub-classes contributing to total project cost – Roads and Storm water drainage collection. Table 3-4 confirms that Roads (74,63%) and Storm water infrastructure (17,31%) account for 91,85% of the total demand in the infrastructure projects portfolio. Roads (63,80%) and Storm Water Drainage (16,78%) are the asset sub-classes that contribute to 80,58% of the total demand of projects. These plans have a 20-year focus and explain the large project costs incurred within these master plans. From the top ten projects with the highest total project demand nine of the projects are projects that are from the asset class of Roads Infrastructure. This clarifies the high infrastructure demand that roads and stormwater projects have. Figure 3-3 visually illustrates the the proportion of total project demand each asset class and sub-class has.

Figure 3-3: Share of Total Project Demand per Asset Class and Sub-Class



3.2.4 Unpacking Projects per Action and Sub-Action

By examining projects per action and sub-action observations can be made regarding where the total demand of projects is. Is the demand higher in new projects, or is it focused on existing projects, specifically those concerning renewal or upgrading? Unpacking projects in this manner reveals the number of projects for each action and sub-action and their respective total demand.

Figure 3-4: Total Demand per Action and Sub-Action

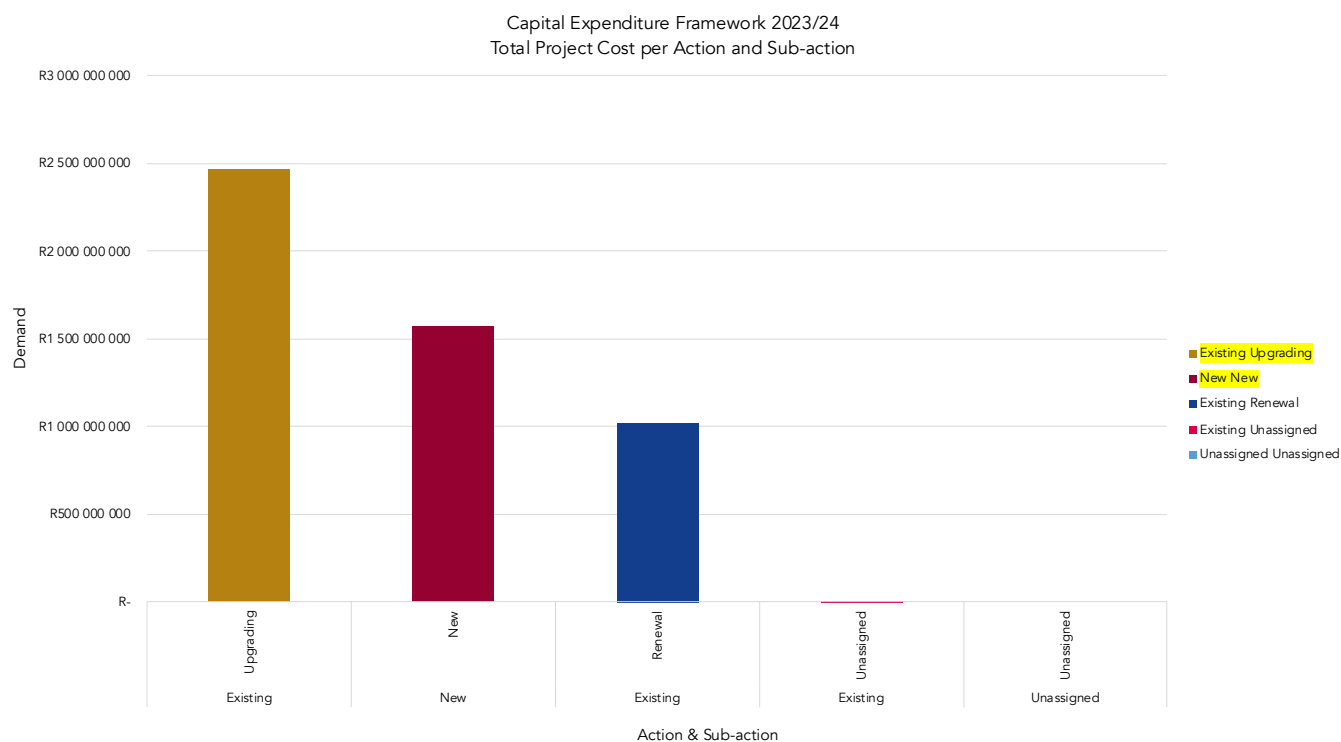


Table 3-5: Total Demand per Action and Sub-Action

Action	Sub Action	Number of Projects	Sum of Total Project Demand	Total%
Existing	Upgrading	106	R2 464 744 891,31	48,68%
New	New	169	R1 574 806 129,00	31,11%
Existing	Renewal	92	R1 021 945 709,00	20,19%
Existing	Unassigned	2	R1 200 000,00	0,02%
Unassigned	Unassigned	8	R0,00	0,00%
Total			R5 062 696 729	100,00%

When observing Figure 3-4 and Table 3-5 what becomes evident is that projects relating to upgrading have the highest total project demand. The table confirms this by indicating that upgrading projects account for 48,68% of the total project demand, whilst new projects (31,11%) and renewal projects (20,19%) have the second and third-largest total project demand. The table indicates that most projects in the infrastructure projects portfolio are new projects (169), and that there are more upgrading projects (106) than renewal projects (92).

3.3 Investment Demand and Growth: The Infrastructure Planning Equation

Long-term customer growth is usually one of the biggest drivers of investment demand. The ability to address annual customer growth ensures, at a minimum, that increases in backlogs do not occur. However, it adds to operating expenditure and the maintenance burden of a service provider that must offset income and revenue streams through appropriate cost recovery processes.

below shows the relationship and components of infrastructure and service delivery. Within this framework, the demand for infrastructure services (investment programme) is the sum of existing backlogs and household growth plus service upgrading requirements and asset renewals. Capital expenditure funds the investment programme. The capital expenditure adds interest and redemption, operating and maintenance, and bulks purchases costs to the current or operating account of the Council. Capital subsidies and grants, connection and bulk service contributions, and borrowing funds the capital account.