Local Authorities Transfer Fund (LATF) is an Inter-Governmental Transfer System which provides resources to Local Authorities (Councils) to supplement the financing of services and facilities required by the citizens. The Government of Kenya established LATF in 1999 with the objective of improving service delivery, improving financial management, and reducing the outstanding debt of local authorities (LAs). The purpose of this study was to investigate the effects of LATF on effective service delivery in local authorities in Kenya with specific reference to County Council of Nyeri. Using a descriptive study design, the study targeted all the councilors elected and nominated to the Nyeri county council. Employing a census approach, the researcher sampled 51 councilors with 40 being elected and 11 appointed to the council. Data was collected using a structured questionnaire. Data analysis was done using Microsoft excel and SPSS version 20 for windows. The effect of allocations and disbursement of LATF funds on service delivery was found to be high (mean 1.50, SD = 0.580). The study found that that LATF funds have led to greater public participation by community involvement (62.5%) when the study participants were requested to name ways in which (in their opinion) the LATF programme had influenced service delivery or lack thereof. The influence of government policies and regulations on service delivery was also found to be moderate (Mean =2.5, SD =0.875). The majority (60%) felt that Nyeri county council's compliance with the LATF act and regulations was very high. That the government policy formulation was wanting was the most popular response with 68.3% giving it as one of the ways when the respondents through an open ended question were asked to name ways in which government policies and regulations affected service delivery. The financial planning process (LASDAP) was found to have a high influence (Mean = 1.46, SD = 0.743) on service delivery. A share of 79% of the respondents agreed that the LATF amount requested was based on the county council's budgeted activities. The majority (68%) rated the effectiveness of the council's budget in enhancing service delivery as very high however 22.9% of the study participants rated the same as moderate. 49% of the study participants felt that the LATF amount was adequate in meeting the budget targets while 39% felt the amount was inadequate. Finally, monitoring and evaluation of the use of LATF was found to have a moderate (Mean = 2.04, SD =0.713) influence on service delivery. The participants unanimously agreed that monitoring and evaluation ensured accountability and transparency thereby reducing or eliminating embezzlement or misappropriation of funds. This (according to the respondents) was good for service delivery. All in all Allocation and disbursement of LATF (37.5%) (Mean = 1.50, SD = 0.580) emerged as the most popular factor that influenced service delivery. The researcher concluded that that the allocation criteria of LATF amounts was not satisfactory and that the allocation amounts were not enough to ensure effective service delivery. Among others, the researcher concluded that the government should look to increase the allocations amounts as they have been found to be insufficient in many cases.