Conventional methods of elicitation have severe limitations where sensitive information is being sought, resulting from both self-disclosure and recall bias. The use of diaries largely circumvents both of these problems. Four hundred and three female sex workers based on a section of the Trans-Africa Highway in Kenya completed standard diaries for consecutive 28-day periods. Variables measured included numbers and types of different clients, condom use, occupation of client, movement patterns and days of menses. Mean numbers of sexual partners, liaisons and sex acts and inter-relationships between the variables measured are analysed. The study affirms the value of diaries as an elicitation method for studying transactional sex in a resource-poor setting. Useable diaries were received from 70% of those who had agreed to participate in the study. The diaries yield detailed quantitative data that describe the characteristics and dynamics of transactional sex on a major highway in Africa and provide information that may be used to estimate HIV transmission rates.