

Table 3-1. Values for Investment Model Parameters

Parameter	Description	Value
$k_2$	Cost of constructing pavement, per lane mile per unit of durability (1982 dollars)	
	Flexible pavement	21,836.1
	Rigid pavement	11,718.3
$k_m$	Resurfacing costs per lane mile (1982 dollars)	
	Rural	
	Principal arterial—interstate	75,539.2
	Principal arterial—other	54,102.4
	Minor arterial	42,873.6
	Major collector	16,332.8
	Minor collector	18,374.4
	Urban	
	Principal arterial—interstate	169,267.2
	Principal arterial—other freeways	169,267.2
	Principal arterial—other	131,961.6
	Minor arterial	131,961.6
Collector	131,961.6	
$r$	Real interest rate (percent)	6.0
$m$	Annual rate of increase in pavement roughness due to aging (percent)	
	Rigid pavement	0.0
	Flexible pavement	4.0
$\lambda$	Proportion of loadings occurring in right-hand lane	
	One–three lanes	1.0
	Four–five lanes	0.9
	Six or more lanes	0.7

Sources: Construction costs ( $k_2$ ) are derived from the average contract price for either Portland cement concrete (rigid pavement) or bituminous concrete (flexible pavement) delivered and spread in place. Cost per unit of delivered material is given in Federal Highway Administration, *Price Trends for Federal-Aid Highway Construction* (Department of Transportation, 1985), p. 2; we have added 15 percent for overhead and deflated to 1982 dollars using the "structures" component of the FHWA highway construction cost index, from Federal Highway Administration, *Highway Statistics, 1986* (Department of Transportation, 1987) p. 58. Resurfacing costs are from the Federal Highway Administration, *Highway Performance Monitoring System Analytical Process*, vol. II, Version 2.0: *Technical Manual* (Department of Transportation, 1986)—our rural parameters are those for "rolling" terrain on p. II-10, and our urban parameters are the average between "built-up" and "outlying" areas on p. II-13, assuming all noninterstates are undivided; we have added disruption costs of 20 percent for urban roads and 10 percent for rural roads, and deflated to 1982 dollars using the "surfacing" component of the FHWA index cited above. The interest rate should represent the alternative real cost of public funds; our choice of 6 percent lies between the historical real rate of return on bonds and real pretax rate of return in the private sector. The increase in the rate of roughness due to aging is discussed in the chapter 2 appendix. The proportion of loadings occurring in the right-hand lane is from the FHWA index cited above, p. II-16.