maintenance\_formulae

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## Maintenance formulae

In a word document ready to copy and paste to include in methods section or appendix.

n\_rebmain <- function(rebuild\_monies = R, rebuild\_cost = r,  
 current\_n = current\_state[1] ) {   
 (rebuild\_monies / rebuild\_cost) + current\_n  
}  
  
# A  
a\_rebmain <- function(maint\_monies = M,  
 x1 = x\_b, x2 = x\_c, x3 = x\_d,  
 cb = cost\_b, cc = cost\_c, cd = cost\_d,  
 current\_a = current\_state[2]) {  
 current\_a +   
 ((x1 \* maint\_monies) / cb) +   
 ((x2 \* maint\_monies) / cc) +   
 ((x3 \* maint\_monies) / cd)  
}  
  
  
# B  
b\_rebmain <- function(alf\_1. = alf\_1,  
 alf\_2. = alf\_2,   
 b = current\_state[3],  
 y1 = y\_b,  
 R. = R,  
 h. = h,  
 x1 = x\_b,  
 M. = M,  
 cb = cost\_b) {  
   
 (alf\_1. \* (b - (y1 \* (R. - h.))/ r )) +  
 (alf\_2. \* (b - ((x1 \* M.) / cb)))  
}  
  
  
# C  
c\_rebmain <- function(alf\_1. = alf\_1,  
 alf\_2. = alf\_2,  
 c = current\_state[4],  
 y2 = y\_c,  
 R. = R,  
 h. = h,  
 x2 = x\_c,  
 M. = M,  
 cc = cost\_c) {  
   
 (alf\_1. \* (c - y2 \* (R. - h.)/ r )) +  
 (alf\_2. \* (c - ((x2 \* M.)/ cc)))  
}  
  
# D  
d\_rebmain <- function(alf\_1. = alf\_1,  
 alf\_2. = alf\_2,  
 d= current\_state[5],  
 y3 = y\_d,  
 R. = R,  
 h. =h,  
 x3 = x\_d,  
 M. = M,  
 cd = cost\_d) {  
   
 (alf\_1. \* (d - y3 \* (R. - h.)/ r )) +   
 (alf\_2. \* (d - ((x3 \* M.)/ cd)))  
}  
  
# E  
e\_rebmain <- function(alf\_1. = alf\_1,  
 alf\_2. = alf\_2,  
 e = current\_state[6],  
 R. = R,  
 r. = r) {  
 (alf\_1. \* e) + (alf\_2. \* (R. /r.))  
}