Just a cut from paper by Heinz Spiess and Michael Florian, Optimal Strategies: A New Assignment Model for Transit Networks, 1988, pages 93-94

Algorithm 1: Algorithm that solves the transit assignment problem

Result: Optimal strategy

begin
  // Part 1: Find optimal strategy
  // 1.1 Initialization
  $u_r = 0$
  $u_i = \infty$ for all $i \in I \setminus \{r\}$
  $f_i = 0$ for all $i \in I$
  $S = A$; $\overline{A} = \emptyset$
  // 1.2 Get next link
  if $S = \emptyset$ **then**
    STOP;
  end
  else
    find $a = (i, j) \in S$ which satisfies
    $u_j + c_a \leq u_{i'} + u_{a'}$, $a' = (i', j') \in S$
    $S = S \setminus a$
  end
  // 1.3 Update node label
  if $u_i \geq u_j + c_a$ **then**
    $u_i = \frac{f_i * u_i + f_a * (u_j + c_a)}{f_i + f_a}$
    $f_i = f_i + f_a$
    $\overline{A} = \overline{A} \cup a$
  end
  Part 2: Assign demand according to optimal strategy
  // 2.1 Initialization
  $V_i = g_i$, $i \in I$
  // 2.2 Loading
  Do for every link $a \in A$, in decreasing order of $(u_j + c_a)$
  if $a \in \overline{A}$ **then**
    $v_a = \frac{f_a}{f_i} V_i$
    $V_j = V_j + v_a$
  end
  else
    $v_a = 0$
  end
end