

3. Example with 5 vertices and 3 non-dominated path

Graph's vertices: 0, 1, 2, 3, 4

edges: (a) (0 → 1), time = 2, cost = 5

(b) (0 → 2), t = 3, c = 8

(c) (1 → 3), t = 4, c = 6

(d) (1 → 4), t = 5, c = 10

(e) (2 → 3), t = 3, c = 7

(f) (2 → 4), t = 4, c = 9

(g) (3 → 4), t = 1, c = 3

Simulated : 1. Initially at Vertex 0 (empty frontier)

Algorithm 2. Add (0, 0) to frontier

3. Add (5, 2) → vertex 1

4. Add (8, 3) → vertex 2

Choose cheapest path → 5. Expand vertex 1: Choose (5, 2) and
Add (11, 6) → vertex 3
Add (15, 7) → vertex 4

6. Expand vertex 2: Choose $(6, 5)$ and
Add $(15, 6)$ for vertex 3
Add $(17, 7)$ for vertex 4

7. Expand vertex 3: Choose $(11, 6)$ and
Add $(14, 7)$ for vertex 4

8. Find remaining path, $(14, 7) \rightarrow$ reach vertex 4

Summary: Path: $0 \rightarrow 1 \rightarrow 3 \rightarrow 4$
Time = 7, Cost = 14