

| Instruction class | Instruction fetch | Register read | ALU operation | Data access | Register write | Total time |
|-----------------------------------|-------------------|---------------|---------------|-------------|----------------|------------|
| Load word (lw) | 200 ps | 100 ps | 200 ps | 200 ps | 100 ps | 800 ps |
| Store word (sw) | 200 ps | 100 ps | 200 ps | 200 ps | | 700 ps |
| R-format (add, sub, AND, OR, slt) | 200 ps | 100 ps | 200 ps | | 100 ps | 600 ps |
| Branch (beq) | 200 ps | 100 ps | 200 ps | | | 500 ps |

FIGURE 4.26 Total time for each instruction calculated from the time for each component. This calculation assumes that the multiplexors, control unit, PC accesses, and sign extension unit have no delay.