

CU Boulder AED Inventory Work Plan

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Prepared for: CU Boulder Division of Public Safety

Total Work Blocks: 1

PROJECT LABOR ESTIMATE

Total Estimated Labor: 3.7 hours

Total Buildings: 10

Total AEDs to Inventory: 16 (assumed)

Average Time per Building: 22.1 minutes

Average Time per AED: 5 minutes

Instructions for Student Worker:

1. Each AED check should take approximately 5 minutes
2. Follow the building order shown in each work block
3. Record any issues or missing AEDs immediately
4. Take photos of AED locations for verification
5. Contact supervisor if any building is inaccessible
6. Walking times are estimates - allow extra time for navigation

Work Block Summary:

Block 1: 10 buildings, 16 AEDs, ~221 minutes (3.7 hours)

METHODOLOGY & ASSUMPTIONS

Time Calculation Logic:

BASE ASSUMPTIONS:

- AED Location Buffer: Variable per building (default 8 minutes)
 - Time to search each building section and locate all AEDs
 - Customizable per building based on complexity and size
 - Accounts for buildings with multiple wings/sections
 - First-time inventory requires thorough exploration
 - Includes checking common AED locations (lobbies, hallways, etc.)
- AED Inspection Time: 5 minutes per device
 - Includes visual inspection and documentation
 - Based on standard safety inspection protocols
 - Applied after AEDs are located
- Building Navigation Time: Variable by building size
 - Large buildings (>50,000 GSF): +1 minute per 50k sq ft
 - Accounts for finding AEDs within complex buildings
 - Includes elevator wait times and navigation

• Inter-Building Travel Time:

- Walking speed: 3.1 mph (83 meters/minute)
- Driving speed: 25 mph (671 meters/minute)
- Automatically switches to driving for trips > 20 minutes walking
- Driving time includes 3 minutes for parking and walking to building
- Calculated using GPS coordinates and straight-line distance
- Includes time for building entry/exit

CLUSTERING ALGORITHM:

- Maximum cluster time: 240 minutes (4 hours)
- Geographic proximity prioritized to minimize travel
- Logical building sequences to optimize efficiency

LABOR CALCULATIONS:

- Each work block assigned to one individual
- Times include all necessary activities:
 - Travel between buildings
 - Building access and navigation

- AED location and inspection
- Documentation and reporting

CONTINGENCY CONSIDERATIONS:

- Add 10-15% buffer for unforeseen delays
- Some buildings may require special access
- Weather conditions may affect travel times
- Student worker may need occasional guidance

STAFFING RECOMMENDATIONS:

- Total work blocks generated: 1
- Available student workers: 10
- Work blocks per worker: 1
- Maximum time per worker: ~3.7 hours
- Total project time: 3.7 hours
- Completion timeline: 1 day (one block per worker)
- Supervision needed: Minimal (after initial briefing)
- Estimated labor cost: 3.7 hours × student hourly rate

Work Block 1

Total Time: ~221 minutes (3.7 hours)

Buildings: 10

Total AEDs: 16 (assumed)

AED Location Time: ~80 minutes (variable per building)

AED Inventory Time: ~80 minutes (5 min/AED)

Building Navigation: ~1 minutes

Travel Time: ~60 minutes

Step-by-Step Instructions:

Step	Activity	Location	Time	Cumulative
1	Locate AEDs in building	721EMRY	8 min	8 min
2	Inventory 3 AEDs	721EMRY	15 min	23 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (GUARDIAN STORAGE LONGMONT (721EMRY))				
3	Drive to next building	From 721EMRY to 5425AIR	29 min	52 min
4	Locate AEDs in building	5425AIR	8 min	60 min
5	Inventory 3 AEDs	5425AIR	15 min	75 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (5425 AIRPORT ROAD (5425AIR))				
6	Drive to next building	From 5425AIR to PRL3	6 min	81 min
7	Locate AEDs in building	PRL3	8 min	89 min
8	Inventory 3 AEDs	PRL3	15 min	104 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (4845 PEARL EAST CIRCLE (PRL3))				

Step	Activity	Location	Time	Cumulative
9	Walk to next building	From PRL3 to 5555CNT	9 min	113 min
10	Locate AEDs in building	5555CNT	8 min	121 min
11	Inventory 1 AED	5555CNT	5 min	126 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (5555 CENTRAL AVENUE (5555CNT))				
12	Walk to next building	From 5555CNT to PPCB	16 min	142 min
13	Locate AEDs in building	PPCB	8 min	150 min
14	Inventory 1 AED	PPCB	5 min	155 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (POTTS/PRENTUP CONCESSIONS BUILDING (PPCB))				
15	Walk to next building	From PPCB to TB83	0 min	155 min
16	Locate AEDs in building	TB83	8 min	163 min
17	Inventory 1 AED	TB83	5 min	168 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (POTTS FIELD TRACK STORAGE (TB83))				
18	Walk to next building	From TB83 to TB84	0 min	168 min
19	Locate AEDs in building	TB84	8 min	176 min
20	Inventory 1 AED	TB84	5 min	181 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (BRYAN BENJAMIN SAX SKI TEAM BUILDNG (TB84))				
21	Walk to next building	From TB84 to TB85	0 min	181 min
22	Locate AEDs in building	TB85	8 min	189 min
23	Inventory 1 AED	TB85	5 min	194 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (AUXILARY TRACK STORAGE NORTHWEST OF POTTS FIELD (TB85))				
24	Walk to next building	From TB85 to SKIS	0 min	194 min
25	Locate AEDs in building	SKIS	8 min	202 min
26	Inventory 1 AED	SKIS	5 min	207 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (SKI CENTER STORAGE (SKIS))				

Step	Activity	Location	Time	Cumulative
27	Walk to next building	From SKIS to SLKR	0 min	207 min
28	Locate AEDs in building	SLKR	8 min	215 min
29	Inventory 1 AED	SLKR	5 min	220 min
Address: University of Colorado Boulder Campus, Boulder, CO 80309 (SOCCER LOCKER ROOM (SLKR))				
TOTAL			221 min	(3.7 hours)

Route Map:

