

Prediction of Menu Selection Times Parked and While Driving Using the SAE J2365 Method

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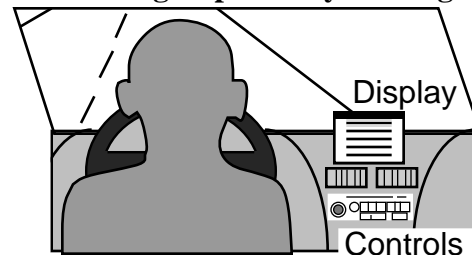
1 Issues

1. How does the menu-selection task time vary with the number of keystrokes?
2. How do the task times obtained for single task entry (while parked) compare to the task times obtained during dual task conditions (entry while driving)?
3. How do estimates from SAE J2365 compare with the task times obtained experimentally?
4. How could the operator elements in SAE J2365 be adjusted to obtain a better fit to the task times obtained experimentally?

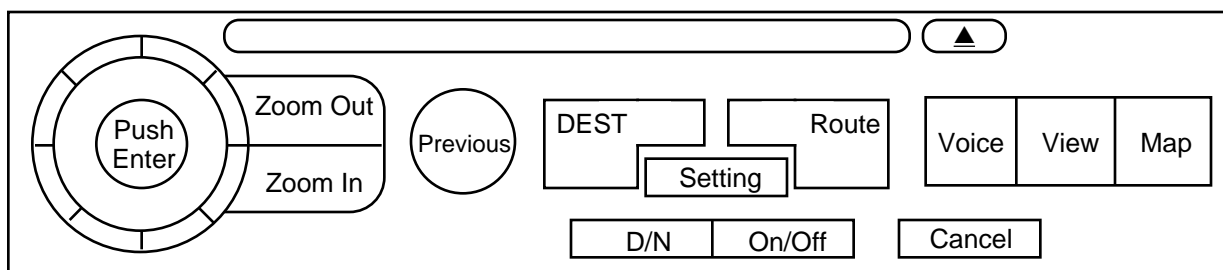
2 Test Plan

Test Participants (N=8)		
Drivers Age 20-30	Nav. System Experience	
	Experienced	Never Seen
Men	2	2
Women	2	2

Task Performed While Parked and During Expressway Driving



Control Layout (2000 Nissan Infiniti I30/Q45)



Destination Selection Task (Nearby Point of Interest)

Category Match—step 1

Quick Stop
Select one of the following:

- ATM (Cash)
- Gas Station
- Restaurant
- Hospital
- Grocery Store (User Defined)

Identity Match—step 2

Quick Stop
Select one of the following:

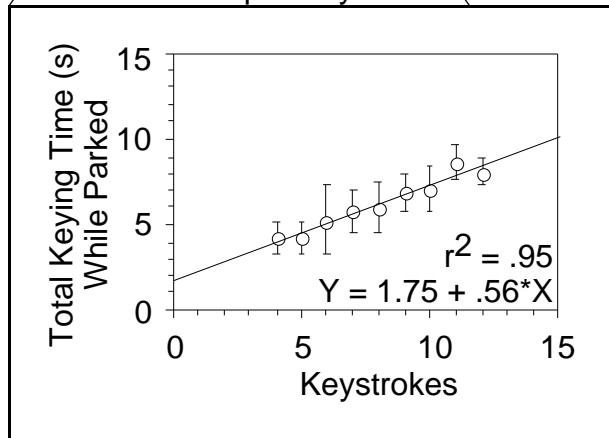
- McDonald's (Ann Ar... ↗ 0.4 mi
- Wendy's (Ann Arbor) ↑ 1.2 mi
- McDonald's (Ann Ar... ↖ 2.2 mi
- Burger King (Ann Ar... ↖ 2.2 mi
- Pizza House (Ann A... ↖ 2.3 mi

3 Results - Destination Selection

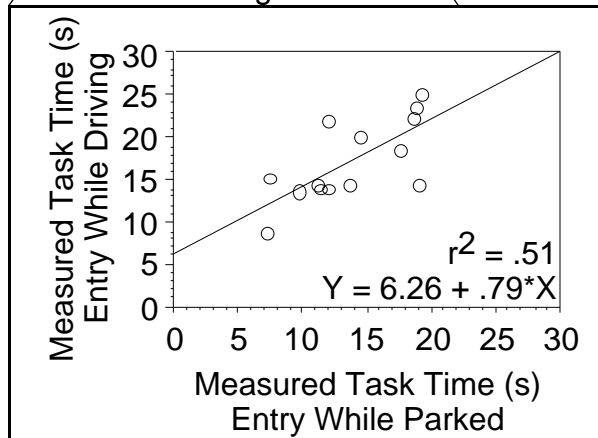
Task Time Summary

	Overall Number of Keystrokes	While Parked Measured Task Time (s)	System Delay (s)	Keying Time (s)	While Driving Measured Task Time (s)
Mean	8.8	13.20	7.07	6.13	15.85
Std. Dev.	2.4	4.55	3.18	1.87	5.79
Minimum	4.0	6.43	3.23	3.03	4.90
Maximum	13.0	22.97	13.97	9.97	30.67

Issue 1: Time per Keystroke

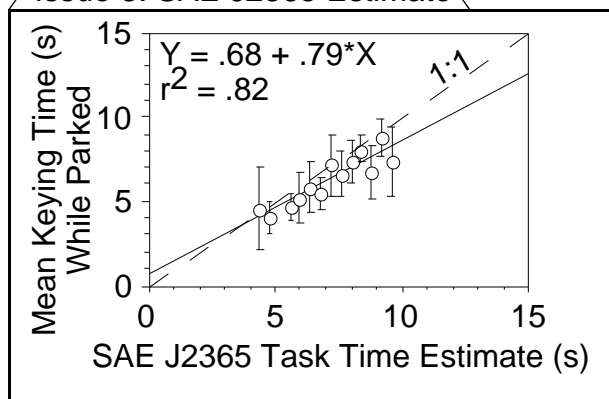


Issue 2: Driving vs. Parked

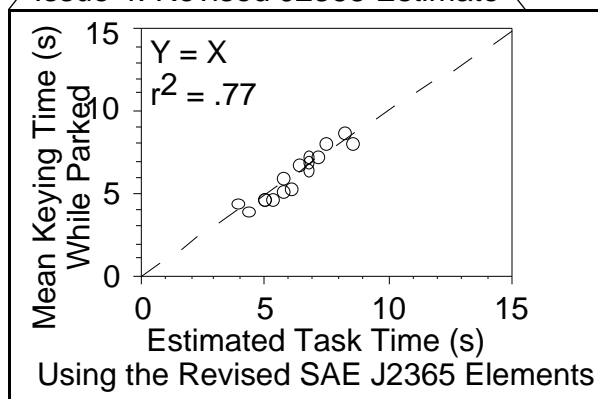


4 Results - Implications for SAE J2364 and J2365

Issue 3: SAE J2365 Estimate



Issue 4: Revised J2365 Estimate



Issue 4: SAE J2365 Operator Estimates

Operator Elements	SAE J2365 Estimate (s)	Revised Estimate (s)
Enter Keystrokes	1.20	1.06
1 st Cursor Keystroke	0.80	0.72
Additional Cursor Keystrokes	0.40	0.36