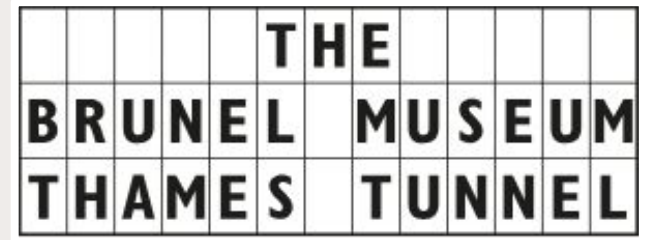


# Audio Guide Development & Visitor Research at the Brunel Museum

WPI London Project Center — Spring 2024

**24 April, 2024**

Benjamin Antupit, Natalie Carrington,  
Connor Quinn and Sage Ugras



# Meet the Team



**Benjamin Antupit**  
Robotics Engineering



**Natalie Carrington**  
Mechanical and  
Materials Engineering



**Connor Quinn**  
Electrical and  
Computer Engineering



**Sage Ugras**  
Mechanical and  
Materials Engineering

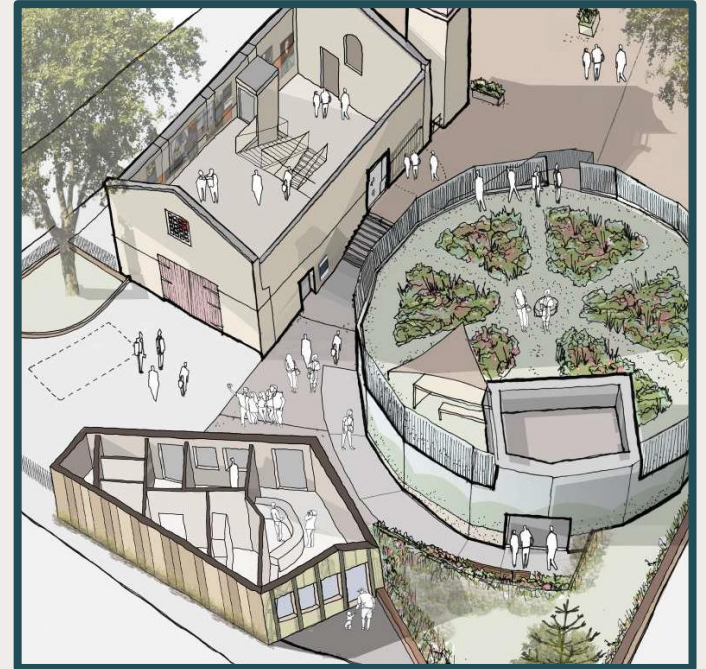
# The Brunel Museum



# The Reinvented Project



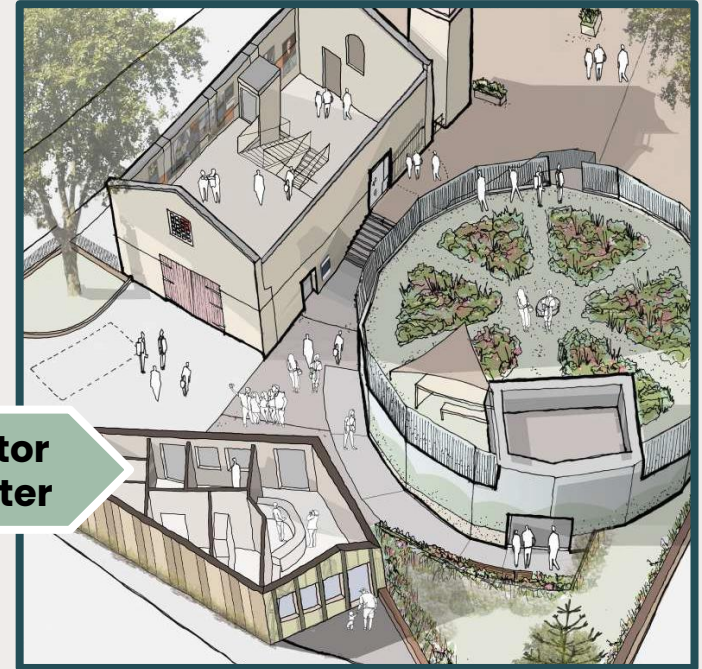
\* Proposed Layout as of 2021



# The Reinvented Project

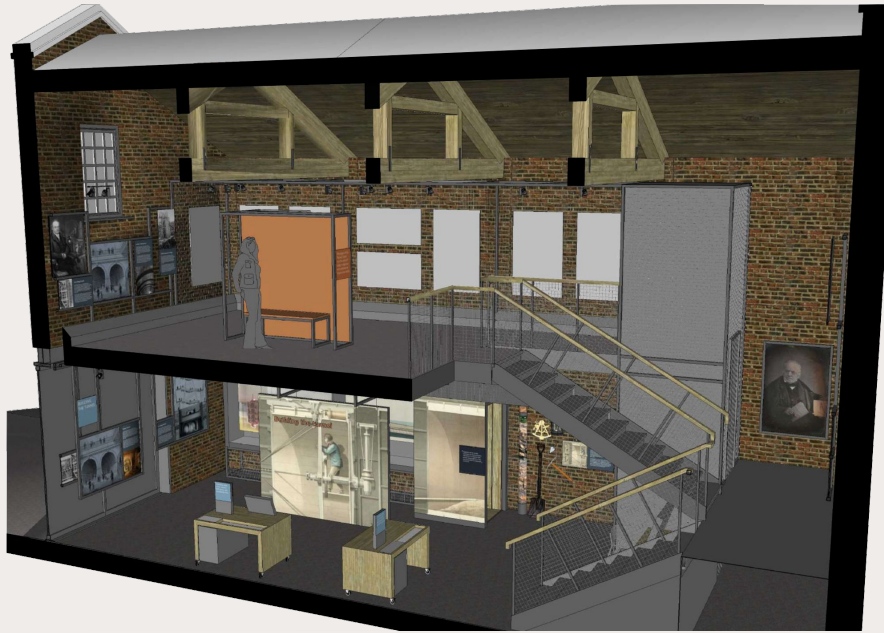


\* Proposed Layout as of 2021



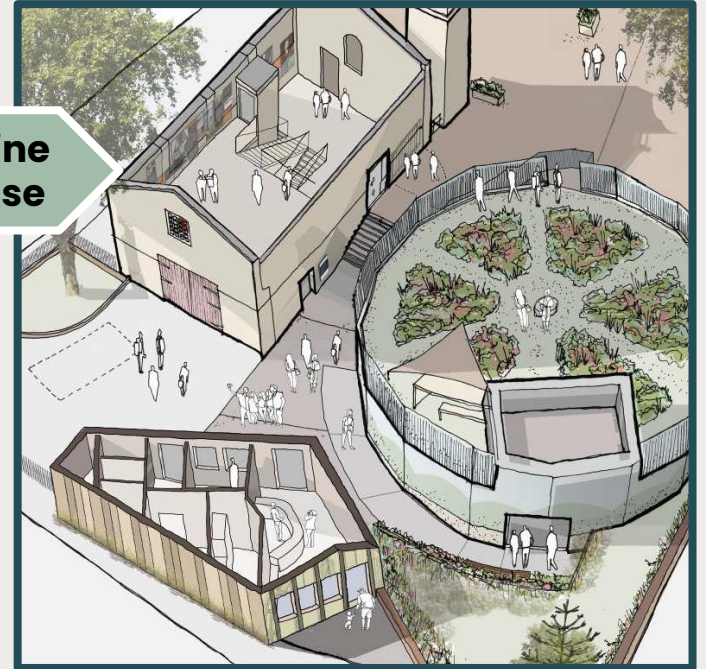
**Visitor  
Center**

# The Reinvented Project



\* Proposed Layout as of 2021

Engine House



# Project Goal

- To support future exhibit organisation improvements
  - Create a prototype audio guide
  - Develop a visitor tracking & heat mapping tool
  - Collect visitor data in the Engine House



# Project Objectives



Assessed audio guides at local museums



Created and tested a visitor tracking tool




Developed a prototype audio guide



Summarized our research findings and recommendations





# Audio Guides

# Why Audio Guides?

- Visitor Engagement
- Accessibility



# Audio Guide Evaluations



**FREUD** MUSEUM  
LONDON

**Bank of England Museum**



**CHISWICK**  
HOUSE & GARDENS

THE  
**NATIONAL  
GALLERY**



**Historic Royal Palaces  
Tower of London**



# Interviews



**Emily Tarry**

Development

Audience



**Lucy Tindle**

Narrator

Stop Length

**FREUD** MUSEUM  
LONDON

**Iveta Rozlapa  
& Martin Bladh**

Technology Choice

Navigation

# Interviews

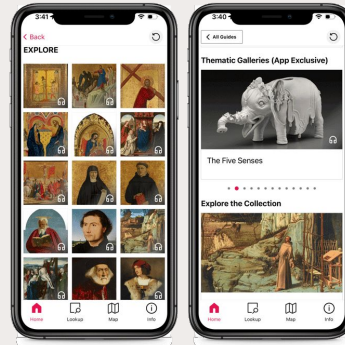
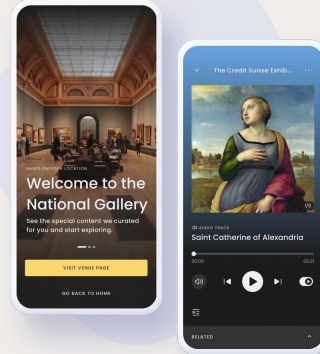
SMARTIFY



GUIDE-ID

ART<sup>UK</sup>

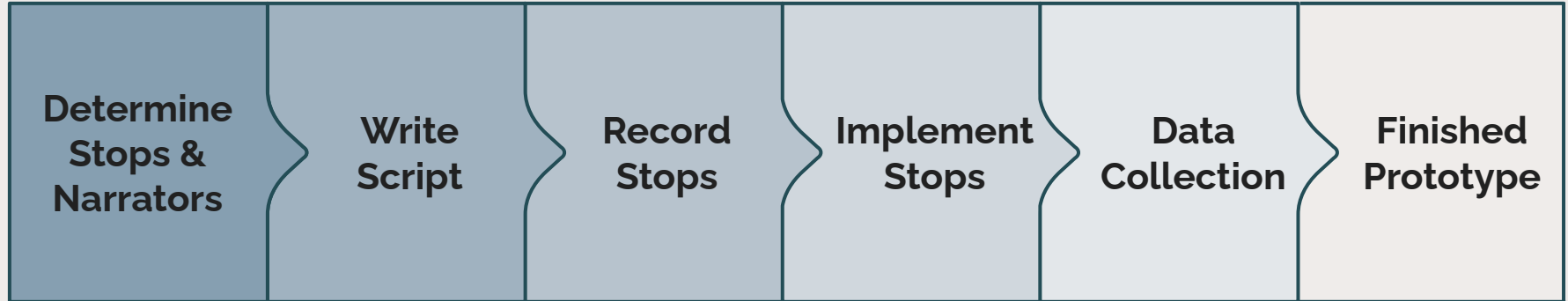
Bloomberg  
Connects






# Our Audio Guide

# Design & Development



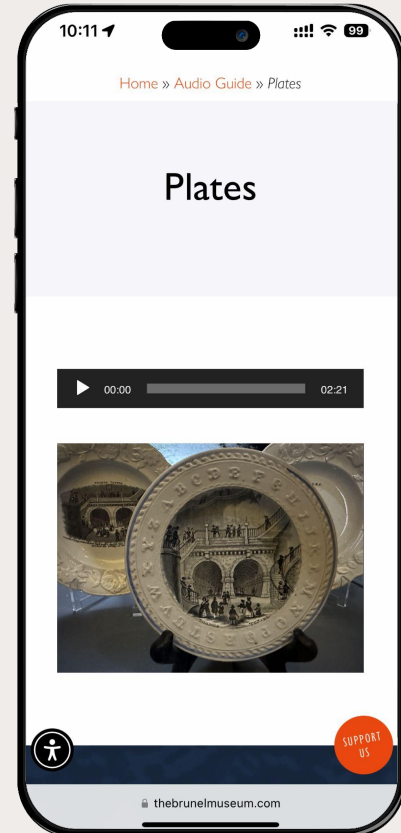
# Sample of Audio Guide

## Question for Stop

Scan here to learn more 



Click  
here to  
Listen



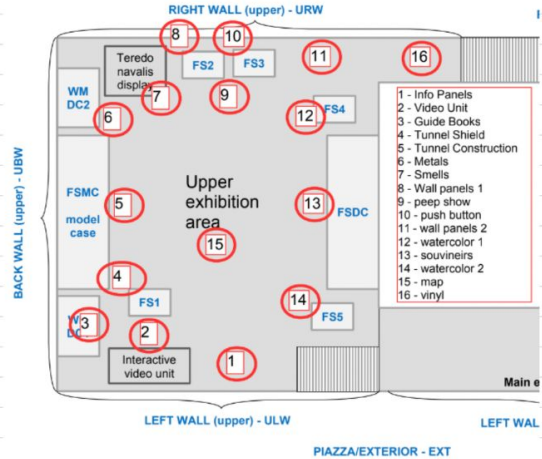




# Visitor Research

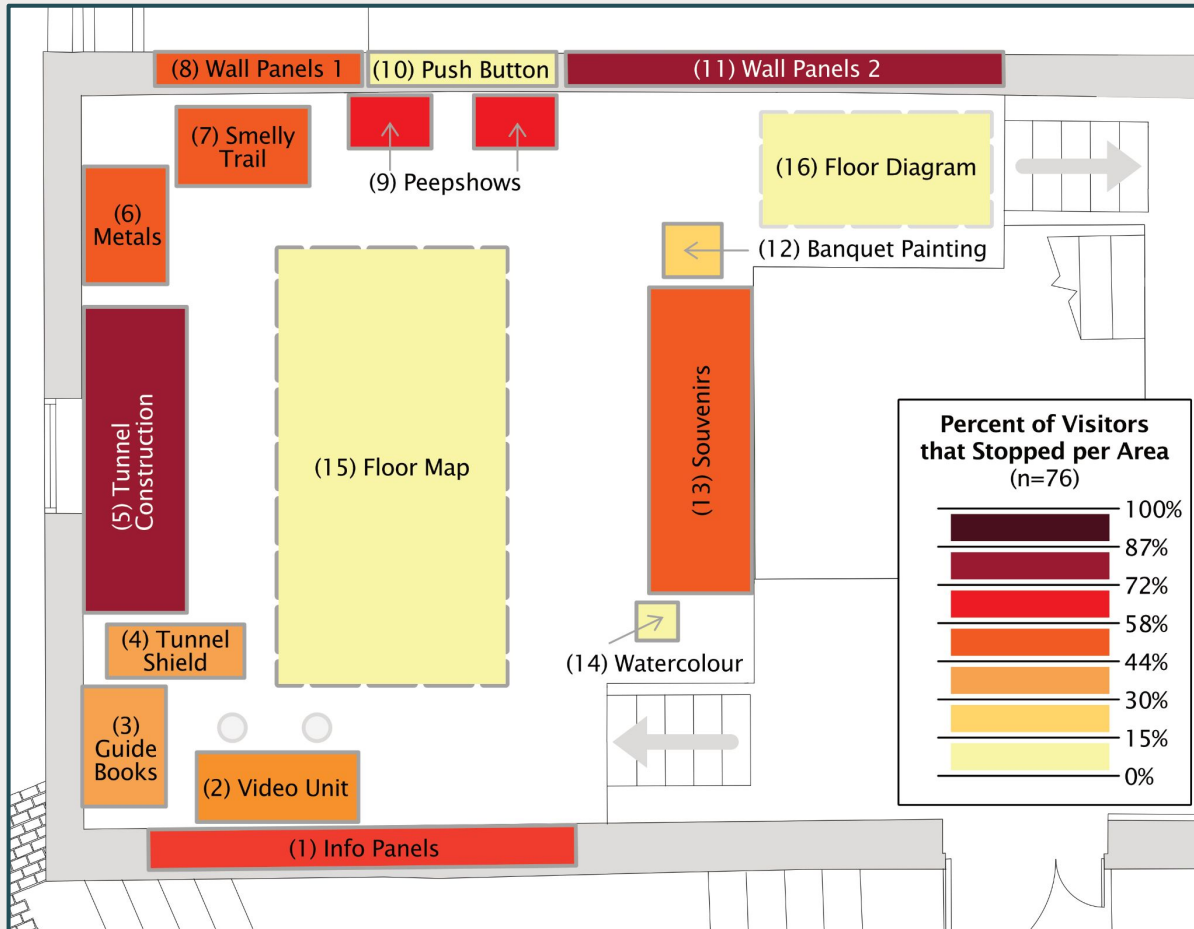
# Tracking System

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Person	START	STOP	Stop Name	(Auto) Start	(Auto) Stop	Duration									
2	* Person A	✓	✓	00 - Total	13:21:37	13:30:01	8min, 23sec									
3	* Person B	✓	✓	00 - Total	13:21:37	13:30:01	8min, 24sec									
4	* Person A	✓	✓	09 - Peep show	13:21:58	13:23:04	1min, 6sec									
5	* Person B	✓	✓	09 - Peep show	13:21:58	13:23:04	1min, 6sec									
6	* Person B	✓	✓	13 - Souvineirs	13:22:57	13:23:40	0min, 44sec									
7	* Person A	✓	✓	13 - Souvineirs	13:23:12	13:23:42	0min, 30sec									
8	* Person A	✓	✓	05 - Tunnel Construction	13:23:45	13:25:08	1min, 23sec									
9	* Person B	✓	✓	05 - Tunnel Construction	13:23:46	13:25:08	1min, 23sec									
10	* Person A	✓	✓	11 - Wall panels 2	13:25:35	13:25:49	0min, 13sec									
11	* Person B	✓	✓	11 - Wall panels 2	13:25:35	13:25:49	0min, 13sec									
12	* Person A	✓	✓	09 - Peep show	13:26:13	13:27:32	1min, 18sec									
13	* Person B	✓	✓	09 - Peep show	13:26:13	13:27:33	1min, 19sec									
14	* Person A	✓	✓	12 - Watercolor 1	13:27:40	13:27:57	0min, 18sec									
15	* Person B	✓	✓	12 - Watercolor 1	13:27:40	13:27:57	0min, 18sec									
16	* Person C	✓	✓	00 - Total	13:27:25	13:45:42	18min, 17sec									
17	* Person C	✓	✓	01 - Info Panels	13:27:57	13:32:44	4min, 47sec									
18	* Person C	✓	✓	03 - Guide Books	13:32:44	13:34:49	2min, 4sec									
19	* Person C	✓	✓	01 - Info Panels	13:34:48	13:34:55	0min, 6sec									
20	* Person C	✓	✓	05 - Tunnel Construction	13:35:00	13:36:16	1min, 16sec									
21	* Person C	✓	✓	06 - Metals	13:36:17	13:36:33	0min, 16sec									
22	* Person C	✓	✓	08 - Wall panels 1	13:36:36	13:38:06	1min, 31sec									

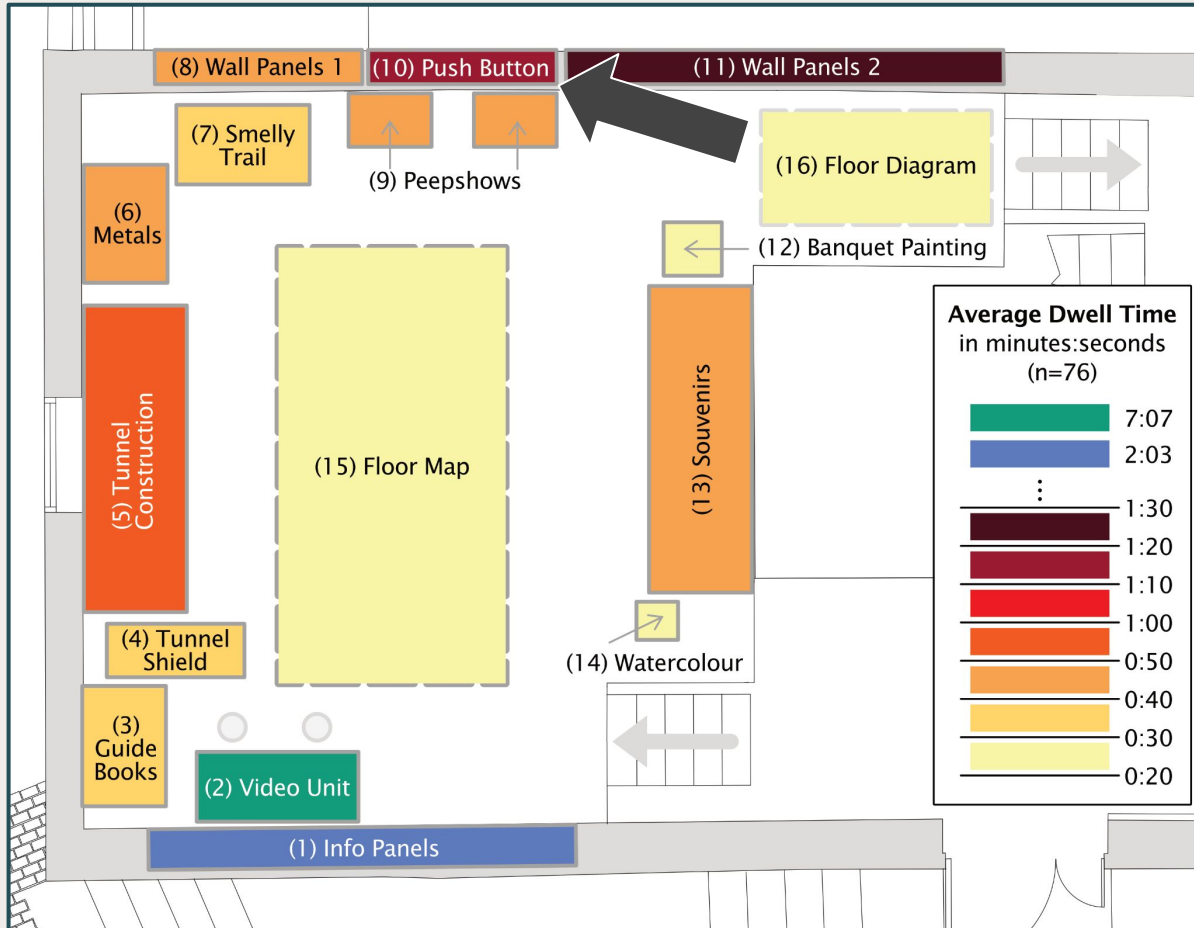


START WITH 0

# Percent of Visitors that Stopped in Each Area



# Average Time Spent in Each Area



# Transparent Illustrations & Push Button



11% of visitors

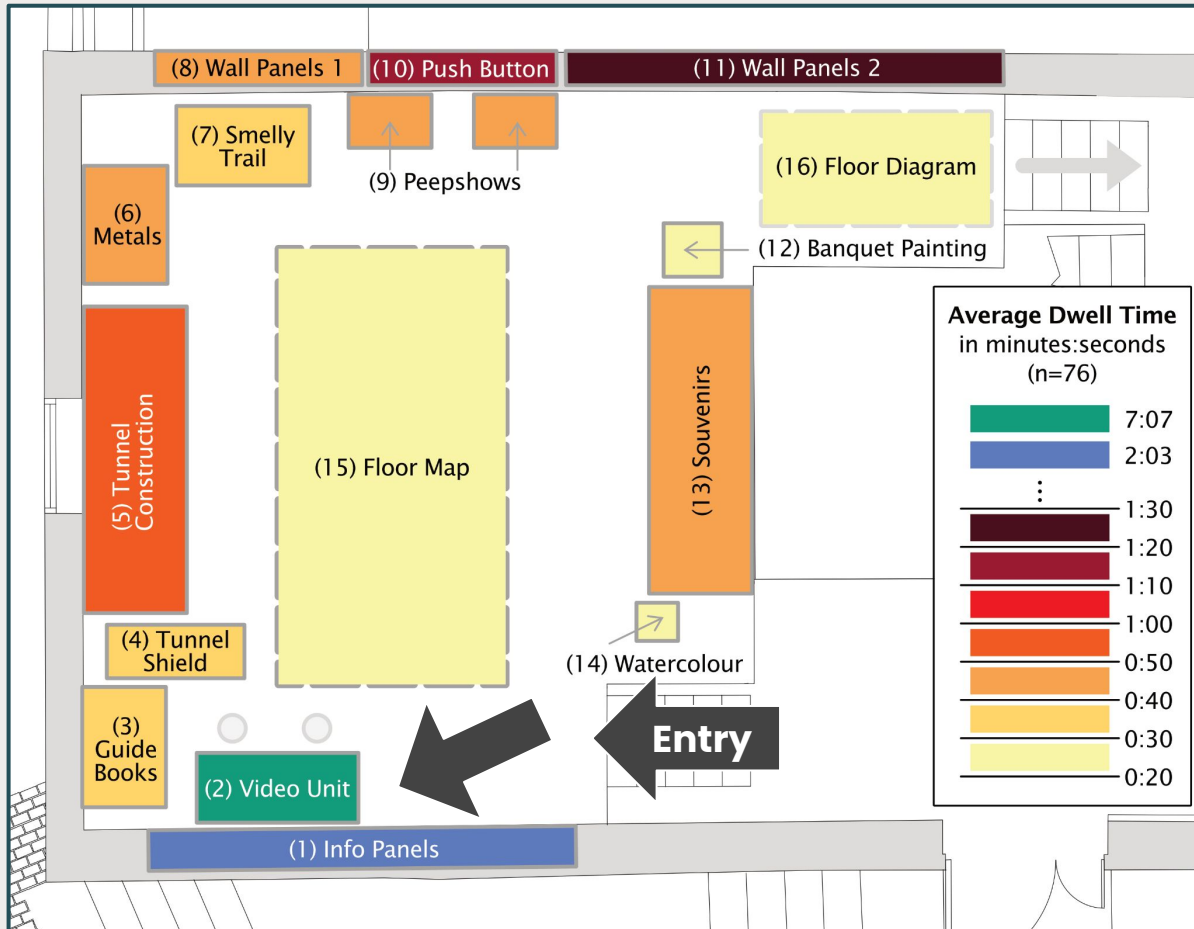
n=76



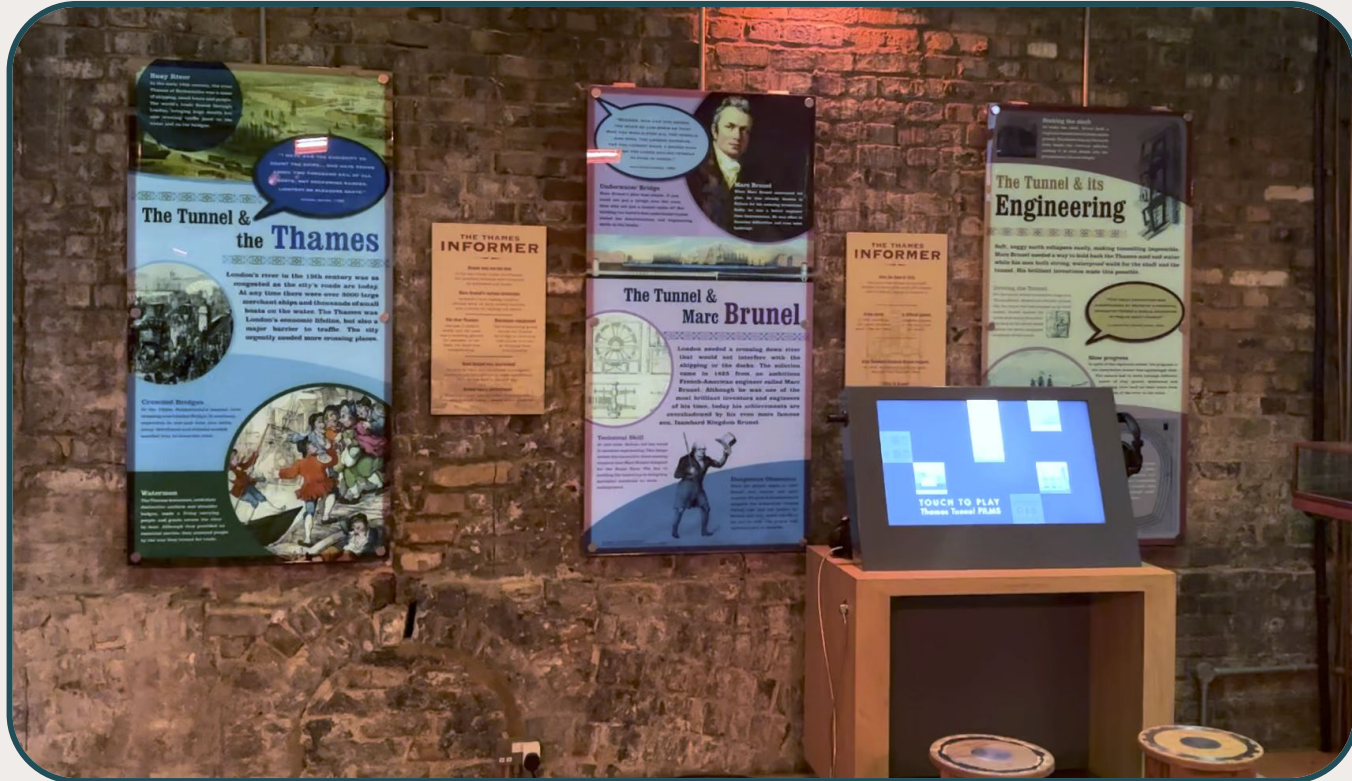
**1 minute 11 seconds**  
on average

4th highest dwell time

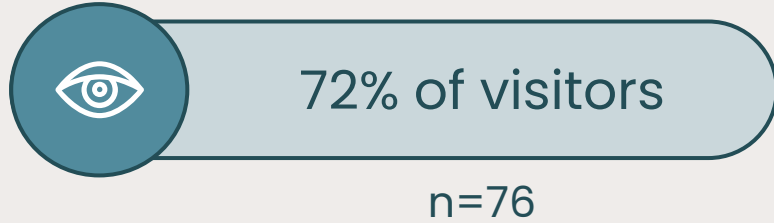
# Average Time Spent in Each Area



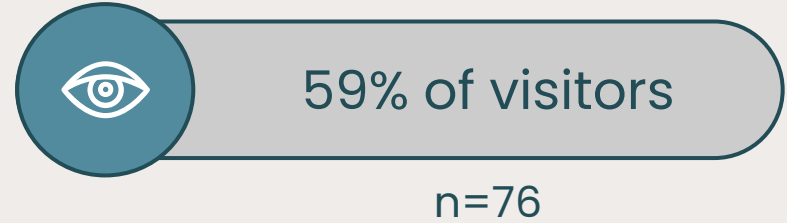
# Info Panels & Video Unit



## Info Panels

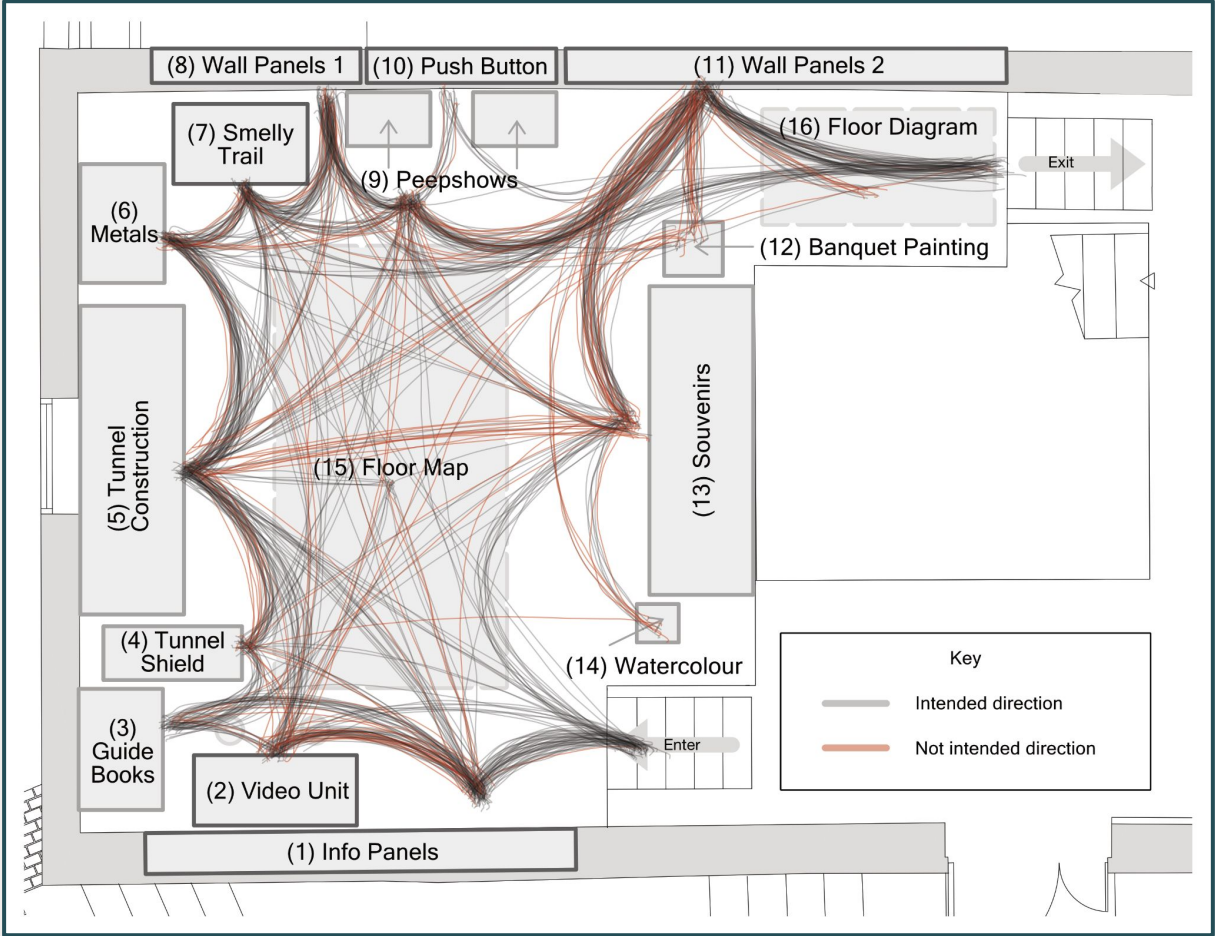


## Video Unit





# Path Map





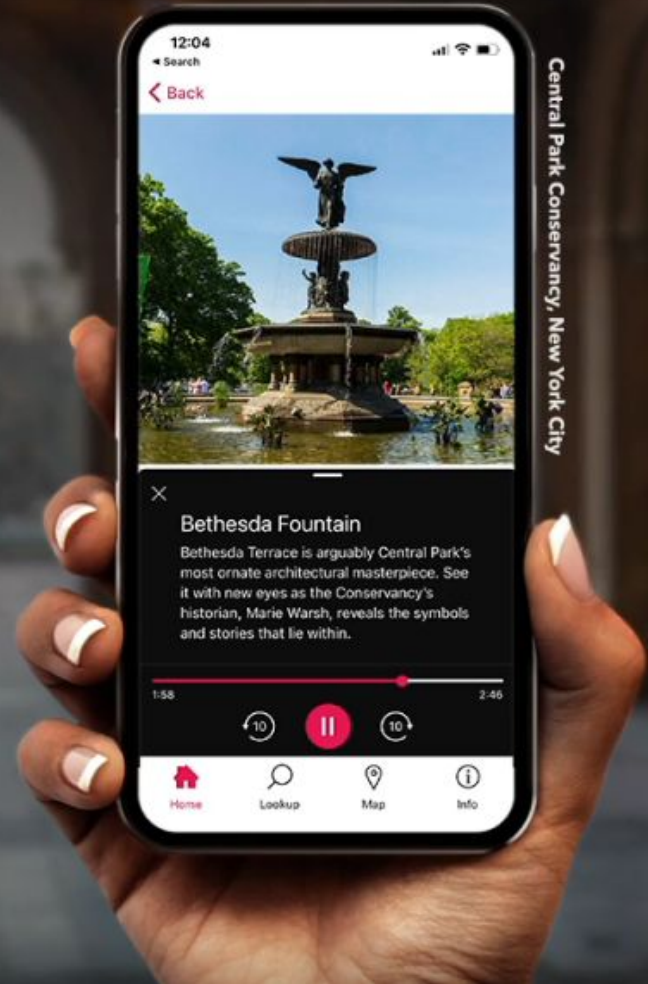
# Recommendations

# Recommendations for an Audio Guide

- **Before Closure:**  
Test guide using existing website
- **During Closure:**  
Implement audio guide



**Bloomberg**  
**Connects**



# Recommendations for the Exhibit Area

- Interactive and Interpretive Exhibits
- Clear and Informative Signage



# Special Thanks

**Jack Hayes** (Collections Access Coordinator)

**Katherine McAlpine** (Director)

Emily Boldry (Community Curator)

Helen Bannigan - Volunteer and contributor to audio guide

Sue Thomas - Volunteer/Tour Guide

Kal Mohammed - Volunteer/Tour Guide

Gill Howard - Volunteer/Tour Guide

Julian Ayre - Reinvented Project Manager

Robert Keirle - Former Collections Access Coordinator

Emily Tarry - National Portrait Gallery (Production Assistant)

Lucy Tindle - Imperial War Museums (Exhibitions and Interpretation Manager)

Iveta Rozlapa - Freud Museum (Retail Manager)

Martin Bladh - Freud Museum (Retail Supervisor)

Sarah Eastabrook - Chiswick House (Group Bookings Coordinator)

Esther White - Art UK (Collections Content and Liaison Officer)

Farnaz Khoshnazar - Guide ID (Business Manager)

Anna Lowe - Smartify (Director of Partnerships)

Thanos Kokkiniotis - Smartify (Co-founder)

Dominic Golding and Bruce Bursten - WPI (Project Advisors)

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