

Full Speed Ahead!

{Letter to the London Transport Museum Program Coordinator}

DRAFT

To whom it may concern,

The Full Speed Ahead Program (FSAP) is designed to inspire year 10 and 11 students to pursue a career in engineering through hands-on activities and connections to the London Transport Museum's (LTM) rich collection. There are ten sessions, including a visit to the museum galleries. Teachers may choose to use any number of the sessions, which combined will have students create a train and a track with a bridge, tunnel, and station, among other tasks. We believe this curriculum will inspire students to pursue engineering, and empower them with the confidence to do so, as well as show them the breadth and depth of engineering as a field.

Our development of the program included input from educators, engineers, and students in a small-scale pilot of the most challenging sessions, as well as members of the LTM's Learning Office. We recommend that you meet with teachers who use the program to gather feedback on what went well and what should be improved; for example, you may hold a focus group, visit participating classrooms, or collect information via phone or email. These comments, paired with the recommendations included in our final report, could be used to improve the FSAP over time.

We have suggested handling objects for each session that can help enhance a student's experience in the FSAP. Engineering Ambassadors from Transport for London could bring one or two of these objects to classes using the program to further engage them in real-world engineering challenges. These suggested items should be set up in a box, which has an inventory sheet, the objects to be used, and a laminated sheet for each object with a picture and some notes for Engineering Ambassadors to invite a discussion with students on the features of the object. A list of the suggested handling objects and relevant exhibits at the LTM is included here:

| Session | Handling Object/Link to LTM | Sign in | Sign out |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| Business As Usual | Frank Pick Metroland Exhibit Metroland Door Handle Johnston Woodblocks (T&E) | N/A | N/A |
| Train of Thought | Composite Conductor Rail Fact Sheet (T-06) Pandrol Clip Fact Sheet (T-02) (T-16) Pressure Switch Fact Sheet (T-11) (T-12) Rail Fastenings Fact Sheet (T-01) (T-13) (T-14) | | |
| Mixed Signals | Capacitors (E-07) (E-08) T-Piece Fact Sheet (T-05) Hawkbox Tuning Unit Component Fact Sheet (S-17) Indication Contact Arrangement Fact Sheet (S-13) (S-14) Indicator Push Rods Fact Sheet (S-0.5.1) (S-0.5.2) | | |
| Rail Lines and Line Graphs | Relay Fact Sheet (S-15) (S-16) Wiring Cables Fact Sheet (S-01) (S-02.1-2.9) (S-18.1) (S-18.2) Unicoder Communication System for London Bus Services | | |
| Mind the Gap | Post Tensioning Cable Fact Sheet (C02) | | |
| Tunnel Vision | Concrete Fact Sheet (C-01) Link to Tunneling Exhibit at LTM | | |
| Station Fixation | Water Meter (C-07) | | |
| Time is of the Essence | Microprocessors / Heatsinks (E-01) (E-06) Random Access Memory (RAM) | | |
| Show Time | N/A | N/A | N/A |
| Journey through Time | Refer to Session 10 of the Teacher Handbook | N/A | N/A |

LTM Handling Objects and Exhibits that match with the FSAP Sessions

The handling objects are used in the collection to help students not only understand the evolution of transportation technology but also understand how engineering solutions are changed over time. Please refer to the LTM's accompanying handouts for detailed descriptions about each of these objects.

Your role in keeping these objects available for use in the FSAP and gathering feedback for its improvement is appreciated.

Sincerely,

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