**Best Practices Information Request Form**

**Sections and Branches**

The Leader Training Committee (LTC) is continuously expanding their Best Practices Guide to document successful activities and practices in our Sections and Branches.

Please use this form (Word format) to document your group’s successful activity so we can share it with other leaders. We strongly encourage you to attach relevant graphics and photos (either embedded in the Word document or as attachments, PDF, jpg, tif, or other formats). We will incorporate the new Best Practice in the Guide and post it to the web site. Please return your completed form to Brian Pawula at [blpawula@hornershifrin.com](mailto:blpawula@hornershifrin.com) and/or Nancy Berson at [nberson@asce.org](mailto:nberson@asce.org).

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| **Date** | 4/29/2025 |

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| **PROJECT TITLE** | **Shadow an Engineer Day** |

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| **1. Section/Branch** | Houston Branch |
| **2. Section/Branch Size** |  |
| **3. Project Contact** |  |
| Name | Gilbert Portillo, P.E. |
| Phone Number | 713-447-5281 |
| Email | Gilbert.Portillo@outlook.com |
| **4. Project Category** | K-12 Student Outreach |
| **5. Project Description** | Shadow an Engineer Day is a community outreach initiative organized by the Houston Branch. The event aims to inspire and mentor the next generation of engineers by offering students the opportunity to shadow professional engineers in real-world work environments. This program helps bridge the gap between education and hands-on experience, providing high school students with insight into the daily responsibilities of engineers and the impact they have on the built environment. Through this exposure, students learn about project management, problem-solving, and the diverse roles that engineers play in shaping society. Additionally, the event encourages students to pursue STEM (Science, Technology, Engineering, and Math) careers, particularly in civil engineering.  The program primarily targets high school students interested in STEM or engineering, offering real-world exposure and networking opportunities. The event begins with a pre-event orientation, where participants and volunteers are briefed on expectations, safety protocols, and professional etiquette. Students are then paired with engineers from various disciplines, including structural, environmental, water resources, transportation, and construction engineering. Throughout the morning, they observe engineers at work, engage in discussions, and learn about the challenges and rewards of the profession. Following the shadowing experience, students participate in career exploration sessions and a Q&A lunch where they can ask questions about career paths, educational requirements, and industry trends. Opportunities are also provided for students to connect with professionals and expand their networks.  The expected outcomes of Shadow an Engineer Day include increased awareness of the diverse fields within engineering, stronger interest in pursuing engineering careers, enhanced mentor-mentee relationships, and greater community involvement. The event, typically held in February or March, is hosted at various engineering firms, government agencies, construction sites, and public infrastructure projects across the Houston area. The program plays a vital role in inspiring future leaders of the engineering profession and helping students make informed decisions about their educational and career paths. |
| **6. The Process**  (What you did,  When and How) | 1. Start Contacting Schools  Begin by reaching out to local schools, focusing on those with strong STEM programs, as well as schools that serve socio-economically disadvantaged students. The goal is to invite a diverse group of students to participate in the "Shadow an Engineer Day.” Engaging schools with a mix of student backgrounds will help ensure the event is accessible to all, providing opportunities for underrepresented groups in engineering. When contacting schools, ask how many students they can provide for the event and ensure that transportation to and from the locations is arranged. It is important to coordinate with the schools to make sure students have reliable transportation, whether through school buses, public transport, or carpooling arrangements, to ensure smooth logistics on the event day.  2. Define Objectives  Start by setting clear goals for the event, such as providing students with real-world engineering experiences, fostering mentorship, and promoting the engineering profession.  3. Set a Date  Choose a suitable date and time for the event, ensuring it aligns with participants' schedules. It is ideal to hold the event during National Engineering Week, as it highlights the importance of engineering and can increase engagement. However, be mindful to avoid conflicts with school testing dates, state assessments, major holidays, or religious events to ensure maximum participation. Planning around these dates will help accommodate both students and volunteers and ensure the event is accessible to a wider audience.  4. Set a Time  Choose a time for the event that aligns with both participants' and companies' schedules. Aim to schedule it during standard work hours, typically between 9:00 AM and 3:00 PM, to ensure volunteers are available and students can fully participate. Additionally, avoid peak traffic times to make travel easier for everyone. Scheduling during school hours will also maximize the time available for shadowing, while minimizing disruptions to both students' and engineers' daily routines. This thoughtful timing ensures a more productive and efficient experience for all involved.  5. Identify Volunteers  Reach out to local engineering firms, government agencies, professionals, and ASCE members to secure volunteers who can host students for the day. It is important to have a diverse group of engineers from various disciplines, including structural, environmental, water resources, and transportation engineering, to provide students with a broad perspective of the engineering profession. This diversity ensures that students are exposed to different areas of engineering, helping them gain a more comprehensive understanding of the field and its many career opportunities. Additionally, volunteer engineers can offer valuable mentorship and insight, making the experience even more enriching for the students. To promote volunteer participation, use all available branch social media platforms and promote the event at ASCE branch meetings. Once the event is established, consider reaching out to previous volunteers to see if they would like to participate again, as their past involvement will create continuity and strengthen the event’s success.  6. Create Registration and Communication Plans  Set up a registration process for both students and volunteers to sign up. Ensure that the registration form for volunteers is straightforward, capturing necessary details such as availability, areas of expertise, and preferred roles for the day. Clear communication is essential, so send timely reminders to volunteers regarding the event schedule, expectations, and safety guidelines. It is also helpful to organize information sessions to recruit volunteers and address any questions they may have. These sessions will provide a platform to explain the event's goals, logistics, and any other key details, ensuring volunteers feel well-prepared and confident in their roles. Make sure you create a form that includes a point of contact, confirmation they can do a 4-hour program, and provide and cover the cost of lunch.  7. Design Activities  Each participating company will be provided with a template of an itinerary to help structure the day. The event is to last 4 hours, including one lunch and Q&A session. Companies are encouraged to personalize the day based on their specific operations and resources. Activities could include site visits, site tours, shadowing engineers working in the office, and welcome sessions. The goal is to give students hands-on experience in various aspects of engineering while allowing for interaction with professionals in different environments. The Q&A session during lunch will provide an opportunity for students to ask questions and gain valuable insights into the engineering profession, fostering mentorship and encouraging dialogue between students and engineers.  8. Planning and Organizing Students with Companies  Once each school and company has confirmed participation, you must plan the logistics to ensure that students and companies are paired based on proximity to one another. Ideally, you will pair 5-10 students per company, depending on how many students each company has agreed to host. This will help maintain manageable group sizes and ensure that each student gets sufficient attention. If some schools are using buses or vans to transport students to multiple locations, you will need to ensure that volunteers are flexible with timing, either starting earlier or expanding their contact hours to accommodate the transportation schedule. It is important to communicate clearly with both schools and volunteers to confirm pickup times, routes, and any special arrangements, ensuring smooth transitions and a well-organized day.  9. Prepare Materials  Develop any necessary materials, such as handouts, brochures, or orientation guides, to provide to students before and during the event. These materials can include an overview of the engineering profession, the schedule for the day, and any helpful tips for making the most of the shadowing experience. Additionally, some engineering companies and organizations may require waivers for students to attend, particularly if the event involves site visits or hands-on activities. Be sure to coordinate with the participating companies to ensure that all necessary legal documents, such as waivers and safety forms, are completed and distributed to students ahead of time. This helps mitigate any liability concerns and ensures the event runs smoothly and safely.  10. Host the Event  Confirm all companies and students are notified of key details: Before the event, ensure that all participating companies and students have been notified of essential information. This includes confirming student names, any dietary restrictions for lunch, and the exact pick-up and drop-off times. It is also important to confirm the specific companies each group of students will be shadowing. This information should be shared with both the students and the companies well in advance to avoid any confusion on the day of the event.  Ensure companies are ready to host: Double-check that all companies are prepared to host the students. This means reviewing the activities, logistics, and any materials (such as safety gear or handouts) that need to be provided. Make sure each company knows the expected schedule, as well as any accommodation they might need to make for students, such as special dietary needs or transportation considerations.  Assign 1-3 volunteers to lead logistics: On the day of the event, have 1-3 volunteers who are responsible for leading the logistics and ensuring everything runs smoothly. These volunteers should oversee the student arrivals, guide students to their assigned companies, monitor the schedule, manage any unforeseen issues, and ensure that both students and volunteers have what they need throughout the day. The volunteers can also assist with managing the transportation schedules, ensuring students are notified and taken back to their schools safely. This dedicated team will help ensure that the event runs efficiently and remains organized, keeping communication clear and operations on track.  Prepare for last-minute adjustments: Have a contingency plan in place for any unforeseen challenges that may arise on the event day, such as last-minute student absences, delays in transportation, or unexpected changes in the schedule. The volunteers should be prepared to make these adjustments on-the-fly to ensure a smooth experience for everyone.  11. Evaluate the Event  After the event, gather feedback from both students and engineers to evaluate the success of the program. This feedback will be valuable for improving future editions of "Shadow an Engineer Day.”  By following these steps, the planning process ensures that the event is well organized, impactful, and beneficial for all participants involved. |
| **7. Those in Charge** (Committee, Task Committee, Etc.) | Gilbert Portillo, VP Education 2023 – 2024  Allison Hand, Primary and Secondary Education Co-Chair 2023 – 2024  Hector Rubio, Primary and Secondary Education Co-Chair 2023 – 2024 |
| **8. Time Frame**  (When Started,  When Completed) | The event was hosted annually by the Houston Branch until the COVID-19 pandemic. It was reintroduced in 2023. This event typically takes place once a year during the spring, though it can also be held during the fall semester. |
| **9. Success Factors**  (The Parts that  Worked Really Well) | The enthusiasm from the school administrators, students, and volunteers was contagious. The programming offered by the companies delivered an enriching and exceptional experience for the students. |
| **10. Setback Factors**  (The Parts that  did Not Work Well) | There were many valuable learning lessons throughout the process. Some schools have distinct policies that can make planning challenging. For example, one entire school district canceled just days before the event, forcing us to send last-minute cancellations to companies. |
| **11. Creativity**  (This is something off the wall that we did) | Each company offered unique experiences that set them apart. For instance, some organized site visits to special infrastructure or construction projects, while others hosted balsawood bridge-building competitions. A few companies also provided goodies. Each cohort had the opportunity to share their specialized experience upon returning to school. |
| **12. Administration**  (What was most Important?) | Getting the schools on board was fundamental to hosting the event in the first place. Establishing relationships with local schools only made it beneficial to ensure we could host the event. After that, securing companies was essential. However, promotion and advertisement are necessary at least 4 months prior to the event. |
| **13. Follow-Up**  (What was most important?) | The most important part has been listening to feedback. Every year, we make small adjustments to improve the event, and while we are not there yet, we are grateful for everyone’s input to help us keep making it better. |
| **14. Recommendations**  (What you should ALWAYS do with this project?) | Always plan at least six months in advance. Securing the date and confirming participating schools is crucial to ensuring the event takes place. After all, we are doing this for them!  Start reaching out to companies at least four months before the event to generate interest and give yourself enough time to answer any questions and connect students with the right companies.  Set clear expectations and goals at least six months ahead. Consider things like how many students you want to host, how many companies to include, and what new areas or demographics you would like to target. |
| **15. Cautions**  (What you should NEVER do with this project?) | Avoid scheduling during religious or major holidays, as some students may be fasting or unavailable. Not all companies will be the right fit, particularly if they are too small to provide programming or staff for a full four hours. It is essential to ensure the event is meaningful for both the students and the volunteers, so be sure to consider these factors when planning. |
| **16. The Outcome** | Everyone loved the event, and both companies and school administrators were already excited for the next year. We inspired many high school students and helped confirm their interest in engineering, especially civil engineering. |
| **17. Ongoing Activity**  (Would you do it again?) | Yes, we are doing it every year. It has become a staple event in the branch’s educational activities. |
| **18. Speaker Contact Information**  (person from your group who would be willing to speak about the Best Practice) |  |
| Name | Gilbert Portillo |
| Phone Number | 713-447-5281 |
| Email | Gilbert.Portillo@outlook.com |
| **19. Additional Comments**  (We strongly recommend attaching relevant photos and graphics) | See attached exhibit` |

**Exhibit A: Flyer Promoting Event**

A picture containing text, book

Description automatically generated

**Exhibit B: Event Recap with Photos**





   