

Discovery, Demo, and Activity Master Guide for LTAP Workshops

Introduction

This guide provides an extensive list of potential activities, demonstrations, and reflection exercises designed for Local Technical Assistance Program (LTAP) workshops. These activities are tailored to topics such as roadway safety, gravel road maintenance, erosion control, culvert installation, work zones, and more. The goal is to integrate dynamic and engaging elements into every session to enhance learning and retention.

How to Use This Guide

1. **Adapt Activities:** Customize activities to suit the specific topic and audience.
2. **Combine Formats:** Mix hands-on demonstrations with reflection activities for a balanced experience.
3. **Iterate and Improve:** Collect feedback to refine activities and ensure they meet learning objectives.

Activity Categories

1. Icebreakers - Quick, engaging activities to set the tone and encourage participant interaction.
2. Group Breakout Activities - Collaborative tasks to foster teamwork and problem-solving.
3. Hands-On Demonstrations - Practical, physical activities to reinforce technical skills.
4. Reflection and Discussion - Exercises to consolidate learning and promote deeper understanding.
5. Experiential Learning - Simulated scenarios and role-playing to apply concepts in real-world settings.
6. Creative Problem-Solving - Activities that encourage innovative thinking and collaboration.

Icebreaker Ideas

1. Mapping Experience
 - a. Ask participants to mark their location on a large map and share a unique road maintenance challenge from their area.
2. Road Maintenance Trivia
 - a. Create a trivia game with questions about roadway safety, MUTCD standards, and best practices.
3. Picture This!
 - a. Display close-up photos of equipment or road features, and have participants guess what they are.
4. Bingo
 - a. Use Bingo Generators online to come up with bingo game based on group's experiences

Group Breakout Activities

1. Work Zone Setup Simulation
 - a. Provide a scaled-down mock-up of a roadway and ask groups to set up a work zone, ensuring compliance with MUTCD standards.
2. Gravel Road Maintenance Plan
 - a. Assign groups to develop a maintenance schedule based on provided road condition scenarios.
3. Erosion Control Design
 - a. Groups design an erosion control plan using provided diagrams and materials.
4. Material Selection Challenge
 - a. Groups evaluate different materials (e.g., gravel, asphalt, concrete) for specific use cases and justify their choices.
5. Emergency Response Planning
 - a. Groups draft an action plan for responding to a hypothetical roadway incident.

6. Levels of Service plan
 - a. Group drafts a Level of Service that includes the important elements of a proper winter operation plan
7. Myths and Realities
 - a. Groups brainstorm all the myths or reasons against the topic at hand (such as reasons to not use liquids in winter ops) and then as a class work to debunk those myths

Hands-On Demonstrations

1. Culvert Installation
 - a. Participants assemble a small-scale culvert, ensuring proper alignment and bedding.
2. Pavement Preservation Techniques
 - a. Utilize a GIS or printed checklist and resources to performance a pavement assessment
 - b. Utilize Google Earth for small groups to discuss pavement preservation strategy for a section of roadway
3. Guardrail Repair
 - a. Use scaled models or real materials to showcase proper installation and repair techniques.
4. Salt Brine Mixing
 - a. Hands-on demonstration of mixing and applying salt brine solutions.
5. Soil Compaction Testing
 - a. Demonstrate the use of compaction equipment and test soil density.
6. Drainage Assessment
 - a. Use miniaturized setups to evaluate drainage issues and test solutions.
7. Erosion Control Testbed
 - a. Set up a mini field station with different erosion control measures (silt fences, riprap, vegetation). Participants test runoff effects and evaluate which method performs best.
8. Material Testing Station
 - a. Include testing for asphalt temperature sensitivity, aggregate gradation, or concrete slump to help participants understand material properties.
9. Live Vehicle Inspection
 - a. Use a real vehicle or equipment to conduct an interactive safety inspection, blind spot exercise, or mechanical audit, emphasizing maintenance best practices.
10. Gravel Sieve Test
 - a. Utilize a set of sieves and dry gravel sample for a (non-scientific) demonstration of aggregate blend
11. Geogrid/Geofabric Demo
 - a. Utilize a demo box to demonstrate the use of geogrid to reinforce a bucket of dirt

Workshop Group Reflection and Strategy Activities Guide

This guide provides a range of activities for small workshop groups to reflect on the session activities, evaluate successes and challenges, and brainstorm future opportunities. It is tailored for workshop groups of 3-5 members but can be adapted for larger groups.

Rose, Thorn, Bud Reflection

Objective: Identify successes (roses), challenges (thorns), and opportunities (buds) from the session activities.

1. Provide sticky notes in three colors (or a digital equivalent).
2. Ask each workshop group member to write down:
 - a. Rose: Something that worked well or was a success.

- b. Thorn: A challenge or pain point.
- c. Bud: An opportunity for growth or something exciting to explore.
- 3. Group the notes on a wall or board under each category and discuss patterns.
- 4. Use the "buds" as a launching point for brainstorming future goals.

Stop, Start, Continue

Objective: Evaluate current practices and identify what to stop, start, or continue doing.

- 1. Divide a whiteboard or flip chart into three columns: Stop, Start, Continue.
- 2. As a group, brainstorm and list:
 - a. Practices or tasks to stop because they aren't effective or necessary.
 - b. New initiatives to start to improve outcomes.
 - c. Successful practices to continue because they're working well.
- 3. Discuss the list to prioritize key actions for the upcoming year.

Lessons Learned Timeline

Objective: Visually map out key events and evaluate what can be learned from them.

- 1. Draw a timeline on a large sheet of paper or a whiteboard, marking the session activities by months or quarters.
- 2. Ask workshop group members to add milestones, achievements, or challenges that stood out.
- 3. Discuss each milestone and reflect on:
 - a. What worked?
 - b. What didn't work?
 - c. What could we do differently next time?
- 4. End with a "what's next?" conversation to look ahead.

Brainwriting for Future Opportunities

Objective: Encourage brainstorming in a structured, pressure-free way.

- 1. Pose a specific question or topic (e.g., "What opportunities should we pursue this session?").
- 2. Give everyone a few minutes to write their ideas individually on index cards or slips of paper.
- 3. Collect the ideas, mix them up, and redistribute them anonymously.
- 4. Ask workshop group members to build on the ideas they receive.
- 5. Share and discuss the results as a group.

SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats)

Objective: Evaluate the workshop group's position and plan strategically.

- 1. Create a large matrix with four quadrants labeled Strengths, Weaknesses, Opportunities, and Threats.
- 2. As a workshop group, brainstorm and list:
 - a. Strengths: What the workshop group does well.
 - b. Weaknesses: Areas to improve or challenges faced.
 - c. Opportunities: External factors or trends that can be leveraged.
 - d. Threats: Risks or obstacles.
- 3. Discuss ways to leverage strengths, address weaknesses, seize opportunities, and mitigate threats.

Best and Next

Objective: Celebrate past achievements and focus on future opportunities.

1. Divide the workshop group into pairs or small groups.
2. Ask each group to discuss:
 - a. The Best: What was the best achievement or moment from the session activities?
 - b. The Next: What is one thing we should focus on or try next year?
3. Share highlights with the whole group and create a list of priorities for "next" actions.

Priority Mapping

Objective: Align on goals and priorities for the topic, such as for improving roadway safety or improving winter operations.

1. Create a chart with two axes: Impact (low to high) and Effort (low to high).
2. Brainstorm possible goals, projects, or focus areas for the year.
3. As a group, place each item on the chart to determine:
 - a. High-impact, low-effort items (quick wins).
 - b. High-impact, high-effort items (key priorities).
 - c. Low-impact, low-effort items (nice-to-haves).
 - d. Low-impact, high-effort items (avoid or reconsider).
4. Use this map to guide strategic planning.

Proud, Surprised, Inspired Reflection

Objective: Foster a positive mindset while reflecting on meaningful moments from the session activities.

1. Ask each workshop group member to individually reflect and share:
 - a. Proud: Something they are personally proud of accomplishing.
 - b. Surprised: Something that surprised them (positively or negatively).
 - c. Inspired: Something or someone that inspired them over the session activities.
2. Discuss as a group and identify themes or shared sentiments.
3. Use the "inspired" responses to brainstorm ideas for future initiatives.

One Thing" Debrief

Objective: Simplify the discussion to pinpoint key insights.

1. Pose three questions to the group:
 - a. What's one thing we did exceptionally well this session, or on this topic (gravel road maintenance, winter operations, roadway safety)?
 - b. What's one thing we could improve?
 - c. What's one thing we want to focus on next year?
2. Take turns sharing responses, keeping the focus concise.
3. Document the answers to identify actionable takeaways.

Gap Analysis: "Where Are We Now, Where Do We Want to Be?"

Objective: Identify gaps between current and desired states.

1. On a flip chart or whiteboard, draw a simple diagram with two columns: Now and Future.
2. As a workshop group, discuss:
 - a. Now: Where are we currently in terms of this topic's processes, goals, or outcomes?
 - b. Future: Where do we want to be by the end of the next year?
3. Highlight the gaps and brainstorm steps to close them.

Rapid Round Brainstorm

Objective: Kick-start brainstorming with quick, unfiltered ideas.

1. Pose a specific question or topic, such as, "What's one bold idea to address this?"
2. Go around the group, asking each person to quickly share one idea (no critiques or discussions yet).
3. Repeat for 2-3 rounds, encouraging spontaneous contributions.
4. Review all ideas as a group to identify actionable ones.

Reverse Brainstorming

Objective: Solve problems by exploring the opposite perspective.

1. Identify a key challenge (e.g., "How can we improve gravel road's condition and maintenance efficiency?").
2. Ask, "How could we make this problem worse?"
3. Brainstorm the worst-case scenarios or actions that would exacerbate the issue.
4. Use these "anti-solutions" to brainstorm real solutions by reversing the negative actions.

Role Reversal: "If You Were in My Shoes"

Objective: Foster empathy and fresh perspectives on roles and responsibilities.

1. Each workshop group member selects another workshop group member's role and describes what they perceive as that person's biggest challenge, strength, or accomplishment.
2. The "role owner" can then respond with their thoughts or correct any assumptions.
3. Discuss how these insights can inform better collaboration or support.

Case Study Analysis: Present real-world scenarios (e.g., a road washout) and ask participants to discuss what went wrong and propose solutions.

Idea Exchange: Rotate groups and ask participants to share their top ideas for specific challenges.

Peer Review: Groups review each other's plans or designs and provide constructive feedback.

Biggest Surprise Discussion: Ask participants to share one thing they learned during the session that was unexpected. This encourages open sharing and peer learning.

Top Three Takeaways: At the end of the session, participants rank their top three learnings and discuss their practical applications.

Debate Preparation: Groups are given a debate topic to prepare for or against.

Experiential Learning Ideas

1. **Roadway Safety Audit** - Conduct a mock audit using photographs or a field visit. Participants identify hazards and recommend countermeasures.
2. **Culvert Audit Checklist** - Utilize SADES Culvert Inspection form to complete an audit of a nearby culvert.
3. **Winter Whammy** - Use dice or slips of paper with storm scenarios to draw a unique storm to strategize as small groups. Groups discuss their storms, and then are given a “whammy” (budget cut, equipment out of service, team members’ absence, storm swings back around) to re-strategize around.
4. **Stormwater Management Simulation** - Use a sandbox and water to demonstrate runoff patterns and test different erosion control measures.
5. **Incident Command Role-Playing** - Participants act out roles in a mock emergency response scenario for a roadway incident.
6. **Winter Maintenance Decision-Making** - Provide storm scenarios and weather forecasts. Participants decide on timing and materials for road treatment.
7. **Traffic Flow Simulation** - Use small-scale models to simulate traffic patterns and test different intersection designs.
8. **Thermal Sensitivity of Materials** - Demonstrate how temperature affects asphalt and brine application using controlled heating and cooling experiments. Use thermometers and heat lamps to show the impact on viscosity and application rates.
9. **Load Capacity Test** - Build small bridges with provided materials. Participants test them with weights to simulate vehicle loads. Discuss how design choices impact performance.

Creative Problem-Solving Activities

1. **Reverse Engineering** - Provide a piece of equipment or design and ask participants to "reverse engineer" it to understand how it works.
2. **Scenario-Based Challenges** - Pose hypothetical challenges (e.g., budget cuts, sudden flooding) and ask groups to brainstorm solutions.
3. **Innovation Showcase** - Participants develop and pitch innovative ideas for improving roadway safety or maintenance.
4. **Collaborative Build** - Provide materials like Lego bricks or pipe cleaners to collaboratively design a new roadway feature.

UNH Technology Transfer Center (UNH T2)

35 Colovos Rd., Durham, NH 03824

<https://t2.unh.edu/>

T2.Center@unh.edu

