MENTORING GUIDEBOOK

Transportation Learning Center
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PURPOSE & INTRODUCTION

Mentoring provides an excellent training opportunity because it links an experienced person (mentor) with a less experienced trainee to help foster the trainee's abilities, career development, and professional growth. A structured mentoring process requires that the mentor and trainee work together in actual work settings to reach specific learning goals and to provide sufficient feedback to ensure that goals are reached. With so many highly experienced transit technicians on the verge of retiring, mentoring offers those individuals an opportunity to pass on their vast amount of experience to others. Although not all highly proficient technicians have what it takes to become mentors, there are those with right attributes to provide excellent on-the-job training in real-world job settings.

The purpose of this report is to serve as a guidebook, offering information that transit agencies can use to establish mentoring as a training method with guidance, suggestions, and examples to implement or expand upon existing mentoring programs. It is based on a generic mentoring guidebook developed by the USDOT, modified and enhanced to reflect transit maintenance applications. The guidebook was produced as part of Transportation Research Board project E-7: Initiating a National Joint Transit Industry Rail Vehicle Technician Qualification Program: Building for Success. It has also benefitted from research done under other grants from the U. S. Department of Transportation and U. S. Department of Labor.

Information collected in this document is intended to guide transit agency personnel through the mentoring process, defining what it means to be a mentor, the roles and responsibilities during the tutelage period, and the different styles that can be adopted to forge a mentoring relationship. It also describes various learning styles and how to cultivate trainee-mentor relationships along with potential obstacles to mentoring. Finally, guidance is offered on developing task sheets that can be used within a structured mentoring program. Task Sheets consist of specific learning objectives (e.g., demonstrate uses of a torque wrench) that can be developed from common agency jobs or taken from the National Training Standards and modified as needed to establish on-the-job learning activities. A sample Task Sheet adapted from the National Training

Standard on *Tools and Material Handling* is included as an appendix to this Guidebook.

WHAT IS A MENTOR?

A mentor is a teacher who assigns tasks and reviews performance. A mentor also facilitates personal and professional growth in an individual by sharing knowledge learned throughout the years. The desire to want to share these "life experiences" is characteristic of a successful mentor. In maintenance, a mentor is one who shows a trainee how best to diagnose, maintain, repair and overhaul equipment. Because not all procedures are clearly spelled out in the classroom or in manuals, mentors fill in the missing elements by showing trainees how jobs get done in actual work settings.

Mentoring takes place informally in workshops every day, especially in cases where agency training is lacking and technicians must turn to their peers for assistance and guidance. Without structure, however, it's just as easy for bad traits to get passed on. This paper focuses on formal the mentoring program where mentor roles are defined, and where tasks and goals are made clear. Structured mentoring is learn-by-doing in its best form!

Mentoring can be highly effective at imparting technical skills and knowledge, especially at a time when so many highly experienced technicians are about to retire. Many soon-to-be retirees would be willing to pass along their experiences if only given an opportunity. Before doing so, however, the mentor needs to be prepared and the overall mentoring process needs to be organized to be effective. This is best done on a joint labor-management basis where both sides work together on a program to provide beneficial outcomes for the trainee, the mentor, the labor union, and the transit agency.

Mentoring is best accomplished as part of a formal apprenticeship training program where:

- Classroom training provides students with basic theory and general understandings;

- Hands-on instruction applies that understanding in a lab or controlled work environment; and

- Mentoring where students get to work alongside an experienced professional in a workshop setting to apply the knowledge and skills they've learned in other aspects of their training to real-life jobs -- jobs they'll be expected to do every day.

While mentoring is typically associated with apprenticeship, it can also be used to target specific training needs. When part of the promotional process, mentoring can be applied to elevate technicians from one level to another, providing needed training to move, for example, from a second class technician position to first class. Experienced mentors could also be used to train other seasoned technicians on new technology, or to help them master a particularly difficult task. While there is no one correct way to establish a mentoring program, this guidebook provides information needed to develop an approach suitable for your agency, resources and needs.

TYPES OF MENTORING

There are three types of mentoring approaches:

- Informal Mentoring
- Self-mentoring
- Formal Mentoring

Informal Mentoring

Informal mentoring, also known as traditional mentoring, is loosely structured where tasks and outcomes are not defined. The primarily focus is on the trainee and there's little consideration given to broader organizational benefits. In many cases this approach results in trainees just becoming the mentor's helper, running errands and doing menial jobs the mentor would rather avoid such as cleaning or retrieving parts.

Self-Mentoring

Self-mentoring is more of a strategy than a type. Instead of having an established mentoring program that seeks to promote the development of a trainee and enhance agency goals, the worker takes the initiative to cultivate his or her own professional growth. Self-mentoring is where workers seek the advice of respected technicians, and use self-tutoring and resource-finding techniques to better their technical abilities. Self-mentoring requires the worker to be highly motivated and self-disciplined. This type of mentoring typically prevails in cases where agency-provided training is extremely limited and where no other type of mentoring program exists.

Formal Mentoring

Formal mentoring, also known as planned mentoring, is the focus of this guidebook. It specifically defines mentor-trainee tasks and responsibilities, monitors trainee progress, and integrates mentoring as part of an overall training and apprenticeship program. Within formal mentoring are different levels of

structure depending on agency resources, commitment, and the amount of time and effort an agency is willing to invest in the program. Levels range from those with limited scopes to those that provide mentors with specialized training to prepare them for their unique roles. Formal mentoring programs tend to look beyond trainee benefits by also focusing on enhancing the goals of the organization by increasing productivity, improving safety, and by reducing costs, employee turnover and absenteeism.

Ultimately, each labor-management team needs to decide on the approach or combination of approaches to pursue based on their resources and overall commitment to training.

PROGRAM BENEFITS

There are several benefits to a structured mentoring program:

- Provides a way for senior technicians to share their knowledge, experience, skills and insights with those just beginning their career or those needing specialized training.

- Helps ensure that trainees learn jobs the right way from the start, lessons that will stay with them throughout their careers.

- Provides a natural extension to classroom training where students can put learning to use in real-world shop setting with a skilled professional providing oversight.

- Expands an agency's training capacity by utilizing skilled technicians as instructors, thereby freeing up dedicated instructors to provide additional classroom and lab training.

- Shop work is getting done as part of the training.

- Improves work efficiency and safety because trainees are being taught by seasoned professionals.

- Strengthens labor-management relationships as both sides develop the mentoring program and provide needed oversight throughout the program.

Potential Disadvantages

As with any program there are certain disadvantages associated with mentoring.

● Scheduled mentoring tasks may need to be postponed due to equipment not being available for training because of operational commitments.

● Mentoring is typically conducted one-on-one. This method of training takes a great deal of time; so does mentor preparation.

● Certain equipment may be dangerous in the hands of a trainee even under close supervision. (A simulator training setting would be a more desirable setting for tasks that fall in this category.) There is also a chance that a trainee may damage equipment in the process of learning how to repair and maintain it.

MENTOR ROLES

There are nine essential roles of a successful mentor:

1. Teacher
2. Guide
3. Counselor
4. Advisor
5. Motivator
6. Door Opener
7. Coach
8. Role Model
9. Referral Agent

Which roles a mentor assumes depends on the mentor's abilities, the trainee's needs, and the type of relationship the mentor is capable of building with the trainee.

Teacher

This role requires the mentor to share accumulated experiences. First, however, the mentor needs to be aware of the skills needed to properly perform job tasks. As discussed below under *Essential Element #3: Prepare Mentors*, even seasoned veterans need to brush up on jobs they may not have had in a while or involve new technologies. Taking refresher courses is highly recommended. Once this is done the mentor can more effectively help the trainee develop the necessary knowledge and skills.

As a teacher it's important to also share lessons learned from past mistakes. Doing so can strengthen the mentor-trainee relationship. The teaching role also requires mentors to step back and understand that the trainee is just beginning the learning process. Because veteran technicians are so thoroughly familiar with their work, they tend to falsely assume that trainees already have some basic understanding. Instead, mentors need to place themselves in the shoes of the trainee and remember how difficult it was to learn new skills from scratch.

The teacher's role also requires the mentor to communicate trainee progress, recommended schedule changes, and participate in all relevant meetings related to trainee's development work.

Guide

As a guide the mentor helps navigate the trainee through the inner workings of the transit agency and labor union to decipher the "unwritten rules" -- the behind the scenes dynamics or shop politics that are not always apparent but need to be understood.

Counselor

The role of counselor requires the mentor to establish a trusting and open relationship. To do this the mentor needs to ensure confidentiality and show respect for the trainee. Mentors can promote confidentiality by not disclosing personal information shared by the trainee. Listening attentively is another way to show respect.

Advisor

This role requires the mentor to help trainees set realistic career goals. As an advisor, the mentor needs to discover where the trainee wants to go professionally. Keep in mind that the process of setting goals must be flexible enough to accommodate changes in the workplace.

Motivator

Generating motivation in the trainee is a difficult yet essential mentor role. Motivation can be learned but is typically a natural inner drive that compels a person to be positive and succeed. Mentors can motivate trainees to succeed by offering encouragement and support.

Door Opener

In the role of door opener the mentor helps the trainee establish a network of contacts within union and agency ranks, giving trainees a chance to meet the

shop steward, supervisors and others within the organization to spur professional and social development.

Coach

In the role of coach a mentor helps the trainee overcome difficult and challenging maintenance jobs. Coaching is a complex and extensive process, a skill not easy to perform. Specifically, coaching involves providing feedback. This is best done while the trainee performs work tasks and the mentor observes, giving positive and constructive feedback as the situation demands. Good mentors will not provide feedback when they don't know much about the subject or circumstances, or when inappropriate such as in the presence of others.

Role Model

As a role model the mentor sets an example of the values, ethics, and professional practices of the agency and union. Most trainees, in time, imitate their mentors. Therefore, a mentor must have high standards of professionalism, a solid work ethic and positive attitude.

ESSENTIAL ELEMENT #1: SELECT THE RIGHT MENTORS

Popular and highly skilled technicians do not always make the best mentors. They may be unwilling or incapable of assuming the roles listed above, or may not have the right attributes needed to become an effective mentor. Finding the right mentors will take time and effort. Although having a marginal mentor is better than having none at all, having the wrong mentors can do more harm than good.

Attributes of a Successful Mentor

Selecting the right mentors is critical to the program's success. There's a guidebook section below dedicated to the selection process. The attributes have been summarized in a checklist (Appendix A) to help labor and management select the right mentor, and for technicians with an interest in becoming mentors to determine if they have those attributes. Key among them is the ability to be supportive, patient and respected:

> Supportive: A mentor has the ability and desire to support the needs and aspirations of a trainee.
>
> Patient: A mentor is patient and willing to spend time performing mentoring responsibilities.

Respected: A mentor has earned the respect of his/her peers, the union, and the transit agency.

To successfully assume the different roles of a mentor, several additional characteristics are also needed:

People Oriented: A mentor is genuinely interested in people and has a desire to help others.

Good Motivator: A mentor is someone who inspires a trainee to do better, being able to motivate a trainee by offering feedback and challenging work assignments.

Effective Teacher: A mentor must not only teach the "skills of the trade," but must also be capable of managing the trainee's learning. A "sink or swim" approach is not an effective mentoring method.

Secure In Position: A mentor must be confident in his or her career so that pride for the trainee's accomplishments can be genuinely expressed.

An Achiever: A mentor is usually a professional achiever--one who sets career goals, continually evaluates these goals, and strives to reach them. A mentor attempts to inspire a trainee with the same drive for achievement.

Provide Trainee Visibility: A mentor is someone who can give the trainee the right amount of exposure within the agency and union. One way to do this is to arrange challenging projects for the trainee to succeed. Another is to tell others about the trainee's accomplishments.

Values the Organization and Work: A mentor takes pride in the transit agency and union and understands their mission, vision, and values. A mentor should be well-versed in agency and union policies and in the procedures of the particular administrative environment in which he or she works. Someone who speaks badly of the agency or union should not be used as a mentor.

Respect for Others: A mentor is one who shows regard for another's well being. A mentor also accepts a trainee's weaknesses and minor flaws, just as the trainee must learn to accept the weaknesses and flaws of the mentor.

Recruiting Technicians to be Mentors

The process to recruit mentors involves soliciting recommendations from four sources:

Supervisor and Shop Steward Recommendations

Recommendations from supervisors and shop stewards are important in selecting a mentor. Each gets to know how proficient technicians are regarding their work skills, their personality traits and how well they work with others. It's important, however, that their recommendations are not based on favoritism or wanting to see their buddies get financial or other incentives that may come with being a mentor.

Instructor Recommendations

Instructors also serve as a good source for indentifying mentors. During training courses there are students who typically go out of their way to help others in the class understand a particular problem or hands-on exercise. Instructors are good at identifying students in their class who have what it takes to become effective mentors.

Peer Recommendations

Recommendations from fellow technicians are also helpful in the mentor recruitment process. Once again, peer recommendations should be made based on the desired characteristics presented throughout this guidebook, not on friendships.

Self-Nomination/Recommendation

Asking for volunteers is actually one of the best methods of recruiting mentors. Soliciting self-nominations, however, should be done as an ordered process:

- Clearly define mentor responsibilities up front.

- Hold an informational meeting for prospective mentor candidates. Explain how the program will work, how the role of the mentor is defined, what the expectations are, and what mentors are expected to do throughout the mentoring process.

- Acknowledge that not everyone is well suited to become a mentor.

Mentor Incentives

In a perfect world mentor candidates are willing to share their skills and knowledge without compensation. However, incentives provide fair recognition for the contributions mentors will make not only in enhancing the careers of others, but for advancing the efficiency and safety of the entire maintenance organization. Typical incentives include an increase in hourly pay, certificates, and other forms of recognition denoting that exceptional technicians have been selected among their peers to serve as a mentor to others.

ESSENTIAL ELEMENT #2: SELECT THE RIGHT TRAINEES

Trainee Characteristics

In addition to selecting the right mentor, a successful mentoring relationship also requires the trainee to have certain characteristics. Most mentors admit that they see characteristics in their trainees that they see in themselves, such as:

Eagerness to Learn: A trainee should have a strong desire to learn and develop new skills and abilities.

Ability to Work as a Team Player: Because of the need to interact with others, it's important that the trainee cooperate and learn how to be a team player -- to contribute as much as possible to the mentoring relationship.

Patience: A trainee should be realistic enough to know that accomplishments and career advancement do not happen overnight.

Challenge Seeker: A trainee must be able to move beyond tasks that he or she has mastered and accept new and more challenging experiences, giving up the known for the unknown.

Positive Attitude: An optimistic trainee is more likely to tackle difficult work tasks and to stay on course. A trainee with a poor or "defeatist" attitude will not move ahead.

Trainee Roles

Just as the mentor has various roles, so too does the trainee. A trainee is the one that takes the initiative to ask for help or advice, and lets the mentor know when he or she is ready to tackle more challenging technical work.

Other trainee roles include:

- Following established safety and maintenance procedures related to work assignments.
- Asking the mentor to clarify maintenance procedures and safety applications.
- Participating in all meetings to review progress and current status in achieving objectives defined in task sheets.

After absorbing the mentor's knowledge, trainees must also have the ambition to use that knowledge by applying what's been learned. A trainee must also be willing and capable of blending mentoring with other training opportunities.

ESSENTIAL ELEMENT #3: PREPARE MENTORS

Technicians may be considered proficient in their work, have the admiration of their peers, and have a natural ability to communicate and relate to others. However, they still need some level of preparation to become successful mentors. First and foremost is that mentors have the *correct* technical skills to pass on to trainees. Therefore, mentors should first take a refresher course and be evaluated by the training department to ensure that the procedures they will demonstrate on the shop floor matches procedures taught in class. A potential downside is to have mentors teach short cuts or work processes that go against agency and union accepted practices. As described below under "Task Sheets," an ideal training scenario is one where labor and management work together to develop written procedures for common job tasks. These written job procedures, which represent the best thinking on performing specific job tasks based on the manufacturer's recommendations and local experiences, clearly identify the essential steps needed to properly do the job. The existence of these written procedures helps ensure that all technicians perform job tasks to accepted standards, and that the training is consistent with those standards. Regardless of whether written procedures exist at an agency, steps must be taken to make certain that what mentors teach in the shop is consistent to what's being taught in the classroom.

Mentors must be given some guidance on how to become teachers. Although they may have solid technical understanding and skills, mentors need soft skills training so they can pass on their skills to others. One such resource for providing this training comes from a course prepared by the National Transit Institute (NTI). The course was developed in response to a request by the APTA Bus Maintenance Training Committee, which includes Transportation Learning Center staff and subject matter experts (SMEs) from both labor and management. Although the course was developed for maintenance instructors, mentors could also benefit from the instruction provided.

Key points from the NTI course include:

- Jobs become “automatic” when done many times. Then, when we try to teach the job to others we tend to make assumptions and leave out important steps. Make sure to identify all the tasks included in the job and break them down into simple sub-tasks in order to teach it.
- Decide what you want the trainee to know or be able to do. State it in words that are specific and measurable.
- Learn how to be an active listener.
- Understand that trainees have different learning styles (see “Learning Styles” below for details)
- Adult learners choose to learn when they:
    - See a need or benefit
    - Have a problem to solve
    - Can relate new information to what they already know (“indexing”)
    - Can apply what they learn in the “real world”
    - Trust the trainer

Much of the training needed to become an effective mentor involves building a positive mentor/trainee relationship as presented below. Potential mentors must first, however, determine if they’re cut out for the job. Conducting a mentoring self evaluation is an essential first step.

Mentoring Self-Evaluation

Once labor-management representatives have identified eligible candidates, those candidates need to decide for themselves if they really want to be a mentor. While some technicians welcome the opportunity others are reluctant to share experiences that have taken them an entire career to acquire. To help make the decision, eligible mentors should consider these questions:

- Do I have the potential to build a mentor/trainee relationship?
- Would I feel comfortable building this kind of relationship?
- Would a trainee benefit from my expertise?
- Am I willing to invest the time to pass on my experience to a trainee?

An essential step in this process is to conduct a self evaluation to determine which mentoring characteristics apply, and which need to be cultivated or improved upon. Mentors can evaluate themselves by using the same Appendix A checklist used by labor and management to select them in the first place. While not all characteristics are needed to become a successful mentor, the self-evaluation process allows potential mentors to identify some characteristics that need to be improved upon, or they may realize that being a mentor is not appropriate for them right now.

Building Positive Mentor/Trainee Relationships

Unlike learning how to master a technical skill that can be taught in the classroom and through on-the-job training, much of the preparation needed to be an effective mentor is not easily obtained. One of the best methods to learn these skills is to become aware of the many elements that go into building positive mentor/trainee relationships.

Essential features of building a positive relationship with trainees include:

- Trust
- Self esteem
- Respect

Trust

Establishing trust is essential to a successful mentoring relationship. Trust is created through a number of factors that include being able to effectively communicate with the trainee. This consists of actively listening, valuing the trainee's opinions, and letting the trainee know that he or she is being taken seriously. A good mentor also should be available and willing to meet with the trainee whenever he or she needs assistance. Another factor in building trust is to provide consistent feedback, direction, and advice.

Self-Esteem

Another important element to a successful mentoring relationship is having the ability to build the trainee's self-esteem. All people have the desire to be worthwhile and valuable, and trainees are no exception.

Respect

Of the most essential elements to a successful mentoring relationship is to build respect. Respect is established when the trainee recognizes knowledge, skills, and abilities in the mentor that he or she too would like to have. The trainee then attempts to acquire these much-admired characteristics. Respect usually increases over time and is not easily acquired. As the saying goes, it must be earned.

Learning Styles

When preparing mentors, it’s important to understand the trainee’s preferred learning style. There are basically three types: auditory, visual and kinesthetic.

●Visual learners want to see a picture, a chart or something written down to learn something. They prefer to get directions, information, etc. in writing.

●Auditory Learners tend to use their voice and ears to learn, and remember what they hear and say.

●Tactile-Kinesthetic Learners learn best by doing. They want to move, touch, create and physically interact.

Although mentoring essentially assumes a tactile-kinesthetic approach to learning, mentors may find that trainees who are strong visual learners would benefit from diagrams or drawings of the work to be accomplished before beginning the hands-on exercises. Likewise, if a trainee favors an auditory style, the mentor could spend more time upfront carefully explaining job procedures. Understanding an individual's learning style is beneficial to both mentor and the trainee because it helps the mentor define the training approach and allows the trainee to more easily grasp the material being taught.

Appendix B includes a simple test to determine a person's preferred learning style.

ESSENTIAL ELEMENT #4: STRUCTURE THE MENTORING PROGRAM

Although mentoring needs to be structured, there's no right or best way to accomplish this. Joint labor-management representatives and mentors should first read this guidebook and then meet to plan a mentoring approach that works best for all parties, especially the trainees.

Having a structure defines how the mentoring program begins, activities that take place during mentoring, work tasks to be accomplished, and determining when and how to end the mentoring relationship. While having a structure is important, there's no reason why the approach can't be modified as the program develops. Guidance provided below is intended to assist agencies formulate their own mentoring structure.

Coordinating Classroom Training With Mentoring

An essential structured activity, and one that makes mentoring far more effective, is to coordinate it with classroom activities. Classroom instruction on brakes, for example, will provide trainees with basic information about braking safety, theory and component functions. That training experience is greatly enhanced when trainees are then paired with a mentor proficient in brake repairs, thereby engaging trainees with meaningful on-the-job learning.

The coordination of these activities needs to take place in close proximity of each other while the classroom leaning is still fresh in the trainee's mind. Going from the classroom to on-the-job learning in quick order reinforces abstract learning with real-life work experiences. Waiting too long to make the connection will

result in the trainee forgetting much of what was originally learned and burdens the mentor with more training responsibilities.

The coordination of classroom and on-the-job learning is best done when both labor and management cooperate in the process. An ideal scenario is one where both sides see to it that classroom training on a given subject is followed by pairing the trainee with a mentor on the same subject. The importance of this planning cannot be overemphasized. Placing trainees with mentors without giving thought to the learning that takes beforehand is far less effective than following a structured learning progression.

Trainee Orientation

Once mentors and trainees have been identified, an important next step is to plan a trainee orientation. Senior representatives from labor and management should kick off the orientation meeting by welcoming mentors and trainees to the program, to offer mutual support, and let the trainee know that both are available for consultation as needed. The mentor should then review the program, discuss expectations with the trainee, review work tasks and goals, and communicate the mentor's expectations to the trainee. Asking the trainee about his or her expectations is important. This is best done by asking the trainee:

- What do you want to gain from this mentoring relationship?
- How should we work together to make the most of this mentoring experience?
- What do you expect from your position/job?
- Where do you want your career to go?

Schedule

During orientation the mentor should develop a daily or weekly schedule with the trainee to ensure enough time will be devoted to mentoring. The schedule will depend on the time labor and management has set aside for the mentor training, the work load of the mentor, and the type of work the mentor is engaged in, and the instruction to be carried out. In some shops the mentor may work in several different areas. In other shops mentors may be assigned to one area (e.g., brakes) for extended periods of time. Labor and management must determine how best to utilize mentors as part of the initial planning, understanding that trainees may be best paired with multiple mentors.

Establish Roles

Another important step during the orientation is to establish the appropriate roles of the mentor and trainee as identified earlier in this guidebook. This is best done

through conversation, ensuring that the trainee is fully aware of the roles he or she is expected to perform. In basic terms, the role of the mentor is to instruct, the role of the trainee is to learn. More specifically, the respective roles will revolve around specific learning objectives defined by task sheets – actual work jobs that provide the context for learning. Task sheets are discussed in greater detail later in this guidebook.

The training department itself must also assume certain responsibility for the mentoring program. One key role is to provide mentors with a classroom evaluation of the trainee's performance to reveal strengths and weaknesses. As mentioned earlier, the training department is also responsible for ensuring that mentor provided training is consistent with classroom instruction. The training department will also be required to participate in meetings related to trainee development, and to provide educational support to shop locations to assist in trainee development.

Mentoring Stages

Before addressing work tasks, a discussion of the different mentoring stages can be useful to formulating a structured process. Mentoring is a dynamic process consisting of different stages that provide a trainee with the opportunity to learn and grow. A mentor needs to be aware of each of the four stages, each requiring that different roles be assumed. The four stages of mentoring are:

- Prescriptive
- Persuasive
- Collaborative
- Confirmative

<u>Prescriptive Stage</u>

In the first mentoring stage, the Prescriptive Stage, the trainee usually has little or no workplace experience. Here the trainee depends almost exclusively on the mentor for support and direction. This is where the mentor will devote most of the time upfront providing detailed guidance and advice to the trainee, showing him or her how tasks are performed. As mentioned earlier, mentors in this stage need to assume the trainees know very little, starting from the beginning to thoroughly describe work tasks.

<u>Persuasive Stage</u>

The Persuasive Stage requires mentors to take a strong approach with trainees. In this stage the mentor actively presses the trainee to find answers and seek challenges. The trainee usually needs some prodding to take risks as they

attempt maintenance and repair tasks unfamiliar to them. Here's where the mentor needs to build confidence in the trainee and prod him/her into performing the procedure(s) with the mentor coaching along the way.

Collaborative Stage

In the Collaborative Stage the trainee gains enough experience and ability that he or she can work together with the mentor to jointly perform maintenance tasks, solve problems through troubleshooting, and participate in more equal communication. In this stage the trainee can be working on one aspect of the job while the mentor is working on another. In this stage the trainee also actively cooperates with the mentor in his or her professional development.

Confirmative Stage

The Confirmative Stage is suitable for trainees who have mastered job requirements, but require mentor insight into specific job details, career choices, and agency/union policies and procedures. In this stage the mentor acts more as a sounding board or empathetic listener.

Task Sheets

One of the most essential elements to a structured mentoring program is to have task sheets – specific learning objectives that the trainee is expected to achieve during the mentoring program. The typical sequence is to have the mentor first show the trainee how to do the task (prescriptive stage), coach the trainee through the task (persuasive stage), and then work with the trainee to collectively perform the task to ensure the trainee is capable (collaborative and confirmative stages). Task sheets are based on common agency jobs such as preventive maintenance (PM) inspections, brake relines, rebuilding of components, and other common maintenance and repair jobs.

Ideally task sheets are those developed from written job procedures or practices generated collectively by management and labor, assuming such procedures exist. Written job procedures represent the best thinking on performing specific job tasks based on manufacturer's recommendations and local experiences. They clearly lay out all of the steps needed to properly perform common jobs, indentifying safety precautions, hazardous materials, special tools and equipment, and providing step-by-step instructions for carrying out the work. Also included are conditions when parts are to be replaced. Written procedures are ideal for mentoring and other training because they represent the collective wisdom of the workforce on how best to perform the most routine maintenance jobs. (For guidance on developing written job procedures see TRCP Report 109, *A Guidebook for Developing and Sharing Transit Bus Maintenance Practices*, http://www.trb.org/Main/Blurbs/156510.aspx)

Another approach to developing mentoring task sheets is to adapt learning objectives contained in the National Training Standards. The standards have been developed in several bus and rail areas (e.g., bus engines, rail couplers, etc.) by subject matter experts (SMEs) from both labor and management. The standards consist of various learning objectives, which represent the knowledge and skills that must be imparted during training.

While some of the learning objectives pertain to general understanding and are better addressed in the classroom (i.e., describe how temperature affects brake performance), others are ideal for hands on tasks. For example, a learning objective in the brake standard is to "determine if brakes are within wear limits." When converted into a mentoring task, the mentor shows the trainee how to inspect brake thickness and determine wear limits, coaches the trainee through the process, and then observes as the trainee performs the task.

A sample task sheet for rail vehicle mentoring is included as Appendix C. It was developed from the National Training Standard for Rail Vehicles, Level 100, Tools and Material Handling. Not all tasks may be applicable to each agency. The task sheet is intended as a guide. Joint labor-management teams are encouraged to tailor mentoring tasks as needed to suit their own learning objectives. A complete listing of the National Training Standards is available from the Transportation Learning Center.

Each learning objective contained in the task sheet should be clearly understood by the mentor and trainee. Likewise, the standards for successful completion of the training also should be clearly understood by both.

Activity Log

As part of a structured mentoring program, agencies should consider implementing a daily or weekly log where the trainee documents activities during the mentoring period. The log is reviewed by the mentor and signed by both parties with copies sent to the maintenance and training departments for review and filing.

ESSENTIAL ELEMENT #5: EVALUATE RELATIONSHIP AND MONITOR MENTORING PROGRESS

Evaluate Relationship

Once mentoring is underway the mentoring relationship needs to be informally evaluated by the mentor by taking time from learning activities and meeting with the trainee on a regular basis to find out if expectations are being met and if both parties are satisfied. When evaluating the mentoring relationship the mentor may

discover there are issues or obstacles that need to be discussed. The mentor, as the senior and more experienced partner, should take the initiative for scheduling these discussions.

Monitor Progress

In addition to evaluations conducted by mentors, the joint labor-management team also needs to periodically monitor the overall mentoring program, not only the mentor-trainee relationship but the progress being made in achieving the established objectives. The team should first meet with the mentor and trainee together to discuss how the relationship is progressing, and to review the task sheets, status of other program objectives, and determine if there are any issues to resolve. The team should then meet with the mentor and trainee separately on a regular basis to obtain their candid views on the program and mentoring relationship. During these meetings the mentor and trainee should be encouraged to reach out to a team member if problems develop and need resolution.

Periodic oversight by the labor-management team will more readily identify strains in the mentor-trainee relationship and keep the program moving in a positive direction.

ESSENTIAL ELEMENT #6: END THE MENTORING RELATIONSHIP

The final step of the mentoring process involves knowing when to end the mentoring relationship. There are typically three reasons why mentoring relationships end:

- When a trainee begins to gain more confidence and starts to perform more independently.
- The mentoring relationship is no longer beneficial to the mentor or trainee. Sometimes the mentoring relationship becomes exploitative and needs to be terminated. When a mentoring relationship ends, reflection and analysis need to take place to discover why.
- Mentor or trainee leaves their position.

OBSTACLES IN A MENTORING RELATIONSHIP

During the course of a mentoring relationship roadblocks and other obstacles may arise that could hinder a developing relationship. There are obstacles unique to each side. Obstacles that could confront a mentor include:

- A mentoring style that does not meet the trainee's needs
- The mentor loses interest
- Insufficient time

- A trainee who has a hidden agenda
- An inappropriate attitude on the part of the trainee.

For trainees, obstacles that may arise include:

- Peer jealousy
- Being accused of "holding on to the coat tails of another"
- Losing respect for the mentor.

It’s important to be aware of potential obstacles. Oversight by the labor-management team can play a large role in early identification of problems and working together to resolve them.

If obstacles surrounding the mentor-trainee relationship are just too much to overcome despite efforts taken by the joint labor-management team, the team needs to have a process for dissolving it. The goal of the process is to have an amicable separation where neither the mentor nor the trainee faces any negative repercussions. The team could try paring the mentors and trainees with other individuals, or it may turn out that the mentor and/or trainee are just not cut out for their roles.

SUMMARY

Essential steps to building an effective mentoring program include:

1. Establish the program on a joint labor management basis. To be effective, both sides need to participate in a program that provides maximum effectiveness for the trainee, mentor, agency and union.

2. Find the Right Mentors. The right mentors make all the difference. The process to select mentors needs to be based on the mentor having the proper attributes, not on popularity or friendships.

3. Select the Right Trainees. Like mentors, trainees also need to have certain characteristics to make the mentoring relationship work. A positive attitude and willingness to learn are essential.

4. Prepare Mentors. While ideal mentors will come to the job with many positive attributes, they still need to be prepared for their roles as teachers. In addition to building trust, self esteem and respect with the trainee, the mentor must provide instruction consistent with other agency training and understand the various learning styles of each trainee.

5. Structure the Mentoring Program. A successful mentoring program doesn’t happen on its own. Structured elements include establishing mentor-

trainee roles, progressing through a series of mentoring stages, and using task sheets that clearly define the learning objectives.

6. Evaluate Relationship and Monitor Mentoring Progress. Periodic evaluation by the joint labor-management team and mentor ensures that program objectives are being met and helps resolve any conflicts that may develop between the mentor and trainee.

7. End the Mentoring Relationship. At some point the mentoring relationship needs to terminate, either when program objectives have been met or the relationship cannot be sustained.

APPENDIX A: MENTOR ATTRIBUTE CHECKLIST

Desired Mentor Attribute	Does the Candidate Have This Attribute? Y/N	Does Mentor Candidate Need Additional Training to Improve Attribute? Y/N
Is an extremely knowledge technician with exceptional work skills.		
Is considered by peers to be an expert in the field.		
Has earned the respect of his/her peers and the transit agency.		
In addition to having the ability to teach the "skills of the trade," would be willing to manage the trainee's overall learning.		
Sets high standards for themselves.		
Enjoys and is enthusiastic about their work.		
Supports and works within collective bargaining agreements.		
Understands various job classifications and can instruct the trainee not to crossover into the work of other technicians.		
Has willingness to help the trainee take and pass any performance assessments given after the mentoring.		
Continually seeks to update their knowledge and skills.		
Listens to and communicates well with others.		
Likes to help others.		
Exercises good judgment in decisions concerning themselves and the welfare of others.		
Is sensitive to the needs of others, and generally recognizes when others require support, direct assistance or independence.		
Has the ability to support the needs and		

aspirations of a trainee.		
Is patient and would be willing to spend time performing mentoring responsibilities.		
Shows regard for another's well being and would accept a trainee's weaknesses and minor flaws.		
Is people-oriented and has a genuine desire to help others.		
A good motivator, someone who would inspire a trainee to do better.		
Is secure and confident in his/her position and career, and would genuinely express pride in the trainee's accomplishments.		
A professional achiever-- someone who sets lofty career goals and would inspire a trainee with the same drive for achievement.		
Would give the trainee exposure to shop stewards, supervisors and other labor and management personnel.		
Takes pride in the transit agency and union and understands their mission, vision, and values. Is well-versed in agency and union policies and procedures.		
Does not speak badly about the agency, the union or their policies.		

APPENDIX B: DETERMINING LEARNING STYLES

There's a series of 18 questions related to the three main learning styles: visual, auditory, and kinesthetic. This lesson will help you determine which of these learning styles you rely on the most. Read the question and select only those statements that you agree with. Don't spend too much time thinking about the question -- go with your first choice. If you don't agree with a statement, leave it blank and go to the next.

1) _____ I learn from books and written materials.

2) _____ When I read difficult text, it helps me to learn if I say the words to myself.

3) _____ I fidget or tap my feet or move around a lot when I am concentrating.

4) _____ I remember most of what is told to me and do not need to take many notes.

5)_____ I do not understand how something works until I get to work with it with my hands.

6) _____ I am often aware of sounds around me.

7) _____ Looking at diagrams and pictures is a good way for me to learn new concepts.

8) _____ I would rather watch somebody demonstrate before I try something new.

9) _____ I learn best by trial and error.

10) _____ People can usually tell how I feel by my facial expressions.

11) _____ I like to take part in discussions.

12) _____ I tend to keep things organized and orderly at work and at home.

13) _____ I do not like to work very long in a quiet place by myself.

14) _____ It helps me to understand if I draw a picture.

15) _____ I could probably identify a part just by touching it and not seeing it.

16) _____ I like to have several tasks to do at once.

17) _____ I tend to notice signs, street signs and billboards.

18) _____ I follow directions best if they are orally explained to me

Scoring Guide

The scoring guide will help reveal the learner's preference for instruction design, delivery and environmental concerns. While this is not a scientific assessment, it will give you an idea about this aspect of your preferred learning style.

Each of the statements you selected above has a number (1-18) associated with it. In the table below, circle the items you checked. Now total the items circled in each column. For example, if you circled three items in column 1, Visual, put the number 3 in the total for that column.

Visual	Auditory	Tactile-Kinesthetic
1	2	3
7	4	5
8	6	9
12	11	10
14	13	15
17	18	16

The column with the highest number of circled items reflects your primary learning style.

My primary learning style is: _____

While some will favor a specific learning style, others will find they favor two or even three learning styles with equal preference. Keep in mind that most of us use a combination of learning styles to learn new material, dependent upon the time and task. It's natural to use different learning styles for different tasks. That's why people can respond so differently to the same thing.

What my score means.

Visual Learners

If I am a visual learner I want to see a picture, a chart or something written down to learn something. I notice things around me and prefer a reasonably neat, tidy area. I prefer to get directions, information, etc. in writing. I want to know **what** something is.

- ✓ take numerous detailed notes

- ✓ tend to sit in the front
- ✓ are usually neat and clean
- ✓ often close their eyes to visualize or remember something
- ✓ find something to watch if they are bored
- ✓ like to see what they are learning
- ✓ benefit from illustrations and presentations that use color
- ✓ are attracted to written or spoken language rich in imagery
- ✓ prefer stimuli to be isolated from auditory and kinesthetic distraction
- ✓ find passive surroundings ideal

Auditory Learners

If I am an auditory learner, I tend to use my voice and ears to learn something. I remember what I hear and what I say. I may be distracted by sounds but I may also interrupt a quiet moment because I find too much quiet annoying. I want to know **why** something is.

- ✓ sit where they can hear but needn't pay attention to what is happening in front
- ✓ may not coordinate colors or clothes, but can explain why they are wearing what they are wearing and why
- ✓ hum or talk to themselves or others when bored
- ✓ acquire knowledge by reading aloud
- ✓ remember by verbalizing lessons to themselves (if they don't they have difficulty reading maps or diagrams or handling conceptual assignments like mathematics).

Kinesthetic Learners

If I am a tactile-kinesthetic learner, I learn best by doing. I want to move, touch, create or physically interact. I tend to be facially expressive and move around when interacting with others. I want to know **how** something is done.

- ✓ need to be active and take frequent breaks
- ✓ speak with their hands and with gestures
- ✓ remember what was done, but have difficulty recalling what was said or seen
- ✓ find reasons to tinker or move when bored
- ✓ rely on what they can directly experience or perform
- ✓ activities such as cooking, construction, engineering and art help them perceive and learn
- ✓ enjoy field trips and tasks that involve manipulating materials
- ✓ sit near the door or someplace else where they can easily get up and move around
- ✓ are uncomfortable in classrooms where they lack opportunities for hands-on experience

APPENDIX C: SAMPLE TASK SHEET

MENTORING TASK CHECKLIST – RAIL

Level 100
Tools & Material Handing

Taken From: Rail Training Standard Module 103 – Tools & Material Handing

NOTE: All tasks may not be applicable, and tasks do dot need to be performed in the order listed. Use this task sheet as a guide, tailoring as needed to suit mentoring learning objectives. Add other learning objectives as appropriate to your agency's job tasks.

Job Task - Learning Objective	Mentor Performs the Task (Trainee Observes)	Mentor Coaches Trainee Through Task	Trainee Performs Task Without Assistance (Mentor Observes)
103 Tools and Material Handling			
Basic Hand Tools			
Hold a rigid rule correctly when measuring an object	☐	☐	☐
Set lock joint transfer-type calipers	☐	☐	☐
Identify vernier calipers & show how they are used	☐	☐	☐
Take a measurement with a micrometer caliper	☐	☐	☐
Review parts of a combination square	☐	☐	☐
Wrenches and Screwdrivers			
Demonstrate steps that must be followed when driving a screw	☐	☐	☐
Demonstrate uses of open-end, box-end, socket, socket-head, adjustable, torque, and striking-face wrenches	☐	☐	☐
Demonstrate two sizes that are important in identifying a socket wrench	☐	☐	☐
Demonstrate uses of standard, Phillips, offset, and spiral-ratchet screwdrivers	☐	☐	☐
Pipefitting Tools			
Demonstrate uses of a straight pipe wrench, a Stillson wrench, a chain pipe wrench	☐	☐	☐
Demonstrate uses of a pipe wrench	☐	☐	☐
Demonstrate why a machinists' vise should not be used for holding pipe	☐	☐	☐
Demonstrate how to thread pipe	☐	☐	☐
Demonstrate how to clean a pipe tool	☐	☐	☐

Job Task - Learning Objective	Mentor Performs the Task (Trainee Observes)	Mentor Coaches Trainee Through Task	Trainee Performs Task Without Assistance (Mentor Observes)
Demonstrate how to cut and flare tubing	☐	☐	☐
Demonstrate procedures for brazing	☐	☐	☐
Demonstrate the ability to braze a section of pipe	☐	☐	☐
Plumbing Tools			
Demonstrate how to use a mechanical tubing bender	☐	☐	☐
Demonstrate the steps in joining hub-less pipe	☐	☐	☐
Demonstrate why the drain pipe should be completely covered by the force cup	☐	☐	☐
Demonstrate the methods used in selecting line clearing tools	☐	☐	☐
Demonstrate the steps in measuring pipe when using the center-to-center measuring systems	☐	☐	☐
Electrician's Tools			
Demonstrate the use of the all purpose tool	☐	☐	☐
Demonstrate the use of an analog and digital meter	☐	☐	☐
Demonstrate how to use an EMT bender	☐	☐	☐
Demonstrate the use of a knock out punch	☐	☐	☐
Sheet Metalworking Tools			
Demonstrate uses for the different types of snips and punches	☐	☐	☐
Demonstrate six safety practices to follow when working with sheet metal	☐	☐	☐
Demonstrate the different types of sheet metal	☐	☐	☐
Demonstrate the ability to measure the thicknesses of sheet metal	☐	☐	☐
Metalworking Tools			
Demonstrate how to select the proper hacksaw blades for cutting various materials	☐	☐	☐
Demonstrate the difference between single-cut and double-cut files	☐	☐	☐
Demonstrate the types of taps usually found in a tap set	☐	☐	☐
Demonstrate how to cut an external thread on a bolt, screw, or stud	☐	☐	☐
Demonstrate how to remove a reamer from a hole	☐	☐	☐
Hoisting and Pulling Tools			
Demonstrate how to prevent synthetic and	☐	☐	☐

Job Task - Learning Objective	Mentor Performs the Task (Trainee Observes)	Mentor Coaches Trainee Through Task	Trainee Performs Task Without Assistance (Mentor Observes)
fiber rope from unraveling			
Demonstrate how to select the most appropriate sling for use near corrosive chemicals	☐	☐	☐
Demonstrate use of a slide-hammer puller	☐	☐	☐
Demonstrate the different kinds of slings and loads	☐	☐	☐
Basic Power Tools			
Electric Drills			
Demonstrate safety rules to follow when using electric power tools	☐	☐	☐
Demonstrate how to drill a blind hole	☐	☐	☐
Electric Hammers			
Demonstrate the difference in hammering action between a percussion hammer and a rotary hammer	☐	☐	☐
Demonstrate the proper chisel to use for each of the following jobs: brick cleaning; general demolition	☐	☐	☐
Demonstrate the precautions that should be taken to ensure electrical safety when using an electric hammer	☐	☐	☐
Demonstrate two safety items to use when operating an electric hammer in damp or wet areas	☐	☐	☐
Pneumatic Drills and Hammers			
Demonstrate how drill size is determined	☐	☐	☐
Demonstrate the chiseling action of a bull point chisel when it is used to clean masonry seams	☐	☐	☐
Demonstrate how to use a rivet buster	☐	☐	☐
Demonstrate drill speed requirements	☐	☐	☐
Demonstrate various types of chisels used in pneumatic hammers	☐	☐	☐
Screwdrivers, Nutrunners, and Wrenches			
Demonstrate the operating advantages of pneumatic tools	☐	☐	☐
Demonstrate stalling torque	☐	☐	☐
Demonstrate the clutch action of direct drive, positive drive, and adjustable torque drive	☐	☐	☐
Demonstrate how to install a bit in an electric screwdriver	☐	☐	☐
Demonstrate how to install multiple fasteners correctly in a circular pattern	☐	☐	☐

Job Task - Learning Objective	Mentor Performs the Task (Trainee Observes)	Mentor Coaches Trainee Through Task	Trainee Performs Task Without Assistance (Mentor Observes)
Demonstrate safety rules to follow when using power screwdrivers and wrenches	☐	☐	☐
Demonstrate the difference between pneumatic and electric nutrunners	☐	☐	☐
Linear-Motion Saws			
Demonstrate the cutting action of a saber saw	☐	☐	☐
Demonstrate how to draw a saw blade with regular set teeth and one with wavy set teeth	☐	☐	☐
Demonstrate how to plunge cut a rectangular opening	☐	☐	☐
Demonstrate the types of band saw blades described in this Lesson and a few characteristics of each	☐	☐	☐
Circular Saws			
Demonstrate the major parts of a circular saw	☐	☐	☐
Demonstrate the cutting action of a circular saw	☐	☐	☐
Demonstrate the factors that determine feed speed	☐	☐	☐
Identify an arbor	☐	☐	☐
Demonstrate different types of blades	☐	☐	☐
Electric Sanders			
Demonstrate how to install a sanding belt	☐	☐	☐
Demonstrate different types of sanding belts	☐	☐	☐
Demonstrate how to flush the gear chamber of a belt sander	☐	☐	☐
Demonstrate the assembly of a sanding disk	☐	☐	☐
Demonstrate the safety rules to follow when using a disk sander	☐	☐	☐
Grinders and Shears			
Review each symbol in the six-symbol standard marking system for grinding wheels	☐	☐	☐
Demonstrate the correct procedure for mounting a grinding wheel	☐	☐	☐
Demonstrate safety rules to follow when using a grinder	☐	☐	☐
Demonstrate how to maintain grinders	☐	☐	☐
Tool Sharpening			
Demonstrate the use of whetstones	☐	☐	☐

Job Task - Learning Objective	Mentor Performs the Task (Trainee Observes)	Mentor Coaches Trainee Through Task	Trainee Performs Task Without Assistance (Mentor Observes)
Demonstrate use of a bench stone	☐	☐	☐
Demonstrate how to sharpen taps, dies, screwdrivers, and chisels	☐	☐	☐
Moving Machinery Using a Dolly			
Demonstrate the safe procedure of using dollies	☐	☐	☐
Moving Machinery Using Roller Pipes			
Demonstrate the use of wood and steel pipes	☐	☐	☐
Demonstrate the use of shoes and skids with rollers	☐	☐	☐
Assembly of Gantry Crane			
Demonstrate the proper use of and limits of a Gantry Crane	☐	☐	☐
Demonstrate proper assembly using correct steps and procedures	☐	☐	☐
Rigging and Hoisting			
Demonstrate the proper inspection of wire rope and chain	☐	☐	☐
Demonstrate the proper use of the various types of slings and sling hardware	☐	☐	☐
Demonstrate how to calculate the efficiency of reeling system	☐	☐	☐