



Developing Best-Practice Guidelines for Improving Bus Operator Health and Retention

DETAILS

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TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP REPORT 169

**Developing Best-Practice
Guidelines for Improving Bus
Operator Health and Retention**

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TRANSPORTATION LEARNING CENTER
Silver Spring, MD

Subject Areas
Public Transportation

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TRANSPORTATION RESEARCH BOARD

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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academies, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

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Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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FOREWORD

By **Gwen Chisholm-Smith**

Staff Officer

Transportation Research Board

TCRP Report 169: Developing Best-Practice Guidelines for Improving Bus Operator Health and Retention addresses some of the health and safety issues common throughout the transit industry. *TCRP Report 169* describes the approaches that transit organizations in the United States and Canada have taken to address the health problems faced by transit employees, including identification of many common problems and detailed practices. The report includes a *Practitioner's Guide* (Part I) and an Evaluation and Return on Investment (ROI) template titled, *Transit Operator Workplace Health Protection and Promotion Planning, Evaluation, and Return on Investment (ROI)* (available online) for use in implementing and carrying out transit-specific programs to protect the health of bus operators and other employees. The final research report (Part II) includes the background, research approach, literature review, case examples, and detailed case studies. The guide, template, and report are intended for use by senior managers, operations managers, organized labor, safety officials, medical personnel, risk managers, human resources personnel, policymakers, and legal advisors.

Transit bus operators work in a challenging environment that can lead to negative health outcomes for the operators and high costs for transit agencies due to health care costs, absenteeism, high levels of turnover, and workers' compensation payments. Organized labor leaders and transit managers agree that worker retention and career longevity are of paramount importance. In recent years, transit agencies and organized labor have created joint labor-management teams to identify and address operating issues related to operator health and stress in a number of locations. A number of transit agencies and organized labor have worked together in the United States and Canada to develop programs to reduce operator stress, improve operator health, and address health-related agency cost impacts.

However, little attention has been given to substantive health and wellness program evaluation. The results of this research may help to assess the broad array of health and wellness programs throughout United States and Canada, and provide assistance on how to evaluate the success of specific programs.

The Transportation Learning Center prepared this report under TCRP Project F-17. The primary objective of this research was to develop best-practice guidelines and industry tools (including a cost and benefit template) to address some of the health and wellness issues common throughout the transit industry. To accomplish this objective, a comprehensive literature review was undertaken to identify applicable transit programs. In addition, a series of online surveys and interviews with transit agencies and union representatives were conducted to help establish a preliminary list of proven transportation practices related to health and wellness programs.

After gathering this information and conducting five detailed case studies, the research team worked to produce a catalogue of the common and innovative practices in transit Workplace Health Protection and Promotion. To provide transit systems of various sizes practical tools to address bus operator health, wellness, and retention, the researchers developed a *Practitioner's Guide* of best practices and tools, accompanied by a Return on Investment template available on TRB.org by searching for “TCRP Report 169.”

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Note: Many of the photographs, figures, and tables in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the Web at www.trb.org) retains the color versions.

Part I

**A Transit Workplace Health Protection and Promotion
Practitioner's Guide**

Transit Operator Health: Introduction and Explanation

The Background

Transit sector employees, and bus operators in particular, are more likely to have certain serious and chronic health problems, compared to other workers (Witters 2013). Research suggests that there is a connection between transit employment and metabolic syndrome, diabetes, stroke, musculoskeletal disorders, digestive problems, fatigue, and sleep disorders (Tse et al., 2006). Most of the health problems identified in bus operators are affected by a combination of factors: lifestyle choices, genetics, and workplace and environmental conditions all contribute. Possible work factors include air pollution, sedentary work, schedule stress, and unhygienic and unsafe eating and restroom facilities. In addition, transit workers are often older and from groups that are at increased risk for cardiovascular disease, diabetes, and other health problems.

Transit employers recognize the importance of health and wellness, as do transit workers and the unions that represent them. Health plan costs and retention issues drive much of the concern. Operator health is also likely to affect customer service, performance, and safe operations. The bottom line is that too many people are affected by problems that can be reduced or prevented.

Workplace health protection and promotion (WHPP) has been recognized as an important path to improving operator health and reducing costs. In 2004, TCRP published *TCRP Synthesis 52: Transit Operator Health and Wellness Programs*, which reported on existing wellness program

“An important tenet of Total Worker Health™ is that risks and our responses to them must be proportional. Highest risk occupations and workers require more frequent and more intense workplace health interventions on both the health protection and the health promotion fronts. The higher risks of shift workers and low-wage workers are great examples. These folks often have riskier jobs, more personal health risks, and less access to health care. They may come from higher-risk communities and are frequently at risk for incomplete worker protection programs on the job. Increasing the number of health interventions, supports, incentives, and protections in these higher-risk populations is critical if we are to achieve Total Worker Health™ for all working Americans. Health and safety programs are not only for the day shift or the well-compensated.”

Chief Medical Director
Total Worker Health™
National Institute for Occupational
Safety and Health

activities in the transit industry. TCRP Project F-17, “Developing Best-Practice Guidelines for Improving Bus Operator Health and Retention,” updated and extended that knowledge. This Guide and the Planning, Evaluation, and Return on Investment (ROI) Template are the results. They can be downloaded from the Transportation Learning Center (www.transportcenter.org) and TRB (www.trb.org), along with the project research report.

Exploring Current and Best Practice for Bus Operator Health Protection and Promotion

From 2011 to 2013 the F-17 research team investigated common and best industry practices for health protection and promotion, particularly how transit WHPP programs integrated health and safety approaches with traditional health promotion activities, and how WHPP in transit differed from other industries. This study was designed to catalogue and assess the WHPP practices, goals, and models implemented by transportation organizations. The program data collection included an extensive review of health and business literature, a survey targeting 238 transit agencies and unions in the US and Canada, detailed case examples developed through follow-up with survey respondents, and six in-depth case studies.

The invitation to participate in the 32-question survey was distributed via email by industry groups and by international unions. Follow-up discussions were held with 40 sources from 26 agencies to clarify the survey findings and expand on the experience of labor and management. In-depth case study interviews were completed with six agencies whose practice illustrated core concepts in designing, implementing, and assessing integrated WHPP programs. A subject-matter expert team of working bus operators, union representatives, and agency safety and wellness staff provided ongoing input.

Responses from 68 agencies across the US (52) and Canada (16) were received, and from 40 agencies represented by 44 local unions (eight Canadian and 36 US), for a total of 94 different agencies, about 40% of the targets. Additional information was collected from the in-depth review of health research and business literature, and expanded descriptions and detailed case examples developed through follow-up with survey respondents. The panel of subject-matter experts (SMEs) from agencies and unions in the US and Canada helped assess the information. They contributed to the development of this Practitioner’s Guide and the Planning, Evaluation, and ROI Template.

The State of Transit Industry WHPP

The Transportation Learning Center’s research team and academic consultants worked over the course of more than a year to identify and analyze the programs and activities that agencies reported as helpful in operator health, absenteeism, medical disqualification, turnover, health care costs, the work environment, and other outcomes related to operator health.

WHPP programs and activities are common but not universal in transit operations. Programs are run by human resources, safety, and operations departments but typically not by experienced bus operators. All survey respondents took the issues of bus operator health, wellness, and safety seriously. Work organization and the work environment were recognized as important to operator health. But they were often not addressed by the programs. Effective program action was hampered by silos of data and limited access and influence for the program staff.

Only half of the transit agencies responding to the survey had current workplace health promotion programs for bus operators,

and only one out of three among smaller agencies. (Organizations with programs may have been more likely to respond to a survey on the topic, so the actual proportion of transit agencies with programs could be lower.) This is less than the national average for other industries: A recent Kaiser Foundation survey showed that 63% of all employers who provide any health benefits also offer some health promotion resources to their employees, and usually to families as well (Claxton et al., 2012). Another 10% of the F-17 survey respondents plan to start or restart a program. In comments and interviews, support for a WHPP program that addresses transit-specific health protection and promotion was strong. Of course, all agencies have some kind of safety program that may in part protect worker health.

The majority of transit agencies with active programs follow a traditional health promotion program design. This health promotion consisted of a few isolated activities rather than being integrated with other related areas and policies such as occupational safety and health protection or scheduling. Limited financial resources were a major constraint to starting or broadening a program. Even transit agencies with the will to begin or expand sometimes lacked a systematic approach in preparing the organization and planning the process. They described narrowly focused programs that may not do what the agencies want and expect.

The common thread: Bus operators are harder to reach than less mobile transit agency employees. Unions and management assess the programs differently. Each tended to report that they supported health activities more than the other party. All respondents felt strongly that joint action was essential in getting operators and other workers the resources they need to stay healthy and safe at work, and to go home

the same way. Management respondents were much more confident that the organization's policies and actions supported health than union respondents.

The data collected from managers, operators, health promotion and safety staff, and unions shows that keeping workers healthy demands organizational support, adequate resources, data-based and collaborative planning, and ongoing evaluation and improvement. To be effective, programs will address both health promotion and workplace health and safety concerns. Examples of the many ways that transit agencies and unions can integrate health protection and promotion make up the body of this Practitioner's Guide.

Where the Results Lead

This project has produced a catalogue of the common and innovative practices in transit workplace health protection and promotion—WHPP. The F-17 research team has established the outlines, targets, and effective actions for a comprehensive WHPP framework for transit organizations. It is based on the models seen in practice and those described in the wider health promotion literature and practice. The framework is laid out in this Practitioner's Guide.

The investigation has already had an impact. During data collection, agency and union respondents have recognized potential improvements or have been inspired by the discussion to reinvigorate their own programs. Several have increased collaboration and co-sponsorships. Sharing ideas has helped them grow.

The Practitioner's Guide

The Practitioner's Guide is built around six chapters, each made up of best practices and elements that illustrate how to achieve them, as shown in Figure 8. Each chapter and element is accompanied by real transit agency practice examples by tools, links, and resources and by references to journal articles and other sources. (The electronic version of the Guide includes hyperlinks to online resources.) The Guide is supported by the Planning, Evaluation, and ROI Template, a set of spreadsheets for documenting and showing the value of your program. These can be downloaded from the TCRP website and the [Transportation Learning Center](#), with a summary roadmap.

The Practitioner's Guide is designed for anyone interested in creating health protection and promotion in the transit workplace. That could be the top executive ready to commit for the entire organization, human resources or benefits management staff looking to reduce costs or increase retention, a union leader representing members in an employer's program or setting one up within the union, a safety professional trying to introduce a new approach or, ideally, all of those together.

The Practitioner's Guide contents are based on a model of health and change developed by top researchers, health agencies, and on-the-ground practitioners. It follows national recommendations for workplace health protection and promotion and applies these concepts to the practical realities of the transit workplace. The main focus is on bus operators because of the established health risks and demanding working conditions. The concepts, however, can be used throughout transit operations, maintenance, and other areas. This approach does not replace a safety management system.

The goal is to bring together the issues across transit workplaces that affect health, safety, and well-being, and the people who can make a difference. The bottom-line impact ideally is to improve working conditions, control health care costs, increase operations efficiency, and decrease absenteeism. These changes will help employees and the organization as a whole.

WHPP programs have been shown to pay off. A combined analysis of the worksite health promotion literature found that on average, reported medical costs fell by \$3.27 for every dollar spent and absenteeism costs fell by \$2.73 for every dollar spent (Baicker, Cutler, and Song, 2010). A review of over 70 worksite wellness programs showed an average annual ROI (return on investment) from 150% to almost 2,000% (Chapman, 2008). An actuarial study identified wellness programs as potentially affecting approximately 25% of health care costs for working populations (Bolnick, Millard, and Dugas, 2013). The average ROI reviewed in more than a dozen traditional worksite wellness programs was 300% (Chapman, 2012). Of course, positive findings and successful programs are more likely to be reported, but just breaking even can represent an overall advantage when factoring in the benefits that are less easy to quantify. Chapters 1 and 5 will help you define and keep track of these.

Many of these programs and ROI analyses were carried out in office settings or white-collar occupations, so it is likely that methods and outcomes could be different in transit organizations. Chapters 3 and 4 focus on targeting and implementing transit-specific programs and activities.

The Model

According to the World Health Organization (Burton, 2010), a healthy workplace is one in which workers and managers collaborate to continuously improve, protect, and promote the health, safety, and well-being of all workers. This is achieved by

- Addressing the health and safety concerns in the physical work environment.
- Meeting the health, safety, and well-being concerns in the psychosocial work environment, including organization of work and the workplace culture.
- Allowing access to personal health resources in the workplace.
- Providing opportunities for participating in the community to improve the health of workers, their families, and others.

A comprehensive workplace health protection and promotion (WHPP) program goes well beyond individual health concerns and health promotion targets. Figure 1 illustrates that worker health depends on individual behavior and resources (the right corner of the triangle) but also on the sum of the organizational policies, programs, and practices that affect health (left side), and on the conditions of the physical environment (top of triangle). The SafeWell model, originally developed for health care work places, shows how workers are affected by health promotion, the psychosocial work environment, and occupational safety and health. WHPP is firmly set in the context of organizational and community policy.

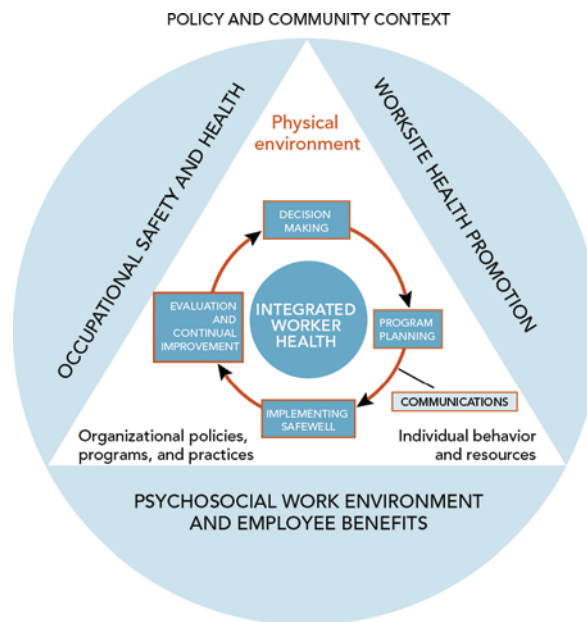


FIGURE 1 THE SAFEWELL MODEL FOR INTEGRATED WORKER HEALTH
(McLellan, Harden et al., 2012)

The Suggestions

Improving workplace health protection and promotion is a national and world-wide goal. The US National Institute for Occupational Safety and Health (NIOSH), along with the Centers for Disease Control and Prevention (CDC), provides support and information for employers, unions, workers, and health care providers, by way of the Total Worker Health™ model. The elements of Total Worker Health™ use the resources of the workplace to improve the work environment, work organization, and individual health. They are laid out in Figure 2 and detailed in Appendix A.

FIGURE 2 Total Worker Health™ ESSENTIAL ELEMENTS OF EFFECTIVE WORKPLACE PROGRAMS AND POLICIES FOR IMPROVING WORKER HEALTH AND WELL-BEING

- | | |
|---|--|
| <p>Organizational Culture and Leadership</p> <ol style="list-style-type: none"> 1. Develop a “human-centered culture.” 2. Demonstrate leadership. 3. Engage mid-level management. <p>Program Design</p> <ol style="list-style-type: none"> 4. Establish clear principles. 5. Integrate relevant systems. 6. Eliminate recognized occupational hazards. 7. Be consistent. 8. Promote employee participation. 9. Tailor programs to the specific workplace and the diverse needs of workers. 10. Consider incentives and rewards. | <ol style="list-style-type: none"> 11. Find and use the right tools. 12. Adjust the program as needed. 13. Make sure the program lasts. 14. Ensure confidentiality. <p>Program Implementation and Resources</p> <ol style="list-style-type: none"> 15. Be willing to start small and scale up. 16. Provide adequate resources. 17. Communicate strategically. 18. Build accountability into program implementation. <p>Program Evaluation</p> <ol style="list-style-type: none"> 19. Measure and analyze. 20. Learn from experience. |
|---|--|

Total Worker Health™ is based on a comprehensive view of health that integrates programs, policies, and practices in an overall health and safety management system. This Practitioner’s Guide applies the Total Worker Health™ elements to the transit workplace. The Practitioner’s Guide also relies on policies and practices that have been developed and applied around the world. Links to some of those programs are provided in the Tools and Resources section in each chapter.

The Practical Approach

In traditional health promotion, the workplace can function as a convenient place to get access to individuals rather than an integral component in the human health equation. Workers have health problems, which they need to have diagnosed and treated. The health problems may result from factors beyond their control such as genetics or aging. The health problems affecting bus operators are commonly regarded as

preventable through health-enhancing choices and decisions they alone can make. That is, what people are and what they do have a health impact, and the impact leads to undesirable outcomes for the individual or the organization.

The WHPP model recognizes that the environment – what the working conditions are, and how the organization functions – also affect health directly. If you define and recognize the variety of contributors to health problems, you can develop a map that points to where the organization, individuals, and other resources fit in correcting or controlling them. Figure 3 shows the basic map for identifying the range of influences on health.

Figure 4 shows the filled-in map for a common health concern of bus operators, musculoskeletal disorders (MSDs). The workplace contributors to MSDs are well known among operators: bus vibration, hitting potholes, wrestling with wheel chairs or windows, extended sitting, and work stress can all be linked to strain, pain, and injury. MSDs can develop because of individual habits (sedentary lifestyle leading to stiffer tissues, for

example) and leisure activities (powerlifting, for example, frequently causes back strain). MSDs are more common as we age. So a comprehensive WHPP program would seek to work with the city to eliminate potholes, improve workstation ergonomics in the bus procurement process, encourage exercise and rest, and recognize the costs and challenges of an aging workforce. In this and other areas, the payoff of adapting conditions and demands is not limited to older workers: Improvements in work organization (hours of work, rest) and work conditions (correcting slips and falls conditions, ergonomics accommodations) are of value to the entire workforce and can improve retention and performance across the organization (Silverstein, 2008).

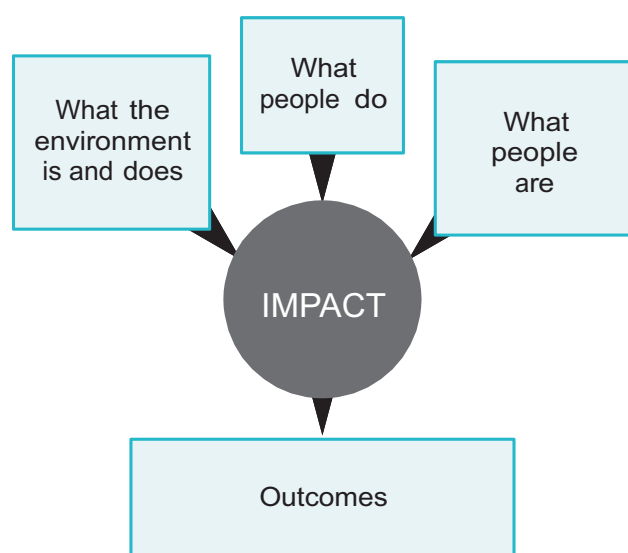


FIGURE 3 MAPPING HEALTH PROBLEMS

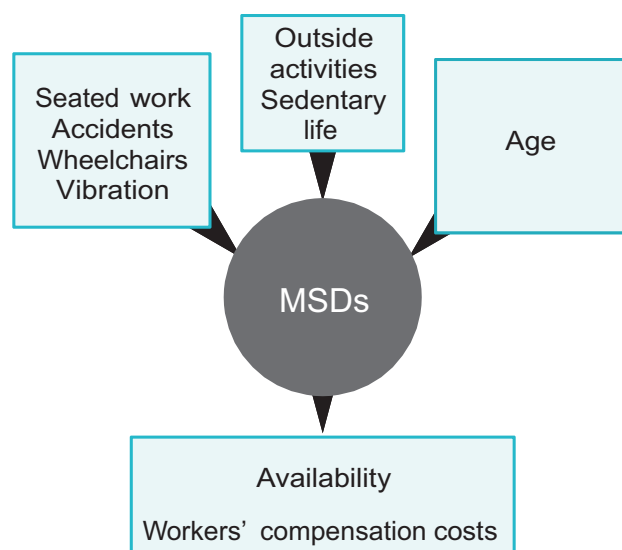


FIGURE 4 MSD MAP

The map for hearing loss, Figure 5, is interesting because it shows how a health problem (hearing loss) can lead to another health risk factor, and possibly to safety concerns. Transit workers may be exposed to short or continued high noise levels and suffer work-related hearing loss. There are other contributors to hearing loss in this workforce: Many are aging, quite a few are veterans, and some use firearms or go to loud concerts. An operator with enough hearing loss will not pass a commercial driver’s license (CDL) medical exam. Hearing loss could be a factor in accidents. In addition, hearing loss even at lower levels will make communication difficult with passengers and with family members, leading to stress and possibly conflict. So an effective hearing conservation program will increase safety and health at work and home by controlling workplace sources of noise, encouraging hearing protection at work and home, and helping those with hearing loss get treatment and support.

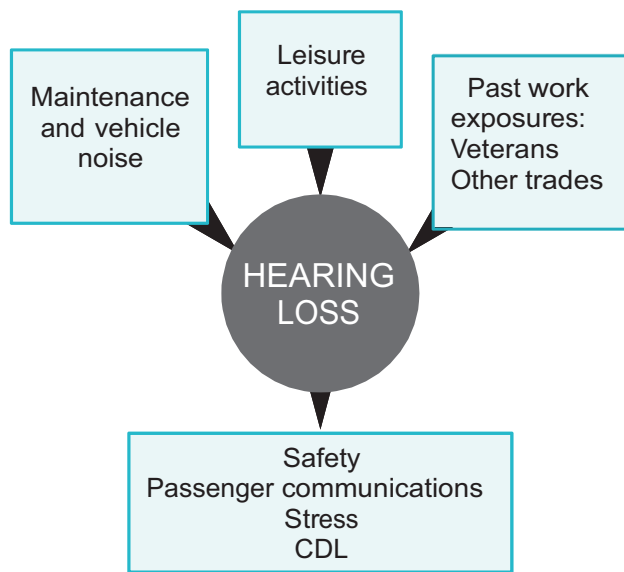


FIGURE 5 HEARING LOSS MAP

When it comes to wide-spread health problems such as metabolic syndrome (the combination of medical disorders that increase the risk of developing cardiovascular disease and diabetes), the map is more complicated but the analysis is the same, as shown in Figure 6. These health problems are increasing across industries, although they seem to be more common in bus operators (Witters, 2013; Bushnell et al., 2011). A sedentary lifestyle and less than healthy food choices lead to hypertension, overweight, and insulin resistance. This has a direct effect on operational concerns and CDL medical disqualifications. Health plan costs rise and there is concern that vehicle accidents could be increased.

Although diagnosis, treatment, and control have reasonably gotten a lot of attention in transit agencies, individual behavior is not the only cause of metabolic disorder. Operators may be older or of ethnicities with increased risk of metabolic disorder, and gender is a complicated factor in the equation. Conditions of work contribute: It can be hard to find healthy food,

and operators working afternoons or nights frequently have “dinner” at times that increase insulin resistance. Occupational health hazards come into play as well, as work at night and sleep disturbance have been linked to diabetes (Szosland, 2010), schedule stress raises blood pressure (Greiner et al., 2004), and diesel exhaust affects the heart (Mills et al., 2007). Finally, there are the many stressful aspects of work organization: working alone, dealing with the public, limited access to restrooms that can discourage operators from taking hypertension medications that cause frequent urination, and work-family conflict. The experience of all these factors can vary enormously among agencies, employees, and even routes or days.

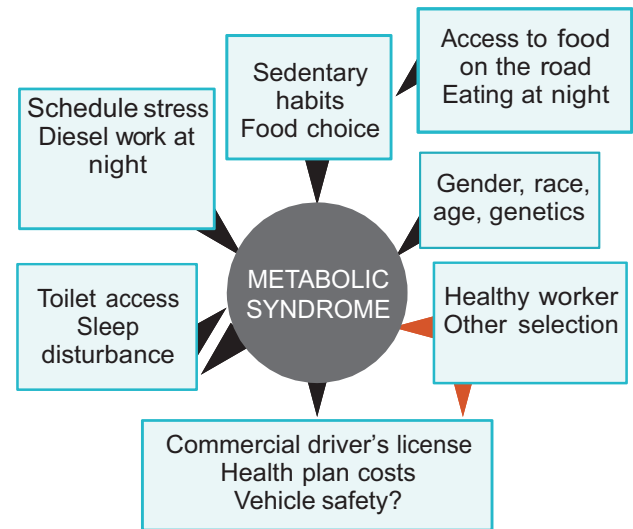


FIGURE 6 METABOLIC SYNDROME MAP

This complex of contributors may seem daunting. It can also be seen as a strength, because it provides a wide range of intervention points for health protection and promotion. Workers may believe that they are responsible for the choices they make, and they also recognize that work is where they spend more than half of the waking day (or the 24-hour day, for some). An example of

an integrated approach is to address concerns about asbestos or diesel exposure at the same time as providing support for quitting smoking. Respecting workers' concerns is more likely to be trusted and more likely to lead to health improvements.

The program potential for reach and effectiveness can be assessed using this practical model (see Figure 7). Ask yourself: What is the current status of the workplace, the parallel to what people are. Is there trust? Is confidentiality a given? Are resources limited? Then, what do people do in your program? How are all parties involved in planning and integration of the program's vision? Do they participate in specific activities, or do they find them irrelevant? And finally, how does environment contribute? For the program, that could be the challenging conditions of work that make your planning harder, and have to be taken into account. Hours of service and a mobile workforce are just two of many characteristics. These factors will have an effect on your program success. They will influence the health targets you are able to achieve, as well as other important outcomes such as support from union leaders, supervisors, and others.

Summary

The *Transit Workplace Health Protection and Promotion Practitioner's Guide* is based on the NIOSH Total Worker Health™ approach, and informed by theory-based practice models such as the SafeWell Integrated Management System for Worker Health and the World Health Organization Healthy Workplace Framework and Model. Most existing programs in the transit industry focus on individual health issues and describe themselves as wellness or health promotion. The growing consensus among research, government, and public health practitioners, however, is that the best practice encompasses workplace health protection and promotion. The shorthand for this concept used throughout the Practitioner's Guide is WHPP. The Guide also reflects practice and policies that have been developed and applied around the world. Links to many of these are provided in the Tools and Resources section in each chapter.

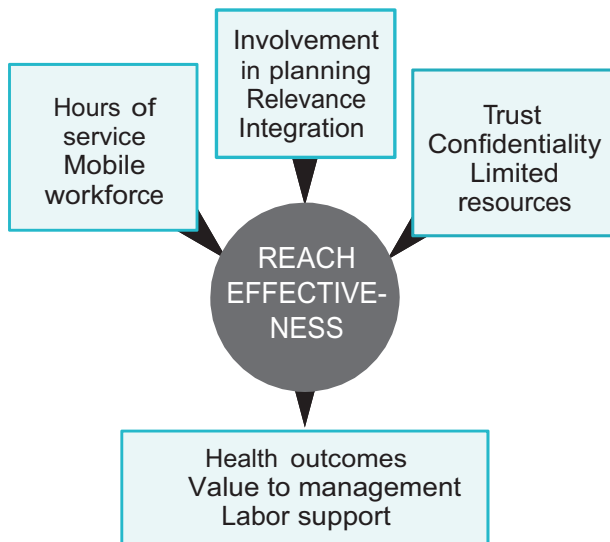


FIGURE 7 EXAMPLE OF A WHPP PROGRAM MAP

Transit Workplace Health Protection and Promotion Roadmap

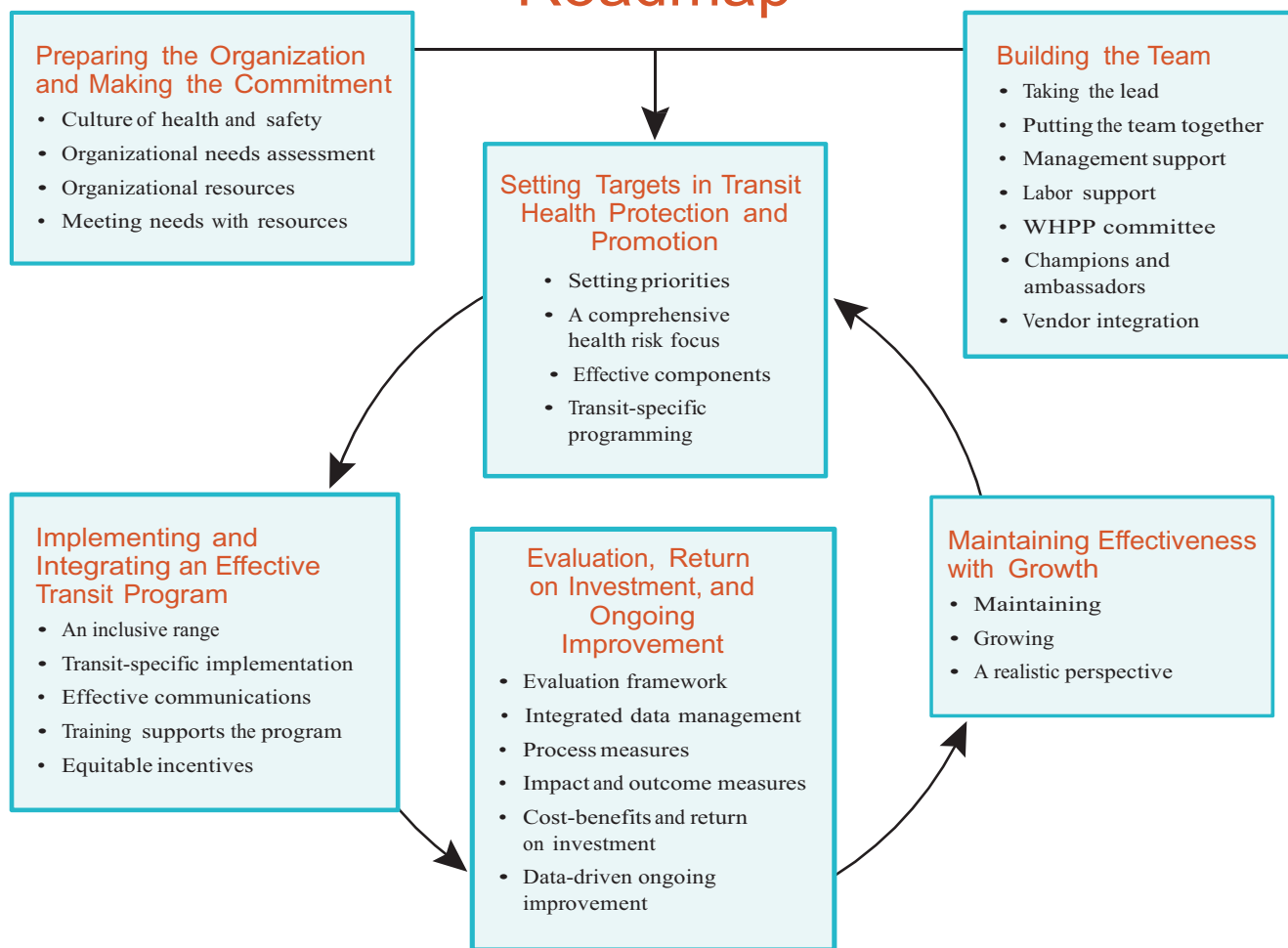


FIGURE 8 THE PRACTITIONER'S GUIDE MAP

The Practitioner's Guide relies on the practical examples provided by US and Canadian transit agency staff, union leaders, and bus operators. Enormous thanks are due to all those who provided their information, opinions, and input to make the F-17 research project and this Guide possible.

You will find that elements from different chapters overlap at times. The elements are steps, but

cannot properly be numbered or taken in a strict order because the conditions in which they are applied will vary. You will want to take the steps in the order that makes sense to your organization. The best approach is to read through the Practitioner's Guide entirely, probably flagging important areas, then go back to the beginning to build your effective workplace health protection and promotion program.

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Chapter

1

Getting Started: Preparation and Commitment

CHAPTER MAP

CULTURE OF HEALTH AND SAFETY

The organization maintains a healthy and safe culture based on leadership and organizational commitment.

- Recognize the importance of WHPP for the agency.
- Establish top leadership buy-in and commitment.
- Leadership takes an active role.
- Articulate the vision and mission statement.

ORGANIZATIONAL NEEDS ASSESSMENT

The organization identifies workforce health status and needs, and understands the sources of health problems.

- Evaluate bus operator health status separately, as well as other titles or the whole workforce.
- Understand the varied sources of operator health problems.
- Consider demographics and other health factors.
- Identify potential sources of support for and barriers to an effective WHPP program.

ORGANIZATIONAL RESOURCES

Program planners identify resources including staffing, finances, programs, structures, and internal and external partners.

- Are there qualified and motivated staff?
- What resources are found in the work environment?
- How can existing structures and programs contribute?
- Who are the internal partners?
- Who are the external partners?
- Where are the financial resources?

MEETING NEEDS WITH RESOURCES

The organization develops a plan to provide effective health assessments, a healthy and safe environment, and targeted and population-based intervention programs for all employees.

- Draft a long-term program plan.
- Plan to grow, including developing new resources.
- Develop program components that match the needs identified.
- Design a practical program.

Just as each organization has a culture of safety, positive or negative, the culture of health is formed by the environment, policies, practices, and participants. Are health problems considered an individual responsibility, or do work conditions figure in? Is blame, support, or action most common? How does the environment help or hinder health? Recognizing the organization's characteristics, strengths, and weaknesses helps to plan and implement an effective workplace health protection and promotion program.

A healthy culture starts with leadership commitment to the workplace health protection and promotion agenda. This is what the NIOSH's Total Worker Health™ model calls organizational culture and leadership. It includes understanding the current health culture and defining a vision for the future. Whoever initiates the workplace health protection and promotion (WHPP) program—the general manager, an assigned or self-identified staff person, union leadership—will require a clear understanding of the organization's needs, resources, and constraints. This will define how the WHPP program will fit in. Most often, wherever the impetus, the program details will need to be drafted and justified by someone in the middle of the organization. To lay a solid foundation for advancing health and well-being and preventing injury and illness for bus operators and other transit workers, you will need to solicit input from across the transit agency, identify workforce health needs, research the agency's experience with related programs, and find and recruit partners. This chapter explains how to do this.

BEST PRACTICE

The organization maintains a healthy and safe culture based on leadership and organizational commitment.

Culture of Health and Safety

An effective WHPP program requires commitment from senior management, Boards of Directors, and labor leaders. Leadership commitment to the health and well-being of front-line employees is demonstrated concretely by recognizing and improving policies and practices that affect workplace health culture. Commitment means providing funds for staff, equipment, vendor services, supplies, and incentives, and allowing time for the program during the work day. It is reflected, with the Board's support, by incorporating workforce health and safety into the transit agency's strategic plan and making it a key operating principle for which leaders are held accountable. Unions may sponsor distinct programs for their members, as well as participate in employer-supported programs. Just as union support is important for the success of an employer's program, the union program will do better if the agency is informed about and supports it. As you begin to plan a WHPP program, you need

CASE STUDY

United Transportation Union—Los Angeles County Metropolitan Transit Authority Wellness Program: Organizational Leadership and Commitment

The United Transportation Union—Los Angeles County Metropolitan Transit Authority (UTU-LACMTA) Trust Fund joint labor-management collaboration began in 2007 focusing on ways to control escalating costs without reducing benefits. The Board of Trustees asked its benefits consultant, Rael & Letson, to develop a wellness and health care cost containment strategy to improve member health and to control health plan premium rates and self-funded costs. Strong senior labor and management support was obtained, including the General Union Chair, all Local Union Chairpersons, MTA Chief Operating Officer, MTA Chief Financial Officer, MTA Director of Human Resources, and MTA Benefits and Safety Directors. The UTU Trust Fund, which negotiates health insurance rates, decided when they observed the impact of the wellness activities to fund the program manager position after the pilot was completed. The manager directs program activity and coordinates planning with management and the other unions.

The program initially focused on prevalent issues of presenteeism, upward trends in workers compensation claims, and avoidable accidents. Following the initial pilot in two divisions, the wellness program expanded to involve most agency divisions and unions.

A Wellness Committee was developed in 2008, composed of UTU-LACMTA Trustees, union leaders, MTA transportation and human resources department staff, and health plan representatives. A local union chairperson was initially appointed as the wellness committee chair. Extensive health plan involvement was also obtained, including financial, staffing, and resource support from all health vendors (insurance, dental, vision, etc.) and community organizations (American Diabetes and Heart Associations, etc.).

The Trust Fund manager, the 5 UTU divisional chairs representing the operators, and representatives of other unions participate actively in planning and supporting program focus and activities. An agency-wide wellness committee meets monthly; participants include the union team, human resources, and health-related vendors. Corporate Safety remains supportive of the program but defers to the WHPP committee and manager as it has focused on system safety.

to understand clearly the organization's culture of health and safety and what support there is across the organization.

Assess the organizational culture: The initial organizational assessment identifies the current health protection and promotion culture, and suggests ways to improve it. A culture assessment, by showing needs, strengths, and weaknesses, helps target initial steps and define long-term goals. Tool 1.1 is a brief self-assessment instrument for the organizational health culture, including organizational support for health and readiness for a WHPP program. Positive scores (above 0) demonstrate stronger health cultures, and the basis for effective WHPP programs. The results from the F-17 study showed that labor and management can see the same program differently, so it is important to spread the survey widely to get a good view of what people understand to be going on. The Tools and Resources section provides links to other checklists for gauging the organizational culture and readiness for workplace health protection and promotion.

Instructions for using Tool 1.1: Ask employees throughout the organization to check the answers that best describe the current status of the organization. Tabulate the results in a spreadsheet, and calculate the average score for each question. The seven point scale can be simplified into a “yes” and “no” checklist, and the numbers coded as -1 and 1. A positive health culture will be indicated by more scores above 0 (neutral) and a higher average score. By repeating the survey at intervals you can use this tool to track the overall impact of the program on the workplace health and safety culture and other factors you may identify. Topics in the questionnaire are covered in the chapters indicated in parentheses following each question. (If there is no union, for question 2, use “The workforce as a whole supports and participates in the workplace health protection and promotion program.”)

Recognize the importance of WHPP for the agency: Rising costs of health care and operator absenteeism and turnover are a serious challenge to transit agencies. Transit agencies may not yet see how a comprehensive WHPP program can help contain costs and improve operator health and safety. A good argument for management buy-in includes agency data such as health care costs, absenteeism and turnover rates, and costs for occupational injuries and safety accidents. Figure 1.1 lists some of the potential benefits for employees, transit agencies, and unions that can be used to support a WHPP program.

TOOL 1.1 RATING THE HEALTH PROTECTION AND PROMOTION CULTURE

How would you agree with the following statements about your organization’s worksite health and safety culture? (If you do not know, mark “Neither agree nor disagree.”)

STATEMENT	STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE OR DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
1 Upper management has made employee health protection and promotion a top priority (Chs. 1, 2)	-3	-2	-1	0	1	2	3
2 Union leadership supports and participates in workplace health protection and promotion (Chs. 1, 2)	-3	-2	-1	0	1	2	3
3 Employee health promotion has been integrated with other operational and administrative policies and procedures (Chs. 1, 2, 4)	-3	-2	-1	0	1	2	3
4 There is a person identified who has the primary responsibility for the WHPP (Ch. 2)	-3	-2	-1	0	1	2	3
5 Others in the organization take active responsibility for WHPP (Ch. 2)	-3	-2	-1	0	1	2	3
6 An effective committee leads or supports WHPP activity (Ch. 2)	-3	-2	-1	0	1	2	3
7 Health is linked with other organizational areas, for example, occupational health and safety, benefits, etc. (Chs. 1, 2, 4)	-3	-2	-1	0	1	2	3
8 Workplace data is used to determine WHPP direction (Chs. 1, 5)	-3	-2	-1	0	1	2	3
9 WHPP activity has a long-range (3-5 year) strategic plan (Ch. 1)	-3	-2	-1	0	1	2	3
10 WHPP planning responds to changing needs (Chs. 1, 3, 5)	-3	-2	-1	0	1	2	3
11 Management allocates adequate resources for WHPP (budget, space, etc.) (Ch. 1)	-3	-2	-1	0	1	2	3
12 Managers actively promote participation in health protection and promotion activities (Chs. 1, 2)	-3	-2	-1	0	1	2	3
13 Front-line employees are actively involved in WHPP activity development and implementation (Chs. 2,4)	-3	-2	-1	0	1	2	3

FIGURE 1.1 WORKPLACE HEALTH PROTECTION AND PROMOTION ADVANTAGES

TRANSIT WORKER	EMPLOYER	UNION
<ul style="list-style-type: none"> • Increased knowledge about factors affecting health • Increased opportunity to take control of health and medical treatment • Improved health and quality of life through reduction of risk factors • Increased morale because of organization's interest in health and well-being • Increased opportunity for support from coworkers and environment • Reduced presenteeism related to productivity loss • Reduced out-of-pocket medical costs • Reduced pain and suffering from illness and injuries 	<ul style="list-style-type: none"> • Informed and health-conscious workforce • Healthier and safer work environment • Improved labor-management relations • Support recruitment and retention • More productive workforce • Improved morale • Positive public image • Opportunity for cost savings via: <ul style="list-style-type: none"> • Reduced sick leave absenteeism • Decreased overall health benefit costs • Decreased health care utilization • Reduced disability claims • Reduced workers' comp • Reduced premature retirement • Fewer accidents and on-the-job injuries • Lower casualty insurance costs 	<ul style="list-style-type: none"> • Improved health and quality of life for members • Improved occupational safety and health of members • Increased participation in joint decision making • Improved labor-management relations • Reduction of health care premiums or fund costs • Increased opportunity for workers to influence health, safety, and medical treatment

Establish top leadership buy-in and commitment: The connection between operator health and transit services that are safe and reliable should be acknowledged by leaders and communicated widely. It is important to keep management and labor leadership involved to maintain momentum. Union leaders who get involved and encourage members to participate can influence the program and increase success by showing that it is not solely a management initiative.

Leadership takes an active role: A leadership steering group should oversee the strategic direction of the WHPP program. Draw this team from top management, middle management (for larger agencies), and local union leaders, and make sure it includes people who are strong advocates for the health, safety, and well-being of front-line workers. The steering group is distinct from the working groups, such as joint health and safety committees, that already exist or are formed to implement the WHPP activities. The steering group sets the vision and goals of the

WHPP program, makes budget and resource decisions, and addresses organizational and collective bargaining issues, but does not run the program. The steering committee meets on a regular basis and continues to assess progress and adapt goals and strategies as necessary.

Articulate the vision and mission statement: Worker and workplace health and safety should be included as part of the organization's mission, vision, and values. To maximize success and impact, the vision of a culture of health needs to apply consistently to the entire workforce. Through presentations, memos, the intranet, and other communication vehicles, leadership can stress the links between health and safety and the well-being of workers and the organization.

Organizational Needs Assessment

Anyone reading this Practitioner's Guide is likely to be working in a transit environment and committed to worker health, probably with a good insight into common health problems and concerns. This is not the same as possessing all the information required to implement a useful and effective WHPP program, or even to support starting one. In particular, general knowledge about costs, health, and program management does not mean you know what the operators need. The needs assessment looks at conditions in the workplace, current health and safety data, and detailed differences among groups as well as trends in the industry.

Evaluate bus operator health status separately from other titles or the whole workforce: Issues and problems are probably very different between office staff and bus operators, for example. Define employee health from multiple sources of information. Existing data sources you can draw on are presented in Figure 1.2. You should also collect new information as you did with the organizational culture assessment. (Getting and using data is described in greater detail in Chapter 5.)

BEST PRACTICE

The organization identifies workforce health status and needs, and understands the sources of health problems.

USING DATA TO SET TARGETS

In one active agency with an individual health focus, the main data drivers for determining the program's focus each year are group data on blood pressure, glucose, cholesterol, and diabetes; a pharmacy report on the categories of medications prescribed; dental and vision plan summary data; cause of death data (listing the five main causes of mortality); and aggregate data from voluntary health risk assessments and quarterly biometric screening.

FIGURE 1.2 EXISTING SOURCES OF DATA

Note: All health data collected or reviewed must be treated as confidential. Aggregation and de-identifying is recommended. In addition to the legal concerns, participation will be limited if employees do not trust that the information they provide is secure.

HEALTH STATUS/RISKS, HEALTH CARE UTILIZATION, AND HEALTH RESOURCES

Health risk assessments (HRAs): Individual assessments for health status and risk may be offered by health plans. The plan data management team can provide you with aggregate-level information on what health problems are common, what risk factors need attention, and the level of participation in supportive health programs they offer. Some employers hire a vendor to do the assessment independently.

Health care and medication claims: The plan may provide analyses of common health diagnoses and procedures and the associated costs, even to the level of depot, and can review the impact of family health care use on plan costs.

Health benefits: The union or management benefits administrators can report on the type of coverage and covered services employee receive under the health plan; vacation and sick leave; access to health promotion programs and related benefits.

OCCUPATIONAL SAFETY AND HEALTH DATA SOURCES

Lost time that can be related to health: sick time, disability, workers' compensation.

Occupational injury and illness records: Occupational Safety and Health Administration (OSHA) 300 logs and equivalents, incident reports, and safety and health data analyses and summaries. Mine these for the problems related to employee health and the health and safety culture.

OPERATIONS INFORMATION SOURCES

Availability problems including driver disqualification

Vehicle accidents

Passenger complaints

WHPP history and experience

Employee health programs data collected on participation, satisfaction, or outcomes

Existing policies related to health protection and promotion activities and related areas such as assault reporting, use of restrooms, route schedule problems

Qualitative approaches to assessing need can be especially useful in understanding the work environment. Carry out site walkthroughs and observations of the workplace to identify health risks and health-promoting characteristics. This should include safety surveys and checklists that flag health and safety hazards as well as good practice. The organization may have a work hazard checklist that is used for the maintenance and other work areas, as well as pretrip inspection forms and protocols. The bus routes are also the work environment for operators, and Tool 1.2 Bus Operator Route Checklist is an operator inspection checklist to assess and report on that working environment. The Tools and Resources section links to additional formats and widely used tools for assessing the physical, psychosocial, and organizational environment. They are not transit-specific, and none combines these three areas completely, although WHPP practitioners around the world are collaborating on more comprehensive instruments.

Other qualitative approaches include interviews with managers and employees to discuss health attitudes and beliefs, and employee surveys for health satisfaction and interest. Links to other useful worksite assessment instruments and tools you can adapt to your work setting are found in the Tools and Resources section at the end of the chapter.

Understand the varied sources of operator health problems:

Many factors influence worker health. The integrated approach to workplace health protection and promotion looks at three areas, as described in Figure 1.3. How to identify and address the ways that transit worker health can be protected and promoted in these three domains is covered in detail in Chapter 3.

Consider demographics and other health factors: The makeup of the targeted employee population can provide insight into potential health problems and solutions. How old are they—young enough to have small children that affect sleep, old enough to be at higher risk of diabetes? What are the cultural factors that might affect food choice or disease risk? The gender distribution can influence health problems, health care use, and the kinds of activities that will be most effective.

Identify potential sources of support for and barriers to an effective WHPP program: As a last step in assessing need, make a list of what existing characteristics will help your program develop and what could get in the way. Supports might be a cooperative labor environment, a directive from your health service provider to focus on worker health, or a health-promoting physical environment. Hindrances might include information or work culture divisions, funding problems,

TOOL 1.2 BUS OPERATOR ROUTE CHECKLIST

ROUTE	DATE	TIME	NAME/BADGE
HAZARD	LOCATION/ TIME	DESCRIBE THE PROBLEM, INCLUDING ACTUAL OR POTENTIAL HEALTH OR SAFETY IMPACT	
Roadway issues (ex. potholes)			
Visibility hazards (ex. trees)			
Issues affecting schedules (ex. construction, traffic jams)			
Changes in passenger load			
Limited access to toilet facilities			
Assault or conflict concern			
Weather hazards (ex. flooding, ice)			
No recovery time			
Limited access to food			
Ergonomics concerns			
Other			
Other			
Other			

personality or power conflicts, a run-down physical plant, or a stressed or mistrustful management or hourly workforce. These problems need to be taken into consideration as you go forward.

FIGURE 1.3: INDIVIDUAL FACTORS, ORGANIZATIONAL FACTORS, AND ENVIRONMENTAL FACTORS

WHAT CONTRIBUTES TO OPERATOR HEALTH PROBLEMS

Environmental Factors: elements of the physical environment.

This encompasses work facilities and workstations, workplace hazards, psychosocial stressors and health promoting or discouraging environmental factors in and beyond the workplace, such as access and opportunities for healthy activity and eating.

Organizational Factors: elements of the workplace or community structure, culture, practices, and policies.

Factors that affect health include work schedule, work-family conflict, health and other benefits, and support for a healthy work culture and healthy behavior. Work organization interacts with the individual and social network including relationships with managers, coworkers, and family that provide support or impede health.

Individual Factors: elements of an employee's health, such as current health status, health risk factors such as overweight or obesity, physical activity, or personal challenges.

Organizational Resources

The needs assessment, in addition to finding gaps, also charts what resources the organization has available to support a WHPP program. Organizational resources include staffing, finances, related programs and policies, physical plant, and internal and external partners.

Are there qualified and motivated staff? The most effective WHPP programs described by transit agencies rely on a dedicated staff member, full or part time. This person oversees the program, regularly convenes the WHPP committee, and is supported by an ongoing budget and the organizational support discussed earlier. The characteristics of the lead staff are explored in Chapter 2.

What resources are found in the work environment? Look for health-enhancing space. The layout of the workplace can be a resource: Physical activity programs will be supported if there are gyms on the property, space that can be converted, or open areas around the facilities for walking or sports. The canteen and vending machines influence food availability and choice. Dedicated rest or quiet space can assist with fatigue and stress. Also consider if the workplace is well-maintained, seasonally cooled or heated, clean, and safe.

BEST PRACTICE

Program planners identify resources including staffing, finances, programs, structures, and internal and external partners.

How can existing structures and programs contribute? Many transit agencies have safety and health committees or location subcommittees. However, these committees are not often organized to address the full range of operator health issues as a priority. The various functional divisions of the organization—operations, maintenance, human resources, safety, risk management, labor relations, employee health, or employee assistance—are all typically engaged in activities that directly affect health. Without necessarily acting together they may have implemented overlapping initiatives that can be coordinated or consolidated in the comprehensive WHPP program.

Who are the internal partners? Who has an interest in employee health, and what are they doing about it? In addition to the departments, titles, and projects that overlap with the workplace health protection and promotion program, find the people who are interested. The employees who can support as well as benefit from the program may be the most important group of internal partners. Union representatives are generally strong advocates for the health and safety of operators and are important resources and partners. Use Tool 1.3 Charting the Organization and Finding Partners to make this list. You may not be able to or need to fill each area as you start out. This step will be useful again when you work on building the program team as discussed in detail in Chapter 2.

Who are the external partners? Workplace health protection and promotion is a growing area, and there are many free and inexpensive resources as well as excellent vendors. Take advantage of resources from local and national voluntary and government agencies. Collaborate with community organizations to conduct health programs such as smoking cessation programs. And look for cooperative vendors who will help you provide services that suit your specific needs. Remember that you will probably need to bring outside partners up to speed on the realities of transit work. The potential partners listed in Figure 1.4 usually take either a health promotion or a health protection approach. You will need to alert them of your interest in coordinating the two.

TOOL 1.3 CHARTING THE ORGANIZATION AND FINDING PARTNERS

DEPARTMENT	WHPP-RELATED CONCERNS AND RESOURCES	RELATED PROGRAMS AND POLICIES	CONTACT
Communications	Internal and external newsletters, Other:		
Data management	Access to health and injury data, Other:		
Facilities	Planning and construction, Other:		
Human resources	Hiring, Work-family, Employee Assistance Program (EAP), Disability, Return to work, Benefits, Other:		
IT	Employee dashboard, Other:		
Labor relations	Benefits negotiations, Other:		
Occupational safety and health	Fatigue, Stress, Ergonomics, Accident, Heat/cold/weather, Other:		
Operations	Availability, Vehicle safety, Scheduling, Other:		
Public relations	Passenger interactions, Community support for transit, Other:		
Purchasing	Costs, Vendor contracts, Other:		
Risk management	Worker's compensation, Vehicle safety, Other:		
Union	Knowledge of workforce, Union Assistance Programs, Health activities, Other:		

FIGURE 1.4 EXTERNAL WHPP PARTNERS

GROUP	WHAT THEY CAN CONTRIBUTE
Health insurance providers	HRAs, data, health coaching, funds, care management, classes
Disease and case management	For-fee support
Occupational health clinics	Diagnosis, treatment, and referrals for work-related illness and injury, group screenings, interface with researchers, consultation
Physical fitness vendors	Programs at work or offsite, ideally adapted to the transit workforce
Primary care centers	Disease management and health care directed at your workforce's needs
Vendors for health risk appraisals and other health evaluations	Targeted data collection and reports to build your case and track success
Behavioral health vendors (e.g., Employee Assistance Programs, work-life)	Services for specific problems identified
Local health and wellness consultants	Programs tailored for your situation
Local and state government: Department of Health	Training materials, workshops, special events
Community organizations	Social service opportunities
Area transit agencies	Shared experience, partnering on developing a transit-specific program
Local business community and nearby businesses	Support for developing healthy food choices, exercise areas, and other health-friendly local changes
National agencies: CDC, NIOSH	Training, research, materials
Educational and research institutions: universities, hospitals	Partners in identifying and addressing workplace health issues, in a controlled research collaboration
Health promotion associations (Wellness Council of America)	Up-to-date information and ideas
Riders—associations or individually	Community support for agency initiatives

Where are the financial resources? Some agencies have initiated WHPP programs without a budget, but it really makes sense to allocate start-up and operating money to a program that is likely to produce ongoing value. These funds may be justified based on health premium savings that you negotiate with your health plan or expect to see shortly, and on other identified program benefits. Funding for staff is especially important, but staff time may be hard to carve out. Additional funding can be developed from large and small sources: in one agency health plan and services vendors contribute most of the funds needed for health fairs, materials, and meetings; in another, the union

contributes incentive items; several transit agencies have received public grant funds from local, state, or national sources. Some transit agencies explicitly commit the savings derived from the WHPP activities to supporting and expanding the program.

Meeting Needs with Resources

The organizational health needs and resources assessments set the stage for the programs, policies, benefits, and environmental supports that make up the workplace health protection and promotion program. Building a program that is based on the assessed needs of the employer and employees will put the WHPP program on solid footing and enhance participation and long-term sustainability. Program planning should be strategic, including long-term strategies to achieve program goals. It should also be tactical, involving the specific actions and steps necessary to implement and evaluate the program's efforts. This Practitioner's Guide focuses on the areas of planning that are particular to health protection and promotion in the transit workplace, so you will probably continue to refer to other health and program planning resources.

Draft a long-term program plan: Plan ahead, as health change takes time. The program plan should establish a reasonably ambitious vision of what needs to be accomplished. It sets the fundamental, long-range direction. Although the long-term plan can be adjusted over time, it is important to maintain consistency so the program activities are not designed in reaction to temporary needs, concerns, or available topics. You can use the framework provided in the Overview worksheet from the Planning, Evaluation, and ROI Template to document and track your activities, as illustrated in Figure 1.5.

Generate a short-term plan and establish priorities: Because resources at public transit agencies are limited, you will also want to set short-term goals and objectives to focus on selected high-priority issues revealed in the health needs assessment. Targeting high-impact areas can build momentum and lead to early success. Do this by considering the potential health impact, the proportion of employees who might benefit, and, where reasonable to do so, the cost-effectiveness of the activity. Short-term targets include increasing exercise, reducing tobacco use, achieving high levels of flu vaccination, and eliminating toxic chemicals used in cleaning or maintenance. Some objectives will focus on participation and morale.

BEST PRACTICE

The organization develops a plan to provide effective health assessments, a healthy and safe environment, and targeted and population-based intervention programs for all employees.

EXTERNAL PARTNERS IN WHPP

In one Canadian transit agency, occupational safety and health staff work closely with the city-wide wellness committee to share information and implement health and wellness initiatives.

A medium-sized agency partnered with a community-based program, funded by the Centers for Disease Control and Prevention and created by the County Health and Human Services Department, to design a comprehensive health and wellness plan for transit employees.

An agency with an active health risk assessment focus gets technical assistance on program evaluation from a local university.

EXAMPLES OF PRACTICAL PLANNING TO GROW

A large agency program is guided by explicit and quantitative 4-year strategic plans defining targets, activity, evaluation, and outcome goals. The Wellness Committee establishes strategic plans covering 3-4 year periods. Yearly goals are set after looking at health plan data, other health indicators, participation by divisions, and available resources. Targets are based on the current strategic plan and annual plan, previous year health fairs outcomes and evaluations; the program tries to maintain activities with good participation and at the same time keeping the offerings fresh. Initiatives are also identified in quarterly meetings of site champions and ambassadors. Aggregate health risk assessment data is used to target site-specific activity.

Through the years, one medium-sized agency has gradually expanded its program to include a comprehensive menu of complementary components. Each program activity is planned based on the needs expressed by employees through opinion surveys and supportive data such as demographics and health claims.

FIGURE 1.5 DOCUMENTING PROGRAM GOALS

Program Name	Agency Worksite Health Protection and Promotion Program
Program Year	2013
Mission Statement	The mission of the WHPP program is to improve employee health and wellness, improve morale and work productivity, and reduce health care and other related costs by building a positive workplace health culture and establishing and maintaining activities, policies, and environmental supports that foster a healthy workforce.
Long-term Goals—Health, Safety, and Wellness	Improve employee health, safety, and wellness, including reduce CDL medical disqualifications and bus operator MSDs by 20% per year.
Long-term Goals—Work Organization and Environment	Establish a strong health culture by implementing policies and environmental supports that foster a healthy workforce and employee involvement.
Long-term Goals—Business Outcomes	Limit health plan annual premium rate increases to less than the regional healthcare trend.

SHORT-TERM OBJECTIVES: EXAMPLES FROM A MEDIUM-SIZED AGENCY

- 15% participation in worksite fitness programs/contests over six-month period (Get Fit Club, walking, gym utilization, etc.).
- 15% participation in annual health fairs at all locations. Health fairs to include education, screenings, wellness coaching, and referral to year-round wellness programs (web-based programs, exercise, weight loss, and seminars).
- 15% participation in various seminars (stress management, vendor sponsored events).
- Respond to all requests for ergonomics assessment within one week.

Plan to grow, including developing new resources: Planning and designing programs that produce results at different intervals will allow program staff to generate data to assess and to share results quickly and frequently. For example, weight loss challenges and flu vaccines are two examples known to produce strong results in the short-term, and the Société de Transport de Montréal has seen immediate and ongoing results from their comprehensive Sécuritébus program, receiving the APTA

Gold Award for Bus Security in 2013. Typically, cost outcome savings from sustained individual health risk factor reduction are seen in the long term. Rolling out successive activities while maintaining the long-term targets allows the program to continue to achieve important short- and long-term targets that justify program costs.

Develop program components that match the needs identified:

As helpful as best practices or proven plans are, they cannot be directly applied in a one-size-fit-all fashion to address the specific concerns of a transit agency or its operator workforce. Although there are many excellent generic health resources available, success will depend on activities that are tailored to match the specific workplace and the diverse needs of workers. Transit agencies vary in size, location, health and safety experience, resources, and health practices. Bus operators as an occupational group share some characteristics, and the work leads to common health concerns. At the same time, needs also vary within the workforce. Also, ask yourself how interested the employees are in participating in the proposed activity. You will need to identify operators' interest and availability, and match program activities to their goals as well as the organization's. Successful programs recognize this variation and are designed to meet the needs of individuals, the specific work location, and the agency as a whole. Effective programs respond to and attract a diverse range of participants.

Design a practical program: It is important to assess realistically how hard it will be to implement the planned intervention or strategy, what it will cost, and the time needed to plan and conduct it (both staff time and the duration). The next two chapters should help you take steps to develop a program that meets felt needs and continues to attract and challenge participants.

Summary

Building a successful WHPP program requires leadership, resources, and hard work. The initial assessment of the workplace helps demonstrate the importance of the program to upper management and other leaders, and to the organization as a whole. As you map out problem areas, you will find your earliest targets and at the same time highlight areas of potential growth. Done right, the contacts you made to begin with will ensure an easier transition into the critical aspects of building a team to take on integrated workplace health protection and promotion.

EXAMPLES OF PRACTICAL PLANNING TO GROW

At a large agency with a combined fitness and ergonomics focus, yearly goals and activities are based on evaluation, experience, and practical considerations: health areas known to be of concern including those identified through health plan data, the results of employee surveys following challenges, and the content of topical workshops and resources made available by the health plan and other resources.



Workplace Culture Assessment

Safewell Practice Guidelines. An Integrated Approach to Worker Health. centerforworkhealth.sph.harvard.edu/images/stories/SafeWellPracticeGuidelines&ExecSumm_Sept2012.pdf

Wellness Council of America. Cultural Wellness Assessment Self-Test. This is a simple tool for assessing organizational culture and readiness for a wellness program. *Absolute Advantage*. 2006. p. 33. www.welcoa.org/freeresources/pdf/aa_v5.4.pdf

Assessing the Environment

CDC National Healthy Worksite Program (NHWP) All Employee Survey: This instrument assessing work organization, the health culture and some aspects of the work environment will be made available through NIOSH's Total Worker Health™ website in mid-2013. www.cdc.gov/niosh/TWH/.

CDC Tool for Observing Worksite Environments. This tool to conduct an environmental assessment at the workplace includes components to assess the worksite building, parking, and grounds environments; fitness center; nutrition and information environments; and the surrounding community. www.cdc.gov/nccdphp/dnpao/hwi/downloads/swat/SWAT_observing_worksite_environment.pdf

OSHA Small Business Handbook (2005). This extensive self-inspection checklist covers all areas of workplace health and safety and the components of a safety management system. It is not a compliance document, but can be used to design an inspection protocol relevant to any workplace. www.osha.gov/Publications/smallbusiness/small-business.pdf

PRIMA-EF (Psychosocial Risk Management Excellence Framework) Consortium (2008) Monitoring Psychosocial Risks at Work. This factsheet produced by the PRIMA-EF Consortium and supported by the World Health Organization explains how to select and use the categories of exposures and outcomes most relevant to your workplace, and develop a checklist suitable for the specific demands of your transit agency. www.prima-ef.org/uploads/1/1/0/2/11022736/08_english.pdf

Organizational Needs

CDC Swift Worksite Assessment and Translation (SWAT). This is a rapid assessment evaluation method for worksite weight maintenance and loss activities. www.cdc.gov/nccdphp/dnpao/hwi/programdesign/swat.htm

CDC Workplace Health Assessment Data Matrix. This table of qualitative and quantitative sources can be adapted to your organization to conduct a comprehensive workplace health assessment. www.cdc.gov/workplacehealthpromotion/pdfs/AssessmentDataMatrix.pdf

CDC Workplace Health Promotion: Assessment. 2011. This page defines the process of worksite assessment and provides links to tools. www.cdc.gov/workplacehealthpromotion/assessment/index.html

Wellness Council of America. What to Look for During a Wellness "Walk-Through." *Absolute Advantage: The Workplace Wellness Magazine*. 2006. p. 35.

Sample Health Risk Assessment (HRA) tools

Wellstream: www.getwellstream.com/

Summit Health: www.summithealth.com

Employee Interest Surveys

Wellness Proposals: www.wellnessproposals.com/pdfs/employee_interest_survey.pdf

WELCOA: www.welcoa.org/freeresources/pdf/ni_survey.pdf

Organizational Resources

CDC Writing SMART Objectives. This guidebook is aimed at helping states develop realistic and measurable goals and objectives for their heart disease and stroke prevention programs. It is also useful for other settings. Available at www.cdc.gov/dhdsp/programs/nhdsp_program/evaluation_guides/docs/smart_objectives.pdf

Leutinger, J. (2005). Building Your Wellness Budget. WELCOA's *Absolute Advantage Magazine*, 4(10), 2-5.

Texas Department of State Health Services. Worksite Wellness Index. The Worksite Wellness Index is a self-assessment and planning guide adapted from the Center for Disease Control and Prevention (CDC) School Health Index: A Self-Assessment and Planning Guide (2004). Available at : www.dshs.state.tx.us/wellness/resource/wwibody.pdf

Wellness Council of America. Planning Phase Checklist. The checklist can be used to help organizations complete the planning process for their employee wellness programs. *Absolute Advantage: The Workplace Wellness Magazine*. 2006. p. 38. www.welcoa.org/freeresources/pdf/aa_v5.4.pdf

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Baicker, Katherine, David Cutler, and Zirui Song. Workplace wellness programs can generate savings. *Health Affairs* 29(2). 2010. pp. 304-311.

Centers for Disease Control and Prevention. Leadership Support. 2011; www.cdc.gov/workplacehealthpromotion/planning/leadership.html

Chapman, S. *Proof Positive: An Analysis of the Cost-Effectiveness of Worksite Wellness*, Chapman Institute; 6th edition, 2008.

Leutzinger, J. (2005). Building Your Wellness Budget. WELCOA's *Absolute Advantage Magazine*, 4(10), 2-5.

McLellan, D., E. Harden, et al. (2012). *SafeWell Practice Guidelines: An Integrated Approach to Worker Health* Version 2 Boston, Harvard School of Public Health Center for Work, Health and Wellbeing.

NIOSH. Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing. 2011. www.cdc.gov/niosh/twh/essentials.htm

Chapter

2

Building the Team: Coordinating Health Protection and Promotion

CHAPTER MAP

TAKING THE LEAD

The organization designates dedicated staff to coordinate and implement the workplace health protection and promotion program.

- Identify an onsite staff person with WHPP knowledge and skills.
- Support the WHPP program lead.
- Supply adequate organizational support.
- Make sure that the WHPP lead person and other staff understand the operator work environment and demands.
- Set up ways for the program lead and staff to respond to the workforce needs and input.
- Ensure ongoing staff education and training.
- Provide feedback and supervision for WHPP staff.

PUTTING THE TEAM TOGETHER

Input is gathered from across the organization.

- Identify organization partners.
- Lay out a map of the organization in the context of WHPP.
- Do outreach across departments.
- Make planning and participation attractive and relevant for the WHPP team.

MANAGEMENT SUPPORT

Senior and mid-level management support workplace health protection and promotion initiatives as evidenced by documented communications, infrastructural initiatives, and health-focused policies

- Upper management approves the program.
- Involve senior and mid-level management in planning and implementation.
- Identify conflicting motivators such as scheduling, budgets, availability, management models.
- Communicate support throughout the organization.

LABOR SUPPORT

Union leadership and other representatives have influence on and support the workplace health protection and promotion goals and content.

- Explore union interest and perceptions.
- Identify conflicting motivators: e.g., contract, seniority, and discipline concerns.
- Establish a direct role in the program for union leadership or designees.
- Maintain communication with leadership, not solely designees or volunteers.

CHAPTER MAP *(continued)*

WHPP COMMITTEE

The organization sets up and supports a group to take action on workplace health protection and promotion.

- Communicate with the safety committee.
- Identify and recruit interested and effective committee members from management and labor, including operations, HR, procurement, occupational safety and health (OSH).
- Observe protocols for joint committees.
- Add location committees to meet more frequently.
- Establish a regular meeting schedule suited to the teams.
- Plan ahead to make meetings effective.

CHAMPIONS AND AMBASSADORS

Employee skills support and contribute to planning and implementation.

- Identify management and operator champions and ambassadors in locations.
- Recruit skills—health, safety, training, food, community organizing—not simply interest.

- Provide champions and ambassadors with training on the concepts and practices of WHPP.
- Define responsibilities.
- Provide champions and ambassadors with schedule flexibility.
- Sustain champion and ambassador role.

VENDOR INTEGRATION

The organization enlists health care providers and other vendors as partners in and contributors to the WHPP program assessment, planning, and implementation.

- Find out what data is available and ask for data that fits your needs.
- Educate vendors and providers about the workforce and transit work demands.
- Involve vendors in planning, evaluation, and implementation.
- Promote use of vendor programs.
- Enlist vendor support for health fairs.

Employees' health is important to all areas of a transit organization. Despite this, in the TCRP F-17 Bus Operator Health, Wellness, and Retention survey, less than a third of the transit agencies said that their programs used resources from or influenced other departments or programs. Most of the programs described were run from the human resources department. In about half, responsibility was shared with operations, safety, or health divisions.

Most of the transit agencies with programs identified a person responsible, but half of these spent 20% of their time or less on their workplace health protection and promotion (WHPP) responsibilities, and only six were full time. Figure 2.1 shows the title categories of the leads, mostly administrative, such as HR or benefits; 20% were defined as wellness staff. The lead person was identified as operations or safety staff in only 17% of the programs.

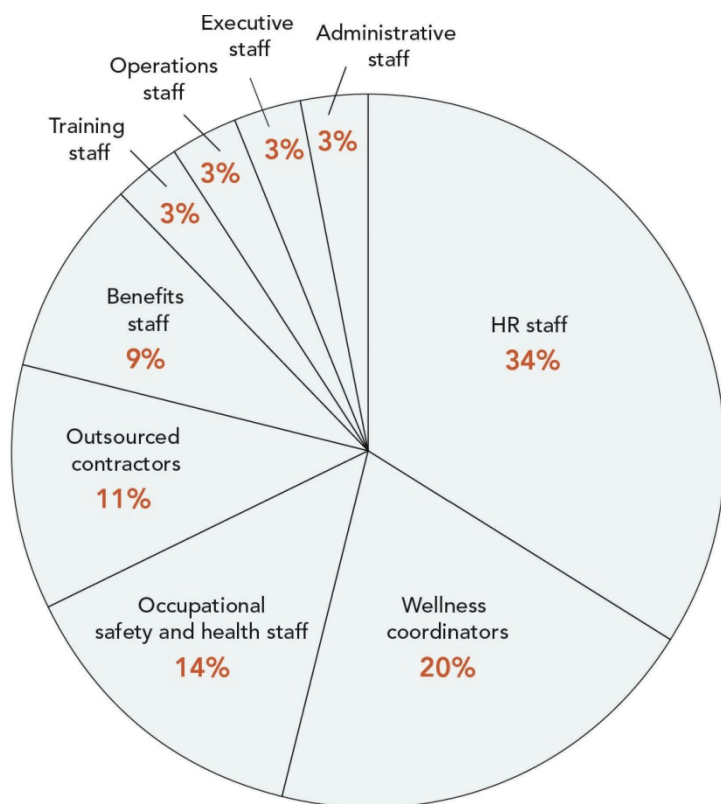


FIGURE 2.1 WHPP TITLE CATEGORIES

Respondents realized that better coordination across departments would be valuable, but they typically did not take advantage of their available resources to make that possible. Many described organizational silos, with the WHPP program isolated from important decision makers, sources of information, and the operating staff. This, along with the limited time, may explain why a majority of the agencies reported that more dedicated resources would make the program better, and one-third felt the program lacked support and integration with other organizational activities. At the same time, there was often overlap in areas, and an interest in making the programs relevant to the full range of workplace health protection and promotion.

The most effective teams call on resources from all these areas, and include procurement, risk management, and others. Building that team means deciding:

- Who is going to take the lead?
- Who will be active on the team?
 - The WHPP committee.
 - Other contacts in relevant departments.
 - Supervisory, management, and labor champions.
 - Ambassadors and activists.
- What support will they get from others?
- How will outside partners be involved?

BEST PRACTICE

The organization designates dedicated staff to coordinate and implement the workplace health protection and promotion program.

Taking the Lead

Identify an onsite staff person with WHPP knowledge and skills:

Although responsibilities can be shared, it is important to designate a WHPP program lead or contact person. The person who will lead and manage the WHPP program should have a health education and promotion background along with practical knowledge of the work environment. According to the Wellness Council of America, desirable skills include communications, project management, budgeting, record-keeping, vendor management, negotiation, and evaluation. Social traits might include confidence, a spirit of inclusiveness, and a desire to help others. The key staff person may be a self-identified person who cares about and pushes the issues, someone selected by leadership from existing staff, or a new staff person recruited from outside the organization.

CASE STUDY

Dallas Area Rapid Transit Wellness Program: Building the Team

Dallas Area Rapid Transit (DART) is a good example of how an agency can make changes within a program to bring people together and start a team. It has created a team focused on implementing effective program components and increasing program participation. The wellness specialist is responsible for implementing the wellness program for all employees (transit and non-transit) and running the wellness and communication committees.

When the wellness specialist was hired, she found a committee made up of mostly female administrative staff. She worked to make it represent the entire DART population. The new committee now has more men, front-line workers, cultural and ethnic diversity, and members who participate in the health and wellness program activities. The wellness committee is active in planning and implementing the health and wellness program and the communication committee is charged with the dissemination of information about the program to employees within their departments.

Support the WHPP program lead: To ensure that the program remains a top priority, WHPP responsibilities and time commitment can be written into the job description. Upper management and union leadership help the program lead by showing confidence and support.

Supply adequate organizational support: An effective program leader needs an operating budget and space. Other staff in the agency are also key resources. Helpful skills can be found in HR, benefits, safety, occupational health, finance, IT, operations, and labor unions. Their time should also be formally released whenever possible.

Make sure that the WHPP staff understand the operator work environment and demands: Staff responsible for the WHPP program need to know what it is like to work as an operator, and especially how the organization of work (e.g., schedules, sedentary nature) can be a barrier to participation and success. Recognizing the challenges of work demands and the environment helps identify health targets, select useful activities, and structure the program to make it accessible to operators despite varied and tight work schedules.

DESIGNATING DEDICATED STAFF

In one large agency the full-time wellness coordinator, based in human resources, integrates her communication and wellness teams with other departments within the organization.

Another large agency program is run by a full-time wellness manager supported by the union health trust fund.

A Canadian municipality has a full-time Workplace Wellness Specialist who runs the program for all city agencies, providing program resources to the transportation division.

continued

DESIGNATING DEDICATED STAFF

continued

A small agency contracts out the wellness coordinator position.

It reports increased participation due to fewer concerns about confidentiality and the coordinator's more flexible schedule.

Programs at many small- to medium-sized agencies are coordinated by human resources staff who report committing 5-100% of their time to WHPP activities.

GETTING INFORMATION FROM THE WORKFORCE

A Canadian program collects operator feedback through a comment box in the fitness room and satisfaction forms following activities.

One agency surveys employees every year to help determine what areas they should target.

At a small agency the WHPP program team brainstorms and develops program ideas with input from all members.

BEST PRACTICE

Input is gathered from across the organization.

Set up ways for the program to respond to workforce needs and input:

Encourage buy-in and participation at all levels of the organization. Set up methods for employee input (for example, identified point person solicits input, front-line worker surveys, suggestion forms, representatives on the WHPP committee from all locations and shifts). Define a timeframe for employees' needs and concerns to be addressed. Inform employees of progress and resolutions of suggestions.

Arrange ongoing staff education and training:

Keep WHPP staff current with health knowledge and initiatives and additional skills needed to implement the program. Important areas include disease management and prevention, health and safety regulations, what works and what doesn't in health protection and promotion, health risk assessments and how to use the results, health education, and effective communication. This could be in-house training from your own skilled resources, in-service presentations from external partners such as the American Heart Association, regional or national health protection and promotion conferences, webinars, books, or subscriptions to periodicals. Health specialists from hospitals, occupational health clinics, universities, or from your health plan provider are good resources for information and training for the staff. You may have access to health and wellness materials via local public or university libraries, voluntary health organizations, local public health departments, and state or national government agencies.

Provide feedback and supervision for WHPP staff:

Leadership and operations management needs to let the WHPP staff know how they are doing, rather than allowing the program to exist as another silo. This oversight should include assessing the impact and value of the program from the outside, as well as the internal program evaluation described in Chapter 5.

Putting the Team Together

A successful WHPP program needs input from throughout the organization. Managers, supervisors, front-line workers from all departments, and professional and administrative staff can all make a valuable contribution to the planning, design, and implementation of the WHPP program. A barrier at any of these levels can block progress even when the WHPP program is welcomed by participants and endorsed by top management. Involving the organization's various interests and divisions

in the program should help integrate it into the workplace culture, policies, and procedures.

Identify organization partners: Resources could be people who can bring a needed skill set to the program or departments that can develop products and activities to be included in the program. Build on the list of internal and external partners that were identified in Chapter 1.

Lay out a map of the organization in the context of WHPP: Who is responsible for related health areas, resources, and communication paths? If you haven't done this already, use Tool 1.3 Charting the Organization and Finding Partners to list the people, departments, and resources that need to be involved in the planning and implementation of the WHPP program. Take into account skills and expertise that are needed, as well as resource availability. Define on the organizational map the skills and expertise that each resource can bring to the program.

Do outreach across departments: Contact the identified resources to find out who is interested and has time to help. These representatives will assist with the coordination and integration of the respective programs into the WHPP program. Be sure to include labor representatives from all titles participating in the program.

Make planning and participation attractive and relevant for the WHPP team: Team members need to feel that their input is valued and used. Roles and responsibilities should be clearly defined and communicated. Keeping team members actively engaged and contributing allows for buy-in and commitment to the success of the program. Celebrate milestones achieved and small successes with team members. See Figure 2.2 for an illustration of how the WHPP committee can actively contribute to the development of the WHPP program.

ORGANIZATIONAL SUPPORT AND INTEGRATION

A medium-sized Canadian agency has dedicated transit health and safety specialists who work with the municipal wellness committee to disseminate information and implement initiatives. The city-wide program is expanding to address worker safety, ergonomics, and other occupational concerns, and to adapt the program initiatives to the transit work environment.

In another, an HR-based wellness program works with an ergonomist to focus on high-injury areas by analyzing equipment issues such as seats, breaks, and maintenance challenges on a weekly basis.

LEARNING ABOUT THE WORKPLACE

In a medium-sized midwestern agency, all employees in the operating departments are required to hold a commercial driver's license whether or not they drive a bus.

A union WHPP manager trained in health promotion spent many hours riding buses and in the locations talking with operators to better understand their work demands.

FIGURE 2.2 WELLNESS PROGRAM COMMITTEE PROJECTS DEVELOPMENT: AN AGENCY EXAMPLE

The 2012 Wellness Committee Project plan was developed to support Wellness initiatives. Each project should state what is proposed for the 2013 Wellness Program. Each project should contain to the following characteristics: novelty, necessity, and innovation. Projects should be submitted in document form and include timeline, budget, staffing, marketing, and materials needed. The deadline for project proposals is October 30, 2012.

COMMUNICATION

Project—New or Improved Communications System for 2013

Project Details: Communication system project should propose a new or improved system for the Wellness Program to get information out to employees. Plan should include a Social Media element.

RECRUITMENT

Project—Plan for Increasing Enrollment by 10%

Project Details: Recruitment plan should propose a way for the Wellness Program to increase recruitment.

PARTICIPATION/ENGAGEMENT

Project—Plan for Increasing Participation

Project Details: Plan should include at least three suggestions for increasing participation and employee engagement in Wellness Program. Plan should focus on areas where employees have a low participation record.

FITNESS

Project—Fitting Fitness into Work Schedules

Project Details: Plan should include fitness center implementation, fitness events, and classes.

DISEASE MANAGEMENT

Project—Addressing High-Risk Medical Issues

Project Details: Based on Wellness health initiatives, provide a plan that suggests ways to address high-risk medical conditions so employees may better manage their diseases and conditions. Plan should also include suggestions to reduce unnecessary emergency room visits.

FEEDBACK

Project—Wellness Survey

Project Details: Identify three main concerns employees have as a whole through a survey and include suggestions to specifically address these concerns.

POLICY

Project—Documentation Guidelines Sheet, Fitness Center Disclaimer Posters

Project Details: Project plan should include possible conflicts in Wellness Program rules and possible policy issues.

FIGURE 2.2 WELLNESS PROGRAM COMMITTEE PROJECTS DEVELOPMENT: AN AGENCY EXAMPLE**NUTRITION**

Project—Nutritional Health Assessment

Project Details: Project plan should include suggestions to find out why good nutrition and a balanced diet are not being achieved by the majority of employees.

PRODUCTS

Project—Select Threshold Prizes and Kick-Off Items for 2013

Project Details: Provide suggestions for Wellness Program products that will help employees become healthier.

PROCESSES

Project—Assess Current Wellness Tools and Processes

Project Details: Assess current Wellness processes and tools and propose improvements.

RECOGNITION

Project—Recognition Plan 2013

Project Details: Submit a comprehensive plan to recognize all Wellness involvement.

The plan should include contests, events, and participation levels.

Management Support

Management commitment is a well-recognized cornerstone of program success and of safety and health culture. Virtually all top managers contributing to the F-17 project described how strongly they supported health and safety across the board. However, research shows that organizational policies that present contradictions between operational concerns and health or safety are likely to be interpreted in favor of operations (Zohar, 2013). Top management has the power to make the program succeed, by issuing unequivocal statements of support, by making sure the rest of the organization agrees, and by providing resources.

Upper management approves the program: Senior level management will ideally be advocates of the program, supporting the WHPP staff, motivating supervisory staff, encouraging participation from front-line workers, and allocating adequate resources to implement the program. They show support through interdepartmental memos, agency policies and procedures, personal communications with employees, and management participation in wellness activities.

BEST PRACTICE

Senior and mid-level management support workplace health protection and promotion initiatives as evidenced by documented communications, infrastructural initiatives, and health-focused policies.

OPERATIONS MANAGEMENT INVOLVED IN PLANNING

In a large western agency, Division Managers actively participate in their division-based Health and Wellness committees. While this is a requirement, it also helps them influence and tailor activities to limit any conflicts with operational demands.

REDUCING CONFLICT BETWEEN OPERATIONS AND WHPP ACTIVITIES

One agency, recognizing that front-line operator involvement is a challenge given the work schedules of the operators, collects operator feedback through a comment box in the fitness room and satisfaction forms following activities. Program planners make an effort to schedule activities to maximize operator participation.

Involve senior and mid-level management in planning and implementation: Mid-level management and supervision help convey information between employees and upper management in a supportive way to demonstrate commitment for the WHPP program. The supervisory level is key. Supervisors can invest in workplace safety and health, promote safe workplace environments, serve as role models by participating in programs themselves, and offer front-line workers flexible access times and benefits that support health initiatives. Together, this instills a culture of health in the organization where workplace health issues are integrated into daily managerial practices; front-line workers can clearly see the dedication, encouragement, and importance of the program to management and the organization as a whole. Without this, the program can seem to be a tool for getting hourly workers to change without changing the organization.

Identify conflicting motivators such as scheduling, budgets, availability, and management models: Knowledge of the work environment is essential here. Identify barriers to management support that are created by the work environment, work schedules, common practices and, most critically, operations demands. The management and safety cultures may not be quite in sync with the health goals and culture being developed. You can use surveys, dedicated meetings (like focus groups), and even informal conversations to explore barriers, initially and as the program develops. Any conflicts should be raised and addressed, both directly with the responsible management level and in the program plan.

Communicate support throughout the organization: Management strengthens the program by establishing effective and consistent communication that supports a culture of health and ensures that the benefits and activities of the program are communicated to all levels of the organization. Many organizations create a written statement endorsing the program goals and objectives and defining the WHPP process and management and supervisory roles. Top management and other organization leaders further legitimize the program by speaking at, attending, and participating in program events, and by encouraging a culture of health within the organization. Leadership participation and support shows organizational commitment to the program. Front-line workers who perceive this commitment to a healthier and safer workplace should be more willing to participate in program activities.

Labor Support

Union leadership can effectively influence policies, programs, and front-line workers. Union input and opinions are valuable to the members, and the union is a forum for important concerns and information about front-line worker health. WHPP is an important area of bargaining and can help leaders enhance their representation of the members.

Despite taking the health problems facing bus operators equally seriously, both agencies and unions surveyed in the F-17 process felt that unions had limited confidence and involvement in WHPP programs. This was attributed by the union respondents to a lack of management commitment to issues of interest to the union leadership and members, and by agency responders to lack of interest or time on the part of the union. Union leadership that is consistently involved in planning and implementation will foster a sense of ownership in the program. Union endorsement and word-of-mouth promotion will support program activities as well as facilitate member participation.

Explore union interest and perceptions: Union leadership's first-hand knowledge about health and safety issues on the front line provides valuable input to the discussions on practical and effective strategies for the program. Union approval of the program encourages union member participation. Some union leaders will participate directly; others will want to select designees for committee work and activities.

Identify conflicting motivators such as contract, seniority, and discipline concerns: Management should avoid program activities or recommendations that are in violation or competition with existing union contract clauses and procedures. The union may be interested in discussing issues such as alternative shift times to reduce work-family conflict that do not conform to the contract. There may be ways to mitigate the conflict in a way that will allow both sides to benefit from the implementation of the program.

Establish a direct role in the program for union leadership or designees: Union leadership needs a seat at the table that will allow proactive involvement and the building of trust between labor and management. Union leaders can provide access to hard-to-reach and high-risk workers and can overcome some program barriers by promoting the program and acknowledging its value. The union can often contribute to the selection process of outside vendors or partners.

BEST PRACTICE

Union leadership and other representatives have influence on and support the workplace health protection and promotion goals and content.

REDUCING CONFLICT BETWEEN OPERATIONS AND WHPP ACTIVITIES

continued

To address schedule concerns as a motivator that could conflict with health and safety commitment, a scheduling department sets up tables to get input about scheduling problems in each division eight times a year.

Most agencies in the F-17 survey recognized that operator schedules and work demands are major barriers to program success.

BEST PRACTICE

The organization sets up and supports a group to take action on workplace health protection and promotion.

UNION LEADERSHIP IN HEALTH PROTECTION AND PROMOTION

One of the most extensive programs described is run independently by a union trust fund, which administers the health and wellness benefits for agency bus drivers and also negotiates health insurance rates. Union officers are closely involved with the program.

Many unions reported playing an active role in occupational health, safety, and related operations concerns, but less so in health promotion.

Following conversations related to the F-17 project, one midwestern union met with management to reintegrate health concerns into their already strong joint safety process.

Maintain communication with leadership: If union designees are selected for the WHPP committee or other program roles, they should have regular contact with the elected leaders to make sure that support and input continue. Union representatives sitting on committees and involved in program plans and activities should communicate all program progress (or failures) to union leadership. Union leadership should review program activities and outcomes at meetings with senior management.

WHPP Committee

The WHPP program committee may be a freestanding committee or report to an existing Safety and Health Committee. Among agencies in the F-17 survey with WHPP committees, HR and bus operators had the greatest representation on the committees; other titles included line managers, top managers, safety staff, union representatives, consultants, and health care providers.

The makeup of the committee is important. It should include people who are excited about the program, those that have the skills and expertise needed to implement the program, and even skeptics to get all perspectives. Use the committee structure to seek and receive input about all aspects of the program, positive and negative. Other work groups can support WHPP programs and activities, for example, a communication committee to promote the program, a finance group focused on health care cost savings, or a few IT and data specialists creating the data structures described in Chapter 5. The upper-level management team addressing strategic wellness issues was described in Chapter 1 as the critical initial level of support.

A WHPP charter establishes the committee's:

- Purpose: State committee goals and objectives, and a strategic plan
- Structure: Lay out who is on the committee and how they are selected (that is, volunteers, appointed, nominated, by seniority)
- Roles: Define the roles and responsibilities of the committee, including tasks and activities to be carried out by committee members
- Schedule: Establish the committee meeting schedule and location
- Planning process: Outline the method for establishing and revising wellness activities and targets
- Timeframe: Set how long each committee member sits (that is, two years, the length of specified project, permanently)

Figure 2.3 illustrates an example of a committee charter.

FIGURE 2.3 COMMITTEE CHARTER: TRANSIT AGENCY EXAMPLE

PURPOSE

The 2012 Wellness Committee will focus on the program initiatives of the current year.

MEMBER ESTABLISHMENT

Membership on the committee is voluntary and shall be established by written invitation and acceptance by December 31 of the previous calendar year.

TERM OF SERVICE

The term of service for each committee member shall be from January to December.

REQUIREMENTS FOR WELLNESS COMMITTEE MEMBERSHIP

Must be a full-time employee (no contractors or part-time employees).

Must have accumulated at least 100 points within the program year.

Must have approval of supervisor to serve on the committee.

EXPECTATIONS FOR WELLNESS COMMITTEE MEMBERSHIP

Volunteer for one of the 2012 Wellness Program projects and complete the project by May 31, 2012.

Recruit at least seven new members during one-year term.

Attend pre-scheduled committee meetings for the year or arrange for backup.

Volunteer to take meeting notes and distribute them for at least one committee meeting within the year.

Volunteer for and help to coordinate at least two wellness events at own location and at least one other location.

Identify and motivate at least two other employees at the committee member's respective facility to help support wellness initiatives.

Give at least one wellness presentation during the program year.

Actively participate in committee meetings and events in a professional manner while contributing in a productive way.

I agree to the terms of membership for the Wellness Committee.

Signature of Wellness Committee Member

Date:

Signature of Supervisor

Date:

COMMITTEE EXAMPLES

The 14-member wellness committee represents all departments, with at least three transit operators. The committee charter provides members details about the meeting schedule and the roles and responsibilities of the members. Their work is supported by a 25-person wellness communication committee tasked with enhancing communication about the program.

The agency includes operations managers, OSH consultants, and union representatives in their legally mandated OSH committee, which implements wellness and health and safety initiatives influenced by the safety team and supported by the city-wide wellness program.

Wellness is a subcommittee of Safety and Health. The subcommittee is drawn from safety, scheduling, vendor selection, and bus procurement.

The WHPP committee is diversified, with union and management health plan trustees, department managers, divisional chairpersons representing operators, and health vendor representatives; corporate safety has a seat but defers to the committee.

The targeted wellness committee includes line managers, HR, bus operators, mechanics, and administrative staff.

Communicate with the occupational safety and health

committee: In some cases it will make sense to establish a WHPP subcommittee. Whatever the structure, the occupational safety and health program and the WHPP program need to communicate frequently to discuss overlapping issues. The two areas should hold regular joint meetings to discuss the progress and activities of each committee and to review issues that need to be addressed in coordinated initiatives or policy.

Identify and recruit committee members from management and labor, including operations, HR, procurement, and OSH:

Include management, union representatives, front-line workers, and operations supervisors if possible. Leverage each person's strength and talents. Those selected for the committee should be dedicated, participating individuals who will move the WHPP program forward.

Observe protocols for joint committees: The expected format for such a committee may be established by practice, contractually or legally (as it is for safety committees in many jurisdictions). In some organizations joint committees will have equal numbers of management and union members. Often the committee chairperson switches off between labor and management, which helps both parties feel a shared sense of responsibility for the success of the committee. A WHPP staff person may be the leader of the program, but the committee will function better if peer relations are maintained and all members have responsibilities.

Add location committees to meet more frequently: In larger organizations, depot committees may be set up to do the ground work on agency-wide projects, or to implement local program tasks and activities. They can adapt the program to the needs and limitations of the location, provide a two-way communication system between management and front-line workers, and help identify and develop champions. Subcommittees should meet as a group across locations or report back to the main committee regularly.

Establish a regular meeting schedule that works for all: Keeping in mind the hours of operation of the agency, schedule meetings that committee members can reasonably attend. For some, this will mean more than one meeting time, or rotating the times or locations. This may require sign-off from upper management, mid-level management, or supervisors for front-line workers to attend. It could mean that 9-5 staff will need to flex their schedules to participate in late or early meetings.

Plan ahead to make meetings effective: A focused agenda that is sent to team members in advance will allow time for review and suggestions, and to collect more information from the field if needed. Minutes should be kept and circulated after each meeting to confirm next steps and actions items and document program progress.

Champions and Ambassadors

Champions and ambassadors help move the WHPP program forward. These are the program's main supporters, who understand the importance and the benefits of workplace health protection and promotion. They adopt program initiatives and lead by example, while carrying out and modifying program activities to suit their locations. Ambassadors are tasked with promoting the program to front-line workers, scheduling and leading program events and activities, recruiting participation, and soliciting input on the program. They are the face of the WHPP program and are responsible for sharing information among the workforce, WHPP staff, and upper management.

Identify management and operator champions and ambassadors in locations: Recruit enthusiastic people to develop support for the program, encourage participation, and solicit input from front-line workers about their interests and concerns. These champions help keep program activities new and relevant.

Recruit skills—health, safety, training, food, community organizing—not simply interest: Identify skills or traits that potential champions can use to enhance the WHPP program. While interest is important, champions should also have skills and social characteristics to help successfully implement and sustain the program.

Provide champions and ambassadors with training on the concepts and practices of WHPP: Educate champions about workplace health protection and promotion and the WHPP program and planned activities so that they can share information and skills with others. Regular training will ensure that information is current and correct, and it will keep the champions and ambassadors engaged. Providing training on paid time demonstrates its value to the organization.

Define responsibilities: Champions' responsibilities should be explicitly defined in writing so that they know what is expected from them, and other workers can refer to them as needed. Ideally the roles reflect their potential to contribute, not simply require them to push a prepackaged program.

BEST PRACTICE

Employee skills support and contribute to planning and implementation.

ACTIVE CHAMPIONS

In one large agency, champions and ambassadors help plan the program, implement the activities, and get input from workers about health needs and concerns. The Wellness Ambassadors are hourly workers who define and lead local activities. The Wellness Champions are Division Managers tasked with aiding the base ambassadors and actively participating in their division-based committees.

BEST PRACTICE

The organization enlists health care providers and other vendors as partners in and contributors to the WHPP program assessment, planning, and implementation.

MAKING TIME FOR CHAMPIONS

A large agency covers release time for 18 ambassadors every other Wednesday for four hours.

Divisional managers have the discretion to release ambassadors for longer.

An East Coast agency provides designated walk-around representatives with one paid day a month for health and safety meetings and inspections in each base and crew area.

Provide champions and ambassadors with schedule flexibility:

Management should schedule paid release time for champions to participate in and promote WHPP program activities and events. The champions are the face and the boosters of the program, so it is important that they have the flexibility to actively support and promote the program.

Sustain champion and ambassador roles: Continue to recruit champions and ambassadors. Redefine the role if needed as your program grows. Maintain champions' skills development and longevity through consistent training and involvement in program planning. Encourage participation through recognition and incentives.

Vendor Integration

Health plans, service providers, and other vendors can be instrumental in planning and implementing the WHPP program. In particular, the employee health plan has data on the current health status of the workforce. They know how to sort it in ways that can help you identify targets and define program activities. Because improved health is in their interest as well, they may be willing to support funding of the WHPP program. In transit agencies surveyed, the health plan was often involved in the programs, but what data and support they offered varied widely by agency even with the same provider. Other types of vendors and allies may be underutilized. Figure 2.4 lists some of the ways external partners can provide support, data, and resources to the WHPP program. Some may be provided without charge, and others you will need to pay for.

FIGURE 2.4 WHAT VENDORS CAN PROVIDE

- Aggregate reports of health data
- Comparison with other employers
- Workshops and classes
- Coaches—online or onsite
- Prizes
- Mobile health or dental units
- Financial support for program activities
- Training and informational materials

Find out what data is available and ask for data that you need:

When partnering with health insurance vendors, talk to them about the kinds of data that will help target your WHPP program strategy and activities. Define a consistent schedule for information to be made available to you, the contact person that the data should be released to, and how to discuss any changes to the data that is to be provided. Getting and using vendor data is discussed in Chapter 1 and in more detail in Chapter 5.

Explore vendor resources: Do your research to identify vendors that will actively contribute to your WHPP program. You may be required to issue a request for proposals (RFP) to solicit vendors, and you can use this to find out those with experience related to transit workplace, a proven track record on integrated or targeted health interventions, or a willingness to accommodate to your needs. The questions in Figure 2.5 will help with vendor selection and contracts even if you do not use a formal RFP process.

Educate vendors and providers about the workforce and transit work demands: Vendors should be made aware of the operational needs and demands of the workforce so that they can appropriately plan and implement activities or resources that suit transit workers. They can learn about the workforce through tours of the worksite and riding on the buses, information sessions where the vendor interacts with the front-line workers, or organization educational materials, for example. The tables in Chapter 4 and factsheets such as the one in Appendix B are good ways to educate providers and vendors about the transit environment and the needs of the workforce.

Involve vendors in planning, evaluation, and implementation: Vendors may have staff with a lot of experience in health protection and promotion, and they can bring good ideas and insight to the WHPP program. It is important to let them know of your interest in addressing both health protection and promotion, as most are likely to have a traditional health promotion focus. In some transit workplaces, vendors participate on WHPP committees. They may have a defined role and responsibility that include providing specified information at meetings, and sponsoring functions or events such as classes, health fairs, or health risk assessments.

USING VENDOR INFORMATION

A mid-sized agency has recently targeted weight reduction and healthy eating based on a meeting with health care providers to review employee utilization of health services.

A small agency uses regular meetings with the health insurance company to target wellness activities based on health care claims and the type of ailments that operators seek treatment for.

AGENCIES BENEFITTING FROM PARTNER RESOURCES

An agency in a medium-sized city contracts with businesses along bus routes to allow transit employees to use their restrooms, if needed, while driving their route.

A large agency solicits vendor contributions to cover incentive programs, health fairs, program supplies, travel, printing and copying, program shirts for ambassadors, and meeting costs.

One health insurance vendor provided free classes and mobile medical services. However, these were cancelled if fewer than 20 operators showed up. This left the WHPP program in the lurch, along with the operators who had planned to participate, when traffic jams or other scheduling problems made the group smaller than hoped for.

continued

Promote use of existing vendor programs: Useful examples of specialized vendor programs include HRAs for high-risk individuals, online health coaches, and onsite or mobile health services. During the F-17 research project it became clear that employees and even WHPP program staff are not always aware of the resources that are available. You may want to advertise coaches, discounts, and other benefits offered by the health insurer. If they are not being used, talk with the workers and with the vendors to see what can be improved.

Enlist vendor support for health fairs: Health fairs appeal to people if they offer new information and give-aways along with familiar health protection and promotion activities. Fairs provide new and established vendors a chance to show their value to the organization while promoting their programs. The best vendors should be willing to participate in off-hours events to accommodate transit workers.

Summary

Carefully building a strong team will help your agency set up a successful workplace health protection and promotion (WHPP) program and make use of available resources. Recruit internal and external partners with different skills and expertise to plan and implement the program. Responsibilities of the WHPP team include:

- defining program goals, objectives, and a strategic plan that are in alignment with the organization's needs and priorities;
- developing a mission and vision statement that exemplifies the program direction;
- assisting in carrying out the program's operational plan;
- guiding the adaptation of the plan to specific departments' needs;
- recruiting program involvement throughout the organization; and
- soliciting input.

The process of developing and defining the team helps promote the program throughout the organization. This sets the stage for the team to identify the health targets for the program.

AGENCIES BENEFITTING FROM PARTNER RESOURCES *continued*

A small campus transit system receives and distributes weekly wellness newsletters and educational posters from the Regional Medical Center.

An urban agency arranges for a market vendor to sell fresh fruit and vegetables at the worksite.

FIGURE 2.5 QUESTIONS TO ASK VENDORS

<p>Customer Service</p>	<p>How quickly are questions answered? How much does the vendor support implementation and delivery process? How are complaints handled? Will there be a designated person assigned to the account? Are there hidden costs? What is the turnaround time on reports and documents? What are the customer service hours?</p>
<p>Experience</p>	<p>What is the average number of years staff has been involved in programming? How many clients does the vendor work within a year? How long has the vendor been in business? Does the vendor have subcontractors that deliver part of its services? What are staff credentials? How are field staff trained? Are there customer service satisfaction and performance statistics? What is your experience with transit workplaces? With other similar workplaces? Can we contact your clients? What programs or activities do you most commonly provide? Can you adapt your services to our workplace—type of work, health needs, schedule? Can you provide services outside of regular hours?</p>
<p>Pricing</p>	<p>What services are available at no charge? What are your prices for onsite activities? What are your prices for data and reporting documents? What kind of incentives (monetary or other) can you provide for us contracting with your company? Do you offer any special program discounts? Is a contract required? If so, is there a mandatory minimum contract term?</p>
<p>Confidentiality and Liability</p>	<p>Is the vendor HIPAA compliant? What processes are in place for handling and storing personal information? How does the vendor handle communication of personal information at screenings to ensure confidentiality? How does the vendor transmit personal information?</p>
<p>Satisfaction (participant and customer)</p>	<p>What type of participant satisfaction documentation does the vendor have? How satisfied have other clients been with performance? What methods do you use to allow clients to provide feedback? What is the process for handling client complaints and concerns?</p>
<p>Metrics and Evaluation</p>	<p>What kind of evaluation does the vendor provide for the program? Will the vendor work with other vendors, insurance brokers, and others to integrate information? What data can the vendor provide?</p>
<p>Account Management</p>	<p>What is the account manager's experience? How much guidance does the manager provide? Who supports the manager?</p>

As presented in SafeWell Practice Guidelines - Adapted and summarized from Kruse, Mary M. "From the basics to comprehensive programming" in ACSM's Worksite Health Handbook: A guide to building healthy and productive companies. 2nd ed. Pronk, N (Ed). 2009. Champaign, IL: Human Kinetics.



Who is going to take the lead?

Partnership for Prevention (2001). Healthy Workforce 2010 (p. 31-65). www.prevent.org. This list of resources can be used to help provide ongoing training and education for worksite staff.

Management Support

The Leading by Example Commitment. Example letter of management commitment to a healthy productive workforce. Partnership for Prevention Leading By Example. The Value of Worksite Health Promotion to Small- and Medium-Sized. (2001) (p. 4). www.prevent.org/data/files/initiatives/lbe_smse_2011_final.pdf

Health Management Initiative Assessment for Small- or Medium-Sized Employers. An assessment of the health culture within your organization. Partnership for Prevention Leading by Example. The Value of Worksite Health Promotion to Small- and Medium-Sized Employers. (2001). (p. 5). www.prevent.org/data/files/initiatives/lbe_smse_2011_final.pdf

The Wellness Council of America Wellness Leadership Survey Assessment of senior level support of your health promotion program.. *Absolute Advantage: The Workplace Wellness Magazine*. Capturing CEO Support (p. 17) 2007. www.welcoa.org/freeresources/index.php?category=11

The Wellness Council of America. Capturing CEO Support *Absolute Advantage: The Workplace Wellness Magazine*. 2007(p. 50). www.welcoa.org.

Communication plans. www.cdc.gov/workplacehealthpromotion/planning/communications.html

Vendor Integration

WELCOA Checklist for Selecting Health Promotion Vendors. www.welcoa.org/freeresources/pdf/vendor_checklist.pdf

WELCOA: Guilty Until Proven Innocent: In-depth article on choosing a health risk assessment vendor. Remember to check if your health insurer can do the same thing. www.welcoa.org/freeresources/pdf/aa_7.7_guilty_until_proven_innocent.pdf

Selecting Vendors: Topics and Questions. A summary of potential topics and tools that you can ask vendors. Safewell Practice Guidelines. An Integrated Approach to Worker Health. centerforworkhealth.sph.harvard.edu/images/stories/SafeWellPracticeGuidelines&ExecSumm_Sept2012.pdf

Committees

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A plan for change: Safety and health committees, SEIU Training Fund: This OSHA-funded outline for an effective joint labor-management safety committee can be adapted for the WHPP committee www.osha.gov/SLTC/healthcarefacilities/training/activity_7.html

Chapter Background

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The Wellness Council of America. Planning Wellness Getting Off to A Good Start. *Absolute Advantage: The Workplace Wellness Magazine*. 2006. (p. 21). www.welcoa.org/freeresources/index.php?category=8

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Zohar, D. (2013). Reducing Policy-Practice Decoupling to Improve Safety Climate and Performance: A Randomized Intervention Field Study. Protecting and Promoting Total Worker Health: Work, Stress, and Health 2013, 10th International Conference on Occupational Stress and Health, Los Angeles.

Chapter

3

Setting Targets: Effective Transit Health Protection and Promotion

CHAPTER MAP

SETTING PRIORITIES

The organization establishes what matters and what can be done with available resources.

- Use planning and needs assessment data to define program targets to match the organization's strategic goals.
- Estimate the challenge.
- Combine assessments of need, severity, and challenge to set your priorities.

A COMPREHENSIVE HEALTH RISK FOCUS

The organization identifies and targets multiple contributing factors to operator health problems and conditions.

- Establish clear prevention and promotion principles.
- Understand what contributes to operator health problems and conditions.

EFFECTIVE COMPONENTS

The WHPP program activities are based on feasible and effective practices that address the identified program targets.

- Understand and apply what has been successful in workplace health protection and promotion.

TRANSIT-SPECIFIC PROGRAMMING

The program planning and content address transit-specific risks, exposures, and conditions.

- Target areas and plan activities that are relevant to transit workers.
- Be realistic about the results you expect.

Bus operators and other transit workers experience some of the highest rates of health problems of any industry, as discussed in the introduction. There is not complete agreement on what the biggest problems are: As shown in Figure 3.1, agencies in the F-17 survey consistently reported the top health concerns of bus operators to be chronic diseases and musculoskeletal problems, followed by achieving healthy behaviors and general wellness. Labor representatives were more concerned about what the work environment does to health, and slightly less concerned than management about individual health behaviors.

Most of the health activities described by transit agencies focused on giving the individual information and tools for identifying, treating, and

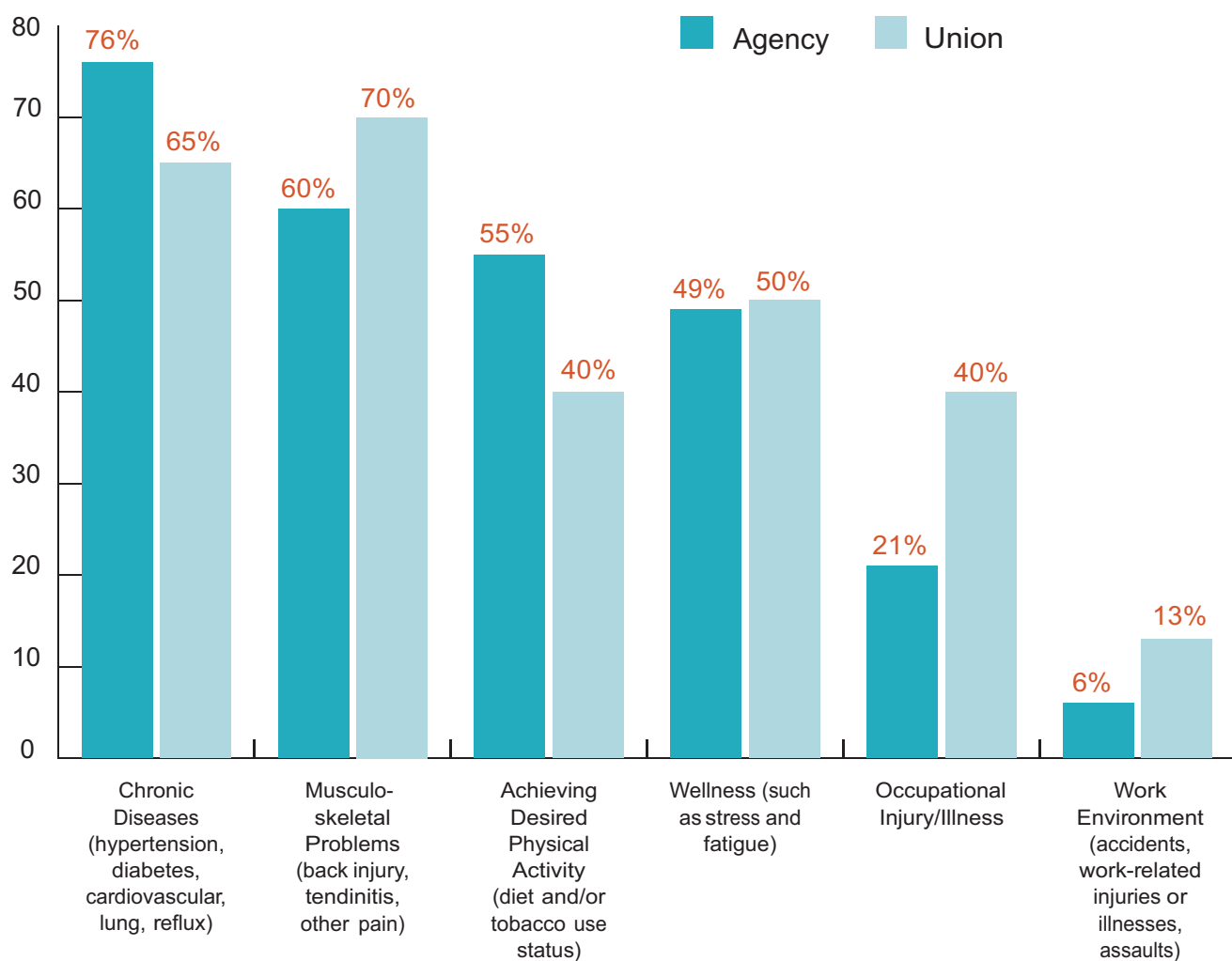


FIGURE 3.1 WHAT ARE THE TOP 3 HEALTH ISSUES AFFECTING BUS OPERATORS AT YOUR AGENCY?

CASE STUDY

Edmonton Transit System: Moving Toward Integrated Health Protection and Promotion

A key element in transit workplace health protection and promotion is the range of contributors to operator health. Edmonton Transit System (ETS) demonstrates how occupational safety and health staff and committees can help promote health and wellness.

The Edmonton Employee Safety and Wellness section employs a corporate health promotion specialist, an industrial hygienist, occupational health nurses, and an ergonomist. WHPP activity has emphasized fitness and exercise, stress, and obesity. Major initiatives include sponsored fitness center membership (available to all city residents), educational events and health fairs, and work hazards assessments and consults. Each city department, including ETS, has dedicated occupational health and safety (OH&S) staff, called consultants. Among other OH&S responsibilities, the consultants disseminate information and implement initiatives from the city-wide wellness committee. Health promotion targets are established for the city as a whole and for each division. Current transit-relevant targets include sleep apnea and obesity, encompassing health, design, and procurement issues.

The OH&S committees identify and respond to transit health protection and promotion needs, and carry out campaigns dealing with wearing seat belts and slips, trips, and falls prevention. Each of four bus facility OH&S committees consists of representatives from management, occupational health and safety, operators, and inspectors. The OH&S committees analyze worksite hazard assessments, incident reports, and seasonal changes to define what health and safety problems should be targeted. A facility inspection is carried out monthly, and findings and recommendations are submitted to the facility operations committees and then to the directors meeting for approval. Twice a year, the facility committee co-chairs, supervisors, and management meet to discuss the improvements made as well as areas of future improvement.

In ETS the OH&S committee and the OH&S consultant bring together observed problems, complaints, incident reports, and knowledge of health and safety issues that are common in the transit industry to propose and implement activities for the following year. Although at the city level health promotion activities are not fully integrated, the transit OS&H consultants and committees interact with the Safety and Wellness section for health protection and promotion initiatives.

avoiding illness. But to protect transit workers' health, organizations must also acknowledge and address contributing factors in the work environment. Worker representatives in the F-17 survey showed less confidence in employer programs that did not cover the work conditions. Workplace health concerns might stimulate program participation: in one study, motor freight workers who felt that workplace stress and schedule demands were a problem were more likely to participate in smoking cessation programs (Sorensen et al., 2010).

To be successful, WHPP programs need to define and support a healthy culture, at work and away. In traditional worksite wellness programs this can mean promoting safety at home along with safety at work in educational materials or tool-box talks. The NIOSH Total Worker Health™ Essential Elements of Effective Workplace Programs cites improving the work environment as fundamental to health promotion:

Eliminate recognized occupational hazards. Changes in the work environment (such as reduction in toxic exposures or improvement in work station design and flexibility) benefit all workers. Eliminating recognized hazards in the workplace is foundational to Total Worker Health™ principles.

This approach also improves productivity and absenteeism, according to a recent study of 19,121 employees from five employers (Shi et al., 2013). This chapter of the Practitioner's Guide describes ways to understand and tackle the combined environmental, organizational, and individual contributors to the major health targets faced by bus operators. The following chapter defines how to carry out WHPP activities that suit the transit workplace.

BEST PRACTICE

The organization establishes what matters and what can be done with available resources.

Setting Priorities

The program initiation steps outlined in Chapter 1 and the baseline evaluation measurements explained there and in Chapter 5 should tell you what issues are important to your organization, in terms of frequency, seriousness, and financial impact, and what matters to the bus operators. It will take some more discussion to determine what targets are feasible. Limited resources may force a choice even among important issues and effective and popular activities.

Use planning and needs assessment data to define program targets that match the organization’s strategic goals: Target priority should be based on an assessment of the number of operators affected and how severe the impact is on worker health, on organizational success, or on finances. Tool 3.1 can help you prioritize your targets by comparing this information. The first column includes a list of the most common health issues of concern in transit agencies. For each that may be prevalent in your organization, identify as well as you can the number of operators that are or may be affected (second column). Judge if the impact is serious, medium, or low, and circle that in the third column.

Estimate the challenge: There are also pragmatic considerations, because some success or improvements can be hard to achieve. The expected value for the effort required is important to consider (fourth column). It is smart to collect some low-hanging fruit to develop confidence and test your program. At the same time, tough health issues are often the program drivers, so the organization may be pushed to take on important but more challenging targets in the early stages of the WHPP program. The program components that can have the biggest impact may need to be introduced early as they take longer to develop and to meet important goals.

Combine assessments of need, severity, and challenge to set your priorities: You will want to target serious problems, and ones that affect a lot of people; these may or may not be the same. There will be overlap, and some issues can be addressed together. Whatever you decide to do, keep the filled in Tool 3.1 as documentation of how you have examined and selected targets over the course of your program. You will be able to reach for more challenging targets as the program grows.

SETTING PRIORITIES

At a Canadian agency, health protection and promotion targets are defined by the OSH committee and the OSH consultant bringing together observed problems, complaints, incident reports, and knowledge of health issues that are common in the transit industry. Seasonal and annual targets are set and each month two topics are selected to cover with educational materials and activities.

TOOL 3.1 SETTING PRIORITIES

Health problem	Number of operators affected	How severe is the impact (on health, operations, finances)	How hard will it be to achieve improvement?	Priority	Notes
Cancer		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Cardiovascular disease (heart disease and stroke)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Diabetes (Type 1, Type 2, gestational and insulin resistance)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Digestive problems (reflux disorder, ulcer, irritable bowel)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Hypertension (high blood pressure)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Metabolic syndrome (insulin resistance, fat location, blood pressure)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Musculoskeletal disorders		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Occupational injuries		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Sleep and rest (fatigue, sleep apnea, circadian rhythm disruption)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Substance use (tobacco, alcohol, OTC medications, illegal drug)		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	
Other:		Serious Medium Low	Easy target Some challenge Hard to reach	Top Near future Postpone	

A Comprehensive Health Risk Focus

Extensive research and the practical experience of agencies, bus operators, and health care providers demonstrate how closely connected the individual, the organization of work, and the home and work environments are when it comes to common health problems. An effective WHPP program uses this evidence to establish a comprehensive approach.

It is widely recognized that the health conditions bus operators and transit agencies are dealing with—notably, high blood pressure, cardiovascular disease, diabetes, sleep apnea, and metabolic syndrome—are all influenced by genetics, weight, physical activity, and food choices. But these individual characteristics are not the only contributors. Research shows that stress can be a cause or an aggravating factor in all these problems. Stress comes from schedule demands, work-family conflict, and workplace health and safety concerns such as assault or access to restrooms. The experience of stress is influenced by the support available to the worker, by individual responses to demands, and by other life factors.

Some of the health problems feed each other. For example, sleep disturbance is connected to diabetes, cardiovascular disease, and reflux, and in turn these disorders can contribute to sleep disturbance and fatigue. Health status can drive choices about eating, sleeping, and substance use. So a person with sleep apnea, which could be related to reflux disease, overweight, or stress, may mistakenly drink alcohol at night to try to get to sleep, or reach for high fat and sugary food for energy. An operator with hypertension might avoid diuretic medication and drink less water because of limited access to toilets, but this could aggravate the hypertension as well as lead to health problems.

Critically, workplace conditions and hazards can combine with other risk factors to cause disease or make it worse.

The traditional approach to health promotion focuses on individuals with diseases or risk factors, providing support to reduce the risk factors or manage the disease. Organizations with a traditional approach will typically use educational materials, HRAs supported by health coaching, and activities, policies, and incentives that encourage healthy decisions and actions. Some expanded programs will include supports to deal with stress or work-family conflict or social events to increase morale. WHPP programs have enhanced the health environment by installing

BEST PRACTICE

The organization identifies and targets multiple contributing factors to operator health problems and conditions.

HOW THE WORK-PLACE CAN CONTRIBUTE TO OPERATOR HEALTH PROBLEMS

Musculoskeletal disorders (MSDs) may be more likely for people who are sedentary outside of work, but driving a bus exposes workers to known risk factors such as vibration, awkward postures, and stress that can increase the risk of MSDs.

Diesel exhaust has a direct harmful effect on cardiovascular functioning.

Operators may avoid taking medications such as diuretics if they are concerned about access to toilets on the road.

gyms, walking trails, showers, and bike racks. These activities are all parts of an effective WHPP program, but they do not reduce the occupational components of risk.

A comprehensive workplace health protection and promotion program creates a physical and organizational work environment that eliminates or reduces occupational hazards and promotes health, incorporating health supportive policies and practices to enhance health and safety at work and beyond. It might seem obvious that the comprehensive approach is most likely to succeed. At the same time, it requires more commitment of time and resources and greater cooperation around the organization.

Establish clear prevention and promotion principles: Start by defining your approach. Will you focus on people with diseases and recognized risk factors—the traditional health promotion model? Will you also try to improve health and well-being by developing policies and a work culture that encourage and reward healthy exercise, food choice, and stress response? Will you develop a comprehensive workplace health protection and promotion program? The decision may depend on the workforce priorities, the organizational readiness, and the resources available. Whatever you start with, you can grow to the next level as you develop your program and enhance the organizational health culture.

Understand what contributes to operator health problems and conditions: Figure 3.2 summarizes the major contributors to common health problems of transit workers. Understanding these contributors will help avoid, resolve, or manage important health problems for transit workers. Here is just one example: Bus operators have higher rates of hypertension, cardiovascular disease, and diabetes. Is this caused by their behavior? They report less physical activity than other workers, and are also more likely to be overweight and to smoke. Is this because their hours are so challenging, making it hard to eat and exercise at healthy times and in healthy ways? Or is it because of other work conditions? For example, some operators report not taking diuretics prescribed for hypertension because they do not have a reliable place to use the restroom. For many, going home after an evening shift possibly after hours of effective solitude or schedule stress can make it hard to get to sleep, and disturbed sleep patterns have been linked to diabetes. So where does the health problem start, and how can any program hope to take on all these challenges?

The good news is that many interventions will help reduce more than one health problem. Diet and activity adjustments can improve blood pressure, diabetes, digestive problems, and mood. It turns out that even

a small weight loss can improve insulin response and increase energy. Improving access to healthy food at work can help control the precursors to heart disease and diabetes and improve sleep. Improving workplace conditions can reduce absenteeism and improve morale as well as keep people safer and healthier.

Appendix B is an example of explaining a significant health problem affecting bus operators (sleep disturbance) to show specifically how transit work as well as individual behavior can affect operator health, and what employers and workers can do about it.

FIGURE 3.2 HEALTH PROBLEMS AND RELATED FACTORS IN TRANSIT WORKPLACES

HEALTH PROBLEM	RELATED FACTORS		
	INDIVIDUAL	PSYCHOSOCIAL AND ORGANIZATIONAL	ENVIRONMENTAL
High blood pressure Cardiovascular disease Diabetes Metabolic syndrome (insulin resistance, fat location, blood pressure) Digestive problems (including GERD)	Genetics Medical care Sedentary habits Food choices Weight	Shift work Work-family conflict Sleep disturbance Timing of meals	Schedule pressure Stressful work conditions (such as assault) Diesel exhaust Working at night Access to restrooms may discourage proper medication use
Fatigue Sleep disruption Sleep apnea	Weight Sleep hygiene Individual coping mechanisms	Shift structure Work stress Work-family conflict	Working at night Overtime
Musculoskeletal disorders	Outside activities Overall fitness Age	Work stress Fatigue	Seated work Work station design: seat position, pedal position, and force Whole body vibration Forceful contact with seat (disk compression) or steering wheel (carpal tunnel syndrome) Forceful motions—wheelchairs, windows
Cancer	Genetics Tobacco, alcohol Early diagnosis	Night work	Diesel exhaust Asbestos
Substance use (tobacco, alcohol)	Genetics Habits	Sleep disturbance Work-family conflict	Break schedules Hours of work Work stress

REDUCING CONFLICT BETWEEN OPERATIONS AND WHPP ACTIVITIES

One agency, recognizing that front-line operator involvement is a challenge given the work schedules of the operators, collects operator feedback through a comment box in the fitness room and satisfaction forms following activities. Program planners make an effort to schedule activities to maximize operator participation.

To address schedule concerns as a motivator that could conflict with health and safety commitment, a scheduling department sets up tables at each division every 6 weeks to get input about scheduling problems.

OPERATIONS MANAGEMENT INVOLVED IN PLANNING

In a large western agency, Division Managers actively participate in their division-based Health and Wellness committees. While this is a requirement, it also helps them influence and tailor activities to limit any conflicts with operational demands.

Figure 3.3 shows how you can apply this information to your health concerns and targets, as explained in detail in the Practitioner's Guide introduction. The mapping process defines the individual behaviors (what people do); individual characteristics that rarely change (what people are); the work, home, and community influences (what the environment is and does); and the impact the health concern has on the health of the individual or on the organization (the impact and outcomes).

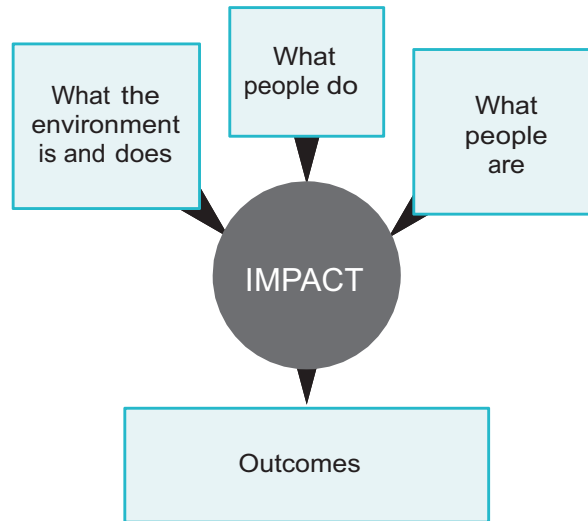


FIGURE 3.3 MAPPING TRANSIT WORKER HEALTH PROBLEMS

So for a certain health problem (such as metabolic syndrome – illustrated in Figure 3.4), we know that what people do (sedentary habits or food choice) is very important. Some individual characteristics that rarely change are age, gender, race, and genetics. The environment has a recognized impact on metabolic syndrome (schedule stress affects blood pressure, diesel exhaust exposure affects heart function, working at night affects insulin response). How work and home life are organized (what the environment does) affects metabolic syndrome by driving when and what people eat or how they exercise. Other environmental factors are less obvious—not having access to bathrooms is a stress on its own, and it may discourage people from taking their medication; sleep disturbance related to schedule stress and work-family conflicts can be made worse by health problems and can make them worse. The result: a health impact and negative outcomes for the person and the organization.

Where you start filling in the map does not matter—you may know people have a health risk and want to explore what impact it might have or how you could limit its effects, or you might have an organizational issue such as commercial driver’s license (CDL) disqualification and want to work out what is contributing to it. What matters is to ask all the questions: What do people do that affects their health, what do the organization and environment contribute, what are the impacts and the outcomes? The map can show you what is important and where you can intervene. The relationships between these can be even more complex than the drawings suggest.

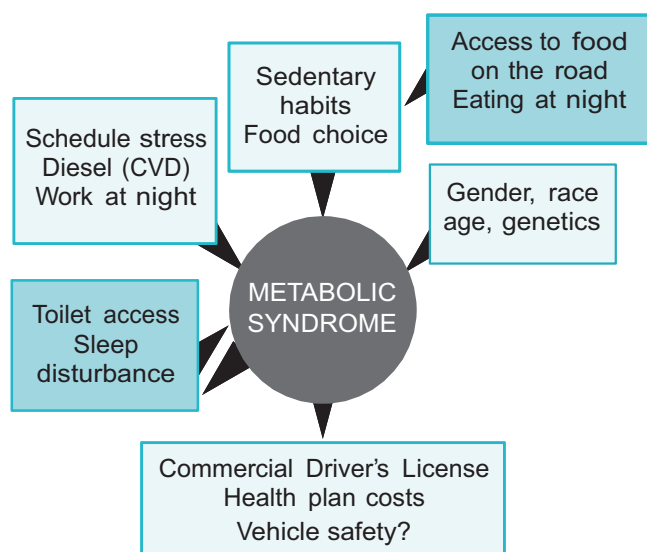


FIGURE 3.4 MAPPING METABOLIC SYNDROME FOR BUS OPERATORS

Effective Components

It may seem obvious to say that you should choose activities and set policies that have a chance of affecting your targets. But the F-17 research process suggested that a surprising amount of health promotion activity is done because it is appealingly packaged, people have liked it in the past, or an attractive campaign has been carried out elsewhere. Not all popular WHPP activities are effective, and not all will suit every group of workers.

Understand and apply what has been successful in workplace health protection and promotion: The CDC Task Force on Community Preventive Services reviews the research literature on

REDUCING CONFLICT BETWEEN OPERATIONS AND WHPP ACTIVITIES

continued

Most agencies in the F-17 survey recognized that operator schedules and work demands are a barrier to program success.

BEST PRACTICE

The WHPP program activities are based on feasible and effective practices that address the identified program targets.

workplace health promotion on an ongoing basis. Figure 3.5 lists the intervention methods that the Task Force has determined to be reliable. It reports strong evidence that environmental and policy approaches can increase physical activity, by creating or improving access to places for physical activity combined with informational outreach. Workplace obesity programs have had some success; however, the obesity research reviewed focused on the white collar workforce and may not apply as well in the transit environment. More important for people looking to research for guidance, this extensive analysis could not determine what among the many educational, fitness, or other health promotion components was having the observed effects on obesity. Overall, workplace smoking cessation programs seem to work. Onsite flu vaccination programs are also effective. As is common, the Task Force analysis focused strongly on dealing with individual health and wellness and did not cover occupational health protection or safety.

Another clear message of this national Task Force was that health risk screening or health risk assessment (HRA) alone is not enough. Following HRA results with health education, referrals, and activities does improve health outcomes. Health education following HRAs can have an impact on tobacco, alcohol, and seatbelt use; blood pressure and cholesterol; days lost; and appropriate health care utilization, as well as total number of self-reported risk factors. Health education after HRAs does not have a proven impact on fruit and vegetable intake, body composition, or overall fitness. (This may be because it is hard to show statistical significance for small changes that may be important to health at the individual level, or because the measured interventions were not well executed, or because they do not in fact work.)

FIGURE 3.5 TASK FORCE ON COMMUNITY PREVENTIVE SERVICES RECOMMENDATIONS AND FINDINGS

INTERVENTIONS TO PROMOTE SEASONAL INFLUENZA VACCINATIONS AMONG NON-HEALTH CARE WORKERS	
Onsite, Reduced Cost, Actively Promoted Vaccinations	Recommended 2008
Actively Promoted, Offsite Vaccinations	Insufficient Evidence 2008
ASSESSMENT OF HEALTH RISKS WITH FEEDBACK (AHRF) TO CHANGE EMPLOYEES' HEALTH	
AHRF Used Alone	Insufficient Evidence 2006
AHRF Plus Health Education with or without Other Interventions	Recommended 2007
PREVENTING CHRONIC DISEASE	
Skin Cancer Prevention: Education and Policy in Outdoor Occupational Settings	Insufficient Evidence 2002
Diabetes Prevention and Control: Self-Management Education at the Worksite	Insufficient Evidence 2000
Obesity Prevention: Worksite Programs to Control Overweight and Obesity	Recommended 2007
PROMOTING PHYSICAL ACTIVITY	
Point-of-Decision Prompts to Encourage Use of Stairs	Recommended 2005
Creation of or Enhanced Access to Places for Physical Activity Combined with Informational Outreach Activities	Recommended 2001
Smoke-Free Policies to Reduce Tobacco Use Among Workers	Recommended 2005
INCENTIVES AND COMPETITIONS TO INCREASE SMOKING CESSATION	
Incentives and Competitions when Used Alone	Insufficient Evidence 2005
Incentives and Competitions when Combined with Additional Interventions	Recommended 2005

Source: www.thecommunityguide.org/worksite/index.html, accessed May 6, 2013

BEST PRACTICE

The program planning and content addresses transit-specific risks, exposures, and conditions.

Transit-Specific Programming

There are many excellent health promotion packages available from local or state health departments and nonprofit health groups, and WHPP program managers may find it efficient to adopt generic health information and activities. But best-practice agencies describe how their success depends on using content and activities that address the work realities, schedule demands, shifts, and preferences of transit workers. This means recognizing specifically how operators in the organization are affected. It requires understanding the overlap of contributing individual and work factors. The challenge lies in selecting approaches that are feasible and effective for the work setting.

Target areas and plan activities that are relevant to transit

workers: Many operator health issues such as diabetes and hypertension are also found across occupations. However, just as the transit working environment can cause or aggravate common health problems, it can also make it harder set up and run an effective WHPP program that reaches every one and achieves health targets. Tailor the program to the transit workplace and the specific conditions at your agency. Figure 3.6a-g lists overall goals to support transit worker health, the objectives that can be set to achieve those goals, and the approaches that have been used by F-17 survey respondents and others active in WHPP, supported by best-practice examples.

Health Protection and Promotion Targets and Transit-relevant Practices

FIGURE 3.6A

Goal: To help diagnosis, treat, and manage health problems		
Objective	Approach	Best-Practice Examples
Help workers identify health problems early	Health risk assessments and supportive follow-up Health professional consults Screening	HRA with follow-up from health system—may be coordinated by health plan Schedule a nurse at locations monthly to answer questions confidentially
Improve retention and availability	CDL concerns (high blood pressure, diabetes, sleep apnea)	Arrange with health plan to provide full coverage and waive copays for CDL-related health issues Campaign of CDL-supportive health promotion activities and rewards participants who requalify
Improve treatment	Educate physicians about how work affects wellness and health decisions	Work with health plans to identify operator health issues and share with care providers Hold meetings to discuss treatment implications of diuretics with plan physicians
Enhance access to care	Screenings and care provided on paid time or at the workplace	New York State law requiring time off for mammograms and prostate screening publicized by employer Mobile MD allows operators to schedule physician visits Arrange for a mobile dentist at locations
Prevent infectious diseases	Decrease illness Decrease transmission at work	Flu vaccine provided at work Accommodating sick leave policy does not penalize ill workers or encourage coming to work ill (Department of Homeland Security recommendation)

FIGURE 3.6B

Goal: To improve safety and health at work and at home		
Objective	Approach	Best-Practice Examples
Vehicle safety	Safe driving	Investigate red light run-throughs and other infractions as indicator of schedule problem Left hand turn training Driver safety training and refreshers discuss car as well as bus safety Winter driving program
Noise and hearing	Screening, diagnosis, and treatment	Screen at health fairs and special outreach programs with vendors, for employees and family members
	Training and information	Work and home exposures are addressed in training Hearing protection provided for use at home
	Comprehensive hearing protection program	Screening, follow-up and protection provided for all workers exposed at or above 85 dB
	Reduce noise at work	Improve maintenance practices to limit bus noise Include internal and external noise specification in bus design and procurement Shield operators and others from noisy maintenance practices
Chemical exposure	Eliminate or reduce toxic chemical exposure	Training on material safety data sheets and labels Recycling and waste disposal programs collect home waste Worksite green cleaning program
Mental Health	Improve mental health, treat disease, and accommodate workers	Canadian workplace standard covers comprehensive approach to integrate prevention, diagnosis, treatment
Substance use	Eliminate illegal drug use	WHPP program supports and promotes Union Assistance Program and Employee Assistance Program
	Eliminate tobacco use (smoking, snuff, and chew)	No smoking policy applies to workplace and events Tobacco cessation support programs, including patches Tobacco cessation incentives Referral to health plan, community groups, or health department for tobacco cessation support
	Promote safe alcohol use	“Driving Buzzed Campaign” around holidays and Super Bowl reminds drivers how a little alcohol can have a large impact No alcohol at agency or union-sponsored events

FIGURE 3.6C

Goal: To improve healthy food access and choice		
Objective	Approach	Best-Practice Examples
Nutrition education	<p>Illustrate relevant healthy food choices</p> <p>Explain the impact of food choice on health</p> <p>Provide information about food timing and insulin response/discourage night-time eating</p>	<p>Develop nutrition programs for transit workers</p> <p>Hold nutritional workshops that focus on cooking in a culturally relevant way</p> <p>Nutrition coach available to respond to questions</p> <p>Recipes and healthy food promotion in newsletters</p>
Improve food access at locations	<p>Provide and subsidize healthy food choices in vending machines, cafeterias</p>	<p>Subsidize healthy food in machines and cafeteria</p>
Help operators carry healthy food	<p>Make it easier to carry healthy food</p>	<p>Provide healthy bag lunch options in cafeteria in early morning so operators can carry them on route</p> <p>In bus-cab design process, provide space to store food and other personal items (discussed in the development of the European “Recommendation for a code of practice of driver’s cabin in line service buses”)</p>
Improve food access on routes	<p>Identify healthy food outlets (stores, restaurants, and trucks)</p> <p>Partner with outlets to develop healthy food options that are convenient for operators</p> <p>Arrange with food outlets to make operators priority customers</p>	<p>Researcher June Fisher MD recommends a celebrity chef campaign with trucks and restaurants</p>
Support healthy food choice	<p>Schedule group meetings to support food choice at times and locations operators can meet</p>	<p>Popular weight loss program geared toward the work environment (success reported mainly with female office workers, as operators found it hard to attend group meetings)</p> <p>Popular weight loss program online and geared toward men provides a helpful perspective</p> <p>Nutrition program that lists convenient but healthy and appetizing choices</p> <p>Nutrition program adapted for truck drivers</p>
Support employees who have food-related health problems	<p>Provided one-on-one nutrition coaching—varied hours or by phone</p> <p>Provide health care providers with information about food access considerations for operators, including night eating</p>	<p>Wellness trainer certified to provide general nutrition coaching</p> <p>Group health plans provide nutrition counseling by phone for people with diabetes</p> <p>Educate workers with reflux disorder to talk to their physicians about transit work demands</p>

FIGURE 3.6D

Goal: Increase physical activity		
Objective	Approach	Best-Practice Examples
Improve individual exercise opportunity	Make exercise opportunities available for all work schedules	Bicycle loan program Hula-hoops and jump ropes onsite Exercise DVDs and a player are freely available so people can fit their exercise in Identify safe and interesting exercise and walking circuits at the workplace and stopover areas
Encourage group activity	Provide access to classes, gym, and coaches onsite and within the work schedule	Gym with trainer 4 days/week at each base 24-hour access to gym Popular exercise classes are provided by a motivated champion Walking clubs are run by operators to match schedules, swing shifts, etc.
Make exercise part of the regular day	Identify and take natural opportunities—stairs, along the route, house, or yard	Stair access and stair competition (but many transit buildings are not multilevel, and security concerns can block stair access) 10,000 steps campaigns
Exercise while working	Seated exercises for upper body and cardiovascular fitness	Resistance band exercises have been developed for use on the road by truck drivers
Increase resilience and recovery	Provide opportunities for stretching and improved circulation	Operator stretch and exercise handouts and palm card Yoga classes Transit safety manual includes stretches and exercises using the bus
Using the built and outdoor environment	Identify and plan outdoor exercise	External example: 101 things you can do on a park bench www.youtube.com/watch?v=tNBUWXQuCfl Cable car operators developed a set of exercises to do while waiting for a turnaround

FIGURE 3.6E

Goal: Improve ergonomics and reduce musculoskeletal disorders		
Objective	Approach	Best-Practice Examples
Improve work environment	Driver's seat and controls Vibration	Safety team involved in pedal and wheelchair seats redesign Wellness, operations, and maintenance redesigned control toggle based on tendinitis cases. Operators and ergonomists worked together to develop improved seat design A peer assessor observed operators while they drove, and provided support and input about adjusting equipment and working more comfortably Workstation assessment of operators with MSDs or concerns by trained ergonomist; shared with others and used in training
Improve work practices	Assess and improve how tasks are done Signs, mirrors, windows Wheelchairs Maintenance	An ergonomist evaluated work processes, and used ergonomic assessment to produce manual of good practices for operator tasks. Individual operators can request input and ergonomics assessments

FIGURE 3.6F

Goal: Prevent and manage fatigue		
Objective	Approach	Best-Practice Examples
Provide education	Understanding circadian rhythms and the impact on health	Provide training on biorhythms as part of OSH program
Improve work organization	Designing schedules that promote health and rest	Operator schedules allow 10 hrs. between shifts
Work environment	Quiet rooms	Quiet rooms provided for workers on split shifts
Reduce work-life conflict	Accommodating the life cycle Young people Parenting Aging Illness	Dependent care funds and policies to help parents of young children Personal calls are allowed at school let out times so parents can check in with their children Flexible leave time use to cover family need

FIGURE 3.6G

Goal: Eliminate or reduce the impact of hazardous and stressful working conditions		
Objective	Approach	Best-Practice Examples
Develop coping skills	Public work Passenger interaction	Screening and recruitment alert applicant to intense public contact Classes on public interaction, including “Reality training” developed to help operators prepare for customer conflict situations
Create contact points for WHPP	Provide access despite solitary work	Telephone health consults and coaching provided by phone in addition to work locations to enhance use by mobile workforce
Schedule routes to reduce stress	Identify and correct problem schedules	Informally, schedulers at various agencies reported including restroom access time and looking at routes that operators bid out of to adjust schedules
Eliminate stressors	Restroom access	Establish policy to assure access to convenient, clean, safe restrooms
Limit trauma	Policies that protect workers from trauma after an accident or assault	Comprehensive workplace violence program includes treatment and support for operators involved in accidents or assaults
Find and eliminate hazards	Proactive safety plan	Confidential near-miss reporting system Inspections to include road hazards as well as vehicle safety and onsite

Be realistic about the results you expect: When selecting the components and activities to make up your program, you may find success with methods that have not been proven scientifically. Still it is best to choose activities that will reasonably achieve your goals. For example, a race or walk for a cure is not likely to lead to weight loss on its own, and does not promote individual health. These activities can increase workplace morale and health consciousness. They may set an expectation for group exercise and improve the public image of the agency. It also makes sense not to expect too much of any one activity. For example, it is very difficult to maintain weight loss. A short-term “Biggest Loser” competition may attract participation, and even lead to a measurable loss of pounds. But the losers and others will need ongoing support and you should keep measuring to make sure it did what you planned.

You can use the Planning Worksheet from the Planning, Evaluation, and ROI Template to document and track your program components, as illustrated in Figure 3.7.

FIGURE 3.7 MATCHING ACTIVITIES TO GOALS AND OBJECTIVES: AN EXAMPLE USING PHYSICAL ACTIVITY

Goal: To increase activity among bus operators		
Sample	Description	Timeframe
Measurable Objective 1	50% of operators exercise one or more times a week	Jan-Dec
Measurable Objective 2	25% of operators participate in work-based exercise	Jan-Dec
Planning	Locations	
Activity 1	Identify safe, attractive walking area around each base	Jan-Feb
Activity 2	Contract outside health center for family pass	Jan
Activity 3	Provide hoops, bands, and weights for on-base activity	September
Programming	Participation	
Activity 1	Weekly walking group	April-Oct
Activity 2	Family exercise passes	Jan-Dec
Activity 3	Lunchtime exercise class	Nov-Mar

Summary

According to the Senior Medical Officer of NIOSH's Total Worker Health™:

It is not enough for all of our health efforts in the workplace to be focused only on individual behavior change programs. These are expensive, time-consuming, and often have limited success. We must work to change the work environment and the culture of our workplaces. Health-enhancing policies, built environments, and social supports make real health progress possible and more sustainable. Collaboration between labor and management in a participatory fashion in program design and execution is equally critical.

The transit-specific WHPP program sets targets based on the measured health need, on the resources available, and on what participants find important and effective. Assessing the range of contributors to transit health problems means looking at individual, organizational, and workplace factors. The next chapter covers how to construct an effective program using these building blocks.



TOOLS + RESOURCES

Driver Health

Spotlight on Sleep Apnea. The Federal Motor Carrier Safety Administration (FMCSA) provides guidance on sleep apnea for drivers, including the CDL concerns. www.fmcsa.dot.gov/safety-security/sleep-apnea/sleep-apnea.aspx

FMCSA Medical Programs. This webpage maintains up-to-date links and information on CDL-related health issues. www.fmcsa.dot.gov/rules-regulations/topics/medical/medical.htm

Driving Healthy is a website with information and resources produced for commercial truck drivers, also relevant for transit workers. www.drivinghealthy.org/

Mental Health

Psychological Health and Safety: An Action Guide for Employers. Provides a practical application approach to the Canadian standard on mental health in the workplace. www.healthyworkplaces.info/wp-content/uploads/2012/10/Workforce_Employers_Guide_ENG.pdf

Chapter Background

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Chapter

4

Implementing and Integrating:

Balanced Workplace Health Protection and Promotion

CHAPTER MAP

AN INCLUSIVE RANGE

The WHPP program offers varied activities and resources.

- Set up activities to engage the range of needs and interests of the workforce.
- Organize team and individual challenges.
- Provide access to exercise facilities and coaches.
- Integrate health risk assessments and other individual activities with the overall program.
- Understand what occupational safety and health (OSH) and other issues are important.
- Involve families.

TRANSIT-SPECIFIC IMPLEMENTATION

The implementation structure is adapted to suit the mobile workforce, multiple base locations, and varied schedules including evening, night, early morning, and split shifts.

- Identify convenient access times.
- Plan activities, events, and classes to accommodate schedules, including events for early and late shifts.
- Provide information and training on paid time.
- Identify resources that are shift-specific and even along routes, to encourage wider participation.

- Create operator-friendly points of contact for training, activities, and reporting.
- Protect workers' health information.

EFFECTIVE COMMUNICATIONS

Set up a strategic, comprehensive, and integrated communications plan with multiple communications pieces and delivery channels that are tailored to the transit population.

- Keep the whole organization informed.
- Assess the impact of the communication modes you use.
- Recognize the value and limitations of electronic communications.
- Provide online education and reporting systems that are accessible outside of work.
- Facilitate safe and confidential use of computer stations.
- Engage recipients with written materials.
- Keep leadership informed about program progress and impact.
- Establish two-way communication.

CHAPTER MAP *(continued)*

TRAINING SUPPORTS THE PROGRAM

Training is designed to promote the program goals, not just deliver information, and is integrated into other agency training.

- Plan initial training to cover the program orientation, access, and concepts as the WHPP program is rolled out.
- Develop and carry out topical training events relevant to operators and supported by other program activities.
- Schedule training at times and places accessible to operators.
- Make refresher training available to maintain involvement and address questions.

EQUITABLE INCENTIVES

The organization utilizes equitable, nondiscriminatory incentives that encourage active involvement and a healthy workplace culture.

- Aim incentives at desirable and feasible targets.
- Reward positive steps rather than punishing current health status or health problems.
- Analyze the incentives for the effect of schedule, family demands, and other potential inequities, and take work challenges for bus operators into account.
- Negotiate incentives for group premium cost reductions and other insurance-related incentives.
- Award ideas for best practice not just individual progress.
- Consider alternative reward structures.

Implementing and integrating an effective transit workplace health protection and promotion (WHPP) program uses assessments of organization needs and resources, the environmental conditions, and employee health and safety needs to plan program activities including:

- a variety of approaches,
- targeted activities based on the population's health needs,
- schedules that allow for maximum participation, and
- transit-specific activities designed to encourage operator participation.

You will also need to make use of or develop an effective communication system to disseminate information to the workforce efficiently and make sure that both WHPP training and other organization training support the program. Many programs include an incentive structure, which should be practical and equitable.

CASE STUDY

Orange County Transportation Authority (OCTA): Organizational Support

OCTA aims for transit-specific implementation of its WHPP program by addressing physical activity and health education along with work conditions:

- **Scheduling:** recovery time built into the schedules.
- **Safety Policies:** Workstation evaluation to determine the demands of and best methods for loading and unloading wheelchairs, promote stretching, and including micro breaks during shifts.
- **Vendor Selection/Bus Procurement:** Evaluate bus equipment to determine the strain/stresses placed on the body in order to prevent back injuries and reduce workers compensation claims.

OCTA has also worked well with their vendors. They negotiate with the vending machine supplier to maintain a percentage of healthy beverages, snacks, and foods in their machines and they work with the health care provider to track aggregate employee health status and to target behaviors that affect health. The program offers a point-based incentive system to encourage healthy behavior, learning, and fitness activity via a web-based portal. Employees record daily physical activity and education to win health-related prizes such as hand weights or sports clothes. There are four fitness centers, three with part-time exercise specialists who also provide health indicator measurements, coaching, and consultation. Other activities include quarterly health workshops for operators and health awareness/behavior change programs such as weight challenges, including a holiday “Maintain Don’t Gain” program. OCTA negotiates health club membership fee reductions and other health benefits. Some employees participate in competitive races outside the agency. The OCTA wellness program and Health, Safety & Environmental Compliance program plan to continue to contribute to the development of a transit-specific culture of health at OCTA that can bring workers together.

BEST PRACTICE

The WHPP program offers varied activities and resources.

An Inclusive Range

A successful program provides a wide enough variety of activities to interest the range of people in the organization, with differing health needs and varied ability and interests. Intervention strategies should allow employees in all shifts and schedules to participate. According to a Canadian assessment of WHPP programs, larger organizations were more successful in promoting health probably because they were able to support a wider variety of interventions and services [The Health Communication Unit (THCU), 2004].

F-17 survey participants made it very clear that how content and services are delivered can have a big effect on how well they are received, and on their impact. For example, exercise trainers and champions often are healthier and more fit than the people they want to recruit. While this can be an inspiration, people can also feel that the bar is set too high, or that the trainer cannot understand the barriers they face. In F-17 interviews it was not uncommon for WHPP exercise champions to focus on the willpower of the operators who did not participate. Research has found that the organizational focus on a specialized or elite activity can leave some people worse off than before, even though participants do better (Vaag, 2013). For many people, a less competitive model of fitness enhancement makes them feel more welcome. Especially for shift-challenged and stressed bus operators, activities, advice, and services conflict with the need to go home, to relax, to be with the family. Activities have to be appealing as well as challenging.

Designing a program that suits the organization's unique needs and resources can mean:

- Developing culturally relevant menus and understanding variations in how people buy, cook, and enjoy food to support healthy food choice.
- Taking advantage of seasonal changes and regional health culture differences.
- Subsidizing family access to gyms to reduce the competing claims of fitness and family life.

Set up activities to engage the range of needs and interests of the workforce: Offer different levels of exercise classes, competitions and incentive programs, discussion groups, informational classes, and a variety of other activities to appeal to the participating population. Solicit employee input through surveys, during meetings, and by other methods to ensure that you are addressing their needs.

Include workplace inspections that look at occupational health and safety as well as the health-promoting environment. Figure 4.1 lays out many of the activities reported by US and Canadian transit agencies in the F-17 study, and by other key informants.

Organize team and individual challenges: Worksite competitions that provide incentives for individuals are very popular. However, they may tend to recruit people who are already most likely to succeed. This could leave an important part of the workforce behind. It makes sense to plan team challenges that promote cooperation, as well as individual challenges that are easier for the solo bus operator to achieve.

Provide access to exercise facilities and coaches: Exercise rooms and coaches were among the most popular of the interventions reported in transit work locations. If the budget and space allow, invest in an onsite fitness facility that provides a fitness coach or trainer to help individuals obtain their fitness goals. Employees can engage in fitness activities during their lunch break or around their work schedule without having to travel to a separate location. It also gives them the benefit of a personal trainer without a direct cost. While the more fit tend to take greater advantage of the resources, the site, trainer, and related classes can be leveraged to involve those less likely to exercise. In addition to onsite exercise facilities, arrange access at a local gym for employees and their families. If the agency cannot cover the cost of the entire membership, at a minimum negotiate a discounted rate. Family discounts should make exercising more attractive.

Integrate health risk assessments and other individual activities with the overall program: Health risk assessments (HRAs), which help people identify their own level of risks and health care needs, can encourage participation into the program activities, and they can tell you what resources may be needed. Confidential HRAs followed by health counseling have been shown to improve health outcomes. Screening and testing are not considered effective as stand-alone activities. F-17 respondents typically said that HRA participation was much greater in management and office staff than in operations. Transit workers and their representatives mistrusted HRAs that were required for receiving full health benefits, and wondered if screening results could be used against employees. Management's motivation was sometimes questioned in agencies where HRAs were not clearly introduced and negotiated as a fair and sensible way to improve care and reduce costs. Confidentiality and voluntary participation are keys to success. In addition, screenings may not find all the serious cases of illness—for example, blood pressure

One agency held a walking at work program for teams to compete in a walking challenge. The 300 participants all received a T-shirt to promote involvement and group morale.

PROGRAMS THAT SUIT THE ORGANIZATION

At one large agency, depot ambassadors are encouraged to organize activities that match the location's interest AND their own skills. An ambassador who was a certified popular exercise instructor ran successful classes. Another with business and cooking skills prepared meals for sale and used the proceeds to purchase exercise videos and other equipment for the depot.

A small agency set up a financial wellness library, mandatory trainings from a retirement plan specialist, one-on-one consultations with a financial planner, and mandatory training on personal finance management. They based the project on a financial wellness assessment (like an HRA) and saw a decrease in workers taking loans against pensions and an increase in saving plans.

In one medium-sized agency in an urban area, a fitness consultant held weekly workshops with operators, mechanics, and administrative employees, on topics such as diabetes, back pain, or weight management.

FIGURE 4.1 F-17 INDUSTRY PRACTICES

Health target	Activity
Disease management and prevention	<ul style="list-style-type: none"> • “Ask A Nurse”: blood pressure checks, stroke risk assessment, and health questions. • “Tri-Fit Summer Tour” (mobile biometric testing and incentives) • Mobile physician’s hours • Paid time for cancer screening
Ergonomics/MSDs	<ul style="list-style-type: none"> • Annual required training: body mechanics, stretching/exercise, and healthy behaviors • Evaluation of bus equipment • Evaluations to determine body mechanics for loading and unloading wheelchairs • Onsite pain management vendor treatment • Chair massages • Onsite acupuncturist • Chiropractor training • Counseling from kinesiology intern
Fatigue and sleep	<ul style="list-style-type: none"> • Operator hours of service scheduled to allow 10 hours between each shift and not more than 16 hours on staff or 14 hours on the road. • Training on circadian rhythms and sleep disruption. • Covering costs of sleep studies and paid time for diagnostic visits • Traveling Fatigue Awareness program • Quiet rooms for rest
Financial health	<ul style="list-style-type: none"> • Financial health evening classes for employees and spouses • One-on-one consultations with financial planner • Financial wellness library • Financial wellness vendors (banks)
Fitness/exercise	<ul style="list-style-type: none"> • Fitness training at no charge to employee • Bike loan program • Group participation in diabetes “Bike for the Cure” • Classes: stretching, core strengthening, boot camp activities, aerobics, popular exercise program, yoga • Onsite fitness facility at locations • Subsidized access to fitness facilities • Health Fitness Specialist or personal trainer in fitness center • Intramural sport activities • Physical therapist training on ergonomics • Stretching and micro breaks during shift
Health and wellness	<ul style="list-style-type: none"> • Bathroom access policy • Contracts with businesses to allow operators to use their restrooms • Coaching sessions with wellness provider • Education on healthy lifestyle in light of shift work • Health fairs • Online health education and quizzes
Infectious disease control	<ul style="list-style-type: none"> • Flu shots • Hepatitis B vaccine • Provide alcohol-based hand rubs and virocidal wipes

Health target	Activity
Medical self-care and medication management	<ul style="list-style-type: none"> • Blood donation & typing • Health coach • Holistic wellness vendors • Registered nurse on site • Wellness consultant lunch and learns • Wellness mobile: biometric screening, health risk assessments, and telephone follow-up
Mental health	<ul style="list-style-type: none"> • Counseling service for employees and family members • Onsite EAP training • Peer support for mental health following accidents or assaults
Nutrition	<ul style="list-style-type: none"> • 30 days nutrition training • Fresh fruit and vegetable market • Organic food display at health fairs • Healthy cafeteria and vending machine programs • Onsite nutritionist for consults and advice • Subsidized access to healthier food • Healthy cooking demonstrations • Healthy menu coupon program
Responsible alcohol use	<ul style="list-style-type: none"> • Drunk and buzzed driving campaigns • No-alcohol policy at agency events
Safety	<ul style="list-style-type: none"> • Reduce distracted driving campaign • Monthly injury prevention and disease management presentations • Onsite CPR Training • Walk-around representatives identify and help resolve safety and health hazards • Recovery time built into the schedules • Slip and fall campaign • Safety training enhanced to emphasize health and wellness, and shift work • Fatigue
Smoking/tobacco product cessation	<ul style="list-style-type: none"> • No smoking policy • Tobacco cessation class for employees and family
Stress management	<ul style="list-style-type: none"> • Incentive contests for stress management • Stress management seminars • Stress screening from insurance provider
Threat assessment and management/violence prevention	<ul style="list-style-type: none"> • Safety rules on bus operator/customer interactions to enhance operator safety • Fare policies to eliminate conflicts • Workplace Violence Policy • Comprehensive workplace assault program • Training on operator-customer conflict minimization • Bus cab barriers
Weight management	<ul style="list-style-type: none"> • Weight loss challenges • Weight loss programs (onsite, offsite, and online)

ACCESS TO FITNESS

One agency has two onsite 24 hour fitness centers with free personal training and health assessments

Another has a trainer available at the fitness center during lunch hours four days a week, providing individual assessment and training plans along with nutritional advice. The trainer provides help to employees to achieve a safe blood pressure before participating in demanding activities.

A small southern agency pays for employees to go to a gym facility and to have a one-time consultation with a nutritionist to set up a healthy diet and exercise plan.

can be lower in the doctor’s office or at lunch, and higher when driving. Some researchers recommend blood pressure measurement over the work day to find this “masked hypertension.” (Landsbergis, 2013)

Understand what occupational safety and health (OSH) and other issues are important: Wellness initiatives can conflict with or overlap other conditions of work that may be covered by the bargaining agreement. To be successful, the WHPP program must address the complex set of issues related to health concerns. This is discussed in detail in Chapter 3, Setting Targets. At a minimum, the organization should document a procedure for addressing overlapping issues in the OSH and WHPP programs. If there is no WHPP committee, include health issues in OSH meetings and discussions. Ensure that whether issues are addressed in the OSH or WHPP committee (or both), resolutions are communicated to workers and management.

Involve families: Family involvement is important, but only one-third of transit agencies surveyed open some program activities to families. Lack of family participation can have a direct impact on health plan costs. One large agency was informed by its service provider that although the WHPP program has had a measurable impact on worker health, family health costs—and especially childhood obesity—continue to rise, making the family a critical unit in health promotion and cost containment. Family involvement also recruits the partner and other household members to support the worker in health initiatives. It can encourage participation by not separating the worker from the family in leisure time.

“Our program includes family member and community participation. We recognize that health issues often begin or are exacerbated at home.”

Agency WHPP program manager

Figure 4.2 lists how F-17 survey participants involved family members in their WHPP programs. Some were limited to health plan activities, a few of those were required or incentivized. Other programs made health resources available, and a few planned special activities to bring families together.

FIGURE 4.2 INVOLVING FAMILY MEMBERS: TRANSIT EXAMPLES

UTU-LACMTA's wellness program has initiated a pilot six-week family exercise plan. Employees who commit to exercising weekly receive a basket full of exercise aids and encouragements, paid for by the group health vendor: basketballs and soccer balls, fitness bands, MP3 speakers to allow the family to exercise to the same music, a jump rope that counts calories, a paddle ball that doubles as a chess and backgammon board, sticky mitts and cloth balls to let the little ones join in. The employee reports how many family members participate, how long they exercise, what activities they do, and estimates the calories burned. The plan is to add access to health clubs and other facilities as the program is rolled out.

ACTIVITIES AND RESOURCES OPEN TO ALL FAMILY MEMBERS

Smoking cessation classes.

Access to EAP including psychologists, social workers, legal advice, and financial advisors.

Recreation programs.

Health and wellness communication material and resources.

Weight loss programs.

Invited to participate in all wellness activities. e.g., sports activities, health fair, classes, EAP, etc.

Health risk assessments, work with a health coach, and access online education.

Eligibility for wellness benefits such as gym membership and training programs.

Participation in events.

Invited to wellness week in the fall with vendors at work.

Family leisure passes, fun runs.

OTHER EXAMPLES

Premium savings incentive for family participation in the wellness program.

Spouses participate in all wellness activities and use onsite fit factories.

Spouse/domestic partner covered by insurance is required to complete annual assessment.

Transit-Specific Implementation

Running an effective WHPP program for bus operators is especially difficult because they are a mobile workforce and their schedules are out of phase with other employees. Typically operators work alone, on varied schedules, from various locations, with severe time constraints. This can make it difficult to schedule classes and activities, or to engage their collaboration in program development and implementation. You will need to address this barrier in the planning stage of the WHPP program, and continue to assess it over time.

Identify convenient access times: When are operators available? They may be more likely to participate in activities offered during work. Swing periods can provide access and some people are happy to use this time

BEST PRACTICE

The implementation structure is adapted to suit the mobile workforce, multiple base locations, and varied schedules including evening, night, early morning, and split shifts.

A popular weight loss program geared toward the work environment was strongly supported in many transit workplaces. But they all reported that participation was typically limited to office staff and downtown locations. Bus operators found it difficult to reap the benefits of the scheduled meetings, and missed the support from coworkers at mealtimes that makes these programs effective.

for exercise and other wellness activities. And although lunch and learns are a good way to provide training, operator lunch starts and end times vary based on run schedules and traffic. In addition, exercise classes at lunch can interfere with nutrition and needed relaxation. Be aware of schedule barriers that might hinder participation and involve the WHPP planning team, trainers, supervisors, schedulers, and others to help resolve the conflicts. Attractions such as food or health fairs with prizes and samples are a good way to build participation, especially if they are scheduled when people gather with some time to spare, such as route picks.

Plan activities, events, and classes to accommodate schedules, including events for early and late shifts: Provide classes at times people can participate. This may include having a class each shift, staggering lunch and learns to span the range of lunch times, and holding events at the work locations rather than a central or downtown facility. Successful programs have arranged for vaccinations, doctor visits, and dental care in mobile vans, so transit workers can access these services around their trip schedules.

Provide information and training on paid time: Required safety and skills training is usually provided on paid time, but wellness activities may be pushed off to free slots, lunch, or after work. Paid time for health and wellness activities shows the level of commitment of the organization.

Identify resources that are shift-specific and even along routes, to encourage wider participation: WHPP resources and activities require adjustment to the physical environment. You can encourage physical activity around the depot by finding places where exercise is safe and inviting, either outside or at facilities that operators can get to easily. Access to healthy food, restrooms, and places to stretch may involve negotiation with local companies along the route. Exercise professionals can develop location-specific exercise routines, including how to stretch or exercise on the road. Your location may have seasonal opportunities or regional restrictions like weather. You can ask local exercise and health promotion groups about who in your area could help you plan safe and healthy location exercises.

Create operator-friendly points of contact for training, activities, and reporting: Make your program accessible to the workforce. Do operators have time to check in on computers at the work locations? Do they have access at home? Some are more

comfortable with hard copy information and reporting, others prefer electronic means. Despite the advantages, technology can be a barrier to effective program implementation. For example, not all transit employees have easy access to computers or use them regularly. At several agencies in the F-17 study, management reported that all workers were accessible by email, while the union representatives felt that many members did not get email. Important information may need to be communicated on paper and orally as well as electronically.

Protect workers' health information: Confidentiality was a major concern of workers and their unions in the F-17 survey. This is partly because the commercial driver's license procedure means that an operator's job depends on maintaining a high level of health and compliance compared to workers in other industries. Posting, explaining, and observing confidentiality regulations can help. Confidentiality can be improved in the design of health and wellness activities by using offsite testing for HRAs, and providing private areas for consulting with health coaches or nurses.

Effective Communications

A comprehensive communication plan is vital to the success of the WHPP program. This plan ensures that program and activity information is disseminated to all levels within the organization clearly and efficiently. An effective communication plan will increase transit workers' knowledge and awareness of health protection and promotion issues, prompt individual action to improve health, show the benefits of the program, increase support for the program, strengthen organizational relationships, provide feedback to the WHPP program team, and increase employee participation.

Keep the whole organization informed: Publicize WHPP program activities, events, and opportunities. This could include memos, newsletters, email, bulletin boards (digital or stationary), mailings, brochures, or word of mouth, depending on the stakeholder. Sharing this beyond your target participants can enhance support and respect for the program.

Assess the impact of communication modes you use: Check that your communication methods are reaching throughout the organization. The nature of operator work means that some methods of communication—email blasts, for example—may not reach them all. Identify gaps and make sure there are alternative methods, such as paycheck inserts and Union newsletters and bulletin boards.

THE HEALTH ENVIRONMENT EXTENDS ALONG THE ROUTE

An agency contracts with businesses along bus routes to allow operators to use the restrooms along the route.

Operators are taught to use exercise bands with a set of exercises that can be done on the road, as well as pretrip stretches.

One employer reports building recovery time into the schedules and promotes a stretching series suited to bus operators and micro breaks during shifts.

A health promotion consultant in New York City evaluated local parks for exercise potential, developed a DVD, and leads weekly walking and exercise groups. Although this was a city-wide project, similar professionals could be contracted by the transit agency for their specific needs.

BEST PRACTICE

Set up a strategic, comprehensive, and integrated communications plan with multiple communications pieces and delivery channels that are tailored to the transit population.

EXAMPLES OF ELECTRONIC OUTREACH

One agency runs its point-based incentive program to encourage healthy behavior, learning, and fitness activity via a web-based portal.

In an online wellness program tracker, each participant provides data about five broad categories: physical fitness, weight management, stress management, tobacco cessation, and related wellness areas.

One agency made it part of their five-year strategic plan to report employee environment key performance indices to the board labor committee quarterly, including measures of employee turnover, grievance rates, absenteeism, and employee injury rates. Reports on the progress and impact of the worksite wellness program including the estimated ROI are reviewed by the Director of Finance on an annual basis.

Recognize the value and limitations of electronic

communications: Find out if communications can be understood by all different cultures, ethnicities, and languages within the organization. You might want to do outreach through social networking sites such as Twitter and Facebook, although care must be taken to ensure confidentiality in these public channels. Communication should make it clear how employees can receive additional information or help. Don't neglect to update the electronic sources, as these may become tired or even incorrect.

Provide online education and reporting systems that are

accessible out of work: Transit operators cannot always get to a computer during work time. Any online systems should be available for access 24/7, and from home. Employees may not be comfortable providing personal information at work. Enlist the help of the IT department to update and keep the online system current and secure.

Facilitate safe and confidential use of computer stations:

If the organization can provide access at work, make sure that privacy is respected. To take advantage of downtime for health purposes, some agencies have computer cubicles or banks. These can also allow access to personnel information and benefits interfaces. Privacy and confidence in the interface are especially important when health information is entered at the workplace.

Engage recipients with written materials:

Don't underestimate the value of written communication, even in today's technological climate. Design written information at the right reading level and make it interesting. Make sure information is also distributed in the languages the workforce speaks at home.

Keep leadership informed about program progress and impact:

To develop and maintain support, provide leadership with reports on program activities that are being implemented, upcoming activities, participation numbers, and budget use and needs. Make your case for success, barriers, or needed resources. Include stories and details of positive impact on health and operations to demonstrate the value that the program is bringing to the organization.

Establish two-way communication:

Design a way for employees to provide their input and suggestions about the WHPP program (suggestion boxes, comment forms, pre- and post-satisfaction surveys, etc.). Ensure that employees' suggestions are acknowledged and responded to, and give appropriate feedback.

Training Supports the Program

Education and training underpin most WHPP activity and are key to program success. In addition to health information workshops, WHPP should be integrated into the organization's other training practices, such as new hire orientation, safety classes, and benefits open enrollment periods. Training should be updated when the WHPP program changes. Additional training should be designed and provided to staff and committee members who are supporting and implementing the program.

Plan initial training to cover the program orientation, access, and concepts as the WHPP program is rolled out: Address the goals and objectives of the program in agency training and meetings. People in all levels of the organization should be aware of the program goals, program activities, and how to participate. Those responsible for facilitating participation or tracking incentives, such as supervisors or union representatives, should be trained about their roles, and updated on changes to the program activities and program structure so that they can provide accurate information and best support the program.

Develop and carry out topical training events relevant to operators and supported by other program activities:

Workshops, lunchtime events, and after-hours training are among the most common WHPP activities. This training will be most effective if it answers existing questions and needs. Although generic wellness training modules are widely available and convenient, they should form only part of your health content training. And even generic training can be improved if it is adapted for the workforce's interest and needs. For example, a discussion about sun block and skin cancer could also cover the need for some transit workers to get additional vitamin D because they spend so little time in the sun.

Schedule training at times and places accessible to operators:

Create training schedules that will allow maximum attendance. Schedule them when people have time and are gathering naturally, for example, during schedule picks or safety stand-down meetings. This may mean scheduling multiple training sessions around work shifts and schedules. Plan training frequently enough to maintain the program but not to become burdensome.

Make refresher training available to maintain involvement and address questions: Survey participants after events to gauge satisfaction with program activities, content, and relevance and use this feedback to refresh the program activities as needed.

BEST PRACTICE

Training is designed to promote the program goals, not just deliver information, and is integrated into other agency training.

AGENCY TRAINING CONNECTS WORK AND HEALTH

One agency enhanced the safety training curriculum to emphasize health and wellness elements particularly related to shift work, work fatigue, and operator-customer conflict minimization.

A midwestern agency trains new operators on the policy for using the restroom along the routes when necessary, the locations of restrooms that can be used, and updates all operators when the locations change.

BEST PRACTICE

The organization utilizes equitable, nondiscriminatory incentives that encourage active involvement and a healthy workplace culture.

Equitable Incentives

Incentives for health promotion activity, reported by 70% of transit workplaces respondents, include cash prizes, health-related merchandise, health club memberships, reduction in health insurance premiums or copays, and recognition or time off. Figure 4.3 shows that among the F-17 survey responders, individual prizes were most common, and that very few agencies awarded time-off incentives or, surprisingly, reduced insurance premiums. HRA and counseling incentives seem to work differently with different groups of people—in research studies, men seem to respond better to cash incentives and women to non-cash rewards, for example (Terry et al., 2013). So it is important to look at who wants to participate, why they might not, and whether financial incentives, recognition, or other non-cash benefits suit the workforce.

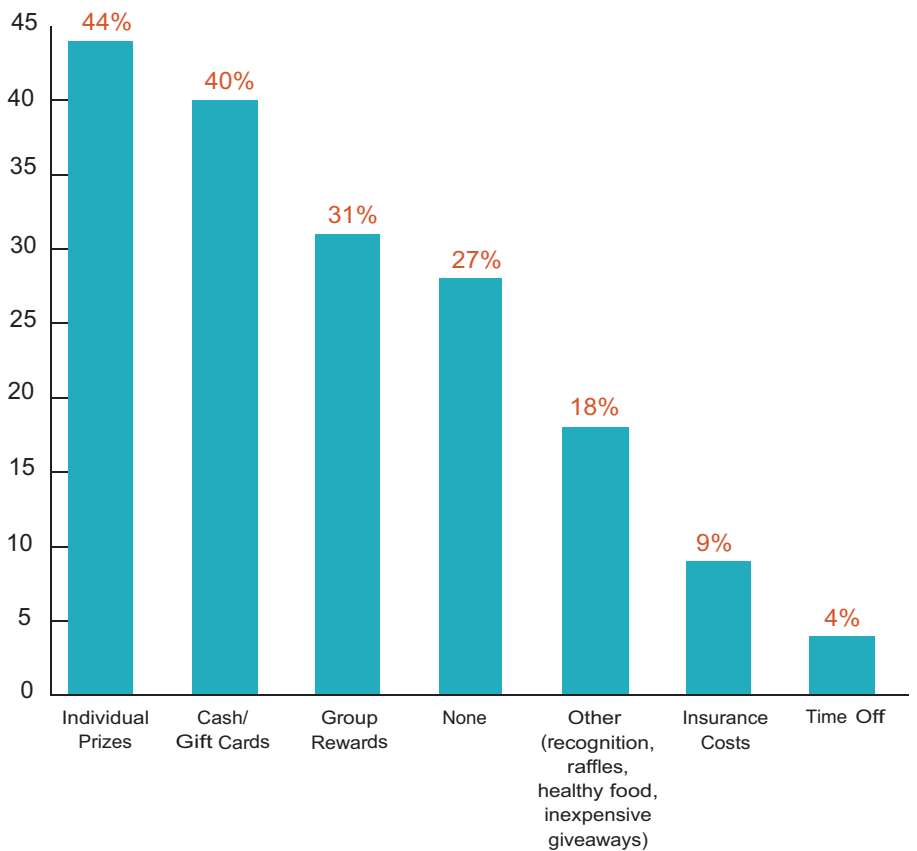


FIGURE 4.3 INCENTIVE USE REPORTED BY F-17 SURVEY RESPONDENTS WITH WHPP PROGRAMS

The near-term goal is to increase participation in an effective program. An incentive structure that looks punitive or unfair can limit participation. Under the Affordable Care Act, regulations support participatory programs that are available without regard to an individual's health status (Health and Human Services, 2013). Programs that reward specified levels of achievement must be reasonably designed, be uniformly available to all similarly situated individuals, and accommodate recommendations made at any time by an individual's physician based on medical appropriateness. The Occupational Safety and Health Administration (OSHA) discourages health and safety incentive systems that reward low injury or illness rates because these may effectively punish workers who report problems. Incentive programs that offer rewards for active participation in the safety and health system, for example by identifying hazards or participating in injury or near-miss investigations, produce more robust and proactive safety programs, and comply with record-keeping rules (OSHA Memorandum, 2012). One approach is to reward participation, not health status or other factors relating to health conditions. Another is to provide positive support for activities that are already required, such as commercial driver's license qualification.

Aim incentives at desirable and feasible targets: Although the program may have a range of targets, the incentive structure should focus on a reasonable subset that can achieve individual and population health goals. Match those targets with appropriate incentives, relevant to the workforce, to support your program initiatives. Engage employees in discussions and suggestions about appropriate targets, activities, and incentives for the program. Direct reward systems (cash for achieving a health goal, participation points for prizes) probably work best when they let the participant select the activities they find appealing or important.

Reward positive steps rather than punishing the current health status or health problems: Avoid making the program mandatory or creating an incentive structure that penalizes less than satisfactory participation. This can decrease participation and create resistance. Positive reinforcement sustains behavior, encouraging people to continue doing the right thing on their own. With negative reinforcement people may only do the behavior when it is absolutely necessary to avoid reprimand. For example, at one F-17 survey agency, the out-of-pocket health care expense was lowered if plan members completed an individual action plan and tracked their progress online. Because family members were also required to participate for the premium reduction, and because they did not trust how the data could be used against them, most operators remained in the lowest tier of the benefit

A wellness program uses an online wellness tracker to enroll in the health and wellness program and to track its wellness incentive points. Points are earned for bundles of activities specified throughout the year, including scheduled workshops. Operations employees (police, maintenance, operators) found it hard to get to workshops, which were typically held at lunchtime. To accommodate their complex schedules, operators and others could substitute online information and quizzes that covered the same material.

At one agency, the vendor agreed to lower the insurance premium when employee participation goals are achieved for activities such as gym membership, aerobics classes, cardio workout, nutritionist visits, and smoking cessation support groups. As a result, the health premium for all employees has been reduced by 2% for the upcoming year.

Weight Loss Uniform-Set Replacement language in one union contract provides employees who have lost a minimum of 40 pounds with a complete new uniform set.

range, paying the highest premiums possible, and workers and their representatives see the WHPP program as punitive.

Analyze the incentives for the effect of schedule, family demands, and other potential inequities, and take work challenges for bus operators into account: Test the potential incentives to see if they are appropriate. Ask operators if the incentive program would help them succeed in the program. Consider and accommodate concerns such as work schedules, confidentiality, and access to computers at work and home.

Negotiate incentives for group premium cost reductions and other insurance-related incentives: Health care providers or insurance plans are interested in reducing their costs, and can be persuaded to lower individual contributions or the overall cost of the benefit plan. Some will adjust costs based on an experience rating, others will want to encourage HRA or participation for those with existing conditions. It is important, as discussed earlier, to review this with labor representatives to determine the best option for the working environment. The parties need to work together to define the size of the discount, the required activity to qualify, the process for qualifying, and other accommodations to be established.

Award ideas for best practice not just individual progress: Don't limit incentives to individual activities. Develop team challenge incentives. Support and reward people who develop new activities or otherwise enhance the program. Some agencies extend their vision to community wellness, and encourage group social service activities.

Consider alternative reward structures: Don't limit incentives to financial rewards. Be creative and develop incentives that will work for all levels of the organization and for all different work schedules. Get the attention of those who are most at risk. Develop incentives that will reward and encourage participation from family members as well as employees.

Summary

Implementation and intervention strategies for the WHPP program should involve all levels of the organization and reach across multiple realms: the overall physical environment, the organizational environment, and the individual level. Employees will profit from opportunities to participate in workplace health initiatives as well as health-related programs outside of the organization. Health benefits will also result

from policies to promote occupational safety and health and other factors that protect and enhance employee health. The strategies must include appropriate training and an effective communication plan to share information among all levels of the organization. Successful implementation of the program should lead to a positive return on investment for the WHPP program.



Effective components

Task Force on Community Preventive Services: Worksite Health Promotions Task Force Recommendations & Findings summarizes the research findings. www.thecommunityguide.org/worksite/index.html

The FMCSA reviews evidence for how health affects driving safety:

Reports—How Medical Conditions Impact Driving: www.fmcsa.dot.gov/rules-regulations/topics/mep/mep-reports.htm

Use a variety of approaches

Lamontagne, F (2002) Case Study: City of Regina's Transfit Program. This is a case study detailing the health initiatives implemented in the Regina Transit health and wellness program. www.clbc.ca/files/CaseStudies/transfit.pdf

ODSAlaska. Article on 101 Low Cost Ideas for Worksite Wellness. www.deltadentalak.com/docs/wellness/low_cost_activites.pdf

+3 Network. This is a free website that logs healthy activities for personal rewards, allows employees to enter personal competitions and send money to charitable organizations. <https://www.plus3network.com/>

White, M. (2010) Workplace Wellness Challenges—Fun, Effective, and Free! *Corporate Wellness Magazine*. This is an article that lists some workplace wellness challenge activities that employees can participate in at your organization. www.corporatewellnessmagazine.com/article/workplace-wellness-challenges.html

Effective communications

SWELL: WelCOA website for connecting with others involved in workplace health protection and promotion (membership required). SWELL.WELCOA.org

Communication plans. www.cdc.gov/workplacehealthpromotion/planning/communications.html

Equitable incentives

Department of Labor (2013). 29 CFR Part 2590 Final Rule: Incentives for Nondiscriminatory Wellness Programs in Group Health Plan, www.ofr.gov/OFRUupload/OFRDa-ta/2013-12916_PI.pdf

The Wellness Council of America. Designing Wellness Incentives. Part 1. *Absolute Advantage: The Workplace Wellness Magazine*. (2005). www.welcoa.org/freeresources/index.php?category=8

Wellness Council of America. Designing Wellness Incentives. Part 2. *Absolute Advantage: The Workplace Wellness Magazine*. (2005). www.welcoa.org/freeresources/index.php?category=8

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McLellan, D., E. Harden, et al. (2012). *SafeWell Practice Guidelines: An Integrated Approach to Worker Health*, Version 2. Boston, Harvard School of Public Health Center for Work, Health and Wellbeing.

OSHA Memorandum. (2012). "Employer Safety Incentive and Disincentive Policies and Practices." Retrieved May 28, 2013, from <https://www.osha.gov/as/opa/whistleblowermemo.html>

Terry, P. E., J. Grossmeier, et al. (2013). "Analyzing best practices in employee health management: how age, sex, and program components relate to employee engagement and health outcomes." *J Occup Environ Med* 55(4): 378-392.

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Chapter

5

Evaluating: Return on Investment and Ongoing Improvement

CHAPTER MAP

EVALUATION FRAMEWORK

The organization establishes a comprehensive workplace health protection and promotion program evaluation plan.

- Collecting baseline measures.
- Involve stakeholders in evaluation.

INTEGRATED DATA MANAGEMENT

Data collection, management, and analysis are coordinated throughout the organization.

- Aim for a single data system or one that allows different data sources to be linked.
- Define available data and how it can be grouped.
- Use data warehousing to coordinate existing databases throughout the organization with common measures.
- Review data, problems, and solutions across departments.
- Promote vendor data integration.

PROCESS MEASURES

The organization tracks costs, participation, goals met, and barriers and then uses data to improve the program.

- Record quantitative and descriptive data.
- Use process evaluation to make time-sensitive adjustments.

IMPACT AND OUTCOME MEASURES

The program documents changes in impact measures and outcome measures.

- Include both short-term and long-term measures.
- Document changes in impact measures such as knowledge, attitudes, behaviors, or skills in a target population.
- Document changes in outcome measures, such as health status, employee morale, work environment, health care costs, absenteeism, presenteeism, injuries, and disability.

CHAPTER MAP *(continued)*

COST-BENEFIT AND RETURN ON INVESTMENT

Cost savings are quantified to show how the program supports the bottom line.

- Collect program financial data continuously.
- Quantify the economic benefits from improvements in outcome measures.
- Be realistic and simple.
- Recognize the potentially extended time period for achieving a positive ROI.
- Estimate the effect of the WHPP program.

DATA-DRIVEN ONGOING IMPROVEMENT

The organization communicates the impact of the program.

- Package your evaluation data.
- Communicate progress and success.
- Present aggregated evaluation results to all levels of management and employees.

Transit agencies need to carefully assess their WHPP interventions to determine their impact and value. Evaluation tells you what works and what doesn't, suggests what you should change, and gives you evidence to share with stakeholders. Many of the WHPP program managers and coordinators responding to the F-17 survey reported problems with systematic tracking of program progress, impact, and outcomes. They often lack access to important information and easy-to-use and reliable tools to analyze their programs' costs and benefits. Union leaders had even less access to information.

Ideally, evaluation plans should be developed as part of the initial program planning process and integrated with routine program operations. Evaluation, return on investment (ROI), and ongoing improvement activities are designed to track program delivery and participation, analyze program impact and results, and determine whether goals and objectives are being met. Evaluation identifies what has been successful and what may need improvement, and provides critical information for future decision making.

How much the agency invests in WHPP programs can depend on the perceived value. Value is supported by measures of program quality (was it carried out well?), cost-effectiveness (did the benefits exceed the costs, and by how much?), and impact (did the program accom-

CASE STUDY

Capital Metropolitan Transportation Authority: An Example of Program Evaluation and Return on Investment

In the early 2000s, Capital Metropolitan Transportation Authority (Capital Metro) was confronted with record high health care costs, especially among operators, and greatly increased absenteeism. In 2003, Capital Metro partnered with the Austin/Travis County Health and Human Services Department to initiate a comprehensive health and wellness plan for the transit employees to promote healthier lifestyles, increase employee morale, and contain rising health care costs and absenteeism rates.

During 2012, approximately 250 out of the 668 Capital Metro bus operators actively participated in the program. Initiatives of the program included:

- Opening and operating two onsite 24-hour fitness centers with free personal training and health assessments, and nominal membership fees.
- Cash incentives of up to \$250 annually for achieving quantifiable health milestones, such as blood pressure reduction, weight loss, smoking cessation, and others.
- Improved access to healthy food in the employee café and coupons for purchases of healthy food options.
- Education and outreach events, such as cooking demonstrations, wellness fairs, onsite Weight Watchers meetings, and smoking cessation programs.

Capital Metro is among one of the few transit agencies that reported conducting a comprehensive ongoing cost-benefit analysis of the worksite wellness programs. A study published in 2009 found that Capital Metro's employee health care costs were reduced dramatically as a result of this program. Capital Metro's health care costs continued to increase each year between 2003 and 2006, but at smaller rates each succeeding year. The increases were below the national average. In 2007, when participation in the WHPP program grew dramatically, Capital Metro saw a four percent decrease in total health care costs. Similarly, rates of absenteeism among bus drivers remained stable at approximately 10 percent from 2001 through 2005. The rate declined to 8.2 percent in 2006 and 7.6 percent in 2007, for a savings of \$450,000. These savings represent a return on investment of \$2.43 for each dollar invested in the program. Agency documents show that the return on investment reached \$3.95 and \$2.88 in 2009 and 2010.

plish something important?). These dimensions interact: A program could be well executed and have an impact but be judged as not worth the cost, perhaps because the impact area was not very important to key decision makers.

While planning and executing WHPP program evaluation, it is important to assess both what you did (process) and what the impact was (outcome). Useful assessment looks at short-term and long-term measures. Executives or the Board may be most interested in counting the costs and financial benefits of WHPP activities, and calculating or estimating the ROI. Others, including program managers, union leaders, and participants, may want to know how things went, how the program changed the work environment, and other more qualitative results. This chapter looks at simple tools to help the WHPP program team identify effective program approaches. WHPP program impact, along with costs and benefits, can be assessed over time to calculate annual and multi-year ROIs.

The Planning, Evaluation, and ROI Template accompanying the Practitioner's Guide provides worksheets for tracking process and outcome measures, including ongoing goals, objectives and activities tracking, health impact, and program cost tracking. It is a set of spreadsheets that guides you through setting measurable program goals. Data you record is used to automatically calculate values to show how well the WHPP program is doing. The spreadsheets produce charts and tables you can transfer to your reports. The Template is available for download along with the Practitioner's Guide.

Figure 5.1 lists examples of indicators of WHPP program success associated with major program goals. These can be measured at the individual level, by job title, within a location or depot, or across the organization. The measures will be explained in further detail later in the chapter.

FIGURE 5.1. SAMPLE PROGRAM GOALS AND MEASURES

Program Goals	Type of Measures	Measures	Detailed Measures
Increase fitness/health	Process	Program Reach	# eligible, # participating, # successful, # maintaining Implementation measures (# courses, meetings, targets hit)
	Impact	Behavioral change	Diet Physical activity
	Outcome	Health measures	Body mass index (BMI) CDL medical disqualifications Health claims
Improve work conditions and environment	Outcome	Health environment	Exercise facilities Food access Health culture—commitment, education Leave policies
	Outcome	Organizational	Schedules Employee involvement Morale Work-family policies: Calling children Dependent care Restroom access
	Outcome	Occupational	Vehicle & passenger safety On-the-job injuries Workers compensation claims Assault policy Locations Housekeeping and walking/working surfaces Chemicals Ergonomics
Improve operations	Outcome	Internal operations	Absenteeism/lost time Productivity/presenteeism Turnover
	Outcome	Service provision	On-time performance Customer satisfaction
Reduce costs	Outcome/ Benefits		Health care premiums and claims costs Absenteeism costs Presenteeism costs Turnover costs Accidents and injury costs Workers' comp costs

BEST PRACTICE

The organization establishes a comprehensive workplace health protection and promotion program evaluation plan.

Evaluation Framework

Program evaluation is a complex, multilevel challenge. The Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) approach can simplify the process (King et al., 2010). RE-AIM provides a framework for consistent reporting of program impact and results, looking at five important dimensions. It was developed to assess health intervention research, and has been used to plan programs and improve success in worksite health promotion and disease prevention programs.

The model defines process evaluation in terms of:

Reach: participation size and range;

Effectiveness: the impact of the intervention on targeted health outcomes, costs, and quality of life;

Adoption: how widely the program elements are delivered;

Implementation: how consistently and skillfully program elements are delivered; and

Maintenance: how behavior change is maintained long term and the program is sustained over time.

A link to instruments for applying the RE-AIM model can be found in the Tools and Resources section at the end of this chapter. There are self-assessment quizzes, calculations for reporting on the reach, adoption and impact of the practice, measures and checklists to help in planning and evaluation, and suggestions for visual displays for communicating evaluation results.

Collecting baseline measures: It is important to measure where you start from to assess what changes have occurred. By designing the evaluation plan before implementation begins, you can establish a starting place and frame of reference for the WHPP program. Baseline measures can be developed from data collected during the initial assessment activities described in Chapter 1.

Baseline measures show where the organization currently is on a given health problem (for example, operators with pre-diabetes), behavior (the percent of employees who use tobacco), knowledge or attitude (the percent of employees who are aware of recommended physical activity guidelines), or condition (the number of bus routes with adequate toilet access). They establish the benchmarks and targets to assess program performance against.

Baseline measures can also be used to describe the current level of program activities and allow measurement of the program's progress over time, such as the number of new physical activity classes offered to employees, the frequency of worksite health and safety inspections, or the establishment of a new health benefit.

Involve stakeholders in evaluation: A comprehensive evaluation initiative involves many actors. Key stakeholders for evaluation of a transit WHPP program are found in three major groups:

- Those involved in WHPP program operations: management, program staff, union representatives, organizational partners, and funders.
- Those served or affected by the program: targeted employees, eligible family members, and other affected community members.
- Those who are intended users of the evaluation findings: people in a position to make decisions about the program, such as senior management, union leaders, partners, funding agencies, or taxpayers.

Stakeholders can help an evaluation before, during, and after the results are collected and reported on. Stakeholders are essential in making sure that the right evaluation questions are identified and that evaluation results will be used to make a difference. Stakeholders are much more likely to support the evaluation and act on the results and recommendations if they are involved in the evaluation process. Without stakeholder support, your evaluation may be ignored, criticized, resisted, or even sabotaged.

Stakeholders should be involved widely in the evaluation. For example, WHPP committee members can form an evaluation team and develop questions, collect data, and analyze results. Establish ways to assess what participants are interested in when it comes to evaluation, and develop means of keeping them informed of the evaluation progress and of integrating their ideas into evaluation activities. Again, stakeholders, including participants, are more likely to support the evaluation and act on results and recommendations if they are involved in the evaluation process.

Engage your program's critics in the evaluation as well. Critics can strengthen the evaluation process by identifying weaknesses in your program strategies and evaluation information that could be attacked or discredited. This will help you understand the critics' rationales and

BEST PRACTICE

Data collection, management, and analysis are coordinated throughout the organization.

engage potential agents of change who may start by opposing the program. At the same time, use caution when engaging with critics: there may be conflicting interests or motives that can undermine your program, unrelated to the program itself.

Integrated Data Management

It is important to establish systems to collect data in consistent ways over time, and that allow data to be used where it is needed. F-17 survey respondents often complained that they did not have access to information that would help plan, implement, or evaluate their programs, because it was held by some other department and not shared. An integrated data management system coordinates data collection, management, and analysis throughout the organization. Such a system can be challenging to organize and implement, and may be more appropriate for organizations that are well resourced and have a long-term commitment to using the integrated approach to worker health. However, it can simplify the evaluation system and ensure data integrity and consistency. It can also contribute to the design and evaluation of programs and policies, and may help to identify current strengths and resources, as well as gaps and limitations of the organization. Coordinated data collection can help with monitoring progress and inform the need for mid-course corrections. The goal of such a system, as described by the National Institute of Medicine (IOM), is “to drive collection of universal and reliable data that will satisfy common program goals and ensure that information obtained is meaningful to all participants.” (IOM, 2005, p. 54).

Aim for a single data system or one that allows different data sources to be linked: Transit agencies should consider integrating health data systems across programs and among vendors. This will clarify how the various contributors to and elements of worker and worksite health and safety interact. Such a system can reduce the silo structure that impedes WHPP implementation. It will allow you to identify at-risk groups or work areas, highlight lower-risk populations, and help you understand and predict the impact of your program activities. The implementation of an integrated system requires significant management commitment and support.

Define available data and how it can be grouped: You may be able to categorize by division or by title, including changes over time. To set up your data collection system you need to decide what information you can and want to collect and how often. This can be driven by organiza-

tional priorities. As part of the approach, consider collecting data on the work environment, organizational policies, and individual health risks into a coordinated system. Data entry should allow for reporting both at a given moment and over time. You may be able to categorize by division, location title, gender, age, or other categories.

Use data warehousing to coordinate existing databases throughout the organization with common measures: One step toward achieving an integrated system is through data warehousing—coordinating existing databases throughout the organization with common measures for reporting and analysis. In data warehousing, data and software are standardized across the organization. Measures to protect data security and confidentiality need to be assured in the process. Elements of an integrated database might include:

- Medical and pharmacy expenses;
- Quality-of-life indicators;
- Environmental policies and factors;
- Risk factors for disease, including health behaviors such as smoking;
- Productivity and operational indicators; and
- Program participation.

Review data, problems, and solutions across departments: Even if the organization is not ready to integrate data fully, the principle of cross-departmental reviewing of data and addressing problems can be applied. Sit down with other departments and talk about the information each has about health, and how it relates to other sources of data. Data may be collected separately by department, and then discussed and addressed by representatives from multiple departments. Many transit agencies already do this for safety, reviewing employee, passenger, and vehicle safety and security concerns in regular meetings that include operations, safety, and other divisions.

Promote vendor data integration: Vendors such as health care or insurance providers and HRA consultants can be important partners in planning and evaluating the WHPP program. The outside vendor may already collect and analyze the data that you need, but it is up to the transit agency personnel to ask for data that will help the WHPP program, including the type of information and format of the report.

As an active partner in an agency’s WHPP program, one large health plan provided sophisticated and flexible data reports. A nearby agency, with the same provider, had not negotiated a similar arrangement and was not aware it was possible.

Since its inception, the large WHPP program has used aggregate health status data from the carriers. This is compared periodically both to negotiate rates and to plan program targets. Reports include prevalence of chronic health conditions and utilization data compared to past years and to the whole health plan population.

continued

You can ask to see a sample report from a new vendor, or from your health insurer. In integrating vendor data, consider the following:

- Are the measures used and presented by the vendor aligned with organizational goals?
- Will the report compare the organization’s results with national, state, or industry figures?
- Can results be compared by title, division, or other grouping?
- Can a cohort of employees be tracked so that results show the impact of programs on employees over time?
- When and how will the reports be presented? Will there be a chance for review and editing before the final is delivered?
- Does the vendor have a process for maintaining confidentiality by eliminating identifying information in the aggregate report?

Figure 5.2 lists the kinds of information that the health plan could generate from an existing database or by additional data collection.

FIGURE 5.2 WHAT DATA CAN THE VENDOR PROVIDE?

Number of employees with targeted health issues by division, job title, and other groups
Per case and total treatment cost for a specific health issue
Trends in health problems or health care use
Groups of employee at particular risk—by age, title
Health insurance premiums compared to similar organizations or groups—for example, statewide
Health insurance premium changes over time, and compared to others
Target cost areas that could be addressed to reduce premiums
Actions to be taken to reduce premiums

Process Measures

Ongoing evaluation supports continuous improvement by helping you see how well you are implementing your activities even before they have had a measurable impact. Processes to measures include the steps and activities taken in implementing a program and the outputs generated, such as the number and type of educational materials for a stress management class that are developed and given to employees. Assessing process indicators keeps program implementation on track and lets you see if you have met the quality and other standards you aimed for. If a project or activity does not achieve its intended outcomes, this step will help determine whether the program took the wrong approach or if it was simply not implemented correctly. Process evaluation also tracks important measures such as the costs of operating a program, the number of employees reached, the most successful program locations, or how the program's design and activities compare to others.

Track common process measures including:

- What you did in establishing WHPP programs, policies, benefits, or environmental support (number of meetings, staff time, deadlines met).
- Number of events scheduled and carried out.
- Employee awareness of and satisfaction with programs, services, and providers.
- Participation in and use of programs and services.
- WHPP committee meetings and activities.
- Meeting and revision of program goals and measurable objectives.
- Program costs.

Record quantitative and descriptive data: The process evaluation relies on a mix of qualitative and quantitative metrics. For example, program participation data can be combined with employee satisfaction survey results to obtain a full picture of how successful the program activity is in attracting employees, retaining their participation, and providing value to them. Figures 5.3 and 5.4 show sample task and participation/reach tracking tools using the Planning, Evaluation, and ROI Template. In the second figure many of the results are calculated automatically by the spreadsheet.

BEST PRACTICE

The organization tracks costs, participation, goals met, and barriers, then uses data to improve the program.

continued

The program also receives health markers data from a specialized health indicators company, as a series of tables reporting on health fair screenings data. However, it became clear that this information duplicated more extensive information already available from the health plan.

FIGURE 5.3 SAMPLE TASK TRACKING TOOL

Tasks	Description	Lead	Support	Target Completion	Date Completed	Status
Operator workstation assessment and training	Workstation assessment and training of operators with MSDs or other concerns by trained ergonomist	OSH Coordinator	Operations	3/31/2013	3/15/2013	Completed
Prepare for walking clubs	Identify safe, attractive walking area at each base	Base Champions	Committee	3/31/2013	3/13/2013	Completed
Family pass program centers	Contract outside health center for family pass	Wellness Manager		2/1/2013	4/1/2013	Completed
Family pass program	Register families	HR Coordinator	Shop Stewards	4/1/2013		Ongoing
Base exercise workshops	Provide hoops, bands, and weights for on-base activity	Trainer	Purchasing	9/15/2013		Ongoing

FIGURE 5.4 SAMPLE PARTICIPATION AND REACH TRACKING TOOL

Activity	Eligible Employees	# of Participants	Reach %	Goal	# of Participants Reaching Goal	% of Participants Reaching Goal	% of Eligible Employees Reaching Goal	Total Costs	Cost per Participant
Operator Workstation Assessment	1350	150	11.1%	Complete full assessment and training	130	86.7%	9.6%	\$9000	\$60
Walking Club	1350	210	15.6%	Walking five miles per week	100	47.6%	7.4%	\$5000	\$24
Base Exercise Workshops	1350	350	25.9%	Attend at least one workshop	150	42.9%	11.1%	\$5000	\$14
Family Pass	1350	250	18.5%	Sign up	250	100.0%	18.5%	\$9000	\$36

Use process evaluation to make time-sensitive adjustments:

Target the identified bumps and barriers that may limit your program effectiveness to improve your activities selection, scheduling, communications, and other areas. Convene the WHPP committee or even the top-level planning group to review the analyses, interpret the findings, and discuss what actions to recommend. A summary of the assessments should be prepared and shared before this meeting. While the strengths, weaknesses, and recommendations may be apparent to the WHPP program leads, these items will benefit from richer discussion with representatives from human resources, occupational health and safety, operations, and other departments. Just keep in mind that when you use process evaluation results to introduce or remove activities, change incentives, or measure different things, you may need to adjust the baseline level you refer to in the outcome analysis described below. Figure 5.5 shows key sections of a template one agency uses for planning and monitoring each health promotion initiative. Detailed data from the participation logs, trackers, and employee surveys are plugged into the template to track process outcomes and the ultimate impact of the program.

FIGURE 5.5 KEY SECTIONS OF A PROGRAM MONITORING TEMPLATE: AGENCY EXAMPLE

Program Phase	Areas Tracked
Program Planning	Program Demographics Program Justification Program Description Program Procedures Program Goals Management Objectives Team Responsibilities and Timeline Promotion Methods
Program Implementation	Participation Numbers and Rates Costs/Incentives Cost Analysis
Program Evaluation	Executive Summary (after implementation) Biometric Results Program/Survey Results Staff Evaluation

Evaluation and tracking activities in the F-17 case study sites

- **Capital Metro:** The program tracks an extensive list of measures to gauge program outcomes against yearly goals, beginning with program participation and penetration rates. To calculate gym participation, badge reports are provided by security and logged into a customized spreadsheet. Each month, the wellness center logs gym participation, personal training sessions, biometric assessments, fitness class participants, and one-on-one fitness consultations. For each challenge, such as weight loss, progress of individual participants or teams is kept in a spreadsheet that calculates the percentage change at the end of the program. The dietician provides monthly reports on class participation and individual consultation sessions. For vendors, reports are provided to wellness coordinators after the event takes place. All unique participants are entered into a customized spreadsheet showing which activity they participated in the main sections of the monthly summary of the wellness center activities:
 - Program Highlights.
 - Membership.
 - Membership Penetration.
 - Active Participation.
 - Enrollments/Appointments.
 - Visits by Time Allotments for the Month (time of day and days of the week).
 - Group Exercise Activities.
 - Upcoming Activities.

In addition to the fitness center logs, a rolling wellness program tracker tracks each individual participant in five broad categories of wellness activities, namely physical fitness, weight management, stress management, tobacco cessation, and miscellaneous wellness. The wellness staff also conducts an annual employee survey on their satisfaction with the fitness center staff, equipment and offerings, as well as ways to improve the wellness program. Employee response in the past few years has been overwhelmingly positive. The monthly management report and survey results are then used to adjust programming to fit the needs and desires of employees.

- **OCTA's Shoes and Wheels:** Participation is recorded for all events. Employees use a computer interface to record activities in 15 60-minute increments for the Shoes and Wheels point system. This, along with sign-in sheets from lunchtime events, allows the wellness administrator to monitor participation. The fitness trainer records and reports monthly on all fitness equipment use, assessments, consults, and other coaching. This data is reported in number of visits rather than number of unique users so the total participation is an estimate.
- **DART's Online Wellness Tracker:** The DART wellness program structure is based on a point system. Employees use an online wellness tracker to enroll in the health and wellness program and to track their wellness points. Program participants receive wellness points for completing health risk assessments, wellness workshops, fitness challenges, the wellness program kick-off, and the health expo. They can receive points for putting away a percentage of their income into the DART 401K plan and for attending continuing education classes.
- **UTU-LCMTA:** Process evaluation is done through program participation rates, participant feedback, and qualitative input from Ambassadors, Champions, and others involved in program implementation. The program identifies and describes success stories to illustrate the program impact to support its quantitative analysis.

Impact and Outcome Measures

Important as it is to be sure you are doing what you planned, and to make mid-course corrections as needed, what your organization cares about most is, “What difference did it make?” Impact measures are the areas you target for change because they can lead to a healthier person or environment, such as knowledge, attitudes, behaviors, skills, or policies. Outcome measures are the end results, such as health status, the work environment, absenteeism, productivity, presenteeism, and health care costs.

Include both short-term and long-term measures: Maintaining and improving worksite and worker health can be a complex effort and it takes a few years to see an impact on most health measures. However, the organization may be prepared to support the program even if it does not show concrete positive outcomes within a shorter timeframe. Providing a balanced combination of short-term and long-term results is an effective strategy to justify your program budget and sustain management support, and to encourage further employee engagement. Program planning staff or work groups should pay particular attention to this while identifying the WHPP needs, defining program goals and objectives, and planning program offerings and evaluation in the early stages of the program. Examples of short- and intermediate-term milestones include changes in employee health behaviors and risk profiles, and cleaner and safer worksites. Longer-term changes, such as reduced disqualifications for high blood pressure, or fewer compensation claims, should follow.

Document changes in impact measures such as knowledge, attitudes, behaviors, or skills in a target population: Impact evaluation focuses on the observable effects of a program that can lead to measurable health outcomes. Impact variables include health knowledge, attitudes, skills, and behavior. In determining the appropriate impact measures, look at cause and effect. Just as you did when setting your targets, think about whether the changes that occurred can be reasonably attributed to the program that was implemented. To confirm that effects are maintained, impact evaluation can be repeated over the months following the intervention. Figure 5.6 lists the characteristics of the four categories of impact metrics.

BEST PRACTICE

The program documents changes in impact measures and in outcome measures.

FIGURE 5.6 TYPES OF IMPACT MEASURES

Metric	Definition	Changeability	Example of Change
Knowledge	Acquired facts and information	Easy	Understanding decibel levels and hearing loss
Attitudes	How someone feels about a topic	Moderate	Support seatbelt use
Skills	Ability to carry out a specific action	Difficult	Learn to use a pedometer
Behaviors	Actions someone takes part in	Difficult	Eating five fruits or vegetables most days Vigorous exercise 30 minutes 3-4 days per week

Impact metrics can be tracked using methods such as:

- Pre- and post-event tests or surveys—used to measure changes in attitude, knowledge, and current eating, physical activity, and mental health status from an initial assessment to completion of a program or campaign. Could be group or individual changes.
- Quizzes—measure retained level of knowledge at any time.
- Physical activity and diet log sheets—data provided by participants.
- Vending machine choices—you can arrange with vendors to track selections and sales.
- Cafeteria menu options selected.
- Number of safety, health, or housekeeping issues reported or resolved.

You can also calculate the proportion of issues reported to issues resolved. This is a good approach because reporting often increases following effective outreach, making it look like things are getting worse.

Document changes in outcome measures such as health status, employee morale, work environment, health care costs, absenteeism, presenteeism, injuries, and disability: Outcome evaluation focuses on a goal or product of your WHPP program, generally measured in the longer term through health status changes or biological health indicators such as cholesterol levels or diseases treated, work environment and occupational injury changes, and financial outcomes.

These outcomes, like the common target areas of WHPP programs, can fall into three major improvement categories: health, work conditions and environment, and operations and productivity. Associated cost savings can be identified within each area.

WHPP programs that improve employee health by reducing, preventing, or controlling disease can affect operational efficiency and worker productivity, which can in turn can lead to higher customer satisfaction and better overall image of the transit agency. The benefits from the WHPP program implementation can be measured in many ways:

1. Indicators of Health Improvement

- Optimal health status (such as percent of employees reporting good or excellent health before and after a health promotion program or intervention).
- Levels of disease, injury, or disability (such as number of workers newly diagnosed with diabetes before and after an intervention or number of employees who experience a fall at work before and after a falls prevention intervention).
- Prevalence of risk factors (such as percent of employees who are overweight/obese before and after a weight management program).
- Changes in the number and type of health insurance claims over time (such as hospitalizations, outpatient visits, or pharmacy claims).
- Changes in health care utilization (such as use of preventive health services such as cancer screening).
- Quality of care indicators (such as percent of employees with high blood pressure that is being controlled through medication).

2. Indicators of Work Organization and Environment Improvement

- Health-promoting environment (exercise facilities, food access).
- Health-enhancing organizational policy and procedures (scheduling, employee involvement, work-home conflicts, restroom use).
- Occupational safety and health outcomes and policy improvements (overall safety and health compliance, housekeeping, on-the-job injuries tracking, vehicle and passenger safety, operator assault policies, ergonomics assessment).

Figure 5.7 shows an example of using the Planning, Evaluation, and ROI Template to track injuries.

FIGURE 5.7 EXAMPLE OF OCCUPATIONAL INJURIES TRACKING

Type of Injury	Number of Injuries Before	# Employees - Before	Injuries per 1,000 Employees - Before	Number of Injuries - After	# Employees After	Injuries per 1,000 Employees - After	# Difference in Injuries	Change in Injuries per 1,000 Employees	% Change
Neck Strains	5	1350	3.70	4	1359	2.94	-2	-0.76	-20.5%
Slips and Falls	8	1350	5.93	7	1359	5.15	-3	-0.78	-13.1%
Hip Strain	5	1350	3.70	3	1359	2.21	-3	-1.50	-40.4%
Back Strain	10	1350	7.41	8	1359	5.89	-4	-1.52	-20.5%
Knee Injury	4	1350	2.96	2	1359	1.47	-3	-1.49	-50.3%
Total	32	1350	23.70	24	1359	17.66	-14	-6.04	-25.5%

3. Indicators of Operations and Productivity Improvement

- Absenteeism—the amount of time employees are paid but not at work. Absenteeism can be caused by stress, work-related injury, illness, family needs, and other personal needs.
- Availability—the flip side of absenteeism. Not having enough operators every day means service has to be cut or someone else has to fill in at overtime. Service quality and passenger commitment to public transit may also be affected if schedules are changed.
- Presenteeism—the impact of employees who are at work but not optimally productive because of poor health, sleep disturbance, distractions, or other limits such as lack of training. Presenteeism can be more of a problem where an agency’s contractual sick leave policy provides unpaid waiting days before paid sick leave begins. In some agencies even legitimate absence is part of the progressive discipline system. Both of these practices encourage ill operators to come to work rather than lose a day’s pay or notch another occurrence under

the attendance policy. WHPP programs that boost operator health and include policies to encourage responsible sick leave not only help agencies achieve the desired performance, but also relieve the pressure on operators to choose between coming to work sick and accumulating absent days. Presenteeism can be measured by extrapolating estimates of productivity loss in the past few weeks using, for example, the Work Limitations Questionnaire Loss Score. See Tools and Resources below and the Planning, Evaluation, and ROI Template for details.

- Turnover—the percentage of employees who leave each year. Medical disqualification can be a major headache for transit agencies. Operators may fail CDL physical exams due to uncontrolled hypertension, sleep apnea, or stress-related mental health problems. Targeted activities, supportive policies, and training can reduce the number of involuntary turnovers caused by medical disqualifications or by ill-health. Exit interviews are one way to find out if health has contributed to loss of employees.
- Operations efficiency—on-time service, customer comments, reportable or investigated incidents.

Use the Outcomes Worksheet from the Planning, Evaluation, and ROI Template to document and track the things that change as a result of your WHPP program, as illustrated in Figure 5.8. In the template you can also estimate how much of any change you think was the result of the WHPP program. This estimation was included in the spreadsheet because many contributors recognized that their activities may not have been wholly responsible for observed changes. It is not required in using the template, and you can estimate that your program was entirely responsible for the changes measured.

FIGURE 5.8 HEALTH-RELATED TURNOVER

Exit Reason	Number of Exits - Before	# Employees - Before	Loss Rate - Before	Number of Exits - After	# Employees - After	Loss Rate - After	# Difference in Exits	Change in Loss Rate	% Improvement
Work Stress	5	1350	0.4%	3	1359.0	0.2%	-2	-0.1%	40.4%
Medical Disqualification	7	1350	0.5%	3	1359	0.2%	-4	-0.3%	57.4%
Work Schedule	4	1350	0.3%	4	1359	0.3%	0	0.0%	0.7%
Other Health Issues	3	1350	0.2%	2	1359	0.1%	-1	-0.1%	33.8%
Total	19	1350	1.4%	12	1359	0.9%	-7	-0.5%	37.3%

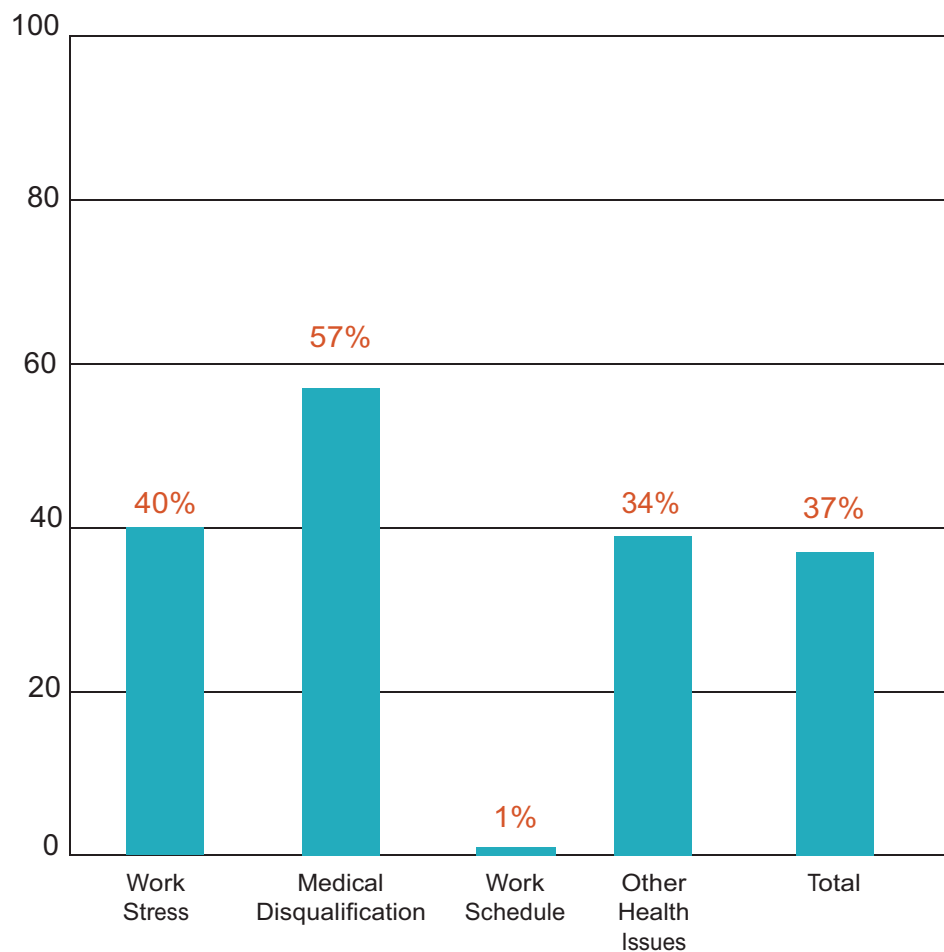


Figure 5.9 provides examples of data sources for the impact and outcome metrics of transit WHPP programs.

FIGURE 5.9 EXAMPLES OF WHPP METRIC SOURCES

Category	Sources
Health Status or Behavioral Changes	Smoking: class graduates, nicotine replacement therapy claims, and tobacco-free cash incentive figures Exercise: gym participation, challenge participation, 10K steps programs
Biometrics	Aggregate Health Risk Assessment (HRA) reports Screenings at depots quarterly, reports provided by vendor CDL qualifications data provided by HR BMI measured in challenges
Medical Claim	Condition-specific data from health plan, annually Overall costs from broker or other pool source, quarterly
Health Culture	Observation of worksite physical and organizational environments
Workplace Injuries, Accidents, or Conditions	OSHA 300 logs, monthly, from risk management Summary annual reports by division Monthly notes from safety committee meetings reviewed by wellness team
Workers' Compensation Claims	From insurer, by condition, with advice or required improvements
Absenteeism/Time Lost	Human resources monthly reports, including: Sick Leave Family Medical Leave Act (FMLA) Short-term Disability, Long-term Disability Occupational Injuries/Illnesses Personal Leave
Presenteeism	Employee survey (e.g., Work Limitations Questionnaire, Loss Questionnaire) Customer Complaints
Turnover	Employee separation records by reason, e.g., health, involuntary termination Self-report reasons for separation—exit interviews Analysis of retention trends by operations and HR—annually by department, length of service, and reason
Medical Disqualification	Informal listing or knowledge of CDL or Employee Health Service decisions Annual review of disability findings

BEST PRACTICE

Cost savings are quantified to show how the WHPP program supports the bottom line.

Cost-Benefit and Return on Investment

For many businesses, the key indicator of WHPP program success is costs to benefit ratio or return on investment (ROI). Comprehensive programs are more likely to yield better impacts on health outcomes and health care costs than smaller programs or isolated activities, but they cost more to establish and maintain. The pursuit of ROI is a balancing act requiring both enough investment in the right programs and frugal use of available funds. This section describes methods used to record and analyze the financial impact of the WHPP program activities.

Collect program financial data continuously: Program cost data should be tracked throughout the program delivery, as part of the process evaluation. Aggregated costs can then be carried over into the cost-benefit analysis and ROI calculations. The balance sheet should include financial and in-kind contributions from partners and participants, as well as staff time, materials purchased, and other costs.

Quantify the economic benefits from improved outcomes: The results tracked in the outcomes evaluation need to be recorded in monetary terms to determine the cost-effectiveness and ROI of the program. That could mean estimating the dollar benefits of retention, reduced sick time, and productivity, among others. The risk management team or human resources could help you here.

Cost measures may include:

- Health care premium and claims costs.
- Absenteeism costs.
- Presenteeism costs.
- Turnover costs.
- Accidents and injury costs.
- Workers' compensation costs.

Tracking of cost reductions is covered extensively in the “Financial Benefits” tab of the Planning, Evaluation, and ROI Template.

Be realistic and simple: It is important that the evaluation and ROI analysis process be kept efficient, financially viable, and meaningful, both because WHPP program staff in most agencies are typically stretched between the WHPP and other responsibilities and because management wants to see the bottom line and the executive summary. It is with this in mind that the Planning, Evaluation, and ROI Template

supporting this Practitioner's Guide is simplified and streamlined. Although the template allows you to enter a wide range of variables, you should focus on evaluating the items that are most pertinent and that are reflected in your goals and objectives. For example, agencies that are actively targeting rising health care costs and absenteeism may focus on the program outcomes in those two areas, rather than the full list of outcome measures.

Recognize the potentially extended time period for achieving a positive ROI: Enough time must be permitted to pass before significant impacts can be expected. Some programs, such as back injury prevention and medical self-care, have shown ROIs within a short time frame. In contrast, for programs targeting risk factors and behaviors such as weight management, the payoff can take some years. Look carefully at your activities design and schedule, participation and adherence levels, and total programming costs to gauge a realistic time frame for achieving a true intervention-driven ROI.

Estimate the effect of the WHPP program: Although research projects try to control the influence of other programs or factors, it is not possible to isolate the effects of the WHPP program relative to other changes in complex, real-world environments. Without investing a large amount of resources in this task, transit WHPP practitioners can estimate how much the WHPP program contributed to the dollar savings or benefits identified in the outcomes evaluation by soliciting opinions from internal subject-matter experts, stakeholders, and program participants. High-, medium-, and low-range estimates of impacts and benefits can be entered, providing you with a range of ROI rates. Figure 5.10 shows how the calculations look in the Planning, Evaluation, and ROI Template, and Figures 5.11 and 5.12 show the charts that the template can generate.

Some costs associated with improving the health culture and work environment may show up in other budgets. For example, scheduling in extra time for restroom breaks, health training, or exercise will not be paid out of the WHPP program budget. The ROI Template allows you to consider these costs as well if you have this data.

FIGURE 5.10 SAMPLE COST-BENEFIT AND ROI SUMMARY

	Year 1	Year 2	Year 3	Year 4	Year 5	Cumulative
Total Program Benefits—Overall	\$350,773	\$415,909	\$434,000	\$490,000	\$510,000	\$2,200,682
Total Program Benefits—Due to WHPP Program	\$272,380	\$330,357	\$332,000	\$430,000	\$442,000	\$1,806,737
Total Program Costs	\$210,000	\$239,000	\$220,000	\$240,000	\$220,000	\$1,129,000
Net Program Benefits—Overall	\$140,773	\$176,909	\$214,000	\$250,000	\$290,000	\$1,071,682
Net Program Benefits—Due to WHPP Program	\$62,380	\$91,357	\$112,000	\$190,000	\$222,000	\$677,737

ROI

	Year 1	Year 2	Year 3	Year 4	Year 5	Cumulative
Annual ROI Achieved—Benefits Overall	67.03%	74.02%	97.27%	104.17%	131.82%	94.92%
Annual ROI Achieved—Benefits Due to WHPP Program	29.70%	38.22%	50.91%	79.17%	100.91%	60.03%
Annual ROI Goal (Optional)	50.00%	70.00%	90.00%	100.00%	120.00%	N/A
Goal Achieved?—Benefits Overall	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded	N/A
Payback Period—Benefits Overall	0.60 years	0.57 years	0.51 years	0.49 years	0.43 years	0.51 years
Payback Period—Benefits Due to WHPP Program	0.77 years	0.72 years	0.66 years	0.56 years	0.50 years	0.62 years
Discount Factor	2.00%					
Net Present Value—Cumulative Benefits Overall						\$1,003,332
Net Present Value—Cumulative Benefits Due to WHPP Program						\$631,109

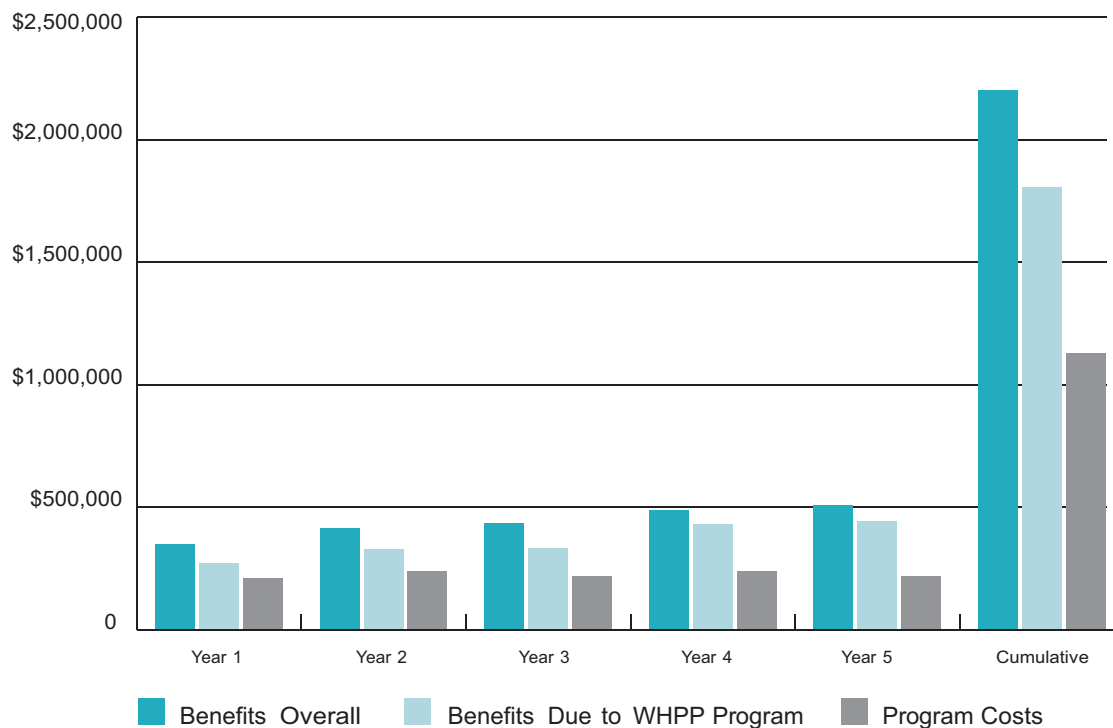


FIGURE 5.11 ANNUAL AND CUMULATIVE PROGRAM COSTS VS. BENEFITS

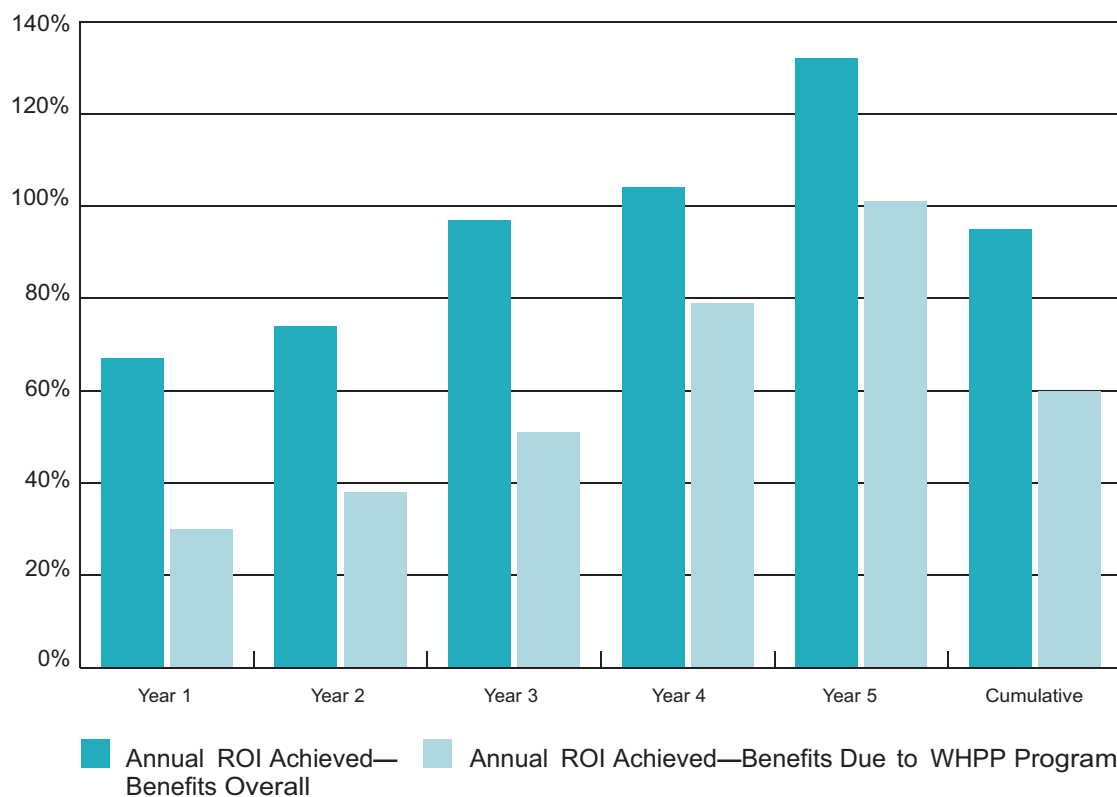


FIGURE 5.12 ANNUAL ROI ACHIEVED

BEST PRACTICE

The organization communicates the impact of the program.

Data-Driven Ongoing Improvement

Your ROI calculations ideally will show that it is worth running your program and even expanding it. At the same time, the data you collect and analyze can also point to barriers, opportunities, and other process issues that can affect programs and people. Measurements for this type of data should be simple, easy to implement, and reported frequently.

Package your evaluation data: First and foremost, understand your stakeholders and figure out the range of variables (“scope”) that stakeholders want to look at, as well as the level of detail (“specificity”) they would like to see. In other words, who will receive the evaluation? What individuals and departmental representatives will be the primary recipients—human resources personnel? The benefits director? The occupational health specialist? Safety and risk management personnel? Senior management? Certain stakeholders will prefer a high level approach while others may prefer to see the details, such as completed evaluation forms distributed following the program or the transcript for the focus groups you completed. Determine how you can present the data within the organization’s expected reporting formats. Lastly, understand the venue in which the evaluation results will be presented.

Communicate progress and success: Program staff should provide timely feedback and follow-up to participants. Individual participants’ weekly, monthly, and yearly participation logs and progress made in health measures can be presented. Online trackers can largely automate this process, although it should not completely replace personal communications. When positive changes are observed in participation, health behaviors, status, or working conditions, celebrate successes with the responsible people and more broadly.

Present aggregated evaluation results to all levels of management and employees: It is important to share aggregated evaluation data with participants, staff, the leadership committee, and other management and union stakeholders. As mentioned earlier, this may mean different types of communications for different audiences. Managers may be more interested in returns on investment, while workers may be more interested in changes in benefits, health, and well-being.

Summary

Calculating costs and showing a strong return on investment is not easy. Some of the very impressive results shown in the literature go far beyond the typical ROI found in most business practice. Even a more conservative return will not only save your organization money but also shore up your operations and staffing needs. More importantly, improving working conditions, health behaviors, and health outcomes will increase viability and sustain growth in transit agencies and make life better for the transit workers that run them.



TOOLS + RESOURCES

Planning for Evaluation

RE-AIM model tools and resources www.re-aim.hnfe.vt.edu/resources_and_tools/index.html.

Data Collection and Databases

An Organizational Framework for Integrated Data Management. Institute of Medicine (IOM) describes how an organizational framework for integrated data management can help in identifying useful data collection purposes and strategies. In *Integrating Employee Health: A Model Program for NASA*. Washington, DC: National Academies Press, 2005. Especially see Table 6-1, p. 154.

<http://www.iom.edu/reports/2005/integrating-employee-health-a-model-program-for-nasa.aspx>

The National Business Coalition on Health also addresses integrated data systems at: <http://www.nbch.org/Foundational-Business-Diagnostics-Introduction>

Impact and Outcomes Measures

Penetration, Implementation, Participation, and Effectiveness (PIPE) Impact Metric. This tool provides a score to measure the impact of a workplace health promotion program. Pronk NP. Designing and Evaluating HP Programs. *Dis Manage Health Outcomes*. 2003; 11(3):149-157.

NIOSH: How to Evaluate Safety and Health Changes in the Workplace: Does it Work? This simple guide provides recommendations for evaluation, descriptions of actual worksite evaluations, and a couple of tools that worksites might use.

Measuring Presenteeism: Work Limitations Questionnaire.

The most common approach to measuring presenteeism is to ask employees how much their health hinders their performance while at work. Among the available instruments, research has shown that the Work Limitations Questionnaire has relatively strong validity and reliability, and has been used in a variety of workplace settings with a variety of health risks and conditions. The questionnaire is available from Debra Lerner, The Health Institute, Tufts-New England Medical Center, Boston MA, USA. WLQ@tufts-nemc.org.

A New Tool to Measure the Relationship between Health-Related Quality of Life and Workforce Productivity. This dissertation provides sample items from the Work Limitations Questionnaire, along with other survey instruments for measuring health-related absenteeism and presenteeism and their impact on work productivity.

<http://hdl.handle.net/1853/24642>

Online ROI Calculators. The following list of online ROI calculators can be used to plan and choose target areas, forecast potential program costs and benefits, and estimate program ROIs. Many target the payoff from a specified health change.

Cost-Benefit and ROI

SAMPLE WHPP COST-BENEFIT AND ROI CALCULATORS

Tool	Description	Source	Link
Health and Work Performance Questionnaire (HPQ)	An internationally supported tool for investigating health care costs and business decisions, indirect costs of untreated and under-treated employee health problems, and ROI of employee health benefits and programs. It includes practical subscales for presenteeism/absenteeism, and other concerns.	World Health Organization and Harvard Medical School	www.hcp.med.harvard.edu/hpq
WellSteps ROI Calculator	Simple online ROI tool that offers three modes of calculation—health care costs, absenteeism, and presenteeism. Inputs: annual costs, trends, percent employees at risk, target percent, program intensity, and percent at risk. Outputs: savings from decreased percentage of employees who are either smokers or obese.	WellSteps	www.wellsteps.com/roi/resources_tools_roi_cal_health.php
Depression Cost Calculator	Known as the Productivity Impact Model, this calculator uses detailed algorithms based on established clinical research and applies them to any workforce to determine the incidence of depression within an organization. The calculator then predicts the expected number of days each year employees will be absent or suffer low productivity due to his/her depression, and the associated costs. Finally, the tool projects the net savings that will accrue with treatment of those employees suffering from depression.	The National Partnership for Workplace Mental Health	www.depressioncalculator.com/Welcome.asp
Smoking Cessation ROI Calculator	Web-based ROI calculator that estimates the impact of smoking cessation interventions for 1–5 years. Contains preloaded data that represent the disease, health care use, and plan eligibility for a cohort of smokers, and how cessation programs alter these experiences. Inputs can be modified to reflect the key smoking and environmental factors of target population.	Center for Health Research (Kaiser Permanente Northwest) and America's Health Insurance Plans	www.businesscaseroi.org/roi/default.aspx

Tool	Description	Source	Link
<p>Alcohol Cost Calculator</p>	<p>Online cost calculator that shows how common alcohol problems are in each sector, how many work days are lost due to alcohol problems, the extent of alcohol-related hospital and emergency room visits of employees and their families, and the costs of missed work days and health care of employees and their families.</p>	<p>Center for Integrated Behavioral Health Policy, The George Washington University Medical Center</p>	<p>www.alcoholcostcalculator.org/alcohol/</p>
<p>Physical Inactivity Cost Calculator</p>	<p>Online calculator that provides an estimate of the financial cost of physically inactive people to a particular community, city, state, or business. A total estimate is provided as well as individual costs for medical care, workers' compensation, and workers' lost productivity. Also provides companion resources and information for reallocating resources and plan for healthier workplaces and communities that are more supportive of physical activity.</p>	<p>Fifty Plus Lifelong Fitness, and the National Coalition for Promoting Physical Activity</p>	<p>www.ecu.edu/picostcalc/</p>
<p>Substance Use Disorder Calculator</p>	<p>Online calculator that estimates the prevalence of alcohol, illicit drug, and prescription pain medication abuse or dependence in your population.</p>	<p>Center for Integrated Behavioral Health Policy</p>	<p>www.alcoholcostcalculator.org/sub/</p>
<p>Obesity Cost Calculator</p>	<p>Downloadable calculator that estimates the costs of obesity based on characteristics of your company. These include costs for medical expenditures and the dollar value of increased absenteeism resulting from obesity. Costs are estimated separately for four groups based on BMI.</p>	<p>LEANWorks—Center for Disease Control and Prevention</p>	<p>www.cdc.gov/leanworks/costcalculator/index.html</p>

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Chapter

6

Carrying On: Maintaining Effectiveness with Growth

CHAPTER MAP

MAINTAINING

Workplace Health Protection and Promotion is essential to the organization, not an extra.

- Justify organizational support.
- Contribute to the organization.
- Plan to survive internal changes in focus.
- Keep the committee fresh and retain experience.

GROWING

The WHPP program adapts.

- Stay up-to-date with changing needs and resources.
- Engage with transit health issues.
- Develop targeted programs.
- Improve on what is available.
- Expand the WHPP program perspective.

A REALISTIC PERSPECTIVE

The WHPP program prepares for difficulties.

- Looking for problems means you find them.
- You can't solve everything.

The NIOSH Total Worker Health™ model recommends: “Be willing to start small and scale up.” As the Workplace Health Protection and Promotion (WHPP) program grows, it is important to both maintain momentum and adapt to current needs. Some of the things that made the WHPP program successful can be retained but others might no longer be appropriate. The program planning and implementation flow chart (Figure 6.1) is a useful reminder of the loop of assessment, planning, action, and evaluation that identifies areas that change as time passes and the program matures. Evaluation leads back to program planning, annually or as new issues develop. Although you will not have to start the entire process over again from the beginning, as the organization changes you may need to reestablish commitment and keep building your team.

Transit Workplace Health Protection and Promotion Roadmap

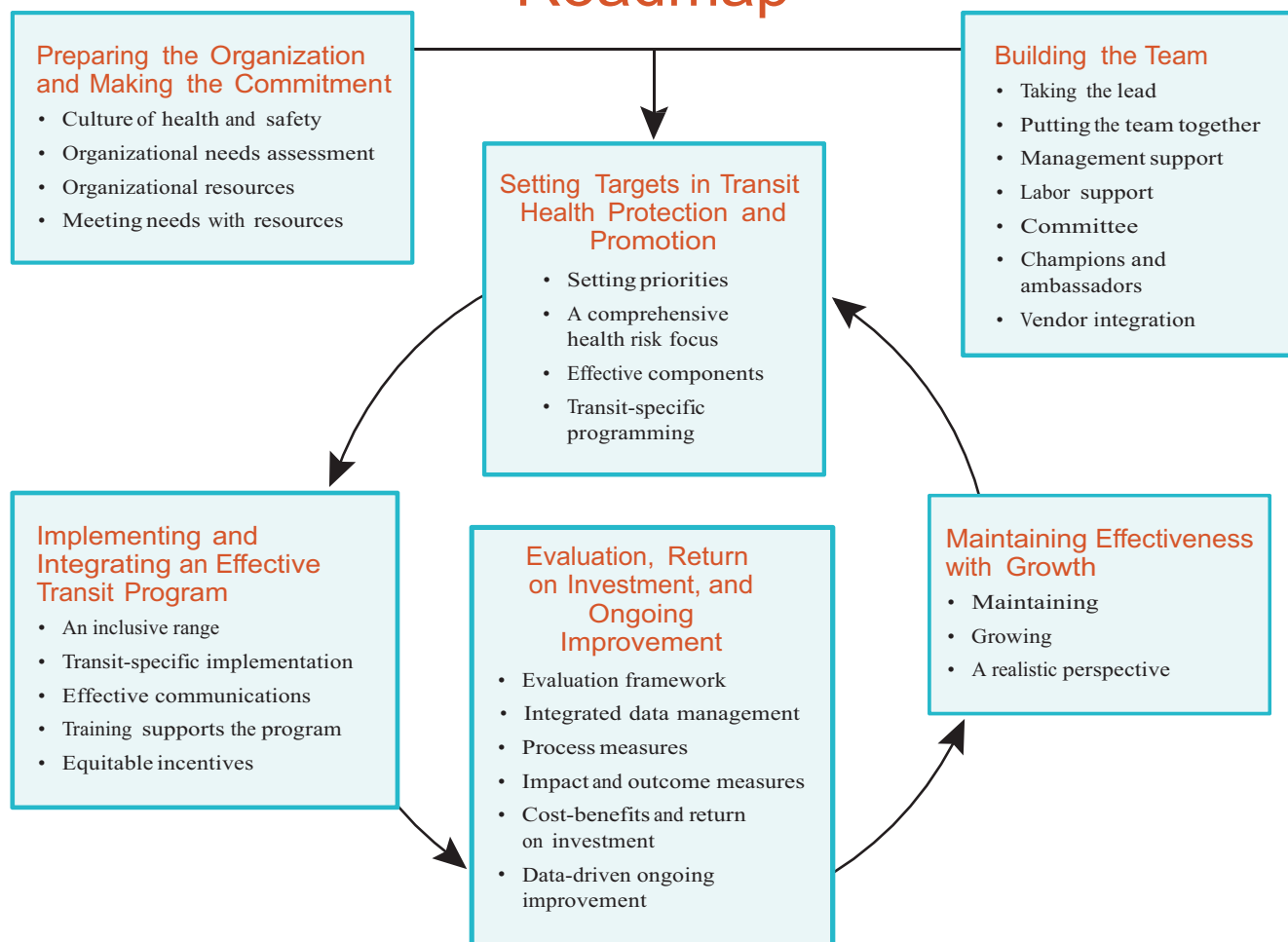


FIGURE 6.1 WORKPLACE HEALTH PROTECTION AND PROMOTION PROCESS

BEST PRACTICE

Workplace Health Protection and Promotion is essential to the organization, not an extra.

Maintaining

Justify organizational support: As described in Chapter 1, on setting up the program, and especially in Chapter 5, covering evaluation and return on investment, you will need to keep making your case to the organization. Regularly scheduled report sessions require the program team to assess and describe the program progress. They also require stakeholders to pay attention to the program, to recognize past commitments, and to understand the program's role in the organization.

CASE STUDY

United Transportation Union— Los Angeles County Metropolitan Transportation Authority: Maintaining Excellence with Growth

The UTU-LACMTA program in Los Angeles, described in Chapter 2, exemplifies how an agency can start with a pilot project in two locations and over time develop it into a comprehensive program that serves almost all job titles in one of the largest transit agencies in the country. Extensive union and management commitment, a skilled and respected lead, vendor support, and careful planning and evaluation have all contributed. The program lead and the extensive committee are eager to integrate additional health protection and promotion concerns but important initiatives are planned and rolled out carefully, and the program is conservative in estimating the impact.

Contribute to the organization: The WHPP program also supports the organization. As you grow, it is important to establish how the WHPP program can have an impact on policy and operations. When developing components that overlap with other departments such as safety, human resources, and operations, make sure to provide support, policy language, and positive influence to help those departments integrate WHPP in their planning and strategy.

Keep top level commitment: Plan for succession. Top transit agency leadership may change every few years, and union leadership may change during election years. This means you can lose a champion or foundational support. Stay ahead of this by encouraging written plans and policies that clearly define the organizational support for the WHPP as well as job descriptions or defined responsibilities for staff and other WHPP team members.

Plan to survive internal changes in focus: As working conditions, economics, individual participants, and other factors change, the WHPP initiatives risk being seen as dispensable. For example, health problems may seem less important when there is a larger pool of younger applicants for operator jobs. In times of conflict, labor-management commit-

**COLLECTIVE
BARGAINING
LANGUAGE
EXAMPLE**

Letter of Understanding re
Wellness Program

The parties discussed the benefit of an enhanced wellness program (including the potential to reduce employee injury and sickness) during the current round of bargaining. The parties agree in principle to, through the OH&S Committee, instituting a wellness program with the following elements:

Participation by employees is voluntary but encouraged;

A program similar to that offered by [Health Centre]

The Wellness Committee will be continued during the duration of this Collective Agreement. Composition of the Committee will be three appointees of the Union and three appointees of the employer. The Wellness Committee will report to the OH&S Committee. The Wellness Committee will oversee and monitor progress of the program including changes noted above.

BEST PRACTICE

The WHPP program adapts.

tees may not be well supported by one side or the other. The problem is that initiating a program is difficult and costly, so allowing it to hibernate wastes past work and makes restarting less likely.

Do not depend on individual skills alone: A program that relies heavily on a very effective lead person may not survive when that person moves on. Those effective leaders should work hard to share their skills, teaching others how to be effective also.

Keep the committee fresh and retain experience: Like the US Senate, the committee will be improved by a combination of experience and innovation. Encourage the ongoing recruitment of new members. And make sure that incumbents can continue to grow and contribute.

A few examples of policies that maintain WHPP as a priority are listed in Figure 6.2.

FIGURE 6.2 MAINTAINING WHPP IN THE ORGANIZATION CULTURE AND POLICIES

- Strategic plan elements refer to WHPP
- WHPP committee charter
- Including WHPP responsibilities in job descriptions
- Policies on committee structure and participation
- Policies in other departments that refer to or define specific WHPP functions
- Contract language or memorandums of understanding that define the program and the roles

Growing

Stay up-to-date with changing needs and resources: Figure 6.1 shows how evaluation and assessment lead back to needs assessment and planning. The impact of your program could mean that some activities are no longer needed, or conversely that they should be continued.

Engage with emerging transit health issues: Health issues such as obesity, nutrition, or occupational exposures are continually researched and sometime reframed. The guidance and regulatory environment is changing too. Just a few examples: CDL medical requirements and

recommendations are likely to be revised over the next few years. The new Federal Transportation Administration oversight of transit agency safety management systems and training are expected to have an impact. States are passing bills addressing workplace assault. The WHPP program staff, committee, champions, and participants will all profit from keeping up with these changes.

Develop targeted programs: Transit WHPP programs have to address events that are not common across other industries, or even in all transit workplaces or titles. Your organization can develop tailored approaches to the issues of concern. Try to engage with industry partners on issues such as:

- Post-Traumatic Stress Disorder (PTSD) that may be the result of assault, passenger accidents, or past experience such as military service
- Emergency response
- Family conflict, grief, and other problems that can affect performance and be aggravated by the demands of work

Improve on what is available: Integrating health protection and promotion in transit will require you to add concepts to otherwise useful standards and tools designed for in offices and other workplaces. For example, the workplace assessment tool designed for the Total Worker Health™ program has physical demands and ergonomics questions, but they only refer to heavy lifting and repetitive motion. To use such tools, you can add bus operator musculoskeletal demands such as bending, sitting, awkward forceful motions, impact of potholes, and vehicle accidents. The same is true for work organization tools and interventions. You do not have to reinvent the wheel but you might need to make some changes.

Expand the WHPP program perspective: Wherever your program started you can grow to the next level as you develop your program, organizational health culture, skills, and payoff. Organizations that have focused on disease management and individual risk factors (the traditional health promotion model) can expand by targeting health and well-being through developing policies and a work culture that encourage and reward healthy exercise and food choice. If you have been successfully promoting health challenges, group activities, and the health environment, you have probably seen the areas where changes in the work conditions and policies will improve workplace health protection and promotion. Increasing WHPP program involvement throughout the

BEST PRACTICE

The WHPP program prepares for difficulties.

organization and evaluating results will lead you to set new priorities with stakeholders. A comprehensive WHPP program can expand by covering more titles and supporting a wider range of organization priorities. For example, tying in to new worker or incumbent skills development or community service projects engages the organizational and community policy level that is described in the SafeWell Integrated Management System for Worker Health and the World Health Organization Healthy Workplace Framework.

A Realistic Perspective

Health protection and promotion is challenging. Getting people to change behavior is difficult, as is getting organizations to adapt to new processes. Here are just two concerns, in addition to those covered throughout the Practitioner's Guide.

Looking for problems means you find them: The health situation can temporarily look worse when you start your program. Screenings, workplace inspections, symptoms surveys, and even education make it more likely that you will find problems. Some WHPP activities, such as mobile dental vans, are designed to increase health service users. As a result, costs and other demands on the system can increase. It doesn't mean the program caused the problem, and these surges should balance out over time with improved health outcomes. You will want to warn you organization about this.

You can't solve everything: Some problems are very hard to head off, such as existing but undiagnosed cancer. And some WHPP areas are not addressed well yet. For example, the cognitive and attention demands of a modern bus dashboard can contribute to distraction, stress, or accidents. At the same time, the information carried is important to safe operations. Realistic goals setting, prioritizing, and ongoing communication with stakeholders and participants are critical to success and growth.

Summary

“Develop a “Human-Centered Culture.” “Start small and scale up.” “Eliminate recognized occupational hazards.” “Make sure the program lasts.” These elements of a Total Worker Health™ culture are tall charges for any organization. Public transit faces some of the highest rates of chronic disease of any workforce in the US, along with a schedule-driven system, expanding demand, and shrinking funding. Anyone working in transit must acknowledge that it is a business, a public service, and a job. The resulting conflicts among operations demands, budgets, worker health needs, and other factors make WHPP difficult. This Practitioner’s Guide is designed to help you organize, implement, and sustain a practical and effective workplace health protection and promotion program, tailored to your needs, that can grow and adapt.

The Guide was developed through a tremendous group effort. Transit agency employees and union representatives around the country, including WHPP staff and other champions, provided the information and ideas covered in this Practitioner’s Guide. Groups of enthusiastic and dedicated people from management and labor discussed the findings. This conversation continues in American Public Transit Association (APTA) meetings, health education and research conferences, NIOSH’s Total Worker Health™ program, employee benefits meetings, and union halls.

You can add to the skills and body of knowledge concerning transit worker health protection and promotion by sharing your experience. The F-17 research team would like to know how the Practitioner’s Guide is being used, what innovations are developed, and what barriers are encountered. Please provide follow-up information and findings in a brief survey at tinyurl.com/TransitWHPP as you continue to improve health, safety, and wellness for bus operators and other transit workers, their families, and the communities we all live in.



NIOSH Total Worker Health™ Elements

Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing

Introduction

The *Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing* is a resource document developed by the National Institute for Occupational Safety and Health (NIOSH) with substantial input from experts and interested individuals.

This document, a key part of the NIOSH WorkLife Initiative, is intended as a guide for employers and employer-employee partnerships wishing to establish effective workplace programs that sustain and improve worker health. The *Essential Elements* document identifies twenty components of a comprehensive work-based health protection and health promotion program and includes both guiding principles and practical direction for organizations seeking to develop effective workplace programs.

The WorkLife Initiative is intended to identify and support comprehensive approaches to reduce workplace hazards and promote worker health and well being. The premise of this Initiative, based on scientific research and practical experience in the field, is that comprehensive practices and policies that take into account the work environment--both physical and organizational--while also addressing the personal health risks of individuals, are more effective in preventing disease and promoting health and safety than each approach taken separately.

The twenty components of the *Essential Elements*, presented below, are divided into four areas: Organizational Culture and Leadership; Program Design; Program Implementation and Resources; and Program Evaluation. The document is a framework that will be enhanced by links to resource materials intended to assist in the design and implementation of workplace programs and offer specific examples of best and promising practices.

Organizational Culture and Leadership

1. **Develop a “Human Centered Culture.”** Effective programs thrive in organizations with policies and programs that promote respect throughout the organization and encourage active worker participation, input, and involvement. A Human Centered Culture is built on trust, not fear.
2. **Demonstrate leadership.** Commitment to worker health and safety, reflected in words and actions, is critical. The connection of workforce health and safety to the core products, services and values of the company should be acknowledged by leaders and communicated widely. In some notable examples, corporate Boards of Directors have recognized the value of workforce health and wellbeing by incorporating it into an organization’s business plan and making it a key operating principle for which organization leaders are held accountable.
3. **Engage mid-level management.** Supervisors and managers at all levels should be involved in promoting health-supportive programs. They are the direct links between the workers and upper management and will determine if the program succeeds or fails.

Mid level supervisors are the key to integrating, motivating and communicating with employees.

Program Design

4. **Establish clear principles.** Effective programs have clear principles to focus priorities, guide program design, and direct resource allocation. Prevention of disease and injury supports worker health and well being.
5. **Integrate relevant systems.** Program design involves an initial inventory and evaluation of existing programs and policies relevant to health and well-being and a determination of their potential connections. In general, better integrated systems perform more effectively. Programs should reflect a comprehensive view of health: behavioral health/mental health/physical health are all part of total health. No single vendor or provider offers programs that fully address all of these dimensions of health. Integrate separately managed programs into a comprehensive health-focused system and coordinate them with an overall health and safety management system. Integration of diverse data systems can be particularly important and challenging.
6. **Eliminate recognized occupational hazards.** Changes in the work environment (such as reduction in toxic exposures or improvement in work station design and flexibility) benefit all workers. Eliminating recognized hazards in the workplace is foundational to WorkLife principles.
7. **Be consistent.** Workers' willingness to engage in worksite health-directed programs may depend on perceptions of whether the work environment is truly health supportive. Individual interventions can be linked to specific work experience. Change the physical and organizational work environment to align with health goals. For example, blue collar workers who smoke are more likely to quit and stay quit after a worksite tobacco cessation program if workplace dusts, fumes, and vapors are controlled and workplace smoking policies are in place.
8. **Promote employee participation.** Ensure that employees are not just recipients of services but are engaged actively to identify relevant health and safety issues and contribute to program design and implementation. Barriers are often best overcome through involving the participants in coming up with solutions. Participation in the development, implementation, and evaluation of programs is usually the most effective strategy for changing culture, behavior, and systems.
9. **Tailor programs to the *specific* workplace and the diverse needs of workers.** Workplaces vary in size, sector, product, design, location, health and safety experience, resources, and worker characteristics such as age, training, physical and mental abilities, resiliency, education, cultural background, and health practices. Successful programs recognize this diversity and are designed to meet the needs of both individuals and the enterprise. Effective programs are responsive and attractive to a diverse workforce. One size does not fit all—flexibility is necessary.
10. **Consider incentives and rewards.** Incentives and rewards, such as financial rewards, time off, and recognition, for individual program participation may encourage engagement, although poorly designed incentives may create a sense of “winners” and “losers” and have unintended adverse consequences. Vendors' contracts should have incentives and rewards aligned with accomplishment of program objectives.
11. **Find and use the right tools.** Measure risk from the work environment and baseline health in order to track progress. For example, a Health Risk Appraisal instrument that assesses both individual and work-environment health risk factors can help establish baseline workforce health information, direct environmental and individual interventions, and measure progress over time. Optimal assessment of a program's effectiveness is achieved through the use of relevant, validated measurement instruments.

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- 12. Adjust the program as needed.** Successful programs reflect an understanding that the interrelationships between work and health are complex. New workplace programs and policies modify complex systems. Uncertainty is inevitable; consequences of change may be unforeseen. Interventions in one part of a complex system are likely to have predictable and unpredictable effects elsewhere. Programs must be evaluated to detect unanticipated effects and adjusted based on analysis of experience.
 - 13. Make sure the program lasts.** Design programs with a long-term outlook to assure sustainability. Short-term approaches have short-term value. Programs aligned with the core product/values of the enterprise endure. There should be sufficient flexibility to assure responsiveness to changing workforce and market conditions.
 - 14. Ensure confidentiality.** Be sure that the program meets regulatory requirements (e.g., HIPAA, State Law, ADA) and that the communication to employees is clear on this issue. If workers believe their information is not kept confidential, the program is less likely to succeed.

Program Implementation and Resources

- 15. Be willing to start small and scale up.** Although the overall program design should be comprehensive, starting with modest targets is often beneficial if they are recognized as first steps in a broader program. For example, target reduction in injury rates or absence. Consider phased implementation of these elements if adoption at one time is not feasible. Use (and evaluate) pilot efforts before scaling up. Be willing to abandon pilot projects that fail.
- 16. Provide adequate resources.** Identify and engage appropriately trained and motivated staff. If you use vendors, make sure they are qualified. Take advantage of credible local and national resources from voluntary and government agencies. Allocate sufficient resources, including staff, space, and time, to achieve the results you seek. Direct and focus resources strategically, reflecting the principles embodied in program design *and implementation*.
- 17. Communicate strategically.** Effective communication is essential for success. Everyone (workers, their families, supervisors, etc.) with a stake in worker health should know what you are doing and why. The messages and means of delivery should be tailored and targeted to the group or individual and consistently reflect the values and direction of the programs. Communicate early and often, but also have a long-term communication strategy. Provide periodic updates to the organizational leadership and workforce. Maintain program visibility at the highest level of the organization through data-driven reports that allow for a linkage to program resource allocations.
- 18. Build accountability into program implementation.** Accountability reflects leadership commitment to improve programs and outcomes and should cascade through an organization starting at the highest levels of leadership. Reward success.

Program Evaluation

- 19. Measure and analyze.** Develop objectives and a selective menu of *relevant* measurements, recognizing that the total value of a program, particularly one designed to abate chronic diseases, may not be determinable in the short run. Integrate data systems across programs and among vendors. Integrated systems simplify the evaluation system and enable both tracking of results and continual program improvement.
- 20. Learn from experience.** Adjust or modify programs based on established milestones and on results you have measured and analyzed.

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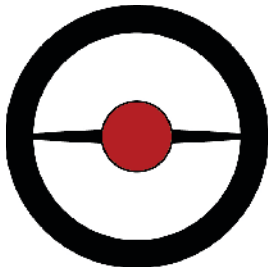
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Appendix
B

Sleep Disturbance and Sleep Apnea for Transit Drivers



Sleep Disturbance and Sleep Apnea for Transit Drivers

Sleep problems lead to fatigue, irritability, and errors. Sleep debt can cause you to fall asleep briefly when you should be awake, even when driving. Moderate to severe sleep apnea is a disqualifying condition for the commercial driver's license (CDL). It is not the only cause of sleep disturbance.

How sleep disturbance affects transit drivers

Sleep apnea, sleepiness at work, and fatigue-related accidents are a concern for bus drivers around the world. Sleep disturbance affects health, and can interact with diabetes and other disease.¹ One in 12 Scottish bus operators studied reported falling asleep at the wheel at least once a month.² Many reported having had an accident (7%) or a near-miss accident (18%) due to sleepiness while working. Sleep apnea in particular is common in all types of drivers: Almost 29% of 1,400 US CDL holders reported sleep apnea.³ It was mild in 18%, moderate in 6%, and severe in 5%. In some research the rates for bus operators are close to other commercial drivers and other working men.⁴

Causes and contributors to sleep disturbance

Shift work: Evenings, nights, very early work, and long shifts make it hard to sleep enough and still interact with family and participate in regular activities. Many transit drivers try to stay up, get up early, or adjust their sleep habits to meet personal obligations. This can lead to sleep debt and fatigue. Even 10 hours between shifts may not leave enough time for meals, 8 hours of sleep, and commuting.

Stress: Transit drivers take home the stress they experience from schedule demands, passenger interaction, and other work concerns. Relaxing or going to sleep quickly can be difficult. Some drivers stay up late to recover from the stress of work. Trying to sleep using alcohol or over-the-counter aids makes restful sleep less likely.

Sleep apnea: Apnea means without breath—this disorder blocks breathing when you sleep, so you wake up briefly throughout the night. Contributors to sleep apnea include overweight, the structure

of the skull or airways, and age. Men are more likely to have sleep apnea and it runs in families. Nasal congestion from allergies, colds, or sinus infections, medications, smoking, or alcohol can make it worse.

What can employers do to address sleep disturbance? ⁵

Encourage Regular Rest: Establish at least 10 consecutive hours per day of protected time off-duty in order for drivers to get 7-8 hours of sleep. Plan one or two full days of rest to follow five consecutive 8-hour shifts or four 10-hour shifts. Consider two rest days after three 12-hour shifts.

Ensure Adequate Rest Breaks: Frequent brief rest breaks (e.g., every 1-2 hours) during demanding work are more effective against fatigue than a few longer breaks. Allow longer breaks for meals.

Provide Rest and Exercise Areas: Provide both quiet rooms and exercise resources to help operators stay rested and fit.

Incident Analysis: Examine near misses and incidents to determine the role, if any, of fatigue as a root cause or contributing cause. Identify and address the work organization elements.

Training: Provide training to make sure that all employees—schedulers, supervisors, human resources, as well as operations staff—understand the impact that shiftwork and other conditions have on sleep.

Support Diagnosis and Treatment of Sleep

Apnea: Some transit agencies cover the full cost of treatment for health problems related to CDL qualification, and a few cover the lost time.

What can transit vehicle operators do about sleep disturbance? Establish the best possible sleep schedule: You need time to sleep enough between work shifts. That should include 10 hours, or at least 8 hours in addition to both commutes, relaxing, eating, and the other things you have to do. Try not to change your schedule a lot on days off.

Keep away from light sources in the hours before bedtime: Computers, TVs, and other electronic devices emit a lot of light and make your body think it is time to be awake. If you work nights, avoiding a lot of sunlight on the way home can help you get to sleep easier.

Change what you consume: Avoid heavy foods and alcohol before sleeping. This can be hard when you get off a late shift—people expect to eat a full dinner at the end of the day. And alcohol seems like it will help you relax. The problem is that both will disturb your sleep. Coffee may keep you going into a late shift, but if you have trouble getting to sleep try to avoid caffeine and other stimulants—you will have to find out for yourself how long before sleep you need to cut off.

Use exercise to get fit and to relax: People who exercise regularly report the best sleep.⁴ You may have heard that exercising is not recommended in the few hours before sleep, but most research shows that your exercise schedule doesn't matter as long you are comfortable and relaxed at bedtime.⁶

Leave work at work: Try to establish a good transition so that you don't carry stress home.

Get comfortable: Your sleep space should be dark, comfortable, quiet, and cool so you can fall asleep quickly and stay asleep.

Take naps if needed: Even a brief 15 to 20 minute nap can improve alertness. You can make up some sleep debt with naps 1 hour or longer. However, napping too long may make it harder to get to sleep when you plan to.

Be well: Get help in identifying and treating sleep apnea.

Get help with your health⁷

Suspect obstructive sleep apnea (OSA) if you snore, are very sleepy during the day, or you stop breathing briefly when sleeping. Signs you should see your doctor: Even with enough sleep, you consistently take more than 30 minutes to fall asleep, you consistently wake several times or for long periods, you take frequent naps, you often feel sleepy, especially at inappropriate times

Get evaluated – this usually means a consult with a sleep specialist followed by an overnight sleep study at-home or in a sleep center.

Get treated: Treatment can include behavioral training, an active sleep device such as a CPAP, an oral device, weight loss, or surgery.

Resources

FMCSA Spotlight on Sleep Apnea (www.fmcsa.dot.gov/safety-security/sleep-apnea/sleep-apnea.aspx)

NIOSH Sleep and Work Blog (blogs.cdc.gov/niosh-science-blog/2012/03/sleep-and-work/)

Gertler, J., Popkin, S., Nelson, D., and O'Neil, K. *TCRP Report 81: Toolbox for Transit Operator Fatigue*. TRB, National Research Council, Washington, D.C., 2002. pubs.trb.org/onlinepubs/tcrp/tcrp_rpt_81.pdf

NIH Your Guide to Healthy Sleep www.nhlbi.nih.gov/health/public/sleep/healthy_sleep.pdf

Additional Transit Health Protection and Promotion materials at <http://www.trb.org/TCRP/TCRP.aspx> and Transportcenter.org

Technical References

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⁶ www.sleepfoundation.org/alert/national-sleep-foundation-poll-finds-exercise-key-good-sleep.

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PART II

Final Research Report

S U M M A R Y

Developing Best-Practice Guidelines for Improving Bus Operator Health and Retention

Transit Health Protection and Promotion Research

Transit Operator Health: Background

Transportation sector employees, and transit bus operators in particular, are more likely to report hypertension, diabetes, and other serious and chronic health problems, compared to the US workforce: In a 2012 survey of 170,000 US workers, transportation workers reported the highest rates of chronic health problems, and achieved the lowest well-being index (Witters, 2013). Since the early 1950s, research has indicated that bus operators are at increased risk of metabolic syndrome, stroke, musculoskeletal disorders (MSDs), digestive problems, fatigue, and sleep disorders (Bushnell, Li, & Landen, 2011; Tse, Flin, & Mearns, 2006). Most of the health problems identified in transit bus operators are affected by a combination of factors, including genetics, health behaviors, and workplace and environmental conditions. In addition, the age, socioeconomic background, and ethnicity of many transit bus operators put them at increased risk for cardiovascular disease, diabetes, and other health problems (Kurian & Cardarelli, 2007; Norris & Rich, 2012; Sharma, Malarcher, Giles, & Myers, 2004).

Transit employers recognize the importance of health and wellness, as do the workers and the unions that represent them (Davis, 2004). Health plan costs and retention issues drive much of the concern. Operator health can also affect customer service, performance, and safe operations.

Transportation Cooperative Research Program (TCRP) Project F-17 was initiated to determine how transit organizations were affected by bus operator health concerns, and what practices could be identified to improve wellness and operational targets such as retention. The TCRP F-17 research team comprised specialists in occupational health and safety, ergonomics, workplace health and health promotion research, health economics, and return on investment analysis. A subject-matter expert (SME) team to guide and evaluate the project output was drawn from the industry and included health promotion managers, HR personnel, medical staff, and union representatives who were also bus operators.

The research team investigated common and best industry practices for health protection and promotion, particularly how transit programs integrated traditional health promotion approaches with important health and safety goals, and how workplace health protection and promotion in transit differed from other industries. The initial focus was narrowly on health and wellness. As research proceeded it became clear that operator health protection and promotion was a better way to describe the best practices observed, because it included all health-enhancing characteristics of the organization and the environment as well as the behaviors of the transit workers. The recommendations of transit workplace health professionals and health researchers supported this framework. Workplace Health Protection and Promotion (WHPP) is used to denote the full range of practice.

This report describes the approaches that transit organizations in the US and Canada are taking to address the health problems faced by transit employees, including detailed practices and some of the problems identified. The accompanying Transit Workplace Health Protection and Promotion Practitioner's Guide and the Planning, Evaluation, and Return on Investment (ROI) Template provide transit organizations with tools to carry out effective transit-specific programs to protect the health of bus operators and other employees.

Transit WHPP Program Structure, Targets, and Practices

Historically, workplace health promotion has targeted individual behavior and disease management (Goetzel, 2012). But as these are only part of the explanation for health conditions, individual and disease-focused initiatives may not successfully maintain and promote health and protect workers. The National Institute for Occupational Safety and Health has collaborated with the Centers for Disease Control and Prevention to establish the Total Worker Health™ model (Centers for Disease Control and Prevention, 2013) The model's essential elements of effective workplace programs and policies for improving worker health and well-being address the work environment, work organization, and individual health concerns. Other models in the US (McLellan, Harden, Markkanen, & Sorensen, 2012) and Europe (Burton, 2010) go farther, to include the social environment that surrounds and supports workers and organizations, and sometimes workforce development as a driver for health. Transit agencies surveyed and interviewed for this project demonstrated all of these approaches in their WHPP programs in varying degrees.

Of the 238 transit locations with scheduled bus service invited to participate in the research, 67 agencies and 40 unions responded, from 93 transit agencies. Active agency health promotion programs were reported by 45 transit agencies and 15 unions, in 52 transit locations. Five unions reported independent programs. More than half of the transit programs were started mainly to prevent work-related injury and illness, improve driver availability, and reduce the costs of healthcare or workers' compensation. The main health problems reported were chronic disease and musculoskeletal problems. About half of responding transit agencies were concerned with achieving desired physical activity, diet, or tobacco use and with responses to work demands and work-family conflict, such as fatigue or stress. Top program targets included nutrition, weight management, and stress management. Budgets ranged from zero to \$372,000.

Activities were diverse, with widely varying individual, group, and organizational targets, from weight loss programs to subsidized treatment for CDL-related health problems to ergonomics assessments and procurement changes. They included social concerns such as charity fundraising and financial wellness. Even popular or well-funded initiatives, such as onsite gyms and health risk assessments, were not reaching more than 20 percent of bus operators in most organizations. Low participation was attributed to schedule conflict and lack of interest.

Coordination, Partnership, and Integration

According to most transit agency contacts in the F-17 study, their WHPP programs are well integrated with operational administrative policies and procedures and areas such as safety or benefits. The union respondents were about half as likely to agree. Many transit agency and union respondents felt that useful information was not available and decision making often took place in silos of influence, limiting the effectiveness of WHPP initiatives. WHPP program activity often overlapped with worker health protection and related concerns such as ergonomics. Following the survey process, many respondents spoke about

planning to integrate their occupational health programs and health promotion activities to improve effectiveness.

Both transit agency and labor contacts felt that their own organizations supported the program and made it a top priority, with less confidence in the other side of the table: most of the agency responders agreed (slightly to strongly) that upper management provided such support, as did less than half of the unions. In parallel, the majority of union survey respondents felt that union leadership supported and participated in the program, while less than half of agency respondents agreed that they did. Where reported, the role of the unions in WHPP included general support for management initiatives, an active role in the transit agency, including participating in committees and planning, purchasing equipment, and running an independent program.

Agency and union respondents reported the health plan as the number one external partner of the WHPP program. Other resources and allies may be underutilized. Several programs called extensively on local and national resources, some even participating in Centers for Disease Control and Prevention initiatives and worked with universities in implementing or evaluating their programs.

Transit-Specific and Operations Concerns

In the initial survey, route schedules were only flagged as having an impact on operator health problems by the union respondents. Scheduling was not an area that the WHPP program seemed to have an impact on. Yet in in-depth interviews and discussions, most transit agencies recognized that route schedules and tours did have an impact on health, and reported that schedules were adjusted to allow for rest, eating, and restroom use.

WHPP program staff and unions were aware of health-supportive policies in related areas such as leave time, ergonomics, and a health-promoting environment. Effective influence on those policies was limited by the separation of health promotion from other departments. Almost all cited the organization of operators' work, including schedule pressures and working alone, as a significant barrier both to program effectiveness and health improvement overall. The health impact of work organization and workplace conditions was addressed practically in return to work accommodations, assault or customer conflict prevention, and workplace health and safety inspections and other programs. These policies are sometimes implemented in coordination with the WHPP program and staff but more often independently.

Only one-third of survey respondents characterized medical disqualification as an important result of bus operator health problems. Most did not see a strong connection between the identified operator health problems and turnover, and few reported concerns about driver availability on the survey. In detailed follow-up interviews, it became clear that for some transit agencies health has a significant impact on availability; however, the role of the WHPP program staff in addressing this was seen as limited.

Important Targets for Transit Agencies

Transit-Specific Resources

Transit organizations—employers and unions—need content and approaches that make sense in the transit workplace, and specifically for transit bus operators. This could include new ways of using well-known activities, as well as innovations in practice and perspective. Despite the expressed need for a transit-specific approach to health, the F-17 research respondents generated many examples of their own tailored activities. The Transit WHPP Practitioner's Guide is designed to make those practices widely available. Many

respondents also wanted to establish ongoing ways to communicate with others who are active in transit WHPP.

Availability and Retention Are Not at the Top of the List of Health Promotion Targets

Absenteeism is the top health impact of concern identified at most transit agencies, but health promotion efforts did not significantly affect absenteeism in many agencies, according to the survey responses. In agencies reporting more comprehensive WHPP activities, and where health outcomes and availability data were analyzed, positive impacts of these activities on absenteeism were seen.

As the F-17 project was developed, the costs related to retention problems, and especially concern about an anticipated loss of skilled operators in the next decades, were expected to drive workplace health promotion practice. However, retention and turnover were not widely considered to be linked to health problems, according to survey and interview contacts, who felt that retention depended more on better pre-hire screening and early supervision than on improving incumbent health. Some respondents pointed out that if the reasons for each separation are not evaluated carefully, the impact of health cannot be determined. Why employees leave transit requires further investigation by transit organizations, including the use of exit interviews, and earlier organizational support for mental and physical health concerns.

Medical disqualification related to diseases that can be controlled or prevented was an acknowledged concern but not systematically addressed in most existing WHPP programs. Several agencies provide additional support or incentives to help operators achieve a complete commercial driver's license (CDL) certification. They do this in part to eliminate the additional cost and lost time incurred when operators are under provisional licenses. CDL status can be a strong individual motivator for health improvement, so targeting these employees is an efficient use of resources.

Trust and Collaboration Are Core Yet Underdeveloped Components of WHPP

Agency and union respondents reported that bus operators often did not trust or welcome health promotion initiatives. Participation in activities was limited. This was true even in areas that unions supported such as worksite exercise facilities. Limited participation could be related to scheduling demands and other work conflicts, as well as to the well-known and universal difficulty health promoters have in helping people to increase their physical activity (Fletcher, Behrens, & Domina, 2008; Wolin, Bennett, McNeill, Sorensen, & Emmons, 2008). Lack of trust was especially apparent for program elements that could be seen as intrusive or punitive, such as health risk assessments or insurance premium incentives. Because union leadership may not feel that health promotion serves their members' best interests, the union structure remains underutilized, and unions do not have the control and influence that could produce health benefits for their members.

The most successful programs identified in the F-17 research process were notable for the degree of support demonstrated by both labor and transit agency staff. In these organizations, bus operators were active contributors to the planning process as well as consumers of the services. In one the health and safety issues were at least as significant as the individual program activities. In other cases the role of work organization was recognized and attempts were made to reduce the health impact.

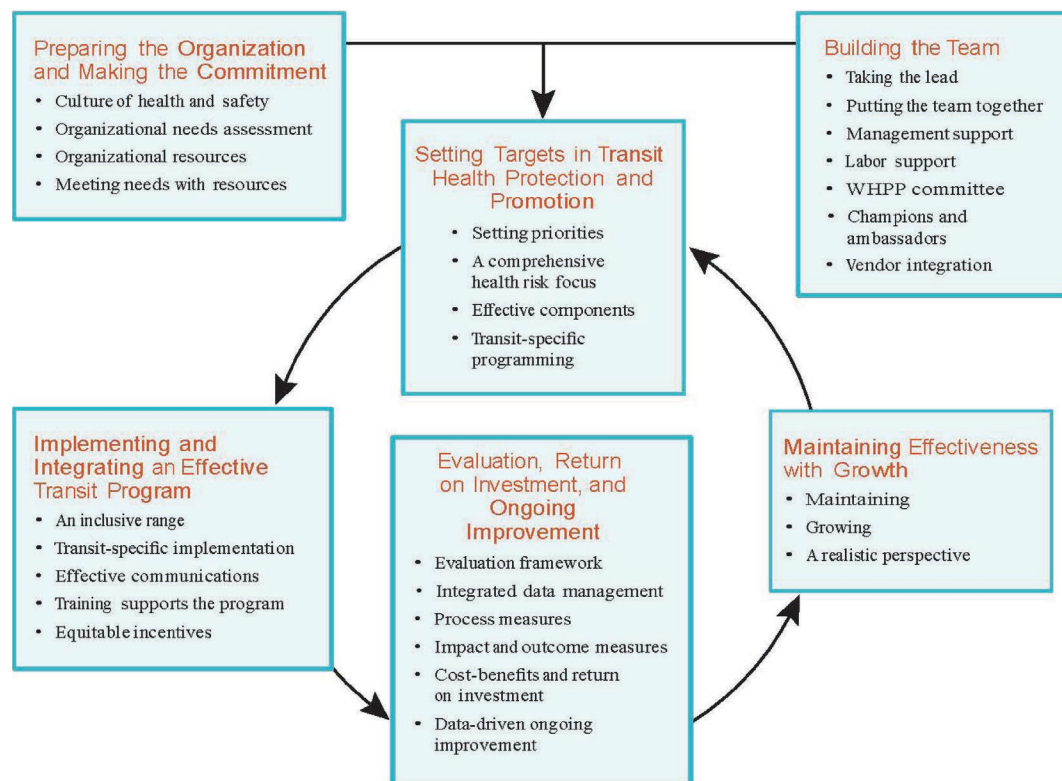
A Practical Application of WHPP models

In traditional health promotion, the workplace can function as a convenient place to get access to individuals rather than an integral component in the human health equation. Workers have health problems, which they need to have diagnosed and treated. The health problems may result from factors beyond their control such as genetics or aging. The health problems affecting bus operators are commonly regarded as preventable through health-enhancing choices and decisions they alone can make. That is, what people are and what they do have a health impact, and the impact leads to undesirable outcomes for the individual or the organization.

The comprehensive WHPP approach recognizes that the environment—what the working conditions are, and how the organization functions—also affects health. WHPP programs in transit agencies that work with their partners to define and recognize the variety of contributors are in a better position to correct or control health problems.

Achieving health in the transit workplace starts with an assessment of employee health status and needs, followed by an evaluation of health-promoting practices and conditions and of barriers to health. Commitment from the organization, including top management and union leaders, and the building of an effective team set the stage for planning and implementing an effective program that integrates health, safety, and operational concerns. Baseline data, ongoing evaluation, and return on investment analyses guide planning and support ongoing improvement.

The F-17 Transit Workplace Health Protection and Promotion Roadmap below illustrates a model for best practice developed to apply the current art and science of worksite health to the particular demands of work in the transit environment.



F-17 Transit Workplace Health Protection and Promotion Roadmap.

The Tools

Practitioner's Guide

The Transit Workplace Health Protection and Promotion Practitioner's Guide accompanying this report is designed for anyone involved in health protection and promotion in the transit workplace. The Guide outline is summarized in Appendix A: Roadmap and Best Practices for Transit Workplace Health Protection and Promotion.

The Practitioner's Guide is based on the National Institute for Occupational Safety and Health (NIOSH) Total Worker Health™ approach, and informed by theory-based practice models such as the SafeWell Integrated Management System for Worker Health and the World Health Organization Healthy Workplace Framework and Model. Although most current programs in the transit industry focus on individual health issues and self-identify as wellness or health promotion, the growing consensus among research, government, and public health practitioners is that the best-practice workplace program is properly defined as encompassing health protection and promotion. The shorthand for this concept used throughout the Practitioner's Guide is WHPP. The Guide also reflects practice and policies that have been developed and applied around the world. Links to many of these are provided in the Tools and Resources section in each chapter.

Most significantly, the approaches described in the Practitioner's Guide rely on the practical examples provided by US and Canadian transit agency staff, union leaders, and bus operators. Enormous thanks are due to all those who provided their information, opinions, and input to make the F-17 research project and this guide possible.

Planning, Evaluation, and Return on Investment Template

As a complementary tool to the Practitioner's Guide, the Planning, Evaluation, and Return on Investment (ROI) Template was developed. It is designed to help transit organizations with program planning, tracking of program process, impact and outcomes measures, and calculation of ROI for their WHPP programs. The template offers a rich collection of tools to track and analyze program costs and direct and indirect benefits based on improvements in health status, productivity, availability, and safety, as well as reductions in absenteeism, turnover, and health insurance costs. It includes instructions, user entries, and automatically calculated outputs in an easy-to-navigate Excel spreadsheet. The template offers a universal yet customizable approach to measuring the impact and ROI of WHPP programs in transit.

Conclusion

“The biggest barrier is the nature of their work, their job design. As bus operators, they work on their own and are mobile rather than working in a specific location during their work day. It is difficult for them to attend training, workshops and events, etc. This is true in all aspects of their work, not just as it relates to health promotion/wellness initiatives.” *Management representative*

The demands of transit work have been shown to contribute to health problems. At the same time, transit workers have serious health concerns that are influenced by factors that may or may not be under their control. The way work is organized can make it harder to achieve health goals. Transit employees, from hourly to top management and union representatives identify problems that may be universal. They are especially concerned about transit-specific issues. The need to address work and individual health contributors is supported by health professionals in safety, health promotion and health care, and by government experts. The consistent report is that people working in transit recognize there are

problems. They want to do something about the problems to keep workers healthier, transit agencies more successful, and the public moving. The way to do that is to pool knowledge and resources within transit agencies and across the industry to improve the individual, organizational, and environmental conditions and resources that affect health.

“We are combining programs to try to increase information and practice of healthy living. We have a Wellness Committee that brings forward programs and information. [We have a] dedicated ergonomist that helps with drivers with specific problems and the Health and Safety Committee which seeks to remove hazardous working conditions.” *Union leader*

Trust is key. The finding that both labor and management felt they supported the aims and intentions of the WHPP program but each undervalued the commitment of the other party remained a consistent theme in follow-up interviews. It represents a critical target for improvement across the industry. Bus operator health, safety, and wellness are recognized priorities for all parties, but an acceptable model for cooperation has not yet been established in many locations. Among the most successful transit agencies investigated in the case studies, trust, respect, and commitment were expressed from all parties. This report and the supporting documents are designed to overcome the barriers and set the stage for action.

CHAPTER 1

Introduction and Research Methods

Background

“An important tenet of Total Worker Health™ is that risks and our responses to them must be proportional. Highest risk occupations and workers require more frequent and more intense workplace health interventions on both the health protection and the health promotion fronts. The higher risks of shift workers and low-wage workers are great examples. These folks often have riskier jobs, more personal health risks and less access to healthcare. They may come from higher-risk communities and are frequently at risk for incomplete worker protection programs on the job. Increasing the number of health interventions, supports, incentives and protections in these higher-risk populations is critical if we are to achieve Total Worker Health™ for all working Americans. Health and safety programs are not only for the day shift or the well-compensated.” *Chief Medical Director, Total Worker Health™, National Institute for Occupational Safety and Health* (Chosewood, 2013).

Transportation sector employees, and transit bus operators in particular, are more likely to report hypertension, diabetes, and other serious and chronic health problems, compared to the US workforce. In a 2012 survey of 170,000 US workers, transportation workers reported the highest rates of chronic health problems, and achieved the lowest well-being index (Witters, 2013). Since the early 1950s, research has indicated that bus operators are at increased risk of metabolic syndrome, stroke, musculoskeletal disorders, digestive problems, fatigue, and sleep disorders (Bushnell et al., 2011; Tse et al., 2006). Most of the health problems identified in transit bus operators are affected by a combination of factors, including genetics, health behaviors, and workplace and environmental conditions. In addition, the age, socioeconomic background, and ethnicity of many transit bus operators put them at increased risk for cardiovascular disease, diabetes, and other health problems (Kurian & Cardarelli, 2007; Norris & Rich, 2012; Sharma et al., 2004).

Transit employers recognize the importance of health and wellness, as do the workers and the unions that represent them, as explored in Transit Cooperative Research Program

Synthesis 52: Transit Operator Health and Wellness Programs (Davis, 2004). Health plan costs and retention issues drive much of the concern. Operator health is also likely to affect customer service, performance, and safe operations. Workplace health protection and promotion (WHPP) has been recognized as an important path to improving operator health and reducing costs. *TCRP Synthesis 52* reported on existing wellness programs and activities in the transit industry, presenting the results of a brief review of business, health, and research literature, surveys of 14 transportation properties, and six in-depth case studies. Most data collection took place in 2003, and the report was published in 2004. According to this study,

“Within the 14 responding agencies, there is evidence of proactive models of organizations seeking to improve operator physical and psychological health and well-being. These organizations have invested in, to varying degrees, health and wellness programs that focus on awareness-, education-, and behavior change-oriented activities of different types. . . . [T]hese activities include health education, exercise, stress management, employee assistance, nutrition, smoking cessation, maintaining mental health, cardiovascular disease prevention, and disease management programs. The processes by which agencies have reached the program implementation stage vary and show the importance of creative and adaptive thinking in designing a program that fits the culture and needs of the individual organization.”

A striking feature of the *TCRP Synthesis 52* survey was its breadth and depth. Respondents provided information on organizational characteristics, program plans, activities, participation, impact, and evaluation. These transit agencies reported a wide array of activities and targets. The survey response was fairly strong (42 percent), but from a very small population (33 surveys distributed). The survey targets were organizations known to have health promotion programs, and thus likely to consider themselves and to be successful. As such, it describes only a segment of the range of transit industry experience and practices.

The *TCRP Synthesis 52* survey produced a useful snapshot of then-current practice. The programs and activities described were largely informational and educational. Only two employers reported policies supporting healthy food choices, and surprisingly not all had tobacco use restrictions or a smoke-free environment. Evaluation focused largely on participation rates and somewhat on satisfaction, but only three of the 14 survey respondents measured changes in the health culture and the physical environment and only one documented improvements in knowledge, attitudes, skills, and behaviors.

The data reported in *TCRP Synthesis 52* seem to demonstrate a low level of involvement of unions in the health and wellness programs: only three locations reported that union leadership communicated support for the program to the members, although more had proposed such programs and signed off on them. This contrasted with the strong union involvement described in several of the case studies. The low level of reported involvement and participation suggested the need to better understand the reasons that unions and their members, and operators in general, support or avoid programs and activities.

TCRP F-17: Defining Current and Best Practice for Bus Operator Health

In 2011, TCRP Project F-17, “Developing Best-Practice Guidelines for Improving Bus Operator Health and Retention,” was initiated to update and apply the knowledge gained from *TCRP Synthesis 52*. From 2011 to 2013, the F-17 research team investigated common and best industry practices for health protection and promotion. The research explored how transit WHPP programs integrated traditional health promotion approaches with important health and safety goals, and how WHPP in transit differed from other industries. This study was designed to catalog and assess the WHPP practices, goals, and models implemented by transportation organizations. The initial focus was narrowly on health and wellness. As research proceeded it became clear that operator health protection and promotion was a more practically and theoretically sound way to describe the best practices that were observed because it included all health-enhancing characteristics of the organization and the environment as well as the behaviors of the transit workers. The recommendations of transit workplace health professionals and health researchers supported this framework. Workplace Health Protection and Promotion (WHPP) is used in this report to describe the full range of practice, unless otherwise specified.

The F-17 program data collection consisted of:

- An extensive review of health and business literature;
- A survey targeting 238 transit agencies and unions in the US, Canada, and Puerto Rico;

- Detailed case examples developed through follow-up with survey respondents; and
- In-depth case studies.

The Transportation Learning Center’s research team and academic consultants worked over the course of more than a year to identify and analyze the programs and activities that agencies respondents felt contribute to improvements in operator health, absenteeism, medical disqualification, turnover, health care costs, the work environment, and other outcomes related to operator health.

A panel of nine SMEs—working transit bus operators, union representatives, and transit agency safety and wellness staff from agencies and unions in the US and Canada—helped assess the information and contribute to the development of the Transit WHPP Practitioner’s Guide and the Planning, Evaluation, and Return on Investment (ROI) Template. All research phases were supported by the academic partners who represented stress and cardiovascular epidemiology, health economics, occupational medicine, and health promotion disciplines.

Where the Transit Industry Stands

As described in detail in Chapter 3: Findings and Applications, WHPP programs and activities are common but not universal in transit operations. Programs are run by human resources, safety, and operations departments but typically not by experienced transit bus operators. All respondents took the issues of bus operator health, wellness, and safety seriously. Work organization and environment issues, although recognized as important to operator health, were often not addressed by the programs. Restricted silos of data, access, and influence were extensively reported to get in the way of effective program action.

In comments and interviews, support for a WHPP program that addresses transit-specific health protection and promotion was strong. However, only half of the transit agencies responding to the survey had current workplace health promotion programs for transit bus operators, and only one out of three among smaller agencies. Organizations with programs may have been more likely to respond to a survey on the topic, so the actual proportion of transit agencies with programs could be lower. This is less than the national average for other industries. A recent Kaiser Foundation survey showed that 63 percent of all employers who provide any health benefits also offer some health promotion resources to their employees, and usually to families as well (Claxton et al., 2012). Another 10 percent of the F-17 survey respondents plan to start or restart a WHPP program.

The majority of transit agencies with active programs followed a traditional health promotion program design, where health promotion consisted of somewhat isolated activities

rather than being integrated with other related programs and policies such as occupational safety and health protection, work design, and scheduling. Limited financial resources were seen as a major constraint to starting or broadening a program. But even transit agencies with the will to begin or expand sometimes lacked a systematic approach in preparing the organization and planning the process. They described narrowly focused programs that may not achieve what they expect.

The common thread was that transit bus operators are harder to reach than less mobile transit employees. Unions and management assessed the programs differently; each tended to report supporting such activities more than the other party. But all respondents felt strongly that joint action was essential in providing operators and other transit workers the resources they need to stay healthy and safe at work, and to return home the same way. Management respondents were much more confident that the organization's policies and actions supported health than did union respondents. This disparate rating is commonly found in safety culture research (Huang et al., 2013).

The survey and interview data collected from managers, operators, health promotion and safety staff, and unions show that effective health protection and promotion requires organizational support, adequate resources, data-based and collaborative planning, and ongoing evaluation and improvement. Although integrating health promotion and workplace health and safety concerns made sense to them, most did not have ways to do so. These transit industry contacts produced an extensive list of general and transit-specific program activities and supports that agencies and unions felt had been of value or were likely to improve operator health, wellness, and retention.

F-17 Project Products

This project has produced a catalog of the common and innovative practices in bus operator WHPP. By comparing the models seen in practice with those described in the wider health promotion literature and practice, the F-17 research team established the outlines, targets, and effective actions for a comprehensive WHPP framework for transit employers and unions. The framework is described in detail in Chapter 5: From Industry Practice to Best Practice and Chapter 6: Program Evaluation and Return on Investment, and detailed in the Transit WHPP Practitioner's Guide and the Planning, Evaluation, and ROI Template.

The investigation of the F-17 project has already had an impact. During data collection, agency and union respondents often recognized potential improvements or were inspired by the discussion to reinvigorate their own programs. Several have already increased collaboration and co-sponsorships, realizing that sharing ideas helps them grow. Many sources,

and in particular the group of SMEs, expressed a desire to participate in ongoing exchange of information and practice discussions addressing transit worker health protection and promotion.

Research Approach

The F-17 research team set out to identify and analyze programs and activities that contribute to improvements in operator health, absenteeism, medical disqualification, turnover, health care costs, and other outcomes related to operator health. The first stage of the research cataloged and assessed the workplace health protection and promotion program practices, goals, and models implemented by transportation organizations. Data collection consisted of a literature review, a survey targeting 238 transit agencies and unions, detailed case examples developed through follow-up with survey respondents, and a series of in-depth, illustrative case studies. The program and implementation models seen in practice were compared with models described in the health promotion literature and practice to establish the outlines, targets, and effective actions for the final comprehensive workplace health promotion framework.

After conducting follow-up interviews with agency and union contacts and performing descriptive data analysis, the research team developed:

- Industry profiles of workplace health protection and promotion (WHPP) activities.
- Case examples of all respondents with WHPP programs.
- A summary rating of case respondents' program activity.
- A set of case study targets that illustrate development, implementation, and assessment issues in WHPP.

Survey

To expand on the research initiated in *TCRP Synthesis 52: Transit Operator Health and Wellness Programs*, the F-17 research team including the academic consultants developed a survey to collect data on current workplace health protection and promotion programs or policies, current evaluation methods, and best practices. This industry-wide survey instrument was directed at wellness coordinators, union leaders, and others responsible for health and wellness activities at their transit agencies.

The survey began by targeting the 22 data elements listed in the initial research statement:

1. Agency name;
2. Transit agency characteristics;
3. Employee demographics;
4. Program data gathering and analysis;

5. Health and wellness program budget and annual business plan;
6. Integration of the health and wellness program with other organizational functions;
7. Incentives to encourage participation;
8. Percent of employee participation stratified by job classification, enrollment, and by active participation;
9. Program communication processes and activities;
10. Supportive organizational environment;
11. Scope of health and wellness activities (disease management, prevention, etc.);
12. Specific health and wellness activities offered;
13. Scheduling;
14. Policies supportive of the health and wellness program;
15. Changes in work organization;
16. Absenteeism;
17. Medical disqualification;
18. Turnover;
19. Management and union support for the health and wellness program;
20. External partners to the health and wellness programs;
21. State and local governmental mandates for health and wellness programs; and
22. Evaluation of the program outcome and cost savings.

Additional questions were added to characterize the transit agency health culture, discover innovative practices, and illuminate barriers and enabling conditions. Wherever possible, questions were based on existing health protection and promotion surveys as identified in the literature review. To take into account the different roles of management and union leaders in health protection and promotion, separate surveys for agency and union respondents were developed. The survey was vetted by the academic partners who have extensive experience in collecting health data (Landsbergis and Fisher), economic data (Levenstein) and health promotion program information (McLellan). The final versions of the survey were published in Survey Gizmo, a leading online survey engine, to be accessed by targeted stakeholders. PDF copies were also distributed upon request. The final agency and union survey instruments are attached to this report in Appendix C (Management form) and D (Labor form).

Using the APTA 2011 Fact Book, the CUTA 2010 Fact Book, and the National Transit Database, a list of potential survey locations was created. The list included the top 50 bus agencies by ridership based on the APTA 2011 Fact Book, the top 20 Canadian agencies by ridership based on the Canadian Urban Transit Association (CUTA) 2010 Fact Book, a pre-selected agency list based on team knowledge of existing program activity, and 150 randomly selected agencies listed in the NTD database and the CUTA Fact Book. The final list

of approximately 238 was adjusted to ensure that locations from all states were covered.

An invitation to participate in the 32-question survey was distributed via email by the American Public Transit Association, CUTA, and the project team to CEOs, and by mail and email from international unions to local union presidents. Follow-up emails were sent and two telephone calls were made to all non-responding agencies and unions throughout the five-month data collection period. Responses from 67 agencies across the US (52) and Canada (15) were received, and from 40 agencies represented by 44 local unions (8 Canadian and 36 US), for a total of 94 different agencies, about 40 percent of the targets. Follow-up discussions were held with 40 sources from 26 agencies to clarify the survey findings and expand on the experience of labor and management. In-depth case study interviews were completed with five agencies whose practice illustrated core concepts in designing, implementing, and assessing integrated WHPP programs.

The survey response frequencies and distribution—a snapshot of the current profile of programs within the responding transit organizations—are described in Chapter 3: Findings and Applications: A Profile of the Industry.

Follow-up Data Collection and Case Examples

After surveys were completed, follow-up discussions by telephone or email with 40 sources from 26 agencies were held to clarify the survey findings and expand on the health and wellness program experience of labor and management. The in-depth interview questions, used in these follow-up interviews and vetted by the academic consultants, built on the survey questions to fill in gaps of qualitative and quantitative information not provided in the initial broad survey design. Using the survey responses and follow-up interviews, a catalog of case examples of workplace health protection and promotion programs was developed, which are reported on in Chapter 4: Case Examples and Case Studies. Survey respondents were selected as case examples if they provided follow-up agreement and contact information, included transit fixed-route transit bus operators, had a current workplace health promotion program within the last five years, and submitted a substantially complete survey or otherwise indicate involvement with project concerns. Although the initial plan called for focusing on locations that had demonstrated measurable changes, clearly established and quantitatively supported outcomes were in fact rare in the responding population. More significantly, many organizations had successes to describe and warnings to provide even in the absence of measured impact. Thus data collection was not limited to obviously successful programs but continued where the informant response indicated the existence of an exemplary program component.

The survey follow-up in-depth interview questions, quantitative data collection questions, and case example questions are provided in Appendix E.

Case Studies

After a review of the case example catalog, the F-17 research team and academic partners developed a set of criteria to identify effective programs for in-depth case study investigation. These criteria included the minimum and preferred requirements for potential case studies.

The rating process reviewed whether:

- The agency had a program, rather than simply referring to the health plan or carrying out a few activities.
- There was involvement throughout the organization.
- The program addressed retention and other operational needs.
- Evaluation data was collected.
- Health outcomes data was collected.
- Return on investment was calculated.
- There was a person responsible for the program.
- The program allowed family and/or group involvement.
- The program was a stand-alone or integrated program.

Ten potential case study targets were defined. A case example follow-up questionnaire was developed by the research team and academic consultants to help with the case study selection process. In-depth interviews were held with 15 sources from the 10 agencies. Six recurring themes that illustrated the path to establishing and maintaining a WHPP program were identified in this process: program initiation, health targets and problem definitions, building the team, using internal data to plan and adapt, maintaining effectiveness with growth, return on investment, and integration with work environment changes. Five agencies with active and effective programs that illustrated at least one of these concepts were identified and asked to participate more extensively in the

case study process. Table 1 lists the case study sites, and the program area that they illustrated.

The five case studies were developed through a combination of site visits, email exchanges, and telephone conversations. During site visits interviewers participated in health and wellness committee meetings, visited health and wellness program facilities, and interviewed health and wellness program participants, program administrators, and union representatives. Telephone and email exchanges were used to efficiently collect data and conduct interviews.

In addition to these five case studies, the F-17 research team also analyzed the combined examples of small agency respondents and particular issues facing multi-agency programs offering health and wellness programs through a city, state, or county government entity. The case studies are detailed in Chapter 4: Case Examples and Case Studies.

Defining Best Practices

The F-17 research team used the components of best workplace health promotion practice as defined by health promotion researchers (Grossmeier, Terry, Cipriotti, & Burtaine, 2010), the European Network for Workplace Health Promotion (ENWHP), and the NIOSH Total Worker Health™ essential program elements (Centers for Disease Control and Prevention, 2013) to draft a framework for transit workplace health protection and promotion practice. Elements and components were added and edited based on the survey and interview results, the transit-specific literature, and theory considerations suggested by the SafeWell Practice Guidelines (McLellan, Harden, Markkanen, & Sorensen, 2012) and the World Health Organization model (Burton, 2010), with input from the F-17 academic partners. A summary table detailing the components, measures, and outcomes of good practice in transit agencies was compared to the library of best practices developed through the data collection, and included detailed descriptions of the practices, descriptions of specific actions, tools, resources, and references was reviewed by the TCRP

Table 1. Learning from industry practice: case studies.

Agency Name	Program Area
Los Angeles County Metropolitan Transit Authority (LACMTA)	Getting Started—Preparing the organization and making the commitment
Dallas Area Rapid Transit (DART)	Building the Workplace Health Protection and Promotion Team
Edmonton Transit System (ETS)	Setting Targets in Transit Health Protection and Promotion
Orange County Transportation Authority (OCTA)	Implementing and Integrating an Effective Transit Workplace Health Protection and Promotion Program
Capital Metropolitan Transportation Authority (Capital Metro)	Evaluation, Return on Investment, and Ongoing Improvement
Los Angeles County Metropolitan Transit Authority (LACMTA)	Maintaining Effectiveness with Growth

F-17 panel. (Detailed references available on request to the principal investigator.) The final suggested components and examples of best practice were reviewed and revised by the subject-matter expert team and the academic partners. These industry best practices will be discussed in detail in Chapter 5: From Industry Practice to Best Practice.

Transit Workplace Health Protection and Promotion (WHPP) Practitioner's Guide

The Practitioner's Guide was designed to support the development of effective health protection and promotion programs in the transit workplace. The Practitioner's Guide contents are based on the model of health and change developed by researchers, health agencies, and on-the-ground practitioners around the world. It follows national recommendations for workplace health protection and promotion and applies these concepts to the practical realities of the transit workplace. The main focus is on transit bus operators because of the established health risks and demanding working conditions, but the concepts can be used throughout transit operations, maintenance, and other areas. Even when they address safety concerns, the Practitioner's Guide and the WHPP program cannot replace a Safety Management System approach or take on the work of the organization's Environment, Health, and Safety department; Human Resources; and all the other disciplines that contribute to an effective organization. The goal is to bring together the issues across transit workplaces that affect health, safety, and well-being, and to engage the people who can make a difference.

Planning, Evaluation, and Return on Investment (ROI) Template

The F-17 research team collected examples of existing evaluation tools and cost-benefit calculators from literature sources, websites, and the participating survey and case study locations. These resources included program outcome tracking tools, survey instruments, methods for estimating program costs, and return on investment (ROI) calculators. Practical measurable indicators of success identified by industry respondents included health outcomes measures,

health care costs, safety, absenteeism, productivity, and employee satisfaction.

Using these resources, the F-17 research team developed a list of measures for program planning, impact and outcomes tracking, and cost and benefits for ROI analysis of workplace health promotion programs, as applicable to transit and especially bus operator programs. These were built into Excel spreadsheets to incorporate user entries and automatically calculate outputs. In the Planning, Evaluation, and ROI Template, sample data is provided that allows users to explore the template without deploying real data. The program cost and financial benefits totals are transferred to a summary sheet with return on investment calculations. Additional tools and resources are linked to in the template, including reference articles, program rating guides, questionnaires, and online calculators.

Subject-Matter Experts

For products developed in this project to be technically robust and genuinely valuable to transit stakeholders, the F-17 research team recognized the importance of involving subject-matter experts (SMEs) from the transit industry throughout the process. Using survey and follow-up interview responses, four union and five agency SMEs were recruited to provide input on the library of best practices and criteria for effective programs. The SMEs were identified based on the effectiveness of the health and wellness programs at their respective agencies, their own knowledge and competencies, and their willingness to participate and provide input. They participated in meetings to discuss the draft of the library of best practices and to discuss best and innovative practices at their locations. The subject-matter experts and academic partners helped finalize the best practices for the Practitioner's Guide.

Subject-matter experts were also involved in the development and testing of the Planning, Evaluation, and ROI Template. The SMEs were asked to review the template for any inadequacies or missing components. Management SMEs were asked to input data into the template to test the functionality and ease of use of the template. Based on their comments and reviews from the project health economist and other academic partners, the Planning, Evaluation, and ROI Template was finalized and integrated into the Practitioner's Guide.

CHAPTER 2

Literature Review

Literature Search

A literature search was carried out on the National Library of Medicine search engine PubMed and the business resource LexisNexis. Titles generated were reviewed if they described health promotion efforts in transportation, discussed key elements of health promotion programs such as return on investment, or described health and safety factors affecting transit bus operators. A search on “health promotion AND occupational AND bus operator” in PubMed produced 82 references since 2000, of which 26 were relevant. A search on “bus AND health” produced 82 references since 2010, of which 32 were relevant. A review of the research bibliography collected in the past by the principal investigator produced about 100 useful references, most pertaining to transportation worker health problems, health promotion practice methodology, and intervention research results in transportation and skilled trade workplaces. The project consultants provided about 20 additional references, most addressing methods and their own research practice. LexisNexis was searched for “workplace health promotion AND transportation,” producing 34 further references of which 15 were relevant.

On review the literature search identified 60 citations from all data sources describing health promotion interventions and practices relevant to the transit workforce. Transportation workplace interventions were described in 35 sources. The remaining sources discussed interventions in other blue-collar environments such as construction and health interventions directed at problems that are significant problems for transit bus operators, such as cardiovascular disease. Several hundred additional articles discussing disease epidemiology, workplace exposures, and occupational health and safety interventions in the transit industry were also identified. The literature demonstrating the rates of illness in transit workers and related occupations research is described with examples from 54 of these sources in the next section, but a comprehensive review of the field is beyond the scope of the

current report. The primary focus of this review is to summarize the findings from workplace health protection and promotion approaches most relevant to bus and other transportation operators. This includes some studies addressing work conditions and environment in the context of specified health targets but not the extensive literature on occupational health and safety. The evaluation and return on investment literature is discussed in Chapter 6: Program Evaluation and Return on Investment.

Transit Bus Operator Health

Prevalence of Health Problems Among Transit Workers

Transit bus operators experience a wide range of physical and mental health problems, including chronic diseases, such as cardiovascular disease, cancer, and hypertension, disorders that have acute and chronic components, such as lower back pain and depression, and injuries resulting from assault or accidents. The findings have been consistent in research carried out across decades and countries. A review of 22 articles in 1988 reported: “These studies focus on three main disease categories: (1) cardiovascular disease, including hypertension, (2) gastrointestinal illnesses, including peptic ulcer and digestive problems, and (3) musculoskeletal problems including back and neck pain. The studies consistently report that bus drivers have higher rates of mortality, morbidity, and absence due to illness when compared to employees from a wide range of other occupational groups.” (Winkleby, Ragland, Fisher, & Syme, 1988). A recent review of 27 papers covering 50 years of bus operator well-being confirmed,

“Early findings that bus drivers are liable to suffer ill health as a result of the job remain true today. The research has, however, demonstrated a greater understanding that specific stressors result in certain physical (cardiovascular disease, gastrointestinal disorders, musculoskeletal problems, fatigue), psychological

(depression, anxiety, post-traumatic stress disorder) and behavioural outcomes (substance abuse). Bus driver ill health will have consequences for organisational performance in terms of employee absence, labour turnover and accidents. Stressors for bus drivers include poor cabin ergonomics, rotating shift patterns and inflexible running times.” (Tse et al., 2006)

The review authors point out that transit bus operators are screened frequently and may be disqualified from the occupation for a variety of health problems that are common in the population at large and among other workers. The actual rates of disease related to bus operator work could be higher if those who left the occupation for related health reasons were included in the analysis.

Research continues to demonstrate a high prevalence of cardiovascular disease (CVD), hypertension (HT), and diabetes in transportation workplaces around the world. In addition to the evidence for hypertension described in these review papers, studies have shown hypertension in transit bus operators in California (Ragland et al., 1989) and Russia (Elgarov & Zhurtova, 1998). A recent analysis assessed the prevalence of 15 diseases by industry subsector from health plan data in more than 214,000 workers in Pennsylvania. Local and interurban passenger transit employees showed the highest rates of hypertension, depression, CVD, and diabetes (adjusted for age and gender but not smoking, race, socioeconomic factors, and other potential contributors) (Bushnell et al., 2011). In 2009, 4,402 US retired transit workers had a statistically greater prevalence of CVD risk, hypertension, and diabetes, compared to national samples of blue-collar retirees (Gillespie, Watt, Landsbergis, & Rothenberg, 2009). In a group of New York City bus drivers, there was a significant excess of death due to ischemic heart disease (Proportionate Mortality Ratio (PMR) =1.23) (Michaels & Zoloth, 1991). Diseases of the circulatory system made up the largest proportion of disease found in bus and tram operators in Croatia (Szubert & Sobala, 2005). Hospitalization related to stroke was increased by 57 percent in Danish professional drivers (Standardized Hospitalization Ratio (SHR)=157), and by 40 percent in bus drivers (SHR=139), compared to the male working population. Brazilian bus drivers were at higher risk of CVD than other workers (Neri, Soares, & Soares, 2005).

Metabolic syndrome, a cluster of health indicators that predict CVD, is more common among transit bus operators than other workers. In a study of 8,500 US workers, the cohort of transport and materials handling workers including transit bus operators were found to be at the greatest risk of meeting the criteria for metabolic syndrome (Davila et al., 2010). Elevated body mass index (BMI), low physical activity levels, and poor hormone function have been found in Croatian, Dutch, and Iranian transit bus operators (Proper & Hildebrandt, 2010; Skrobbonja & Kontosic, 1998). Overweight and hypertension were more common in drivers than nationally demographi-

cally similar males in Poland; 68 percent of drivers who were both hypertensive and overweight were also hyperglycemic (Marcinkiewicz & Szosland, 2010).

Research has indicated that some cancers are associated with transit work: New York City transit bus operators showed a higher mortality from all malignant neoplasms and from cancer of the esophagus than the US population (Michaels & Zoloth, 1991). German case-controls studies showed an increased risk, after controlling for smoking and alcohol, of esophageal cancer associated with diesel oil and gasoline exposure among transportation and warehousing workers (Ahrens, Jockel, Patzak, & Elsner, 1991), and of lung cancer (Jockel, Ahrens, Jahn, Pohlabein, & Bolm-Audorff, 1998). US transport and motor vehicle operators were at a significantly greater risk of esophageal and stomach cancers (Engel et al., 2002). There was an excess of lung cancer mortality among urban transit workers in Canada (Guidotti, 1992) and in Italy (Merlo et al., 2010). However, other studies do not support this: a recent Danish study found little evidence of increased cancer among transit bus operators, and no association between length of employment and cancer (Petersen, Hansen, Olsen, & Netterstrom, 2010). Cancer mortality was not increased among Swedish transit bus operators (Alfredsson, Hammar, & Hogstedt, 1993). Two US studies using data from the 1980s suggest that transit operators were more likely to have used tobacco than other workers (Leigh, 1996; Lipton, Cunradi, & Chen, 2008).

Lung problems in addition to cancer are of concern in transportation work. In an assessment of US working population data to determine the level of chronic obstructive pulmonary disease (COPD) risk by occupation, motor vehicle operators were 37 percent more likely to be diagnosed with COPD than insurance and financial workers (Bang, Syamlal, & Mazurek, 2009). The researchers found smoking to be more common among transportation operators. In an investigation of National Health and Nutrition Examination Survey (NHNES), data, transportation operators were the highest-ranking occupation for cigarettes smoked per day (Leigh, 1996).

A large number of studies have examined lower back, upper back, arm and neck pain, and clinical disorders in the US (Greiner & Krause, 2006), Brazil (Neri et al., 2005), Mexico (Prado-León, Aceves-González, & Avila-Chaurand, 2008), Malaysia (Tamrin et al., 2007), among others. In Israel, the 12-month prevalence of pain was elevated in transit bus operators (back 45.4 percent, neck 21.2 percent, shoulder 14.7 percent, upper back 8.3 percent, elbow 3.0 percent, wrist 3.0 percent) (Alperovitch-Najenson, Katz-Leurer, Santo, Golman, & Kalichman, 2010b; Alperovitch-Najenson et al., 2010a). Among a stratified random sample of 195 urban motor coach operators in California, 80.5 percent of drivers had current back or neck pain in contrast with 50.7 percent of non-drivers, although severe pain was comparable in the groups (Anderson, 1992). Dutch drivers had higher rates of back pain

(Hildebrandt, 1995). School bus drivers in Canada were more likely to have neck and shoulder problems than the general population (Gourdeau, 1997). Musculoskeletal problems among bus drivers, including carpal tunnel syndrome and back pain, may be caused or aggravated by motor vehicle accidents and hazardous environmental conditions (Barak & Djerassi, 1987).

Bus operator health has an effect on operations as well as on the operators. As cardiovascular illnesses, musculoskeletal diseases, and other concerns for transit bus operators develop over time, work efficiency may decline, and employee absenteeism and onsite injuries increase (Kompier, Aust, van den Berg, & Siegrist, 2000; Kompier, 1996). Transport agencies have for decades reported their concern with the impact of poor ergonomics and poor worker health on operations (Long & Perry, 1985). Fatigue is a recognized risk for commercial vehicle accidents (Gertler, Popkin, & Nelson, 2002; Scott, 2003), but in a Turkish study only daytime sleepiness and not other symptoms were related to accidents among drivers with obstructive sleep apnea (Akkoyunlu et al., 2013). The role of other diseases in accidents, including those that disqualify operators from a CDL, has been extensively investigated although the evidence is mixed; for example, one estimate calculated that bus operators were less likely to experience accidents related to a second myocardial infarction than other drivers (Shephard, 1998), and in Japan bus operators were less likely than other drivers to experience vehicle accidents during vascular events while driving (Hitosugi, Gomei, Okubo, & Tokudome, 2011). Overall, the financial impact of operational losses and health care costs, particularly in an aging workforce, are a major concern for transit employers and others. At the same time, researchers have developed predictive models suggesting that the cost growth can be slowed if effective risk factor modification programs are implemented (Leutzinger et al., 2000).

The Impact of Conditions of Work

A complex set of individual, social, organizational, and environmental factors affects worker health and influences cost and operational outcomes. Work exposures and work organization contribute to the occurrence of diseases such as CVD, hypertension, diabetes, and MSDs. For example, diesel exhaust has a direct effect on existing heart disease (Mills et al., 2007), and night work in other sectors is linked to metabolic syndrome (Pietrojusti et al., 2010) and cancer (Megdal, Kroenke, Laden, Pukkala, & Schernhammer, 2005). There is literature describing work organization and environmental factors affecting transit bus operators include long hours, shift work, sedentary jobs, low social capital, heavy traffic routes, poorly designed driver seats, and hostile passengers, among others (Bacharach, 2005; Kashima, 2003). In a survey of 785 bus operators in China, age, body mass index,

depression, daily working hours, perceived company safety culture, and health problems were significantly associated with self-rated health. Work conditions can also affect health behaviors, so that transit bus operators who work long shifted hours have less of an opportunity to participate in the appropriate amount of physical activities (Szeto & Lam, 2007). Uncomfortable seats and lack of back support were reported more frequently by urban bus drivers with neck pain than those without and upper quadrant pain and low-back-pain were associated with physical and psychosocial stressors among Israeli transit bus operators (Alperovitch-Najenson et al., 2010b; Alperovitch-Najenson et al., 2010a).

High job strain due to the organizational risk factors of this profession can cause stress (Greiner & Krause, 2006). An increase in work-family conflict, mainly due to long work hours, has been associated with an increase in the likelihood of sickness absence (Antonio, Fisher, & Roskam, 2009; Bacharach, 2005; Long & Perry, 1985). Work-family conflict for operators may be greatest for those caring for children (Scheller, 2011). Mental and physical stressors experienced by all workers have been associated with smoking status (Bang et al., 2009). Depression, elevated in transit workers in Pennsylvania and Canada (Bushnell et al., 2011; Guidotti, 1992) can influence overall well-being and reported health, and thus smoking may be used as a coping mechanism (Chung & Wong, 2011).

Workers with high job demand and low control are at an increased risk for poor physical and psychological outcomes (Choi et al., 2010). The high work demand of transit bus operators may be associated with greater risk of diseases such as CVD (Sapp, Kawachi, Sorensen, LaMontagne, & Subramanian, 2010) and disturbed sleep (Utsugi et al., 2005). Fatigue may be affected by positive work experiences, and have an impact on healthy decision making: Motor freight workers reporting lack of job strain and greater supervisory support were more likely to achieve adequate sleep patterns and make healthy food choices (Buxton et al., 2009).

Health Summary

Research covering more than five decades demonstrates that transit sector employees, and transit bus operators in particular, have higher rates of many chronic diseases than other workers. In a large national survey in 2012, transit bus operators were in the top of all occupations in self-reported prevalence of obesity (#1 among all job titles), smoking (#3), limited exercise (#2), lower than recommended fruit and vegetable intake (#4), work that does not use their strengths (#2), supervisors who are not partners (#1), and they had the lowest overall well-being index (Witters, 2013). Research suggests that there is a connection between transit employment and metabolic syndrome, diabetes, stroke,

musculoskeletal disorders, digestive problems, fatigue, and sleep disorders (Tse et al., 2006). Most of the health problems identified in transit bus operators are affected by a combination of factors: genetics, life experience, health behaviors, and workplace and environmental conditions such as air pollution, passenger assault, schedule stress, and sleep disruption. In addition, the age, socioeconomic background, and ethnicity of many transit bus operators put them at increased risk for CVD, diabetes, and other health problems (Kurian & Cardarelli, 2007; Norris & Rich, 2012; Sharma et al., 2004). Effective workplace health protection and promotion efforts in transit will need to address disease identification and management, the health environment, and the environmental and organizational contributors to operator health, safety, and well-being as well as productivity and other organizational outcomes.

Health Protection and Promotion Interventions

Effective Health Promotion

The Centers for Disease Control and Prevention (CDC) Task Force on Community Preventive Services reviews the

research literature on workplace health promotion on an ongoing basis, focusing strongly on individual health and wellness; the review does not cover occupational health protection or safety (Task Force on Community Preventive Services, 2010). As shown in Table 2, the Task Force reports convincing evidence that workplace environmental and policy approaches can increase physical activity, by creating or improving access to places for physical activity combined with informational outreach. Workplace obesity programs have had some success; however, the research reviewed focused on white collar workforce and may not apply as well in the transit environment. This analysis could not determine what, among the many educational, fitness, or other health promotion components was having the observed effects on obesity. There is adequate evidence to support the effectiveness of onsite flu vaccination programs, and decreasing tobacco use with worksite policies, incentives, and competitions.

Another clear message of the Task Force on Community Preventive Services was that health risk screening or health risk assessment (HRA) alone is not enough, but following HRA results with health education, referrals, and activities does improve health outcomes. According to the review, health education following HRAs can have an impact on tobacco, alcohol, and seatbelt use, blood pressure and cholesterol, days

Table 2. Task Force on Community Preventive Services recommendations and findings.

Interventions to Promote Seasonal Influenza Vaccinations Among Non-Healthcare Workers	
Onsite, Reduced Cost, Actively Promoted Vaccinations	Recommended 2008
Actively Promoted, Offsite Vaccinations	Insufficient Evidence 2008
Assessment of Health Risks with Feedback (AHRF) to Change Employees' Health	
AHRF Used Alone	Insufficient Evidence 2006
AHRF Plus Health Education with or without Other Interventions	Recommended 2007
Preventing Chronic Disease	
Skin Cancer Prevention: Education and Policy in Outdoor Occupational Settings	Insufficient Evidence 2002
Diabetes Prevention and Control: Self-Management Education at the Worksite	Insufficient Evidence 2000
Obesity Prevention: Worksite Programs to Control Overweight and Obesity	Recommended 2007
Promoting Physical Activity	
Point-of-Decision Prompts to Encourage Use of Stairs	Recommended 2005
Creation of or Enhanced Access to Places for Physical Activity Combined with Informational Outreach Activities	Recommended 2001
Decreasing Tobacco Use in Worksite Settings	
Smoke-Free Policies to Reduce Tobacco Use Among Workers	Recommended 2005
Incentives and Competitions to Increase Smoking Cessation	
Incentives and Competitions when Used Alone	Insufficient Evidence 2005
Incentives and Competitions when Combined with Additional Interventions	Recommended 2005

Source: www.thecommunityguide.org/worksites/index.html, accessed May 6, 2013

lost, and appropriate health care utilization, as well as on the total number of self-reported risk factors. It does not have a proven impact on fruit and vegetable intake, body composition, or overall fitness. (This may be because it is hard to show statistical significance for small changes that may be important to health at the individual level, or because the measured interventions were not well executed, or because they do not in fact work.)

Research on Health Promotion in Transportation and Related Interventions

Thirty-five articles describing research on health promotion interventions in the transportation sector were reviewed for this report, along with 25 articles in other blue-collar workplaces and similar settings that provide insight into the approaches that may be effective in public transit.

Disease Identification and Management

Health risk screening and monitoring are common in workplace health promotion programs. They are useful for making referrals for treatment, for targeting interventions to workers at risk of disease, but, as noted earlier, screening and risk assessment work in the context of effective support and counseling.

Blood pressure machines were installed at bus terminals to increase hypertension awareness in school bus drivers where almost 60 percent of operators were found to be hypertensive (Doyle, Severance-Fonte, Morandi-Matricaria, Wogen, & Frech-Tamas, 2010). This screening was combined with gym access, free diet consultations, and educational mailings. At follow-up, blood pressure was reduced and health behaviors improved: 58 percent of participants were controlled to blood pressures below 140/90 mmHg, the current standard for a commercial driver license (CDL) certification. An increased proportion of previously diagnosed hypertensive drivers reported home BP monitoring, regular exercise, and a healthy diet. Following a utility company hypertension (HT) management program, including information about medication and verbal counseling, there were significantly fewer drivers with uncontrolled hypertension, including those with diabetes, obesity, or on HT medications (Harshman et al., 2008). The study took place concurrently with changes in CDL regulations, which, by requiring tighter blood pressure control requirements for certification, also may have had an impact on the levels.

According to the Task Force on Community Preventive Services, screening alone is not considered an effective intervention. In contrast, after being screened for heart disease risk factors 74 percent of workers from a US factory with high-fat

diets reported eating a lower fat diet, 71 percent of overweight participants reported weight loss, 53 percent of sedentary participants attempted to increase physical activity, and 38 percent of smokers said they decreased or quit cigarette smoking (Wang et al., 1999). A follow-up cholesterol-related physician visit had little added clinical benefit over the screening intervention alone. The outcomes were self-reported, not measured, so it is possible that the subjects adapted their answers to behavior norms that had been communicated in the study without changing what they did. Interventions after a general screening often target those identified as higher-risk. Following a CVD risk factor screening and counseling intervention in a Swiss factory, advanced health counseling was offered to those at moderate or elevated risk (Prior et al., 2005). High-risk participants showed a significant improvement in diastolic blood pressure, total cholesterol, and smoking status whereas in the low-risk group, cholesterol and BMI deteriorated.

Physical Activity

Increasing exercise and other physical activity is a common WHPP target because physical activity affects cardiovascular health and BMI and is linked to metabolic syndrome and many other health problems (Bigert et al., 2003; Davila et al., 2010). Starting in 1979, Johnson and Johnson used workplace health promotion activities to improve the lifestyles of their 30,000 workers who participated in a 3-hour long lifestyle orientation seminar for the program (Ozminkowski et al., 2002). At some worksites, exercise was done during the seminar at other locations the company provided accessible fitness facilities. Among those who participated in the full program with the seminar, 20 percent of the women and 30 percent of the men reported regular vigorous activities two years later, compared with seven percent of the women and 19 percent of the men whose health was screened only. Participants who received the full health promotion intervention had increased their fitness levels (measured by lung vital capacity) 10.5 percent from baseline compared to 4.7 percent of those in the comparison group. In a randomized study providing enhanced fitness facilities in two of four bus garages, physical activity was not improved compared to the controls although other study interventions were successful; the authors suggest that physical activity behavior interventions change may have limited impact among transit workers who spend most of their day outside the worksite (French et al., 2010b).

Blue-collar workers and older workers may be less likely to participate in programs to increase physical activity than other workers studied (King, Glasgow, & Leeman-Castillo, 2010) despite an increased risk of related disease (Dorner

et al., 2006). To address this, a group of 22 operations and maintenance workers on a college campus was targeted in a 16-week exercise intervention. Public monitoring, workshops, and competition and incentive-based activities were successfully used to promote wider participation. Compared to baseline, fitness level and confidence in a participant's ability to exercise regularly significantly increased, and overall body weight significantly decreased, although the increase in physical activity was not significant. The researchers suggest carefully considering the financial, work organization, and other barriers to physical exercise in this group.

Some worksite environmental resources used to promote physical activity are not applicable to all worksites. A review of interventions to increase stair climbing in the workplace concluded there was little evidence supporting successful increases in stair climbing, not least because many workplaces' access to stairwells is limited. (Eves & Webb, 2006).

Tobacco Use

Bus operators are more likely than other workers to smoke, and smoking may be an attempt to deal with the work stress demands of the job (Chung & Wong, 2011). Worksite-based strategies to encourage smoking cessation include facility smoking bans, group education, and motivation sessions, nicotine replacement therapy (NRT), participatory approaches, and multiple outcome measure interventions (ENWHP, 2008; Maheu, Gevirtz, Sallis, & Schneider, 1989; Okechukwu, Krieger, Sorensen, Li, & Barbeau, 2009; Quintiliani, Yang, & Sorensen, 2010; Sorensen et al., 2010). Most programs did not directly address other types of tobacco use.

In Barcelona, a workplace-smoking ban and a company-wide smoking cessation support workshop aimed to decrease smoking activity in transit bus operators; the proportion of smokers decreased 10 percent after five years post-ban installation among those participating in the smoking cessation program (ENWHP, 2008). Two large US worksites used NRT, social support, and competition to maintain cessation. Buddy supports were used in both locations, and competition between teams was added to one. Recruitment was significantly higher in the competition group, and cessation lasted longer. The long-term quit rate was doubled in the competition group but not statistically different. Buddy ratings predicted cessation (Maheu et al., 1989). Support is also important at the organization level: Intervention sites were more likely than control sites to initiate and maintain structures for institutionalizing programs, such as assigning a committee responsible for health promotion programs or providing a budget for health-promoting activities. Simply expanding the cessation module to control sites did not achieve the same level of success (Sorensen et al., 1998).

In a "Gear up for Health" intervention, to make up for limited social support in the mobile workplace, counselors provided truck drivers with telephone sessions to set individual goals and work through barriers to achieve those goals (Quintiliani et al., 2010). Successful participants were more likely to rate the number and content of the calls positively. Workplace hazards are also important: Motor freight workers with workplace safety and health concerns were more likely to participate in tobacco cessation interventions (Sorensen et al., 2010).

To address the finding that blue-collar workers are difficult to reach and less likely to successfully quit smoking, in an intervention with construction workers, a union meeting was used to introduce a smoking intervention trial, and union feedback during the program's design aided investigators in developing an intervention that addressed worker needs (Okechukwu et al., 2009). In this randomized controlled trial, the use of nicotine replacement patches was promoted during group behavior counseling sessions of 1,213 union trade workers. At one month there was a significant decrease in smoking activity between the two groups; although the difference was not statistically significant after six months, there was still a significant decrease in smoking intensity.

Healthy Food Access and Choices

Healthy nutrition targets, such as increasing fruit and vegetables and decreasing fatty food or calorie-dense food consumption, are common in transportation sectors. In one series of controlled interventions, transit workers' access to physical activity and healthful eating opportunities at the worksite was low, and obese workers were significantly less physically active than less heavy workers and were more likely to report work environmental barriers to physical activity (French, Harnack, Toomey, & Hannan, 2007). Programs have used participatory organizational level initiatives such as management-employee advisory boards (Linde et al., 2012) and the involvement of unions (Lassen et al., 2011) to design worksite-specific interventions and achieve best outcomes (Sorensen et al., 2007; Sorensen, Linnan, & Hunt, 2004). A fruit and vegetable intake program in a medium-sized blue-collar business in Seattle used employee advisory boards to address healthy eating by altering menus specific to each worksite in the intervention group (Beresford et al., 2010). An intervention in five blue-collar worksites focus using union-led changes in the food environment and healthy food access achieved moderate changes in dietary patterns among intervention sites compared to controls (Lassen et al., 2011).

A large transit authority implemented a multi-level program to promote CVD prevention and healthier behaviors (Davis et al., 2009). Among many changes, a full-time trans-

port employee was employed to provide health information and one-on-one consulting to almost 1,300 coworkers. The program provided weekly cafeteria discounts to participants to promote onsite healthy food purchases, and vending contracts were altered so machines contained at least 60 percent healthier options and were more affordable than less healthy choices; a significant decrease in participants' weight was reported (Davis et al., 2009).

Altered vending machine contents in bus garages can influence food purchases in bus garages (French et al., 2010a). A 50 percent increase in healthy food options and 31 percent average price reduction was associated with a 10 to 42 percent higher sales of the healthy items, with snack purchase most price-responsive. In this intervention combining food availability, activity promotion, and education, energy intake (i.e., caloric intake) decreased significantly, and fruit and vegetable intake increased significantly in intervention garages compared to control garages. However, changes in other outcome targets such as weight loss were not observed (French et al., 2010b). Health risk assessments were used in a transit agency to develop individual action plans for nutrition and weight management goals (Scoggins et al., 2011). Weight loss at 1 year was significant but not sustained at five years post intervention. A larger proportion of obese participants lost five percent of BMI during the first year, compared to the national average (28.5 percent vs. 23.2 percent).

The SHIFT program combines competition, computer-based training, and motivational interviewing to improve weight loss in the trucking industry and suggested as one solution to the problem of improving health behavior in a mobile workforce (Olson, Anger, Elliot, Schmidt, & Gray, 2008). Motivational interviews provided in person and by telephone in randomized study of 595 construction workers resulted in significant decreases in snack food and significant increases in fruits and vegetables in the intervention group (Groeneveld, Proper, van der Beek, Hildebrandt, & van Mechelen, 2011).

Ergonomics/Musculoskeletal Disorders

A multi-component program in Germany co-sponsored by the employer and union was developed to target the cardiovascular and musculoskeletal health of older transit operators and to improve safety, working conditions, absenteeism, and lost time (Johanning, Landsbergis, Geissler, & Karazmann, 1996). Changes included improving the benefits and reducing mandatory work time of 145 senior workers. Subjects met twice a week for 1 year, and discussed how to avoid back injury and how to participate in physical activities that focused on the entire body, especially improving back posture. After the intervention 55.4 percent of low-back-pain sufferers reported

substantial improvement and only 12.3 percent reported substantial worsening. (After comparing the intervention and control group for pre- and post-test CVD risk, there was a reduction in risk, but a non-significant difference between the two groups.)

Concerns about the high number of injuries and absenteeism among bus drivers led the City of Regina (2002) to implement a bus-retrofitting initiative and a physical assessment program (LaMontagne, 2002). The Transfit Physical Assessment Program involved an assessment by a specialized health research center of participants' lifestyle and health, and of their physical status in relation to the specific occupational demands of driving a bus. Individual counseling, physical and lifestyle assessments, an onsite fitness center, and other similar activities also form part of the program. A bus-retrofitting program that included the changing of seats and installation of tilt steering wheels aimed to address the ergonomic issues that are associated with back injuries. At publication, there was little evidence that the program affected health and safety indicators (except perhaps for time loss days), and the difficulty in isolating program effects from other factors, within and outside the workplace, was recognized (LaMontagne, 2002).

Other Programs Described

The largest segment of information covering health protection and promotion practices in the transportation sector, and in public transit and bus operators specifically, is available in the form of government and academic reports, case studies, and other grey literature, much of it available freely on the World Wide Web. "Programmes, initiatives and opportunities to reach drivers and SMEs in the road transport sector," reviews successful health protection and promotion campaigns in Europe (European Agency for Safety and Health at Work, 2010): A back injury prevention program in Belgium provides health assessment, education, and ergonomics corrections. The Finnish "Trim Truckers" program includes health screening, nutritional counseling, and improving schedules to allow drivers time to rest; it has also increased morale and safety culture. In Italy, a large public transit agency combines counseling and coaching on health, exercise and stress, research on health and safety hazards, and training along with other social interventions as needed, such as housing assistance. "Delivering the message" describes 64 programs, regulations, and groups across Europe and Australia that address road transport worker health. (European Agency for Safety and Health at Work, 2011).

The Healthy Bus campaign in Denmark was designed to establish if it was practically possible for researchers to help improve the drivers' health conditions by intervening in a systematic fashion with bus operators and management

(Poulsen, Drewes, Grøn, Petersen, & Bach, 2005). Healthy Bus undertook 200 interventions among the 3,500 municipal bus drivers in Copenhagen over a 6-year period using a participative action research design covering work environmental, lifestyle, health issues, and personal concerns. It did not test which interventions were successful, for reasons explained in detail in the report. Because the problems identified were not easy to solve and because operational concerns intervened, including bus companies changing hands or going out of business during the research period, the action approach identified more problems than it was able to address (Olsen et al., 2008; Poulsen, 2004)

The Affinity Health System created a wellness booklet for commercial driving agencies to distribute to their workers. The booklet described warning signs of concerns, such as sleep apnea, nutrition, fatigue, and blood pressure, and ways for drivers to deal with these concerns (Affinity Occupational Health, 2008).

A chapter in *Unhealthy Work* describes how Transport Workers Union Local 250A, management of the San Francisco MUNI, and health researchers collaborated to target the work environment characteristics of bus driving, in response to identified high levels of hypertension, stress, and other health problems. After an observational study designed by the groups discovered that problems areas such as scheduling, passenger load, and safety and psychosocial stress contribute to hypertension, contractual and policy changes were developed to increase the role of operators in identifying and addressing work environment challenges (Antonio et al., 2009).

Literature Review Summary

The literature describing health promotion in transportation workplaces has focused on smoking, weight loss, nutrition, and physical activity. The evidence for success parallels the findings of the Task Force on Community Preventive Services, but does not yet provide a definitive guide to what works to improve health in bus operators and what does not.

Worksite smoking bans or written smoking policies have been instituted by European transit agencies and American worksites. There is evidence that highlights the benefits of these policies, and their potential in reducing workplace smoking and secondhand smoke exposure. However, there is a lack of evidence on the benefit of these worksite policy influences on transit bus operators. Social support plays a notable role in the work context of smoking behavior (Sorensen, Quintiliani, Pereira, Yang, & Stoddard, 2009). Interventions targeting food and nutrition have affected knowledge and some food choices, but the impact on biometric outcomes, long-term health, and on weight change is not well documented.

Although exercise promotion and food choice interventions are widely supported in transit organizations, as described later in this report, few formal research studies address the specific work context of transit bus operators. Promoting physical activity has the potential to reduce job stress, fatigue, and musculoskeletal disorder prevalence, but the literature does not identify these concerns as primary outcome measures, nor does it explicitly discuss the conditions such as schedule conflict, job stress, fatigue, or musculoskeletal symptoms related to work ergonomic issues that may limit a worker's ability to achieve desired physical activity (Groeneveld et al., 2011). The same is true for eating habits. Besides the European sources looking at a wide range of tailored workplace changes, the research does not document how health-promoting environmental changes can be achieved in transit organizations.

Researchers have outlined several barriers that reduce the impact of planned implementations in the transit and similar industries. In particular, the mobile work and route scheduling of transit bus operators may impede the effects of health food access interventions, and the results of onsite interventions at transit agencies that promoted physical activity are limited by long shift hours, fatigue, and work-family life conflicts.

Strategies to improve planning, recruitment, and program success include union and bus operator advisory groups, individual health circles, health assessments, union and management collaboration, and employee directed interventions, such as employee run physical fitness classes. Union support has enabled programs to utilize worksite resources to alter the food environments and address ergonomic problems. Employee advisory boards were instituted to gain worker feedback and design interventions to work with worker needs. These boards were a part of comprehensive interventions that produced successful outcomes. At the same time, interest and values frequently differ among stakeholders and may cause conflict during the design phases of the project (Cherniack, Morse, Henning, Seidner, & Punnett, 2010).

Health protection and promotion are complex goals, and the application in the transit workplace is of necessity complex, multifactorial, and variable across time, transit agencies, job titles, and even location within an agency. Researchers may try to target measurable and feasible changes that are swamped by organizational and other variables. Employers are likely to institute broad changes that cannot be isolated and quantified, or else institute limited changes that do not address the range of contributors to operator health. Both of these make a systematic controlled intervention and analysis difficult. The following discussion of health protection and promotion models as applied to transit workplace may help establish a more practical context for researchers and a more robust perspective for transit agencies. The results from transit agencies and unions as presented in the rest of this report, along with

the accompanying Transit Workplace Health Protection and Promotion Guide and Planning, Evaluation, and Return on Investment Template, describe the working conditions and complicating variables and a useful approach for designing and assessing effective interventions and programs. To assist in this, the Transit WHPP Practitioner's Guide includes a link for transit organizations to share their baseline, intervention, and program data with others.

The Workplace Health Protection and Promotion Model

International Perspective

Improving workplace health protection and promotion is a national and world-wide goal. According to the World Health Organization (Burton, 2010), a healthy workplace is one where workers and managers collaborate to continuously improve, protect, and promote the health, safety, and well-being of all workers. This is achieved by:

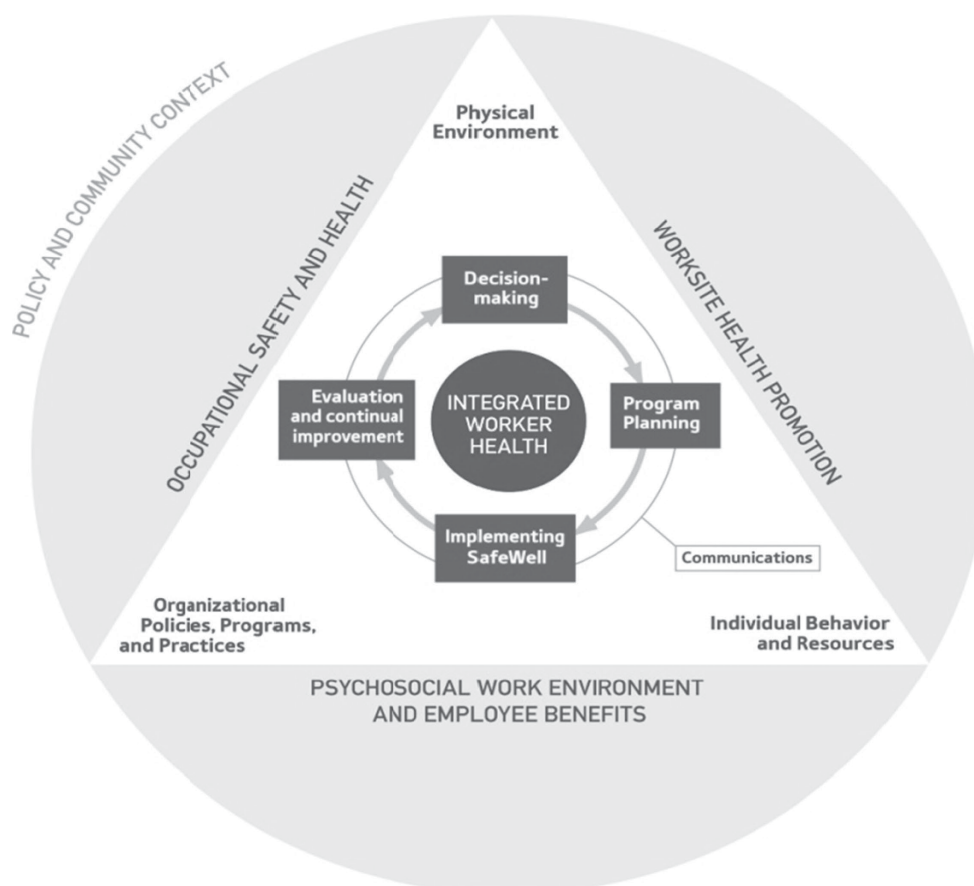
- Addressing the health and safety concerns in the physical work environment

- Meeting the health, safety, and well-being concerns in the psychosocial work environment including organization of work and the workplace culture
- Allowing access to personal health resources in the workplace
- Providing opportunities for participating in the community to improve the health of workers, their families, and others

As discussed above, the special concerns of the transit industry are widely recognized but not resolved (European Agency for Safety and Health at Work, 2010, 2011; Poulsen et al., 2005).

US Workplace Health Protection and Promotion Suggestions

Several theoretical US models support the view that an effective Workplace Health Protection and Promotion (WHPP) program goes well beyond individual health concerns and health promotion targets. The SafeWell model (McLellan et al., 2012) diagram (Figure 1) illustrates how health depends on



Source: (McLellan, Harden et al. 2012)

Figure 1. The SafeWell model for integrated worker health.

individual behavior and resources (the right corner of the triangle) but also on the sum of the organizational policies, programs, and practices that affect health, and on the physical environment (top of triangle). This model, originally developed for health care work places, shows how workers are affected by health promotion, the psychosocial work environment, and occupational safety and health conditions, and is firmly set in the context of organizational and community policy.

NIOSH (the National Institute for Occupational Safety and Health) and the CDC (Centers for Disease Control and Prevention) recommend a WHPP program based on the concept of Total Worker Health™, a strategy integrating occupational safety and health protection with health promotion to prevent worker injury and illness and to advance health and well-being. The elements of Total Worker Health™ use the resources of the workplace to improve the work environment, work organization, and individual health (Table 3). Total Worker Health™ is based on a comprehensive view of health that integrates programs, policies, and practices in an overall health and safety management system.

The F-17 best-practice model laid out in this report and illustrated in the Transit WHPP Practitioner's Guide applies the Total Worker Health™ elements, supported by the broader perspective described above, to the specific demands and realities of the transit workplace.

Table 3. Total Worker Health™ essential elements of effective workplace programs and policies for improving worker health and well-being.

Organizational Culture and Leadership
Develop a "Human-Centered Culture."
Demonstrate leadership.
Engage mid-level management.
Program Design
Establish clear principles.
Integrate relevant systems.
Eliminate recognized occupational hazards.
Be consistent.
Promote employee participation.
Tailor programs to the <i>specific</i> workplace and the diverse needs of workers.
Consider incentives and rewards.
Find and use the right tools.
Adjust the program as needed.
Make sure the program lasts.
Ensure confidentiality.
Program Implementation and Resources
Be willing to start small and scale up.
Provide adequate resources.
Communicate strategically.
Build accountability into program implementation.
Program Evaluation
Measure and analyze.
Learn from experience.

CHAPTER 3

Findings and Applications: A Profile of the Industry

Background

This chapter describes the current state of transit agency workplace health protection and promotion (WHPP) programs, detailing the aggregate characteristics, structure, and impact of programs in locations across the US and Canada. The data is derived from the survey responses, and largely follows the format of the F-17 survey questions (Appendices C and D). Specific program information is provided in Chapter 4: Case Examples and Case Studies, and detailed practices are discussed in Chapter 5: From Industry Practice to Best Practice.

The transit agency and union questions differed slightly as discussed in Chapter 1: Introduction and Research Methods. Union and agency results have been combined where possible, where noted they are reported separately. In particular, the union survey did not address details of budget and specific outcomes concerning the management program. Although some unions had their own programs, the survey questions focused largely on the content and structure of the agency's programs where they represented operators.

The denominator—the number of answers the value is averaged over—varies because not all respondents were able to answer all the questions. Of 107 respondents who answered the initial survey questions, 70 have or have had a program and were asked to describe activities or define the health promotion culture. Active program data was provided by 15 unions and 45 agencies, for 52 different locations. Most data here addresses the 52 agencies with active programs. Because using two sets of responses for one agency would risk biasing the analysis, in the 14 active programs where responses were received from both union and agency, the agency survey provided the most detailed data and was used unless otherwise noted.

Program Characteristics

Demographics

Responses were completed by 67 agencies across the US (52) and Canada (15), and from unions at 33 US and seven Canadian

agencies representing 43 local unions and six international unions. The geographical and size distributions are shown in Figure 2, and the responses by state and province can be found in Appendix B. Not all are from transit agency target locations as the invitation was shared more widely by interested unions. The names of the transit agencies and unions will not be listed in this report, except for the case studies, as a commitment of confidentiality was provided to survey respondents to increase the survey response rate and enhance openness.

The survey was sent to agency heads, who typically delegated to others in the organization. Title information was provided by 61 respondents as summarized in Table 4. Detailed titles are attached in Appendix B. They came predominantly and almost equally from operations, Human Resources, and Occupational Health and Safety. Seven were at least partly in defined wellness positions. Union responses were provided mostly by elected leaders who in smaller agencies are working transit bus operators as well. The data that follows in this report suggests that operations, HR, administrative, and union respondents had access to different information and understood the purpose and function of the WHPP activities and programs differently.

Bus transit was the targeted industry sector and all agency respondents ran fixed-route service. Two-thirds operated at least two modes. About one-third of responses came from small and from large agencies, and about 20% were medium-sized; data was missing for the remainder. Size was also calculated based on vehicles operated in annual maximum service (VOMS) and estimated by the reported number of transit bus operators for agencies where VOMS data is not available. Size was also reported in terms of number of transit bus operators employed. Agencies ranged from fewer than 20 to more than 5,000 operators. One-third of the workplaces had fewer than 113 full-time employees and one-third had more than 600. Table 5 shows the mode and size distribution for surveyed agencies.

Table 6 summarizes the bus operator demographics in responding transit agencies. On the average, at least 86 percent of transit bus operators work full time. The workforce is majority older (average above 40, 74 percent) and male

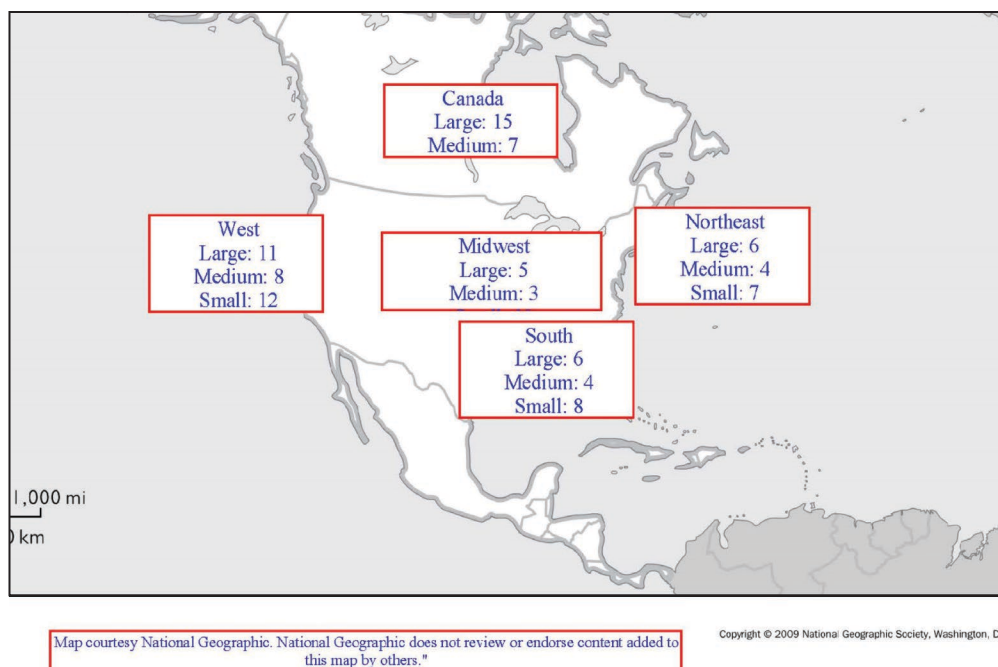


Figure 2. F-17 survey respondents: distribution.

(average 74 percent), but in some agencies women and younger workers are strongly represented. The workforce is diverse: The average proportion of white employees is only 53 percent, and in some agencies Latino/Hispanic workers or African American workers are the majority. However, as a quarter of respondents did not provide detailed race information, this sample may not be representative of the transit industry as a whole, since larger agencies and those with a demographically diverse employee group are more likely to have this information easily available.

In five agencies 100 percent of transit bus operators were contracted, and in 60 agencies no contracted operators were reported. Characterizing location-specific practices and programs in contracted agencies was not possible: In the large

contracting companies such as Veolia and First Transit, some activities are corporate wide but may not make it to the location, and location activities are not always shared with the parent company. Some transit agencies such as Austin’s Capital Metro run their own WHPP programs though employees are employed by a contractor. The workforce is highly unionized (93.5 percent), and in most cases the union represents all transit bus operators.

The average years of service reported was 13.9, with a median of 11. Respondents had some trouble with this question: seven left it blank, and five entered values above 54, more likely an estimate of average age rather than service years. Thus reported tenure is not uniformly high, but aging of the workforce remains a concern in some agencies according to follow-up discussions, if not a pressing one.

Table 4. F-17 survey respondents: agency department.

Area	Number
Operations	13
Human resources	12
Occupational health and safety	10
Administrative	7
Wellness/Health promotion	7
Executive	4
Benefits	3
Labor relations	1
Training	1
Union	40

Health, Wellness, and Safety Concerns

Chronic diseases are among the top three concerns checked off by three-quarters of the respondents, followed by musculoskeletal problems and physical activity, as shown in Table 7. The results are very similar when split between union and transit agency responses, although MSDs takes the lead among the union concerns. Only 25 percent of respondents said that conditions related to the work environment were among the top three concerns.

When asked about the impact of health problems, respondents focused on excessive absenteeism (71 percent), health costs (69 percent), and work-related injury and illness (57 percent), as shown in Table 8. Health has an impact on operating demands, loss of work, decreased morale, and

Table 5. F-17 survey respondents: distribution by mode and size.

Mode	Percent		
Fixed-Route Buses	100		
Paratransit	60.9		
Light Rail	18.8		
Other	17.4		
Commuter Rail	14.5		
Heavy Rail	11.6		
	Median	Maximum	
Number of Transit Modes	2	6	
Size	Percent by ridership	Percent by VOMS	Teriles by Number of Operators
Large	34.8	25	<113
Medium	21.4	23	113-600
Small	30.4	31	>600
Missing	13.0	21	

Table 6. F-17 survey respondents: bus operator demographics.

	# Providing Information	Average Percent
Work full-time	85	86.4
Female	70	25.8
Under 40	67	24.6
Latino or Hispanic	55	12.2
White	57	53.0
African American	58	26.7
Asian	49	3.8
Native American	49	1.1
Multiple race	48	2.0

medical disqualification in about one-third of agencies. Respondents report less of an impact of health on retention or turnover.

Most respondents agree that working conditions have an impact on operator health. As shown Figure 3, agency respondents rated most exposures lower than unions did, but acknowledged that all the areas listed had some or a lot of impact.

Table 8. F-17 survey respondents: how operator health affects the workplace.

Effect	Percent
Excessive absenteeism, sick leave, or disability	71.0
Increased health care costs for the agency	68.8
Work-related injury or illness	57.0
Operational problems/delays	35.5
Loss of employment due to disability or illness	35.5
Decreased workplace morale	35.5
Medical disqualification for operators	34.4
Turnover/retention problems	18.3

However, as shown in Table 9, opinions differed on how much impact work conditions have on transit operator health and wellness. For example, unions reported a strong impact of route schedules and bathroom access, which were not considered significant problems by the WHPP staff who completed the surveys. Additional conditions and policies

Table 7. F-17 survey respondents: top health problems faced by transit bus operators.

Health Problem	Percent
Chronic diseases (hypertension, diabetes, CVD, lung disease, reflux and intestinal symptoms)	75.3
Musculoskeletal problems (back injury, tendinitis, other pain)	64.5
Achieving desired physical activity, diet, and/or tobacco use status	50.5
Wellness (such as stress and fatigue)	50.5
Work environment (accidents, work-related injuries or illnesses, assaults)	24.7
Other (colds and flu; mental illness; respiratory illnesses; neoplasms)	6.5

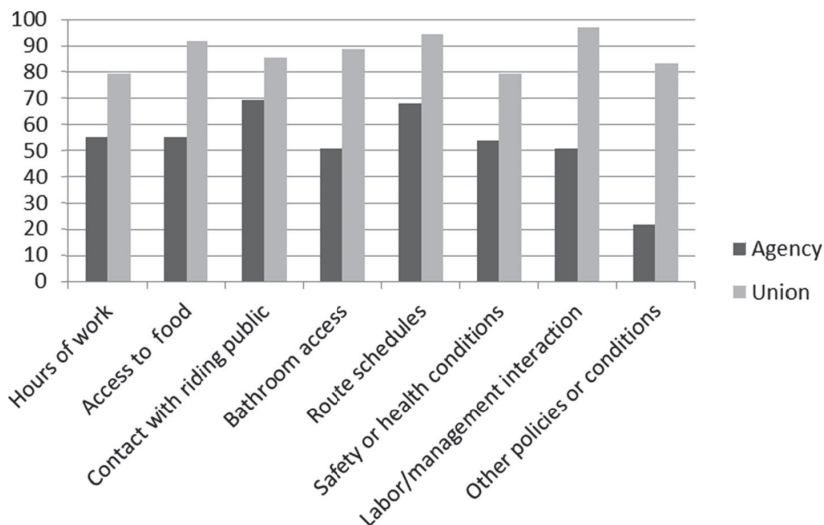


Figure 3. Workplace conditions affect operator health (% reporting some or a lot).

suggested as affecting bus operator health, agency costs, and availability included the sedentary nature of the work, schedules polices including split shifts and extra boarding, ergonomics, and passenger and motorist contact.

Workplace Health Promotion Programs

Prevalence

A majority of respondents had a program in 2012—52 out of 93 distinct agencies. Almost 20 percent had never had a program and did not intend to, as shown in Table 10. The average program age in early 2012 was 8 years. Respondents included brand-new programs (1 year) and mature ones (30 years), with half lasting longer than 6 years. Eight respondents projected start dates ranging from March 2012 through 2015, and one not only started up during the F-17 research period but became active as an SME location.

Unions were less likely to report active programs than were transit agency respondents. This could be because the transit agencies did not complete the survey if they did not have a program, whereas unions responded to the request for information from their international union presidents whether or not they had a program. The agency and union respondents did not always agree even at the same locations: One union was not aware that there was a program, and one did not know it had been suspended for staffing reasons. Five unions ran a separate health protection and promotion program, and 10 are planning to.

Five of the nine respondents who explained why they did not have a program stated that there were no staff resources. Other responses:

- Program was part of an overall attendance management strategy that was dissolved.

Table 9. F-17 survey respondents: how much impact do work conditions have?

	Agency (N=67)			Unions (N=40)		
	None (percent)	Some (percent)	A lot (percent)	None (percent)	Some (percent)	A lot (percent)
Hours of work	20.3	37.7	17.4	20.6	52.9	26.5
Access to food	33.3	40.6	14.5	8.3	50	41.7
Contact with riding public	20.3	55.1	14.5	14.3	42.9	42.9
Bathroom access	37.7	40.6	10.1	11.4	34.3	54.3
Route schedules	21.7	59.4	8.7	5.6	33.3	61.1
Occupational safety or health conditions	31.9	46.4	7.2	20.6	52.9	26.5
Labor/management interaction	34.8	46.4	4.3	2.8	47.2	50.0
Other policies or conditions	31.9	18.8	2.9	16.7	66.7	16.7

Table 10. F-17 survey respondents: percent distribution by program status.

	Agency	Union (about agency)	Union-Run Program
Yes, active	65.2	35.9	12.5
Not yet, but plan to have in the future	7.2	5	10.0
Not currently active but plan to restart	5.8	5.1	-
Had in the past but no longer active	4.3	2.6	5.0
No to all of the above	17.4	53.8	72.5

- Have done bits and pieces and now need to tie it all together and re-brand.
- No participants.
- Not enough employee support.

Scope

Of the 52 WHPP programs described by agency respondents and unions, 12 targeted the entire bus division, 27 the bus division along with other mode or division staff within,

and 13 were part of a municipal, multi-agency, or other coordinated program or campaign.

Only 20 agencies (38.5 percent) reported that family members participate in the program, but they do so in many ways. Agencies recognize that health improvements and habit changes are more likely if supported outside of work. Where health plans cover families, many of the related services and activities are provided to them as well as to the insured employee. Some of these examples are listed in Table 11.

Table 11. F-17 survey respondents: examples of family involvement.

Best Practice
UTU LACTMTA's wellness program has initiated a pilot 6 week family exercise plan. Employees who commit to exercising weekly receive a basket full of exercise aids and encouragements, paid for by the group health vendor: basket and soccer balls, fitness bands, MP3 speakers to allow the family to exercise to the same music, a jump rope that counts calories, a paddle ball that doubles as a chess and backgammon board, sticky mitts and cloth balls to let the little ones join in. The employee reports how many family members participate, how long they exercise, what activities they do, and estimates the calories burned. The plan is to add access to health clubs and other facilities as the program is rolled out.
Activities and Resources Open to All Family Members:
Smoking cessation classes
Access to Employee Assistance Program (EAP) including psychologists, social workers, legal advice, financial advisors
Recreation programs
Health and wellness communication material and resources
Weight loss programs
Invited to participate in all wellness activities. e.g., sports activities, health fair, classes, EAP, etc.
Health Risk Assessments, work with a Health Coach, and access online education.
Eligible for wellness benefits such as gym membership and training programs.
Participate in events.
Invited to wellness week in the fall with vendors at work
Family leisure passes, fun runs.
Other Examples:
Premium savings incentive for family participation in the wellness program.
Spouses participate in all wellness activities and use onsite fit factories.
Spouse/Domestic Partner covered by insurance is required to complete annual assessment.

Table 12. F-17 survey respondents: program budget.

Category	Median	Maximum
Total	\$2,250	\$372,000
Staff	\$4,900	\$175,000
Outreach (newsletters, advertising)	\$750	\$5,000
HRAs/screenings	\$5,000	\$120,000
Training/workshops for workers	\$1,000	\$250,000
Participation incentives	\$1,500	\$200,000
Workplace changes (such as exercise facilities, food access, repairs)	\$1,000	\$60,000
Payments to outside vendors for activities or products	\$3,975	\$233,597
Other	\$4,900	\$175,000

Budget

Reported budgets range from \$0 to \$372,000. Some programs support a full-time staffer or more, others just the promotional handouts or educational material, with everything in between. Budget information was provided by 30 agencies, but five of these reported a budget of \$0. This is an area where the respondents' titles could have a big impact on whether they have complete information to provide in the survey. In addition, some of the categories listed may be funded through operating, human resources, or benefit funds rather than through the wellness program budget. Table 12 provides a survey respondent breakdown of the median and maximum program budget for different components of a health and wellness program.

Program Structure and Responsibilities

Responsibility is spread widely in different agencies. Overall, Human Resources runs most programs, along with operations or safety departments in some cases as shown in Table 13. There were 22 titles listed for the person identified as responsible for workplace health promotion, distributed in HR, Wellness, Occupational Safety and Health (OSH), Benefits, Training, and Operations. Table 13, Program Responsibility and Input, demonstrates that the responsible person may wear more than one hat. They typically do not have a lot of time available for this work. One-third of the respondents to this question reported spending less than 14 percent of their time on health protection and promotion, two-thirds had less than 34 percent time, and six responders worked on the issue full-time. The titles included health and safety coordinator; managers of welfare, risk, compensation, or benefits; training instructor; and consultant.

Committees support the program in 33 agencies. Human Resources has the greatest representation, serving on three out of four committees, followed by transit bus operators (51.9 percent) and line managers (42.3 percent). Programs

also relied on external partners. Both agency and union respondents reported the health plan as their primary external partner for WHPP activity (73.3 percent agency, 57.1 percent union). Other resources and allies may be underutilized. Several programs made extensive use of local and national resources, some even participating in CDC initiatives, and 13 percent worked with universities in implementing or evaluating their programs.

Union respondents reported that their responsibilities ranged from none, through mild support, member encouragement, and active committee involvement, to paying for or running WHPP activities and program components either independently or at the worksite.

No respondents were aware of US local or state legislation, requirements, or other policies (that require or encourage WHPP programs for transit employers), although many described programs set up by their health plans or used in setting policy rates. Canadian occupational health regulations were cited, along with APSAM (the Quebec Joint Association for Health and Safety at Work, Municipal Sector).

Incentives for health promotion activity, reported by 70 percent of transit workplaces respondents, include cash prizes, health-related merchandise, health club memberships, reduction in health insurance premiums or copays, and recognition or time off. Figure 4 shows that among the F-17 survey responders, individual prizes were most common and that very few agencies awarded time off incentives or reduced insurance premiums.

WHPP Program Environment

The research team assessed the reported transit industry experience for indicators of WHPP program success, specifically:

- What WHPP models are in place in transit?
- How did the agency or union rate the organization's health culture and organizational strength?

Table 13. F-17 survey respondents: program responsibility and input.

Program Responsibility	Percent Reporting
Human Resources	75.0
Operations	23.1
Safety	25.0
Other	19.2
Stand Alone	19.2
Medical/Occupational Health	17.3
WHPP Committee Representation	Percent Including
Human Resources	77.4
Transit Bus Operators	51.9
Line Managers	42.3
Other (from other or all divisions, consultants, health care providers)	54.8
Top Managers	32.7
Safety Staff	26.9
Union Representatives	28.8
Partners	Percent Reporting
Health Plan	69.2
Commercial Vendors	44.2
Community Groups (for example, Weight Watchers™, American Cancer Society)	42.3
City, State, or Federal Health Departments	19.2
Other (CDC/HHS, 3 rd -party fund administrators, health care facilities)	17.3
University or Other Academic Center	13.5
Workers Compensation	17.3

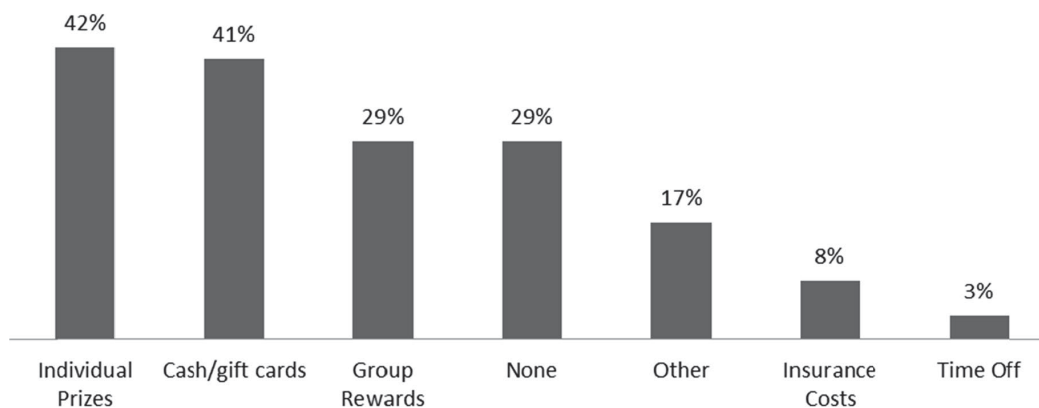


Figure 4. F-17 survey respondents: incentive use with WHPP programs.

- How competent were the programs?
- How did the transit agencies rate their program impact?
- What specific practices did they report?
- How do these programs and practices compare to recognized standards of excellence in WHPP?
- How did the transit agencies evaluate their programs, including return on investment or other economic assessment?

What WHPP Models Are in Place in Transit Agencies?

Based on the surveys and follow-up discussions, existing transit agency program health promotion models were categorized as Traditional (health care/disease prevention with focus on individual risks and solutions), Health and Wellness (health care/disease prevention, with work organizational support for wellness and health such as stress reduction or group sports activities), and Integrated (health care/disease prevention, work organizational support, and occupational and work environment targets such as route schedules, safety). As expected, the traditional disease-focused programs were most common in responding transit agencies (40 percent), followed by the more extensive health and wellness models (33 percent), and then the integrated work-life programs (27 percent).

In follow-up discussions, many respondents described their intention or desire to address work demands such as bathroom access, occupational health and safety, and work/family conflicts. These were planned to better integrate workplace health protection and individual health promotion.

Survey respondents noted structural impediments to effectively integrating programs. Because of their placement in the organization, typically within human resources, and their lack of experience as transit employees, program staff may have limited status and impact on areas beyond health promotion. WHPP programs in organizations with effective safety committees and more integrated communication were often able to surmount these barriers more effectively, by placing health in the context of occupation and work exposures and, critically, by adapting the scheduling and content of activities to suit the transit work environment.

How Did the Agency or Union Rate the Organization’s Health Culture and Organizational Strength?

The survey asked for ratings of WHPP programs and health culture on the five organizational support and eight program strength characteristics listed in Table 14. These characteristics are based on the constructs “Willingness” and “Management” validated in the Worksite Health Promotion Capacity Instrument (Jung et al., 2010), with additional concepts from the National Worksite Health Promotion Survey (Linnan et al., 2008), and the management and union support questions from the *TCRP Synthesis 52* questionnaire (Davis, 2004).

Respondents rated their organizations on each element from strongly disagree (coded as -3) to strongly agree (3). Figure 5 shows the average rating for the organizational support, program strength, and composite health culture score.

Table 14. F-17 survey respondents: health protection and promotion culture and strength.

Organizational Support
Upper management has made employee health promotion a top priority
Union leadership supports and participates in the workplace health promotion program (unionized workplaces only)
Employee health promotion has been integrated with other operational and administrative policies and procedures
There is a person identified who has primary responsibility for the program
Others in the organization take active responsibility for the program
Program Strength
An effective committee leads or supports the program
The program links with other organizational areas, for example, occupational health and safety, benefits
Workplace data is used to determine program direction
The program has a long-range (3-5 year) strategic plan
The program responds to changing needs
Management allocates adequate resources for the program (budget, space, etc.)
Managers actively promote participation in health promotion activities
Transit bus operators are actively involved in program development and implementation

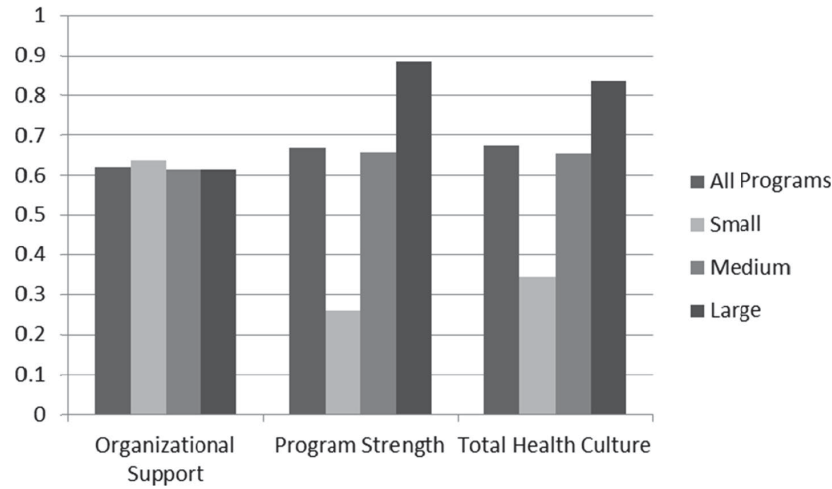


Figure 5. F-17 survey: rating the WHPP organizational support and program strength.

Respondents were on the whole positive when rating support for their programs and the program strength, although not strongly overall (1 = somewhat agree). Confidence in the program strength appeared to increase with size.

Transit agencies rate the program and the support it receives more positively than the unions do. The average union rating for overall organizational support is slightly positive, and the total rating is slightly negative, compared to positive average ratings from transit agencies (0.6–0.7, with 1 = somewhat agree).

In addition to the lower level of confidence in program characteristics compared to the agency, as detailed in Figure 6, there is an important difference in perspective: union respondents feel that they do support and participate in WHPP, but very slightly disagree on average that WHPP is a priority for top management; the agency representatives report that top management supported their programs but neither agreed nor disagreed that the union supported or participated. Both acknowledge that transit bus operators are not actively involved in program

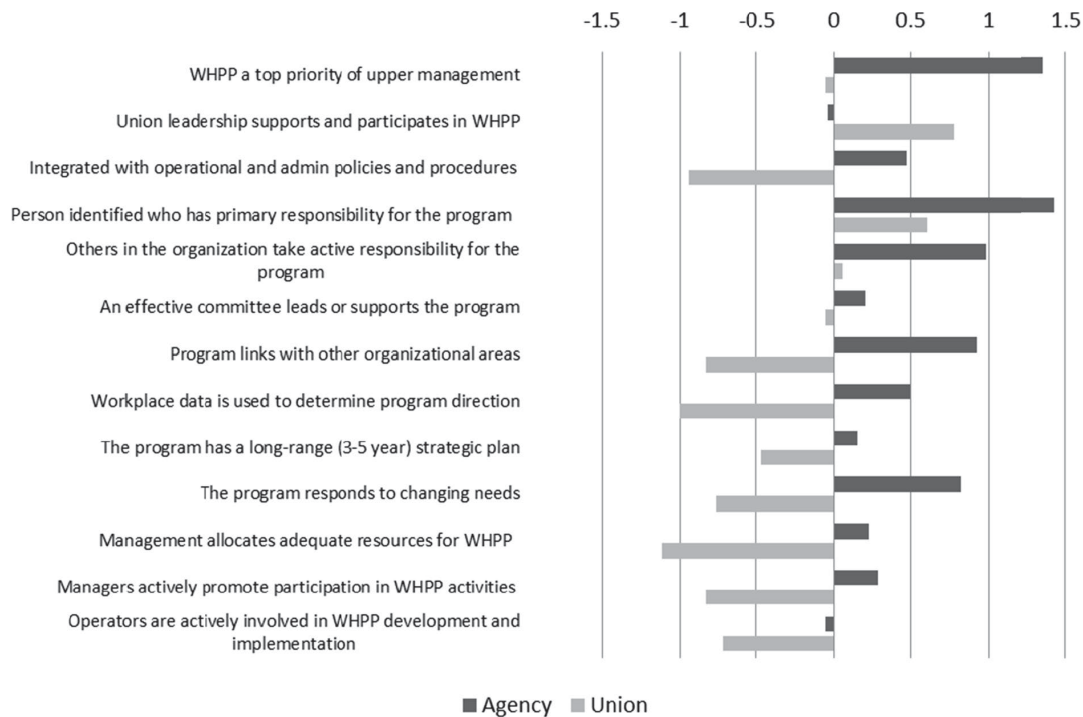


Figure 6. F-17 survey respondents: average rating of organizational support and program strength by transit agencies and unions.

development. In eight cases where ratings were supplied by both agency and union, the agency respondent rated the same programs 2–3 points higher than the union respondent did for available resources, links to other areas, and use of data, and about one point higher on everything else (data not shown). In some cases the responses were 6 points apart on the 7-point scale when rating the same program. On average the unions reported supporting the program more than management acknowledged they did.

This divergence is not uncommon in workplace culture assessment research. While instruments have been shown to measure similar constructs, when filled out by labor and management the average scores differ, with labor rating the culture as less positive than management (Sawhney, Cigularov, & Kines, 2013). The finding that both labor and management felt they supported the aims and intentions of the WHPP but each undervalued the commitment of the other party remained a consistent theme in follow-up interviews. This difference represents a key target for improvement across the industry. Bus operator health, safety, and wellness are a recognized priority for all parties, but an acceptable model for cooperation has not yet been established in many locations. Among the most successful transit agencies investigated in the case studies, trust, respect, and commitment were expressed from all parties.

How Competent Were Organizations?

Six core characteristics were identified for targeting competent programs for further investigation, case descriptions, and follow-up. Competent programs were expected to be based on a programmatic approach rather than one or a few isolated activities: recruit involvement throughout the organization, address retention and other operational needs, collect evaluation data, collect health outcomes data, and calculate or quantitatively estimate a past or projected return on investment. Table 15 shows the distribution of each com-

petency among the 43 transit agencies that provided enough supporting information in the survey or via follow-up contacts to rate program types and activities. Of these, 25 (58.1 percent) demonstrated four or more of the competencies and were interviewed as potential cases.

Almost all programs (88.4 percent) were based on a programmatic approach rather than one or a few isolated activities, and about half (48.8 percent) recruited involvement throughout the organization. Addressing retention and other operational needs in some way was reported by 58.1 percent. Agency survey respondents tended to agree that the WHPP program was well integrated with operational administrative policies and procedures (54.8 percent) and areas such as safety or benefits (66.1 percent). The union survey respondents seemed to disagree that the WHPP program was well integrated (26.4 percent and 31.6 percent). Many respondents felt that information and decision making often took place in silos of influence, limiting effectiveness. In follow-up discussions it was clear that WHPP program activity in fact frequently overlapped with worker health protection and related concerns such as ergonomics. Following the survey process, many respondents spoke about planning to integrate their activities to improve effectiveness.

Three out of four transit agencies with programs collected some evaluation data, half collected health outcomes data, but only a quarter calculated or estimated a return on investment. The more integrated programs also tended to report more of the core competencies. There was however a lot of overlap and at least one agency demonstrated all competencies but included only traditional model targets and structure.

Some research suggests that a successful program needs to provide a range of activities and resources to employees, and that a wider range is more likely in larger organizations (LaMontagne et al., 2004). In the F-17 survey, competencies varied by organization size, but not directly, as shown in Table 16. Smaller transit agencies were less likely to report

Table 15. F-17 survey respondents: distribution of program competencies.

Competency	Total	Percent of Integrated (n=11)	Percent of Health and Wellness (n=13)	Percent of Traditional (n=19)
Based on a programmatic approach rather than one or a few isolated activities	88.4	100.0	92.3	78.9
Recruit involvement throughout the organization	48.8	72.7	46.2	36.8
Address retention and other operational needs	58.1	100.0	84.6	15.8
Collect evaluation data	79.1	90.9	76.9	73.7
Collect health outcomes data	55.8	63.6	53.8	52.6
Calculate or quantitatively estimate a past or projected return on investment	30.2	36.4	30.8	26.3

Table 16. F-17 survey respondents: percent with competencies by organization size.

	Programmatic	Recruit involvement	Targets Retention/ Operations	Enlist Wide Participation	Evaluate	Calculate ROI
Large	80.0	45.0	60.0	80.0	40.0	20.0
Medium	100.0	81.8	72.7	81.8	81.8	45.5
Small	91.7	25.0	41.7	58.3	41.7	16.7

involvement across the organization. Medium-sized transit agencies seemed stronger in all areas than the larger or smaller respondents. In particular, they are more confident in their ability to recruit involvement across the organization, and more likely to carry out evaluation. It is possible that evaluation in larger organizations is being done by other departments that the WHPP staff person is not aware of. In case example follow-up and interview discussions, it became clear that while adequate resources are very important to program success, those resources can be identified in small, medium, and large agencies if communication and access across disciplines is possible.

There was some regional variation in competencies as shown in Table 17. Transit agencies in Canada were more likely to report targeting retention and operations, and to enlist wide participation (although agencies in the Northeast were also strong in this area). This may be related to requirements for joint labor-management safety committees that are more common in Canada. They were less likely to report evaluation activities.

How Did the Transit Agencies Rate Their Programs' Impact?

The 52 active WHPP programs reported by survey respondents were set up predominantly to lower work-related injury or illness rates (82.7 percent), reduce health care costs (78.8 percent), and improve availability (69.2 percent), as shown in Table 18. But less than a quarter could confidently report that the programs had an impact on those original targets. Those initially concerned with creating a safer work environment and with morale were most successful at hitting their original tar-

gets: 34.3 percent of the number targeting morale achieved some impact, as did 37 percent who hoped to create a safer work environment. Improved retention was not a leading target for WHPP programs, reported by only 22 transit agencies and achieved by five of those, only 9.6 percent of all active programs.

Some transit agencies reported successes in areas that they did not intentionally address. For example, transit agencies with only traditional health-specific targets noted improvements in workplace safety. This pattern of response supports the Total Worker Health™ model (Centers for Disease Control and Prevention, 2013), suggesting that activities and policies can have an impact beyond their target areas. As one researcher has put it, “The often-ignored well-being risks such as work-related and financial health risks provided incremental explanation of longitudinal productivity variations beyond traditional measures of health-related risks.” (Shi et al., 2013) The success claimed in apparently untargeted areas also indicates that program staff may not always distinguish observed changes from program impacts, and may not have the resources to effectively evaluate the effect of the program activities.

Some respondents hesitated to say that their activities were responsible for improvement they had observed. Even program staff with extensive programs noted that matching practice to outcome is difficult. This is in part because they run the program in the short term whereas health change takes longer. Most critically, many variables can change at once, including working conditions and who is employed at any given time, especially in organizations that are improving continuously. Observed outcomes may be secular trends in the population, affected by external or unintended factors, or coincidental changes.

Table 17. F-17 survey respondents: percent with competencies by region.

	Programmatic	Recruit Involvement	Targets Retention/ Operations	Enlist Wide Participation	Evaluate	Calculate ROI
Canada	75.0	58.3	91.7	83.3	33.3	33.3
Midwest	90.0	40.0	40.0	60.0	40.0	20.0
Northeast	100.0	42.9	42.9	85.7	71.4	28.6
South	85.7	28.6	42.9	71.4	57.1	28.6
West	100.0	71.4	57.1	71.4	71.4	14.3

Table 18. F-17 survey respondents: original WHPP program purpose and impact to date.

Target	Original Purpose (percent reporting)	Impact (percent reporting)	Impact/Original Purpose (percent succeeding)
Lowered work-related injury or illness rates	82.7	23.1	27.9
Reduced health care costs	78.8	19.2	24.4
Improved availability/lessened absenteeism	69.2	13.5	19.4
Improved morale	67.3	23.1	34.3
Reduced workers' comp costs	65.4	17.3	26.5
Improved health measures	63.5	19.2	30.3
Safer work environment	51.9	19.2	37.0
Improved retention	42.3	9.6	22.7

WHPP and Workplace Policy

Fewer than half of respondents include organizational or policy changes as a direct role for their WHPP programs. However, related policies such as return to work accommodations, assault or customer conflict prevention programs,

workplace health and safety inspections, and other workplace health, wellness, and safety programs were each reported by more than half the respondents. Respondents reported that 30 to 60 percent of those programs had an impact (Table 19).

Table 20 lists specific policies that respondents reported had an impact on workplace health protection and promotion.

Table 19. F-17 survey respondents: policy in areas related to operators' health.

Policy	Agency (N=45)		Union (N=15)	
	Have Policy	Policy Has Impact	Have Policy	Policy Has Impact
Return to work accommodations	66.7	56.7	57.1	37.5
Assault or customer conflict prevention program	57.8	30.8	35.7	19.9
Workplace health and safety inspections	57.8	38.5	28.6	50.0
Other workplace health, wellness, and safety programs	68.9	57.1	35.7	19.9
Bathroom access policy	42.2	15.8	21.4	33.2
Healthy food availability	35.6	12.5	14.3	49.7
Policies to prevent or reduce stress at work (scheduling, customer encounters, restroom access)	33.3	26.7	7.1	0
Policies to help balance work life and family policies (family leave, phone calls)	31.1	28.6	0	0
Other policies or programs	13.3	66.7	7.1	0
Route and shift schedule policies to reduce health impact or stress	11.1	0	0	0
Incident/near-miss reporting system	0	0	21.4	0

Table 20. F-17 survey respondents: examples of policy changes that affect operator health.

Individual Health
Wellness program
Tobacco free policies
Counseling program for all employees
Health/wellness/fitness program benefit for all employees
Access to fitness facilities on site
Work Organization
Increased service levels reducing crushload issues
Windows of time that operators work within, extra board, two days off in a row
Federal time regulations keep drivers from working excessive hours
Attendance support program (both positive and negative)
Attendance and disability management
Occupational and Environmental
Increased access to washroom facilities
Work safe policies including slip resistant footwear
Mobile device policy—restricting positive, no music to reduce stress negative

Safety policies had a direct effect—for example, providing slip resistant footwear reduced slips and falls and seemed to increase morale and trust. Some policies had positive and negative effects on health. Attendance policies in particular were reported to both improve attendance and decrease the rates of illness, but they also were seen to increase stress and conflict. Similarly, a manager reported that a mobile device policy had a positive impact on safety but it also ruled out the use of music as a stress-reduction measure for drivers. Overlap is clear in some of the categories defined by the survey—for example, nutrition could be an example of education, counseling, or policies that support a healthy environment. Further probing shows that most nutrition activities are part of education and health fairs, but some transit agencies address the problem more programmatically with vendor contracts and cost subsidies. Although healthy food knowledge may be easier to achieve, addressing food availability is a clear priority for labor and management that has not yet been fully realized.

In integrated WHPP, the program can provide input and support to other areas including operations, human resources, and occupational safety and health. In this sample of transit agencies with apparently successful WHPP programs, about one-third of respondents or less believe they have the capacity

Table 21. F-17 survey respondents: where do WHPP staff have influence?

Area of Influence	Percent of Responses
Safety rules	38.5
Training	36.5
Individual work assignment	23.1
Hiring	23.1
Vendor selection	21.2
Scheduling	13.5
Bus procurement	11.5
Other areas	1.9

Table 22. F-17 survey respondents: what could improve the WHPP program?

Category	Count
Resources	23
Support/integration	13
Participation	12
Assessment	9
Structure	8
Policies	3
Transit-specific information and practice	3
Healthy environment	1

to influence other areas beyond health promotion. The largest numbers report an influence on safety rules (38.5 percent) and on training (36.5 percent) as shown in Table 21.

When asked, “What could be done to improve your workplace health promotion program?” the largest number cite resources, as shown in Table 22. This includes funding, staff, and space. Respondents did offer practical ways to increase organizational support and integration, and a long list of ideas and plans for making their programs more effective, as detailed in Appendix B. Although only a few referred to the need for transit-specific resources and programs in the survey, this was a dominant theme in follow-up discussions.

Chapter 4: Case Examples and Case Studies introduces some of the individual agencies that are working to address their employee health protection and promotion needs, and the next chapter describes their practical approaches.

CHAPTER 4

Case Examples and Case Studies

Background

Before selecting the case study locations, the F-17 research team developed a catalog of workplace health promotion programs using the survey responses and follow-up interviews. This catalog provided a snapshot of agency and union survey responses, summarizing the agency's programs and identifying any perspective barriers to program implementation. This catalog is organized by agency size as defined by the VOMS. Agency names have been withheld because the survey cover letter stated that all information gathered in this survey will remain confidential and only grouped data will be shared or published.

The case example reports were based on survey data and initial telephone follow-up interviews. Not all sources responded to all questions, so the information presented below may vary in the details provided. Analysis of the case example catalog descriptions, in-depth interview questions, quantitative data, and case study criteria identified five locations for in-depth case studies. The agencies selected illustrate successful responses to the demands and problems that agencies encounter in setting up their programs. Their stories frame the relevant sections of the Practitioner's Guide. Two final summary case discussions cover the combined examples of small agency respondents and the particular issues facing multi-agency programs offering health and wellness programs through a city, state, or county government entity.

Learning from Industry Practice: Case Studies

- Getting Started—Preparing the organization and making the commitment—United Transportation Union (UTU) and Los Angeles County Metropolitan Transit Authority (LACMTA)—*Los Angeles, CA*.
- Building the Workplace Health Protection and Promotion Team—Dallas Area Rapid Transit (DART), *Dallas, TX*.
- Setting Targets in Transit Health Protection and Promotion—Edmonton Transit System (ETS), *Edmonton, AB*.

- Integrating an Effective Transit Workplace Health Protection and Promotion Program—Orange County Transportation Authority (OCTA), *Orange County, CA*
- Evaluation, Return on Investment, and Ongoing Improvement—Capital Metro, *Austin, TX*
- Maintaining Effectiveness with Growth—United Transportation Union (UTU) and Los Angeles County Metropolitan Transit Authority (LACMTA)—*Los Angeles, CA*.
- Lessons from small agency programs.
- Lessons from multi-agency programs.

F-17 Case Example Catalog**Small Agency Examples****Agency 1 (Small):**

Agency 1 is a metropolitan transportation authority that operates various modes of public transportation—bus (local and commuter), light rail, paratransit, and vanpool in the western US. They have an integrated health and wellness program that does not involve family member participation. A few years back, they did a study to help determine what the health risks were to their employee population. Based on that study, they have been focusing on targeting smoking cessation, physical exercise, stress reduction, and weight management. Two years ago, they purchased services to have an onsite wellness coordinator (who is actually a personal trainer) to work with transit bus operators on their health and wellness on a more consistent and flexible basis. Since the wellness coordinator is contracted, participation has increased due to fewer concerns about confidentiality and the flexibility of schedule.

Agency 1 considers it important to have support from executive management. They are thankful that upper management believes in the program and maintains a consistent budget for the program. They believe a barrier to success in their program is the absence of a fitness center at the actual location where employees clock in and out for work (they have fitness locations at other areas). They believe this barrier

makes it easier for employees to leave work and not go to the fitness center locations.

Agency 2 (Small):

Agency 2 is a metropolitan transportation authority that operates bus service and paratransit service in the midwestern US. They have an active 3-year traditional health and wellness program that covers family members by offering smoking cessation, discounts to fitness facilities, and counseling services to employee family members. Their “Ask a Nurse” program provides blood checks, stroke assessments, and answers to health-related questions for transit employees. Coordination with the urgent care facility and nurses helps them find health-related targets like sugar consumption, sunscreen, etc. They are currently in the process of setting up a wellness mobile unit that will provide biometric screening, health risk assessments, blood pressure, body fat percent, BMI, lipid panel, glucose, and telephone follow-up with employees.

Agency 2 considers it important to provide information to employees. They believe the program could be improved by better employee participation. A major barrier to their program success is designing a program around the operator’s schedule. They are currently in the process of trying out some new schedule techniques to try to increase employee participation in wellness events.

Agency 3 (Small):

Agency 3 is a public transportation provider in the northeastern US. They have a wellness program that is run by the health insurance provider through a pooled insurance plan. The insurance premium can be lowered when employee participation goals are achieved for wellness activities such as gym membership, aerobics classes, cardio workout, nutritionist visits, and smoking cessation support groups. As a result of employees meeting the participation goals, their health premium is reduced by two percent for the upcoming year.

The agency would like to play a more active role in both promotion and participation in the program. Currently, the program exists only because the insurer offers it at no additional cost. The biggest barrier for program success is the lack of budget for employee health and wellness.

Agency 4 (Small):

Agency 4 is a nonprofit transportation provider that operates various modes of public transit bus, bus rapid transit, paratransit, carpool, and vanpool in the southern US. They have a health and wellness program that is a part of their health insurance. Meetings with the health insurance company are used to target wellness activities based on health care claims and the types of ailments that the insurance company is seeing operators report. This year they started a program

in which they will pay for employees to go to a gym facility and have a one-time consultation with a nutritionist who will help them set up a healthy diet and exercise plan. Even though their program is fairly new, they calculate their return on investment by comparing the price of their health care plan to the cost of the health care claims cost.

Agency 4 considers it important for the program to have a combination of activities to offer employees that they can actually benefit from, while re-evaluating every year to determine participation trends. A barrier to their program success is low employee participation, even though they are trying to look at a combination of methods to help employees.

Agency 5 (Small):

Agency 5 is a non-union agency that operates campus bus routes in the southern US. While they do not have a formal health and wellness program, they receive wellness weekly newsletters and educational posters from a local medical center.

Agency 5 believes that their current model works in their environment because employees are always interested in the educational posters. However, there is no way for them to measure if employees are actually performing more health and wellness activities.

Medium Agency Examples

Agency 6 (Medium):

Agency 6 is responsible for the operation of a public transit system in Canada. The program has modest ambitions that are being met through slow growth. Health and wellness targets are addressed from a range of different departments and programs. The 4-year-old wellness program focuses on traditional lifestyle choices and targets such as exercise and weight loss challenges, nutrition, and health education. There are some activities, such as healthy barbecues, that allow family involvement but they have not been well attended. The union also provides services in areas including counseling, education, health and safety, and workforce development.

Integration is informal, as wellness activity is facilitated by HR staff who share information across programs such as attendance, disability management, and scheduling. The Wellness Committee is a subcommittee of Safety and Health. For example, HR is involved in the joint scheduling planning meetings, where the impact of schedule demands and overcrowding on operator health is acknowledged. There is an attempt to include recovery time in scheduling, although this remains difficult as resources shrink. Integration is also enhanced because the union is active in the related areas of health, safety, and operations. The agency continues to address many of the organizational and environmental issues that contribute to operator health challenges. External partners include the health plan and the workers compensation insurer.

Retention is not a concern with less than 1 percent turnover per year. The agency tries to hire more experienced people; although this does mean an older and possibly less healthy workforce. They are also more able to adapt to some of the work demands. The wellness program is planned to target and take advantage of the issues related to the older workforce.

The committee brainstorms and develops ideas with input from all members. Targets are selected in part through trial and error—for example an early health risk assessment was not well received and so was discontinued, and a family swimming event did not succeed partly because many operators were not comfortable with their physical status in a mixed gender environment. The Union supports the activities but has a different perspective on priorities, highlighting such barriers to participation as the circular route system, lack of terminal locations, and other schedule issues that make exercising at or near work difficult for many. Health-related environmental conditions such as access to bathrooms have been addressed sporadically but not directly via the wellness program. Location conditions including operator rooms and access to exercise equipment are not yet optimal.

The agency has an ergonomist who visits locations weekly. Starting with high-injury areas, the project has continued to analyze equipment issues such as seats and brakes, as steering demands as well as maintenance challenges. It responds to issues raised by operators and maintainers. Although not officially part of the wellness program, there is a direct impact on health and comfort as well as morale.

Participation is low (about 15 percent for any activity) but increasing. A recent walk challenge has been popular, as are team competitions. Specific health targets and activities may be tailored to locations, with the support of the depot chairs; additional informal champions are very important to the program's success. Budget problems limit the ability to improve recognized problems such as schedule demands, and make expanding the program difficult. The agency is using a wide range of data to attempt to develop and improve the program. Insight into the failures of some activities is clearly important to developing participation and using the available resources to address health needs more reliably.

Agency 7 (Medium):

Agency 7 provides bus transportation within the northeastern US. Personal financial education is a major target of the wellness program, including a financial wellness library, mandatory trainings from a retirement plan specialist, one-on-one consultations with a financial planner, and mandatory training on personal finance management. The agency has received a national recognition award for this. Other activities include health fairs with alternative health resources, walking and weight challenges, mandatory and voluntary training and counseling on health, wellness and ergonomics,

mandatory training on diabetes prevention with voluntary diabetes screenings, and stress education and screening from their insurance provider. Because participation in many of the components is mandatory, the rate is 100 percent; participation in voluntary activities is reported at 20–30 percent. Family members can participate in financial health activities and annual wellness events.

Agency 7 participates in a brokered municipal health care insurance pool, and has seen its health costs trending down since 2011, recently achieving a quarterly surplus. While this is not unequivocally attributable to the program activities, there is a consistent and satisfactory improvement. Notably, the program uses a wide variety of data sources to plan and assess program components, including a financial stress survey instrument, data from the insurance pool, and internal indicators.

The wellness program manager cites significant support at the top management level as a motivator for the program, as well as the involvement of passionate champions at all levels. Major remaining barriers include ongoing contract negotiations and limited program funding. Although no input from the local union was received, other union sources suggested that support for the program may not be as strong as reported by management. An initiative to require operators to submit to CDL physicals despite not being legally required has led to extended labor-management conflict, and the last contract has expired without an agreement.

Agency 8 (Medium):

Agency 8 operates a state transportation system in the northeastern US. They have a 20 year old program consisting of health fairs in each division and monthly nurse visits to each location to perform voluntary blood pressure and weight monitoring. Fully equipped fitness facilities are provided at each division and are used by about 20 percent of the employees. Through the employee assistance program (EAP), the company also makes resources available to employees whose physical and mental health may be affected by personal or family problems. Two years ago, a more formal health and wellness program was implemented. A fitness consultant visited each division and held educational sessions with operators, mechanics, and administrative employees, focusing on a special topic each week, such as diabetes, back pain, and weight management. The consultant offered advice on lifestyle choices and recommended exercise options. After 7 months of experimentation, the program was discontinued due to system-wide budget cuts. Even though the program was not in place for long enough to produce measurable results, based on anecdotal evidence, it has had some impact on raising health and wellness awareness among participating employees. There are employee safety and health committees in each division as required by the agency's self-insured status for worker's compensation.

The agency would like to make health and fitness less voluntary for employees (e.g., require smokers to quit, require obese employees to enter a weight loss program, and other interventions to require healthy lifestyles), and to work with the union on putting in place incentives for participation and disincentives for unhealthy lifestyle. Budget cuts have been a barrier for broader program success—when service routes are cut, it becomes difficult to maintain a comprehensive wellness program even though the cost is fairly low.

Agency 9 (Medium):

Agency 9 is a metropolitan transportation authority that operates various modes of public transit bus, bus rapid transit, paratransit, and vanpool in the midwest US. They have an active 10-year traditional health and wellness program that does not involve family members. Their recent focus has been on weight reduction and healthy eating. These topics were targeted after a meeting with their healthcare provider where they did an overview of employee utilization of their program. Some of the activities that their health and wellness program provide are the fresh fruit and vegetable market and the walking at work program. The fresh fruit and vegetable market is a vendor who comes out to the worksite and provides fresh fruits and vegetables for employees to purchase. The walking at work program is a program that they had this year where they put together teams to compete in a walking challenge; there were 300 participants and all participants received a T-shirt. The agency is also in the process of putting together a bike loan program so that employees can ride bikes during their lunch times.

Agency 9 considers it important for the program to be employee-centered, include incentives, be educational, and have some variety. They believe their program could be improved by wellness incentives that impact monthly premiums, an onsite medical clinic, and physical hiring requirements. A barrier to their program success is developing programs where everyone can benefit without it being too costly (for individuals that are not a part of the health insurance plan, the agency has to pay for their participation in any health and wellness activity).

Large Agency Examples

Agency 10 (Large):

Agency 10 is a public transport bus operator in Canada. The agency has a 4-year old, comprehensive corporate healthy workplace program that is open to all staff, including transit employees. It includes an EAP, weight loss program, nutrition, targeted campaigns and challenges such as heart awareness and walking challenges. These activities are supplemented by health resources on the corporate healthy workplace website. A full-time healthy workplace specialist in the city's human

resources coordinates with the transportation department on corporate-wide and department-specific programs, including a designated fitness center at the transit center. One of the innovative programs the City initiated is peer support for mental health since 2004. The program is well utilized.

As discovered shortly after the beginning of the program, frontline operator involvement in wellness and health committees was a challenge, given the schedules of the operators. Operator feedback is collected through a comment box in the fitness room and satisfaction forms following activities. Nutrition and physical activities are the top bus operator concerns, according to management respondents. A health assessment survey is planned for the near future.

The agency would like to expand their program to involve families more. The biggest challenge to the wellness program is the nature of the bus operator work and schedules. Program planners make a conscious effort to schedule activities to maximize bus operator participation.

Agency 11 (Large):

Agency 11 provides public bus transportation in the midwest US. This program is based on a strategic partnership between the vendors and the wellness team employees. They also send out surveys to employees to help determine what areas they should target. They include family members in their program by allowing them to complete health risk assessments, work with a health coach, and complete a 6-week online learning module. Their most utilized wellness component is their walking program where they offer employee challenges to see who can walk the farthest using a pedometer for tracking distance walked.

Agency 11 considers employee participation the most important factor. All employees received mailings, and almost half have participated in exercise or weight loss challenges, but only 6 percent have completed an HRA. Their program could be improved by additional internal resources, a wellness liaison at each location, and more union commitment. A major disadvantage to their program is that they are not able to provide a big enough incentive for employees.

Agency 12 (Large):

Agency 12 is a metropolitan transportation authority that operates various forms of public transit—bus, electric trolley bus, hybrid bus, light rail, and streetcars—in the western US. The health and wellness program is administered through the county government and is not specifically focused on transit operators. As county employees, transit employees are eligible to participate in the program, but there is no budget dedicated to transit. Program administration is centralized through the county HR department. The online program is designed to lower employees' out-of-pocket health care

expenses by having them complete individual action plans and track their progress online. There are 3 levels of benefit statuses, with “Gold” status providing the lowest out-of-pocket employee expense.

In addition to their county-wide program, the transit division also provides scheduled comfort stops within their transit schedules so that operators have an opportunity to use the restroom while driving on their route. There is an extensive ergonomics program involving transit bus operators and the local union is extensively involved in ergonomics and health and safety issues including equipment assessment and design.

Agency 12 thinks it is important that a program has a variety in choices and incentives. The union representative thinks it is important that a program is voluntary and rewards participation instead of financially punishing those employees who choose not to participate. According to management, the major barrier to program success is that the program is primarily online. Management believes that it is more difficult for transit bus operators to become involved because they are out on the routes all day.

The union feels that the major barriers to program success are the lack of respect for the program and the fear of personal information not remaining confidential. According to a union representative, most members feel that the program is designed for office workers and not the blue-collar workforce. In an attempt to prove this point, the union has hired consultants to get access to the wellness program data, and has shown that while 90 percent of County employees are Gold status, only 56 percent of union members have been able to achieve that.

Agency 13 (Large):

Agency 13 is a metropolitan transportation authority that operates various forms of public transit—bus, light rail, and commuter rail in the midwest US. They engage in a wide range of health protection and promotion activities where health targets are based on health insurance utilization and yearly health assessments. The most innovative thing that management believes they have done is promote and support an employee who put together a bike team for diabetes called “Bike for the Cure.” This program has been in operation for 3 years, with full agency support, and “participation is huge.” They believe that overall the entire health and wellness program is a morale booster if nothing else.

The union believes that management is constantly making improvements to the health and wellness issue. They believe that their restroom policy and employee education on the restroom policy is the most innovative thing that the agency is doing. The agency contracts with businesses along bus routes to allow employees to use their restrooms, if needed, while driving their route. They also ensure that during training employees are trained on the importance of using the

restroom when necessary and shown the location of restrooms that can be used along the routes.

Agency 13’s management stated that top-down bottom-up support is important. Upper management should participate in and support the program and grassroots activities. The union believes that it is important that the agency educate transit bus operators on the reality of bus operator assaults, be honest about the verbal abuse they may encounter, and teach them how to deal with these kinds of situations.

The agency management believes that the major barrier to program success is the fact that employees are not getting paid to participate in the program. The union agrees that the major barrier to program success is the fact that the agency does not offer incentives for participation in the program.

Agency 14 (Large):

Agency 14 is a metropolitan transportation authority that operates various forms of public transit—bus, subway and elevated rail, commuter rail, light rail, and electric trolley bus in the northeastern US. Sleep apnea awareness has been an area of focus at Agency 14. A current program allows transit bus operators who think they have sleep apnea to see a sleep specialist and copays/deductibles are waived. However, because there are no tangible incentives and the potential danger of being medically disqualified if diagnosed, only 100 of the 250 available opportunities have been taken.

Agency 14 is also implementing a pilot program on diabetes education through the health plan. The only incentive plan related to the pilot program involved \$25 gift cards for each access and \$200 if employees complete the entire program, paid by the insurance company. The diabetes program is very new; there is no data yet on health outcomes. Participation is high, at more than 800 employees, possibly because of the incentives.

Agency 14’s management respondent considers it important to implement program incentives, build trust, and raise awareness that people are responsible for their own health. The union representative would like to have a truly joint program with union involvement, built on a trusting relationship between the two parties. It is also deemed as key to program success not to impose any negative consequences on participating workers, such as medical disqualification.

According to agency management, the major barrier to their program success is budget. They do not have a dedicated wellness budget, which limits the amount of staff resources and variety of activities offered. As a result, incentives may not always be provided and participation tends to be low.

The union sees trust and confidentiality as the issue holding transit bus operators back from participating more actively and the union from promoting the company program. Health initiatives were discussed at joint meetings but the relationship between the agency and the union has prevented the union

from becoming an equal partner in the design and implementation of the health and wellness initiatives. Because of lack of trust and confidentiality concerns, the potential for medical disqualification becomes a “fear factor” for operators who might otherwise participate in the sleep apnea program.

Agency 15 (Large):

Agency 15 provides public bus service in Canada. The union’s focus is on the health and safety of operators while working, including assaults, access to bathrooms and good food, and schedule stress. These issues are addressed in joint health and safety committee meetings, but in their perspective the wellness activities they are aware of (yoga classes, some attempt at gym access) have little relevance because resources are not made available to match the schedule demands of transit bus operators. Health screenings seem to restrict transit bus operators from working rather than support them in remaining or becoming healthy.

In this environment, it will be important to enlist transit bus operators and their representatives to develop activities and the program that is supported and effective.

Case Studies

Dallas Area Rapid Transit: A Case Study in Team Building

A. Background

Dallas Area Rapid Transit (DART) is a metropolitan transportation authority that operates bus, light rail, commuter rail, and paratransit in Dallas, TX, and its 12 surrounding cities. DART began operation in 1983. DART operates 120 routes with 37.2 million passengers annually. They have a vehicle fleet of 612 vehicles, with 15 transit centers, and 12,500 bus stops. DART has approximately 3,100 employees, including 1,641 fixed-route transit bus operators. DART mechanics and transit operators are represented by Amalgamated Transit Union (ATU) Local 1338.

Sources:

Wellness Specialist
Local Union President
Union Wellness Committee Members

B. Case Focus: Team Building for Wellness

DART is a good example of how an agency can make changes within a program to bring people together and build a team. Starting with building a wellness committee that is representative of the program population, they have created a team focused on increasing program participation and implement-

ing effective program components. Committee members are active in the program and are consistently looking for ways to improve the program every year.

At DART, the wellness specialist is responsible for implementing the wellness program for all of the employees (transit and non-transit). Prior to the arrival of the current wellness specialist, the wellness committee had been composed of approximately 40 people with only 4 men, mainly the executive assistants to the different departments. The majority of the committee did not participate in the wellness program. Despite resistance from veteran committee members, the old committee was disbanded and recreated to be more representative of the DART population. Today, the wellness committee consists of representatives recruited from each department (with at least 3 or 4 transit operators), and includes a majority of men, a more ethnically diverse population, more frontline workers, and more participants of the health and wellness program. Equal representation on the committee is believed to be one of the most important things that allow information from all different departments to successfully shape the programs.

Committee members are nominated to sit on the wellness committee for a term of 1 year and can be nominated to serve again once their year has ended. This 1-year term is intended to allow more employees the opportunity to be involved in the wellness committee and to provide a fresh set of ideas every year. Once wellness committee members have accepted their nominations and are approved, they, along with their supervisor, are presented with a wellness committee charter to sign.

The wellness committee charter outlines the wellness committee’s purpose, rules, and expectations. It describes the requirements for becoming a committee member, and outlines specific activities that members are expected to participate in during their term. These activities include volunteering for wellness program projects, recruiting and motivating other members, actively participating in wellness program events, coordinating at least 2 wellness events, and giving at least 1 wellness presentation during the program year. In addition to the activities listed in the committee charter, committee members are asked to volunteer as a team captain for a health-related charity and organize a fundraising event at their facility. Target charities have included the American Heart Association’s Heart Walk and the American Diabetes Association’s campaigns.

As outlined in the expectations section of the wellness committee charter, one of the most important tasks that the committee is responsible for is volunteering to complete a wellness committee project plan. Each member of the committee picks an objective from a list provided by the wellness specialist at the beginning of the year, and develops a project to meet the selected objective. The committee members

present their proposals to the entire committee, describing the proposed initiative, timeline for completion, budget, staffing, marketing, and materials needed to effectively implement the proposed plan. The wellness specialist considers these proposals when designing the yearly wellness plan proposal for upper management. During the 2012 program year, the committee members proposed activities to address the following areas:

- Communication,
- Recruitment,
- Participation/Engagement,
- Fitness,
- Disease Management,
- Feedback,
- Policy,
- Nutrition,
- Products,
- Processes, and
- Recognition.

To assist with the planning and implementation of the wellness activities, the wellness specialist created the wellness communication team. These 25 people are drawn from at least 14 departments and are tasked with posting and communicating upcoming wellness activities and events to employees at their respective facilities.

C. Program Planning and Design

The wellness committee helps with the planning for the following year's program-specific activities. The main drivers for determining the program's focus each year are:

- Medical reports (aggregate data such as blood pressure, glucose, cholesterol, diabetes, etc.);
- An aggregate pharmacy report on the drugs that employees are taking, dental and vision aggregate data;
- Cause of death aggregate data (listing the five main causes of mortality);
- Aggregate data from self-reported health risk assessment; and
- Quarterly biometric screening aggregate report.

In addition, the wellness program considers participation rates, feedback from employees, and post-class evaluation forms.

D. Program Elements and Implementation

DART's program is designed for the entire organization rather than specifically for transit bus operators. However,

some activities are geared specifically toward transit bus operators. For example, in 2011, self-defense classes were held at each bus division due to recent attacks on DART transit bus operators. To address the needs of all employees and their corresponding shifts and work locations, the wellness program tries to offer health and wellness classes at different times throughout the day so that shift workers can have a chance to participate. Family members are allowed to participate in some activities, but family member participation in classes is not actively promoted.

The DART wellness program structure is based on a point system. Employees use an online wellness tracker to enroll in the health and wellness program and to track their wellness points. Program participants receive wellness points for completing health risk assessments, wellness workshops, fitness challenges, the wellness program kick-off, and the health expo. In addition to these activities, employees can receive wellness points for putting away a percent of their income into the DART 401K plan and for attending continuing education classes. While most of these activities can be self-reported into the system by the employees, the wellness specialist also has the ability to input points for employee participation in wellness activities and classes. Participants in the wellness program can receive anywhere from \$150-\$350 based on the wellness points they receive in a year.

In 2012, DART began offering quadrant bundles based on the four-quarters of the year. Participants receive the maximum amount of points if throughout the year they accumulate the number of classes, online quizzes, and special fitness events equaling the amount of activities offered in one-quarter. Employees can also receive an incentive package for completing 4 of 5 preventive activities.

To address concerns that medical information released during the program can affect employees' job status, confidentiality and HIPAA laws are stressed at the annual kick-off meeting, safety meetings, and open enrollment. At these meetings, it is explained to the employees that their health information is provided in aggregate form and that all administrative staff are required to sign a confidentiality agreement that prohibits them from discussing any employee medical information.

The wellness committee is responsible for ensuring that the program is a success, however, the agency's executive team makes the decisions when it comes to the budget, when and if people can get off work to participate, and other supportive ways to improve the program such as providing volunteer leaders. The executive team is provided with participation demographics in aggregate form and personal stories to promote their support of the program. The wellness coordinator feels that if the executive team buys in and supports the program, then it is more likely that the employees will feel more comfortable with participating in the program.

E. Organization and Integration

The wellness program collaborates with other DART departments to help make the wellness program more efficient and effective. There is no integration with actual health protection or occupational safety and health (OH&S) but the information technology (IT) department has been especially helpful with the creation of the online quiz feature and the online wellness tracker. These tools have helped increase shift workers participation and created a more cost-effective way to encourage and track employee participation.

To assist with the wellness program activities, the wellness program enlists external partners. Speakers covering a wide range of health and wellness topics are invited to come into DART and give presentations every month. The wellness specialist creates quizzes that are provided for employees every month based on information from health organizations (for example, in August there was a quiz about healthy skin based on information from the Skin Cancer Society). Every year, the wellness program provides program participants with a self-care guide. Employees received *The Mayo Clinic Guide to Self-Care* in 2012 and blood pressure pamphlets in 2011. In other years, employees have been provided with a walking kit, a smoking cessation kit, and a food and fitness tracker. As an additional resource, employees can access online health and wellness newsletters and publications using the online wellness program tracker.

The local union does not have an official role on the wellness committee, other than individual union members serving as committee members. However, conversations with the union leaders and union members that sit on the committee are very positive. While the union leaders are mostly focused on the health insurance premiums (which are typically addressed in the bargaining process), they are glad that there is a program in place that focuses on the health and wellness of the operators at the facility. However, due to the very busy work schedules of union leaders in other business matters, they have not had a primary focus to be a part of the current health and wellness committee. After participating in the F-17 case study and survey, they plan to become more involved in the future.

F. Impact and Evaluation

Analysis of information that is reported throughout the year from their insurance company and biometric screening company suggests that the program is successful. DART also engages in some facility targeting based on medical insurance data. Recently, based on their dental insurance claims, the dental insurance carrier gave a workshop at a targeted facility on the health and social implications of inadequate oral hygiene. Following this, DART arranged for a free mobile dental unit. The sign-up for the dental unit coincided with

the wellness program health screenings to increase employee participation.

The wellness specialist describes the health culture at DART as: “Overall, the culture of health at the DART is changing a little bit. People are starting to like the program and find it beneficial. If you walk around and talk to different people at DART, they are really enthusiastic about where the wellness program is headed.” Participation is increasing. Part of this higher participation can be attributed to more transit bus operators being on the wellness committee.

There are some big plans at DART for the future of the wellness program. The 2013 wellness program proposal will primarily be focused on lowering blood pressure by at least 2 percent through fitness, food, and education about what happens when you have high blood pressure and the risks associated with it. As part of this plan, there will also be a proposal that all employees be required to complete a nutrition class every 2 years with a test at the end of the class that they are required to pass. Additional activities in this proposal include healthy food suggestions for meetings, healthy vending machine foods, and healthy work environment. All of these ideas will be incorporated into a comprehensive wellness program proposal and submitted to the executive team for approval.

G. Summary

While the wellness program is not a new program within DART, the addition of a wellness specialist has caused the program committee to be completely restructured. This restructuring has made the DART wellness program a well-organized program that focuses on ensuring that program participants are active in the structure of the wellness program. Wellness committee members are tasked with defining future project activities, while the communication team leads employee participation.

The partnership of the wellness specialist and the committee participants is a large reason why the program is successful. She is attentive to the needs and concerns of the program participants and tries to incorporate those into the program. However, within DART she is the sole person responsible for the wellness program and her authority is defined by the executive team, so there are limits to the program needs and concerns that she can address. However, the executive team highly values her opinion and is usually on board with the ideas that she proposes.

As expected, there are some barriers to program success as it relates to transit bus operators and the operations department as a whole. While there is an attempt to schedule wellness activities for all departments, including operations, bus operator schedules can make it hard for them to attend activities. Attempts to address this concern included the implementation

of a wellness online quiz that shift workers can utilize to gain wellness points, but it is recognized that this is not enough. Currently, DART is looking into ways to more effectively address this health and wellness program concern for transit bus operators and the operations department as a whole.

Edmonton Transit: A Case Study in Work-Related Health Protection

A. Background

Edmonton Transit (ETS) is a public transit service owned and operated by the City of Edmonton, Alberta. They have a vehicle fleet of 949 buses and 74 light rail vehicles with 23 bus hubs and 15 transit stations. Edmonton Transit has approximately 2,178 employees, including 1,536 fixed-route operators. Edmonton Transit mechanics and operators are represented by Amalgamated Transit Union (ATU) Local 569.

Sources:

Occupational Health and Safety Consultant
Bus Operations Manager
Local Union President

B. Case Focus: Work-Related Health Protection and Promotion

One of the key elements of a comprehensive workplace health protection and promotion program is its ability to address the multifactorial contributors to bus operator health. Programs that address workplace safety and occupational health concerns are likely to have a greater impact on health and on retention. By acknowledging and addressing bus operator concerns about work and personal health, integrated programs will be taken more seriously and be more trusted. Edmonton Transit System demonstrates how occupational safety and health staff and committees can help protect and promote workplace health and wellness.

C. Program Planning and Design

The Edmonton city-wide employee health services program, part of the Employee Safety & Wellness section, employs a corporate health promotion specialist, an industrial hygienist, two occupational health nurses, and an ergonomist. WHPP activity has emphasized fitness and exercise, stress, and obesity. Major initiatives include sponsored fitness center membership (available to all residents), educational events and health fairs, and work hazards assessments and consults.

Each city department, including ETS, has dedicated occupational health and safety (OH&S) staff, called consultants. Among other OH&S responsibilities, the OH&S consultants

work with the city-wide wellness program to disseminate information and implement initiatives. The model is one of identifying and responding to department-specific health protection and promotion needs. The occupational health and safety consultant for transportation services has a background in OH&S, in the gas and oil industry, which has transferred well to her work at ETS.

Each of 4 bus facility OH&S committees consists of representatives from management, occupational health and safety, transit bus operators, and inspectors. The OH&S committees analyze worksite hazard assessments, incident reports, and seasonal changes to define what health problems should be targeted. They use these monthly meetings to bring forth safety issues, assign issues to individuals for investigation, and make corrections or suggestions for improvement. A facility inspection is carried out monthly, and findings and recommendations are submitted to the facility operations committees and then to the directors meeting for approval. Twice a year, the facility committee co-chairs, supervisors, and management come together to discuss the improvements made as well as areas of future improvement.

Health promotion targets are established for the city as a whole and for each division. In ETS that targeting is somewhat ad hoc: rather than systematic evaluation using health plan or other data, the OH&S committee and the OH&S consultant bring together observed problems, complaints, incident reports, and knowledge of health issues that are common in the transit industry to propose and implement activities for the following year. Seasonal and annual targets are set, and each month two topics are selected to cover with educational materials and activities. The departments complete an annual review and update of the program and adapt the city-wide content for employee manuals.

D. Program Elements and Implementation

Although agency finances have limited extensive WHPP initiatives, activities continue that link health, wellness, and safety concerns. In 2012 the ETS manager championed Charlie's Challenge, a walking program and a running program. This was implemented based on concerns about their aging workforce and the need to stay healthy with age. Participants attended running education clinics, achieved weight loss and exercise goals, and increased their self-reported healthy food knowledge. Only 92 ETS employees participated. Ongoing walking groups, a major goal of the program, were not as successful.

The OH&S committee discusses and initiates campaigns. The recurring slip and fall campaign, designed for the winter months, provides operators with the appropriate footwear as well as the mechanisms and maneuvers to help prevent trips and falls. The designated footwear is incorporated into the

collective bargaining agreement as part of the uniform paid for by the company. Winter driving training and reminders provide skills for work and personal safety.

The OH&S committee aims to be proactive instead of reactive. For example, silica dust has been identified as a current hazard in transit garages as a result of using sand for deicing. Although no associated illnesses have been identified, the OH&S committee used information from the facility assessments and from other sources to prepare a silica campaign, including air quality testing to measure the extent of the problem and education about the risks and the symptoms of silica exposure.

The next large health target is obesity, and sleep apnea will also be addressed. Current activities are aimed at raising awareness. The OH&S consultant recognized the difficulty of solving these problems, and notes the specific impact of schedules, including split shifts, fatigue, and limited access to healthy food.

The OH&S committee consults the corporate ergonomist when input is needed. This ergonomist typically helps the committee examine back problems and other ergonomic issues that operators experience to determine how these problems can be addressed during and after initial training. For example, if a bus operator is having trouble with the bus seat, the OH&S consultant will ask the ergonomist to come in and evaluate the situation, make recommendations for better adjustments, and retrain the bus operator as needed. At the same time, both the bus division health consultant and the training staff, who are also experienced drivers, have ergonomics knowledge and experience that they share to improve training and the safety environment.

The OH&S division at Edmonton Transit participates in the Partnerships in Injury Reduction (PIR) program, a joint effort of the Workers' Compensation Board (WCB), Alberta Employment and Immigration, industry partners, safety associations, employers, and labor groups. This voluntary pricing program encourages injury prevention and the development of effective workplace health, safety, and disability management systems. The program includes regular audits that ETS uses to establish an action plan and a 3-year goal for the program. Edmonton's partnership in this injury reduction program helps address retention and availability by paying attention to issues that result in modified duty and keeping modified duty time as short as possible. The OH&S consultant also uses the WCB website to find additional resources and educational materials on transit issues.

E. Organization and Integration

Wellness initiatives are influenced and implemented by the safety team, through the OH&S committee, and supported by the city-wide wellness program. The integration includes operations: Attempts are made to consider health and fatigue

in developing schedules, and the transit manager participates in wellness activities. Both labor and management mentioned the importance of operations managers as well as the OH&S consultant visiting the locations to demonstrate support for health and safety in the workplace. These visits take place early and late, not just during typical business hours.

The union provides input to the OH&S consultant on concerns and issues reported by members but does not yet formally serve on the OH&S committees or participate in wellness activities. Union leadership reported that participation by union representatives in the monthly meetings will improve conditions and communications; they also feel that the health protection and promotion programs would be more effective if there was legislation in Alberta that required them and defined a role for the union.

F. Impact and Evaluation

Employee health has a direct effect on hiring, safety rules, and training. Avenues used by the OH&S committee and others with health responsibilities to influence health include functional capacity examination used for hiring, the implementation of safety-rules structuring on bus operator/customer interactions to enhance operator safety, and a training curriculum that is enhanced to emphasize health and wellness elements particularly related to shift work, work fatigue, and operator—customer conflict minimization.

Regular hazards assessments and location inspections are carried out to identify safety problems. Respondents felt that the most notable data collection tool that Edmonton Transit uses to identify health and safety targets are the incident reports that the operators fill out. Operators are expected to contact control when they have an incident or fill out an incident report as soon as they finish their shift. Management promotes the understanding that even apparently minor incidents could become a concern.

To evaluate Charlie's Challenge, the walking and running program, the health promotion specialist surveyed program participants about whether they achieved their program goals, whether the challenge created positive or healthy changes in the workplace environment, and whether participants would participate in similar programs in future. This program reached only 92 transit employees, two-thirds of whom filled out evaluations.

G. Summary

The Edmonton Transit System does not have a stand-alone transit-specific health and wellness program. The city-wide system provides support, but it is the OH&S consultant and committees that address health and wellness concerns. ETS uses OH&S committees located at each of the transit facilities

to analyze worksite hazard assessments, incident reports, and seasonal changes to define what health problems should be addressed in upcoming campaigns. The City of Edmonton has a multi-year commitment to a measurable sustainable wellness program, but wellness programming is more susceptible to budget availability than the robust OH&S program that is provincially mandated.

The strength of the program—its integration of health protection and health promotion—is paradoxically linked to the need to maintain a program in times of limited resources by integrating it into the OH&S structure. But the relationship is not just one of convenience. Unlike some employers that focus on individual illness and risks, management feels “the program has to have a correlation between what the company is offering, the work that is being done, and how the activities relate to the employees.” To assure this connection, the OH&S consultant spends a lot of her time reaching out to the transit operators for their health and safety concerns and problems. All parties report a commitment to timely resolution of safety concerns, and a pragmatic recognition that operations demands and ideal conditions conflict.

At the same time, neither OH&S staff nor the city wellness program comprehensively addresses the organizational stressors of the work environment, although there are policies on issues such as assault and scheduling. The union reports that morale is not strong among operators. Some management activities aggravate the impact of the demands of schedule (camera surveillance), passenger assaults (limited support for those who are spat upon and discipline based on how the operator responds to assault), and work-family life conflict (aggressive sick time policy). The Union takes a role in referring members for psychological support services because they feel the employers’ program does not yet adequately support members’ needs.

The program could be improved by additional resources. The OH&S consultant is ready to introduce new concepts and activities. Moving forward to create an integrated workplace health protection and promotion program will also require an extended role for the Union and a recognition that health, wellness, and safety are influenced by complex combinations of individual, work, environment, and organizational factors.

Orange County Transit Authority: A Case Study in Organizational Support

A. Background

The Orange County Transit Authority (OCTA) was formed in a merger of 7 county transportation agencies. The system employs 958 transit bus operators, working out of 3 bases and running 591 buses on 77 bus lines to every city in Orange County. Operators are represented by the International

Brotherhood of Teamsters Union Local 952. The program was reviewed in detail for *TCRP Synthesis 52* almost a decade ago. Rather than restate that comprehensive description, this study will focus on how the program has developed and maintained organizational support along with changing conditions.

Sources:

Health, Safety, and Environmental Compliance Director
Wellness Administrator
Base Operator and Maintenance Representatives on the
Wellness Committee
Wellness Ambassador/Program Participant
Local Union President

B. Case Focus: An Integrated Program with Organization-Wide Support

This is an ambitious program reporting a wide range of activities and targets. What makes it remarkable is the extensive support it receives throughout the organization. The program is housed in the Health, Safety and Environmental Compliance (HSEC) department, although its position has varied over the years. OCTA supports a full-time wellness administrator, consulting fitness specialists, fitness facilities, intramural sports, health fairs, an incentive program to encourage varied participation, and mandatory wellness training. The program administrator, a Senior HSEC Specialist, also contributes to ergonomics discussions and analyses. Union leadership supports the program but has not taken a large role in planning targets or activities. The Union includes health protection and promotion information in its member newsletters, and negotiates health benefits.

C. Planning and Design

The OCTA wellness program began in 1991 to reduce the costs of providing health benefits and workers’ compensation claims by slowing the rate of premium increases, to reduce productivity losses related to absenteeism, to promote health awareness and improve health, and to educate employees in the better use of services.

In the original program, ambassadors—experienced transit bus operators and trainers—actively promoted health by riding with other transit bus operators to observe and correct biomechanical concerns, and give talks about road issues such as ergonomics and responding to passengers. They were selected based on attendance and other exemplary characteristics. However, the release time funding was lost following drastic cutbacks at OCTA, so this component has been eliminated.

Currently, program path and activities are determined largely by the full-time wellness administrator. Three main inputs determine yearly goals and activities: health areas known

to be of concern, including those identified through health plan data, the results of employee surveys following challenges, and the content of topical workshops and resources offered by the health plan and other resources.

A committee made up of two transit bus operators from each of the three bus bases and maintenance from two bases meet monthly to discuss successes and make plans. These champions volunteer to serve on the committee with supervisory approval, or are selected by the base manager. The insurance plan representative sometimes participates in committee meetings. There is some input from administrative staff but they have their own committees and activities. Human resources is involved with some health areas but has little direct engagement with wellness activities beyond providing services for the administrative staff.

All parties (safety and program staff, base management, union leadership, and participants) agree that the wellness arena is one of mutual respect and responsibility, with upper level management commitment, and base managers who support the program. The CEO (a competitive runner himself) strongly encourages the fitness focus, but otherwise gives the safety department and the bases a green light to move on health and safety issues. Overall, upper management involvement is diffuse rather than command-and-control as in many transit agencies; its presence at events is noted and welcomed. It was suggested that stronger upper management involvement could help the program, by providing influence at the planning level, by asking questions that could drive the program forward, and by demonstrating responsibility for program development, along with support.

D. Program Elements and Implementation

The “Shoes and Wheels” point-based incentive program encourages healthy behavior and learning and fitness activities via a web-based portal. Employees record daily physical activity and education to win health-related prizes such as hand weights or sports clothes. Health workshops are scheduled quarterly for transit bus operators and monthly for other employees. Other activities include health awareness/behavior change programs such as weight challenges, including a holiday “Maintain Don’t Gain” program. As an organization OCTA participates in a variety of walking challenges, race participation, and family events. They are especially proud of their success in regional races.

There are fitness centers in each base, 3 with a part-time exercise specialist who also provides health indicator measurement, coaching, and consultation. Users report that the competence of the chief trainer in exercise and health knowledge, and his understanding of the concerns of transit work, contributes to the program’s success. Despite this, only about 15 percent of the transit bus operators use the gym.

The program negotiates health club membership reductions and other health benefits. Health resources and information are disseminated in monthly health newsletters and on electronic bulletin boards at the bases. A unique weight loss incentive is found in the “Weight-Loss Uniform Set Replacement” contract language, which establishes that employees who have lost a minimum of 40 pounds are eligible to receive a complete new uniform set.

A health risk assessment (HRA) portal, run by human resources through the health insurer, has not been well coordinated for transit bus operators. As initiated the computer-based system required the bus operator to login, wait for a password, and then complete a 45-minute HRA. The time required made it difficult for transit bus operators to participate during their downtime at the bases. The wellness administrator is investigating ways to make this resource more responsive to operators’ time demands and to their interests.

E. Organization and Integration

Workplace health protection and promotion functions are distributed across the human resources and organizational development department. The HSEC office covers health and safety hazard identification and correction and the wellness program. Workers’ compensation issues, rehabilitation, and return to work are the responsibility of risk management, and human resources covers organizational development.

Sources described how the agency addresses policy affecting health protection and wellness, directly or through other programs:

- Scheduling: “Recovery time is built into the schedules.”
- Safety Rules: “We complete workstation evaluations to determine proper body mechanics for loading and unloading wheelchairs. We promote stretching and micro breaks during shift.”
- Vendor Selection: The health promotion manager works with vending machine supplier to maintain a percentage of healthy beverages, snacks, and other foods in the machines.
- Bus Procurement: “Bus equipment is evaluated to determine the strain/stresses placed on the body in order to prevent back injuries and reduce workers compensation claims.”

Proactively, the Health and Safety staff has been part of the procurement process when buses have been purchased, and they assist with ergonomics and safety issues for the buses. For example, program staff investigated the possibility of lower extremity pain related to the ergonomics of an articulating pedal accelerator and assessed anthropometric measures for extended use. Although California law requires

ergonomics training only with initial training, OCTA maintains it on a 3-year cycle. Operators are encouraged to exercise and stretch during the work day, using first a stretch program video during required safety and health training then a palm card stretch series that focused on areas of particular concern for operators.

An over-extended local union leadership has accepted management's leading role in the WHPP activities, but is interested in increasing the union's contribution to member health and wellness. The union president reports:

"OCTA provides excellent training and works very hard to address health and safety matters. Unfortunately, service reductions (due to lack of adequate state funding) and extreme time pressures (running late, very heavy passenger loads, no time to use the restroom, eat, or stretch) contribute to injuries (physical and mental) and excessive absenteeism."

OCTA has been working with the health care provider to track aggregate employee health status and to target behaviors that affect health. The health care provider delivers lunch-time educational materials from its existing content areas. However, these programs are not tailored to the unique characteristics of the transit employee. The health plan participates in wellness meetings and provides support, for example, scheduling doctor visits via the mobile unit and flu shots via their Healthworks program. However, events require at least 20 participants for the mobile unit and lunch sessions, these events can be hit or miss because of operator scheduling. Because of small turnout, the sessions may consist only of DVDs. The health plan has individual plans to help people set health goals, and will be actively promoting its coaching program starting in January 2013.

The safety director sees family members as peers who can either support or sabotage efforts by how they encourage the worker and even how they cook at home. He wants to involve family members in promoting safety and wellness at work and outside of work. Weekly safety briefings have addressed home and holiday safety. The internal communications groups plans to include family involvement in slides for the digital signage system in the bases.

The champions and activists involved in program planning and execution, many of them transit bus operators, described a traditional exercise and wellness program that they supported strongly. Although they feel positively about it, most of the initiative comes from the manager. There was at times a feeling that operators did not make a strong enough commitment to their own health.

F. Impact and Evaluation

The health plan provides some data on health status and outcomes, but most of the program evaluation focuses on

participation. Employees use a computer interface to record activities in 15–60 minute increments for the Shoes and Wheels point system. This, along with sign-in sheets from lunch-time events, allows the wellness administrator to monitor participation. The fitness trainer records and reports monthly on all fitness equipment use, assessments, consults, and other coaching. This data is reported in number of visits rather than number of unique users so the total participation is an estimate. Except for the Shoes and Wheels system, the proportion of operators participating is not well defined in the data. It appears that active bus operator and maintenance participation is not extensive. Less than 20 percent sign-in for the Shoes and Wheels incentives program, and about 15 percent in each base use the exercise equipment and consult with the health trainer.

G. Summary

OCTA WHPP program survives and prospers on the respect all significant parties have for each other. Despite personality differences, varied time and work pressures, and different perspectives on what the most significant health issues are or how to address them, all see that the transit bus operators are affected by their work, that their health status is not ideal, and that the success of the organization depends on operator safety, health, and wellness. While individuals in many agencies have espoused the same views, OCTA was unique in respondents' unanimous support and commendation for each other.

Program staff and participants critiqued the ability of the vendors and other resource organizations to provide transit-specific support that takes operator schedules and work culture conditions into account. Both management and union are developing tools to address this: for example, the union has talked with the health plan about the problems transit bus operators experience with prescribed diuretics when they may have limited access to restroom facilities, and the wellness administrator is discussing ways to increase access to health plan data and use it for planning and evaluation.

Orange County and the City of Orange faced the budget constraints of all transit agencies notoriously early, which had an impact on initial wellness activities. The crunch continued recently, and fiscal concerns are recognized by union and management as a core limitation in developing an ideal program. At the same time, the organization has maintained a commitment to visible and effective activities and a significant budget.

Perhaps the biggest potential weakness is the reliance of the program on the initiative of a single effective individual. While the work is well-respected throughout the organization, wider involvement across the organization may be limited as the manager's role is seen as predominant. Distributing

responsibility for assessment, planning, and programming throughout the network of ambassadors and other active supporters could make the program stronger and ensure its longevity. It could also free up the wellness administrator to do more quantitative needs assessments and program impact evaluation. Improved evaluation could help prove the value of the program to the organization and stimulate wider management support and involvement.

Health protection and promotion at OCTA in the future is likely to be enhanced by the safety director who recently joined the organization. Along with the wellness administrator, he recognizes the potential for increasing the use of the health plan resources. Both the safety director and the union president are committed to expanding the program as an integrated and comprehensive approach to worker health, safety, and wellness. Recognizing that a program may be limited by a competition model and too strong a focus on individual behavior change, they plan to contribute to the development of a transit-specific culture of health at OCTA that can bring workers together. Although the recognized limits on funding could impede major changes, the program continues to garner support and respect.

Capital Metropolitan Transportation Authority: A Case Study in Evaluation and Return on Investment

A. Background

Capital Metropolitan Transportation Authority, or Capital Metro, is a public transportation provider located in Austin, Texas. Established in 1985, it currently operates 198 buses, paratransit services, and a commuter rail/light rail system. In 1992, Capital Metro created Startran, Inc., a private entity that acts as the authority's agent in managing its unionized workforce. Capital Metro drivers and mechanics are represented by Local 1091 of the Amalgamated Transit Union. Startran and the ATU have in the past had troubled contract negotiations that most recently resulted in a general strike in November 2008.

In August 2012, nearly all Capital Metro's services were transitioned to several private transit operators. With financial contributions from the private operators, Capital Metro continued to provide a workplace health promotion program to bus drivers and mechanics, now employees of the private operators. This case study reports program elements and results prior to the transition.

Sources:

Risk Manager (Wellness Program Oversight)
Project Manager (Vendor)
Union Representative and Operator

B. Case Focus: Measuring Program Success Using Metrics and Return on Investment

Capital Metro's employee wellness program has continuously measured program success using metrics and return on investment (ROI) calculations. The agency's ability to demonstrate tangible benefits and associated financial gains reinforces the fairly substantial dedicated budget the wellness program has enjoyed through the years. Among the agencies surveyed and studied in the F-17 project, few were able to track as many and detailed measures as Capital Metro, and none calculated ROIs based on these measures. Although the methods Capital Metro utilizes could be further strengthened, it represents one of the most comprehensive cases in transit for evaluation of the impact of WHPP programs.

As part of the case study effort, researchers conducted a series of interviews with stakeholders, including the program coordinator, vendor, union representatives, and transit bus operators. Researchers also collected a complete portfolio of Capital Metro's internal program planning, marketing, and evaluation files, including detailed descriptions of program components, incentives and results, participation tracking, employee satisfaction survey instrument and results, and ROI calculations.

C. Planning and Design

In the early 2000s, Capital Metro was confronted with record high health care costs, especially among operators, and greatly increased absenteeism. In 2003, they partnered with the Austin/Travis County Health and Human Services Department to initiate a comprehensive health and wellness plan for the transit employees to promote healthier lifestyles, increase employee morale, and contain rising health care costs and absenteeism rates.

At the inception of the program, Capital Metro determined that having a third-party vendor deliver the wellness services would ease operator concerns regarding confidentiality and encourage participation. This vendor provides wellness coaches and personal trainers, personalized health assessments, and preventive screening. Capital Metro staff oversees the contract and enriches the program with additional health and wellness promotion elements such as health education, smoking cessation programs, healthier food options, and cash incentives.

The Capital Metro Employee Wellness program was designed to address key aspects of employee health—physical activity, nutrition, weight management, stress-reduction strategies, and smoking cessation. Program targets and components are adjusted based on the medical claims data from the benefits department, showing top health problem areas and associated costs.

D. Program Elements and Implementation

During the 12 months prior to the case study, approximately 250 out of the 668 Capital Metro transit bus operators actively participated in the program. Nearly all operators received health information mailing or attended a meeting. Initiatives of the program include:

- Opening and operating two onsite 24-hour fitness centers with free personal training and health assessments and nominal membership fees.
- Cash incentives of up to \$250 annually for achieving quantifiable health milestones, such as blood pressure reduction, weight loss, smoking cessation, and others.
- Improved access to healthy food in the employee café and coupons for purchases of healthy food options.
- Education and outreach events, such as cooking demonstrations, wellness fairs, onsite weight loss meetings, and smoking cessation programs.

Through support from the County Health and Human Services Department as well as the Centers for Disease Control (CDC), Capital Metro has enjoyed a large budget for its worksite wellness program, estimated at \$350,000 in the most recent fiscal year.

E. Organization and Integration

The wellness committee includes line managers, Human Resources, transit bus operators, mechanics, and administrative staff. Although several rank-and-file union members sit on the committee, the union has not officially participated in committee meetings. Management is considering a proposal to restructure the committee to recruit wellness champions from among people who have actively participated and benefited from the program, to help promote it.

When surveying employees on how wellness activities can be designed to have the most impact, the chief complaints Capital Metro received were tight schedules that allow no time for bathroom breaks or lunch. One of the barriers to achieving maximum results is the lack of communication and coordination between departments to implement positive changes to bus operator schedules. For transit bus operators working a late shift or extra-board operators who do not have a set schedule, participation in a fitness class or individual training session is difficult, even though Capital Metro makes an effort to keep trainers onsite for as long as possible during the day (6 am–6 pm).

F. Impact and Evaluation

Capital Metro utilizes a comprehensive planning and evaluation template for each health promotion initiative. Detailed

data from the logs, trackers, and employee surveys are plugged into the template to track process and outcomes of each new activity.

Capital Metro tracks an extensive list of measures to gauge program outcomes against yearly goals, beginning with program participation and penetration rates. To calculate gym participation, badge reports are provided by security and logged into a customized spreadsheet. Each month, the wellness center logs gym participation, personal training sessions, biometric assessments, fitness class participants, and one-on-one fitness consultations. All full-body assessment participants (including those taking part in fitness and nutrition challenges) have their data collected and stored in the assessment system. For each challenge, such as weight loss, progress of individual participants or teams is kept in a spreadsheet that calculates the percent change at the end of the program. The dietician provides monthly reports on class participation and individual consultation sessions. For vendors, reports are provided to wellness coordinators after the event takes place. All unique participants are entered into a customized spreadsheet showing which activity they participated in.

In addition to the fitness center logs, a rolling wellness program tracker tracks each individual participant in 5 broad categories of wellness activities, namely physical fitness, weight management, stress management, tobacco cessation, and miscellaneous wellness. Data from the tracking spreadsheet are then rolled up into monthly and yearly summaries.

The wellness staff also conducts an annual employee survey on their satisfaction with the fitness center staff, equipment, and offerings, as well as ways to improve the wellness program. Employee response in the past few years has been overwhelmingly positive. The monthly management report and survey results are then used to adjust programming to fit the needs and desires of employees.

Return on Investment

Capital Metro is among one of the very few transit agencies that conducts an ongoing cost-benefit analysis of the worksite wellness programs. A study published in *Preventive Chronic Disease* by the Centers for Disease Control and Prevention in April 2009 reported that Capital Metro's employee health care costs were reduced dramatically as a result of this program. Starting in 2003 when the wellness program was launched, until 2006, Capital Metro's health care costs continued to increase each year, but at smaller rates each succeeding year and below the national average rate of increase. In 2007, when participation in the program grew dramatically, Capital Metro saw a 4 percent decrease in total health care costs. Similarly, rates of absenteeism among transit bus operators remained stable at approximately 10 percent from 2001 through 2005. The rate declined to 8.2 percent in 2006

and 7.6 percent in 2007, for a savings of \$450,000 compared with the cost of the 10.1 percent absenteeism rate in 2004.

The wellness staff coordinates with benefits and operations on the calculation of wellness ROI. The benefits department produces reports with the number and types of medical claims and the associated claim costs, among a myriad of other measures. The top-ranked claims also inform wellness of the target areas their program needs to focus on next. The operations department keeps track of absenteeism and feeds the information to the wellness division periodically for trend analysis. Absenteeism is defined as the number of “lost hours” divided by number of scheduled hours. “Lost hours” includes absence due to FMLA, sick leave, workers’ compensation, and medical leave of absence.

In 2007, the program achieved a return on investment of \$2.43 for each dollar invested. Agency documents show that the ROI reached \$3.95 and \$2.88 in 2009 and 2010. The final ROI reports are reviewed by the Director of Finance on an annual basis. According to the management survey respondent, the benefit measures, especially absenteeism, are affected by a number of external factors. It is difficult to isolate the effect of the wellness activities.

G. Summary

With clear goals set forth 10 years ago, Capital Metro embarked on a renewed journey to improve the health and wellness of its employees, in particular transit bus operators, while at the same time achieved better efficiency and effectiveness through reduced absenteeism and health care cost containment. Through the years, it has gradually expanded the program to include a comprehensive menu of complementary components. Each program activity is carefully planned out, based on the needs expressed by employees through opinion surveys and supportive data such as demographics and health claims. The program pays great attention to tracking the progress of each participant and any observed health status changes. Each year, program staff collaborates with the operations and benefits departments to document changes in operator absenteeism and health care cost data. Converting improvements in these key success indicators into financial terms and bringing total program costs into consideration, staff calculates the ROI and tracks its fluctuations year by year. Capital Metro is setting the pace for other transit agencies that are interested in not only implementing a program, but knowing how well the implementation is carried out to impact the agency’s bottom line.

The 2 primary outcome indicators used are absenteeism and health care costs. The program staff is well aware of the limitations in the evaluation method, given the multiple variables that could also impact these measures that are not under the control of the WHPP program. A well-rounded calcula-

tion of ROI would need to address the varying of degree of influence by external factors.

A third measure, presenteeism, is sometimes used by model WHPP programs but is not currently included by Capital Metro. Presenteeism measures the lost productivity of employees when they attend work while sick. In the world of transit bus operators, presenteeism is clearly more difficult to measure than absenteeism, and probably more difficult compared to occupations such as production workers.

With the Startran transit bus operators now becoming employees of private contractors, significant coordination will be needed from multiple divisions of Capital Metro and the contracting companies for the program to continue its success and its evaluation effort. Union involvement may become even more challenging, given the complexity of the relationship going forward.

United Transportation Union—Los Angeles County Metropolitan Transportation Authority Wellness Program: A Case Study in Maintaining Effectiveness with Growth

A. Background

The Los Angeles County Metropolitan Transportation Authority (LACMTA) employs 5138 transit bus operators represented by the United Transportation Union Locals 1563, 1564, 1565, 1607, and 1608. The system encompasses 10 bus bases and a total of 9,200 employees.

Sources:

- UTU Trust Fund Manager
- UTU General Chairman and five Divisional Chairpersons
- Deputy Executive Officer of Human Resources
- Human Resources Director
- 2 Program Ambassadors
- 5 activity participants (including 2 from Service Scheduling)
- Wellness Committee participants

B. Case Focus: *Maintaining Effectiveness with Growth*

The UTU-LACMTA health promotion program demonstrates how an organization can start small and grow while retaining activities and a focus that are location-specific, making use of individual and system-wide resources. It has developed from a pilot project at 2 of 10 bus locations into a comprehensive effort that shares its success with other divisions and titles. This 6-year-old traditional wellness program is staffed and run by the United Transportation Union Trust Fund, which administers the health and welfare benefits for LACMTA transit bus operators, and is supported by the

health plan and other vendors and community groups. The program is guided by explicit and quantitative 4-year strategic plans defining targets, activity, evaluation, and outcome goals. It covers employees in all sectors of the organization as well as family members and includes family activities.

The LACMTA health and wellness program was established by the employer with the support of the union as a pilot project, then transferred to the Union Trust Fund. It stands out in the transit industry for the extent of available resources and in the level of local union support.

C. Planning and Design

The UTU-LACMTA Trust Fund labor-management collaboration began in 2007 to control escalating costs without reducing benefits. The Board of Trustees asked its benefits consultant to develop a strategy to improve employee health and to control health plan premium rates and self-funded costs. Strong senior support was obtained from the Union General Chair, all Local Union Chairpersons, and the LACMTA Chief Operating Officer, Chief Financial Officer, and Directors of Human Resources, Benefits, and Safety. Following a pilot in two divisions, the UTU Trust Fund decided to fund the program manager position to direct program activity and coordinate planning with management and the other unions. The program has since expanded to all bases and the agency headquarters.

The Wellness Committee was developed in 2008, composed of UTU and LACMTA trustees, union leaders, LACMTA department managers, and health plan representatives. Corporate safety remains aware of the program but has recently had little time to spend on issues beyond system safety. A local union chairperson was initially appointed as the wellness committee chair. The trust fund manager, the 5 UTU divisional chairs representing the transit bus operators, and other union representatives participate actively in planning and supporting program focus and activities. The Wellness Committee establishes strategic plans covering 3–4 year periods and yearly goals after looking at health plan data, other health indicators, participation by divisions, and available resources.

Extensive external partner involvement was also obtained, including financial, staffing, and resource support from all health vendors, and information and training from community organizations. Vendor contributions cover incentive programs, health fairs, program supplies, travel, printing and copying, program shirts for ambassadors, and meeting costs. Budget needs have increased as the program grows. The fund administrator asks for percent increases on the agreed contributions when negotiating contracts with carriers. These monetary and in-kind contributions benefit both carrier

and the Trust Fund as they increase overall health and make insurance use more efficient.

The divisional chairs approve and monitor the divisional wellness Ambassadors, hourly employees at each location responsible for carrying out wellness activities to suit their locations. The LACMTA covers release time for the Ambassadors and other staff for activities and meetings. Currently the LACMTA covers release time for 18 Ambassadors every other Wednesday for 4 hours. Division Managers are identified as Wellness Champions to support Ambassadors and participate in division-based Health and Wellness committees, and have discretion to release Ambassadors for longer as needed.

Ambassadors:

- Help carry out and evaluate the worksite program.
- Maintain the communication, tracking, and evaluation systems for the program.
- Facilitate health, fitness, and nutrition-related programs for groups and for individuals.
- Support the fitness facility by supervising the exercise floor and ensuring a safe environment.
- Provide fitness center orientations of gym equipment to new members.
- Solicit input from other hourly workers about health needs and concerns.
- Develop and run site-specific activities.

D. Program Elements and Implementation

The program initially focused on prevalent issues of presentism, upwards trends of workers compensation claims and avoidable accidents. Most activities target physical activity, nutrition, and disease management. Targets are based on the current strategic plan and annual plan and previous year health fairs outcomes and evaluations. The program attempts to maintain activities with good participation and at the same time keep the offerings fresh. Initiatives are also identified in quarterly meetings of site champions and ambassadors. Aggregate health risk assessment data is used to target site-specific activity. Within each division, activities are coordinated by the union local chairperson and division managers. Specific activities are selected in part by the vendors who sponsor and run “Lunch and Learn” events. Qualitative input is provided by member testimonials, quarterly meetings of site champions, and the annual plan for each year. Because the program allows for adaptation, location Ambassadors can respond to local needs and resources—one is a certified popular exercise instructor, another prepares food to sell and uses the proceeds to purchase exercise videos and playback equipment.

Program activities include lunch and learn events at all locations, wellness coaches to review screening results with participants, contributions to the company's safety TV network, a mobile vehicle with an occupational physician familiar with the demands of transit work, challenges and other participatory health activities including hula hoops and jump ropes, and 4–5 health fairs annually. A 6-week family exercise plan targets family health costs and rising childhood obesity, providing employees who commit to exercising weekly a basket of exercise aids and encouragements. This plan is paid for by the group health vendor. Not all valuable supports are designed to benefit transit bus operators: for example, day care resources at the downtown Gateway location that could reduce work-family conflict and stress are not conveniently available to many transit bus operators and other employees who work in divisions up to 50 miles away.

Onsite challenge activities are designed to encourage physical movement during work. Operators are taught to use exercise bands with a set of exercises that can be done on the road, as well as pretrip stretches. Although the pilot phase included an ergonomist to watch posture and have people talk about pain and movement, this is no longer an emphasis area for the program. Financial incentives for participation include time off, cash or gift cards, individual prizes, and group rewards.

Transit bus operators resisted the introduction of health risk assessments, in part because of concerns about confidentiality. As the health plan confirmed that the information provided in these assessments could be harvested in the aggregate from their existing data, this program was eliminated. Screenings are still carried out at health fairs, but these serve more to encourage individual awareness and stimulate change than to provide a picture of the health status of the employees.

E. Organization and Integration

The program is an ongoing collaboration among the unions, the vendors, and management especially via human resources and the division managers. The involvement of the division managers varies with the individual and location, and could be enhanced, according to all sources. Union officers and Trust Fund staff remain closely involved with the program and voice great confidence in the program manager who is by agreement a neutral party.

Because the program is run by outside agency departments, the program does not directly address return to work accommodation, training, safety, or other areas of a comprehensive health protection and promotion program. The program manager reports that “human resources, manpower and operations are extremely involved with our program, and corporate safety (as much as they can be). I am looking to get involved more with training.” The program has focused on individual health

concerns and skills more than occupational contributors to health problems, work organization stressors, and workplace safety and health concerns. Notably, the HR director was responsible for a sleep apnea initiative.

Union leaders reported concern that the program does not address core issues affecting operator health, especially route schedules, stress, and access to food. It is difficult for many operators to participate in the lunch events and other classes, unless they have unpaid layover time in the middle of the day. The program committee recognizes the occupational challenges to health, including seated work, stress, and demanding schedules. Service Scheduling staff were aware of the demands of schedules on operator health, in particular the effects of limited break times and access to restrooms. They try to account for the stressful effects of late runs, school let out times, and for increasing numbers of wheelchairs and walkers, and they include extra minutes for bathroom distances at layovers. The scheduling department sets up tables to get input about schedule problems in each division 8 times a year. But they also report that they are constrained because adding recovery time beyond the contractual 6 minutes or 10 percent of the run affects revenue hours.

F. Impact and Evaluation

The program uses aggregate health status data from the carriers, comparing it periodically both to negotiate rates and to plan program targets. Reports from the carriers include prevalence of chronic health conditions and utilization data. Evaluation is also done through program participation rates, participant feedback, and qualitative input from Ambassadors, Champions, and others involved in program implementation. The program identifies and describes success stories to illustrate the program impact to support their quantitative analysis. There is no formal return on investment analysis, but informally the program manager expects a positive return within 36 months, based on health care claims cost, productivity improvements, and employee availability changes.

The program is showing results. Although rates of hypertension, diabetes, and obesity are still higher than the general population, they decreased slightly in LACMTA employees between 2009 and 2011, as did inpatient admissions, outpatient visits, and prescriptions filled per 1,000 subscribers. From 2009 through 2013, the Trust Fund's annual rate increase averaged 7.0 percent, compared to the provider's Southern California average of 7.4 percent. The 2013 rate increase is 3.8 percent, compared to the plan's overall average of 6.0 percent. The goals to keep any increase to less than 5 percent and less than the CA average were met.

The program is realistic in its participation goals, aiming to attract 10–20 percent participation in each of the major activities; currently 25–32 percent of the target population

actively participates in at least 1 activity each year. About 50 percent of transit bus operators participate, 31 percent engaging in disease management activities, 7 percent in weight loss or exercise challenges, and 24 percent using worksite exercise equipment or off-site gym access. The strategic plan continues to set increased numeric goals.

G. Summary

The UTU-LACMTA Wellness Program is a well-supported, well-organized program that sets reasonable, measurable goals and meets them. The goals are established through yearly planning and 3–4 year strategic plans. It has developed from a pilot project targeting 2 bus locations to an agency-wide program that adapts to overall and local needs. The program now reaches all 15 bus locations and the Gateway building (headquarters); the final expansion will be to include the mechanics in the program.

The program's success may be related to the unique position of the program and the program's manager in the Trust Fund. It has allowed freedom from other HR and managerial concerns, but at the same time requires the operators' union to provide support for a program serving more than twice its own membership. Despite the project's roots in transit bus operators concerns, the expansion into all other titles and division risks redirecting the program from their specific needs.

As the program grows the program manager is concerned about trying to keep activities in balance, not to lose track of the kinds of cooperation and planning that made the pilot study and early years a success. Several features keep the program responsive and effective. The Ambassadors at each location can adapt the program activities to the needs of their coworkers, and they can make use of their own skills and resources. The extensive and productive wellness committee enlists real participation from all interested parties and ties the program to its base, facilitated by a leader with insight and patience. The effectiveness of the project manager is both a strength and a potential weakness. All parties—management,

unions, vendors, Ambassadors, and members—attribute the program's success to the character and skills of the program manager. She trains and encourages excellence at all other levels of the program. However, there may not be a simple way to maintain the program effectiveness if she were to move out.

The program faces the same barriers as all agencies to an integrated WHPP program for transit bus operators. Fatigued and time-challenged operators still have a hard time making use of the program resources; office staff may find participating easier. Most critically, organizational contributors, such as schedule stress, work-family conflict, and ergonomics challenges are not within the program's sphere of influence. Management and wellness program staff at LACMTA are aware of the limitations and attempt to overcome the divisions between these related areas. At the same time, they recognize and continue to promote the success and effectiveness of the program as it stands.

Small Agency Programs: Characteristics and Challenges

A. Survey Findings

Small transit agencies were defined in the survey as those with fewer than 4 million annual passenger trips. Using this definition, 39 small agencies responded to the survey, each employing fewer than 180 transit bus operators.

Workplace health protection and promotion were not common in smaller agencies. Most had never had a program and are not planning to start one in the future. More than half of all responding agencies reported an active worksite wellness program, but only 31.7 percent of the small agencies currently have one (Table 23). The design of the small agency programs also tended to be more conventional than comprehensive, with limited offerings. Staff time commitment and program budget were significantly less than in medium or large agencies. One-third of the small agencies assigned a dedicated staff member, who dedicated on average only 13 percent of regular

Table 23. F-17 survey respondents: count of programs—small agencies versus total responding agencies.

Program Status	Count of Small Agency Programs N	Percent of Small Agencies	Percent of Total Responding Agencies
Yes, active	13	31.7	55.6
Not currently active but plan to restart	1	2.4	4.6
Not yet, but plan to have in the future	3	7.3	5.6
No to all of the above	24	58.5	29.6
Total small agency responses	41		

work hours to the program. In contrast, across all responding agencies, 68 percent of agencies had a program administrator with an average of 38 percent of full-time work spent on the program. Small agencies spent on average \$3,326 annually for worksite wellness programs, compared to with \$66,413 for medium-sized agencies, and \$136,468 for large agencies. Several small agencies had no budget for health promotion activities because of tight resources. These agencies did not operate a stand-alone workplace health promotion program, but rather provided health promotion activities as part of the health insurance benefits through their insurance partner.

A larger proportion of small agencies with existing programs estimated that all or most of their transit bus operators participate (33 percent vs. 17.5 percent among all responding agencies). This may be attributable to the fact that smaller agencies employ fewer transit bus operators, who are less dispersed and easier to reach.

Interestingly, small agency representatives provided a more positive view of their health culture, both in support and organizational aspects, especially compared with large agencies. For instance, small agencies were more likely to have a long-term strategic plan for their health and wellness programs, responded better to changing needs of their employees, and integrated better with other organizational areas. Transit bus operators and employees from different functions of the organization were also more likely to be involved. Of the 18 small agencies that responded to the question, about one-third had a wellness committee. The most frequently mentioned committee members were human resources, top management, line managers, and transit bus operators. Although in the small agencies union leadership was considered more supportive for employee health promotion initiatives in general, union representatives participated in wellness committee activities in only 1 out of 3 small agencies.

B. Small Agency Case Examples

Because of the general lack of dedicated resources and personnel for program implementation and maintenance among small agencies, fewer small agency survey respondents were able to invest time needed for a full-scale case study, even after repeated outreach attempts from the F-17 research team. To capture more details of small agency practices, the team conducted a series of brief interviews with management and, where possible, union representatives as an alternative to in-depth case studies. These were discussed in the previous section, F-17 Case Example Catalog. These case findings corroborate the survey statistics across responding small agencies.

Small agencies featured in the case examples implemented a wide spectrum of practices, from health education material distribution only, to providing a complete menu of activities including fitness, health screening, disease management, and

financial wellness. Examples of innovative program activities offered by these small agencies included a wellness mobile unit for biometric screening and health risk assessments, personal financial health education and planning, alternative health fairs and resources, and nutritionist consultation.

Most of these small agencies were fully aware of operator health issues and had a strong desire to provide additional programs to improve their health status. However, budget constraint was a major barrier that may exert a greater impact on small agencies. At the same time, small agencies are struggling with many of the same issues that larger agencies face when it comes to tight bus operator schedules that make it difficult to involve them in regular wellness activities. Generally they had an adversarial labor-management relationship that hindered effective partnership to improve operator health and wellness.

Several small agencies involved in the case examples have effectively reduced health care premiums by fulfilling employee participation goals in programs provided by the health care provider. At least one agency uses data extensively to assess program needs, track progress, and evaluate outcomes.

Issues Facing Multi-Agency Programs

Transit agencies may choose not to implement home-grown health and wellness programs for their employees, but rather to participate in programs offered by the city, county, or state government. The F-17 survey found that 1 out of 4 transit agencies that offer any WHPP program did so through “municipal, multi-agency, or other coordinated program or campaign.” The benefits of piggybacking on a state, county, or municipal program are evident. It requires little or no financial investment from the cash-strapped transit agencies. Staff, equipment, and resources are more abundant. Economy of scale and higher bargaining power when it comes to negotiating vendor costs are also taken into consideration. However, some disadvantages may prevent these programs from effectively serving transit bus operators—a unique occupational group with distinct work environment and health concerns—to the fullest degree.

Multi-Agency Case Examples

The F-17 research team investigated the details of one particular county-wide program, collecting information, data, and opinions from both management administrators and union representatives. Like the other transit workplace health promotion programs, the multi-agency program was mostly initiated to tackle the nation-wide problem of increasing health care costs. In the 3 years prior to implementation of the program, medical benefits for the county’s full-time employees went up 33 percent. To address this problem, the WHPP program focused on incentivizing employee and spouse participation in a variety of individual actions to improve health by reduc-

ing the annual maximum out-of-pocket medical expenses. In order to qualify for the lowest level of out-of-pocket expenses, employees and their covered spouses have to participate in a confidential wellness assessment and a follow-up program aimed at helping them reduce their health care risks. Employees are required to log their progress in an online system or keep track on paper. On the basis of the risk assessment results, the contractor hired by the county assigns employees to the low-, medium-, or high-risk categories. Those in a low-risk category are asked to fill out an 8-week log of eating or exercise to qualify for the lowest level of out-of-pocket expenses. Those considered medium or high risk are given the opportunity to participate in an over-the-phone coaching program and an individualized action plan. The coach works with them to identify steps they can take to reduce risks, including smoking cessation, exercise, or stress reduction. Employees who make an effort to work on the action plan will also be eligible for the lowest level of expenses. Program administration is centralized through the county HR department.

However, there is a strong sentiment from operators that the program is not designed for blue-collar employees who spend most of their work days in front of a steering wheel instead of a computer. Some of the operators are not computer savvy and could not tolerate going through extensive paperwork in the first few months of each year to qualify. Some employees also fear that their personal health information is not kept confidential. The union representative interviewed for this study feels it is important that a program be voluntary and reward participation instead of financially punishing employees who do not to participate. An independent study conducted by the union's consultants shows that while 90 percent of the county employees have earned the best class for out-of-pocket expenses, only 56 percent of the union members have achieved that.

Management acknowledges that the major barrier to program success is that the program is primarily online and it is more difficult for operators to become involved because they are out on the routes all day. Although the program is known to have generated tangible results in improved health status among some employees, it is not specifically designed for transit bus operators or even transit employees. Participation

and outcomes are not tracked for operators as an employee group. There is little direct feedback from operators on their preferences. The joint labor and management committee on safety and health deals more with safety and ergonomic design issues of buses or workstations, and is not involved with the design of the broad health promotion program. Even though the individualized action plan may address common health problems of operators, this approach cannot achieve the type of division-wide health culture change that often accompanies well-designed transit-specific programs.

An alternative model is being tested by some governments to achieve more involvement and better results from specific employee groups using pooled resources. In one state's implementation of this model, employees managing a state government's health plan and experts from the Department of Public Health and the Department of Health and Human Services collectively designed a worksite health and wellness Toolkit for use by worksite wellness committees in all government entities. Employers can use the toolkit to build customized wellness programs. The health plan is also funding a worksite wellness team at the Department of Public Health to offer new resources and technical assistance to support committee sustainability at these worksites. These services include a Web site, seminars, a newsletter, and a consultation program. Prior to the launch of the Wellness Initiative in one pilot department, each division, office, and facility designated a Wellness Representative. The department's Wellness Director helped all the representatives establish wellness committees and develop tailored agency wellness plans. The Wellness Representatives also serve as members of a new department-level Wellness Council to advise the secretary on worksite wellness policy issues. The Wellness Director provides continued technical assistance, which includes onsite visits to help wellness committees implement programs geared to the needs and interests of their employees. This type of top-down and bottom-up approach ensures that best practices and resources are efficiently shared among all government agencies, whereas the detailed program design is customized based on the needs of employees at each workplace. The capacity is developed from within, rather than forced down from a higher level outside entity.

CHAPTER 5

From Industry Practice to Best Practice

Cataloging Effective Transit WHPP Practice

There is some consensus on the types of interventions that are most likely to be effective in the American workforce, but the research evidence base strongly supports only a few. The CDC-led Community Preventive Services has identified a limited number of worksite health initiatives that have been shown to be effective (Task Force on Community Preventive Services, 2010):

- Assessment of health risks with feedback (AHRF) to change employees' health plus health education with or without other interventions.
- Obesity prevention: worksite programs to control overweight and obesity.
- Point-of-decision prompts to encourage use of stairs.
- Creation of or enhanced access to places for physical activity combined with informational outreach activities.
- Smoke-free policies and tobacco use incentives and competitions when combined with additional interventions.
- Interventions to promote seasonal influenza vaccinations among non-healthcare workers with onsite, reduced cost, actively promoted vaccinations.

Although lacking definitive support in the research literature, many other practices and interventions have an impact on the health environment and eventual health outcomes. Targeted initiatives in transport workers have produced mixed results, but some studies show that health education, disease management, and environmental changes can have impact on health behaviors in transit operations, as discussed in the literature review (Chapter 2). WHPP programs do not typically implement 1 practice at time, so assessing each practice is not possible. In addition, whereas behavior change can happen quickly, it can take years to have a measurable health impact, even when the program is steadily maintained and the work-

force does not change. Programs activities, and how they are carried out, change faster than their impact can be measured. Thus other more global measures of success such as overall program participation or cost savings are typically used.

WHPP program staff, supporters, and activists who were surveyed and interviewed described practices that they believe work for them. These typically focused on health awareness, health risk assessments, disease management skills, and group activities to reduce individual risk factors such as weight or overall fitness. These practitioners and their transit agencies also facilitated health protecting and promoting changes in the health culture and the work environment, most frequently ergonomics assessments and changes. This chapter reports on the policies and activities used in transit health protection and promotion, and describes the process of identifying best practice in the transit workplace. Given the limited supporting data for the success of specific activities provided by our respondents as well as the difficulties in measuring health impact, it was not possible to rate practices for proven effectiveness and feasibility in the context of transit operations.

Reported WHPP Practices

Agencies reported a variety of activities in the F-17 survey. Traditional wellness communication modes and targets are reported most often (education, screenings, counseling/coaching, HRAs). The health and wellness targets—nutrition, supports for a healthy environment, alternative health, and exercise facilities—follow closely. But occupational health and safety changes are also seen in about half the locations. Other programs are responsible for related activity, solely, or in tandem with the WHPP program, especially in occupational health and safety, HRAs, policies that support a healthy environment, and workforce development. Among the 5 unions that run their own programs, all types were reported but the scope of each program was somewhat limited. It should be noted that the tenor of the survey directed responses toward

Table 24. F-17 survey respondents: activity types reported by transit agencies.

Activity	By WHPP (percent)	By Other Program (percent) (N = 45)	By Union Program (N = 5)
Educational messages and information	84.6	11.1	2
Educational classes and events	78.8	11.1	1
Health screenings	69.2	17.7	2
Counseling/coaching	65.5	24.4	1
Health risk assessments	63.5	33.3	2
Support for alternative health	61.5	13.3	2
Policies that support a healthy environment	57.7	26.7	1
Nutrition (healthy choices/availability)	57.7	6.7	1
Onsite exercise facilities or programs	50.0	17.8	2
Occupational health and safety	48.1	31.1	2
Workforce development	32.7	33.3	1
Subsidized offsite exercise	25.0	14.9	1
Organizational changes	11.5	20.0	0

health—clearly all organizations do health and safety activities, as do most unions, but usually not in the context of the WHPP programs. Table 24 lists the response distribution for “What health, safety, and wellness activity does your agency carry out?”

Activities addressing weight management and nutrition are the most common activities reported in the active programs, as shown Figure 7. Although “Biggest Loser” competitions were popular despite the limited evidence for long-term impact, in follow-up discussions respondents frequently

emphasized that they implemented weight loss activities and challenges in the context of fitness and exercise. Tobacco cessation is next in frequency; although targeting a more limited population, this has both a long-term impact that cannot be measured easily but also an immediate impact on respiratory infections in ex-smokers and families (Brook, 2011) and heart disease events (Lightwood & Glantz, 1997).

The average level of participation by transit bus operators was about 25 percent in the 33 agencies that reported this information. Because so few provided data, the averages reported



Figure 7. F-17 survey respondents: activity content areas.

in Table 25 are for the proportion of operators reached in the agencies reporting data for that activity, rather than the percent of the total population at risk that participates in program activities. Passive promotion activities such as mailers were reported to reach almost 100 percent of the targets, and 60.5 percent of the transit bus operators participated in required worksite health meetings. In the agencies that reported participation, about a quarter of the operators requested health information, completed a health risk assessment, did some form of disease management, and participated in program assessment or improvement. Use of exercise equipment and optional workshop participation was lower.

In interviews and site visits it was clear that participation was not high in most activities that required time commitment out of work. The difference between reach (participation size and range), effectiveness (the impact of the intervention on targeted outcomes), and adoption (how widely the program elements are delivered) remain important considerations when designing programs and activities that facilitate participation for transit bus operators. The application of these concepts in WHPP program planning and evaluation as described by the RE-AIM model (Alperovitch-Najenson et al., 2010b) is discussed in Chapter 6: Program Evaluation and Return on Investment.

Health Protection and Promotion Targets and Transit-Relevant Practices

Transit agency program components and activities were designed to meet one of the major health goals:

- To help diagnosis, treat, and manage health problems.
- To improve safety and health at work and at home.

- Improve healthy food access and choice.
- Increase physical activity.
- Improve ergonomics and reduce musculoskeletal disorders.
- Prevent and manage fatigue.
- Eliminate or reduce the impact of hazardous and stressful working conditions.

The programs selected and applied the health targets in the context of the agencies' financial, operational, and health and safety culture priorities. Tables 26a-g illustrate the wide application of health protection and promotion in transit agencies across the US and Canada. As noted, they include a few practices that have not yet been implemented that were suggested by respondents, SMEs and academic partners, and others contributing to the F-17 research process.

Defining Effective Transit WHPP Practice

How Do Transit Agencies Compare to Recognized Standards of Effectiveness in WHPP?

According to the NIOSH Total Worker Health™ (TWH) model, there are 20 essential elements of effective workplace programs in 4 categories. Here is how the transit industry shapes up to each of the elements:

Organizational Culture and Leadership

TWH Element 1. Develop a “human-centered culture.”
Most respondents who were directly responsible for WHPP

Table 25. F-17 survey respondents: participation in WHPP activities (864 operators from 38 agencies).

Role	Operators (%)	Agencies Reporting Participation Data (no.)
Received mailings	94.5	20
Attended required worksite meetings addressing health promotion	60.5	16
Participated in other activities not listed	30.8	7
Participated in disease management activities	25.7	13
Participated in WHPP program assessment or improvement activities	25.1	21
Requested health promotion program information	25.1	14
Completed a health risk assessment (HRA)	24.8	21
Utilized worksite exercise equipment or off-site gym access	19.2	19
Participated in weight loss or exercise challenges	15.6	19
Participated in an optional class offered by the program	11.4	17

Table 26a. F-17 health practices.

Goal: To Help Diagnosis, Treat, and Manage Health Problems		
Objective	Approach	Best-Practice Examples
Help workers identify health problems early	Health risk assessments and supportive follow-up	HRA with follow-up from health system—may be coordinated by health plan
	Health professional consults	Schedule a nurse at locations monthly to answer questions confidentially
	Screening	
Improve retention and availability	CDL concerns (high blood pressure, diabetes, sleep apnea)	Arrange with health plan to provide full coverage and waive copays for CDL-related health issues Campaign of CDL-supportive health promotion activities and rewards participants who requalify
Improve treatment	Educate physicians about how work affects wellness and health decisions	Work with health plans to identify operator health issues and share with care providers Hold meetings to discuss treatment implications of diuretics with plan physicians
Enhance access to care	Screenings and care provided on paid time or at the workplace	New York State law requiring time off for mammograms and prostate screening publicized by employer Mobile MD allows operators to schedule physician visits Arrange for a mobile dentist at locations
Prevent infectious diseases	Decrease illness	Flu vaccine provided at work
	Decrease transmission at work	Accommodating sick leave policy does not penalize ill workers or encourage coming to work ill (Department of Homeland Security recommendation)

Table 26b. F-17 safety practices.

Goal: To Improve Safety Behavior and Decision Making at Work and at Home		
Objective	Approach	Best-Practice Examples
Vehicle safety	Safe driving	Investigate red light run throughs and other infractions as indicator of schedule problem
		Left hand turn training
		Driver safety training and refreshers; discuss car as well as bus safety
		Winter driving program
Noise and hearing	Screening, diagnosis, and treatment	Screen at health fairs and special outreach programs with vendors for employees and family members
	Training and information	Work and home exposures are addressed in training Hearing protection provided for use at home
	Comprehensive hearing protection program	Screening, follow-up, and protection provided for all workers exposed at or above 85 dB
	Reduce noise at work	Improve maintenance practices to limit bus noise Include internal and external noise specification in bus design and procurement Shield operators and others from noisy maintenance practices
Chemical exposure	Eliminate or reduce toxic chemical exposure	Training on material safety data sheets and labels
		Recycling and waste disposal programs collect home waste
		Worksite green cleaning program
Mental Health	Improve mental health, treat disease, and accommodate workers	Canadian workplace standard covers comprehensive approach to integrate prevention, diagnosis, treatment
Substance use	Eliminate illegal drug use	WHPP program supports and promotes Union Assistance Program and Employee Assistance Program
		Eliminate tobacco use (smoking, snuff, and chew)
	Promote safe alcohol use	“Driving Buzzed Campaign” around holidays and Super Bowl reminds drivers how a little alcohol can have a large impact No alcohol at agency or union-sponsored events

Table 26c. F-17 healthy food practices.

Goal: Improve Healthy Food Access and Choice		
Objective	Approach	Best-Practice Examples
Nutrition education	Illustrate relevant healthy food choices Explain the impact of food choice on health Provide information about food timing and insulin response/discourage night-time eating	Nutrition program that has been adapted for truck drivers Hold nutritional workshops that focus on cooking in a culturally relevant way Nutrition coach available to respond to questions Recipes and healthy food promotion in newsletters
Improve food access at locations	Provide and subsidize health food choices in vending machines, cafeterias	Subsidize healthy food in machines and cafeteria
Help operators carry healthy food	Make it easier to carry healthy food	Provide healthy bag lunch options in cafeteria in early morning so operators can carry them on route In bus cab design process, provide space to store food and other personal items (discussed in the development of the European “Recommendation for a code of practice of driver’s cabin in line service buses”)
Improve food access on routes	Identify healthy food outlets (stores, restaurants, and trucks) Partner with outlets to develop healthy food options that are convenient for operators Arrange with food outlets to make operators priority customers	A celebrity chef campaign with trucks and restaurants, serving food endorsed by the American Heart Association (suggested)
Support healthy food choice	Schedule group meetings to support food choice at times and locations operators can meet	Popular weight loss program (success reported mainly with female office workers, as operators found it hard to attend group meetings) Popular weight loss program online and geared toward men
Support employees who have food-related health problems	Provided one-on-one nutrition coaching—varied hours or by phone Provide health care providers with information about food access considerations for operators, including night eating	Wellness trainer certified to provide general nutrition coaching Group health plans provide nutrition counseling by phone for people with diabetes Educate workers with reflux disorder to educate their physicians about transit work demands

activities demonstrated a commitment to this principle, showing sensitivity and insight about what mattered to individuals. However, the programs they promoted did not always have flexibility in the face of operations, budget, or other organizational constraints to be as human-centered as desired.

TWH Element 2. Demonstrate leadership. This varied dramatically, with some WHPP programs driven by a leader-

ship committed to comprehensive worker health protection and promotion, others relegated to an over-extended human resources department and provided with little support.

TWH Element 3. Engage mid-level management. Ambassador/Champion programs and similar initiatives were employed to recruit and perhaps sometimes force involvement of middle management. However, organizational

Table 26d. F-17 physical activity practices.

Goal: Increase Physical Activity		
Objective	Approach	Best-Practice Examples
Improve individual exercise opportunity	Make exercise opportunities available for all work schedules	Bicycle loan program Hula hoops and jump ropes on site Exercise DVDs and a player are freely available so people can fit their exercise in Identify safe and interesting exercise and walking circuits at the workplace and stopover areas
Encourage group activity	Provide access to classes, gym, and coaches onsite and within the work schedule	Gym with trainer 4 days/week at each base 24-hour access to gym Popular exercise classes are provided by a motivated champion Walking clubs are run by operators to match schedules, swing shifts, etc.
Make exercise part of the regular day	Identify and take natural opportunities—stairs, along the route, house, or yard work	Stair access and stair competition (but many transit buildings are not multi-level, and security concerns can block stair access) stair counting campaign
Exercise while working	Seated exercises for upper body and cardiovascular fitness	Resistance band exercises have been developed for use on the road by truck drivers
Increase resilience and recovery	Provide opportunities for stretching and improved circulation	Operator stretch and exercise handouts and palm card Yoga classes Transit safety manual includes stretches and exercises using the bus
Using the built and outdoor environment	Identify and plan outdoor exercise	External example: 101 things you can do on a park bench Cable car operators developed a set of exercises to do while waiting for a turn around

Table 26e. F-17 ergonomics and musculoskeletal practices.

Goal: Improve Ergonomics and Reduce Musculoskeletal Disorders		
Objective	Approach	Best-Practice Examples
Improve work environment	Driver's seat and controls Vibration	Safety team involved in pedal and wheelchair seats redesign Wellness, operations, and maintenance redesigned control toggle based on tendinitis cases Operators and ergonomists worked together to develop improved seat design A peer assessor observed operators while they drove, and provided support and input about adjusting equipment and working more comfortably Workstation assessment of operators with MSDs or concerns by trained ergonomist; shared with others and used in training
Improve work practices	Assess and improve how tasks are done Signs, mirrors, windows Wheelchairs Maintenance	An ergonomist evaluated work processes, and used ergonomic assessment to produce manual of good practices for operator tasks. Individual operators can request input and ergonomics assessments

Table 26f. F-17 fatigue practices.

Goal: Prevent and Manage Fatigue		
Objective	Approach	Best-practice examples
Provide education	Understanding circadian rhythms and the impact on health	Provide training on biorhythms as part of OSH program
Improve work organization	Designing schedules that promote health and rest	Operator schedules allow 10 hrs. between shifts
Work environment	Quiet rooms	Quiet rooms provided for workers on split shifts
Reduce work-life conflict	Accommodating the life cycle	Dependent care funds and policies to help parents of young children
	Young people	Personal calls are allowed at school let out times so parents can check in with their children
	Parenting	Flexible leave time use to cover family need
	Aging Illness	

Table 26g. F-17 hazards and stress practices.

Goal: Eliminate or Reduce the Impact of Hazardous and Stressful Working Conditions		
Objective	Approach	Best-Practice Examples
Develop coping skills	Public work Passenger interaction	Screening and recruitment alert applicant to intense public contact Classes on public interaction, including “reality training” developed to help operators prepare for customer conflict situations
Create contact points for WHPP	Provide access despite solitary work	Telephone health consults and coaching provided by phone in addition to work locations to enhance use by mobile workforce
Schedule routes to reduce stress	Schedule stress	Informally, schedulers at various agencies reported including restroom access time and looking at routes that operators bid out of to adjust schedules
Eliminate stressors	Restroom access	Establish policy to assure access to convenient, clean, safe restrooms
Limit trauma	Policies that protect workers from trauma after an accident or assault	Comprehensive workplace violence program includes treatment and support for operators involved in accidents or assaults
Find and eliminate hazards	Reporting methods Participation in problem solving	Confidential near-miss reporting system Inspections to include road hazards as well as vehicle safety and onsite

barriers, especially between HR and operations, meant that programs were often run with no input or support from the very people who were needed to ensure success. The vertical chain of command common in transit also impeded lateral support.

Note: The NIOSH model does not explicitly include the critical role of union leadership in establishing and nurturing the programs. However, the Senior Medical Officer of NIOSH’s Total Worker Health™, recently emphasized, “Collaboration between labor and management in a participatory fashion in program design and execution is equally critical. Health promotion has historically been ‘if you build it, they will come.’ In

reality, it’s ‘if we build it, we will come’” (Chosewood, 2013). In transit agencies surveyed and interviewed for this study, there is a distinct difference in participation and targets when union officers respect and are involved in the program. Union leadership should be seen as essential to success.

Program Design

TWH Element 4. Establish clear principles. Some programs had explicit and well-considered strategic plans, but many seemed to either follow a laundry list of activities or simply bounce from one initiative to another.

TWH Element 5. Integrate relevant systems. Most respondents recognized the need for better integration across departments. They did not take advantage of or even have access to data and resources that would make integration possible. The WHPP programs described in the case studies illustrate how successful organizations called on the skills and knowledge across disciplines.

TWH Element 6. Eliminate recognized occupational hazards. Some respondents described innovative ways to address occupational hazards and health concerns together. However, for many agencies, the sole focus of the WHPP program is on the individual risk factors and behaviors. For labor, traditional health promotion seems to encroach on their personal lives without addressing the occupational contributors to health problems. Occupational hazards were not typically under the control of staff responsible for WHPP; however, failure to address occupational health factors was the most common reason for program inadequacy provided by the union respondents.

TWH Element 7. Be consistent. Some organizations defined a consistent approach, others modified their goals and activities intentionally or sometimes without a clear reason. In a very few, activities were repeated despite lack of support or participation because people expected them to occur.

TWH Element 8. Promote employee participation. While increased participation in program activities is a universal goal, it was not achieved. Further, participation in planning and revising program targets and activities was typically limited to program staff and committee members. An area to explore is how to develop effective participation through workforce development and training, such as ergonomics skills or other specialized knowledge.

TWH Element 9. Tailor programs to the specific workplace and the diverse needs of workers. As noted elsewhere, this is the greatest single need expressed, after resources and increased participation. At the same time, many transit-tailored program components and activities were described.

TWH Element 10. Consider incentives and rewards. While popular with agency program staff and with agency leaders, union respondents sometimes found incentives trivializing or even punitive. Regulations promulgated under the Affordable Care Act define the need for incentives to be equitable and not punish or discriminate on the basis of health status (Health and Human Services, 2013). In addition, because they are related to conditions of work, pay and benefits, incentives, and rewards are typically subjects for collective bargaining.

TWH Element 11. Find and use the right tools. Some agencies looked for and used assessment, tracking, and inter-

vention tools from vendors, others developed their own. Sophistication in this area varied widely.

TWH Element 12. Adjust the program as needed. Respondents reported a variety of contradictory methods for adjusting—they repeat or terminate popular activities, continue components that employees resisted or suspend them, and some just change for the sake of changing.

TWH Element 13. Make sure the program lasts. Respondents asked for help in this area as well—respondents stated that as resources in transit operations shrink, evidence for success and methods for maintaining initiatives are ever more important.

TWH Element 14. Ensure confidentiality. Although taken as a given by the program staff, this was reported as a main area of suspicion between labor and management. Because bus operator fitness for work depends on health status, confidentiality concerns must be taken seriously and resolved to all parties' satisfaction; this has not happened in many agencies.

Program Implementation and Resources

TWH Element 15. Be willing to start small and scale up. This commitment is illustrated in many of the case examples. Agency staff and unions were realistic about their current capacity, and understood the need to plan for growth.

TWH Element 16. Provide adequate resources. Many but not all respondents cited limited resources and a need to prove return on investment as challenges. Some described having to scale back because of cuts, and several talked about transferring responsibilities to safety committees or operations as a result, which might paradoxically improve program success through better integration. A realistic recognition of current limits of size and resources seemed to make programs more secure about the potential for growth when conditions improve.

TWH Element 17. Communicate strategically. Communication from the WHPP programs to the participants was more common than the other direction. Some respondents were very effective at communicating with those they needed for support, data, and input. Many felt trapped in silos of influence and information.

TWH Element 18. Build accountability into program implementation. Because of the importance of longer-term health impact, immediate health change is not typically used as a basis of accountable practice in the transit agencies surveyed. At the same time, WHPP program staff and supporters are aware of the need to provide evidence of effectiveness in a

timely way. Some transit agencies are able to strengthen their programs by assigning responsibility for activities to supervisory and location management. But, unlike in safety initiatives, supervisors and management ratings are not based on health activities or outcomes.

Program Evaluation

TWH Element 19. Measure and analyze. Agencies demonstrated a wide range of techniques, understanding, and skills in this area. As described above, evaluation, including return on investment, was the weakest aspect of most programs. But the agencies and unions provided a wealth of qualitative information that showed how they learned from experience.

TWH Element 20. Learn from experience. The large number of committed WHPP practitioners and supporters demonstrated a commitment to learning and adapting. What they learned included a lot about what doesn't work. For examples, while health risk assessments were popular, some agencies found they were redundant with health plan offerings, or even led to conflict. Several locations found that competitive weight programs were popular but did not lead to sustained weight loss. The learning from experience was sometimes based on quantitative evaluation, but more often on judgment.

A Model for Transit WHPP Practice

Successful WHPP in the transit industry depends on the quality of the program planning and implementation. It may also be influenced by the agency's health culture and even the local health climate, including the physical geography and weather as well as cultural variations. Success is a function of organizational characteristics including management style, labor-management relations, safety culture, and the operational and physical environment. All of these are affected by available resources: money, time, information, and qualified staff. The effective implementation of best practices relies on groups of individuals working within organizational capacities and constraints to ensure health-enhancing conditions and environment.

Most proposals for best practices in WHPP cover core program planning concepts and provide guidance on individual health and disease management (Grossmeier et al., 2010). More comprehensive approaches take the next step of integrating WHPP and occupational health and safety concerns in a generic workplace, or in a specific setting such as health care (Blix, 1999; McLellan, et al., 2012). The Total Worker Health™ model promoted by the NIOSH (Centers for Disease

Control and Prevention, 2013) provides broad guidelines and 20 detailed elements addressing the organizational structure and expected areas of action, but does not describe on-the-ground practice. This best-practice model for the transit environment used data collected from throughout the US and Canadian industry, a thorough reading of the research and practice literature, and expert guidance to adapt and refine these established models. The resulting 6 components, covering 29 elements, represent a systematic model of effective transit workplace health protection and promotion practice, from getting started and building the team through evaluation and growth. This framework is illustrated in Figure 8, Transit Workplace Health Protection and Promotion Roadmap.

Excellent WHPP practice in the transit industry is possible, on a large and a smaller scale, as is shown through the case description and the 5 case studies described in Chapter 4: Case Examples and Case Studies. Although the case studies were each selected to illustrate good practice in a single targeted component of the Transit WHPP Best-Practice Framework, when rated for the 29 individual elements, the average overall scores were also high. These programs were rated highest for the commitment of staff, using a team approach, and adapting and growing. Cases were on the average less strong in evaluation and return on investment calculations, and on some elements of implementation and integration that varied widely among all agencies in the survey population, such as labor support, involving vendors, and the integration of training and incentives. Table 27 lists the actions required to achieve the best-practice elements and the average ratings for the 5 best-practice cases.

This transit-specific best practices model is comprehensive and even ambitious. Many organizations will not be prepared to fully execute all of the elements. Using the Practitioner's Guide and the Planning, Evaluation, and ROI Template discussed in Chapter 6: Program Evaluation and Return on Investment, transit agencies and unions will be able to assess elements to decide which best practices are needed and how to fit them in to their WHPP program structures. However, the outline is not designed to be adopted in a piecemeal fashion. Rather, an effective program, whatever its size or structure, needs to be tied together through planning, implementation, and evaluation. The model, as explained in detail in the Practitioner's Guide, provides a structure for transit organizations wishing to start, expand, or improve a best-practice Workplace Health Protection and Promotion program, at a basic or enhanced level. The structure will help the organization take into consideration the likely effectiveness in their environment, the efficiency and feasibility of the practices given resources and health climate, and the specific transit application and diversity, cultural relevance, and regional variation.

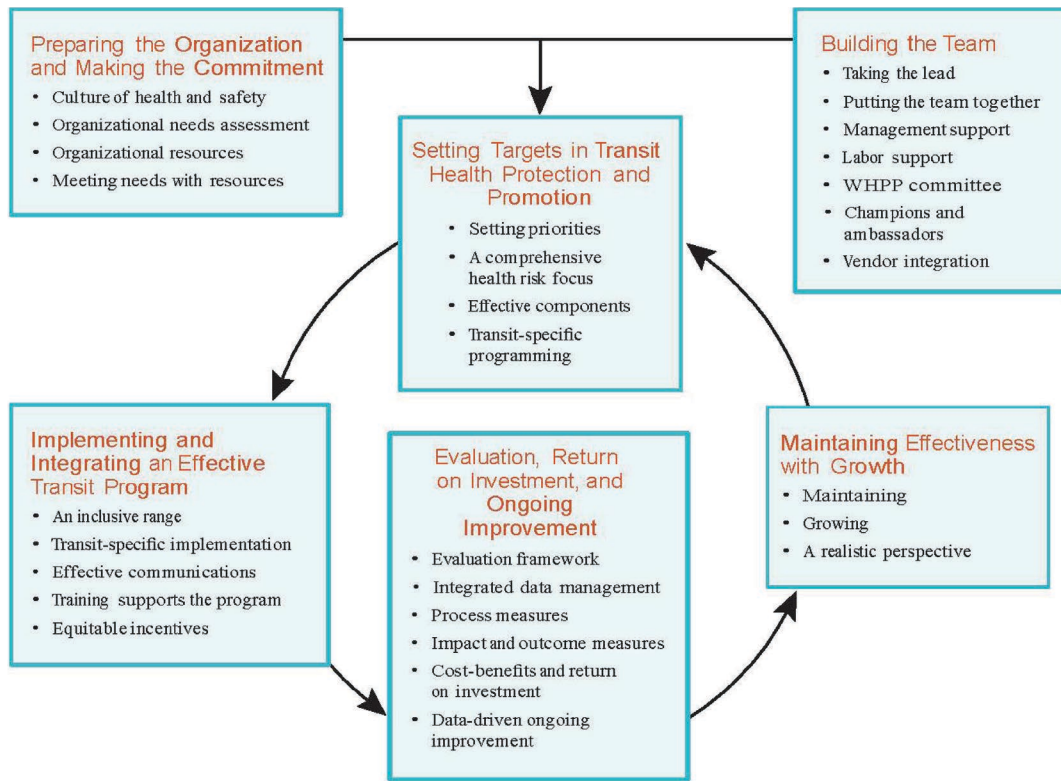


Figure 8. F-17 transit workplace health protection and promotion roadmap.

Table 27. F-17 case studies: rating case studies for WHPP best-practice elements (1 = not present or inadequate, 2 = minimal or uneven, 3 = adequate, 4 = strong, 5 = exemplary).

WHPP Components and Elements	Average Case Study Rating
Average—All Components	4.11
Preparing the Organization and Making the Commitment	4.30
Culture of Health and Safety: The organization maintains a healthy and safe culture based on leadership and organizational commitment	4.40
Organizational Needs Assessment: The organization identifies workforce health status and needs, and understands the sources of health problems	4.20
Organizational Resources: Program planners identify resources including staffing, finances, programs, structures, and internal and external partners	4.20
Meeting Needs with Resources: The organization develops a plan to provide effective health assessments, a healthy and safe environment, and targeted and population-based intervention programs for all employees	4.40
Building the Workplace Health Protection and Promotion Team	4.14
Taking the Lead: The organization designates dedicated staff to coordinate and implement the workplace health protection and promotion program	5.00
Putting the Team Together: Input is gathered from across the organization	4.60
Management Support: Senior and mid-level management support workplace health protection and promotion initiatives as evidenced by documented communications, infrastructural initiatives, and health-focused policies	4.40
Labor Support: Union leadership and other representatives have influence on and support the workplace health protection and promotion goals and content	3.20

(continued on next page)

Table 27. (Continued).

WHPP Components and Elements	Average Case Study Rating
Committee: The organization sets up and supports a group to take action on workplace health protection and promotion	4.00
Champions and Ambassadors: Employee skills support and contribute to planning and implementation	4.20
Vendor Integration: The organization enlists health care providers and other vendors as partners in and contributors to the WHPP program assessment, planning, and implementation	3.60
Setting Targets	4.10
Setting Priorities: The organization establishes what matters and what can be done with available resources	4.20
A Comprehensive Health Risk Focus: The organization identifies and targets multiple contributing factors to operator health problems and conditions	4.00
Effective Components: The WHPP program activities are based on feasible and effective practices that address the identified program targets	4.20
Transit-Specific Implementation: The program planning and content address transit-specific risks, exposures, and conditions	4.00
Implementing and Integrating an Effective Program	3.96
Comprehensive Range: The WHPP program offers varied activities and resources	4.20
Transit-Specific Implementation: The implementation structure is adapted to suit the mobile workforce, multiple base locations, and varied schedules including evening, night, early morning, and split shifts	4.00
Comprehensive Communications: Set up a strategic, comprehensive, and integrated communications plan with multiple communications pieces and delivery channels that are tailored to the transit population	4.00
Training Supports the Program: Training is designed to promote the program goals, not just deliver information, and is integrated into other agency training	3.80
Equitable Incentives: The organization utilizes equitable, nondiscriminatory incentives that encourage active involvement and a healthy workplace culture	3.80
Evaluation, Return on Investment, and Ongoing Improvement	3.70
Evaluation Framework: The organization establishes a comprehensive workplace health protection and promotion program evaluation plan	3.60
Integrated Data Management: Data collection, management, and analysis is coordinated throughout the organization	3.60
Process Measures: The organization tracks costs, participation, goals met, and barriers then uses data to improve the program	4.40
Impact and Outcome Measures: The program documents changes in impact measures and outcome measures	3.80
Cost-Benefit and Return on Investment: Quantify cost savings when program affects absenteeism, productivity (presenteeism), health care utilization, and other costs, and document other benefits	2.60
Data-Driven Ongoing Improvement: The organization communicates the impact of the program	4.20
Maintaining Effectiveness with Growth	4.47
Maintaining: Workplace Health Protection and Promotion is essential to the organization, not an extra	4.40
Growing: The WHPP program adapts	4.80
A Realistic Perspective: The WHPP program prepares for difficulties	4.20

CHAPTER 6

Program Evaluation and Return on Investment

Background

Evaluation and metrics are core elements in a systematic approach to determine whether intended outcomes are achieved. Good metrics have proven value for assessing how well the programs meet their objectives, demonstrating accountability to funders and others who are in a position to make decisions about the future of a program, and leading to continuous improvement of the program. One research goal that distinguishes the F-17 project from previous studies on similar subjects is its emphasis on not simply program evaluation in general, but quantitative program evaluation that will eventually lead to the identification of unmeasured program costs and benefits measures and a rigorous return on investment analysis. Using a 3-step research process including a broad industry survey, targeted case descriptions, and in-depth case studies, the F-17 research team examined methods currently used by agencies to evaluate the success and calculate a return on investment of workplace health protection and promotion (WHPP) activities that have been implemented. Using this data, the Planning, Evaluation, and Return on Investment (ROI) template was developed to help transit agencies evaluate, track, and analyze their WHPP programs.

Data collected for the F-17 project revealed that the transit industry increasingly realizes the value of consistent, objective evaluation and analysis of benefits relative to costs and ROI. However, many transit organizations find it difficult to measure program performance in quantifiable terms, particularly with regard to health promotion programs that can lead to a myriad of individual, group, and corporate impacts. Program staff are asked to justify their budgets, especially when faced with widespread transit fiscal crises and budget cuts. Unfortunately, too many transit professionals do not have answers to these important questions because they lack the tools and resources, and sometimes access to information, necessary to carry out these analyses. To help tackle this challenge, the F-17 project team developed a series of practical

tools and templates for planning, monitoring, and evaluating transit WHPP programs that will also help each transit organization establish its own return on investment estimates.

This chapter begins with a brief review of literature on the impact and ROI of WHPP within and outside of transit. The F-17 survey findings on the current practices of transit agencies and unions regarding program tracking, evaluation, and ROI analysis are then presented, with a comparative analysis by agency size. It is followed by a summary of program evaluation efforts from case study locations. The ensuing sections discuss issues and suggested solutions in an effort to improve transit organizations' ability to carry out comprehensive evaluations to support their WHPP programs.

Literature

The bottom line impact of workplace health promotion should be to improve employee health, control health care costs, increase operations efficiency, and decrease absenteeism. A comprehensive workplace health protection and promotion program will identify and abate health hazards in the workplace and remove work organization impediments to a healthy lifestyle or healthful practices. These changes will help employees and the organization as a whole. WHPP programs have been shown to pay off. The need is felt by employers and workers: Increases in health premium costs (180%) and worker contributions to premiums (172%) outpaced overall inflation (38%) and workers' earnings (47%) between 1999 and 2012 [Kaiser Family Foundation and Health Research and Educational Trust (HRET), 2012]. Employers are turning to health management initiatives to reduce health care costs. An actuarial study identified wellness programs as potentially affecting approximately 25 percent of health care costs for working populations (Bolnick, Millard, & Dugas, 2013). A combined analysis of the workplace health promotion literature found that on average, reported medical costs fell by \$3.27 for every dollar spent and absenteeism costs fall by

Table 28. Cost-benefit and ROI analysis of 22 health promotion studies.

Study Focus	Average Duration (years)	Average Savings per Employee	Average Costs per Employee	Average ROI
Health Care Costs	3	\$358	\$144	\$3.27
Absenteeism	2	\$294	\$132	\$2.73

\$2.73 for every dollar spent (Baicker, Cutler, & Song, 2010). Table 28 illustrates the summary results of this study.

A 2012 review of 20 publications on corporate wellness programs found economic and health-related outcome improvements including:

- Decreases in high blood pressure, high cholesterol, poor nutrition, obesity, physical inactivity, and tobacco use;
- Health care direct costs either increasing less or decreasing over time (i.e., total health care costs, health insurance premiums, and workers' compensation claims). The costs compared favorably to those of US employers, the general US population, and the health care industry;
- Fewer absences and higher productivity;
- Returns on investment ranging from 1.6 to 3.9 in dollars saved versus spent on the wellness programs.

The net-cost estimates for 3 case studies targeting lower back pain show that ergonomic interventions applied appropriately can result in substantial cost savings. Benefit-to-cost ratios for the case studies ranged from 5.5 to 84.9. In addition, a review of over 70 worksite wellness programs concluded that the economic return of worksite wellness programs show average annual ROI from 150 percent to almost 2,000 percent (Chapman, 2008). The average for more than a dozen traditional worksite wellness programs is 300 percent (Chapman, 2012). Of course, positive findings and successful programs are more likely to be reported, but just breaking even can represent an overall advantage when factoring in the benefits that are less easy to quantify, such as longer working tenure and improved availability.

The abundant literature on the impact and returns of worksite wellness program investment has focused largely on office and health care employers. In transit and transit-related occupations recent quantitative documentation is limited. As the F-17 case studies showed in Chapter 4, Capital Metro in Austin is among the transit agencies reporting on the measured economic value of their WHPP programs. A study by the Centers for Disease Control and Prevention found that participants in Capital Metro's wellness program reported improvements in physical activity, healthy food consumption, weight loss, and blood pressure (Davis et al., 2009). Capital Metro's total health care costs increased by progressively smaller rates from 2003

to 2006 and then decreased from 2006 to 2007. Absenteeism decreased by approximately 25 percent since the implementation of the program, and the overall return was calculated to be \$2.43 for every dollar invested.

In a 2009 study researchers assessed the economic impact of a hypertension educational and awareness program ("BP Downshift") on improvement in blood pressure among commercial driver license (CDL) employees in a large southeastern US electric utility company (Greene et al., 2009). An economic simulation model was developed to evaluate the costs/cost savings the company realized from implementation of the BP DownShift Program in terms of changes in work productivity, CDL certification status, hypertension treatment, CVD events, and diabetes care. Model results showed a 16.3 reduction in costs for a sample of 499 CDL employees over 2 years for more than \$540,000. On a per-employee basis, 2-year cost savings were estimated to be \$1,084, or \$542 annually.

Research Findings

In designing the industry survey, interviews of targeted survey respondents as well as the detailed case studies, F-17 researchers paid particular attention to extracting data on the current methods used by transit organizations to document quantifiable success and ROI. The combined research findings are presented below:

Measures of Success

Survey respondents rely on a wide range of data to evaluate program effectiveness. Between 40 and 60 percent say they track the effects of the WHPP programs using employee feedback, program participation rate, time lost/absenteeism, and health care claims cost. When questioned for details many do not have a way to link this data to their practices. No evaluation data was reported by 20 percent and another 20 percent collected only one indicator.

As illustrated in Table 29, the top 2 effect measures are related to participant satisfaction rather than health or operations outcomes. This is common in informal program evaluation. As the WHPP programs are not typically designed to affect these health outcomes directly, the connection between the programs and the outcomes will need to be established.

Table 29. F-17 survey respondents: tracking and measuring program success.

N=45	Percent of Responses
Employee Feedback	60.0
Program Participation Rates	51.1
Time Lost/Absenteeism	48.9
Health Care Claims Cost	46.7
Workers Compensation Claims Cost	42.2
Health Status	27.8
Behavior Change	26.7
Disability	17.8
Turnover Rates	15.6
Other	15.6
Employee Availability	8.9
Productivity	8.9

Several respondents noted that they could not be sure that their programs caused any observed health changes.

Agencies participating in the case studies and other follow-up discussions reported using a wide variety of evaluation tools and have provided useful examples for the development of the Planning, Evaluation, and ROI Template in the second phase of the project. Several have described the use of health provider information indicating improved health care services usage and better health markers as major supports for their program planning and expansion.

Return on Investment Calculations

Only three agencies reported that they had calculated a return on investment in the past using their experience data. One reported a net loss, and another reported a \$3 dollar return on every dollar spent. The future return on investment estimate, ranging from 0 (4 respondents) to \$4 (2 respondents), was reported by 14 agencies. On average, respondents expect to recoup \$2 for every dollar they spend on WHPP programs. Nine of the 22 respondents believe it will take at least three years to see a return.

When asked about what their expected ROI is based on, respondents reported using health care claims, time lost/absenteeism and workers' compensation claims data (Table 30). Some described using health utilization or outcomes data provided by their carriers.

Evaluation Practices by Agency Size

The extent of and approach to WHPP program evaluation varies largely by the size of transit organizations, as the

Table 30. F-17 survey respondents: ROI savings.

Based On	N
Health Care Claims Cost	17
Time lost/absenteeism	17
Workers compensation claims cost	14
Disability	5
Productivity	5
Turnover (new hire recruitment/training)	5
Other	5

F-17 survey data suggest. In Figures 9 and 10, the percent of responses to each measure for tracking program progress and outcomes are charted by agency size (defined by the number of vehicles operated). Across nearly all the measures, small agencies were less likely to use any of these measures than medium and large agencies. Health status is the only area where small agencies have a slightly higher percent (22 percent) of reported utilization than large agencies (21 percent), but both are lower than that of medium agencies (35 percent). Interestingly, in 5 out of 11 potential measures such as absenteeism, health care costs, and health status, medium-sized agencies outdid large agencies. Similarly, in answering the related question "What savings is your ROI based on?" small agencies came in lowest in 4 of the 6 potential savings areas, as shown in Figure 11. A higher proportion of medium-sized agencies used health care claims costs, disability costs, and absenteeism costs than among large agencies.

In the follow-up interviews with survey respondents, small agency representatives described their difficulties with metrics collection and analysis when the wellness program may be on the verge of shutting down due to budget concerns. Larger agencies may be in a better resource position to conduct in-depth program evaluations. The F-17 survey and case studies did reveal that health-conscious medium-sized transit organizations can make a more significant investment in their evaluation effort, contributing to improvements in program design, advancing leadership support and employee engagement, and long-term financial stability and growth of the program. Indeed, the case study location that earned the highest overall score on program evaluation is medium in size.

Issues and Suggestions

Although employee wellness programs have been ongoing in some transit agencies for many years, agencies may be reluctant to introduce systematic program evaluation for many reasons. Throughout the research, the F-17 research team identified a set of important issues and concerns expressed by transit agencies and union representatives, as discussed

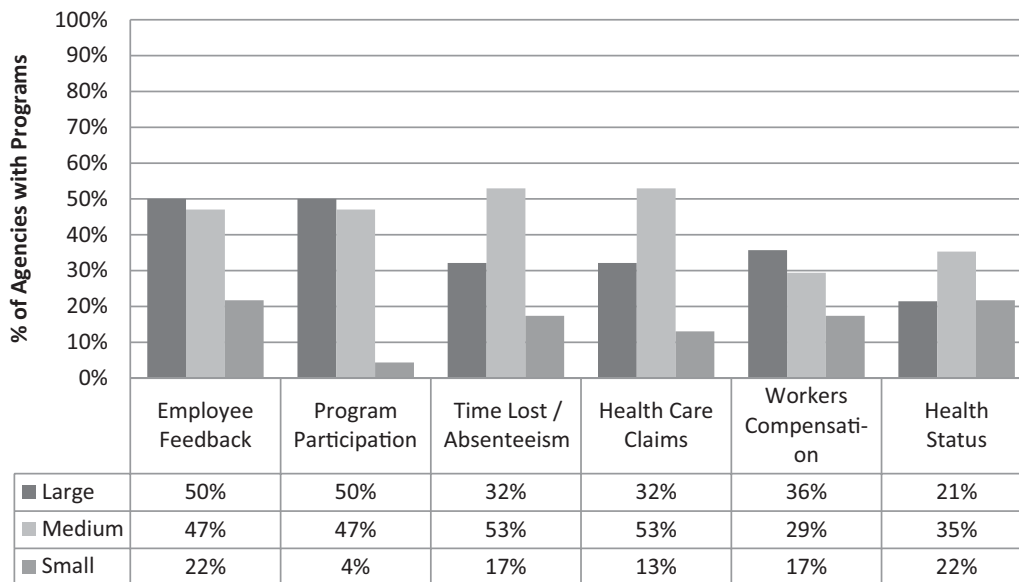


Figure 9. F-17 survey respondents: metrics tracked by agency size.

below. Additional solutions, resources, and tools that can help mitigate these concerns are provided in the Transit WHPP Practitioner’s Guide and the Planning, Evaluation, and ROI Template.

Lack of Resources

It can take a lot of staff time to expand from tracking simple process measures such as participation rates to include impact and outcomes metrics and eventually cost-benefit analysis.

Increased investment in the agency’s IT and data infrastructure may be required, for example, updating HR databases to link wellness-related modules, or implementing a web-based participant tracker. There may be additional vendor costs for administering health risk assessments or other evaluation tools. Many agencies, particularly small ones, do not have a designated WHPP staff or sufficient funding to evaluate work that is not considered part of the core program. However, robust evaluation results can help build a stronger case to present to internal leadership or external funding agencies

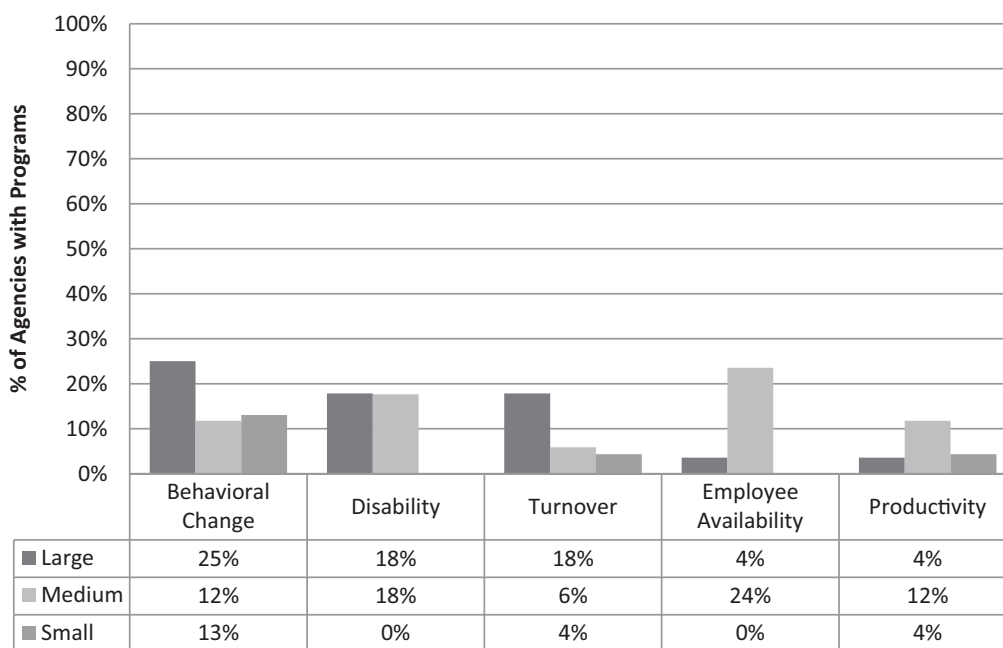


Figure 10. F-17 survey respondents: metrics tracked by agency size.

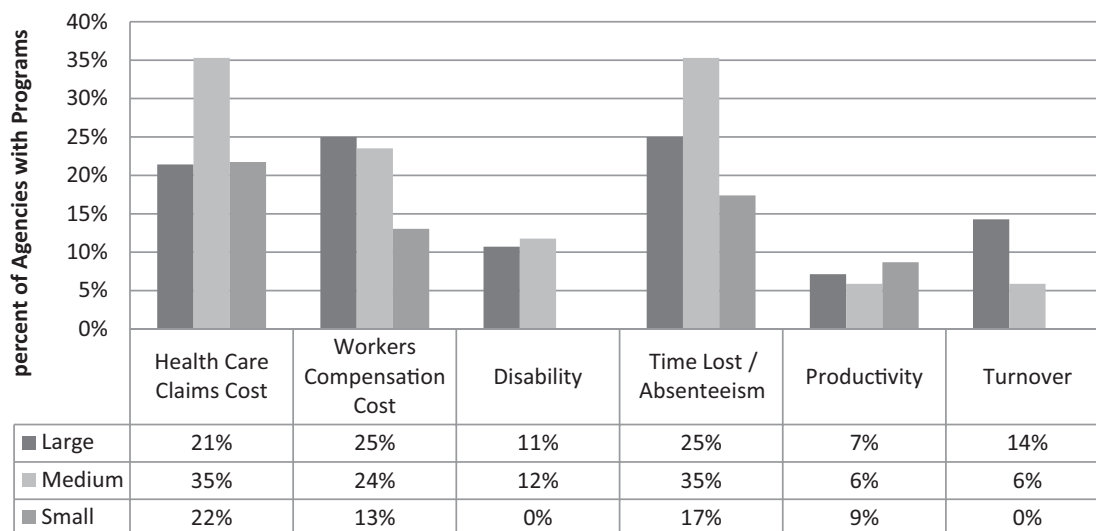


Figure 11. F-17 survey respondents: ROI savings by agency size.

for maintaining and expanding the program. This data can also help win a stronger commitment from employees and their unions, establishing a virtuous cycle in the growth of the program. Data can also be used for adjusting program targets and phasing out program activities that do not produce an adequate impact.

Silos Effect

One of the most frequently mentioned problems in securing evaluation data has to do with the silo effect, where functional areas within a transit agency are so isolated that sharing of information across divisions becomes time-consuming and frustrating if not impossible. Identifying and involving internal partners early on and using an integrated data management system to break down the departmental barriers to data sharing are described in detail in the Transit WHPP Practitioner’s Guide. Some transit organizations have successfully utilized a cross-departmental WHPP committee structure for better communication and collaboration regarding data. It is important to understand the different perspectives that representatives from each department bring, and how the WHPP program may affect them. This sharing of interests will help integrate their ideas into evaluation activities, and develop ways to keep all stakeholders informed of the evaluation progress and results.

Evaluation as an Afterthought

As in any type of program evaluation, the importance of establishing a baseline for analysis cannot be stressed enough. However, it is often overlooked by those carrying out the programs, who may engage in activities then try to reconstruct

the data needed for assessment. The Planning, Evaluation, and ROI Template is designed to assist practitioners with laying a solid foundation for evaluation at the beginning of their programs.

Data Confidentiality

Confidentiality was a major concern for workers as potential participants and for the unions representing them. F-17 respondents reported reluctance to participate in health risk assessments or share personal health data, particularly for health issues that can lead to medical disqualification of operators. This lack of trust needs to be acknowledged and addressed systematically. In terms of the program, HIPAA confidentiality requirements must of course be rigorously observed. At the same time, most aspects of WHPP should not rely on collecting individual health data. Some agencies described in the case studies do not use an HRA process because the aggregated, deidentified data provided by the health plan is more useful and less controversial. The Practitioner’s Guide provides several approaches to ensure confidentiality in data collection and evaluation results sharing.

Lack of Identifiable Savings in the Short Term

The implementation of a comprehensive health and wellness program may well be associated with a cost increase in the first year or 2. It is therefore important to take a long-term perspective when implementing such programs and evaluating their effectiveness. For example, epidemiological evidence about smoking suggests that preventing smoking and helping people quit smoking would decrease heart disease and cancer,

resulting in lower health care costs. But the cancer and some of the heart disease costs savings are so far into the future that it is difficult to determine accurately how much would be saved, and it is impossible to use health savings to show program efficacy in a timely way. In the Planning, Evaluation and ROI Template, the team has focused on the most practical measures that transit practitioners may collect in a reasonable time period—between 1 to 5 years.

Difficulty Measuring Productivity

Presenteeism—reduced productivity resulting from less than optimal health—is difficult to measure in the world of transit operations. It ranks the lowest among all the measures agencies track in terms of program outcomes. However, given appropriate tools, documenting the productivity gains from WHPP programs can be within reach of many transit practitioners. The Practitioner’s Guide describes the methodology and examples of survey instruments that can be used to measure presenteeism and estimate the associated financial benefits.

Impact on Retention

A high level of bus operator turnover may be one of the biggest workforce challenges transit organizations face. The cost of turnover can be high, as transit bus operators is also one of the most difficult titles to recruit to because of rigid schedules and little flexibility, according to *TRB Special Report 275: The Workforce Challenge* (2003). The F-17 project set out with the hypothesis that initiatives focusing on operator health and stress would be in place to address retention rates. However, most survey respondents and case study interviewees do not see a direct connection between WHPP initiatives and operator retention. In the survey, turnover is among the least frequently used measures of success for transit WHPP programs, and savings from reduced turnover ranked last in respondents’ consideration of an expected ROI, even though turnover data is usually readily available. Transit practitioners feel that their programs are, for the most part, not capable of effecting changes in the most undesirable aspects of an operator’s work, such as schedules and customer encounters, which can lead to voluntary turnovers. On the other hand, initiatives

such as targeted training and supporting mechanisms prior to CDL renewal can help reduce involuntary terminations caused by medical disqualifications.

Difficulty Isolating Effects

Even the most rigorous scientific research may not be able to isolate the effects of the WHPP program relative to other changes in complex, real-world environments. This is a recognized deficiency in the few existing cost-benefit studies performed by transit organizations. At the same time, without investing a large amount of resources, transit WHPP practitioners can make an informed estimate of how much the WHPP program contributed to the dollar savings or benefits identified in the outcomes evaluation by soliciting opinions from internal subject-matter experts, stakeholders, and program participants. The Planning, Evaluation and ROI Template allows users to provide estimates of savings from WHPP programs alongside the total identified savings and calculation of an ROI range rather than a single rate.

Conclusion

Systematic evaluation can help transit organizations assess whether the program implemented has resulted in desired changes, goals, and objectives being achieved, or whether there has been progress toward meeting such goals. Data from the evaluation process contributes to decision making about future targets and resource allocation. Data can also point to barriers, opportunities, and mid-course corrections needed to meet goals, leading to the process of continual improvement.

Although return on investment is not the only reason to implement WHPP, in many transit workplaces the absence of a documented positive return makes it hard to justify program costs. The Practitioner’s Guide provides best-practice guidelines for planning, designing, and implementing WHPP program evaluation, and the complementary Planning, Evaluation, and ROI Template offers a rich collection of tools to track and analyze program costs and direct and indirect benefits based on improvements in health status, productivity, availability and safety, as well as reductions in absenteeism, turnover, and health insurance costs, and produces ROI estimates.

CHAPTER 7

Toward a Transit-Specific Program

Answering the Initial Questions— A Summary of Transit Agency and Union Survey Responses

The initial F-17 research proposal asked about 22 areas relevant to bus operator workplace health protection and promotion. They covered responding transit agency characteristics, WHPP program structure and targets, evaluation, program integration and partners, and transit-specific and operations concerns. This chapter summarizes transit agencies' and unions' responses to those questions, discusses some of the project's new findings and the work products, and describes a practical application model for transit workplace health protection and promotion.

Transit Agency Characteristics

Of the 238 transit locations with scheduled bus service invited to participate in the survey, 67 agencies and 40 unions responded, for a total of 93 distinct employers. Active agency health promotion programs were reported by 45 transit agencies and 15 unions, in 52 transit locations. Five unions ran separate union programs. Responses came about equally from the Midwest, Northeast, and South, with a larger proportion from Canada and the US West. Large transit agencies were slightly overrepresented in the responses. The workforce is predominantly older and male, although in some agencies women and younger workers are strongly represented. The workforce is ethnically diverse. In most agencies all employees work full-time.

WHPP Program Structure and Targets

Programs were started mainly to address work-related injury and illness (80 percent), availability (68.3 percent), and health care and workers compensation costs (both 62 percent). The top health problems reported were chronic disease

and musculoskeletal problems; about half were concerned with achieving desired physical activity, diet, or tobacco use and with responses to work demands and work-family conflict, such as fatigue or stress. The order varied somewhat between management and unions but the differences were not statistically significant. The 3 top program targets in the preceding 12 months were nutrition, weight management, and stress management.

Educational messages, educational classes and events, health screenings, and counseling were provided in most of the transit agencies with programs. About half of agencies reported activities targeting nutrition, policies that support a healthy environment, support for alternative health, onsite exercise facilities or programs, and occupational health and safety. Activities ranged widely across individual, group, and organizational targets, from weight loss programs to subsidized treatment for CDL-related health problems to ergonomics assessments leading to procurement changes. They included social concerns such as charity fundraising and financial wellness.

Participation was higher in required and passive promotion efforts such as mailers; classes were reported to reach everyone, while the potentially more effective initiatives such as gyms and HRAs with counseling were not reaching more than 20 percent of bus operators in most organizations. Low participation was attributed to schedule conflict and lack of interest.

Communication most commonly reported included handouts, mailers, email, and electronic bulletin boards. While some agencies tailored the materials to the bus operators, most used generic prepared materials. All agreed that transit-specific communication and education is badly needed. Few evaluated the reach or effectiveness of communications.

Reported budgets ranged from \$0 to more than \$300,000 a year. Formal business or strategic plans were described by the transit agencies with budgeted staff and extensive program activities, but in many others planning was not formalized.

Most agencies used some type of incentive to encourage participation in the WHPP program. Individual prizes and cash or gift cards were most common, followed by group rewards. Insurance-related incentives were rare.

Program Evaluation

Formal evaluation is not the norm, with employee feedback the most common measure of program effectiveness collected, followed by program participation rates, time lost, health care claims cost, and workers compensation claims costs. Turnover rates, employee availability, and productivity measures were not frequently analyzed by the WHPP programs. Only three agencies reported calculating the return on investment for their WHPP programs. Of the 14 who provided estimates of future returns, many anticipate a benefit in the near term, but almost half would expect 36 or more months to see a positive return.

Program Integration and Partners

Transit agency contacts felt that their WHPP programs were well integrated with operational administrative policies and procedures and areas such as safety or benefits. The union respondents were about half as likely to agree that the WHPP program was well integrated. Many transit agency and union respondents felt that information and decision making often took place in silos of influence, limiting effectiveness. Specific WHPP program activity frequently overlapped with worker health protection and related concerns such as ergonomics. Following the survey process, many respondents spoke about planning to integrate their activities to improve effectiveness.

Both transit agency and labor contacts felt that their own organizations supported the program and made it a top priority, with less confidence in the other side of the table: most of the agency responders agreed that upper management provided such support, as did less than half of the unions. In parallel, the majority of union survey respondents felt that union leadership supports and participates in the program, while less than half of agency respondents agreed that they did. The role of the unions in WHPP included none, general support for management initiatives, an active role in the transit agency including participating in committees and planning, purchasing equipment, and running an independent program.

Agency and union respondents reported the health plan as the number one external partner to their WHPP program. Other resources and allies may be underutilized. Several programs made extensive use of local and national resources, including participating in CDC initiatives, and working with universities to implement or evaluate their programs.

No US state and local governmental mandates for health and wellness programs were identified. Canadian health regulations were cited, along with APSAM, the Quebec Joint Association for Health and Safety at Work, Municipal Sector.

Transit-Specific and Operations Concerns

Few agency survey respondents reported that route schedules have an impact on operator health problems or identified scheduling as an area that the WHPP program has affected. In contrast, the majority of union respondents believe that schedules have an impact on the identified health problems of concern. However, in open-ended survey questions and interviews, most respondents recognized that route schedules and tours could have an impact, and reported that schedules were adjusted to allow for rest, eating, and restroom use. All respondents acknowledged that the costs and other challenges of adapted service schedules to improve operator health presented a significant barrier.

Survey and interview contacts described a wide range of organizational policies and conditions that affect bus operator health, agency costs, and availability. While respondents were aware of supportive policies in related areas such as leave time, ergonomics, and a health-promoting environment, effective ways for influencing those policies were limited by their separation from other departments. Almost all cited the organization of operators' work, including schedule pressures and working alone, as a significant barrier both to program effectiveness and health improvement overall. The impact of work organization and conditions on health was addressed in most agencies, sometimes in coordination with the WHPP program and staff and sometimes independently, including return to work accommodations, assault, or customer conflict prevention program and workplace health and safety inspections, and other programs.

Absenteeism is the top health impact of concern identified by most transit agencies, but few WHPP programs were described in the survey as having an impact in this area. Only one-third characterized medical disqualification as an important result of bus operator health problems. Survey respondents do not see a strong connection between the identified operator health problems and turnover, and few reported concern about availability on the survey. Again, the issue was recognized more fully in discussions and interviews.

Research Highlights

Important Targets for Transit Agencies

Among the most significant finding of the F-17 research project was the demand for transit-specific health information and activities needed to address the connections seen

between worker health and the work organization and environment. The other recurring issue was the importance of trust and collaboration in workplace health protection and promotion. Transit agencies did not always make the connections in their initial survey responses. The reality surfaced, to the research team and to the transit agency WHPP staff and other team members, in the examples they provided of what they do, what works, and where they feel they fall short. Contrary to expectations, retention was not a major concern of WHPP program staff and supporters.

Transit-Specific Resources

The single most consistent need described by F-17 survey and interview contacts was for content and approaches that made sense in the transit workplace, specifically for transit bus operators. This could include new ways of using well-known activities, as well as innovations in practice and perspective. While requesting these resources, respondents generated scores of examples of their own, which are listed in Appendix B. The Transit WHPP Practitioner's Guide is designed to make those widely available. Many respondents also wanted to establish ongoing ways to communicate among those active in transit WHPP. The subject-matter expert group convened for this project would like to keep meeting by phone. Unions have expressed an interest in setting up their own programs using the network of support developed here, and transit agency staff and employees plan to keep sharing what they do.

Retention Is Not at the Top of the List of Health Promotion Targets

A core assumption of the initial research was that the costs related to retention problems, and especially the concerns about the imminent dearth of skilled operators, would drive workplace health promotion practice. Retention and turnover were not widely considered to be linked to health problems, according to survey and interview contacts, but seemed more related to better pre-hire procedures. However, as some respondents pointed out, if the reasons for separation are not evaluated carefully, the impact of health cannot be determined. An early study of Dutch transit workers suggested that 45 percent of all transit workers left the industry because of health problems and disability by the time of retirement, and bus operators believe unreported work-related pain and ill health are a major cause of turnover (Mulders, Meijman, O'Hanlon, & Mulder, 1982). This area requires further investigation, including the use of exit interviews as well as earlier organizational support for mental and physical health concerns as described by some human resources respondents and others.

Medical disqualification related to diseases that can be controlled or prevented is an acknowledged concern. Several

agencies provide additional support or incentives to help operators achieve a complete certification. They do this in part to eliminate the additional cost and lost time incurred when operators are under provisional licenses. At the same time, CDL status is a strong motivator for health improvement, so targeting these employees is an efficient use of resources.

Trust and Collaboration Are Core Yet Underdeveloped Components of WHPP

Agency and union respondents reported that bus operators frequently did not trust or welcome health promotion initiatives. Participation in health activities was limited. This was true even in areas that unions supported such as work-site exercise facilities, which could be related to scheduling demands and other work conflicts, as well as to the well-known and universal difficulty health promoters have in helping people to increase their physical activity. It was especially true in program elements that could be seen as intrusive or punitive, such as health risk assessments or insurance premium incentives. Because of this, union leadership and the union structure remain underutilized, and unions do not have the control and influence that could produce health benefits for their members.

The WHPP program staff and the top transit agency executives were uniformly positive about their health promotion approach. However, bus operators often see a tough and stressful work environment that contributes to health problems and a health promotion program that focuses on individual lifestyle. Too often employers perceive a workforce that seems to care little about the challenges that their own health presents to effective operations, service provision, and fiscal survival of the organization. When the demands of work on health are honestly appraised and addressed, it is more feasible to establish a health-promoting environment and provide program components and activities that suit the needs of the workforce and the workplace.

The most successful programs identified in the F-17 research process were notable for the degree of support demonstrated by both labor and transit agency staff. In these organizations, bus operators were active contributors to the planning process as well as consumers of the services. In one the health and safety issues were at least as significant as the individual program activities. In most of the cases the role of work organization was recognized and attempts were made to reduce the health impact.

A Practical Application of WHPP Models

In traditional health promotion, the workplace can function as a convenient place to get access to individuals rather than an integral component in the human health equation.

Workers have health problems, which they need to have diagnosed and treated. The health problems may result from factors beyond their control such as genetics or aging. The health problems affecting bus operators are commonly regarded as preventable through health-enhancing choices and decisions they alone can make. That is, what people are and what they do have a health impact, and the impact leads to undesirable outcomes for the individual or the organization.

The comprehensive WHPP model recognizes that the environment—what the working conditions are, and how the organization functions—also affects health. WHPP programs in transit agencies that work with their partners to define and recognize the variety of contributors to health problems are in a better position to correct or control them. This complex of contributors may seem daunting. It can also be seen as a strength, because it provides a wide range of intervention points for health protection and promotion. Workers may believe that they are responsible for the choices they make, and they also recognize that work is where they spend more than half of the waking day (or the 24-hour day, for some). So addressing concerns about asbestos or diesel exposure at the same time as providing support for quitting smoking represents a coherent approach to health protection and promotion that is more likely to be trusted and more likely to lead to health improvements.

The practical application of workplace health protection and promotion is laid out in detail in the Transit WHPP Practitioner's Guide. It provides a framework to ask and answer the important questions about transit worker health. Figure 12 illustrates the application of the approach to metabolic syndrome in transit work.

For successful development and implementation of a comprehensive WHPP, the same questions need to be asked about the organization: **What is the current status of the workplace and the program?** Is there trust? Is confidentiality a

given? Are resources limited? Is communication a problem? Then, **what do people do in the program?** How are all parties involved in planning and integration of the program's vision? Do workers participate in program activities, and, if not, why not? And finally, **how does the environment contribute?** For the program, that could be the challenging conditions of work that make planning harder and have to be taken into account. Hours of service and a mobile workforce are just two of many characteristics that have an effect on program success and that influence the goals the program can achieve.

The Tools

Transit Workplace Health Protection and Promotion Practitioner's (WHPP) Guide

The *Transit WHPP Practitioner's Guide* that is Part I of this report is designed for anyone involved in health protection and promotion in the transit workplace. That could be the top executive ready to commit for the entire organization, Human Resources or benefits management staff looking to reduce costs or increase retention, a union leader representing members in an employer's program or setting one up within the union, or a safety professional trying to introduce a new approach. The ideal WHPP leadership team brings all of those together. Its purpose is to help initiate, design, implement, evaluate, and maintain a comprehensive workplace health protection and promotion program that improves the health and safety culture and the policies and practices that affect health in transit agencies.

The Practitioner's Guide is based on the NIOSH Total Worker Health™ approach, and informed by theory-based practice models such as the SafeWell Integrated Management System for Worker Health and the World Health Organization Healthy Workplace Framework and Model. Although most current programs in the transit industry focus on individual health issues and self-identify as wellness or health promotion, the growing consensus among research, government, and public health practitioners is that the best-practice workplace program is properly defined as encompassing health protection and promotion. The shorthand for this concept used throughout the Practitioner's Guide is WHPP. The guide also reflects practice and policies that have been developed and applied around the world. Links to many of these are provided in the Tools and Resources section in each chapter of the Practitioner's Guide.

Most significantly, the approaches described here and in the Practitioner's Guide rely on the practical examples provided by US and Canadian transit agency staff, union leaders, and bus operators. Enormous thanks are due to all those who provided their information, opinions, and input to make the F-17 research project and this guide possible.

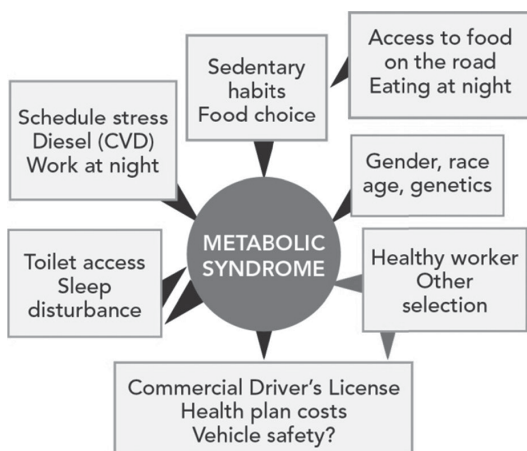


Figure 12. Metabolic syndrome in transit work.

Planning, Evaluation, and Return on Investment (ROI) Template

As a complementary tool to the Practitioner's Guide, the Planning, Evaluation, and ROI template was developed to help transit organizations with program planning, tracking of program process, impact and outcomes measures, and calculation of ROI for their health and wellness programs.

The Planning, Evaluation, and ROI Template offers a rich collection of tools to track and analyze program costs and direct and indirect benefits based on improvements in health status, productivity, availability, and safety, as well as reductions in absenteeism, turnover, and health insurance costs, leading to ROI estimates.

The template includes instructions, user entries, and automatically calculated outputs in an easy-to-navigate spreadsheet. Sample data is provided so users may learn about how the template works without deploying real data. Users can also customize measures according to their organizational needs. Additional tools and resources are provided in the template with links to reference articles, survey questionnaires, and online calculators.

The template offers a universal yet customizable approach to measuring the impact and ROI of WHPP programs in transit. However, the eventual implementation of systematic evaluation at each transit organization is largely dependent upon their willingness to invest the time and resources required for the tracking, analysis, and documentation, and their ability to break down barriers with regard to data sharing and continuity of operations.

Conclusion

“The biggest barrier is the nature of their work, their job design. As bus operators, they work on their own and are mobile rather than working in a specific location during their work day. It is difficult for them to attend training, workshops and events, etc. This is true in all aspects of their work, not just as it relates to health promotion/wellness initiatives.” *Management representative*

The conditions of transit work have been shown to contribute to health problems. At the same time, transit workers, like anyone else, have serious health concerns that are influenced by their behavior, past exposures, and other factors that may or may not be under their control. The conditions of bus transit work can make it harder to achieve health goals. As described by transit employees, from hourly to top management; by health professionals including safety, health promotion, and health care; by union representatives; and by government agency personnel, health concerns may be both common to most people and specific to transit. The consistent report is that people working in transit recognize there are problems. They want to do something about the problems to keep workers healthier, transit agencies more successful, and the public moving. The way to do that is to pool resources within transit agencies and across the industry to improve the individual, organizational, and environmental conditions and risk factors that affect health.

“We are combining programs to try to increase information and practice of healthy living. We have a Wellness Committee that brings forward programs and information. [We have a] dedicated ergonomist that helps with drivers with specific problems and the Health and Safety Committee which seeks to remove hazardous working conditions.” *Union leader*

Trust is key. The finding that both labor and management felt they supported the aims and intentions of the WHPP program but each undervalued the commitment of the other party remained a consistent theme in follow-up interviews. It represents a critical target for improvement across the industry. The health, safety, and wellness of bus operators and other transit employees are a recognized priority for all parties, but an acceptable model for cooperation has not yet been established in many locations. Among the most successful transit agencies investigated in the case studies, trust, respect, and commitment were expressed from all parties.

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List of Abbreviations

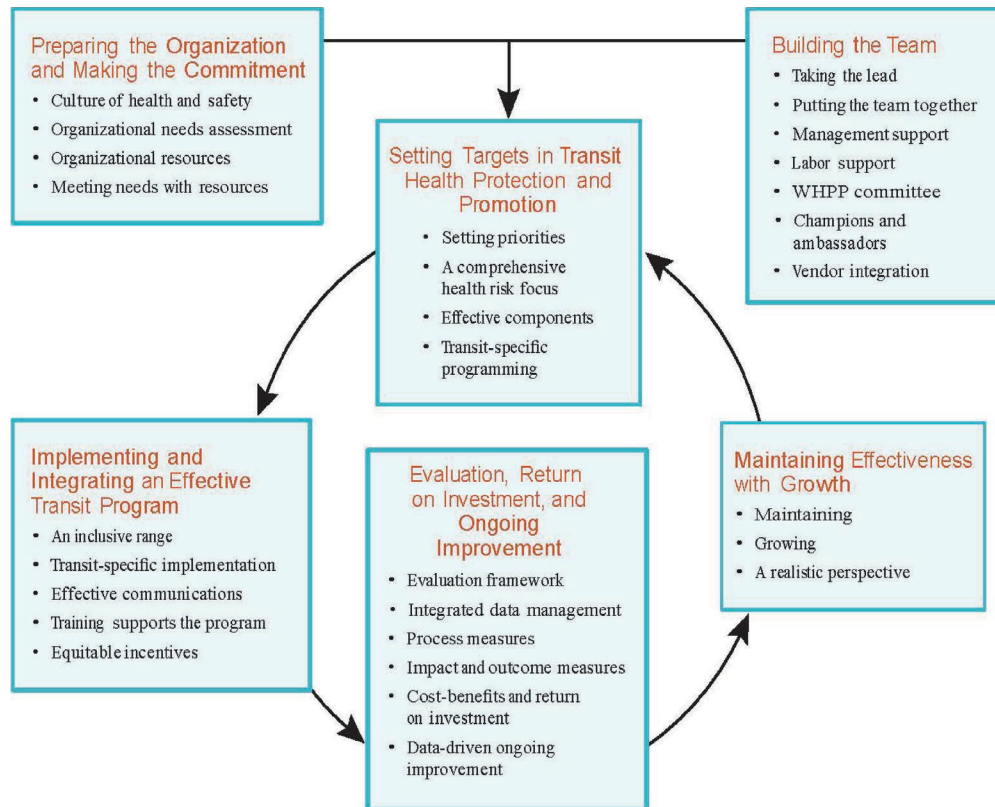
AHRF	Assessment of Health Risks with Feedback
ATU	Amalgamated Transit Union
CDC	Centers for Disease Control and Prevention
CDL	commercial driver's license
CUTA	Canadian Urban Transit Association
CVD	cardiovascular disease
DART	Dallas Area Rapid Transit
EAP	Employee Assistance Program
ENWHP	European Network for Workplace Health Promotion
ETS	Edmonton Transit System
FMLA	Family Medical Leave Act
HR	Human Resources
HRA	health risk assessment
HRET	Health Research and Educational Trust
HSEC	Health, Safety and Environmental Compliance
HT	hypertension
IT	Information Technology
LACMTA	Los Angeles County Metropolitan Transportation Authority
MSD	musculoskeletal disorder
NIOSH	National Institute for Occupational Safety and Health
NRT	nicotine replacement therapy
OCTA	Orange County Transportation Authority
OH&S	occupational health and safety
OSA	obstructive sleep apnea
OSHA	Occupational Safety and Health Administration
PIR	Partnerships in Injury Reduction
PMR	proportionate mortality ratio
PTSD	post-traumatic stress disorder
RE-AIM	Reach, Effectiveness, Adoption, Implementation and Maintenance
RFP	request for proposal
ROI	return on investment
SHR	standardized hospitalization ratio
SME	subject-matter expert
TWH	Total Worker Health™

US	United States
UTU	United Transportation Union
VOMS	vehicles operated in annual maximum service
WCB	Workers' Compensation Board
WHPP	workplace health protection and promotion

APPENDIX A

Roadmap and Best Practices for Transit Workplace Health Protection and Promotion

Transit Workplace Health Protection and Promotion Roadmap



Transportation Cooperative Research Program F-17 developed a framework of six action areas for transit workplace health protection and promotion (WHPP), based on information collection from stakeholders, a literature review and analysis by subject-matter experts. The action areas correspond to the chapters in the Transit Workplace Health Protection and Promotion Practitioner's Guide. In this summary and the detailed Practitioner's Guide, the best-practice elements making up each action area are supported by concepts and steps to take to develop an effective, comprehensive and inclusive WHPP program.

Getting Started: Preparation and Commitment

Culture of Health and Safety

Best Practice 1. The organization maintains a healthy and safe culture based on leadership and organizational commitment.

- Recognize the importance of WHPP for the agency.
- Establish top leadership buy-in and commitment.

- Leadership takes an active role.
- Articulate the vision and mission statement.

Organizational Needs Assessment

Best Practice 2. The organization identifies workforce health status and needs, and understands the sources of health problems.

- Evaluate bus operator health status separately, as well as other titles or the whole workforce.
- Understand the varied sources of operator health problems.
- Consider demographics and other health factors.
- Identify potential sources of support for and barriers to an effective WHPP program.

Organizational Resources

Best Practice 3. Program planners identify resources including staffing, finances, programs, structures, and internal and external partners.

- Are there qualified and motivated staff?
- What resources are found in the work environment?

- How can existing structures and programs contribute?
- Who are the internal partners?
- Who are the external partners?
- Where are the financial resources?

Meeting Needs with Resources

Best Practice 4. The organization develops a plan to provide effective health assessments, a healthy and safe environment, and targeted and population-based intervention programs for all employees.

- Draft a long-term program plan.
- Plan to grow, including developing new resources.
- Develop program components that match the needs identified.
- Design a practical program.

Building the Team: Coordinating Health Protection and Promotion

Taking the Lead

Best Practice 5. The organization designates dedicated staff to coordinate and implement the workplace health protection and promotion program.

- Identify an onsite staff person with WHPP knowledge and skills.
- Support the WHPP program lead.
- Supply adequate organizational support.
- Make sure that the WHPP lead person and other staff understand the operator work environment and demands.
- Set up ways for the program lead and staff to respond to the workforce needs and input.
- Ensure ongoing staff education and training.
- Provide feedback and supervision for WHPP staff.

Putting the Team Together

Best Practice 6. Input is gathered from across the organization.

- Identify organization partners.
- Lay out a map of the organization in the context of WHPP.
- Do outreach across departments.
- Make planning and participation attractive and relevant for the WHPP team.

Management Support

Best Practice 7. Senior and mid-level management support workplace health protection and promotion initiatives

as evidenced by documented communications, infrastructural initiatives, and health-focused policies.

- Upper management approves the program.
- Involve senior and mid-level management in planning and implementation.
- Identify conflicting motivators such as scheduling, budgets, availability, management models.
- Communicate support throughout the organization.

Labor Support

Best Practice 8. Union leadership and other representatives have influence on and support the workplace health protection and promotion goals and content.

- Explore union interest and perceptions.
- Identify conflicting motivators, e.g., contract, seniority and discipline concerns.
- Establish a direct role in the program for union leadership or designees.
- Maintain communication with leadership, not solely designees or volunteers.

WHPP Committee

Best Practice 9. The organization sets up and supports a group to take action on workplace health protection and promotion.

- Communicate with the occupational safety and health committee.
- Identify and recruit WHPP committee members from management and labor, including operations, HR, procurement, and OSH.
- Observe protocols for joint committees.
- Add location committees to meet more frequently.
- Establish a regular meeting schedule that works for all.
- Plan ahead to make meetings effective.

Champions and Ambassadors

Best Practice 10. Employee skills support and contribute to planning and implementation.

- Identify management and operator champions and ambassadors in locations.
- Recruit skills—health, safety, training, food, community organizing—not simply interest.
- Provide champions and ambassadors with training on the concepts and practices of WHPP.
- Define responsibilities.

A-4

- Provide champions and ambassadors with schedule flexibility.
- Sustain champion and ambassador role.

Vendor Integration

Best Practice 11. The organization enlists health care providers and other vendors as partners in and contributors to the WHPP program assessment, planning, and implementation.

- Find out what data is available and ask for data that you need.
- Educate vendors and providers about the workforce and transit work demands.
- Involve vendors in planning, evaluation, and implementation: Promote use of vendor programs.
- Enlist vendor support for health fairs.

Setting Targets: Effective Transit Health Protection and Promotion**Setting Priorities**

Best Practice 12. The organization establishes what matters and what can be done with available resources.

- Use planning and needs assessment data to define program targets to match the organization's strategic goals.
- Estimate the challenge.
- Combine assessments of need, severity, and challenge to set your priorities.

A Comprehensive Health Risk Focus

Best Practice 13. The organization identifies and targets multiple contributing factors to operator health problems and conditions.

- Establish clear prevention and promotion principles.
- Understand what contributes to operator health problems and conditions.

Effective Components

Best Practice 14. The WHPP program activities are based on feasible and effective practices that address the identified program targets.

- Understand and apply what has been successful in workplace health protection and promotion.

Transit-Specific Implementation

Best Practice 15. The program planning and content address transit-specific risks, exposures, and conditions.

- Target areas and plan activities that are relevant to transit workers.
- Be realistic about the results you expect.

Implementing and Integrating: Balanced Workplace Health Protection and Promotion**Inclusive Range**

Best Practice 16. The WHPP program offers varied activities and resources.

- Set up activities to engage the range of needs and interests of the workforce.
- Organize team and individual challenges.
- Provide access to exercise facilities and coaches.
- Integrate health risk assessments and other individual activities with the overall program.
- Understand what occupational safety and health (OSH) and other issues are important: Involve families.

Transit-Specific Implementation

Best Practice 17. The implementation structure is adapted to suit the mobile workforce, multiple base locations, and varied schedules including evening, night, early morning and split shifts.

- Identify convenient access times.
- Plan activities, events and classes to accommodate schedules, including events for early and late shifts.
- Provide information and training on paid time.
- Identify resources that are shift-specific and even along routes, to encourage wider participation.
- Create operator-friendly points of contact for training, activities, reporting.
- Protect workers' health information.

Effective Communications

Best Practice 18. Set up a strategic, comprehensive, and integrated communications plan with multiple communications pieces and delivery channels that are tailored to the transit population.

- Keep the whole organization informed.
- Assess the impact of the communication modes you use.
- Recognize the value and limitations of electronic communications.
- Provide online education and reporting systems that are accessible out of work.
- Facilitate safe and confidential use of computer stations.
- Engage recipients with written materials.
- Keep leadership informed about program progress and impact.
- Establish 2-way communication.

Training Supports the Program

Best Practice 19. Training is designed to promote the program goals, not just deliver information, and is integrated into other agency training.

- Plan initial training to cover the program orientation, access, and concepts as the WHPP program is rolled out.
- Develop and carry out topical training events relevant to operators and supported by other program activities.
- Schedule training at times and places accessible to operators.
- Make refresher training available to maintain involvement and address questions.

Equitable Incentives

Best Practice 20. The organization utilizes equitable, non-discriminatory incentives that encourage active involvement and a healthy workplace culture.

- Aim incentives at desirable and feasible targets.
- Reward positive steps rather than punishing the current health status or health problems.
- Analyze the incentives for the effect of schedule, family demands, other potential inequities, and take work challenges for bus operators into account.
- Negotiate incentives for group premium cost reductions and other insurance-related incentives.
- Award ideas for best practice not just individual progress.
- Consider alternative reward structures.

Evaluating: Return on Investment and Ongoing Improvement

Evaluation Framework

Best Practice 21. The organization establishes a comprehensive workplace health protection and promotion program evaluation plan.

- Collecting baseline measures.
- Involve stakeholders in evaluation.

Integrated Data Management

Best Practice 22. Data collection, management, and analysis are coordinated throughout the organization.

- Aim for a single data system or one that allows different data sources to be linked.
- Define available data and how it can be grouped.
- Use data warehousing to coordinate existing databases throughout the organization with common measures.
- Review data, problems, and solutions across departments.
- Promote vendor data integration.

Process Measures

Best Practice 23. The organization tracks costs, participation, goals met, and barriers then uses data to improve the program.

- Record quantitative and descriptive data.
- Use process evaluation to make time-sensitive adjustments.

Impact and Outcome Measures

Best Practice 24. The program documents changes in impact measures in outcome measures.

- Include both short-term and long-term measures.
- Document changes in impact measures such as knowledge, attitudes, behaviors, or skills in a target population.
- Document changes in outcome measures such as health status, employee morale, work environment, health care costs, absenteeism, presenteeism, injuries, disability.

Cost-Benefit and Return on Investment

Best Practice 25. Cost savings are quantified to show how the program supports the bottom line.

- Collect program financial data continuously.
- Quantify the economic benefits from improvements in outcome measures.
- Be realistic and simple.
- Recognize the potentially extended time period for achieving a positive ROI.
- Estimate the effect of the WHPP program.

Data-Driven Ongoing Improvement

Best Practice 26. The organization communicates the impact of the program.

- Package your evaluation data.
- Communicate progress and success.
- Present aggregated evaluation results to all levels of management and employees.

Carrying on: Maintaining Effectiveness with Growth

Maintaining

Best Practice 27. Workplace Health Protection and Promotion is essential to the organization, not an extra.

- Justify organizational support.
- Contribute to the organization.

- Plan to survive internal changes in focus.
- Keep the committee fresh and retain experience.

Growing

Best Practice 28. The WHPP program adapts.

- Stay up-to-date with changing needs and resources.
- Engage with transit health issues.
- Develop targeted programs.
- Improve on what is available.
- Expand the WHPP program perspective.

A Realistic Perspective

Best Practice 29. The WHPP program prepares for difficulties.

- Looking for problems means you find them.
- You can't solve everything.

APPENDIX B

Supplementary Tables

B-1	B1 Responses by State and Province
B-2	B2 Detailed Titles of F-17 Survey Respondents
B-2	B3 Plans and Suggestions for More Effective Programs

B1. Responses by state and province.

AB	2	KS	2	OH	2
AK	3	KY	2	OK	1
AZ	2	MA	3	ON	10
BC	2	MB	2	PA	2
CA	15	MD	1	QC	4
CO	1	ME	2	RI	1
CT	2	MN	2	SD	1
DE	1	MO	2	SK	1
FL	2	MS	1	TN	1
GA	2	MT	2	TX	3
HI	1	NC	3	UT	2
IA	2	NE	1	VA	1
ID	1	NJ	2	VT	1
IL	2	NS	1	WA	5
IN	3	NY	3	WI	2

B2. Detailed titles of F-17 survey respondents.

Administrator	Medical Director
Department Administrator	Mgr. Compensation and Benefits
Department Head	Operations Superintendent
Director	Operations/Customer Service Manager
Director/Bus Transportation	OSH and Benefits Corporate Advisor
Director of Admin/Finance	OSH and Health Promotion Corporate Advisor
Director of Administration	Payroll & Benefits Administrator
Director of Bus Operations (2)	QA Manager
Director of Human Resources/ Risk Management	Registered nurse
Director of Occupational Health Services	Risk Manager
Director of Operations (2)	Safety & Training Coordinator
Director of Transit Operations	Senior Human Resources Officer
Director of Transportation	Sr. Health, Safety & Environmental Compliance Specialist/Wellness Administrator
Employee Wellness Manager	Team Leader - Non-Occupational Injury Team
Executive Director	Trainer/Safety Officer
General Manager (2)	Training Superintendent
Health and Safety Superintendent	Transit Division Director
Healthy Workplace Specialist	Wellness Specialist
HR Assistant/Benefit Coordinator	Union
HR Supervisor	President
Human Resources Director (4)	President/Business Agent
Human Resources Manager (3)	Business Agent/Representative
Human Resources/ Marketing Administrator	Co-chair Joint Health and Safety Committee
Long-Range Planner	Field Representative
Manager II, Health & Welfare Services	Bus operator
Manager of Wellness & Rehabilitation	International Vice President
Manager Operations	Recording Secretary
Manager, Bus Operations (2)	Wellness Manager (Union-run agency program)
Manager, Employee / Labor Relations	

B3. Plans and suggestions for more effective programs.

Assessment	Collect greater data to measure program progress and potential ROI
Assessment	Develop methods for tracking ROI
Assessment	Introduction of metrics so as to assess returns on investment
Assessment	Metrics and ROI
Assessment	Regular feedback surveys that generate improvements in employee health
Assessment	The agency needs to have better measuring metrics in place in order to determine if any of the policies and practices have made a significant and positive impact. Metrics would also help us to determine how to spend the limited funding available for healthy policies and programs that do make an impact
Assessment	Tracking results
Assessment	With buy-in from senior management, conduct a health risk assessment of the organization's strategic plan
Assessment	We would like to see our healthcare provider implement the personal risk assessment program again using the lessons learned from the prior attempt

B3. (Continued).

Healthy Environment	Healthier environment
Participation	Continue to educate our employees and increase their participation in the wellness activities at their work sites
Participation	Encourage a higher participation ratio on all programs
Participation	Incorporate incentives into the health insurance program, such as discounts for participating in screenings, no tobacco use, etc.—we've talked about it, but haven't gotten there, yet
Participation	Increased participation, informal leaders
Participation	More participation from all employees
Participation	Need to develop incentives for employees to participate in Wellness Programs
Participation	Operator interest. Most just want to come and do their job and go home. Little interest in staying on site unless they are being paid
Participation	Put together a monetary incentive program with big wins for employees who make big strides toward improving their health
Participation	To have the buy-in from employees to make the necessary changes to incorporate into their lives instead of throwing money at them to do so
Participation	We have a tough time getting employees involved in any programs
Participation	We will seek out new strategies to engage employees to foster a culture of health and fitness
Participation	Wellness incentives that impact monthly premiums
Policies	Physical hiring requirements
Policies	Update Agency health policies
Policies	What could be done is to make health and fitness less voluntary for employees (e.g., require smokers to quit, require obese employees to enter a weight loss program, and other interventions to require healthy lifestyles)
Resources	A budget that will allow working with an outside vendor to provide all the resources
Resources	A dedicated wellness budget would prove beneficial
Resources	A wellness liaison at each location
Resources	Additional funding
Resources	Additional internal resources
Resources	An onsite medical clinic
Resources	Budgeted resources
Resources	Build a fitness center in the facility where our Coach Operators report to and check out from work
Resources	Commitment of resources by Senior Management
Resources	Dedicated staffing
Resources	Funding
Resources	Giving this program a higher profile, including dedicated resources
Resources	Increased budget
Resources	Increased federal/state funding
Resources	More funding
Resources	More space for onsite activities
Resources	Some additional staff would be useful
Resources	Staff dedicated to workplace health promotion program
Resources	Trained staff on site at fitness centers for certain hours
Resources	We are currently talking with a gym in the area and are hopeful employees will see the value of a gym membership
Resources	We could use more dollars dedicated to implementing programs

(continued on next page)

B3. (Continued).

Resources	We will be replacing the former wellness coordinator with a certified occupational health nurse who will manage both wellness and cases management
Resources	Wellness site/facility on site
Structure	We have a good working relationship with our health insurance providers, but I think that a proactive team approach combining our wellness program and their health offerings to precisely target specific issues could bring some good results e.g., blood pressure and diabetes and prescription adherence
Structure	Implement a means of communication to the employee and family regarding the impact of poor health choices by showing them how these choices influence attendance, the ability to perform their job safely, and workers compensation costs
Structure	Daily interaction
Structure	Establish a Corporate Committee and Ambassador Network
Structure	Greater expansion of municipal workplace health initiatives to include Transit Operators
Structure	Identified workplace lead
Structure	Programs designed to meet identified needs at times when Operators can attend
Structure	Would be useful to have healthy workplace committees
Support/Integration	Increased coordination with a dedicated line staff or manager taking the lead
Support/Integration	Increased support and participation by the Union and greater support by line managers who could encourage their employees to participate in the program and to embrace healthier lifestyles
Support/Integration	Involving Operators in a committee
Support/Integration	Management/union/employee participation-money/time
Support/Integration	More buy-in by the local union leadership, particularly impacting health plan design
Support/Integration	More union commitment
Support/Integration	Multi-year commitment to a measurable sustainable wellness program. We have a very robust occupational health and safety program but our wellness component is less so. Commitment to OH&S is legislated and as such receives sufficient resources. Wellness programming is more susceptible to budget availability
Support/Integration	Organization could play a more active role in both promotion and participation in the program. Currently, it exists only because the insurer offers it at no additional cost. There is no budget for employee health/wellness
Support/Integration	Support of union reps
Support/Integration	Union leadership promoting and supporting the program
Support/Integration	Upper management buy-in
Support/Integration	We could use more leadership, promotion, and participation from our senior staff and board members
Support/Integration	Wider representation across organization on related committees
Transit-specific information and practice	We have been working with our healthcare provider to target the high-risk lifestyle behaviors. The have been able to provide us with programs from their program listing. However, these programs were not tailored to the unique characteristics of the transit employee. We would like to see the provider implement programs that "fit" our employee population
Transit-specific information and practice	We would like to be in touch with other transit companies
Transit-specific information and practice	We would like to receive a feedback of the present survey

APPENDIX C

TCRP F-17: Improving Transit Bus Operator Health, Wellness, and Retention— Management Survey

Improving Transit Bus Operator Health, Wellness, and Retention— Management Survey

Welcome to the TCRP F-17 Improving Transit Bus Operator Health, Wellness, and Retention survey. Your input is very important to the success of this project.

Once you have collected your background information, it should take you about half an hour to complete the survey. At any point you can save your answers. A special link will then be emailed to you so you can return later to your saved survey. This allows you to collect and enter information at your convenience.

When you have finished all the sections you click submit and the data is sent to us.

Don't worry if you don't have all the answers. You may need to estimate, and for some questions you will not have information. We are interested in all aspects of your health and wellness activities - successful programs, the barriers you faced and even the failures. The important thing is to fill in what you can.

If you are unable to do the survey for any reason, please let us know that. We hope to hear from you, and to learn from the important insight you provide. If you want to fill this out by hand, we can provide you with a hard copy.

Our commitment to you: All information gathered in this survey will remain confidential and only grouped data will be shared or published. If you provide your contact information at the end of the survey, project researchers may follow up with you to get some more detailed information later in the project.

Robin Gillespie, Senior Program Director for Health and Safety
Transportation Learning Center
rgillespie@transportcenter.org Phone: (240) 230-7065

Background

1) Transit agency name: _____

2) Your title: _____

3) What transit mode(s) does your agency operate? (Select all that apply)

Fixed Route Buses

Commuter Rail

Heavy Rail

Paratransit

Light Rail

Other, please specify): _____

4) What is the annual ridership in unlinked passenger trips of your fixed route bus service?

More than 20 million

More than 4 million and less than 20 million

Fewer than 4 million

5) How many bus operators:

Work here	
Work full-time	
Work part-time	
Are contracted independently or via a contract employer	
Are female	
Are under 40	

Are Hispanic/Latin American	
Are White/Caucasian	
Are Black/African American	
Are Asian/Pacific Islander	
Are American Indian or Alaskan native	
Are other or multiple races	

Background

6) Are the bus operators represented by a union? Yes No

7) To help us understand the organizational structure of your workplace, can you estimate what percentage of the bus operators are dues-paying members of the union?

0% 1-25% 26-50% 51-75% 76-100%

8) What is the approximate average years of service of the bus operators? _____

Health, Wellness and Safety Concerns

9) What are the top three health problems faced by bus operators at your agency?

Chronic diseases (hypertension, diabetes, cardiovascular disease, lung disease, reflux and intestinal symptoms)

Achieving desired physical activity, diet, and/or tobacco use status

Wellness (such as stress and fatigue)

Musculoskeletal problems (back injury, tendonitis, other pain)

Work environment (accidents, work-related injuries or illnesses, assaults)

Other (please specify): _____

Health, Wellness and Safety Concerns

10) Have these health problems affected or led to any of the following? (Select all that apply)

- Increased health care costs for the agency
- Work-related injury or illness
- Excessive absenteeism, sick leave, or disability
- Medical disqualification for operators
- Loss of employment due to disability or illness
- Turnover/retention problems
- Operational problems/delays
- Decreased workplace morale
- Other (please specify): _____

11) How much impact do the following conditions of your workplace have on the health problems listed above?

	None	Some	A lot
Route schedules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact with riding public	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hours of work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bathroom access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occupational safety or health conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Labor/management interaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other conditions (describe):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other conditions (describe):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other conditions (describe):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Worksite Health Promotion (WHP) Program

12) Does your agency have a WHP program or carry out health promotion activities that cover bus operators? (Choose 1)

- Yes, active
- Had in the past but no longer active
- No to all of the above
- Not currently active but plan to restart
- Not yet, but plan to have in the future

13) If you do not have a program or it is not currently active, can you say why?

- Not needed
- Needed but no funds
- Needed but no staff resources
- Other, (please specify) _____

If you do not have a WHP program and do not plan to start one, your work on this survey is done. Please fax, email or mail it (information on the last page) with any comments or questions. Otherwise, please continue.

14) Describe the worksite health promotion programs or activities scope.

- Bus operators only
- All bus division staff
- Bus division along with other mode or division staff within the agency
- Municipal, multiagency, or other coordinated program or campaign (including bus operators)

15) Are or were family members involved in the worksite health and wellness program?

- Yes
- No

If yes, please describe: _____

Worksite Health Promotion Program

16) How many years has your WHP program been active (or was it active)? _____

17) Please state the approximate annual budget for your WHP program or activities. Then break out the components if you can.

Total	\$
Staff	\$
Outreach (newsletters, advertising)	\$
HRAs/screenings	\$
Training/workshops for workers	\$
Participation incentives	\$
Workplace changes (such as exercise facilities, food access, repairs)	\$
Payments to outside vendors for activities or products	\$
Other	\$

18) For those planning a program, what will be the target of your WHP program?

- Chronic diseases (hypertension, diabetes, cardiovascular disease, lung disease, reflux and intestinal symptoms)
- Achieving desired physical activity, diet and/or tobacco use status
- Wellness (such as stress and fatigue)
- Musculoskeletal problems (back injury, tendonitis, other pain)
- Work environment (accidents, work related injuries or illnesses, assaults)
- Other (please specify): `

19) If not currently active, when is your target date to begin or restart a WHP program?

WHP Program Environment

20) What health, safety, and wellness activity does your agency carry out? (even if you do not yet have a formal program)? (Select all that apply).

Activity	As part of a WHP program	As part of other program
Health risk assessments	[]	[]
Health screenings (blood pressure/blood sugar/neck circumference/lipids/weight)	[]	[]
Counseling/coaching	[]	[]
Support for alternative health (for example yoga, massage)	[]	[]
Educational messages and information	[]	[]
Educational classes and events	[]	[]
Policies that support a healthy environment (such as restricted tobacco at work or alcohol at events)	[]	[]
On-site exercise facilities or programs	[]	[]
Subsidized off-site exercise	[]	[]
Nutrition (healthy choices/availability)	[]	[]
Organizational changes (such as route scheduling, flexibility to reduce work-home family conflicts)	[]	[]
Occupational health and safety	[]	[]
Workforce development (such as continuing education)	[]	[]
Other (describe):	[]	[]
Other (describe):	[]	[]
Other (describe):	[]	[]

WHP Program Environment

21) How would you agree with the following statements about your organization's worksite health promotion culture?

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
Upper management has made employee health promotion a top priority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Union leadership supports and participates in the workplace health promotion program (for unionized workplaces only)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employee health promotion has been integrated with other operational administrative policies and procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is a person identified who has the primary responsibility for the program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others in the organization take active responsibility for the program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An effective committee leads or supports the program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program links with other organizational areas, for example, occupational health and safety, benefits, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Workplace data is used to determine program direction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program has a long range (3-5 year) strategic plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program responds to changing needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management allocates adequate resources for the program (budget, space, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managers actively promote participation in health promotion activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus operators are actively involved in program development and implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you do not currently have an active WHP program, your work is done now. Please fill out the last page of the survey and return it with any questions or comments. Otherwise, please continue.

WHP Program Targets

22) Please answer both questions for each area (Select all that apply):

	Why did your organization start a WHP program?	Which of those areas have been affected so far?
Reduced health care costs	<input type="checkbox"/>	<input type="checkbox"/>
Lowered work-related injury or illness rates	<input type="checkbox"/>	<input type="checkbox"/>
Reduced workers comp costs	<input type="checkbox"/>	<input type="checkbox"/>
Improved availability/lessened absenteeism	<input type="checkbox"/>	<input type="checkbox"/>
Improved retention	<input type="checkbox"/>	<input type="checkbox"/>
Safer work environment	<input type="checkbox"/>	<input type="checkbox"/>
Improved health measures	<input type="checkbox"/>	<input type="checkbox"/>
Operational improvements (such as better on-time performance)	<input type="checkbox"/>	<input type="checkbox"/>
Improved morale	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

23) What department(s) is responsible for your WHP activities? (Select all that apply)

- A stand-alone health promotion program
- Human resources
- Medical/occupational health
- Operations
- Safety
- Other (please specify): _____

24) If there is a person identified who has primary responsibility for the program:

What is that person's title? _____

What % of their time is spent on the program? _____

WHP Program Targets

25) If your organization has a worksite wellness committee, who is on it? (Select all that apply)

- Top Managers
- Line Managers
- Human Resources
- Other (please specify): _____
- Bus Operators
- Union Representatives
- Safety Staff

26) What incentives does your organization use to encourage participation in your WHP programs? (Select all that apply)

- None
- Insurance costs (reduced premiums or co-pays)
- Time off
- Cash/gift cards
- Individual prizes
- Group rewards (events, raffles)
- Other (please specify): _____

27) What external partners does your organization interact with or use as resources for your WHP activities? (Select all that apply)

- Health plan
- Workers compensation insurer
- Commercial vendors
- University or other academic center
- Other (please specify): _____
- Community groups (for example, Weight Watchers, American Cancer Society)
- City, state or federal health departments

28) Are you aware of any local or state legislation, requirements, or other policies (for example from insurance plans) that require or encourage WHP programs for transit employers?

- Yes
- No

If yes, what are those local or state legislation, requirements, or other policies?

WHP Program Impact**29) What health promotion needs and interests of bus operators has your organization addressed in the last 12 months? (Select all that apply)**

- Smoking/tobacco product cessation
- Nutrition
- Weight management
- Cardiovascular disease prevention
- Responsible alcohol use

What health promotion needs and interests of bus operators has your organization addressed in the last 12 months? (continued)

- Stress management
- Work & family conflicts
- Threat assessment and management/violence prevention
- Infectious disease control
- Fatigue
- Mental health
- Ergonomics (adjustments, equipment, devices, body mechanics)
- Medical self-care and medication management
- Other disease management (for example, high blood pressure, sleep apnea)

30) Please answer both questions for each area (Select all that apply):

	What activities or policies has your organization implemented to improve work organization or the work environment?	Please check if the policy or activity has had an impact on health so far.
Assault or customer conflict prevention program	<input type="checkbox"/>	<input type="checkbox"/>
Policies to prevent or reduce stress at work (scheduling, customer encounters, restroom access)	<input type="checkbox"/>	<input type="checkbox"/>
Policies to help balance work life and family policies (family leave, phone calls)	<input type="checkbox"/>	<input type="checkbox"/>
Return to work accommodations	<input type="checkbox"/>	<input type="checkbox"/>
Route and shift schedule policies to reduce health impact or stress	<input type="checkbox"/>	<input type="checkbox"/>
Incident/near miss reporting system	<input type="checkbox"/>	<input type="checkbox"/>
Bathroom access policy	<input type="checkbox"/>	<input type="checkbox"/>
Healthy food availability	<input type="checkbox"/>	<input type="checkbox"/>
Workplace health and safety inspections	<input type="checkbox"/>	<input type="checkbox"/>
Other workplace health, wellness, and safety programs	<input type="checkbox"/>	<input type="checkbox"/>
Other (describe):	<input type="checkbox"/>	<input type="checkbox"/>
Other (describe):	<input type="checkbox"/>	<input type="checkbox"/>
Other (describe):	<input type="checkbox"/>	<input type="checkbox"/>

31) Approximately how many bus operators participated in your WHP program in the past 12 months? _____

In the past 12 months, how many bus operators:

Received mailings	
Attended required worksite meetings addressing health promotion	
Requested health promotion program information	
Participated in an optional class offered by the program (for example, exercise, tobacco use cessation, stress reduction)	
Completed a Health Risk Assessment (HRA)	
Participated in disease management activities	
Participated in weight loss or exercise challenges	
Utilized worksite exercise equipment or offsite gym access	
Participated in WHP program assessment or improvement activities	
Participated in other activities not listed	

32) Please check off which areas of operations policies and practices your WHP program staff or activities have an impact on:

- Scheduling
- Hiring
- Safety rules
- Training
- Vendor selection (such as food or equipment)
- Individual work assignment/work accommodation
- Bus procurement
- Other areas of operation

If you checked any of these, please describe: _____

Program Success and Return on Investment

33) Thinking across all the health promotion, disease prevention and disease management programs your worksite offers, what do you track, and use to measure program success?

34) Does your organization calculate the Return on Investment (ROI) for the WHP program?

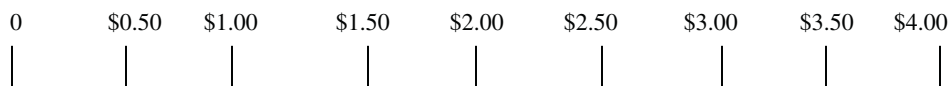
- Yes
- No

35) If you calculated it, thinking across all the workplace health promotion programs your worksite offers, what was your ROI in the past year? Please put an x on the line below.

Dollars Recouped for Every Dollar Spent

Net Loss

Net Gain

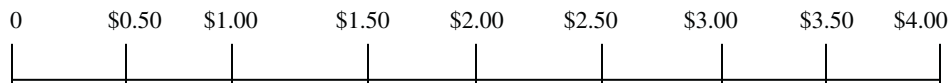


36) Thinking across all the workplace health promotion programs, what return do you expect for these activities? Please put an x on the line below.

Dollars Recouped for Every Dollar Spent

Net Loss

Net Gain



37) What is the time frame for realizing your expected ROI (select one)?

- Less than 12 months
- 12 to 17 months
- 18 to 23 months
- 24 to 35 months
- 36 or more months

38) What savings is your ROI based on? (Select all that apply)

- Health care claims cost
- Workers' compensation claims cost
- Time lost/absenteeism
- Other, please specify: _____
- Disability
- Productivity
- Turnover (new hire recruitment/training)

Follow-up

39) What could be done to improve your worksite health promotion program?

40) May we contact you to clarify or follow up on your answers to this survey? If yes, please fill in the contact information below. Your information will be kept confidential.

Name: _____

Email Address: _____

Phone Number: _____

Thank you for taking the survey. Please fax, mail or email this to the address on the first page. And feel free to contact us with any questions or comments.

APPENDIX D

TCRP F-17: Improving Transit Bus Operator Health, Wellness, and Retention—Labor Survey

Improving Transit Bus Operator Health, Wellness, and Retention— Labor Survey

Welcome to the TCRP F-17 Improving Transit Bus Operator Health, Wellness and Retention survey. Your input is very important to the success of this project.

Once you have collected your background information, the survey should take you about half an hour to complete. At any point you can save your answers. A special link will then be emailed to you so you can return later to your saved survey. This is especially useful as it allow you to collect and enter information at your convenience.

When you have finished all the sections you click submit and the data is sent to us.

Don't worry if you don't have all the answers. You may need to estimate, and for some questions you will not have information. We are interested in all aspects of your health and wellness activities—successful programs, the barriers you faced and even the failures. The important thing is to fill in what you can.

If you are unable to do the survey for any reason, please let us know that. We hope to hear from you, and to learn from the important insight you provide. If you want to fill this out by hand, we can provide you with a hard copy.

Our commitment to you: All information gathered in this survey will remain confidential and only grouped data will be shared or published. If you provide your contact information at the end of the survey, project researchers may follow up with you to get some more detailed information later in the project.

Robin Gillespie, Senior Program Director for Health and Safety
Transportation Learning Center
8403 Colesville Road, Silver Spring MD 20910
rgillespie@transportcenter.org (240) 230-7065

Background

1) What is the name and local number of your Union?

2) What is the name of the transit agency where you represent bus operators?

Note: If you have members at more than one agency, just name the one whose health promotion activities you want to describe in this survey.

3) Your title: _____

Health, Wellness and Safety Concerns

9) How much impact do the following conditions at your workplace have on the health problems listed above?

	None	Some	A lot
Route schedules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact with riding public	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hours of work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bathroom access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occupational safety or health conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Labor/management interaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other conditions:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Agency Worksite Health Promotion

10) Does your agency have a worksite health promotion (WHP) program or carry out health promotion activities that cover bus operators?

Yes, active

Had in the past but no longer active

Not yet, but plan to have in the future

Not currently active but plan to restart

No to all of the above

11) If the agency does not have a program or it is not currently active, can you say why?

Not needed

Needed but no funds

Needed but no staff resources

Other, (please specify) _____

If the agency does not have a WHP program and does not plan to start one, please go to question 18. Otherwise, please continue.

12) Describe the WHP programs or activities scope.

Bus operators only

All bus division staff

Bus division along with other mode or division staff within the agency

Municipal, multiagency, or other coordinated program or campaign (including bus operators)

13) Are or were family members involved in the WHP program?

Yes No If yes, please describe: _____

14) How many years has your WHP program been active (or was it active)? _____

15) Please state the approximate annual budget for your WHP program or activities. Then break out the components if you can.

Total	\$
Staff	\$
Outreach (newsletters, advertising)	\$
HRAs/screenings	\$
Training/workshops	\$
Participation incentives	\$
Workplace changes (such as exercise facilities, food access, repairs)	\$
Payments to outside vendors for activities or products	\$
Other	\$

16) For those planning a program, what will be the target of your WHP program?

- Chronic diseases (hypertension, diabetes, cardiovascular disease, lung disease, reflux and intestinal symptoms)
- Achieving desired physical activity, diet and/or tobacco use status
- Wellness (such as stress and fatigue)
- Musculoskeletal problems (back injury, tendonitis, other pain)
- Work environment (accidents, work related injuries or illnesses, assaults)
- Other (please specify):

17) If not active, when does the agency plan to begin or restart a WHP program? _____

Union Health Promotion

18) Does your Union have an independent health promotion program or carry out health promotion activities that cover bus operators?*

- Yes, active Not yet, but plan to have in the future
- Had in the past but no longer active No to all of the above
- Not currently active but plan to restart

19) If you do not have a program or it is not currently active, can you say why?

- Not needed
- Needed but no funds
- Needed but no staff resources
- Other, (please specify) _____

If you do not have a WHP program and do not plan to start one, your work on this survey is almost done. Please complete the last page and return it with any comments or questions. Otherwise, please continue.

Union Health Promotion

20) Describe the WHP programs or activities scope.

- Bus operators only
- All bus division staff
- Bus division along with other mode or division staff within the agency
- Municipal, multiagency, or other coordinated program or campaign (including bus operators)

21) Are or were family members involved in the worksite health and wellness program?

Yes No If yes, please describe: _____

Program Characteristics

22) What health, safety, and wellness programs are available for bus operators? (Select all that apply)

	By the Employer	By the Union
Health risk assessments	<input type="checkbox"/>	<input type="checkbox"/>
Health screenings (blood pressure/blood sugar/neck circumference/lipids/weight)	<input type="checkbox"/>	<input type="checkbox"/>
Counseling/coaching	<input type="checkbox"/>	<input type="checkbox"/>
Support for alternative health (for example yoga, massage)	<input type="checkbox"/>	<input type="checkbox"/>
Educational messages and information	<input type="checkbox"/>	<input type="checkbox"/>
Educational classes and events	<input type="checkbox"/>	<input type="checkbox"/>
Policies that support a healthy environment (such as restricted tobacco product use at work or alcohol use at events)	<input type="checkbox"/>	<input type="checkbox"/>
On-site exercise facilities or programs	<input type="checkbox"/>	<input type="checkbox"/>
Subsidized off-site exercise	<input type="checkbox"/>	<input type="checkbox"/>
Nutrition (healthy choices/availability)	<input type="checkbox"/>	<input type="checkbox"/>
Organizational changes (such as route scheduling, flexibility to reduce work-home family conflicts)	<input type="checkbox"/>	<input type="checkbox"/>
Occupational health and safety	<input type="checkbox"/>	<input type="checkbox"/>
Workforce development (such as continuing education)	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

23) How would you agree with the following statements about your organization's WHP program?

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
Upper management has made employee health promotion a top priority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Union leadership supports and participates in the workplace health promotion program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employee health promotion has been integrated with other operational administrative policies and procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is a person identified who has the primary responsibility for the program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others in the organization take active responsibility for the program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An effective committee leads or supports the program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program links with other organizational areas, for example, occupational health and safety, benefits, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Workplace data is used to determine program direction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program has a long range (3-5 year) strategic plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program responds to changing needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management allocates adequate resources for the program (budget, space, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managers actively promote participation in health promotion activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus operators are actively involved in program development and implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Goals and Structure

24) Please answer both questions for each area (Select all that apply):

	Why did your agency (or Union if Union only program) start a WHP program?	Which of those areas have been affected so far?
Reduced health care costs	<input type="checkbox"/>	<input type="checkbox"/>
Lowered work-related injury or illness rates	<input type="checkbox"/>	<input type="checkbox"/>
Reduced workers comp costs	<input type="checkbox"/>	<input type="checkbox"/>
Improved availability/lessened absenteeism	<input type="checkbox"/>	<input type="checkbox"/>
Improved retention	<input type="checkbox"/>	<input type="checkbox"/>
Safer work environment	<input type="checkbox"/>	<input type="checkbox"/>
Improved health measures	<input type="checkbox"/>	<input type="checkbox"/>
Operational improvements (such as better on-time performance)	<input type="checkbox"/>	<input type="checkbox"/>
Improved morale	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

25) What groups are responsible for your WHP activities? (Select all that apply)

- The Union
- A stand alone-health promotion program
- Human resources
- Medical/occupational health
- Operations
- Safety
- Other (please specify)

26) If there is a person identified who has primary responsibility for the program:

What is that person's title? _____

Goals and Structure

27) If your organization has a worksite wellness committee, who is on it? (Select all that apply)

- Top Managers
- Line Managers
- Human Resources
- Other (please specify) _____
- Bus Operators
- Union Representatives
- Safety Staff

28) What incentives does your organization (or Union if Union-only program) use to encourage participation in your WHP programs? (Select all that apply)

- None
- Insurance costs (reduced premiums or co-pays)
- Time off
- Cash/gift cards
- Individual prizes
- Group rewards (events, raffles)
- Other (please specify):

29) What external partners does your organization (or Union if Union only program) interact with or use as resources for your WHP activities? (Select all that apply)

- Health plan
- Workers compensation insurer
- Commercial vendors
- University or other academic center
- Community groups (for example, Weight Watchers, American Cancer Society)
- City, state or federal health departments
- Other (please specify): _____

Goals and Structure

30) Are you aware of any local or state legislation, requirements, or other policies (for example from insurance plans) that require or encourage WHP programs for transit employers?

- Yes No If yes, what are those local or state legislation, requirements, or other policies?

Targets and Involvement

31) Please describe the role of the Union in the health promotion program and activities:

32) What health promotion needs and interests of bus operators has your organization addressed in the last 12 months? (Select all that apply)

- Smoking/tobacco product cessation
- Nutrition
- Weight management
- Cardiovascular disease prevention
- Responsible alcohol use
- Stress management
- Work and family conflicts
- Threat assessment and management/violence prevention
- Infectious disease control
- Fatigue
- Mental health
- Ergonomics (adjustments, equipment, devices, body mechanics)
- Medical self-care and medication management
- Other disease management (for example, high blood pressure, sleep apnea)
- Other (please specify) _____

33) What activities or policies has your employer implemented to improve work organization or the work environment? Please check if the policy or activity has had an impact on health so far (Select all that apply):

	Activity	Has had an impact
Assault or customer conflict prevention program	<input type="checkbox"/>	<input type="checkbox"/>
Policies to prevent or reduce stress at work (scheduling, customer encounters, restroom access)	<input type="checkbox"/>	<input type="checkbox"/>
Policies to help balance work life and family policies (family leave, phone calls)	<input type="checkbox"/>	<input type="checkbox"/>
Return to work accommodations	<input type="checkbox"/>	<input type="checkbox"/>
Route and shift schedule policies to reduce health impact or stress	<input type="checkbox"/>	<input type="checkbox"/>
Incident/near miss reporting system	<input type="checkbox"/>	<input type="checkbox"/>
Bathroom access policy	<input type="checkbox"/>	<input type="checkbox"/>
Healthy food availability	<input type="checkbox"/>	<input type="checkbox"/>
Workplace health and safety inspections	<input type="checkbox"/>	<input type="checkbox"/>
Other workplace health, wellness, and safety programs	<input type="checkbox"/>	<input type="checkbox"/>

	Activity	Has had an impact
Other policies or programs	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

Targets and Involvement

34) How many bus operators participated in your health promotion program in the past 12 months?

- all or most less than a third
 less than 75% few
 around half

35) How did bus operators participate in the last 12 months?

- Received mailings
 Attended required worksite meetings addressing health promotion
 Requested health promotion program information
 Participated in optional classes offered by the program (for example, exercise, tobacco use cessation, stress reduction)
 Completed a Health Risk Assessment (HRA)
 Participated in disease management activities
 Participated in weight loss or exercise challenges
 Utilized worksite exercise equipment or offsite gym access
 Participated in worksite assessment or improvement activities
 Other (please specify)

36) Does the workplace health promotion program staff or activities have any influence on any other areas of operations policies and practices?

- Scheduling
 Hiring
 Safety rules
 Training
 Vendor selection (such as food or equipment)
 Individual work assignment/work accommodation
 Bus procurement
 Other areas of operation

Targets and Involvement

37) Does the workplace health promotion program staff or activities have any influence on any other areas of operations policies and practices?

If you checked any of these, please describe: _____

38) Thinking across all the health promotion, disease prevention and disease management programs and activities the worksite offers, how would you say these affected the following in the last 12 months

	Improves	Has no effect	Makes worse
Health status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Healthy behavior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Occupational injury or illness rates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Time lost/absenteeism/disability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational improvements including employee availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turnover rates/retention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health care claims cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Follow-up

39) What could be done to improve your WHP program?

40) May we contact you to clarify or follow up on your answers to this survey? If yes, please fill in the contact information below. Your information will be kept confidential.

Name: _____

Name of Your Organization: _____

Your Title: _____

Email Address: _____

Address: _____

Phone Number: _____

Thank you for taking the survey. Please fax, mail or email this to the address on the first page. Your response helps ensure that union members can contribute to building healthy and safe workplaces.

And feel free to contact us with any questions or comments.

APPENDIX E

F-17 Survey Follow-Up Data Collection Guidelines

Survey Follow-Up Data Collection Guidelines

Follow-up data collection will take place in three stages. First, all survey respondents who agree will be contacted and asked a brief set of questions. Next, a smaller number of agencies will be selected for in-depth interviews. Finally, some agencies will be asked to provide more detailed quantitative data.

The purpose for the brief follow-up questions is to clarify information already recorded and get information that could not easily be collected in the survey format that will help distinguish programs and activities. These will target everyone who provides follow-up contact information. Depending on how completely surveys are filled out we will ask only the questions below or will probe to clarify incomplete responses to the survey.

The purpose of the in-depth interviews, in contrast, is to test and support the structure for the best-practice guidelines—find out what people are doing as intervention and for ROI, and see what corresponds to our developing model of good practice; find out more about the depth of involvement and collaboration; and explore the subsidiary issues such as workforce development and training.

The questions asked will depend in part on how the surveys are filled out and what gaps we see. Because important avenues of inquiry, as well as gaps in the data, may become apparent only after survey data has been collected, these questions may evolve from the current format.

Question sources include:

1. Evans D., Hierarchy of evidence: a framework for ranking evidence evaluating healthcare interventions. *Journal of Clinical Nursing* 2003;12:77–84.
2. Engbers L., Monitoring and Evaluation of Worksite Health Promotion Programs—Current state of knowledge and implications for practice. In: WHO/WEF Joint Event on Preventing Noncommunicable Diseases in the Workplace; 2008; Dalian, China: World Health Organization; 2008.
3. Chapman, L.S., Proof Positive: An Analysis of the Cost Effectiveness of Worksite Wellness; Chapman Institute, 2008.
4. National Association of Chronic Disease Directors, A Practical Guide to ROI Analysis, 2009. 2009.

Case Example Follow-up Questions.

Question	Area	F-17 target
What were the health outcomes of your program (if not clear from survey response)?	Effectiveness, evaluation	22
What was the financial impact of your program (if not clear from survey response)?	Effectiveness, evaluation	22
Conditions that affect health if they marked no—why not?	Planning	3
How do you decide what activities to carry out or what targets? (Probe—surveys, use data, “we just know.”)	Planning	3
<i>Of all the things you did, what worked best?</i>	Effectiveness, evaluation	22
<i>Were there any disadvantages to your health promotion program or activities?</i>	Effectiveness, evaluation	22
What do you think makes a good program?	Effectiveness, evaluation	22
If you were to explain to another [agency/union leader] how to start up an effective workplace health promotion program, could you tell them:		
How will it be accepted and used by workers?	Feasibility	8
How should it be implemented (what steps are needed to get and keep it going) ?	Feasibility	9-15
What resources are required? (people, money, time)	Feasibility	5
What are the economic implications of the program?	Feasibility	5, 16-18
Is it ok to use your agency’s name when reporting your case description?		
Is it ok to use your local’s name when reporting your case description?		
Is there any additional documentation on your program or its outcomes that you would like to share?		
What health issues are most important to the transit bus operators?	Appropriateness	22
Describe how the program was planned and developed—include the role of frontline workers, operations managers, union leadership, program staff, and others.	Participation, planning	9, 19
Can you tell us more about how program components and services were provided?	Implementation	9, 11, 12
Describe any collaboration between departments. (probe based on survey results)	Integration	6, 9, 10
How are WHP targets chosen? Who is involved? What criteria?	Planning	9, 10

Case Example Follow-up Questions.

Question	Area	F-17 target
What proportion of the eligible population participated in the program?	Participation	8
Does your program address accommodations for people returning from disability or injury?	Implementation, integration	11, 12
How much did participants follow through on initial contacts and commitments? Was progress maintained? How did you assess that?	Impact	14, 22
Was the program acceptable for the target population (met needs, confidentiality, interest, time available)? Did they like it/own it/support it? How did you assess acceptance?	Organization support	8, 10, 19
Did concerns about confidentiality arise? On the part of management, the union, or individuals? How were they addressed? (HRAs, biometrics, workshops, requesting assistance, pointing out workplace problems)	Implementation	9, 10, 14
Are bus operator qualifications and education programs and activities linked to health and wellness? (for ex., CDL, retention, promotion)	Integration	6, 12, 16, 17
If yes, how does your program address qualifications and education? (Probe for tuition reimbursements, career ladder, specialized safety training, peer health activist training)	Integration	11, 12, 14
Does the WHPP program assess physical demands of work in the context of wellness—such as exercise? (could include pedometers, job safety analysis)	Integration	11, 12
Can you describe any problems encountered in implementing the program? How were they resolved?	Implementation	22
If objectives, plans, or timetables were revised, why was this necessary?	Implementation, evaluation	22
How did the data collection take place; how was the data collected? (probe for baseline, participation, outcomes)	Evaluation	4
Does the program work? Were your goals met? Did unintended positive developments occur? What do you base this on? (probe based on survey responses)	Effectiveness, evaluation	22
What costs (materials, measurements, management,) were incurred? Did they exceed initial projections?	Cost, evaluation	22
Do you know of any other activities that might have affected your program outcomes (commercial health services, questionnaires, competing interests, budget constraints, manpower limitations) in progress at the worksite during your program? If yes what was the impact?	Contributors and barriers	20, 22
What is the most effective thing you did? Why do you say this?	Effectiveness, evaluation	22
What is the least effective thing you did? Why?	Effectiveness, evaluation	22
Is there any potential harm of your program?	Effectiveness, evaluation	22

Case Example Follow-up Questions.

Question	Area	F-17 target
Describe the impact, if any, on retention.	Effectiveness, evaluation	6, 18
Describe the impact, if any, on the safety culture.	Effectiveness, evaluation	14, 15
What about the overall of culture of health—did this change at all?	Effectiveness, evaluation	14, 15
Who in your experience benefits most from the program?	Effectiveness	22
What is the experience of the transit bus operators with the program? Does it differ between shifts, genders, ages, other groups?	Effectiveness, evaluation	22
Do the operators view the outcomes as beneficial?	Effectiveness, evaluation	22
Describe the labor/management partnership in the program. Was it important to success? How could it be enhanced?	Integration, partnership	6, 9, 10, 19
What external partners or resources did you enlist? Were they helpful? What was the impact on costs/savings?	Integration, partnership	20
What are you planning to do next with this program?	Planning	

Quantitative Data Collection Guidelines

As part of the in-depth case study, the project team will work with health promotion program coordinators and other agency personnel, such as human resources, IT, and safety departments, to collect detailed quantitative data from the agency's analysis of their program outcomes and ROI, if available. The goal is to access existing aggregate program outcome measurements compiled by the selected agencies, rather than collecting raw, individual case data. The main purpose is to identify and evaluate measures and activities currently in place in order to support the best-practice guidelines, rather than to assess the efficacy of a given program.

Depending on availability and accessibility, data to be collected may include the following as data or in prepared report form if available:

Participation

1. List the specific health promotion program events or activities you have carried out in the past year, including the number of times you did each.
2. State the number of people participating in each area of activities of your health promotion program (if not already provided in survey).
3. If possible, can you describe how the amounts are calculated—for example, estimated, sign-in sheets, reports from vendors; also, are they unique users or total number of hits or visits?

Evaluation

1. How do you define program success?
2. What specific data sources do you collect? How often do you take measurements?

3. What do you track in terms of program outcomes? And how are these measures defined (for example, absenteeism, retention, etc.)? The kinds of answers you might give to this and the following questions are illustrated in the table below.

<ul style="list-style-type: none"> ❖ Changes in behaviors for x: <ul style="list-style-type: none"> ➤ Smoking—self report in annual survey, requests for patches ➤ Exercise—gym sign-in sheets, membership sign-ups, step counters ❖ Health status (blood pressure, weight, blood sugar, etc.) for x: <ul style="list-style-type: none"> ➤ Aggregate HRA reports ➤ Screenings at depots quarterly, reports provided by vendor ➤ CDL qualifications data provided by HR ❖ Absenteeism/time lost for x: <ul style="list-style-type: none"> ➤ Overall, or for individuals participating in programs ❖ Medical disqualification for x: <ul style="list-style-type: none"> ➤ Informal listing or knowledge of CDL or employee health services decisions ➤ Annual review of disability findings ❖ Health care claim costs for x: <ul style="list-style-type: none"> ➤ Condition-specific data from health plan, annually ➤ Overall costs from broker or other pool source, quarterly ❖ Worker’s compensation claims for x: <ul style="list-style-type: none"> ➤ From insurer, by condition, with advice or required improvements ❖ Disability costs (in particular short term) for x: <ul style="list-style-type: none"> ➤ Human resources monthly reports, not separated by conditions ❖ Workplace injuries, accidents, or conditions for x: <ul style="list-style-type: none"> ➤ OSHA 300 logs, monthly, from risk management ➤ Summary annual reports by division ➤ Monthly notes from safety committee meetings reviewed by wellness team ❖ Retention <ul style="list-style-type: none"> ➤ Employee separation records by reason, e.g., health, involuntary termination ➤ Self report reasons for separation—exit interviews ➤ Analysis of retention trends by operations and HR—annually by department, length of service, and reason
--

4. How are these measures related to the original program goals you set out to achieve?
5. What data collection forms do you use?
6. Which departments and employees (job titles) are involved in the data collection process and specifically what data sets do they provide?
7. Can you describe how you use evaluation data? For example, use participant or employee survey data to adjust program scheduling for better participation, use health plan cost changes to obtain additional funding for program?
8. Can you share any reports on the program outcomes, such as annual reports, quarterly cost assessments, strategic plans? You can send those via mail or email.
9. It will help us to see any examples of the data you have so we can see how it fits in to our tools. Please provide what you think you can share, and we will discuss other options in our further talks with you.

Cost and Benefits/ROI

1. What do you track in terms of program costs (if not already provided in survey)?
 2. How are the program benefits converted into dollar savings (esp. absenteeism, productivity increase, turnover, etc.)?
 3. How much do you think the program has contributed to any observed benefits? Which particular activities have contributed in what ways?
 4. What additional considerations do you have when calculating cost vs. benefits or ROI?
 5. If you have not done cost and benefits analysis before or are looking to expand your current analysis, what type of tools or other assistance could help you achieve that?
-

APPENDIX F

Case Study Agency Snapshots

A. LACMTA Program Snapshot (F-17 Survey Results):

Fixed-Route Bus Annual Ridership	Number of Operators	Union Representation	Average Years of Service	Survey Responses
>20M	5138	United Transportation Union Locals 1563, 1564, 1565, 1607, 1608	23	UTU Trust Fund manager and management

Top 3 Health Problems:

Chronic diseases
Achieving desired physical activity, diet, and/or tobacco use status
Musculoskeletal problems (back injury, tendinitis, or other pain)

Conditions Affecting Health: None Noted

Program summary:

	Program
Activities	Health risk assessments Health screenings Counseling/coaching Support for alternative health programs Educational messages and information Educational classes and events Onsite exercise facilities or programs Subsidized off-site exercise Nutrition
Model	Traditional
Structure/Committee	This is a stand-alone program but Human Resources, Operations and Safety play a role. The program is run by a full-time Wellness Manager and supported by onsite Champions and Ambassadors. The wellness committee consists of Top Managers Line Managers Human Resources Transit bus operators Union Representatives Safety Staff Healthcare Providers

Health Promotion Focuses	Smoking/tobacco product cessation Nutrition Weight management CVD prevention Responsible alcohol use Stress management Work and family conflicts Mental health Other disease management
Related policies and programs (programs with impact to date are bolded)	Healthy food availability
Targets Achieved	Improved morale
Evaluation	Program success is tracked and measured by: Program participation rates Employee feedback Health care claims cost Employee availability
ROI	No ROI studies have been done. Estimated positive return within a 36 month period, based on: Health care claims cost Productivity

B. Dallas Program Snapshot (F-17 Survey Results)

Fixed-Route Bus Annual Ridership	Number of Operators	Union Representation	Average Years of Service	Survey Responses
>20M	1641	ATU Local 1338	11	Management and Union

Top 3 Health Problems:

Management Response	Union Response
Chronic diseases	Chronic diseases
Achieving desired physical activity, diet, and/or tobacco use	Achieving desired physical activity, diet, and/or tobacco use
Work environment (accidents, work-related injuries or illnesses, assaults)	Musculoskeletal problems (back injury, tendinitis, or other pain)

Conditions Affecting Health:

Management Response:	Union Response:
Route schedules (Some)	Route schedules (A lot)
Contact with riding public (Some)	Contact with riding public (Some)
Hours of work (Some)	Hours of work (Some)

Access to food (A lot)	Access to food (A lot)
Bathroom access (A lot)	Occupational safety or health (Some)
Occupational safety or health (Some)	Labor/management interaction (A lot)
Labor/management interaction (Some)	

Program Summary:

	Company Program
Status	Current
Length	7 years
Activities (italicized if part of other program)	Health risk assessments Health screenings <i>Counseling/coaching</i> Support for alternative health (for example yoga, massage) Educational messages and information Educational classes and events Policies that support a healthy environment (such as restricted tobacco product use at events work or alcohol use at events) Onsite exercise facilities or programs Nutrition (healthy choices/availability) <i>Occupational health and safety</i> <i>Workforce development</i>
Model	Integrated
Structure/Committee	Human Resources are responsible for their health and wellness program. They have a worksite wellness committee that includes: Top managers Line managers Human resources Transit bus operators Union representatives Safety staff All levels of staff and job divisions
Health Promotion Focuses	Smoking/tobacco product use cessation Nutrition Weight management CVD prevention Infectious disease control Fatigue Mental health Medical self-care and medication management Other disease management
Related Policies and Programs (programs with impact to date are bolded; they are italicized if they are union responses only)	Policies to help balance work life and family policies (family leave, phone calls) <i>Return to work accommodations</i> Other workplace health, wellness, and safety programs <i>Assault or customer conflict prevention program</i> <i>Incident/near-miss reporting system</i>
Targets Achieved	Reduced workers comp costs Improved health measures Improved morale

Evaluation	Program success is tracked and measured by: Program participation rates Employee feedback Behavior change Health status Health care claims cost Workers' compensation claims cost Time lost/absenteeism Disability Cause of death conditions.
ROI	They do not calculate ROI.

C. Edmonton Program Snapshot (F-17 Survey Results)

Fixed-route bus annual ridership	Number of operators	Union representation	Average years of service	Survey responses
>20M	1536	76-100 percent	13	Management and Union

Top 3 Health Problems:

Chronic diseases
Wellness
Musculoskeletal problems

Conditions Affecting Health:

Route schedules (Some)
Contact with riding public (Some)
Hours of work (Some)
Access to food (Some)
Bathroom access (Some)
Occupational safety and health conditions (Some)
Labor/management interaction (Some)

Program Summary:

	Company Program
Status	Current
Length	15 years
Activities (italicized if part of other program)	Health risk assessments Health screenings Counseling/coaching Support for alternative health (for example yoga, massage) Educational messages and information Educational classes and events Subsidized off-site access Nutrition (healthy choices/availability) Occupational health and safety
Model	Integrated

Structure/Committee	Human Resources and Operations are responsible for the health and wellness program. They have a worksite wellness committee including: Line managers Human resources Transit bus operators Union representatives Wellness consultant
Health Promotion Focuses	Nutrition Weight management Stress management Threat assessment and management/violence prevention Mental health
Related Policies and Programs (programs with impact to date are bolded)	Assault or customer conflict prevention program Return to work accommodations Incident/near-miss reporting system Workplace health and safety inspections Other workplace health, wellness, and safety programs
Targets Achieved	Lowered work-related injury or illness rates Safer work environment Improved health measures
Evaluation	Program success is tracked and measured by: Program participation rates Employee feedback Behavior change Workers' compensation claims cost Time lost/absenteeism Disability
ROI	No ROI studies have been done. Agency would expect a \$2 return for every \$1 invested within a 18-23 month time period, based on: Workers' compensation claims cost Time lost/absenteeism Disability

D. OCTA Agency Snapshot (F-17 Survey Results)

Fixed-route bus annual ridership	Number of operators	Union representation	Average years of service	Survey responses
> 20 million	958	76-100 percent	13 years of service	Management and Union

Top 3 Health Problems:

Management Response	Union Response
Chronic diseases (hypertension, diabetes, CVD, lung disease, reflux and intestinal symptoms)	None listed
Wellness (such as stress and fatigue)	
Musculoskeletal problems (back injury, tendinitis, other pain)	

Conditions Affecting Health:

Management Response	Union Response
Route schedules (Some)	Route schedules (A lot)
Contact with riding public (Some)	Contact with riding public (Some)
Occupational safety or health conditions (Some)	Hours of work (Some)
Bus and/or Operation station design	Access to food (Some)
Ergonomics	Bathroom access (A lot)
Wheelchair handling	Occupational safety or health conditions (Some)
	Labor/management interaction (Some)

Program Summary:

	Company Program
Status	Current
Length	21 years
Activities (italicized if part of other program, bolded and italicized if part of workplace program and other program)	<i>Health risk assessments</i> Health screenings (high blood pressure/blood sugar/neck circumference/lipids/weight) Counseling/coaching Support for alternative health (for example yoga, massage) Educational messages and information Educational classes and events Policies that support a health environment (such as restricted tobacco product use at work or alcohol use at events) Onsite exercise facilities or programs Nutrition (health choices/availability) Occupational health and safety <i>Workforce development (such as continuing education)</i> Annual Health Fairs for each location 3 incentive contests addressing healthy eating, exercise and/or stress management 2 physical activity events open to family and friends; Intramural sport activities; Incentive program for employees to receive points for participation in physical activity
Model	Integrated
Structure/ Committee	Safety is responsible for the health and wellness program. They have a worksite wellness committee composed of: Transit bus operators Safety staff Administration and Maintenance representatives
Health Promotion Focuses	Smoking/tobacco product cessation Nutrition Weight management CVD prevention Work and family conflicts Infectious disease control Ergonomic (adjustments, equipment, devices, body mechanics) Other disease management (for example high blood pressure)

Related Policies and Programs (programs with impact to date are bolded)	Assault or customer conflict prevention program Policies to prevent or reduce stress at work (scheduling, customer encounters, restroom access) Policies to help balance work life and family policies (family leave, phone calls) Return to work accommodations Incident/near-miss reporting system Bathroom access policy Healthy food availability Workplace health and safety inspections Other workplace health, wellness, and safety programs Smoke-free Workplace Policy (impact not measured) Communicable Disease Policy (impact not measured) Workplace Violence Policy (impact not measured)
Targets Achieved so far	Reduced health care costs
Evaluation	Program success is tracked and measured by: Program participation rates Employee feedback
ROI	No ROI studies have been done. Agency would expect an ROI within less than 12 months.

E. Capital Metro Program Snapshot (F-17 Survey Results)

Fixed-route bus annual ridership	Number of operators	Union representation	Average years of service	Survey responses
> 4M and < 20M	668	26-50 percent ATU Local 1091	11 years of service	Management

Top 3 Health Problems:

Management Response
Chronic diseases
Achieving desired physical activity, diet, and/or tobacco use status
Musculoskeletal problems

Conditions Affecting Health:

Management Response
Access to food (Some)
Other: Tobacco free policies have positive impact on reducing tobacco use and related health issues

Program Summary:

	Company Program
Status	Current
Length	9 Years

Activities (italicized if part of other program)	<p><i>Health risk assessments</i></p> <p>Health screenings (high blood pressure/blood sugar/neck circumference/lipids/weight)</p> <p>Counseling/coaching</p> <p>Support for alternative health (for example yoga, massage)</p> <p>Educational messages and information</p> <p>Educational classes and event</p> <p>Onsite exercise facilities or programs</p> <p>Nutrition (healthy choices/availability)</p> <p>Organizational changes (such as route scheduling, flexibility to reduce work-home-family conflicts)</p> <p><i>Occupational health and safety</i></p> <p><i>Workforce development (such as continuing education)</i></p> <p>Other: Disease management, free tobacco cessation, onsite weight loss program, free tobacco cessation meds, nurse helpline, free personal trainer, onsite nutritionist.</p>
Model	Health and Productivity
Structure/ Committee	<p>Human Resources and Risk Management are responsible for the health and wellness program. They have a worksite wellness committee involving:</p> <p>Line managers</p> <p>Human Resources</p> <p>Transit bus operators</p> <p>Union representatives</p> <p>Admin staff</p> <p>Mechanics</p>
Health Promotion Focuses	<p>Smoking/tobacco product cessation</p> <p>Nutrition</p> <p>Weight management</p> <p>CVD prevention</p> <p>Responsible alcohol use</p> <p>Stress management</p> <p>Infectious disease control</p> <p>Mental health</p> <p>Ergonomics (adjustments, equipment, devices, body mechanics)</p> <p>Other disease management (for example, high blood pressure, sleep apnea)</p>
Related Policies and Programs (programs with impact to date are bolded)	<p>Return to work accommodations</p> <p>Incident/near-miss reporting system</p> <p>Health food availability</p> <p>Workplace health and safety inspections</p> <p>Other workplace health, wellness, and safety inspections</p> <p>Tobacco free policies to reduce second hand exposure</p> <p>Improved access to healthier food that are subsidized by the Authority</p> <p>Bike loan programs</p>
Targets Achieved so far	<p>Lowered work-related injury or illness rates</p> <p>Improved availability/lessened absenteeism</p>
ROI	<p>Calculated ROI: \$2.43</p> <p>Agency expects a return in 36 months or more, based on health care claims costs and time lost/absenteeism</p>

APPENDIX G

Transit Agency Materials and Reports

UTU-LACMTA Presentation: Starting A Wellness Program: Best Practices
London Transit Transportation Services Guide
London Transit Wellness Committee Tracking Form
OCTA Ergonomic Checklist for Coach Operators



Starting A Wellness Program: Best Practices

**United Transportation Union -
Los Angeles County Metropolitan
Transportation Authority**

Summary of Best Practices

- **Strategic Planning**
 - Identify health conditions and risk factors driving costs, employee interests, and needs.
 - Establish measurable goals and objectives with deadlines.
 - Align plan and benefit design to help achieve goals.
- **Engagement of Labor, Management, Employee Leadership, and Health Plans**
 - Executive and Middle Levels.
 - Each Union Local and all Employer/Management Departments.
 - Employee level/Wellness Champions to represent all work shifts.
 - Wellness Committee leadership and program coordination.

Summary of Best Practices cont.

- **Determination of Programming**
 - Worksite: biometric screenings, learning centers, seminars/workshops.
 - Worksite challenges and contests.
 - Health Plan disease management, disease prevention, EAP, Wellness Programs.
 - Targeted health issues and programs.
 - Calendar of events, activities, Wellness Ambassador training, etc.
- **Engagement Methods**
 - Communication channels (Union, Employer, Health Plans)
 - Incentives, reward, kick-off event, challenges, contests.
 - Theme, key messages.
 - Mail, posters, payroll stuffers, email, Wellness Ambassadors/word of mouth, newsletters, social media, testimonials, etc.
- **Evaluation**
 - Participation, healthcare utilization, cost, risk factors, changes in lifestyle and behavior, employee testimonials, and satisfaction surveys.
 - Measure and results to all stakeholders (union, management, and members).

Establish A Committee

- Possible candidates include: Union officials, key management leaders, healthcare providers, and local educational organizations (AHA, ADA, ACS)
- This allows delegation of responsibilities and duties for the program.
- Establish a regular meeting schedule and meeting place.
- Record minutes at each meeting.

Strategic Plan

- Identify the direction in which the committee would like to steer your wellness program over the next 3-5 years.
- It is necessary to understand your committee’s current position and the course of action you wish to take to achieve the overall long term goal, set by the committee.
- Be sure to address key points when formulating your strategic plan:
 - Long Term goal (over the next 3-5 years)
 - Short Term annual goals
 - Target group
 - Task setting
 - Measures

Annual Plan

- This is your “road map” that helps you achieve your strategic plan.
- Detailed outline of the timeline/action items that will take place throughout the year.
- Should be designed to complement your short term goals indicated in the strategic plan.

Budget

- Record all of your sources of revenue.
- Identify your goals and the programs/events you intend to implement for the year.
- Create a list of monthly/annual expenses based on your programs/events.
- Total your monthly expenses and compare them to your revenue.
- Make adjustments as needed, throughout the year to ensure your budget does not negative spend.
- Allocate a surplus/reserve for any unexpected expenses/events.

Branding

- Branding commands a presence, expresses your program’s vision, and provides an experience for your participants.
- Wellness Program Logo
- Annual T-Shirt Logos



Ambassadors/Champions

- Select people that are supportive of your wellness program.
- Ambassadors should be peers of your target group.
- Utilize middle management to support your Champions, especially since they also work closely with your target group.
- Include alternate representatives to your support team, so your program can remain fluid, consistent, and can cover all work shifts.
- Include both Union and Management Champions who will support each other and promote the program.
- Empower your support team with proper training, resources, and incentives, so they can represent your program to the fullest.

Lessons Learned, What Works Well

- Following a standard way of doing things helps to maintain a consistency throughout your program.
- Regularly scheduled meetings/training for Ambassadors, Champions, and committee.
- Consistently scheduled programming throughout the year.
- Prompt “Rewards and Recognition” for both participants and Ambassadors/Champions/Committee.
- Utilize “**templates**” to standardize the process of documentation.
 - Participation tracking/daily sign-in forms.
 - Interest Surveys and bi-annual “How Are We Doing?” surveys.
 - Facts sheet/guidelines for exercise and nutrition.
 - Success story guidelines with examples.
 - Data recording and reporting.

Health Fairs

- Identify your goals and theme for your health fair
- What services will you provide? (health screenings, health coaches, educational tools, etc.)
- Will you incentivize participation?
- Advertisement/Promotion is **KEY** for achieving participation goals.
- What outcomes can be extracted from this event?
- Be certain that you gain “buy-in”, from your location’s management department, for your event.

Seminars

- Collaborate with the experts, such as the American Heart Association, American Diabetes Association, or your benefits healthcare providers, to help you coordinate educational seminars at your site(s).
- Advertisement/Promotion is **KEY** for achieving participation goals.
- Use your program data (interest surveys, health fair results, strategic plan, and annual plan) to determine what the topic for discussion should be.
- Survey the participants, as a measure to determine how effective and valuable the seminar was.

Measurement Tools

- To best determine the effectiveness of your program, it is essential to gather both “soft data” and “hard data”.
- Soft data:
 - Participant Surveys for the overall program
 - Program numbers for various events
 - Health Fair screening results
 - Educational Seminar surveys

Measurement Tools cont.

- Hard Data :
 - Establish baseline data and measure changes in health care utilization, costs, employee health risk factors, and annual premium rates over time.
 - Healthcare provider reports and upward/favorable trends for your population.
 - Decrease in workers compensation claims or industrial injuries.
 - Decline in employee’s leave of absence.

Key Take-Away’s

- Identify Key people that respect and value your wellness program.
- Identify your goals for the program and create a strategic plan that will compliment your goals.
- Create an annual plan and budget that is harmonious with one another.
- Formulate “Best Practices” as a means to establishing continuity in your program.
- Pinpoint what measurements will be used when comparing your program’s results to the goals set in your Strategic Plan.

Addendum

Strategic Plan

Strategic Plan

April 2012- March 31, 2013
Wellness and Health Insurance Cost Containment Strategy (WCCS)
Key Strategies for 2012-2013

Long Term Goals:

- Improve UTU-TCU-ASCME-MTA member health
- Establish and grow a strong "health culture" within the UTU-TCU-ASCME-MTA organizations.
- Limit health plan annual premium rate increases to less than the Southern California healthcare trend.

Short Term:

- 15% participation in worksite fitness programs/contests (Metro Fit Club, walking, gym utilization, etc.)
- 15% participation in annual Health Fairs at all locations. Health Fairs to include education, screening, wellness coaching, and referral to year-round wellness programs (web-based programs, exercise, weight loss, and seminars).
- 15% participation in various seminars (stress management, vendor sponsored events).

2012-2013 Objectives

- Evaluate the targeted disease management wellness programs. **
- Maintain a retention rate of at least 6% of current members in existing programs for 2012, 7 % in 2013, and 8 % in 2014.
- Develop a formal plan for the expansion and continuity of the UTU-MTA Wellness program. **
- Maintain an annual volunteer performance review, reward, and recognition program. **
- Offer outside trainings and certifications for Wellness Ambassadors. **
- Increase program options and availability for members, by establishing a new program/event each year as a means to continually "plus" the Wellness program's participation totals. **
- Identify methods to track and report results linking those results to changes in employee's health status, healthcare utilization and costs. **
- Conduct a bi-annual member satisfaction survey and implement action plans based on the survey results. **
- Establish a collaboration on a local level (local stores, government, parks and recreation, schools, etc.), through formal agreements and commitments, to further strengthen the program. **
- Develop a community action plan that illustrates the MTA-UTU's commitment to a "Healthy Lifestyle" (i.e.-healthy eating meals/nutritional data reporting, adopting a bike trail, establishing a 5k run/walk, fitness challenge association-wide, etc.). **
- Develop a joint labor-management work plan that establishes program objectives and services, stakeholder roles and an implementation timeline that results in all LAMTA employees and their dependents actively participating in a companywide wellness and cost containment program on a year-round basis (including exempt employees and UTU, TCU, AFSCME, and eventually ATU and TEAMSTERS).
- ****will be continuous throughout 2012-2014**

Strategic Plan Continued

Key Strategies for April 2013-March 2014

Long Term Goal:

- Improve UTU-MTA member health
- Establish and grow a strong "health culture" within the MTA and UTU organizations
- Limit health plan annual premium rate increases to less than the Southern California healthcare trend.

Short Term Goal:

- 6% completion rate in each carrier's web-based programs (HRA, nutrition, exercise, smoking cessation, weight management, stress management) through a pilot program (March – August 2013) at Division 10.
- 18% participation in worksite fitness programs/contests (Metro Fit Club, walking, gym utilization, etc.)
- 18% participation in annual Health Fairs at all locations. Health Fairs to include education, screening, wellness coaching, and referral to year-round wellness programs (web-based programs, exercise, weight loss, and seminars).
- 18% participation in various seminars (stress management, vendor sponsored events).

2013-2014 Objectives

- Encourage and support a healthy lifestyle for all of the member's nuclear family, by including families in recreational events, which strengthens familial ties, especially when seeking out to change behavioral lifestyle modifications. This is what makes the UTU-MTA Wellness program unique and stand out above other wellness programs.
- Expand, improve, and alter the facility resources of all sites, as needed, to meet service objectives.
- Utilize "Moves Management" to move perspective/infrequent participants to regular participants, to "co-owners" of the program.
- Improve overall internal communication by improving the utilization of the UTU website, linking the UTU website with the MTA website, adding carrier links to both websites whenever possible, implementing a newsletter.

Strategic Plan Continued

Key Strategies for April 2014-March 2015

Long Term Goal:

- Improve UTU-MTA member health
- Establish and grow a strong "health culture" within the MTA and UTU organizations
- Limit health plan annual premium rate increases to less than the Southern California healthcare trend.

Short Term Goal:

- 7% completion rate in each carrier's web-based programs (HRA, nutrition, exercise, smoking cessation, weight management, stress management) at all divisions.
- 21% participation in worksite fitness programs/contests (Metro Fit Club, walking, gym utilization, etc.)
- 21% participation in annual Health Fairs at all locations. Health Fairs to include education, screening, wellness coaching, and referral to year-round wellness programs (web-based programs, exercise, weight loss, and seminars).
- 21% participation in various seminars (stress management, vendor sponsored events).

2014-15 Objectives

- Create a Wellness Council within the Wellness Ambassadors to promote ownership within its' own membership.
- Develop an action plan that highlights the UTU-MTA's commitment to a Wellness Program by highlighting the program in the community (i.e.-public forums, trainings, conferences, expos, etc.).
- Develop a capital campaign that will raise funds for the development and improvements of the gym conditions of all the divisions.
- Develop an action plan that looks at and focuses on grant/charitable programs.

Example of an Annual Plan

	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Objective:												
Programming:												
Activity:												
Event:												
Forum:												
Panel:												
Webinar:												
Workshop:												
Guest:												
Workshop:												
Event:												
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Interest Survey cont.

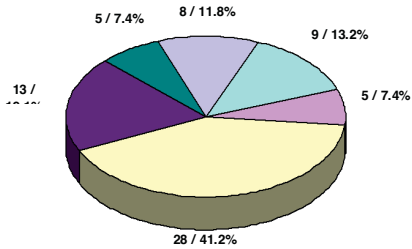
Indicate which of the below activities you would like offered within the next 12 months (choose top 6) and indicate what time of day you would like the activities/classes/screenings offered:

Activities	Check Box	7a-9a	10a-12p	1p-3p	4p-6p	7p-9p
Back Care and Health						
CPR/First Aid Training						
Cancer Education						
Cardiovascular Health						
Cholesterol/Blood Pressure Screening						
Diabetes Education						
Emotional Wellness						
Health/Fitness Education						
Nutrition/Healthy Cooking						
Physical Education Classes						
Smoking Cessation						
Stress Management						
Substance Abuse Awareness						
Time Management						
Weight Management						
Relaxation Programs (meditation/yoga)						
Other _____						

MTA-Division

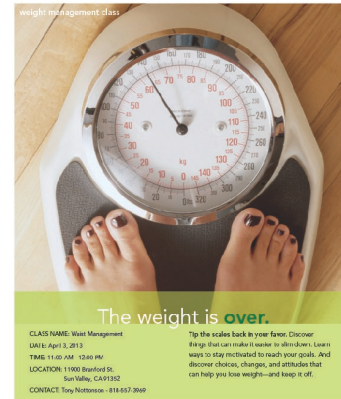
3/28/2012

	Percentage	Tested
Optimal <120 Systolic < 80 Diastolic	11.8	8
Prehypertension Between 120-129 Systolic 80-89 Diastolic	13.2	9
Prehypertension Between 130-139 Systolic 85-89 Diastolic	7.4	5
Hypertension		
Stage 1 Between 140-159 Systolic 90-99 Diastolic	41.2	28
Stage 2 Between 160-179 Systolic 100-109 Diastolic	19.1	13
Stage 3 Greater than or equal to 180 Systolic 110 Diastolic	7.4	5
Total Tested:		68



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-
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-

Getting Started-Seminars



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MTA-Trust Fund

healthworks
by MTA PERFORMANCE

Getting Started-Seminars

Class Evaluation

Congratulations on taking an active part in your health! Please complete this short evaluation. Your answers will help us improve our future classes.

1. Check the box to rate the class.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
The class helped me to find my own reasons to make behavior changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am confident that I can make a behavior change addressing the class topic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The class increased my understanding of the topic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The overall class experience was valuable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Check the box to rate the instructor.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
The instructor presented the topic in an engaging way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The instructor worked well with the group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What did you find most valuable about the class?

4. What could be changed to improve this class?

5. Any other comments or suggestions?

Please leave this evaluation in the classroom at the end of the class.

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Data Report

Division	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Total Pop	620	575	574	592	80	690	521	679	655	209	688	624	344	129	105	2000
Actual	103	213	146	139	74	73	110	160	224	104	100	124	75	58	37	289
%	16%	37%	25%	23%	86%	10%	22%	23%	34%	49%	15%	15%	23%	44%	35%	14%

Programs	Tour De Sewer	Reunion Run/Walk	DETARUNTA 10k Walk	ADA Walk
	13	27	50	72

Programs	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div	Div
5week	2	12	15	3	3	4	11	8	12	4	9	8	2	10	4	0
1k Challenge	3	4	3	1	1	1	1	1	7	2	1	1	1	1	3	

Health Fairs	Total Population	Registration #'s	% Attendance	Completed Screenings	% Screening Completion	Union A	Union B	Union C	Union D	Union E
A	424	88	21%	72	80%	3	4	8	7	7
B	63	29	46%	24	53%	3	3	11	2	
C	1500	228	15%	98	44%	21	7	5	73	
D	512	80	15%	58	78%	3	1	3	0	
E	82	62	75%	41	66%	3	2	19	8	

Division	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Fitness	63	137	51	88	53	57	98	141	70	80	92	87	63	40	34	0
Wellness	74	119	121	97	38	72	141	54	184	78	57	68	25	25	20	289

Kaiser Permanente Health Report

Measure	Description	Kaiser Permanente So. CA Regional Average (2011 Q4)	Your results (2009 Q4)	Your results (2011 Q4)	Percent of eligible members screened
Cholesterol levels	% of members with cholesterol levels > 200	36.9%	37.1%	33.7%	67.0%
Blood pressure levels	% of members with blood pressure >= 140/90	10.6%	16.3%	15.1%	77.3%
Smoking rates	% of members who smoke	11.6%	14.3%	14.1%	92.3%
Overweight or obese-adults	% of adult members with BMI > 25	71.7%	86.6%	84.2%	75.4%
Overweight or obese-children	% of child members with BMI > 25	36.7%	43.7%	44.6%	62.9%

Kaiser Permanente Periodic Utilization Report

Inpatient Days / 1000 *			
Service Category	Jan10 - Dec10	Change	Jan11 - Dec11
Medical	124.0	(5.4)%	117.3
Surgical	74.1	(5.0)%	70.4
Maternity	23.3	(6.0)%	21.9
Mental Health	37.2	(20.7)%	29.5
Substance Abuse	1.4	314.3%	5.8
SNF	11.8	170.3%	31.9
Total Inpatient Days/1000	271.9	1.8%	276.7

Inpatient Admits / 1000 *			
Service Category	Jan10 - Dec10	Change	Jan11 - Dec11
Medical	35.9	(19.2)%	29.0
Surgical	19.8	(6.0)%	19.0
Maternity	8.7	4.6%	9.1
Mental Health	5.4	(16.7)%	4.5
Substance Abuse	0.7	57.1%	1.1
SNF	0.6	66.7%	1.0
Total Inpatient Admits / 1000	71.2	(10.5)%	63.7

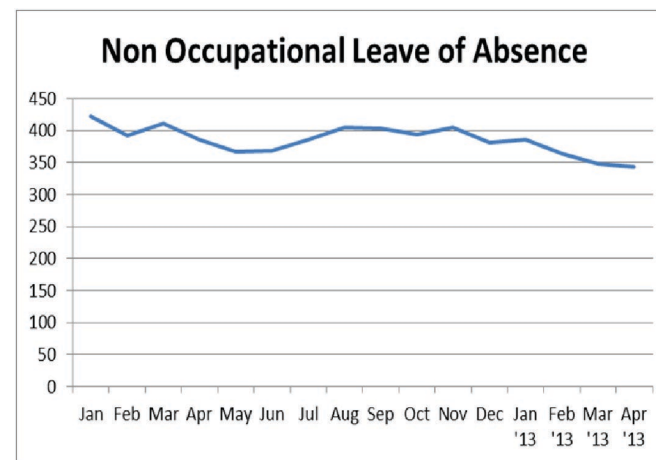
Outpatient Visits / 1000 *			
Service Category	Jan10 - Dec10	Change	Jan11 - Dec11
Outpatient Visits	3,622.8	(5.6)%	3,419.5
Emergency Room	211.6	8.6%	229.7
Surgical / Procedures	72.9	5.6%	77.0
Lab	3,856.9	0.5%	3,876.2
Radiology	812.0	(1.5)%	783.6
Total Outpatient Visits / 1000	8,576.4	(2.2)%	8,386.0

Pharmacy Scripts PMPY *			
Service Category	Jan10 - Dec10	Change	Jan11 - Dec11
Brand / Formulary	0.5	0.0%	0.5
Brand / Non-Formulary	0.1	0.0%	0.1
Generic / Formulary	4.7	(4.3)%	4.5
Generic / Non-Formulary	0.1	0.0%	0.1
Total Pharmacy Scripts PMPY	5.5	(5.5)%	5.2

* Includes actives and 70% pre 65 Retirees Only.

UTU-MTA Trust Fund Rate Increase History 2009-2013

- Over the 5-year period 2009 – 2013, the UTU-MTA Trust Fund's annual rate increase for Kaiser has averaged 7.0%, compared to Kaiser's overall Southern California average of 7.4%.
- The Trust Fund's January 1, 2013 rate increase is 3.8%, compared to Kaiser's overall average of 6.0%





INTRODUCTION:

London Transit has the responsibility to provide its passengers with an efficient, safe, convenient and attractive Transit system. As an employee, you share these responsibilities and therefore have an obligation to yourself, the public you serve and to London Transit to provide the best possible service to our customers. In order to help each employee in achieving these goals, the following Guidelines have been prepared so that operators may know what is expected of them and help to ensure that London Transit operates in a reliable, efficient, consistent, effective and safe manner.



This manual of safe operating guidelines for drivers provides a framework to guide our day-to-day activities. No document can possibly describe rules, regulations, or procedures to cover every eventuality. However, it can provide a solid foundation and reference for the way we do business. At London Transit the following guiding principles should serve as a checklist to help us continuously improve. They also are an indicator of the spirit and intent in which these operating guidelines were developed.

1. SAFETY FIRST;
2. TREAT PEOPLE WITH DIGNITY AND RESPECT;
3. EXCEL IN CUSTOMER SERVICE;
4. WE WORK AS A TEAM.

We have an absolute commitment to the safety of our employees and customers. Every reasonable effort must be made to ensure that employees, customers and the public are not placed needlessly at risk.

No matter what the circumstances, everyone deserves to be treated with dignity and respect. Our constant interaction with others can, at times, test our patience, understanding and people skills. Remember that almost every situation can be diffused and resolved if you remain calm, clear-thinking and open-minded.

Our performance is measured by the extras that we do. Greet customers, give directions and provide assistance. Always put your best foot forward.

*As **Professionals**, we are all committed to providing the best public transit service to our customers and the people of London.*



FIRE ON THE BUS:

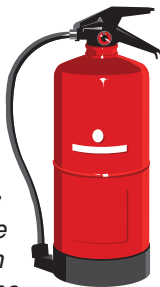
THE SAFETY OF THE OPERATOR AND CUSTOMERS IS THE FIRST CONSIDERATION WHEN A FIRE OCCURS.

Open all doors to permit everyone to alight and lead people to a safe location away from the vehicle and any other hazards (traffic, etc.)

Attempt to extinguish the fire with the extinguisher, **IF IT IS SAFE TO DO SO. Never ever turn your back on a fire or place yourself in a dangerous position.**

Notify dispatch by radio or by telephone giving the exact location of the bus..

Note: It is the responsibility of every Operator to know the location of the Fire Extinguisher on all models of buses operated by London Transit. The location is labelled.



All **Natural Gas buses** are equipped with an automatic engine compartment fire suppression system that can be manually activated by the Operator. The manual activation control is located in the driver's compartment area. It is the responsibility of every Operator to be familiar with the fire suppression system and use of the manual control.

Operators must also be familiar with the manual (emergency) operation of all doors, ramps on low floor buses and opening of windows for emergency escape.

If your extinguisher has been used for a fire, report this to dispatch and leave the expended extinguisher on the floor of the bus near the fare box so that the extinguisher is replaced before the vehicle goes out again. Ensure that you report this fact when you return the bus to the garage.

EMERGENCY EVACUATION:

In any emergency situation, it is the responsibility of the Operator to give every possible assistance to every customer. Therefore, the Operator must conduct himself/herself in a calm and controlled manner.

The following events will involve the emergency evacuation of a vehicle:

- (a) bus on fire;
- (b) serious accident;
- (c) odour of natural gas (on natural gas vehicles);
- (d) bus stalled in a dangerous position (on railway tracks, the crest of a hill, sharp bend etc.)
- (e) any unusual situation where evacuating the bus would be advisable.

Evacuation Procedure:

1. Open both the front and rear doors. Request in a clear voice, that all customers leave the bus and stand well clear. If necessary, use emergency procedure to open the doors.
2. **On low floor buses**, Operators will be required to deploy the ramp if a person using a wheelchair/scooter is onboard or enlist the aid of other passengers to assist in removing the disabled person.
3. If the door(s) will not open advise customers that the side windows can be pushed out at the bottom of the frame. If the bus is equipped with a roof hatch, it can also be pushed out.
4. **After all passengers have been evacuated and led to a safe location, the Operator must move the bus to a safe location. PROVIDED IT IS SAFE TO DO SO. If the doors will not close and the interlock brakes are activated, place the door master switch in the "OFF" position. This will permit the bus to be moved.**

PERSONAL SAFETY:

Bus Seats:



It is important that seats are adjusted using proper procedures and employing ergonomic principles. Properly adjusted seats offer a safe and comfortable ride. London Transit uses two distinct seats for their vehicles and adjustment procedures are available for both the Recaro and Ergo Metro seats. Please insure that the seats are adjusted each and every time.

Adjustment procedures are provided later in this guide. Please refer to the appropriate diagrams.

Wearing of Seat Belts:

Operators of buses are not exempt from wearing seat belts. **THEY MUST BE WORN BECAUSE IT IS THE LAW! (Highway Traffic Act Section 106)**

Steering:

At all times it should be palms down, fingers wrapped around the steering wheel, thumbs on top, unless in a full turn. Operators must not rest hands or elbows on the spokes or the center portion of the steering wheel or drive with one hand on the farebox. All turns must be completed employing over hand or push-pull techniques.

Garage Floors:

Walk careful and **DO NOT RUN** in the garages – watch for moving buses and water or oil on the floor. Report any spills or unsafe conditions to a supervisor immediately.

Slip and Falls Hazards:



Slips and falls are still a common – and serious source of workplace injury. Awareness of the hazards, and keeping to good practices, can help to minimise the slip and fall hazards that you could face.

On entering/leaving the bus, walk don't run and make use of the handrails. Do not carry items that will obstruct your view and be aware of all objects that could cause a needless injury.

A slip or a fall is unlikely if you are in your usual work environment and everything is in its place. Make a change in that workplace, and you invite a fall. For example, unexpected litter, improperly stored materials, or oily or wet patches on the stairs or walking surface floor are sure to invite a fall. Be on the lookout for debris, oil, water, or other hazards. Get them cleaned up before an accident does happen.

Walk where you're supposed to walk. Watch where you're going; don't be distracted by conversations. Walking around in the dark or in an area with poor lighting is asking for a fall.

Wear appropriate footwear – shoes with non-skid soles and rubber heels that are in good condition.

Winter Hazards:

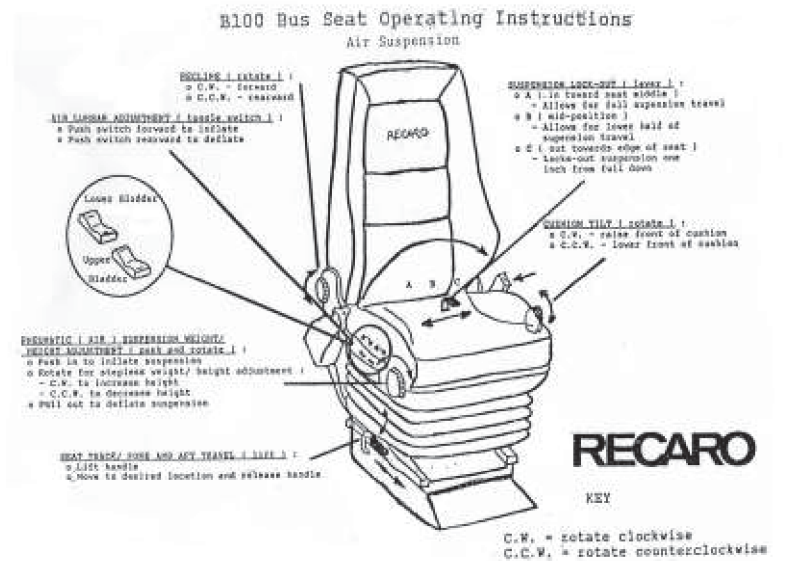
We must keep in mind that falls occur more frequently during the winter months due to the adverse weather conditions. When exposed to these conditions, remember to be extra cautious, be sure of footing and wear proper footwear.

Universal Precautions:

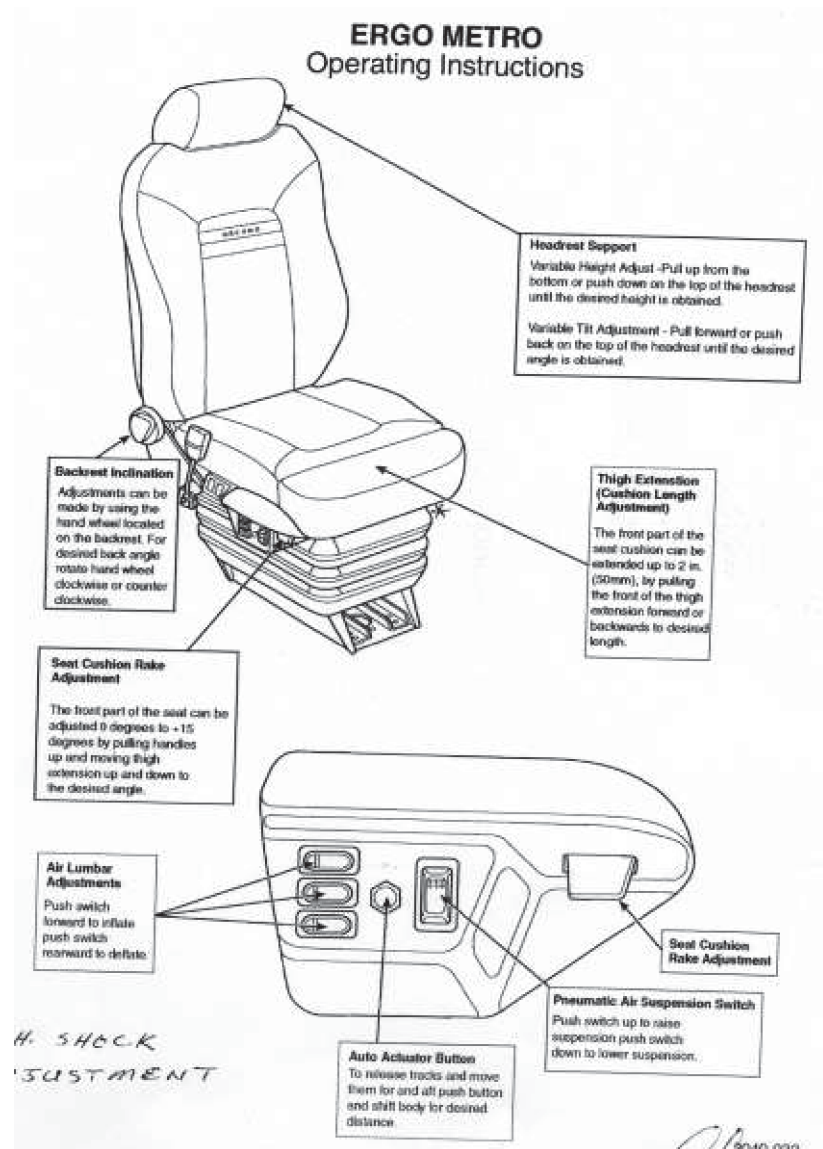
Blood, certain body fluids and sharp objects are considered to be potentially infectious and handling them must be avoided whenever possible. If exposed, avoid hand to mouth/eye contact and wash hands as soon as possible. Although most secretions such as sweat, tears, urine, feces and vomit are not infectious (unless visible blood is present) operators are instructed to avoid contact with them.

If a customer vomits on the bus or has an “accident” resulting in urine or feces on the floor or seats of the bus, keep others away from the infected area and cover the waste with paper towels. Notify dispatch immediately for further instructions and a bus change off.

ADJUST PROCEDURES FOR RECARO SEATS:



ADJUSTMENT PROCEDURES FOR ERGO METRO SEATS:



DEFENSIVE DRIVING:

What is a defensive driver?

A defensive driver is one who allows for the lack of skill and knowledge on the part of the other driver, who recognizes that he/she has no control over the unpredictable actions of other drivers and pedestrians or control over conditions of weather and road and who therefore, develops a defence against all these hazards. He/she concedes the right-of-way and makes other concessions to avoid a collision. He/she is careful to commit no driving error him/herself and is defensively alert to avoid traps and hazards created by weather, roads, pedestrians and other drivers.



DEFENSIVE DRIVING TECHNIQUES:

Cushion of Safety in Front of Vehicle:

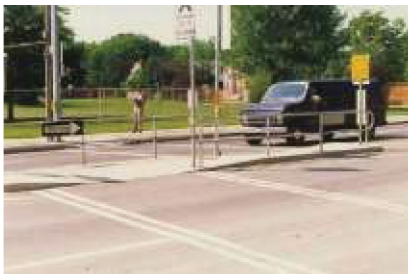
The front of the vehicle is a critical area for an operator to manage:

- Operators need to scan long distances in front of the vehicle, maintain a proper following distance, and stay out of other driver's **BLIND** spots.
- Allow adequate stopping distance between you and the vehicle you are following! Adequate stopping distance will depend on the type of vehicle, road and weather conditions.



Dealing with intersections:

Intersections present a significant risk to drivers. A substantial number of multi-vehicle accidents occur at intersections and therefore special attention must be paid. Here are some suggestions and tips:



- Stop far enough back that you can see the rear tires of the vehicle in front of you.
- Keep wheels straight when stopped to turn left.
- Keep out of crosswalk zones.
- Cover brake when approaching a green light.
- Do not leave enough room on right for another vehicle to squeeze by.

Operation Sit Fit

Introduction

In spring 2004, London Transit Commission worked with The Spine & Joint Physiotherapy Centre to deliver a training program, Operation Sit Fit for all drivers. The goal of Operation Sit Fit is to ensure all drivers are trained on proper posture at work to assist in decreased injuries and a better quality of work life.

The job of a bus driver is repetitious and at times requires awkward body positions. Daily exercises are important to maintain flexibility and core strength. Understanding your body, exercising to maintain strength and flexibility as well as proper posture at work is the key.

Use your body to your advantage to create strong supporting muscles and flexible joints. These are important for a healthy spine. Be conscious about:

- Choosing body positions that ensure less strain on joints and muscles.
- Minimizing muscle contraction.
- Minimizing tension on capsule and ligament.
- Providing maximum strength by using muscles at optimal length.
- Working in the 'neutral' zone (a comfortable, easy zone that does not put strain on joints and tissues).

Tips to Remember When Completing the Daily Tasks of Bus Driving

Outlined on the next few pages we have outlined some of the main functions in a driver's day, visual cues to make you more aware of your posture, and some suggestions on how to improve your posture and use your body to its best advantage.

Sitting and Adjusting the Seat

- Ensure the seat height, depth back support and vertical tilt are adjusted to your body type.
- Ensure lumbar support is adjusted.

- *During the day, re-adjust the chair to change pressure points and alter muscle use.*
- *Use core muscles while sitting and driving to protect your low back.*
- *At the terminal point, stand-up and stretch. (See exercises Reversal Lumbar Extension).*

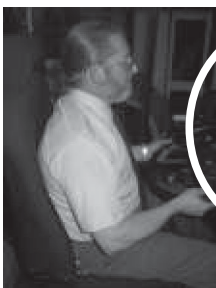
SEAT ADJUSTMENT	
CORRECT	INCORRECT



Driving in Bad Road Conditions

- *Ensure seat is adjusted properly if moving forward in the chair.*
- *Take extra stretch breaks (especially the neck).*
- *Avoid over gripping the wheel which will cause static muscle work*

DRIVING IN POOR WEATHER	
CORRECT	INCORRECT



Changing the Destination Signs

- *When changing the destination sign, move as close as possible to the switch to avoid over reaching.*
- *Use proper reaching techniques.*
- *Use core muscles (shoulder blades down and together and use stomach muscles).*
- *Avoid twisting the spine.*

CHANGING LOCATION DESTINATION	
CORRECT	INCORRECT



Opening and Closing the Doors Manually

- *When opening and closing the door manually use your body to your advantage.*
- *Use proper reaching techniques.*
- *Ensure that your shoulder is in the neutral 'easy' zone.*
- *When pushing use stomach muscles and core stability muscles.*
- *As the door opens, move with the door to avoid over reaching.*

DOOR OPENING	
CORRECT	INCORRECT



Adjusting the Outside Mirrors

- When adjusting the outside mirrors use the proper device to complete this task.
- Avoid over reaching
- Keep elbows tucked into side
- Watch out not to arch or extend at the low back when working above shoulder height

ADJUSTING MIRRORS OUTSIDE	
CORRECT	INCORRECT



Steering

- Ensure steering wheel (if adjustable) is adjusted to maintain neutral postures.
- Ensure hand position allows for neutral postures of the wrist and shoulder.
- Take breaks and stretch during the day
- Avoid over-gripping the wheel which will cause static muscle work.
- Avoid resting on the fare box.
- Ensure proper clothing on a cold or warm day.
- Avoid hand or hand when turning, over-reaching and impingement zones.
- Use shuffle method when turning.

HAND POSITION ON STEERING WHEEL	
CORRECT	INCORRECT



Lifting Ramps

- Lifting with your knees slightly bent and your back straight.
- Avoid twisting.
- Avoid accessory muscle use.
- Do not hold your breath.
- The form should be smooth and controlled.
- Use your stomach muscles to protect your back.

LIFTING RAMPS

CORRECT

INCORRECT



Opening and Closing the Windows

- Move body as close as possible to the levers.
- Ensure the window is not stuck before applying great force.
- Use core muscles (shoulder blades down and together and use stomach muscles).
- Try to work in as close to neutral zone as possible.

OPENING WINDOWS

CORRECT

INCORRECT



DRIVING POSTURE “DON’T”

DON'T REST ARMS ON STEERING WHEEL

DON'T OVER REACH WITH TURNING



DON'T LEAN ON FARE BOX

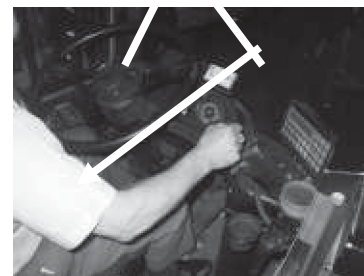
DON'T HIT KNEE ON FARE BOX



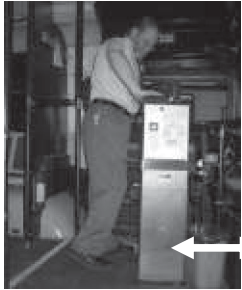
DRIVING POSTURE “DO’S”

DO PULL TRANSFERS TOWARDS YOU

DO USE THE HEAD REST



**DO WATCH YOURSELF
AT FARE BOX**



**DO ASSIST PATRONS
WITH CARE**



DO GRIP WITH LOOSE GRIP



**DO TURN WITH SHUFFLE
METHOD**



On the Job Exercises

How to Stretch

- Hold stretch 10-20 seconds.
- Breathe when stretching.
- Focus on the muscle being stretched and feel the tension release.

When to Stretch

- *At a stoplight.*
- *When changing the bus signs.*
- *At the terminal point.*
- *When stepping out of the bus for fresh air.*
- *At the end of the day.*



1. Hands on wall (make sure back heel remains on floor). Lean forward.
2. Feel stretch in back lower leg.
3. Hold 20 seconds and repeat 2 times.



1. Sit up tall.
2. Push chin in towards chest.
3. Feel stretch in upper neck (headache zone).
4. Hold 10 seconds and repeat 3 times.



1. Standing up straight, place one leg forward and keep your supporting back leg slightly bent. Lean forward towards your forward foot, bending from the hips.
2. Hold for 20 seconds, alternate legs,



1. Hold left wrist and then right wrist as shown, making sure to keep fingers straight.
2. Bend the wrist and fingers upward until you feel a stretch.
3. Hold 10 seconds.
4. 3 repetitions each hand.



1. Place hands firmly against hips as shown.
2. Bend backwards until you feel a stretch.
3. Hold 5-10 seconds.
4. 5 repetitions.



1. Reach downward with right hand and then left hand.
2. Now use other hand to bend neck in opposite direction as shown, until you feel a gentle stretch.
3. Hold 10 seconds.
4. 3 repetitions with each hand.

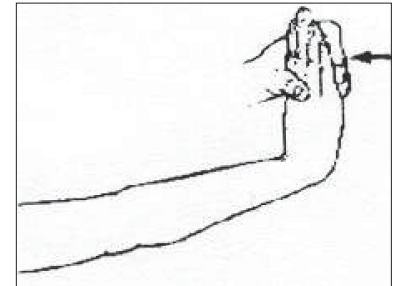
More helpful exercises for London Transit Drivers Wrist

Hold wrist as shown.

Make sure to keep fingers straight.

Bend wrist and fingers upward until you feel a stretch.

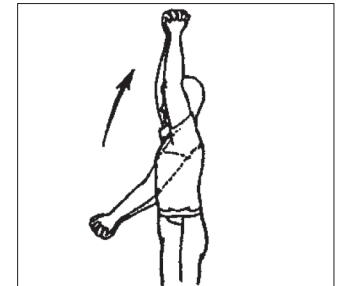
Hold for 20 seconds and repeat 3 times.



Shoulders and Upper Back

Stand up tall. Clasp hands. Lift both arms up and over your head. Lean back (to avoid bending at your low back you may want to do this exercise while sitting with your feet up on a stool).

Hold for 2-3 seconds then repeat 5 times.

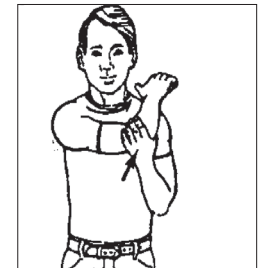


Grip left hand on right elbow.

Pull arm across chest.

Feel the stretch at the right upper back.

Hold 20 seconds, and then repeat with left arm.

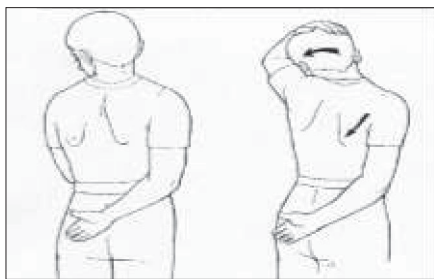


Lower Neck

Right hand behind back, neck looks to left armpit.

Gently pull neck towards left armpit.

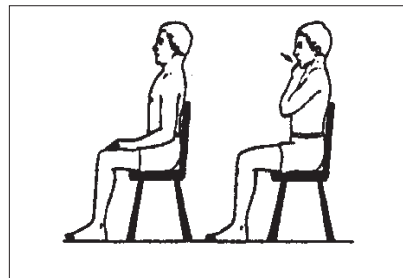
Feel stretch on right side of neck.



Upper Neck

Sit up tall. Push chin in towards chest.

Feel stretch in upper neck (headache zone). Hold 10 seconds and repeat 3 times.

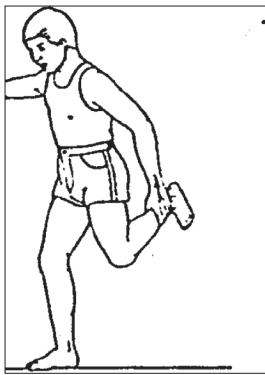


Lower Legs - Quadriceps

Grab your left ankle from behind with your left hand and pull your foot/ankle slowly toward your buttocks.

Hold it there for 20 seconds then rest.

Alternate between legs and repeat 3 times for each leg.

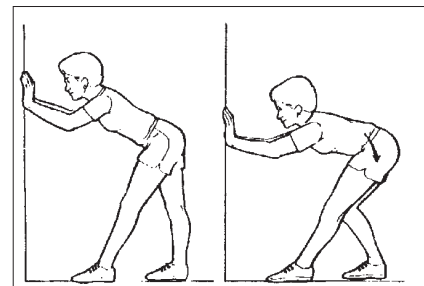


Hamstrings

Standing up straight, place one leg forward and keep your supporting back leg slightly bent.

Lean forward towards your forward foot, keeping your back straight and bending from the hips.

Hold that position for 20 seconds. Then alternate legs and repeat 3 times per leg.

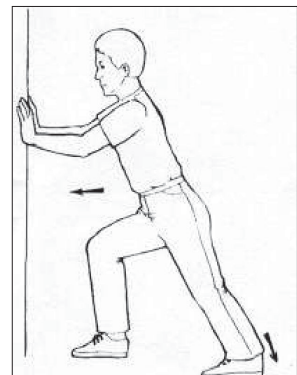


Hands on wall (make sure back heel remains on floor).

Lean forward.

Feel stretch in back lower leg.

Hold 20 seconds, and then repeat 2 times.

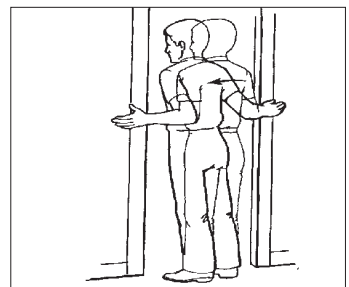


Chest

Stand in doorway.

Put hands on either side of doorway. Lean into doorway.

Feel stretch in chest. Hold 20 seconds, and repeat 3 times

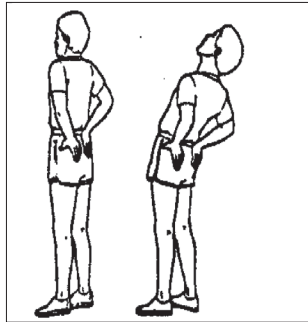


Low Back

Hands on buttocks.

Lean back to extend low back.

Hold 2-3 seconds and repeat 5 times.

**VIOLENCE IN THE WORKPLACE**

We live in a world where hostile or even violent interactions occur with what seems like increasing frequency. The trend is certainly prevalent in all occupations dealing with the public. There are many factors that effect how particular interactions will end up, and management at LTC and ATU Local 741 have worked together to try and develop solutions to deal with several of these factors. The solutions include engineering controls (for example the AVL system, radio and emergency communications equipment), administrative controls (for example, special emergency protocols worked out with Police) and employee actions based on training and experience. In many cases the most important factor is the manner in which the employee deals with the situation.

The video, which was developed by a team including both management and union personnel, presents two scenarios which depict an Operator dealing with typical issues that emerge in service. The video incorporates information from two sources. The first is a program called Tactical Communication. London Police Services developed “Tactical Communication” or TAC-COM to provide skills to officers when dealing with the public. The second is a program developed by Rutgers University called Violence in the Transit Workplace – Prevention, Response, Recovery. LTC has adopted the information from both programs in developing the video. We encourage employees to view the video, read this brochure, think about the concepts, discuss them with others and apply them in situations that arise during work.

“TAC-COM” is defined as the principles and techniques of communication used by the person charged with the responsibility of being the problem-solver. There are three objectives in applying the principles of “TAC-COM”. There are:

- To ensure a standard and professional approach to all interactions with transit customers and the public;
- To prevent conflicts from escalating; and
- De-escalation of a conflict that is already in progress.

The first objective of “TAC-COM” is to ensure a standard and professional approach in all interactions with transit customers and the public. So whether it is a normal, regular passenger interaction or a protection confrontational situation, “TAC-COM” strategies will help you ensure a consistent approach, and when used by all Operators set a standard right across the system. This does not mean you must speak

with everyone who steps onto your bus, but you can communicate without speaking, for example by making eye contact and smiling. We all have different skill sets and maintain order on our bus in our own way, but the “TAC-COM” tools will help us all be consistent with our interactions.

Another key concept on which the video is based is the concept of assessing the situation and behaviors as falling into one of three categories – different, difficult and dangerous. An example of different behavior is a homeless person who rides your bus and mutters profanities to himself. Another example is shown in the video, where a rider fails to make eye contact or to show his pass appropriately when boarding. Difficult behavior is usually angry or hostile behavior, such as profanity directed at an Operator. The potential for violence has escalated. Physical signs of escalated behavior include:

- Red face, rapid breathing
- Glaring or avoiding eye contact
- Tight body language – crossed arms or legs or clenched fists.

The key is to prevent this behavior from escalating, for example from difficult into a dangerous situation where violence/harm is likely to occur. The video depicts two difficult situations, and the use by the Operator of a variety of skills and techniques to prevent the situation from escalating into a potentially dangerous one. Of course, in a dangerous situation the most important thing is safety of all involved, and whenever a situation has (despite all efforts) escalated to a dangerous situation, it will be important for the Operator to follow emergency protocols to get assistance.

One of the key outcomes of “TAC-COM” is the preservation of the dignity of all involved. If you are able to do this successfully, then most situations will be in your control. In order to preserve the dignity of all involved parties, it often means you, as the person charged with responsibility, must take the higher ground and not focus on making the customer wrong and you right. It is critical that you remember that you as an individual Operator can not change other people’s behavior. You’ll see examples of that in the video. Self control is important; you’ll know when you need to exercise self control when you, for example, feel your anger rising – all Operators have experienced the need to “count to three” the way the Operator does in the second scenario. Self control can be developed by a technique called “self-talk”. This means when under pressure, taking the time to say to yourself phrases such as “I’m not going to sink to that level”.

Components of Communication

Studies show that communication is made up of three components: the actual words we use, the way we say them, and our body language while saying them (with studies suggesting that 70 of the message is contained in the body language!). All three are important.

Also think about the length of time you take to respond to comments. People generally expect a response or acknowledgement to a question within 2-3 seconds. By not waiting long enough, you could bring on some anxiety that may escalate the situation. Patience will often pay big dividends. On the other hand, by not responding in a timely fashion to a customer’s question, you may cause them to become irritated and angry. Due to the repetitive nature of a bus operator’s position, you have to remember that even if it’s the 100th time you’ve been asked a particular question that day, it’s not the 100th time that person has asked you. Another technique of communication is empathetic listening. Key words which accomplish this task should become part of the bus operator’s language. For example, “I appreciate that”, “I understand that” and “Maybe so”... these are all effective empathy statements. Empathetic listening also includes resisting the urge to over-talk the issue, and being prepared to repeat yourself, patiently – you may have to restate your position without raising your voice or increasing your intensity.

Verbal Communication

Positive language stresses what CAN be done, suggests alternatives and choices and focuses on positive outcomes to situation. A very important strategy which an Operator can use with a difficult rider is to offer choices and consequences, both positive and negative. As an example, when you look at scenario 1 in the video, suppose that the rider refused to surrender the monthly pass portion. The Operator then could offer choices and consequences. The Operator might say “If you surrender the pass, we can continue on the trip and I can get you and the other passengers to where they’re going on time. You would always have the option of contacting our Customer Service line afterwards if you wanted to discuss that further. On the other hand, if you choose not to surrender the pass, I’m going to have to follow our procedures and wait for my Supervisor to arrive.”

When a confrontation begins escalating, it may be necessary to disengage, and it takes really good judgment to know when that is appropriate. Appropriate disengaging could mean in some cases ignoring the individual or not participating in their emotional or irrational behavior – don’t given them an audience. It’s all in the way you get your message

across – just saying something the wrong way may cause escalation. Ensure that you don't give commends – "Get off this bus!" or that you back yourself into a corner with no way out if challenged.

In terms of body language, consider the following:

- **Eye Contact** – Eye contact is an important communications tool. Generally, eye contact is held for 3 seconds or less. Eye contact with other drivers on the road is an important element in defensive driving and lets them know you know they are there, and the same principle applies with passengers when board. Glancing in the rear view mirror is an important tool...it conveys the message: "I know you're here and what's going on". Regularly glancing in the rear view mirror, as the Operator does in the video, also calms other passengers by letting them know that you are aware of what is going on. On the flip-side, staring can be perceived as a form of aggression.
- **Facial expressions** – try to keep these neutral; often this will automatically occur if you moderate the tone of your voice.
- **Touching** – Company policy does not permit bus operators' to touch customers, except in situations where it may be necessary for a bus operator to secure a wheelchair passenger or in assisting a passenger. When it is necessary to touch a passenger, permission should be verbally requested by the Operator before the motion is made.

The following are some do's and don't if you observe the non-verbal clues of escalation noted above:

DO's

- Remain calm
- Stay neutral
- Show respect (whether or not you feel it's deserved)
- Give appropriate space (see below on "distances")
- Remember your top priority is safety

DON'T

- Over react such as yelling
- See the situation as a power struggle
- Take sides if you can help it
- Send aggressive body language, confine the individual

- Look to teach the person a lesson

Distances

As a bus operator, you are generally in a seated position, which means extra preparation and thought must be given to maintain your safety and the safety of others. When considering appropriate distances, there are three main types of ranges:

- **Social distance** – this would be our typical customer interaction – as they board, pay the fare, exchange transfers and ask typical questions related to schedules, directions and so forth. It is defined as about an arm's length distance. Violation of someone's space can cause feelings of anxiety. It can cause some to become very defensive of their space, in fact some may lash out physically to defend it. Often, the beginning of a confrontation starts when one party physically closes in on another party's personal space. Note on the video, scenario 1, the first time through the non-verbal as well as verbal communication and distances – although the actions may be exaggerated on behalf of the Operator, they demonstrate the principles.
- **Communication distance** – used when we're communicating in an official capacity – our message may or may not be welcomed. We "project authority" – for example when communicating this way. This also a reasonable distance to consider while communicating with an aggressive or defiant individual – it offers you protection or warning of a hand/fist assault or kick. A 6' distance is the ideal, but when you are in a seated position, it is sometimes difficult to achieve.
- **Weapons Present Distance** – the presentation of a weapon should have a dramatic effect on the distance you place between you and the armed offender. As soon as feasibly possible, the police recommend a distance of 25 feet between you and the offender. When you have reason to believe a weapon is present, do not try to guess if the offender is serious or not. Initiate emergency protocols through Dispatch at the earliest possible opportunity.

What to do if using these skills and techniques doesn't de-escalate the situation

sometimes, despite your best efforts, you may be unable to de-escalate the situation. If an operator is unsuccessful in de-escalating the situation, and has therefore lost control of the situation, assistance from an Inspector is required. It now becomes the role of the Inspector to de-escalate the situation.

While you hope to never experience a physical confrontation with an individual, if you do, your safety becomes paramount. Here are some things Operators can consider if involved in a physical confrontation:

- Stand sideways – this limits the amount of exposed body mass;
- Keep your chin tucked in and down to protect yourself;
- Never turn your back on an inflamed individual – if you have walked through the bus to speak to an individual, walk backwards away from them; and finally;
- Use nearby objects for protection – look around, what is immediately available? A purse, lunch-pail or coat could all offer you some protection from attack.

Conclusion:

The application of “TAC-COM” and the other skills and techniques noted have many benefits. They allow you to have greater control over situations and help ensure a professional approach when dealing with the riding passengers and the public at large. They can help you reduce your job stress because successful conflict avoidance can make your working day, and the ride for your passengers, a lot smoother. Conflict, to some degree, is a part of everyday life. How you respond to conflict can make it disappear or contribute to making it grow.

Remember to preserve the dignity of all involved parties by not focusing on being right and making the customer wrong. Give some thought to incorporating these skills into the way you handle situation that arise; we hope they help you deal effectively with them.

**London Transit Commission
2012 Work Program
Wellness Committee**

Ref. No.	Item	Description	Lead	Support	Target Completion	Estimated Cost	Status
Carry forward from 2011							
1	Gym Use	Rental of a gymnasium for 2 hours, one day per week, for employee usage	KD		September 2013	TBA	- details re: rentals being gathered
New Items 2012							
1	London TransFIT	8 week group/individual weight-loss program inclusive of 4 wellness committee activities as shown below			March 12, 2012	\$1800 + cost of online resource program	- guidelines complete - promotional materials in progress
	a) Family Skate	Family skating for 2 hours at public skate	JM		1 st quarter	\$225	- information to be gathered
	b) Tobogganing	Usage of snow hill for tobogganing for 2 hours	AH		1 st quarter	\$0	- discussion re: suitable hill
	c) Mall-Walk	Organized walk through a mall prior to mall opening hours	HM		1 st quarter	\$0	- NA
	d) Swim	Rental of pool for 2 hours of family swim	JV		1 st quarter	\$50	- N/A
2	Walking / Running Challenge	1 million step challenge using pedometers to count steps to commence early spring	TC		2 nd quarter	Cost of pedometers and \$200 paid day off	- NA
3	Health Fair	Displays, healthy snack contest, cooking class, in cafeteria to promote healthy eating			December 2012	Cost of cooking class and cookbook copying	- NA
4	Smoking Cessation	Assistance for quitting smoking in partnership with the EAP Peer Supports	Andre Fournier, Brian Tansy and AH		TBA	TBA	- EAP supports seeking out trainer participants - Wellness committee seeking out training program for ee trainers

2012 Budget \$x
Attendance per meeting \$100 approx



Ergonomic Checklist for Coach Operators

Employee Name: _____ **Badge:** _____ **Base:** _____ **Date:** _____

Evaluator: _____ **Badge:** _____ **Date:** _____

Is seat is pushed back when getting IN? Yes _____ No _____

OUT? Yes _____ No _____

Does the seat height, angle and backrest adjustments place the ears shoulders and hips in a straight line? Yes _____ No _____

Explain if "No" _____

Does the seat back support the upper back and lumbar area Yes _____ No _____

Explain if "No" _____

Are the shoulders relaxed? Yes _____ No _____

Are the elbows close to the sides with shoulders relaxed? Yes _____ No _____

Does the view of the mirrors on board and on the exterior prevent muscle strain of the neck? Yes _____ No _____

Are the thighs parallel to the floor? Yes _____ No _____

Are the hips at a 90° angle or slightly open? Yes _____ No _____

Explain if "No" _____

Are the pedals at comfortable angles? Yes _____ No _____

Explain if "No" _____

Is the sole of the foot in contact with the pedals? Yes _____ No _____
Explain if "No" _____

Are the foot control switches at a comfortable level? Yes _____ No _____
Explain if "No" _____

Are the wrists straight and in neutral position when steering? Yes _____ No _____

Most common form of steering Shuffle _____ Hand over Hand _____

When executing hand over hand steering, is the upper back and lumbar supported by the seat? Yes _____ No _____

Shoes are black non-skid sole Yes _____ No _____

Heel of shoes does not exceed two inches Yes _____ No _____

Employee can see clearly, eye examination within the last two years. Yes _____ No _____

Employee practices the micro stretch breaks learned in ART and/or SCOT. Yes _____ No _____

Employee takes active breaks rather than staying seated on layovers or between shifts. Yes _____ No _____

A "No" response is considered undesirable, indicating that improvements need to be recommended and implemented.

Demonstrate body mechanics for securing a Wheelchair. A full evaluation will be required to observe body mechanics, body angle, pushing, pulling, reaching and bending.

This document has been reviewed with me at the time of the evaluation and I understand the information that has been reviewed during this workstation evaluation.

Coach Operator Signature: _____ Badge: _____

Evaluator Signature: _____ Badge: _____

APPENDIX H

Sleep Disturbance and Sleep Apnea for Transit Drivers

Sleep Disturbance and Sleep Apnea for Transit Drivers

Sleep problems lead to fatigue, irritability and errors. Sleep debt can cause you to fall asleep briefly when you should be awake, even when driving. Moderate to severe sleep apnea is a disqualifying condition for the commercial driver's license (CDL). It is not the only cause of sleep disturbance.

How sleep disturbance affects transit drivers

Sleep apnea, sleepiness at work, and fatigue-related accidents are a concern for bus drivers around the world. Sleep disturbance affects health, and can interact with diabetes and other disease.⁰ One in 12 Scottish bus operators studied reported falling asleep at the wheel at least once a month.¹ Many reported having had an accident (7%) or a near-miss accident (18%) due to sleepiness while working. Sleep apnea in particular is common in all types of drivers: Almost 29% of 1,400 US CDL holders reported sleep apnea.² It was mild in 18%, moderate in 6% and severe in 5%. In some research the rates for bus operators are close to other commercial drivers and other working men.³

Causes and contributors to sleep disturbance

Shift work: Evenings, nights, very early work and long shifts make it hard to sleep enough and still interact with family and participate in regular activities. Many transit drivers try to stay up, get up early or adjust their sleep habits to meet personal obligations. This can lead to sleep debt and fatigue. Even 10 hours between shifts may not leave enough time for meals, eight hours of sleep, and commuting.

Stress: Transit drivers take home the stress they experience from schedule demands, passenger interaction, and other work concerns. Relaxing or going to sleep quickly can be difficult. Some drivers stay up late to recover from the stress of work. Trying to sleep using alcohol or over-the-counter aids makes restful sleep less likely.

Sleep apnea: Apnea means without breath – this disorder blocks breathing when you sleep, so you wake up briefly throughout the night. Contributors to sleep apnea include overweight, the structure of the skull or airways and age. Men are more likely to have sleep apnea and it runs in families. Nasal congestion from allergies, colds or sinus infections, medications, smoking or alcohol can make it worse.

What can employers do to address sleep disturbance? ⁴

- **Encourage Regular Rest:** Establish at least 10 consecutive hours per day of protected time off-duty in order for drivers to get 7-8 hours of sleep. Plan one or two full days of rest to follow five consecutive 8-hour shifts or four 10-hour shifts. Consider two rest days after three 12-hour shifts.
- **Ensure Adequate Rest Breaks:** Frequent brief rest breaks (e.g., every 1-2 hours) during demanding work are more effective against fatigue than a few longer breaks. Allow longer breaks for meals.
- **Provide Rest and Exercise Areas:** Provide both quiet rooms and exercise resources to help operators stay rested and fit.
- **Incident Analysis:** Examine near misses and incidents to determine the role, if any, of fatigue as a root cause or contributing cause. Identify and address the work organization elements.
- **Training:** Provide training to make sure that all employees – schedulers, supervisors, human resources as well as operations staff – understand the impact that shiftwork and other conditions have on sleep.
- **Support Diagnosis and Treatment of Sleep Apnea:** Some transit agencies cover the full cost of treatment for health problems related to CDL qualification, and a few cover the lost time.

What can transit vehicle operators do about sleep disturbance?

- **Establish the best possible sleep schedule** You need time to sleep enough between work shifts. That should include 10 hours, or at least eight hours in addition to both commutes, relaxing, eating and the other things you have to do. Try not to change your schedule a lot on days off.
- **Keep away from light sources in the hours before bedtime** Computers, TVs and other electronic devices emit a lot of light and make your body think it is time to be awake. If you work nights, avoiding sunlight on the way home can help you get to sleep easier.
- **Change what you consume** Avoid heavy foods and alcohol before sleeping. This can be hard when you get off a late shift – people expect to eat a full dinner at the end of the day. And alcohol seems like it will help you relax. The problem is that both will disturb your sleep. Coffee may keep you going into a late shift, but if you have trouble getting to sleep try to avoid caffeine and other stimulants – you will have to find out for yourself how long before sleep you need to cut off.
- **Use exercise to get fit and to relax** People who exercise regularly report the best sleep.⁵ You may have heard that exercising is not recommended in the few hours before sleep, but most research shows that your exercise schedule doesn't matter as long as you are comfortable and relaxed at bedtime.
- **Leave work at work** Try to establish a good transition so that you don't carry stress home.
- **Get comfortable** Your sleep space should be dark, comfortable, quiet, and cool so you can fall asleep quickly and stay asleep.
- **Take naps if needed** Even a brief 15 to 20 minute nap can improve alertness. You can make up some sleep debt with naps 1 hour or longer. However, napping too long may make it harder to get to sleep when you plan to.
- **Be well** Get help in identifying and treating sleep apnea.

Get help with your health⁶

Suspect obstructive sleep apnea (OSA) if you snore, are very sleepy during the day, or you stop breathing briefly when sleeping. Signs you should see your doctor: Even with enough sleep, you consistently take more than 30 minutes to fall asleep, you consistently wake several times or for long periods, you take frequent naps, you often feel sleepy, especially at inappropriate times.

Get evaluated – this usually means a consult with a sleep specialist followed by an overnight sleep study at home or in a sleep center.

Get treated: Treatment can include behavioral training, an active sleep device such as a CPAP, an oral device, weight loss or surgery.

Resources

FMCSA Spotlight on Sleep Apnea (www.fmcsa.dot.gov/safety-security/sleep-apnea/sleep-apnea.aspx)

NIOSH Sleep and Work Blog (blogs.cdc.gov/niosh-science-blog/2012/03/sleep-and-work/)

TCRP Report 81 Toolbox for Transit Operator Fatigue onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_81.pdf

NIH Your Guide to Healthy Sleep www.nhlbi.nih.gov/health/public/sleep/healthy_sleep.pdf

Funded by Transportation Cooperative Research Program F-17. Additional Transit Health Protection and Promotion materials at <http://www.trb.org/TCRP/TCRP.aspx> and Transportcenter.org

⁰ Martins, R. C., Andersen, M. L., & Tufik, S. (2008). The reciprocal interaction between sleep and type 2 diabetes mellitus: facts and perspectives. *Braz J Med Biol Res*, 41(3), 180-187.

¹ Vennelle, M., H. M. Engleman, et al. (2010). "Sleepiness and sleep-related accidents in commercial bus drivers." *Sleep Breath* 14(1): 39-42.

² Pack, A., D. Dinges, et al. (2002). A Study of Prevalence of Sleep Apnea Among Commercial Truck Drivers Tech Brief, Federal Motor Carrier Safety Administration

³ Xie W, Chakrabarty S, Levine R, Johnson R, Talmage JB. Factors associated with obstructive sleep apnea among commercial motor vehicle drivers. *Journal of occupational and environmental medicine* 2011;53:169-73.

⁴ Adapted from NIOSH <http://blogs.cdc.gov/niosh-science-blog/2012/03/sleep-and-work/> last updated 12.8.2012

⁵ <http://www.sleepfoundation.org/alert/national-sleep-foundation-poll-finds-exercise-key-good-sleep>

⁶ Adapted from NIH Your Guide to Healthy Sleep

Abbreviations and acronyms used without definitions in TRB publications:

A4A	Airlines for America
AAAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI-NA	Airports Council International-North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HMCRRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation