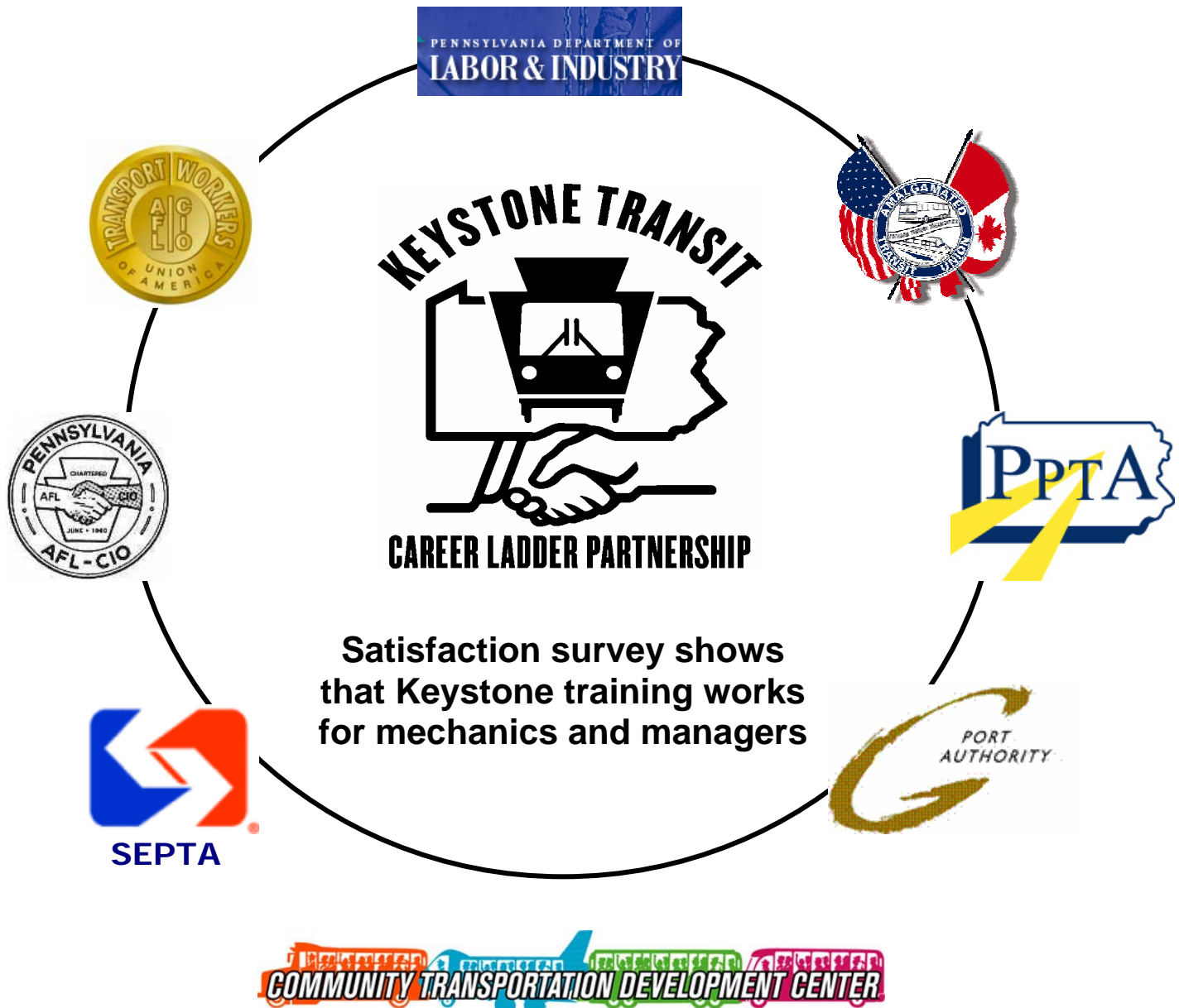


**Keystone**

# Making a Difference in Pennsylvania Transit

## Worker and Supervisor Satisfaction Survey - Keystone Case Study Interim Report



**Transportation Center  
June, 2004**

# **Making a Difference in Pennsylvania Transit - Keystone Case Study Interim Report**

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## **Summary**

The Keystone Transit Career Ladder Partnership has generated broad support from supervisors and workers in both small and large Pennsylvania transit agencies, as shown in this Transportation Center survey. Transit workers and supervisors in general feel very positively about Keystone training. Workers consider their experience to be rewarding and satisfactory, and desire more Keystone training in the future. Supervisors believe that Keystone has helped workplace problem resolution and hope to send more workers to these courses. Transit supervisors, members of the Transport Workers Union and Amalgamated Transit Union, and non-union transit mechanics perceive that Keystone has helped move their organizations toward more efficient and effective maintenance operations, while increasing mutual trust between supervisors and workers. The survey also reveals that improvements remain to be made in areas such as program communication, trainee selection and mentoring.

## **Making a Difference in Pennsylvania Transit - Keystone Case Study Interim Report**

### **I. Introduction**

With support and input from local partners and project staff, the Transportation Center initiated an in-depth case study on the Keystone Transit Career Ladder Partnership in the summer of 2003. This interim report is part of continuing case study research by the Transportation Center. An important objective of the case study is to measure the impacts of training using both quantitative and qualitative data. The initial research involved analysis of program documents and structured interviews with Keystone leaders, Pennsylvania transit managers, local union workgroup members and project staff. The first report based on that research, *Pennsylvania Transit on the High Road*, was published in July 2003.

Information collected from various sources shows that training has made a difference in the Pennsylvania transit maintenance world: In Philadelphia, training managers describe a dramatic increase in the practical exam passing rate of bus mechanic trainees after launching the Keystone training effort; top managers see a trend line tying improving skills to improving overall maintenance performance; line managers report fewer instances of buses sent back for rework after repair. General and maintenance managers in smaller properties consistently note that Keystone training courses result in better quality work in the shop. In one particular case, a severely damaged bus that was left untouched for months in a rural facility came back into service after two mechanics from Keystone's basic electrical course rewired its entire electrical system.

Despite all these positive accounts, some questions remained unanswered: What do the *trainees* themselves think about the training program? Do they feel that their knowledge and skills have been raised because of training? Has training had any positive effect on the successful completion of their daily job tasks? Furthermore, are *first-line supervisors* of these trainees satisfied with the training process and results? Has training helped make maintenance operation more effective and efficient? Are there things to be improved? This interim report analyzes the program as perceived by trainees and their supervisors.

### **II. Survey Method**

During the latter half of 2003, more than 350 Pennsylvania transit workers and supervisors took part in a survey designed by the Transportation Center to measure their satisfaction with the Keystone training<sup>1</sup>. Results from these surveys were not included in *Pennsylvania Transit on the High Road*, but will be incorporated in the

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<sup>1</sup> PAT Transit in Pittsburgh and ATU Local 85 had not joined the Keystone Partnership at the time this survey was conducted. Therefore, no data in this report represents PAT Transit worker and supervisor opinion. The Center will carry out a similar survey in Pittsburgh in the future.

forthcoming quantitative study, *The Keystone Transit Partnership: Measuring Up*<sup>2</sup>. This report provides statewide Keystone leaders with a preliminary analysis of how front-line workers and supervisors view the training.

With 234 SEPTA trainees on the survey roster and 146 completing the questionnaire, the response rate for the Philadelphia worker survey was 62.3 percent. Twenty two questionnaires were completed and returned by SEPTA maintenance supervisors, with 11 from bus, 5 from facilities maintenance, 4 from underground power, and 2 from rail<sup>3</sup>. For the 22 smaller properties which have sent workers to Keystone training, a total of 76 trainees were polled and 63 responded, for a response rate of 82.9 percent. In addition, 11 transit supervisors outside Philadelphia completed the survey, which represents roughly half of all the direct supervisors to the statewide Keystone trainees.

Trainees and supervisors were polled using different confidential questionnaires with some overlapping questions<sup>4</sup>. They were asked to indicate their transit agencies, maintenance divisions and job titles, and courses they or the workers they supervise have attended. They then rated a series of statements on a 5 point scale ranging from Strongly Agree (1) to Strongly Disagree (5). Additional comments could be included at the end of the survey.

### **III. Overall Survey Findings**

Surveys conducted in the 23 large and small Pennsylvania transit properties participating in Keystone show that that Keystone has generated broad support from supervisors and workers. Workers consider Keystone classes and mentoring program<sup>5</sup> to be very rewarding and satisfactory. They agree that the subjects covered by the training sessions are much needed skills in their workplace. They also believe that training has helped augment their technical skills and dramatically improved overall maintenance efficiency. Workers highly desire more Keystone training opportunities and express interest in several training subject areas that have not been covered.

Front-line supervisors also indicate that their experience with Keystone has been extremely positive. They believe that Keystone training has helped problem solving in the workplace and built mutual trust between workers and foremen. From their Keystone experience, most supervisors surveyed feel that cooperative labor-management training program is an effective way to upgrade worker skills, and they hope to send more workers to courses that Keystone offers.

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<sup>2</sup> Collection of the surveys took longer than anticipated. The last batch of completed questionnaires was returned to the Center in Spring 2004.

<sup>3</sup> The group size of SEPTA supervisors and the supervisor survey response rate will be presented in the detailed report *Measuring Up*.

<sup>4</sup> In addition, the statewide survey questionnaires were administered without reference to mentoring programs and reliance on manufacturers' extended warranties.

<sup>5</sup> The mentoring program has only been offered in the bus maintenance division at SEPTA.

Some improvements remain to be made in several areas. Program communication and trainee selection methods appear to be weaker links across the state. In Philadelphia, bus trainees voice specific concerns with the mentoring program, such as mentor qualification and willingness of mentor to teach.

The detailed presentation of the survey findings is divided into two sections. The first section addresses results from the Philadelphia area worker and supervisor survey, and the second one analyzes opinions from the rest of the state.

The charts on the following pages provide a complete report of Pennsylvania transit worker and supervisor survey questions and responses. For each group of questions, two bar charts are provided to show: (a) detailed percentages of trainees who strongly agree, agree, disagree and strongly disagree with the statement; and (b) combined percentages for all those agreeing, and for all those disagreeing. To simplify the display of these results, these charts do not present “neutral” responses, therefore the “agree” and “disagree” percentages may not add up to 100%.

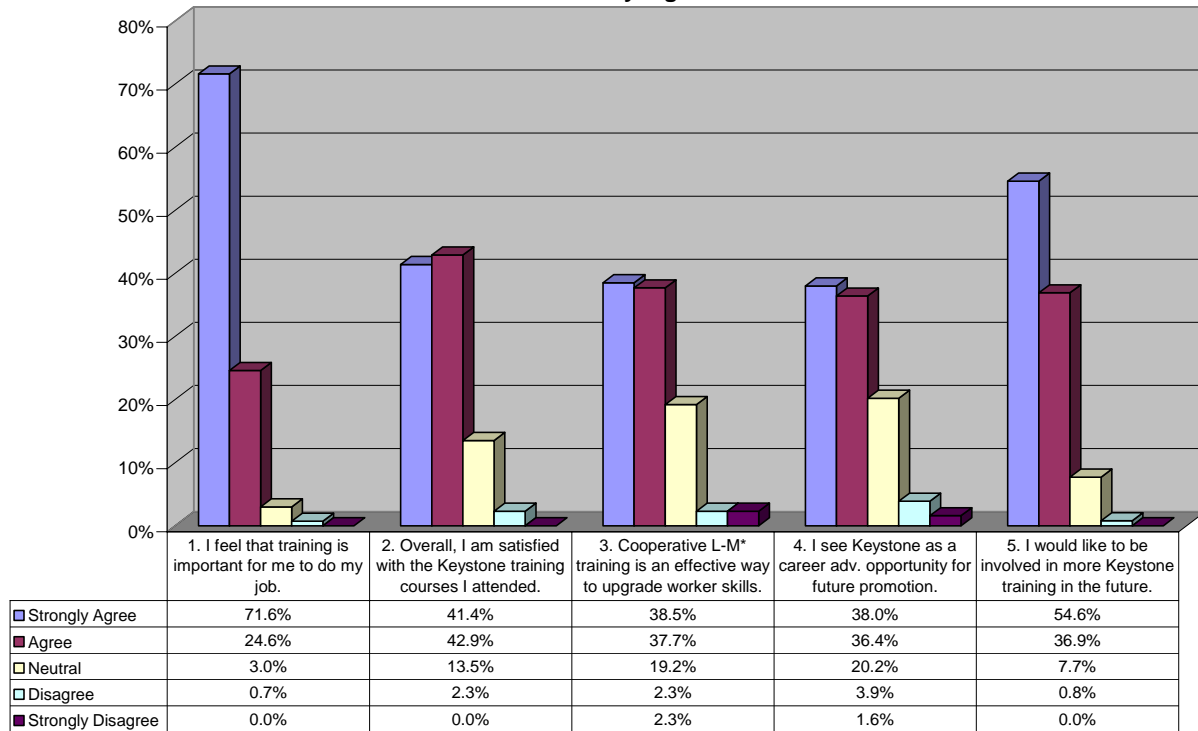
#### **IV. Philadelphia Area Survey Findings**

##### **A. Keystone Positively Viewed by SEPTA Workers and Supervisors**

Overall survey results show that both workers and supervisors feel very positively about Philadelphia Keystone training.

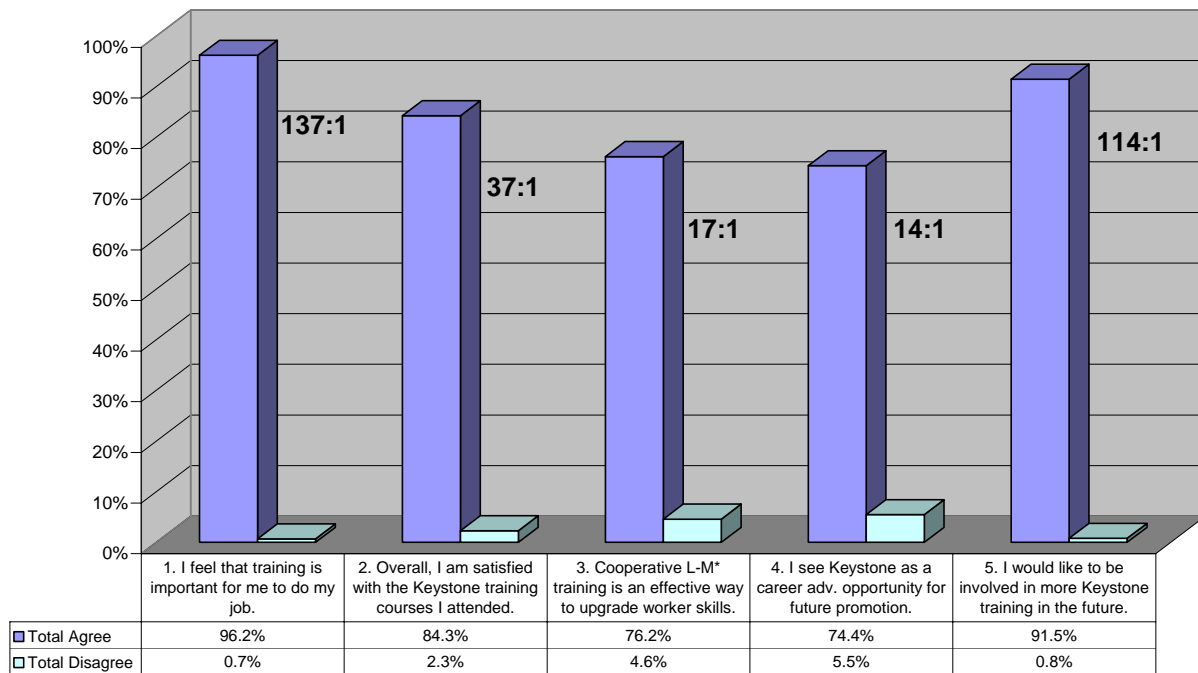
**SEPTA Worker Survey:** Nearly all the workers feel that training is important for them to do their jobs. Workers consider their experience with Keystone classes and mentoring programs to be rewarding and satisfactory. Most of them believe that the subjects covered by these training sessions are much needed skills in their workplace. Keystone has helped move the organization toward more efficient and effective maintenance operations, while increasing mutual trust between supervisors and workers. More than 90 percent of the respondents would like to be involved in more Keystone training in the future. Detailed analysis also reveals a positive link between the number of courses trainees took and the overall rating they give to the program.

**SEPTA Worker Survey (1a Detail) - Overall satisfaction with Keystone training was very high.**

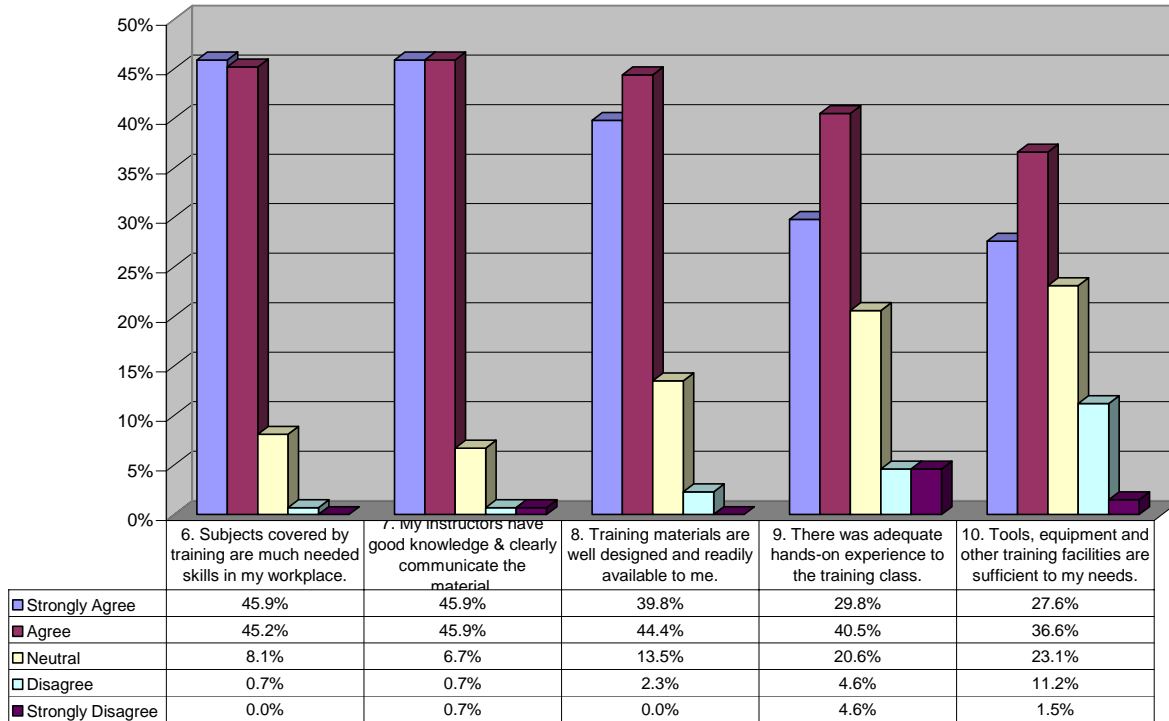


\*L-M stands for labor and management.

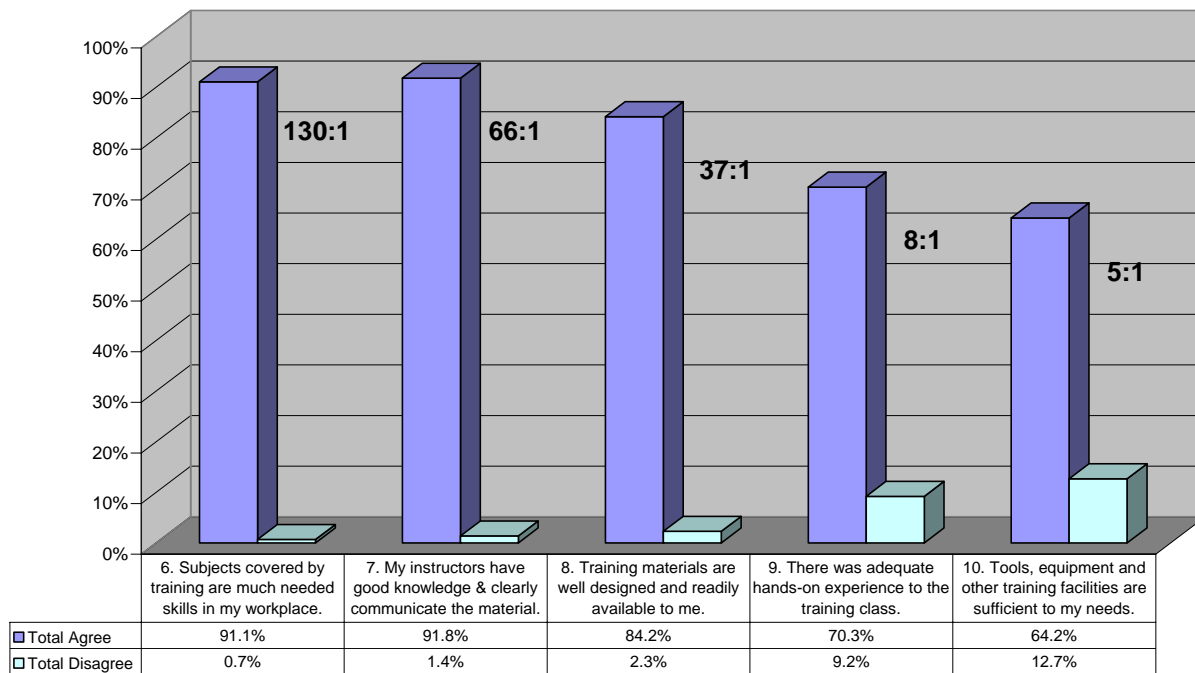
**SEPTA Worker Survey (1b Combined) - Overall satisfaction with Keystone training was very high.**



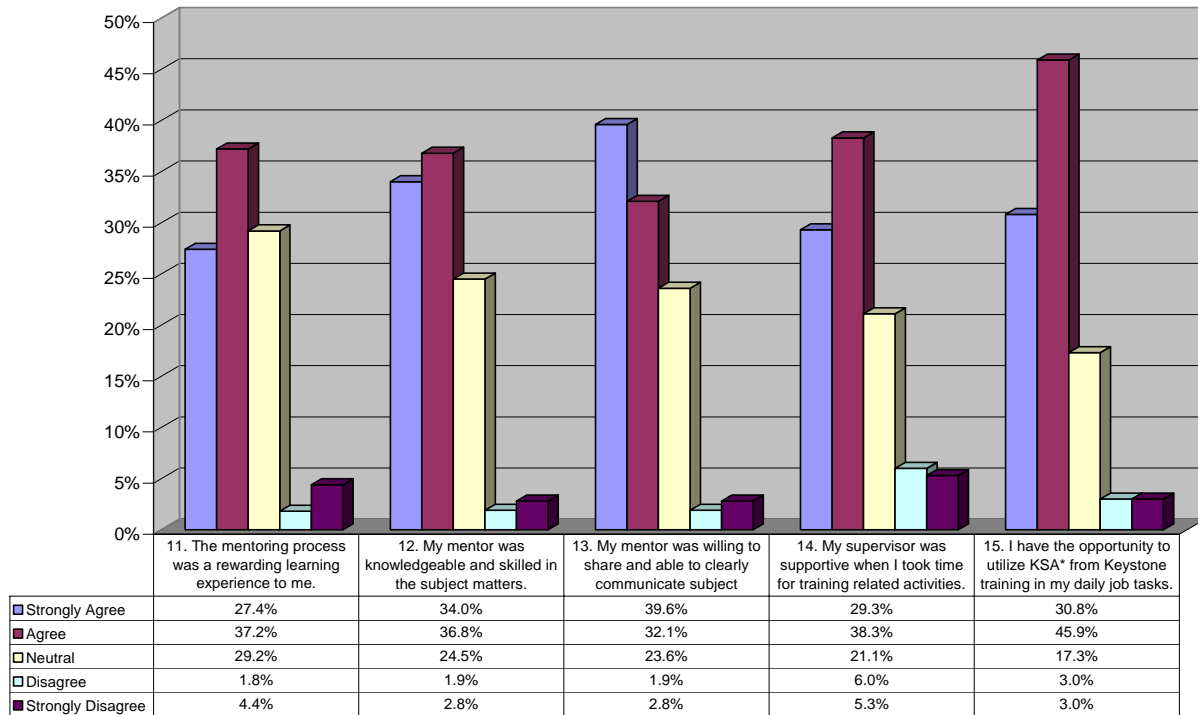
**SEPTA Worker Survey (2a Detail) - Instructors were competent and training materials sufficient; more hands-on exp. and better tools are needed.**



**SEPTA Worker Survey (2b Combined) - Instructors were competent and training materials sufficient; more hands-on exp. and better tools are needed.**

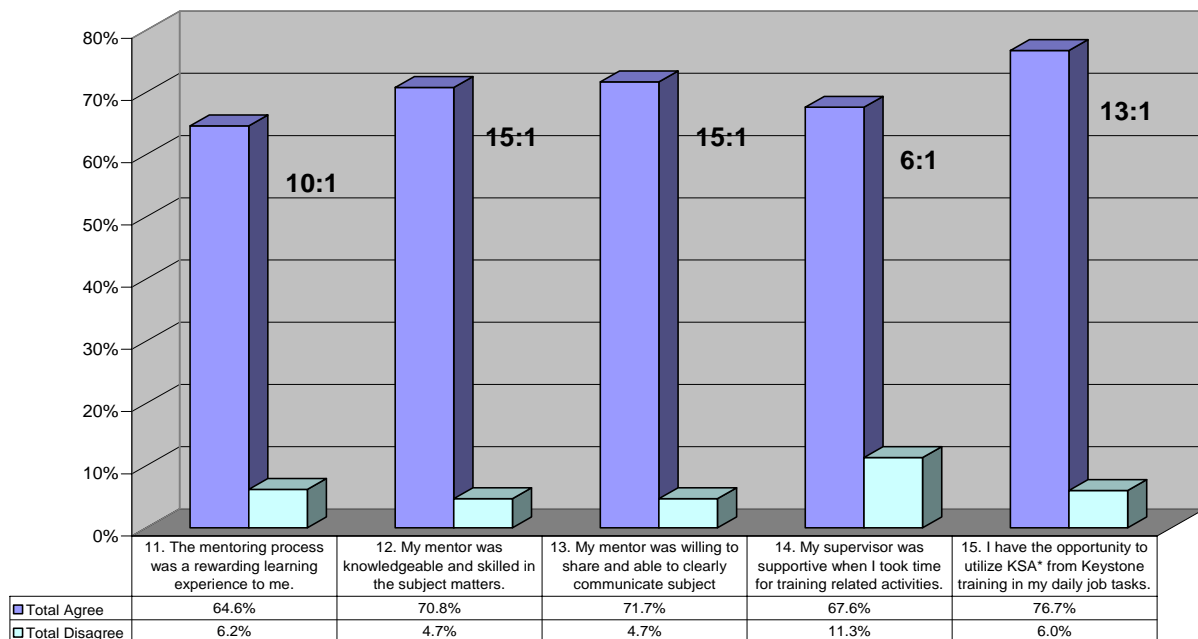


**SEPTA Worker Survey (3a Detail) - The mentoring experience was rewarding, but there is room for improvement; More supervisory support may be needed.**



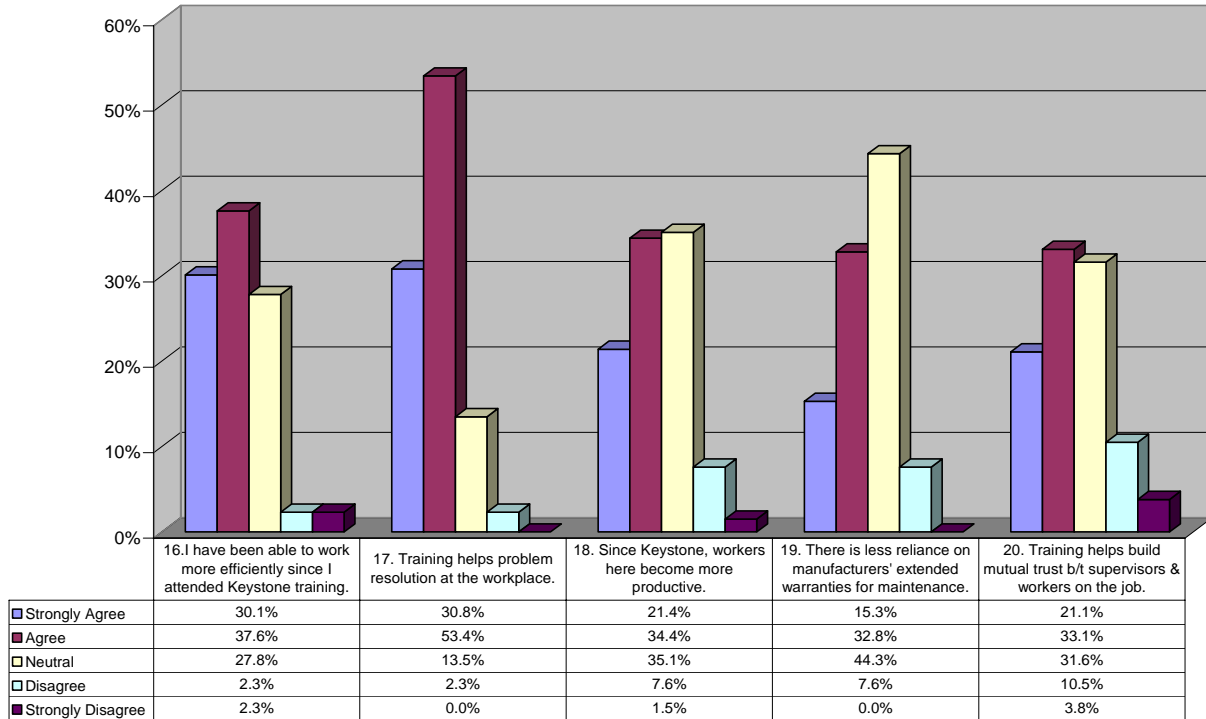
\*KSA stands for knowledge, skills and abilities.

**SEPTA Worker Survey (3b Combined) - The mentoring experience was rewarding, but there is room for improvement; More supervisory support may be needed.**

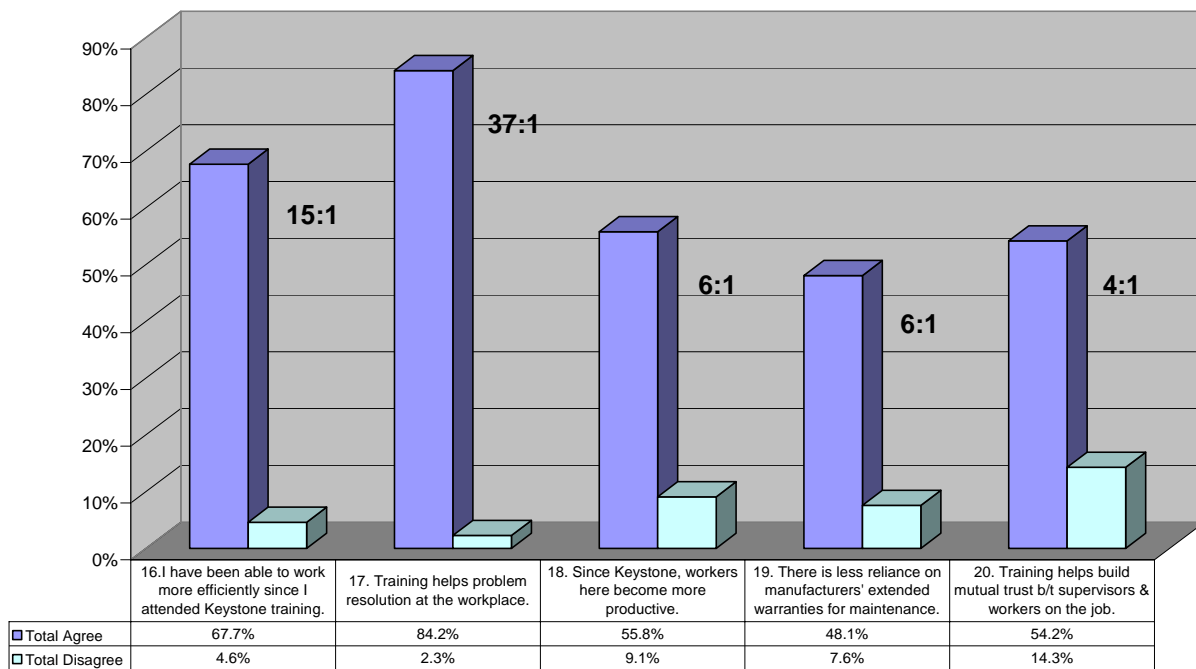




**SEPTA Worker Survey (4a Detail) - Training helps augment individual worker skills;  
overall efficiency and productivity has improved to some extent.**



**SEPTA Worker Survey (4b Combined) - Training helps augment individual worker skills;  
overall efficiency and productivity has improved to some extent.**



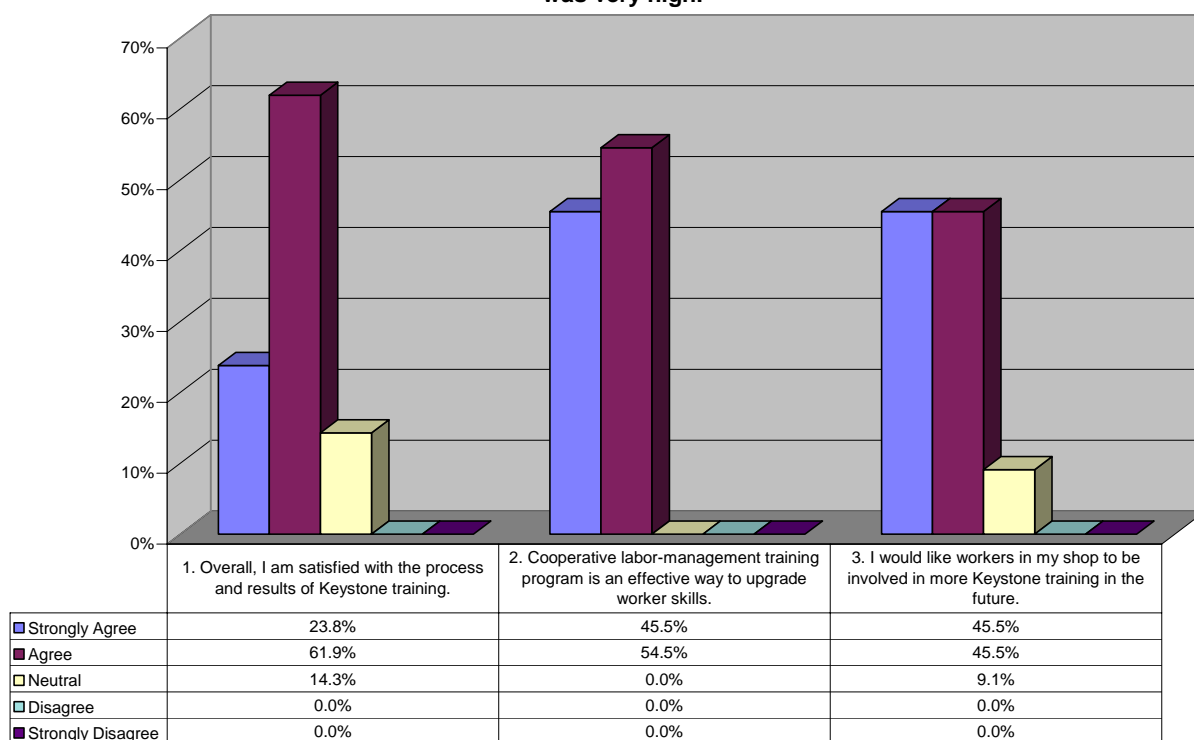
**SEPTA Supervisor Survey:** Supervisors were also very satisfied with the process and results of Keystone training. Because of the Keystone experience, all supervisors surveyed believe that a cooperative labor-management training program is an effective way to upgrade worker skills. More than 90 percent would like to send their supervisees to more Keystone training in the future. They feel that training has helped problem resolution in the workplace and built mutual trust between workers and foremen. Whether Keystone has made the maintenance operations less reliant on manufacturers' extended warranties is still a question mark. Supervisors also indicate that they would like to be more involved in the decision making process of training subject selection, design and delivery.

The charts on the following pages give a complete report of the supervisor survey questions and responses<sup>6</sup>. As with the worker survey, two bar charts are provided for each group of questions to show: (a) detailed percentages of supervisors who strongly agree, agree, disagree and strongly disagree with the statement; and (b) combined percentages for all those agreeing, and for all those disagreeing.

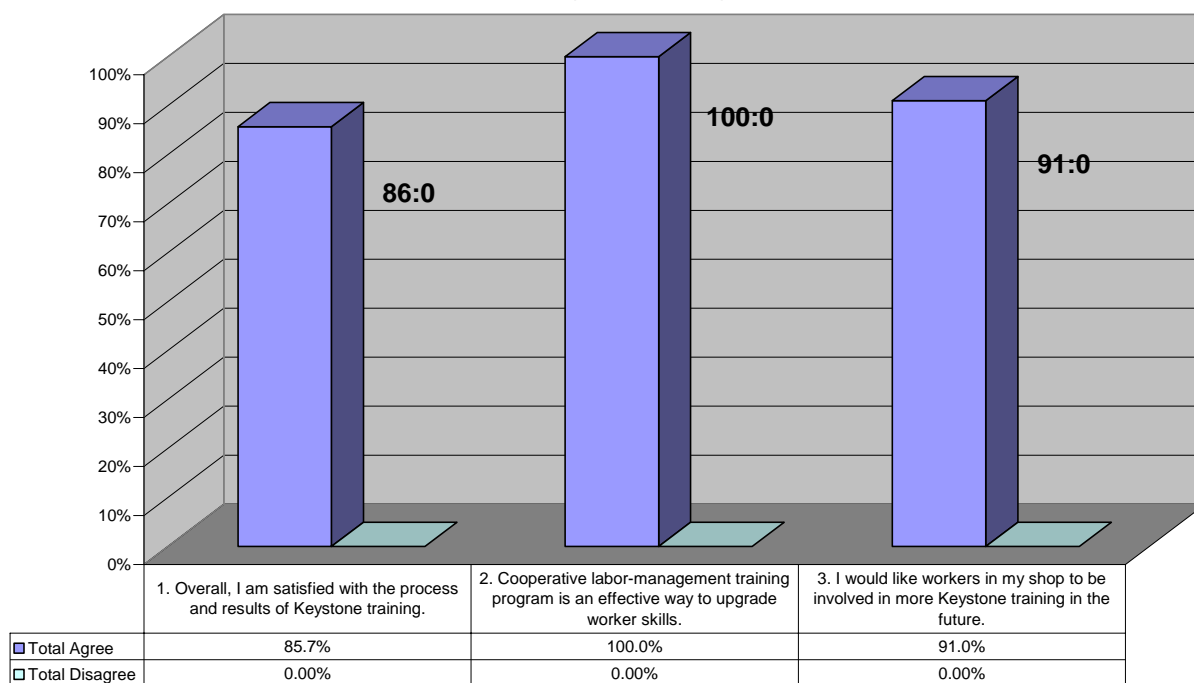
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<sup>6</sup> Since charts in this report do not display "neutral" responses, the "agree" and "disagree" percentages may not add up to 100 percent.

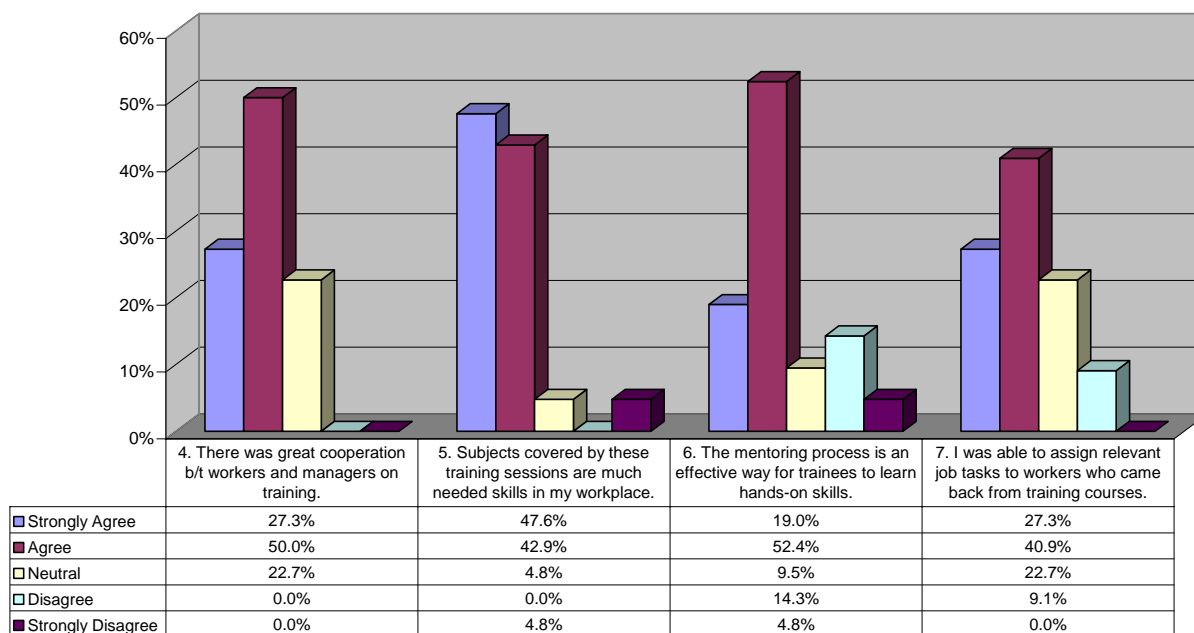
**SEPTA Supervisor Survey (1a Detail) - Overall satisfaction with Keystone training was very high.**



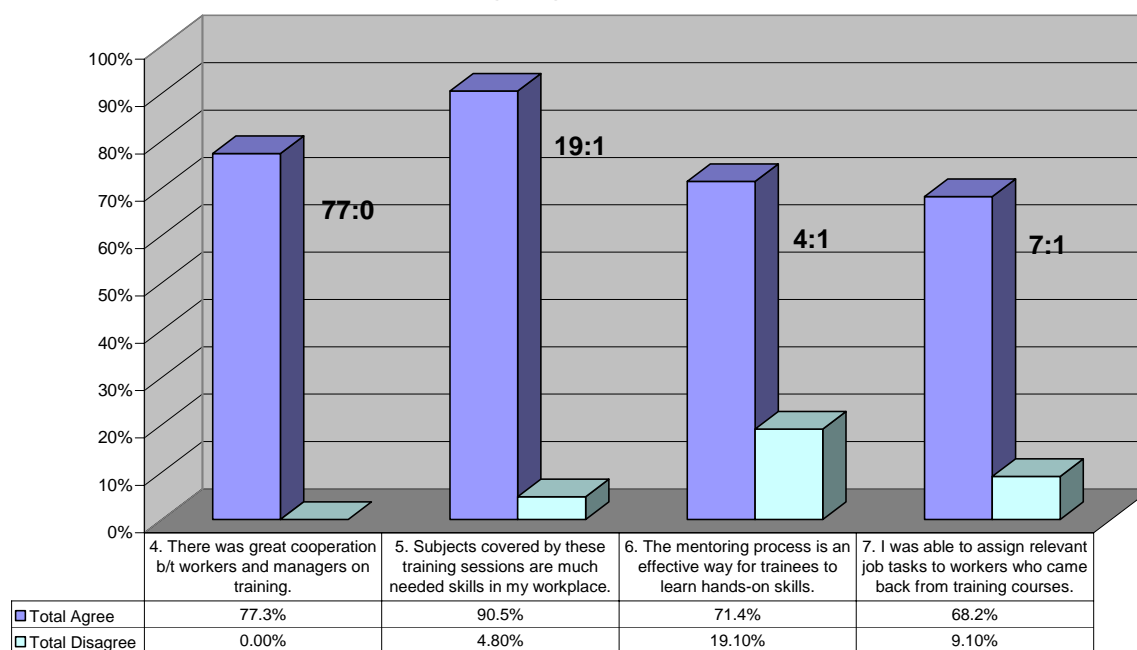
**SEPTA Supervisor Survey (1b Combined) - Overall satisfaction with Keystone training was very high.**



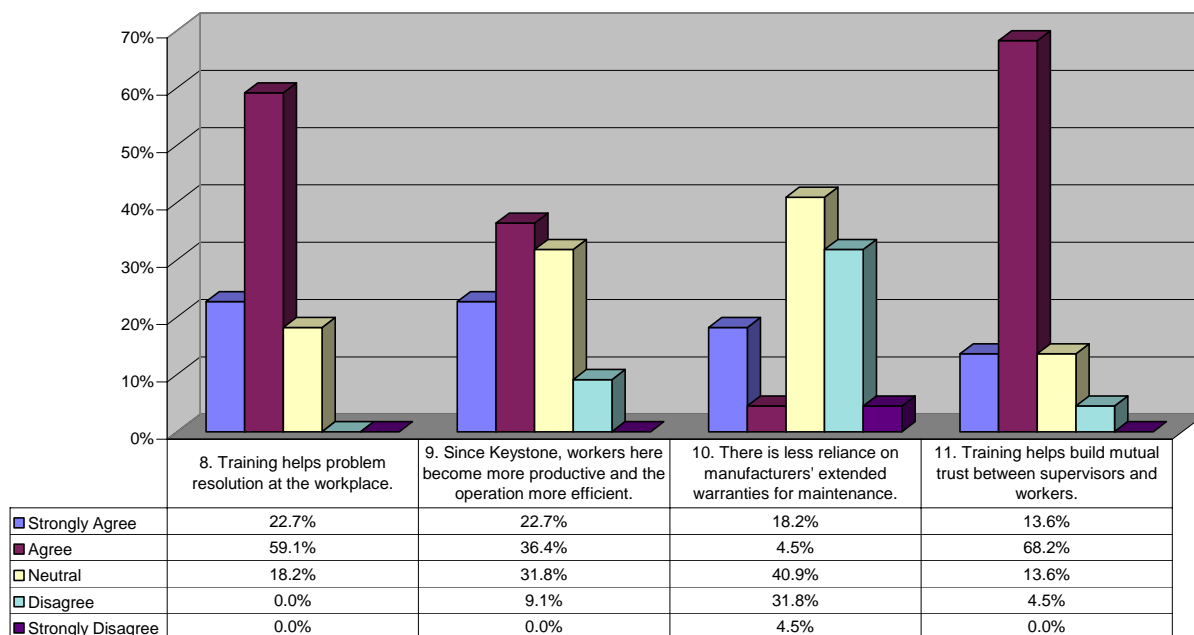
**SEPTA Supervisor Survey (2a Detail) - Keystone training covers most needed skill areas; mentoring program has room for improvement .**



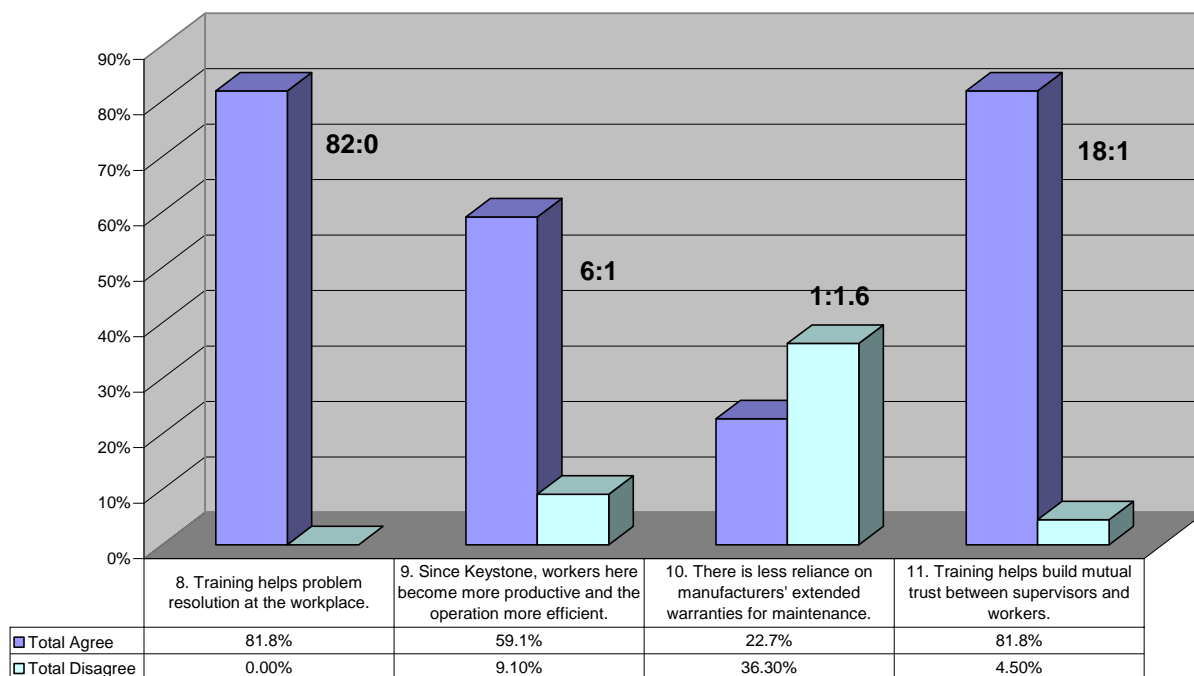
**SEPTA Supervisor Survey (2b Combined) - Keystone training covers most needed skill areas; mentoring program has room for improvement .**



**SEPTA Supervisor Survey (3a Detail) - Training helps problem resolution and builds mutual trust; Efficiency and productivity has been improved to some extent.**



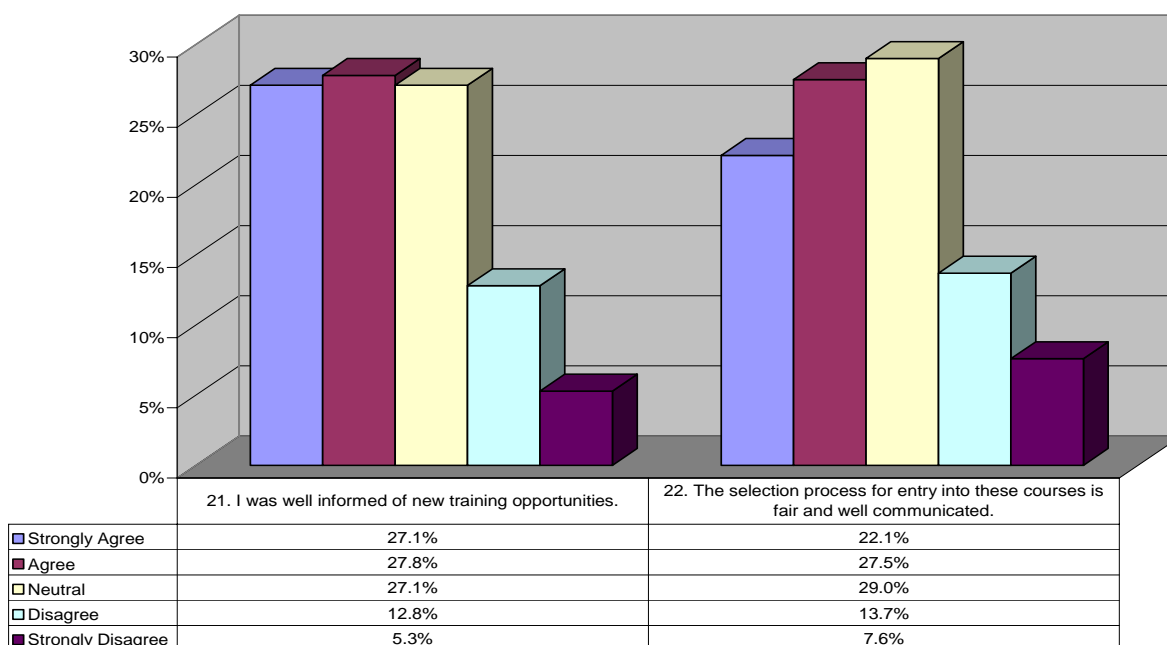
**SEPTA Supervisor Survey (3b Combined) - Training helps problem resolution and builds mutual trust; Efficiency and productivity has been improved to some extent.**



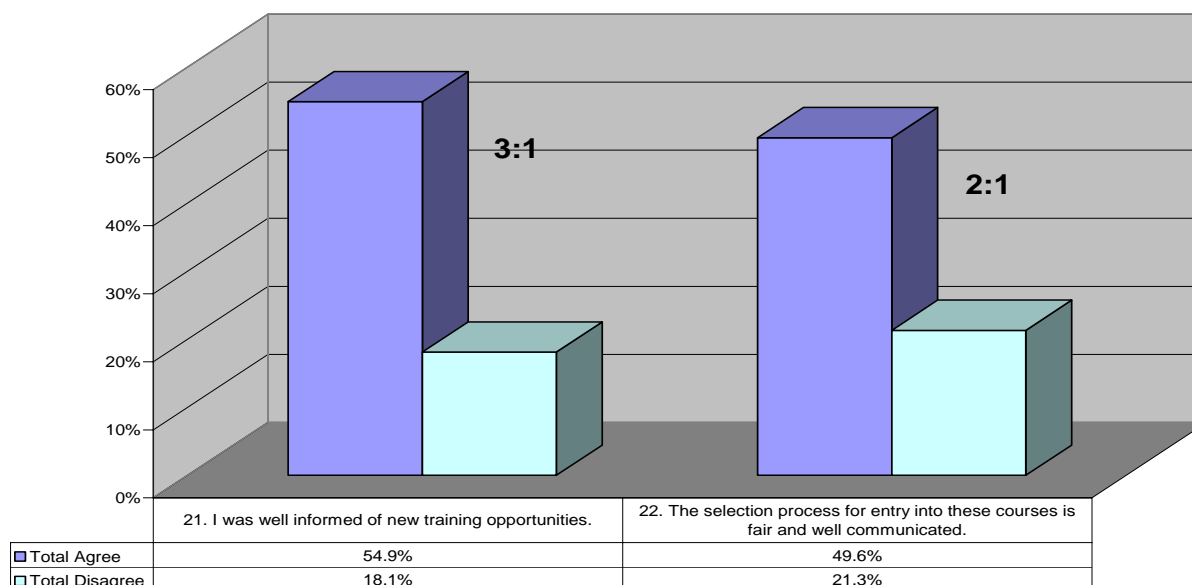
## B. Areas for Improvement in Philadelphia

Communication appears to be a weaker link in the training process. More than 20 percent of the surveyed SEPTA workers disagree with the statement that “the selection process for entry into these courses is fair and well communicated.” Only half of the supervisors and workers feel they are well informed of new training opportunities.

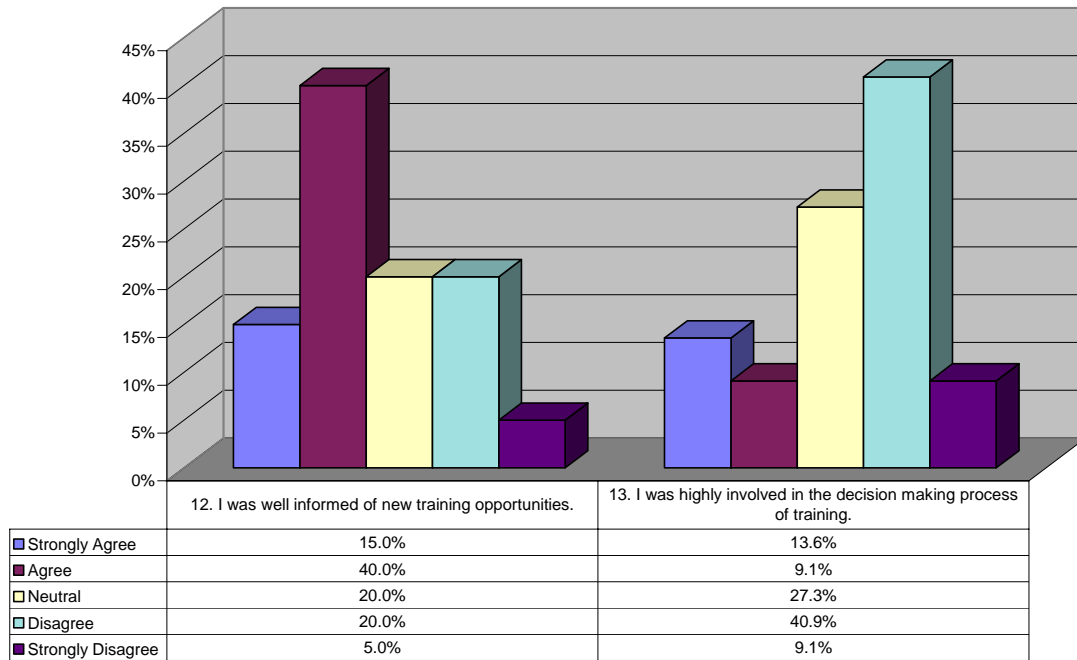
**SEPTA Worker Survey (5a Detail) - Better selection and communication process is needed.**



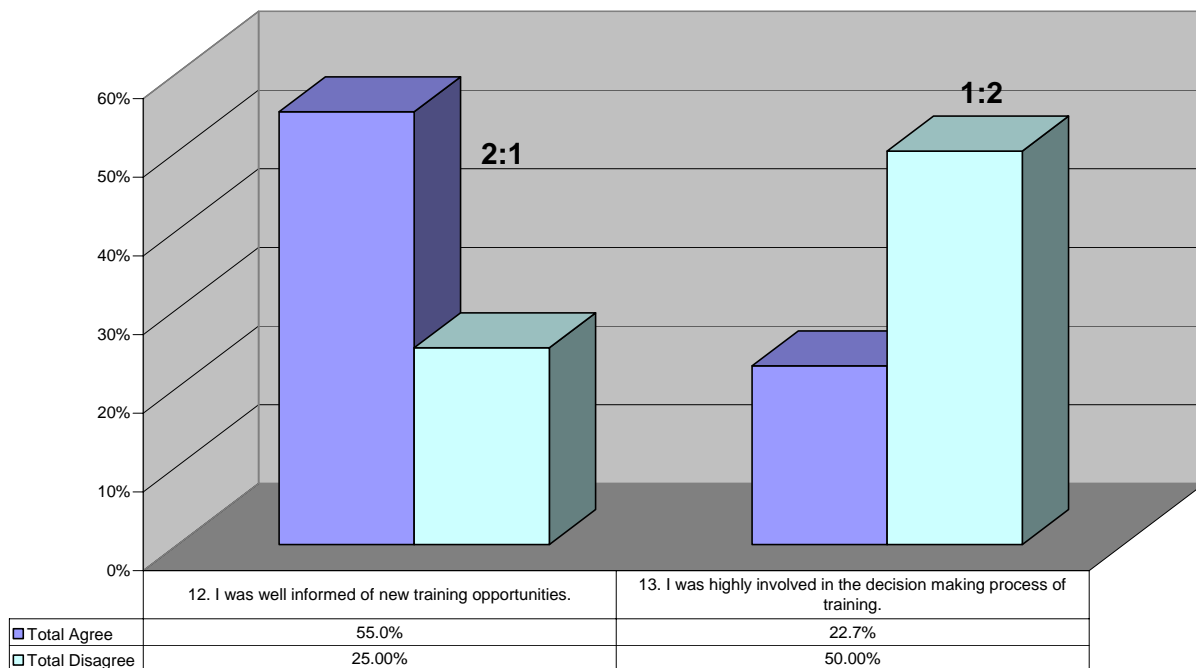
**SEPTA Worker Survey (5b Combined) - Better selection and communication process is needed.**



**SEPTA Supervisor Survey (4a Detail) - Better communication and more involvement in the program is called for by supervisors.**



**SEPTA Supervisor Survey (4b Combined) - Better communication and more involvement in the program is called for by supervisors.**



Preliminary analysis also shows slight variances among responses from different maintenance divisions. Workers in facilities maintenance seem most content with the program, and bus maintenance the least. The supervisor survey results follow the same pattern<sup>7</sup>.

Through voluntary comments, many trainees express their appreciation for a training program they see as addressing the system's most urgent skills needs. They would like to see more subjects being covered by training, including basic PC(Windows) training for all; high voltage, switch gear, and motor controls for facilities; and A/C, wheelchair, and PLC training for bus. Workers from facilities maintenance also call for mentoring and more hands-on training. Bus trainees voice specific concerns with their mentoring program, such as mentor qualification and willingness of mentors to teach.

## **V. Statewide Survey Findings**

### **A. Keystone Positively Viewed by Smaller System Workers and Supervisors**

Overall survey results show that both workers and supervisors in smaller transit properties feel very positively about Keystone training.

**Statewide Worker Survey:** All the trainees surveyed feel that training is important for them to do their jobs, which may be the part of the reason they chose to participate in Keystone in the first place. Workers consider their experience with Keystone courses to be extremely rewarding and satisfactory. Most of them believe that the subjects covered by these training sessions are much needed skills in their workplace. Trainees also agree that their instructors are knowledgeable on the subject and training materials are well designed and readily available. Their ratings are slightly lower when asked about the adequacy of hands-on experience as a complement to textbook knowledge and the sufficiency of training tools and equipment. Even though supervisory support is generally high, about 5 percent of the workers indicate that their supervisors were somewhat reluctant to send them to training. Most trainees feel that they were able to utilize the knowledge and skills gained from training courses in their daily job tasks. As they see it, training has helped augment individual worker skills and dramatically improved overall maintenance efficiency. More than 96 percent of the respondents would like to be involved in more Keystone training in the future.

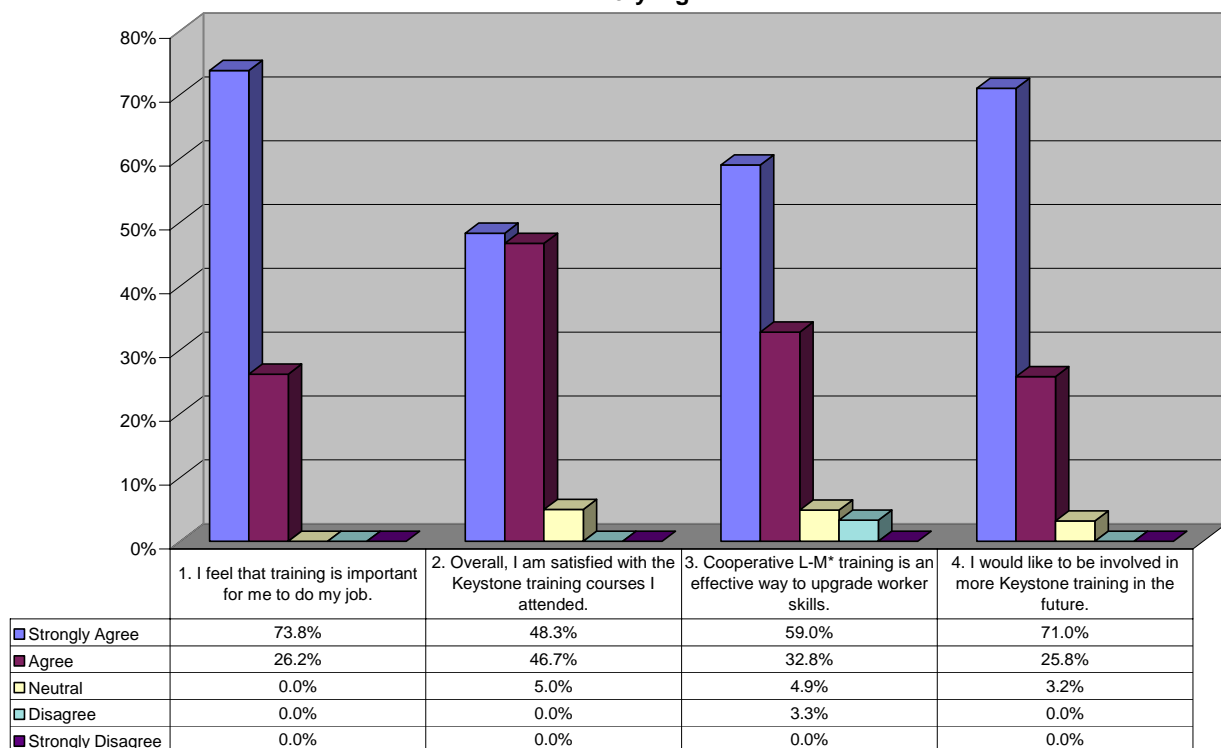
The charts on the following pages give a complete report of statewide worker survey questions and responses. As in the rest of this interim report, two bar charts are provided for each group of questions showing detailed and combined percentages.

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<sup>7</sup> Rail supervisor responses are excluded from this comparison due to the small sample size.

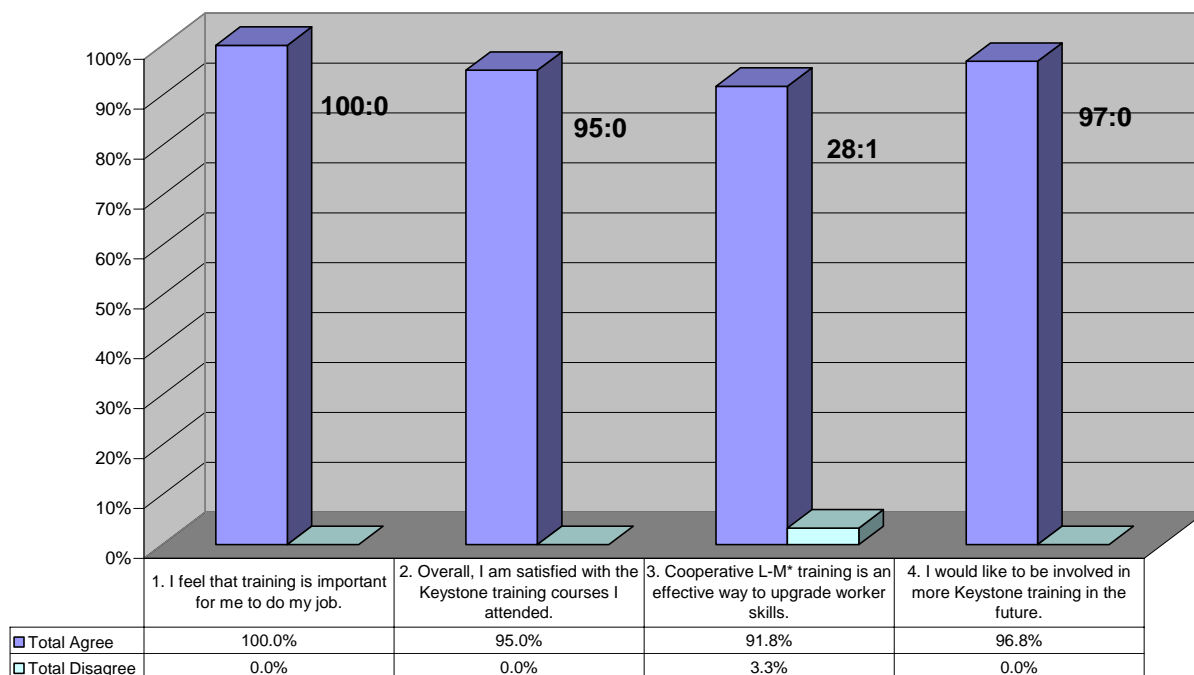


**Statewide Worker Survey (1a Detail) - Overall satisfaction with Keystone training was very high.**

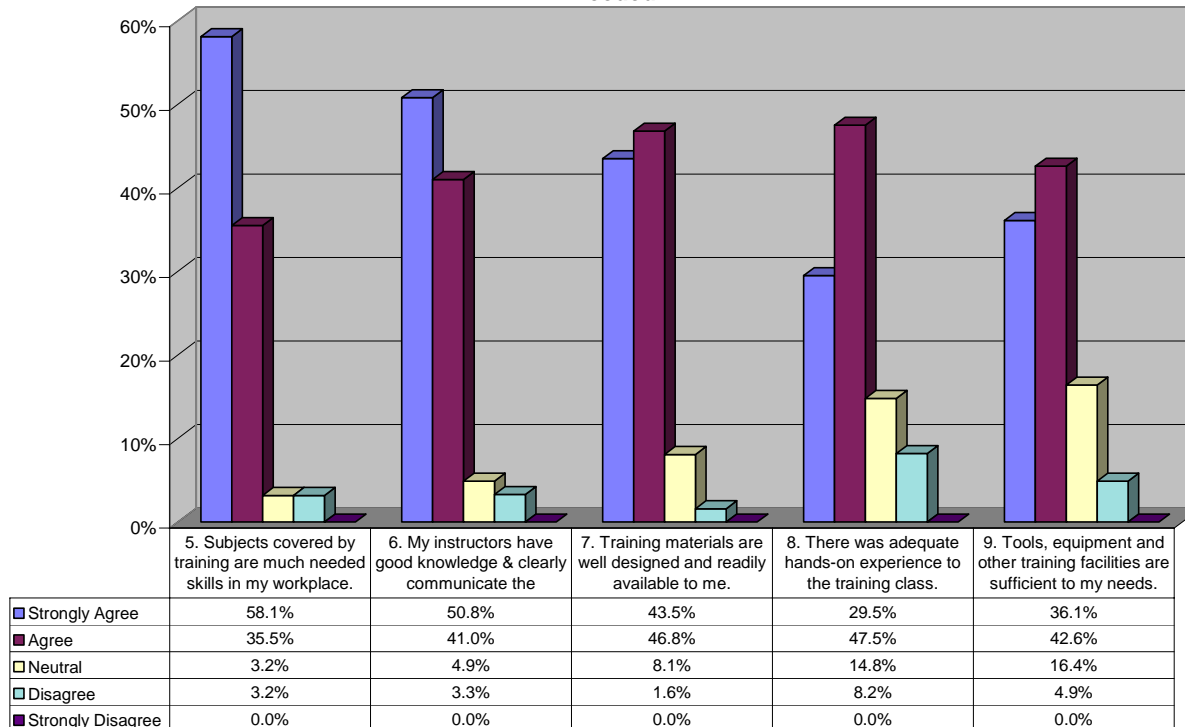


\*L-M stands for labor and management.

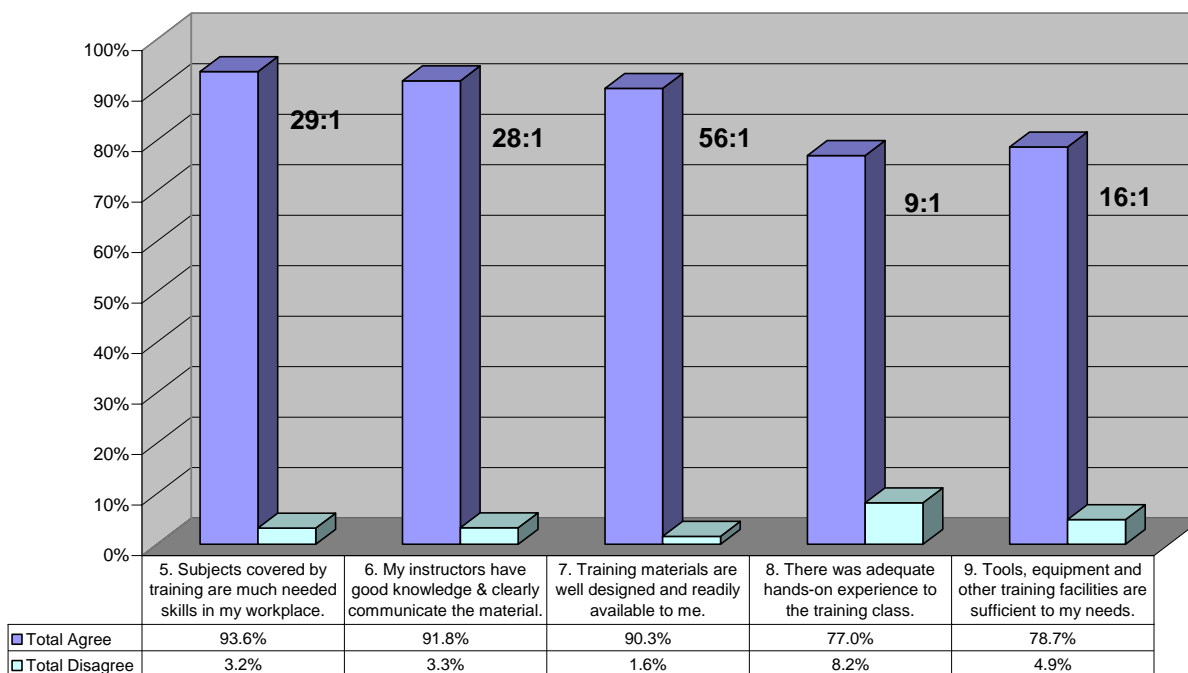
**Statewide Worker Survey (1b Combined) - Overall satisfaction with Keystone training was very high.**



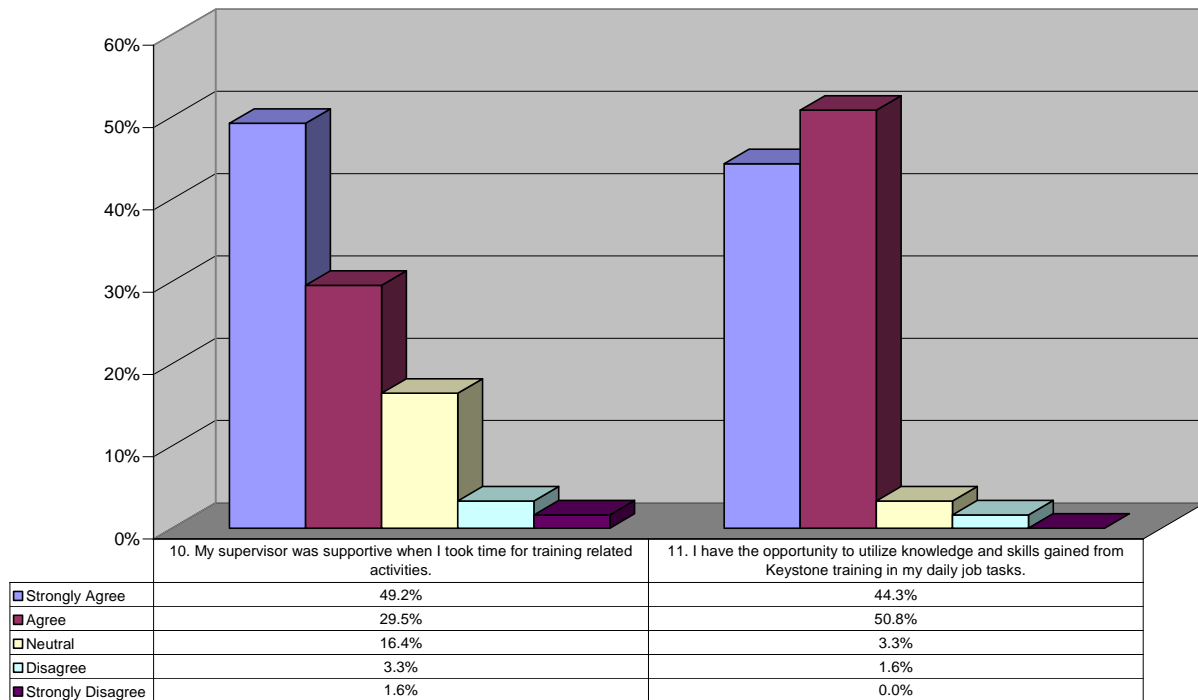
**Statewide Worker Survey (2a Detail) - Instructors were competent and training materials were well designed. More hands-on experience and better tools may be needed.**



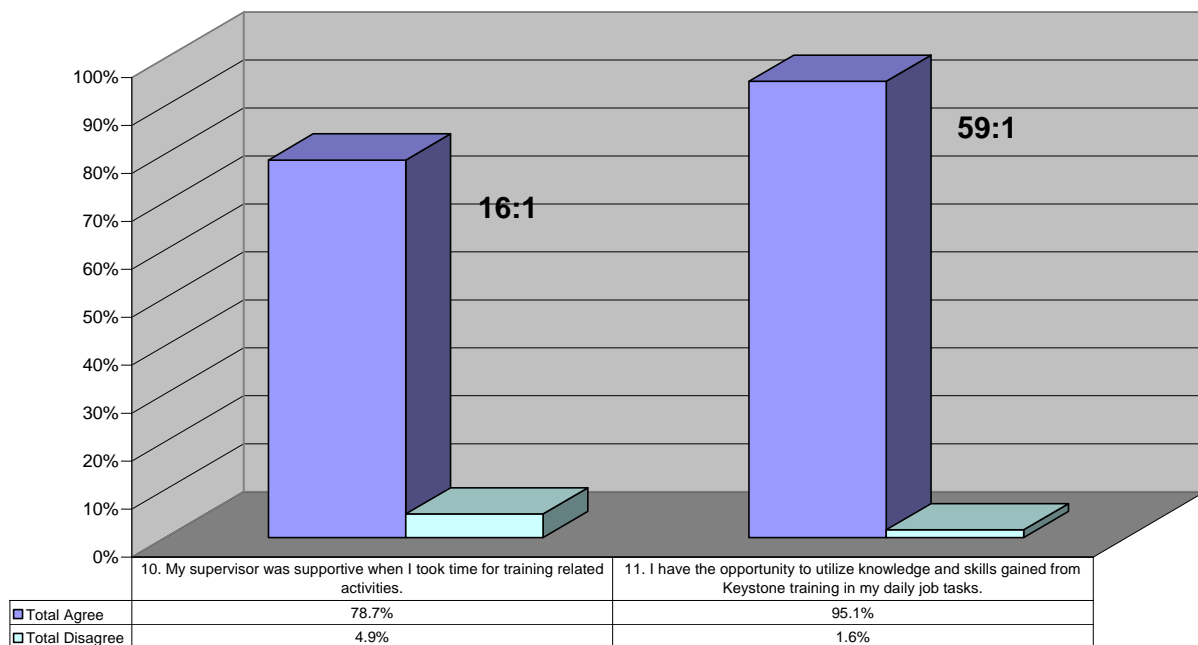
**Statewide Worker Survey (2b Combined) - Instructors were competent and training materials were well designed. More hands-on experience and better tools may be needed.**



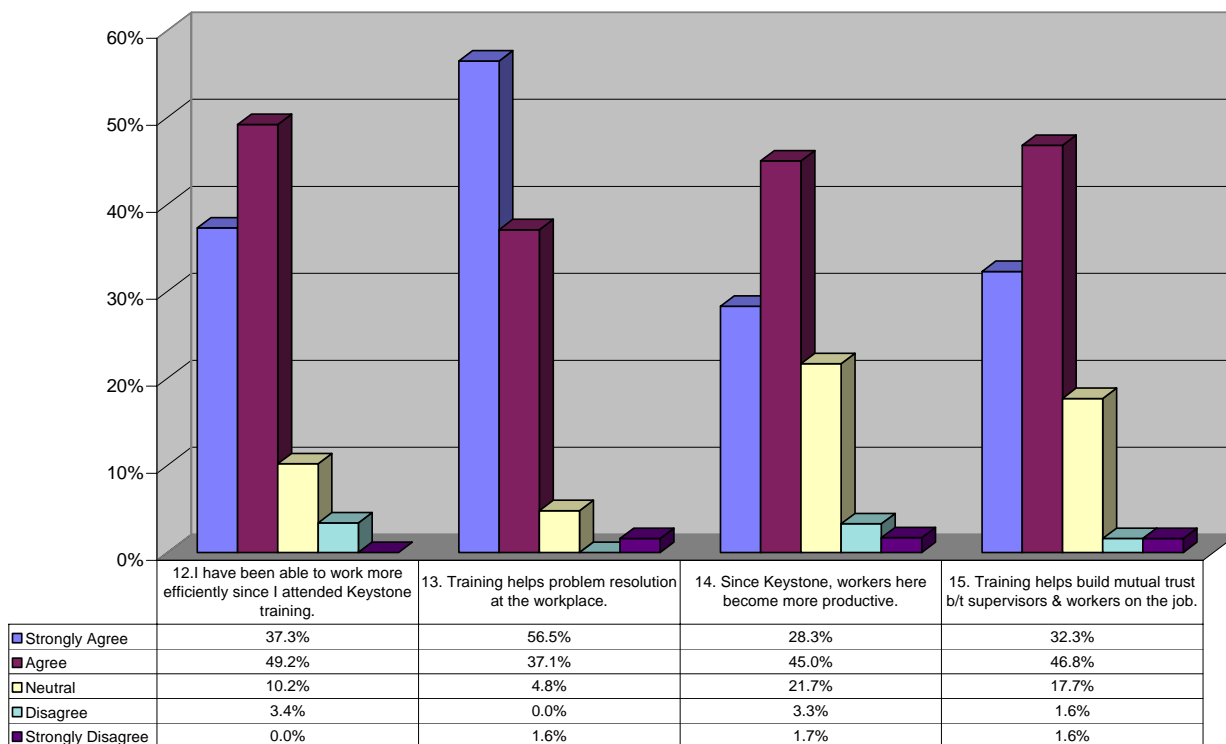
**Statewide Worker Survey (3a Detail) - Supervisors were supportive of training and offered adequate opportunities for workers to utilize their training gains.**



**Statewide Worker Survey (3b Combined) - Supervisors were supportive of training and offered adequate opportunities for workers to utilize their training gains.**

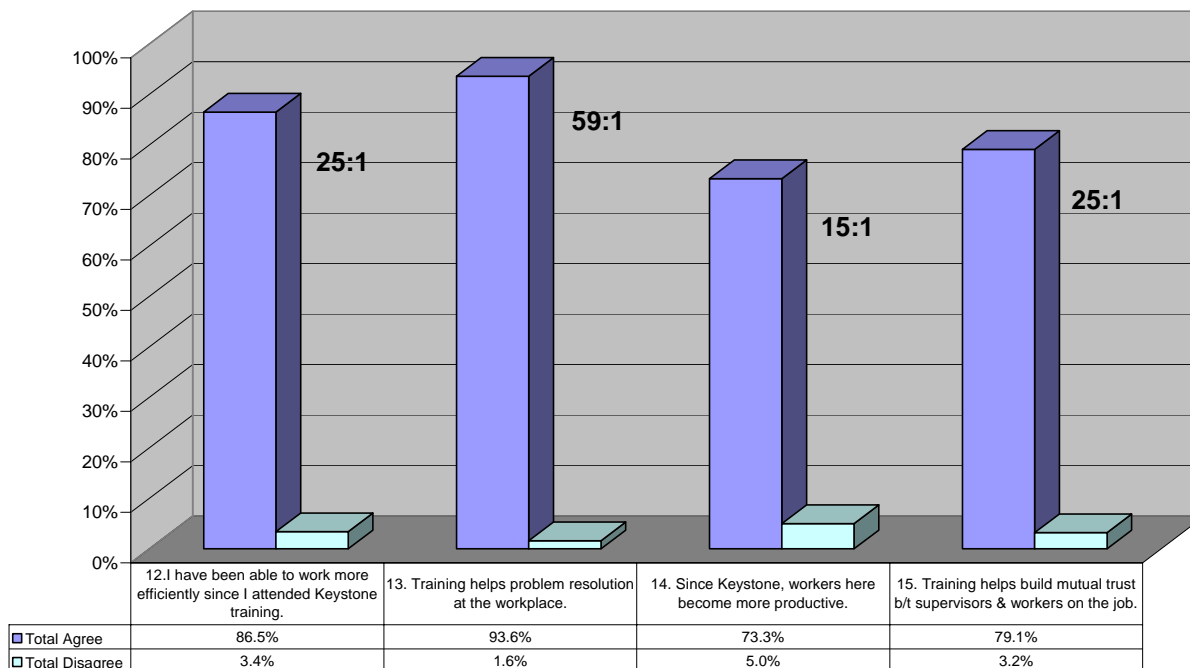


**Statewide Worker Survey (4a Detail) - Training helps augment individual worker skills; overall efficiency and productivity has improved dramatically.**



**16:1**

**Statewide Worker Survey (4b Combined) - Training helps augment individual worker skills; overall efficiency and productivity has improved dramatically.**

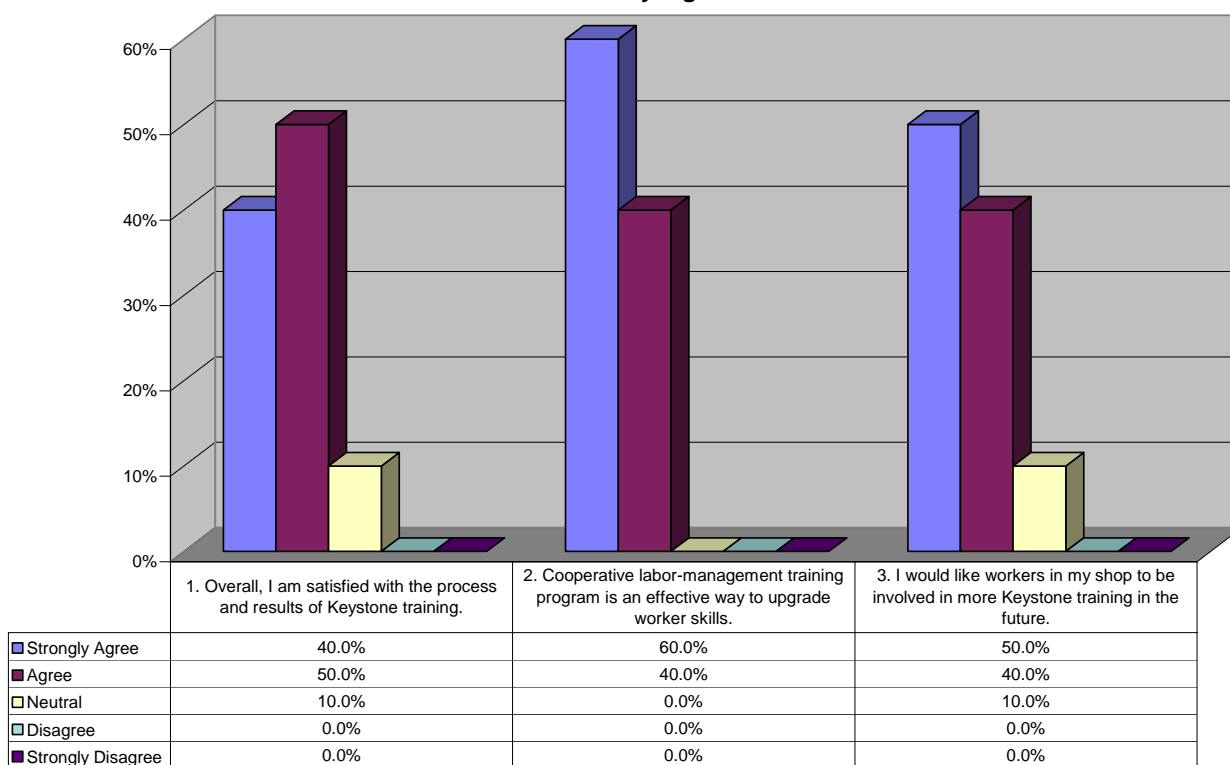


**Statewide Supervisor Survey:** Supervisors in smaller transit systems were extremely satisfied with the process and results of Keystone training. Throughout the questionnaire, no supervisor has given a negative rating on any close-ended questions. Because of the Keystone experience, all supervisors surveyed believe that a cooperative labor-management training program is an effective way to upgrade worker skills. 90 percent would like to send their mechanics to more Keystone training in the future. They feel that training has helped problem resolution in the workplace and built mutual trust between workers and foremen. Supervisors also indicate that they were able to obtain ample program information through various sources and their involvement in the decision making process of training subject selection, design and delivery was rather high.

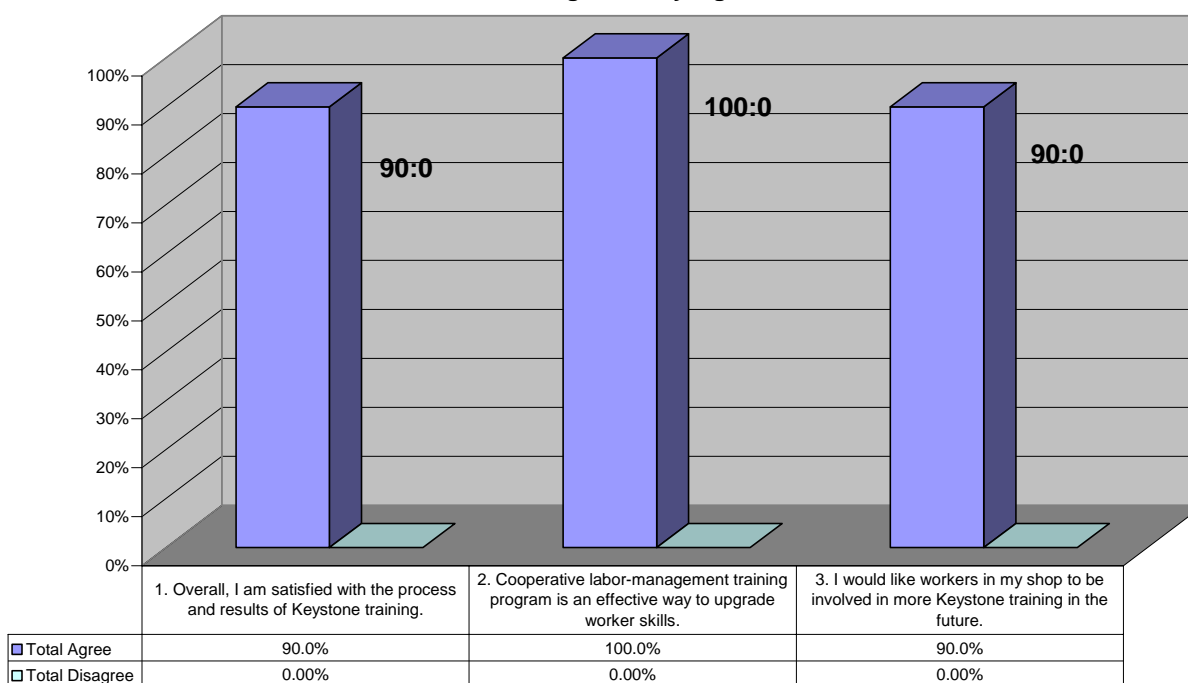
In contrast to the perception of the workers, only 60 percent of the supervisors feel they were able to assign relevant job tasks to workers who came back from training courses. Also, supervisors' responses on whether Keystone has had a major impact on the efficiency of overall maintenance operations are not consistent enough to support a definite conclusion, but future analysis of maintenance performance records may produce more conclusive evidence.

The charts on the following pages provide a complete report of the statewide supervisor survey questions and responses. These charts follow the same structure as others in this report.

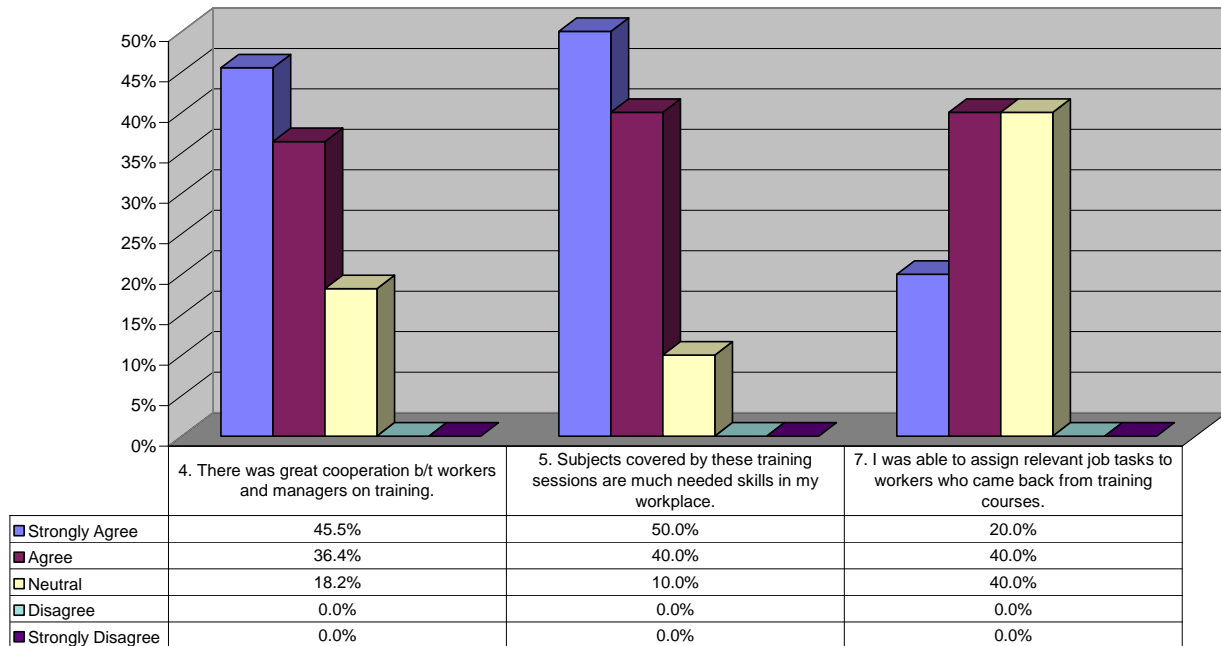
**Statewide Supervisor Survey (1a Detail) - Overall satisfaction with Keystone training was very high.**



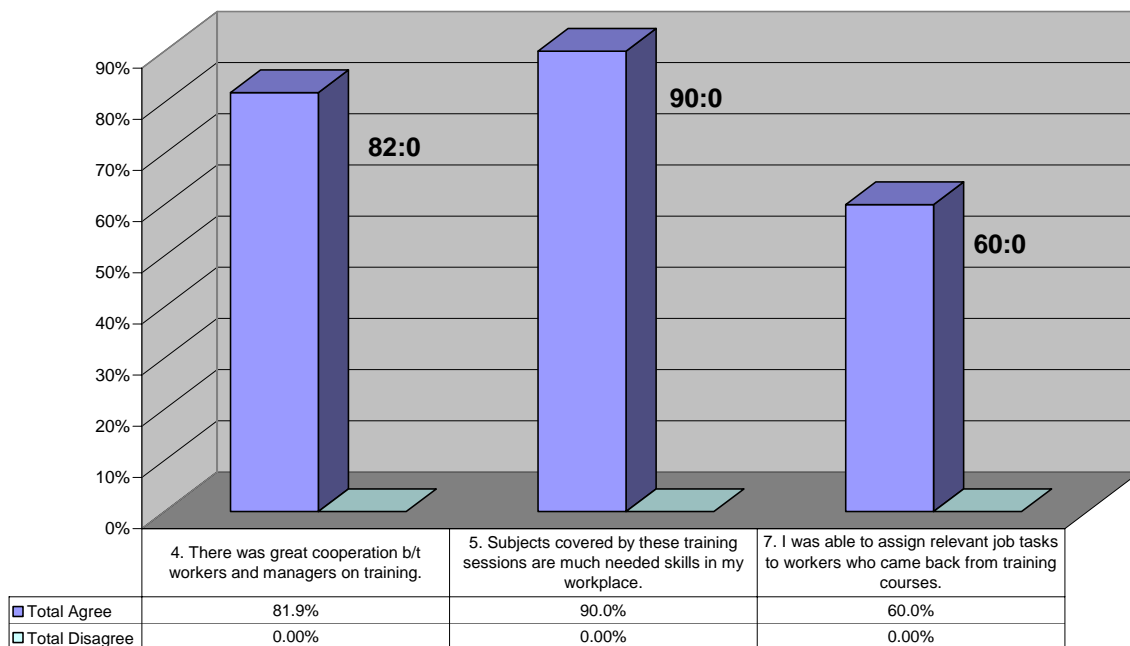
**Statewide Supervisor Survey (1b Combined) - Overall satisfaction with Keystone training was very high.**



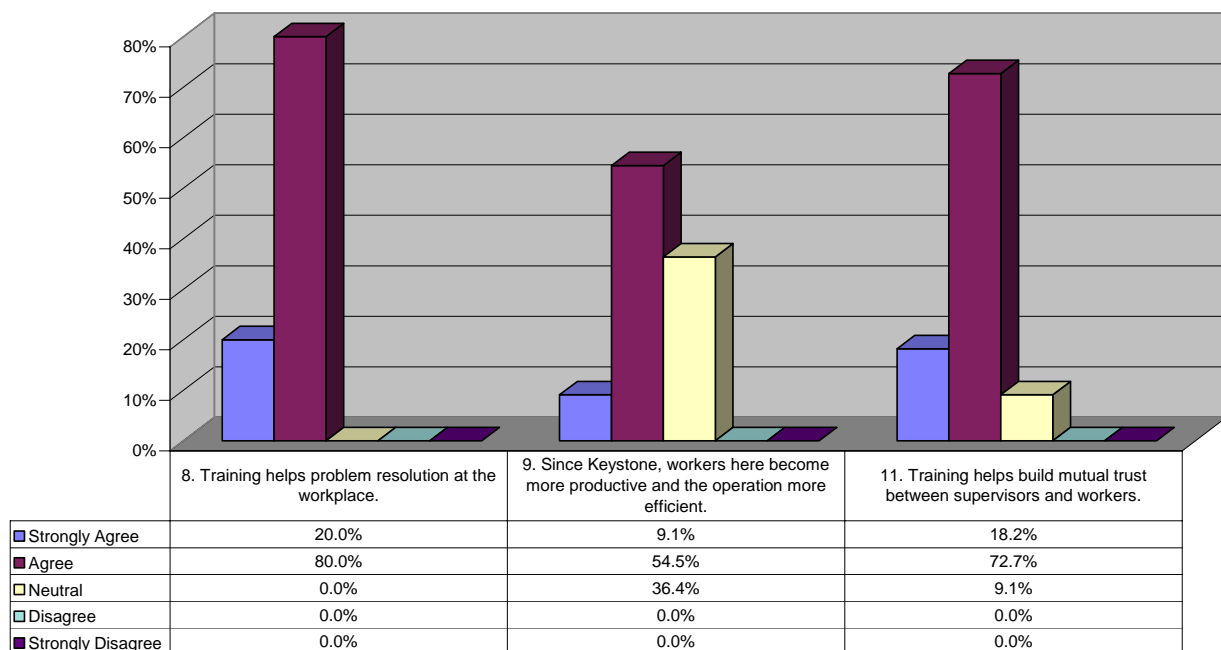
**Statewide Supervisor Survey (2a Detail) - Keystone training covers most needed skill areas; Job assignments are not always relevant to training subjects.**



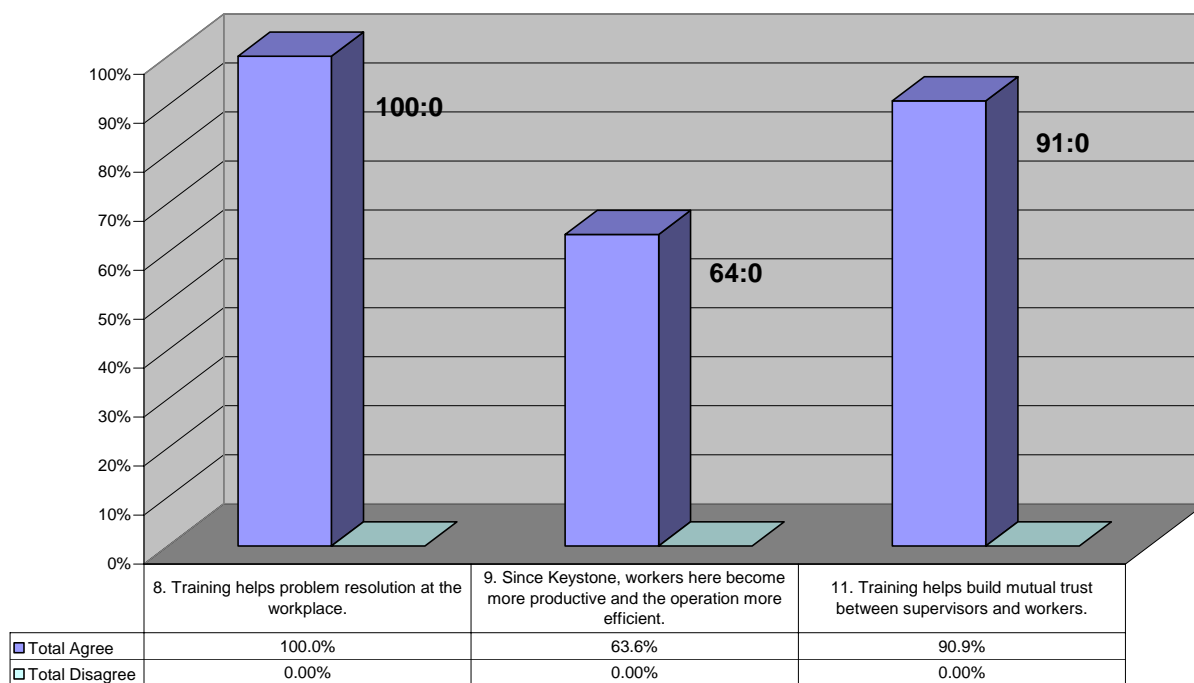
**Statewide Supervisor Survey (2b Combined) - Keystone training covers most needed skill areas; Job assignments are not always relevant to training subjects.**



**Statewide Supervisor Survey (3a Detail) - Training helps problem resolution and builds mutual trust; Efficiency and productivity has been improved to some extent.**

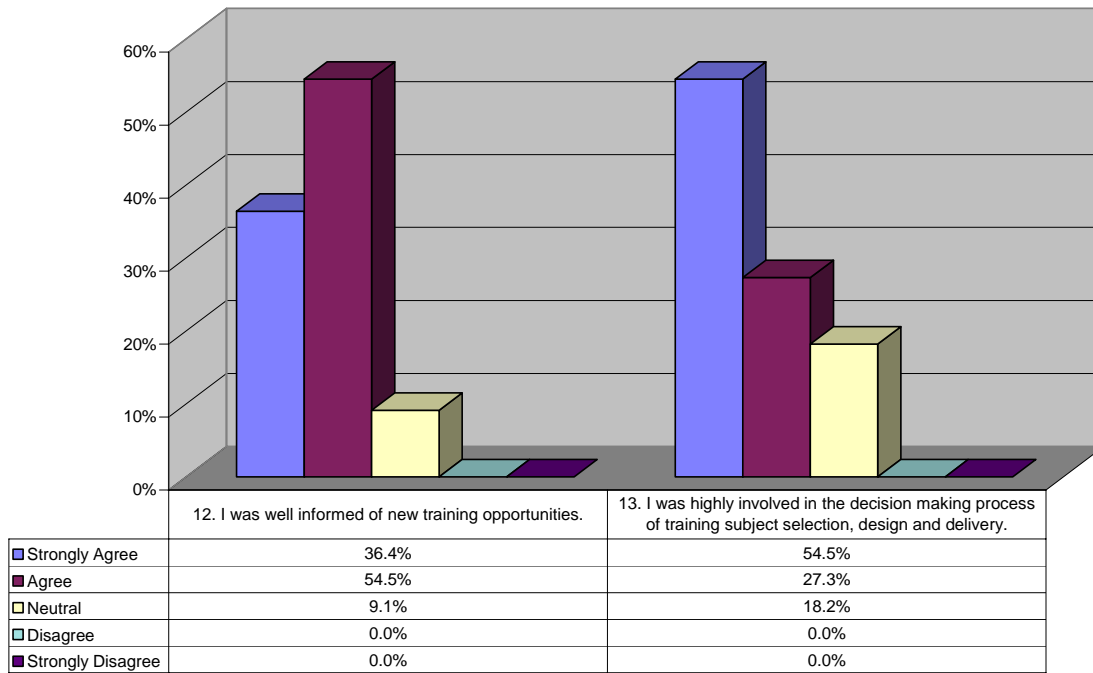


**Statewide Supervisor Survey (3b Combined) - Training helps problem resolution and builds mutual trust; Efficiency and productivity has been improved to some extent.**

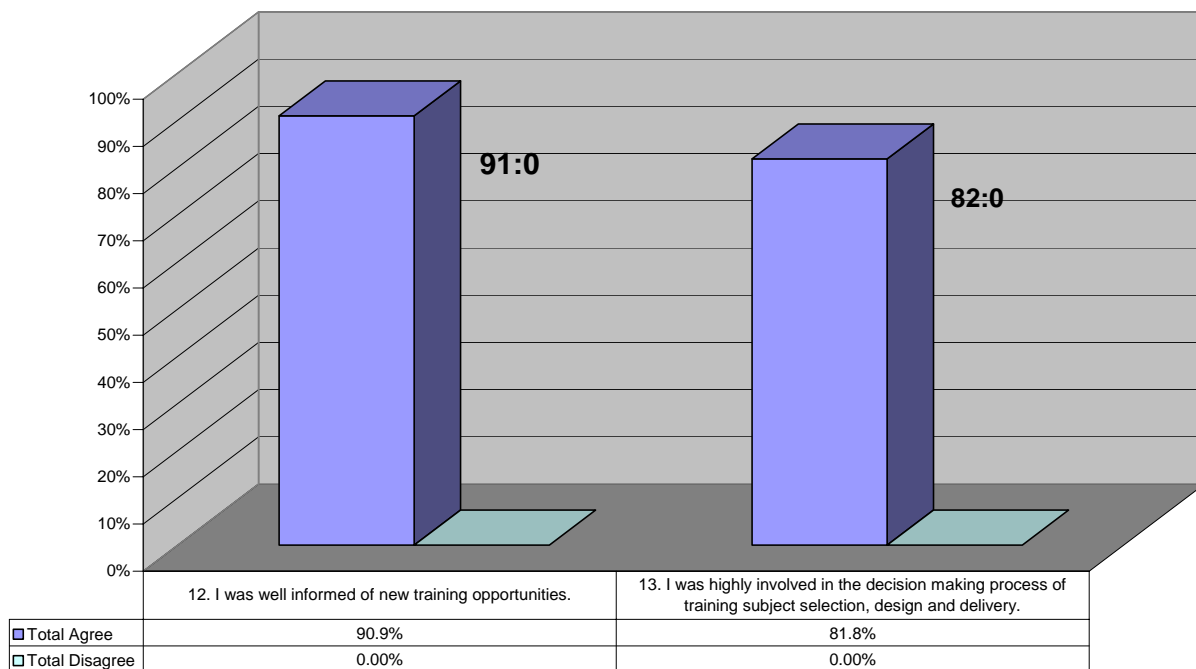




**Statewide Supervisor Survey (4a Detail) - Program communication was generally satisfactory and supervisor involvement was high.**



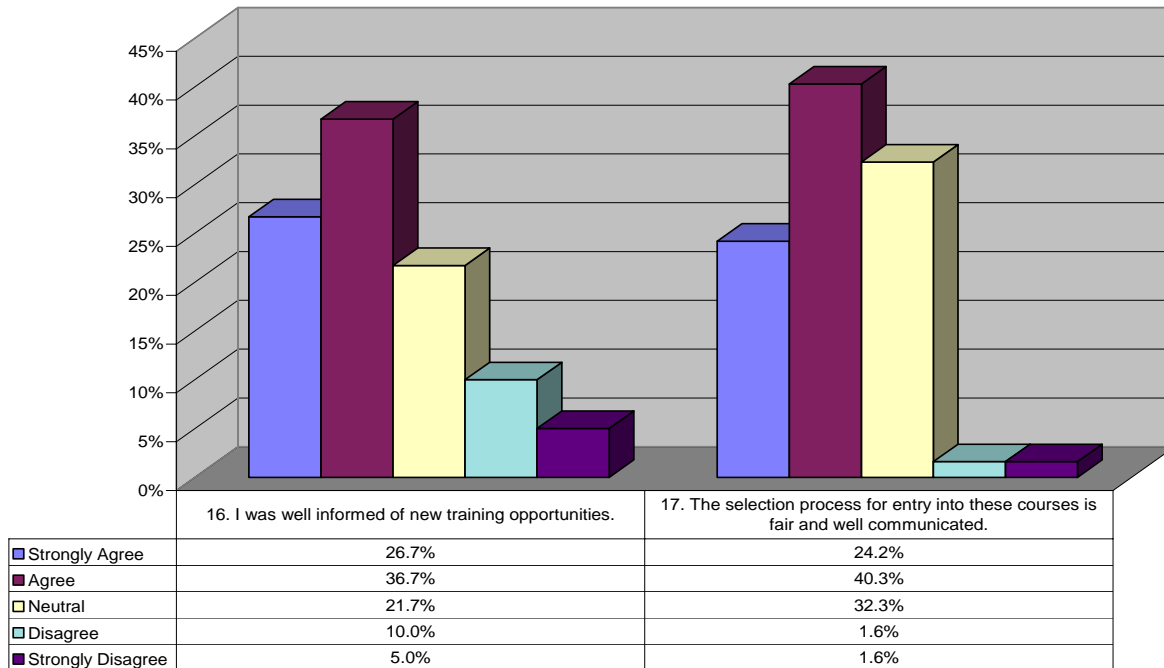
**Statewide Supervisor Survey (4b Combined) - Program communication was generally satisfactory and supervisor involvement was high.**



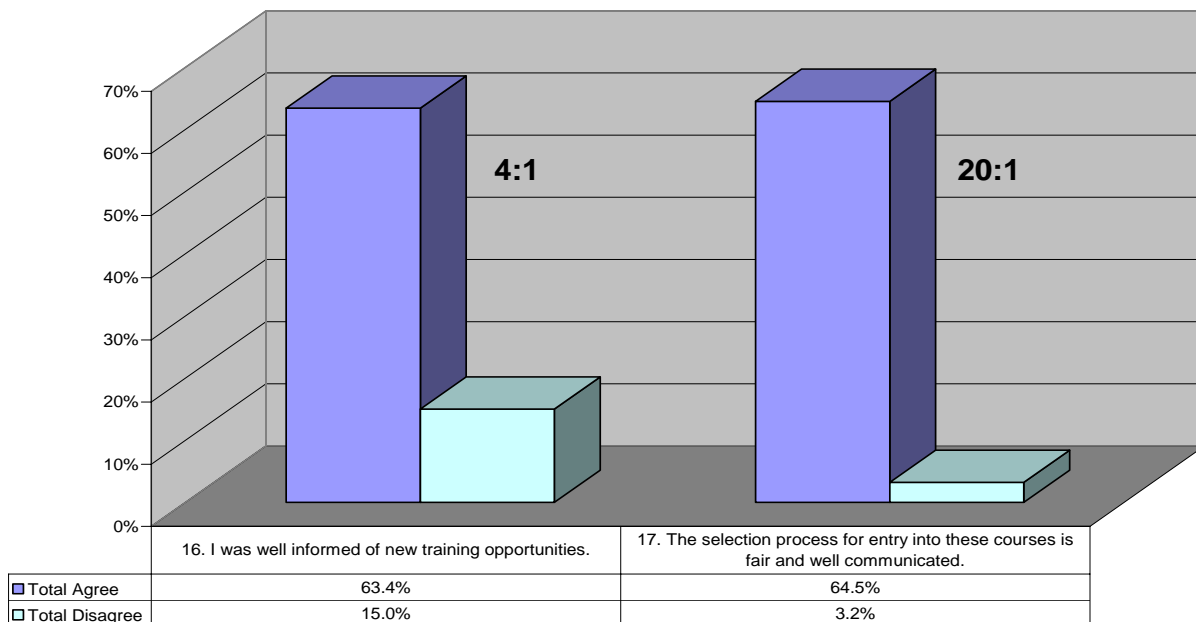
## B. Areas for Improvement

Program communication and trainee selection appear to be weaker links in the training process, as perceived by statewide transit workers. See the following two charts for worker ratings on related questions.

**Statewide Worker Survey (5a Detail) - Better selection and communication process is needed.**



**Statewide Worker Survey (5b Combined) - Better selection and communication process is needed.**



Preliminary analysis also shows slight variances between worker responses across different transit agencies. The largest disparity among properties is again found in their views about program communication and the trainee selection process.

Through voluntary open-ended comments, trainees and supervisors affirm their experience that the program was very strong in terms of instructor qualification and professionalism. Several supervisors note that they have noticed the positive changes in the mechanics as well as in the shop. At a rural facility, electrical problems have decreased thanks to the basic electrical class. Participants would like to see more subjects being covered by training, including wheelchair lift, electrical/electronics, air door, and vehicle/equipment specific training. They also call for more time with each class and more hands-on training.

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Survey findings presented in this interim report will be incorporated in the Transportation Center's forthcoming study, *The Keystone Transit Partnership: Measuring Up*, along with results from the quantitative analysis of transit maintenance operations records that the Center is currently conducting.