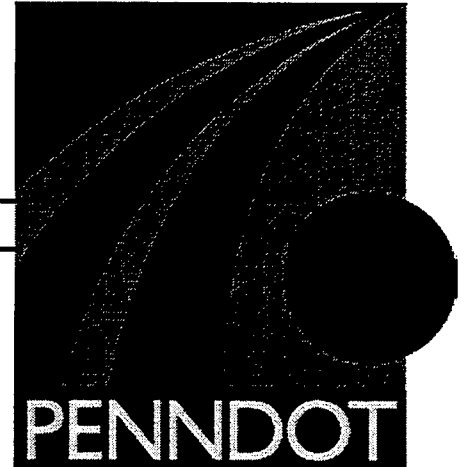




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**COMMONWEALTH OF PENNSYLVANIA  
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**SUMMER TRANSPORTATION INSTITUTE 2001**

**University-Based Research, Education,  
and Technology Transfer Program**

**AGREEMENT NO. 359704, WORK ORDER 105**

**FINAL REPORT**

**April 2002**

**By: I. Osayimwese**

**PENNSSTATE**



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**Pennsylvania Transportation Institute**

**The Pennsylvania State University  
Transportation Research Building  
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FINAL REPORT

Prepared for

Commonwealth of Pennsylvania  
Department of Transportation

By

Iz. Osayimwese  
Lincoln University

The Pennsylvania Transportation Institute  
The Pennsylvania State University  
Transportation Research Building  
University Park, PA 16802-4710

April 2002

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PTI 2002-27



# TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT.....	1
INTERMODAL ADVISORY COMMITTEE.....	2
IAC Membership .....	2
STI PROGRAM OBJECTIVES .....	3
2001 STI PARTICIPANTS .....	4
PROGRAM FACULTY AND STAFF.....	5
List of 2001 Faculty and Staff .....	5
ACADEMIC PROGRAM .....	6
ENHANCEMENT PROGRAM .....	7
SPORTS AND RECREATION PROGRAM.....	7
DEMOGRAPHIC SUMMARY REPORT .....	7
Table 1. Lincoln University Summer Transportation Institute Demographics.....	8
Table 2. STI Ethnic Background in Numbers.....	8
Table 3. STI Gender Representation.....	8
EVALUATIONS .....	9
MARKETING.....	9
CLOSING AWARD PROGRAM .....	10
APPENDIX A.....	A-1





## ABSTRACT

The residential STI program was held at Lincoln University during July 9 – August 3, 2001. Twenty students (nine 8<sup>th</sup> graders, 9<sup>th</sup> graders, and four 10<sup>th</sup> graders) participated in the program. One student was advised to withdraw after two weeks. The students were selected from nine schools located in five cities and four counties. Three of the schools are in Pennsylvania and the other school is located in Delaware.

The responses to the evaluation questionnaires and the feedback from students and parents/guardians suggest that the 2001 STI program is moving along the path of achieving the objectives to: (a) encourage students to choose future transportation-related careers, and (b) create opportunities for students to have an educationally beneficial and enjoyable summer.

Efforts will be made to restore the IAC's earlier momentum, so that the committee can play its expected role of supporting the program to achieve the goals of the STI. The program's personnel consisted of four Lincoln University faculty members and four staff members.

The academic program of the 2001 STI consisted of 13 classroom presentations and many hours of hands-on transportation model-building projects. The program also incorporated 22 speakers and 10 visits to transportation-related sites in Pennsylvania. The academic program focused on land-based, air, and water transportation. The program also examined technology and safety / environmental issues in transportation. Specifically, the 2001 STI aimed students to become as interested in the land-based transportation as they often are in air transportation/space travel. Another emphasis of the 2001 STI was to ensure that enhancement activities achieved tangible results. The responses suggest that the enhancement program was successful. The sports / recreation program was implemented more vigorously than hitherto.

The existing system for recruiting STI participants is effective in terms of finding an adequate number of qualified applicants. But efforts will not be spared to enrich the system. The Intermodal Advisory Board supports the development of a marketing strategy to attract more resources to the STI. We recommend that, among other suggestions, the general issue of safety for STI participants should be put on the agenda for the 2002 NSTI Workshop.

The awards ceremony was visibly a happy occasion for both the graduating STI students and their families. Attendance by parents / guardians and special guests was strong. Students prepared the awards program, and managed the affairs of the closing ceremony. The occasion was great, with good food and much fun for all present. Parents and students expressed their satisfaction and gratitude in various ways to STI faculty and staff.

# INTERMODAL ADVISORY COMMITTEE (IAC)

## IAC MEMBERSHIP

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McTish Kunkel & Associates

\* Left the Company/University, yet to be replaced

\*\*Retired

The joint Lincoln University-Cheyney University IAC was not active this year compared to 2001. Only one meeting was held (June 22, 2001). Although a number of plans were made for IAC activities in the months after completion of the 2001 STI program, there has not been any follow-up so far. This is mainly because of some internal changes within PENNDOT's Bureau of Equal Opportunity. Thanks to the pioneering efforts of the former chairperson of the Intermodal Advisory Board, Mr. William Kerney of the BEO, we have a number of committed board members who can help the IAC to achieve the objectives of the STI program at Lincoln University (and Cheyney University). There is an urgent need to re-invigorate the joint-IAC in order to plan effectively for 2002 STI.

The IAC's achievements include the following: endorsed PENNDOT's on-going plan to encourage two more universities in the State to participate in the STI as host sites; recommended that STI host sites in the State introduce pre- and post-test instruments to supplement the existing evaluation questionnaires; recommended a drive for new partnerships to secure internship opportunities for STI graduates, and to attract more resources for the STI program.

## **PROGRAM OBJECTIVES**

The broad objectives of the STI are three-fold:

1. Facilitate participation of students in a series of learning experiences that will motivate them toward professions in transportation and transportation-related industries.
2. Provide students with the mathematical, scientific, and technological enrichment through computer lab activities, guest speakers, and field trips.
3. Provide opportunities for secondary students to have an exciting recreational experience during the four-week summer program.

The specific objectives of the STI participants include the following:

1. Understand the past, present, and future directions of transportation.
2. Examine the sources of energy and their environmental impact.
3. Identify the methods of moving people and goods.
4. Identify users and providers of transportation services.
5. Explore the areas of transportation safety.
6. Recognize the linkages between transportation systems nationally and internationally.
7. Explore career and professional opportunities in the 21<sup>st</sup> century.

## 2001 STI PARTICIPANTS

1. Brown, Terrence
2. Beauvais, Marie
3. Burrell, Alyssa
4. Burton, Octavia
5. Butler, Natasha
6. Carter, D'Andre
7. Delva, Rosenie
8. Farrington, Ramsey
9. Martin, William
10. M<sup>c</sup>Collum, Nicole
11. Nicholas, Andre
12. Nwachuku, Chinomso
13. Nwachuku, Enyinna
14. Robinson, Aigner
15. Robinson, Micaela
16. Shaw, Taneisha
17. Trawick, Porsha
18. Turner, Kevin \*
19. William, Ryan
20. Williams, La'Kea

*\*Student was advised to leave the program at the end of the second week.*

## **PROGRAM FACULTY AND STAFF**

### **LIST OF 2001 STI FACULTY AND STAFF FACULTY**

**1. Ms. Linda Leatherbury**

Discipline: Accounting, Taxation  
Position: Lecturer (STI Faculty)  
Affiliation: Department of Economics and Business Administration, Lincoln University

**2. Dr. Patricia Joseph**

Discipline: Social Work  
Position: Associate Professor (STI Faculty)  
Affiliation: Department of Sociology and Anthropology, Lincoln University

**3. Dr. Ganga Ramdas**

Discipline: Economics, Management  
Position: Associate Professor (STI Academic Program Coordinator)  
Affiliation: Department of Economics and Business Administration, Lincoln University

**4. Dr. Iz. Osayimwese**

Discipline: Economics  
Position: Visiting Professor (STI Program Director)  
Affiliation: Department of Economics and Business Administration, Lincoln University

### **STAFF**

**1. Ms. Malaika Lambert**

Discipline: International Relations  
Position: Academic Aide  
Affiliation: Summer 2001 Lincoln graduate

**2. Ms. Joy Harris**

Discipline: Education  
Position: Residence Coordinator  
Affiliation: Student, Lincoln University

**3. Mr. Justin Jarmon**

Discipline: Physical and Health Education  
Position: Residence Coordinator  
Affiliation: Student, Lincoln University

**4. Mr. Jerome Majette**

Discipline: Physical and Health Education  
Position: Recreation Coordinator  
Affiliation: Student, Lincoln University

## ACADEMIC PROGRAM

The academic program of the 2001 STI was multi-modal by design and implementation, as in previous years. The classroom sessions and the field trips emphasized the three major transportation modes, and exposed students to inter-modal transportation, the issues of safety and technology, and the environmental impact of transportation activities. All classroom sessions and field trips focused students' attention on career and training opportunities in transportation. In all, there were 13 classroom presentations with 22 guest speakers and 10 field trips. As a part of the academic activities, the students had many hours of hands-on model building in the classroom. Visits to the Web sites of each major transportation mode, as well as STI-supplied educational computer programs on transportation greatly strengthened the academic program in 2001 STI.

In week one, which focused on land-based transportation, there were five presentations, two off-campus site visits, several hours of computer lab sessions, and some video sessions on automobiles and bridges. The highlights of the first week sessions were: 1) the car-designing and car-modeling presented by an experienced designer/model builder from GM's technical school in Michigan; and 2) The session on roads and traffic by two traffic engineers from an engineering consulting firm in Philadelphia, PA. Both sessions greatly excited the students. The students had several hours of model building using educational kits.

Week two emphasized air transportation and space travel. There were three field trips and two presentations. The presentations were quite inspiring to the students. Students enjoyed the hands-on presentation on airplane and rockets. Students had outdoor sessions to fly their planes and launch rockets. The visit to the Franklin Museum did not have any obvious relevance to transportation. But the experience was of scientific value to the students,

The highlights of week three were the trips to the Philadelphia Shipyards and Ports. The visit has become one of our favorite activities, thanks to the excellent on-site presentation, the informative tours of the portside and hospitality to STI participants. The visit to the Naval Base was educational, as usual. Students enjoyed the visit to the Hershey Amusement Park, which also illustrates the role of transportation in the tourism and recreation.

This year we succeeded in having a guest speaker from the FAA to speak on air safety during the fourth week of 2001 STI. The EPA's two-person team has always been innovative in presenting the session on transportation and environmental issues. The last presentation was on careers in transportation. Apart from being knowledgeable about transportation careers and training as an experienced civil engineer, the guest speakers represented an excellent role model to students.

## **ENHANCEMENT PROGRAM**

The main objective of this year's enhancement program was to ensure that by the end of the program each student has acquired or improved upon at least one specific skill. The program emphasized computer application, personal finance, and literary and social skills. The director of the instructional media center at Lincoln University held computer lab sessions on Web site design. Students had several hours practicing web page creation under the supervision of the STI Academic Coordinator and with the assistance of the Academic Aide. Sessions on budgeting, saving, investing, and running a small business were held. As a part of the development of literary and social skills, students had hands-on presentations on time management, good study habits, debate, resume creation, and preparing for high school and college. At the end of these sessions one had the feeling that the students learned something useful in the future.

## **SPORTS AND RECREATION PROGRAM**

In line with the objective the STI, the sports and recreation activities aimed to make the summer enjoyable to participants. As such, students had a good mix of indoor and outdoor activities. Most of the recreation and indoor sports took place at the gym. Students participated daily in sports such as basketball, bowling, ping-pong, and the pool-table (billiards). Frequently students went to the track to jog/run, in contrast to previous years. The program supplied a variety of games, along with those at the gym, for the students' recreation. STI participants went to the movies twice (off-campus). We believe that the students enjoyed the social and recreational ambience on campus. However, the unexpectedly high number of concurrent programs on campus was a source of distraction to our students. Efforts will be made to reduce such distractions when planning future STI programs.

## **DEMOGRAPHIC SUMMARY REPORT**

Twenty participants were selected from nine schools located in five cities, including Philadelphia, in three counties of Pennsylvania. Philadelphia and the city of Chester, with each contributing equal shares, jointly accounted for 80 percent of the 20 participants. Of the nine subscribing schools, six were middle schools, and accounted for 80 percent of the 2001 class. The largest number of students from the same school was six. In terms of grade level in fall 2001, that is after 2001 STI ended, nine were expected to be 8<sup>th</sup> grade students, seven in the 9<sup>th</sup> grade, and four in grade 10. Based on the inquiries I have received to date, we expect three 2001 STI graduates to return this summer.

Lincoln University Summer Transportation Institute Demographics	
Name of Host Site	Lincoln University
Year Reporting	2001
Program Classification	Middle School
Number of Applicants	30
Number of Participants	20
Number Completing Program	19

Table 1. Lincoln University Summer Transportation Institute Demographics.

STI Ethnic Background in Numbers	
Ethnicity	Number of Students
Native American	1
Caucasian	0
Asian	0
African American	15
Hispanic	0
Other	4

Table 2. STI Ethnic Background in Numbers.

STI Gender Representation	
Gender	Number of Students
Male	9
Female	11

Table 3. STI Gender Representation.



## EVALUATIONS

The overall evaluations suggest that the three components of the STI program achieved a reasonable degree of success. The responses to the evaluation questionnaire (appendix 1) indicate that the approval rating of the classroom sessions increased steadily from the first week onward. In view of the relatively low percentage of students who responded favorably (strongly agree and agree) to the statements in the enhancement questionnaire, the STI faculty and staff worked to ensure that the implementation of the enhancement program was strictly followed. Several meetings were held with students and staff to ensure that they adhered to the rule and supervised the students as directed.

The four categories of the final overall evaluation illustrate that on average seven students indicated; "strongly agree" and nine students indicated; "agree" to all the statements. This implies that about 90 percent of the students responded favorably to a total of 23 statements. On average, two students responded unfavorably to all of the questions. Also, on average one student gave a response of "strongly disagree" to all the statements; no student gave such a response in the previous year.

In order to have a more satisfactory measure of the impact of the STI activities on STI participants, we plan to include in our overall evaluation instruments that capture the student's awareness of transportation-related careers both at the beginning of the STI program and at the end. We only administered a questionnaire at the beginning of 2001 STI. Accordingly, the results were not considered useful for inclusion in this report.

## MARKETING

The 2001 STI at Lincoln University benefited from the previous years' association with schools and parents in the region. Over the past three years, word has gone around about the STI program. Three of the nine schools that participated in 2001 STI were new schools. While we shall continue to cultivate new schools to increase our applicants, we shall also nurture existing relationships and partnerships. Already we have developed a strong partnership with five schools.

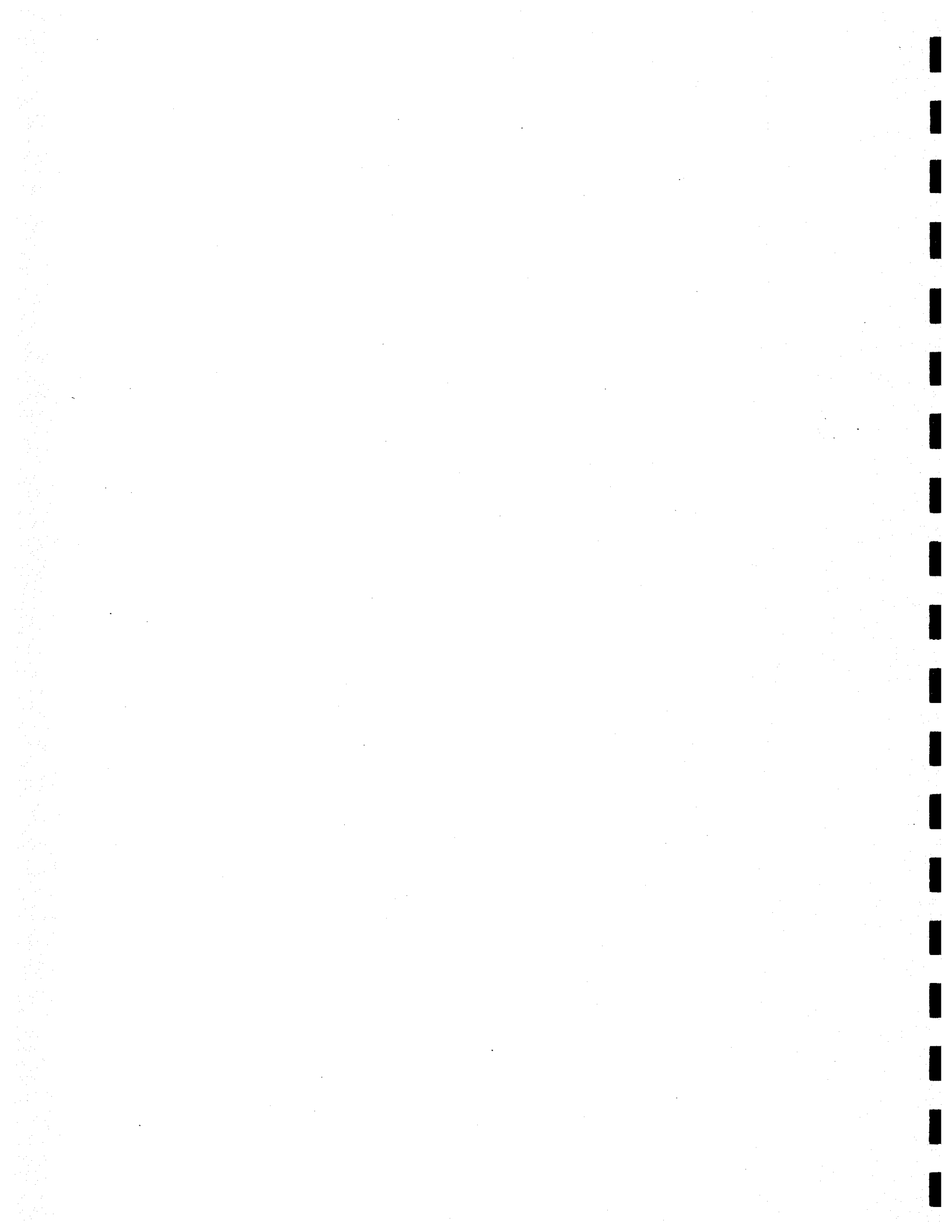
For now we have no need for a new marketing strategy beyond what is already in place. However, we need to implement marketing strategies to increase the resources of the STI, in the interest of the long-term viability of the STI initiative. In this regard, the Intermodal Advisory Committee will consider a partnership drive to increase the resources of the STI program

## **CLOSING AWARD PROGRAM**

The closing award program was held on August 3, 2001. About 65 persons, including 19 students, their parents/guardians, and special guests from the FHWA Division Office, PENNDOT, the private sector, and Lincoln University attended the ceremony. The keynote speaker was Mr. Mike Herron, Executive Director of the Transportation Association of Chester. The other special guests included Mr. James Cheatham, Administrator of the FHWA Division Office, PA; Ms. Frances Treisbach, Project Manager of the Bureau of Planning and Research at PENNDOT; Mr. Henry Droughter, Civil Rights Specialist of the FHWA Division Office PA. Mr. Cheatham and Ms. Treisbach also made remarks during the awards ceremony.

The highlights of the closing ceremony included the presentation of program awards to 19 graduating students, and special awards by student peers for personal qualities displayed during the program. The STI Academic Coordinator, Dr. Ganga Ramdas, made an excellent presentation of a selection of photographs that were taken during the program.

**APPENDIX A**



## APPENDIX A

Summary Statistics Sum of Strongly Agree and Agree Responses expressed as a Percentage of Total Responses

	Week 1	Week 2	Week 3	Week 4
	% Strongly Agree, or Agree	% Strongly Agree, or Agree	% Strongly Agree, or Agree	% Strongly Agree, or Agree
<b>Programs</b>				
Academic	86	90	90	90
Enhancement	80	95	91	92
Sports and Recreation	86	94	81	84

