



Proposed Parking and Transportation Master Plan



Prepared By



April 2005

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April 11, 2005

Dr. James F. Conneely
Chairperson, Parking Advisory Committee
Eastern Kentucky University
525 Lancaster Avenue
SSB 540
Richmond, KY 40475

Dear Dr. Conneely:

The automobile continues, at an increasing rate, to influence how we interact within our society. The average American spends 412 hours each year in a car. A year, however, has 8,760 hours. So what does that car do for the other 8,348 hours when it is not on the road? It's parked!

For every car, multiple parking spaces are needed to permit the vehicle driver to work, shop, go to social functions, and for many, attend a university. The management of campus parking and transportation programs must balance the resources of the university, the safety of all parties, and the convenience of the users. As with any aspect of university life, having a strategy to address the parking and transportation requirements in a reasonable, safe, and cost-efficient manner allows the university to concentrate on its primary mission - education.

Over the past several months, The Consulting Engineers Group, Inc. (CEG) has worked with Eastern Kentucky University to develop a viable Parking and Transportation Master Plan. The proposed plan not only provides recommendations for short-term enhancements to the existing transportation infrastructure, it also provides a long-term strategy for guiding the University over the next decade.

We closely examined the parking and transportation program of Eastern Kentucky University prior to making our recommendations and formulating the proposed strategy. Our analysis included

- The input of students, faculty, and staff;
- Visual observations of parking assets, utilization, and needs;
- Review of parking policies and procedures;
- Comparison with universities, nationally and within the Commonwealth;
- Analysis of financial data related to campus parking and transportation and proposed enhancements.

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By adopting the program enhancements outlined in this report, the University will significantly improve the delivery of parking and transportation services.

We acknowledge, not only the assistance provided by the Parking and Transportation Office, but also the thousands of individuals who completed the parking survey, attended one of the open forums, or offered input during the study process.

On behalf of the entire staff of CEG, we are delighted to have been a partner with the University in the development of this Master Plan. Should you have any questions regarding the recommendations, please do not hesitate to contact us.

Sincerely,

THE CONSULTING ENGINEERS GROUP, INC.

Charles J. Cullen, CPFM, CAPP
Assistant Director of Parking and Transportation Planning

Executive Summary

Eastern Kentucky University continues to expand in terms of infrastructure and students. As the campus grows, there is an increasing demand on parking and transportation services. In order to meet the parking and transportation challenges, the University commissioned this Parking and Transportation Master Plan.

The development of the Master Plan began with an inventory of current parking and transportation assets and an estimate of future requirements. The study included extensive input from all members of the University community. Comparisons with other universities and observations by parking industry experts were also incorporated into the Master Plan.

The Parking and Transportation Master Plan recommends forty-four service enhancements to improve the quality of parking and transportation services – now and in the future. A summary of the service enhancements follows.

Parking Permits and Enforcement

1. Repair or replace the existing Parking Management Software
2. Purchase handheld citation issuers
3. Issue parking permits to faculty and staff every other year
4. Modify enforcement practices to include immobilization (booting) and towing
5. Require vehicle registration prior to any citation appeal
6. Examine criteria for issuing Service Permits
7. Commence a ticket amnesty program during the first month of the academic year
8. Increase enforcement of employee lots
9. Update the manual for parking enforcement

Parking Space Management

10. Change the name of the General Lots to “All Permits Lot,” “Overflow,” or “Additional Parking Lot”

11. Convert the Ault Lot to residential parking provided funding for a new fleet storage facility becomes available
12. Re-stripe lots to a standard size after resealing
13. Review the location of the current visitor parking behind the Student Services Building after consulting with campus groups
14. Increase the number of accessible spaces
15. Provide short-term, regulated parking in front of the Library, resident buildings, and some classroom buildings without reducing access for those with disabilities
16. Maintain dedication of lots to faculty and staff members during the entire workweek
17. Dedicate some spaces in the Alumni Coliseum Lot for commuters who carpool
18. Communicate parking availability data to arriving students and employees

Parking Planning

19. The parking lots should be placed on a regular maintenance schedule
20. Establish a standard space size (8.5' by 17' recommended) for all parking spaces except visitor spaces (9' by 17½' recommended) and ADA compliant spaces
21. Include input from Parking and Transportation Office on capital projects

Parking and Transportation Organization

22. Increase training for employees of Parking and Transportation Office
23. Review the accessibility of the Parking and Transportation Office
24. Restrict blocking of parking spaces to the Parking and Transportation Office
25. Review role of the Parking Advisory Committee
26. Establish annual goals for the Parking and Transportation Office

Parking Garages

27. Commence exploring the construction of a parking garage in the near future and consider future garages as demand for parking increases with increased growth

Signage

28. Develop a standard signage package for use at all parking lots

Shuttle/Transportation

29. Commence a shuttle bus route dedicated to transporting people between the Stratton Building, Perkins Lot, and the Student Services Building
30. Revise shuttle bus routes
31. Amend signs for shuttle bus stops
32. Establish the Student Services Building as a transfer point for all shuttles
33. Replace the current fleet of shuttle busses as soon as it is feasible
34. Explore partnering opportunities with the Foothills Express
35. Continue the motor coach transportation system at this time
36. Conduct a cost comparison of the state vehicle leasing program to local rental companies

Fees

37. Conduct an annual review of the existing rate structure for parking and transportation services
38. Establish a parking fee for special event parking
39. Increase the fine for violations of safety regulations

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40. Conduct a review of the current per mile fee for use of the motor coaches
41. When it is time to seek replacement, the cost of new busses should be compared with the cost of chartering busses on an as-needed basis

Pedestrian Mobility

42. Establish the goal of eliminating all on-street parking within five years
43. Continue the University's plan for addressing hindrances to pedestrian mobility

Bicycle

44. Promote the use of bicycles on campus

Introduction

Eastern Kentucky University continues to adapt to an increasing enrollment and an expanding physical infrastructure. The students attending EKU are also changing. They are the generation raised on rapidity (fast-food, instant-on), technology (on-line, digital), convenience (one-touch, disposability), and automobiles. Even the world surrounding EKU is changing with a greater emphasis on environmental quality, resource conservation, safety, and inclusion of those with disabilities.

From a parking and transportation perspective, the changes in students translate into an increased demand for parking, a desire to enter and exit a parking facility in a very short period of time, the ability to park adjacent to a destination, and a shuttle system that arrives within a few minutes.

For employees, parking is more than ingress and egress. The University represents an important life experience, namely employment. Workers expect a fair salary, benefits, and a place to store their vehicle while they serve the needs of the students. Employees appreciate the quality of parking and transportation. It is a “thank you” for a job well done.

In contrast to the ever-changing world, the fundamental purpose of any university remains the same – education. In order to focus on education, campuses make conscious decisions on which programs represent the primary mission and which programs support the primary mission. Nearly every university, including EKU, classifies parking and transportation as support services that should complement the educational experience of the campus.

To be truly complementary, parking and transportation services must have the resources (personnel, equipment, funding) necessary to adequately contribute to the quality of the campus experience. In addition, the resources must be applied courteously and efficiently.

At Eastern Kentucky University, there are opportunities to further enhance the parking and transportation services currently provided. These enhancements are presented in this document. They require a reallocation of resources, participation by all members of the campus community, and time. The “parking problem” did not suddenly appear and it will not suddenly disappear; and while the “parking problem” was not created by one segment of the campus community, it will be resolved using the resources of all segments of the University.

To develop a viable strategy that addresses the parking and transportation concerns, we

- Began with an inventory of existing assets (busses, parking spaces, financial resources);
- Estimated the parking and transportation impact of future development;
- Collected input from stakeholders;
 - Open forums (3)
 - Meetings with individuals representing various campus groups
 - On-line survey
- Made numerous observations of the parking and transportation systems in operation;
- Sought comparisons with other universities.

With the data, observations, and input provided, we customized a series of program enhancements to improve the quality of parking and transportation services at ECU. Our enhancements reflect the following principles:

- Parking and transportation services support the educational mission of the University.
- The staff providing the services should be trained and equipped to provide quality services.
- Users of the services should perceive a value for the price paid.
- Users should receive a reasonable level of safety.
- The allocation of services should be fair, reliable, convenient, cost-effective, and friendly.
- The services should reflect the historic nature of the campus, the policies and practices of the University, the need to conserve environmental resources, and the application of appropriate technology.

With the program enhancements implemented, the Parking and Transportation Office will have the equipment to transport students throughout the campus complex efficiently, the staffing to provide adequate enforcement of parking regulations, and the resources to provide convenient parking for members of the campus community. In short, the Parking and Transportation Office envisioned is one that will meet the demands of students and enhance the quality of life for the faculty and staff at ECU.

Existing Conditions

This section of the analysis records the current assets of the University's parking and transportation programs.

Parking Asset Inventory

Each university has its own particular set of conditions that must be considered in evaluating the parking requirements. As a result, it is nearly impossible to apply standard parking demand formulas to institutions of higher learning. Factors that will impact parking requirements include:

- Number of students, faculty, staff, and visitors;
- Class schedule for students and work schedules for faculty and staff;
- Restrictions on parking for certain groups (such as freshmen, visitors, or employees);
- Requirements for on-campus residency;
- Availability and reliability of public transportation (or alternate transportation modes);
- Cost of transportation (fuel, parking, insurance, vehicle expenses, etc.);
- Availability and convenience of parking facilities (existing and future);
- General traffic conditions;
- Mandatory or voluntary traffic demand management provisions.

Eastern Kentucky University (Main Campus) has a student population of 14,062 for the fall 2004 semester. In addition, the University began the 2004-2005 academic year with 2,800 employees (1,044 faculty members and 1,756 staff members). Should every student and employee arrive by car at one time, there would be need for 16,862 parking spaces. Fortunately, every one does not arrive at the same time and many do not require parking.

Of the 14,062 students, 4,314 (31% of the total student population) reside on campus, implying that the other 9,748 students commute. Registration records indicate that the greatest number of students (9,055) attend classes on Tuesdays and Thursdays. If the campus can meet the parking demand for students on those two days, it can certainly meet the demand generated on other days when fewer students attend.

The staff consists of 1,468 full-time employees and 288 part-time employees. While most staff members work during the daytime, a considerable number (estimated at 30%) of employees are on duty at other times of the workday.

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The University also has 631 full-time and 413 part-time faculty members. Scheduling records indicate the greatest number of faculty members (798) conduct classes on Tuesdays and Thursdays.

As of October 5th, 2004, the Parking Office had issued 11,067 permanent permits for the 2004-2005 academic year. Permit issuance data from the 2003-2004 academic year is also included for comparison purposes. A breakdown of the permit data is contained in Exhibit #1.

Exhibit 1

Permit Type	Number Issued 2004-2005	Number Issued 2003-2004
Commuter	5,308	5,376
Resident	3,160	2,982
Brockton (resident)	164	235
Employee	2,217	2,401
Service	135	171
Handicap	83	142
TOTAL	11,067	11,307

The table reflects a modest decrease in the number of permits issued this academic year but the data for the current year only reflects three months. More permits will be issued over the next nine months increasing the totals for each group.

By comparing the population for each classification of the campus community (commuters, residents, and employees) to the number of permits issued this year, we determined the percentage of each member group with permits. The data is shown in Exhibit #2.

Exhibit 2

Campus Membership Classification	Population 2004-2005	Number of Permits Issued	Percent with Permits
Commuter	9,748	5,308	54%
Resident (includes Brockton)	4,314	3,324	77%
Employee	2,800	2,217	79%

We performed the same calculation from the previous academic year in Exhibit #3 (next page) assuming the same number of employees.

Exhibit 3

Campus Membership Classification	Population 2003-2004	Number of Permits Issued	Percent with Permits
Commuter	8,983	5,376	60%
Resident (includes Brockton)	4,049	3,217	79%
Employee	2,800	2,401	85%

Comparing the data from Exhibit #2 and Exhibit #3, we observe that the percentage of commuters receiving parking permits declined slightly this year (54%) from last year (60%). For estimating purposes of this analysis, we will use 57%. On Tuesdays and Thursdays, some 9,266 students attend classes. Some of those students (31%) are residents so we reduce the 9,266 by 2,872 leaving 6,394 as the number of commuters to calculate parking demand. Since 57% of commuters have a parking permit, the demand for commuter parking is 3,645. Some of those students, however, park only for night classes so normally we would reduce the demand even further. At EKU, however, during the daytime, many students attend training at facilities related to the Department of Criminal Justice. They often drive state-owned vehicles. We observed nearly 100 such vehicles on one occasion. These vehicles are not charged for parking but they occupy spaces that are part of the University’s parking supply so they must be accounted for in estimating parking demand. To account for these vehicles, and to provide another cushion for special situations, we will not reduce the demand for commuter parking further.

The percentage of residents with parking permits decreased slightly this year. For estimating purposes, we will use the average of 78%. With 4,314 residents this semester, the demand for resident parking is 3,365 spaces.

For employees, we will use 81%. While the data indicates a decrease in the percentage of employees receiving parking permits this year, it does not reflect the additional permits that will be issued over the next nine months. Of course, some of the permits to be issued represent replacement employees and they will not increase the overall demand for parking. The 79% figure for the fall of 2004 (Exhibit #2) represents a full complement of staff, but to provide a measure of comfort, we will adjust that number to 81%.

Assuming 70% of the 1,756 staff members work during the daytime, we need to consider the parking demand for 1,229 staff members. Applying the percentage of employees with permits (81%), to the number of staff members on campus during the day, we realize a demand for 995 parking spaces.

On Tuesdays and Thursdays, the days more students and faculty are on campus, there are up to 798 members of the faculty on campus. Applying the 81% to that number results in a demand for 646 parking spaces.

There is also the need for visitor parking and spaces for maintenance vehicles. We estimate a minimum demand of 50 spaces to meet these requirements.

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Exhibit #4 summarizes the total peak parking demand for the University.

Exhibit 4

University Group	Parking Demand
Commuters	3,645
Residents	3,365
Staff	995
Faculty	646
Visitor	<u>50</u>
TOTAL	8,701

The demand for parking, of course, is not a static number. On any given day, a number of individuals will be ill. On Mondays, Wednesdays, and Fridays, fewer students and faculty members are on campus so the parking demand is reduced. On some days, there may be a special activity that will increase parking demand.

The campus currently has a total of 8,238 parking spaces in 52 surface parking lots. The lots range in size from 3 spaces (Combs Lot) to 1,120 spaces (Alumni Coliseum Lot). Exhibit #5 below shows the spaces separated into allocated categories.

Exhibit 5

Parking Classification	Number of Spaces
Commuter	2,469
Resident	2,578
Brockton	254
Employee	1,754
Dept of Criminal Justice	144
General	<u>1,039</u>
TOTAL	8,238

Exhibit #6, on the following page, shows the locations of the lots.

Exhibit 6



Yellow areas are for employees
Brown areas are for commuters
Orange areas are for any permit holder

Blue areas are for residents
Violet area is for visitors

A listing of each lot with capacity information is included as Exhibit #33 in the Observations Section of this report.

Exhibit #7 compares the parking demand for each University Group (Exhibit #4) to the number of dedicated spaces for those groups (Exhibit #5). Note: the dedicated parking supply considers only those parking spaces reserved for a particular group. It omits all non-dedicated spaces.

Exhibit 7

University Group	Parking Demand	Dedicated Parking Supply	Difference
Commuters	3,645	2,469	-1,176
Residents	3,365	2,832	-533
Employees (staff and faculty)	1,641	1,754	+113

The data indicates a modest surplus (+113) of dedicated parking for employees and a shortage (-1,709) of dedicated spaces for students (both residents and commuters). Those unable to find parking on a dedicated lot must park on a General Lot where all valid permits are accepted. With 1,039 spaces on General Lots, there is still a “paper deficit” of 670 spaces for students.

A “paper deficit” occurs when the number of valid parking permits exceeds the number of legal parking spaces. In reality, however, parking spaces are available everyday because of varying class schedules, absenteeism, and use of alternate parking sites outside of the University. Based upon our observations, we estimate a “practical surplus” of at least 350 spaces on a typical day - a sufficient quantity to meet the existing demand. The quality of these spaces will be discussed later in the study.

Transportation Asset Inventory

The Parking and Transportation Office also is responsible for a fleet of vehicles. A listing of vehicles is shown in Exhibit #8.

Exhibit 8

Vehicle Type	Quantity
Police	3
Parking Enforcement	2
Utility	2
Sedans	35
Vans	9
Shuttle busses	3
Coaches	3
TOTAL	57

This analysis will concentrate on the three shuttle busses and three motor coaches. Data for each bus is listed in Exhibit #9.

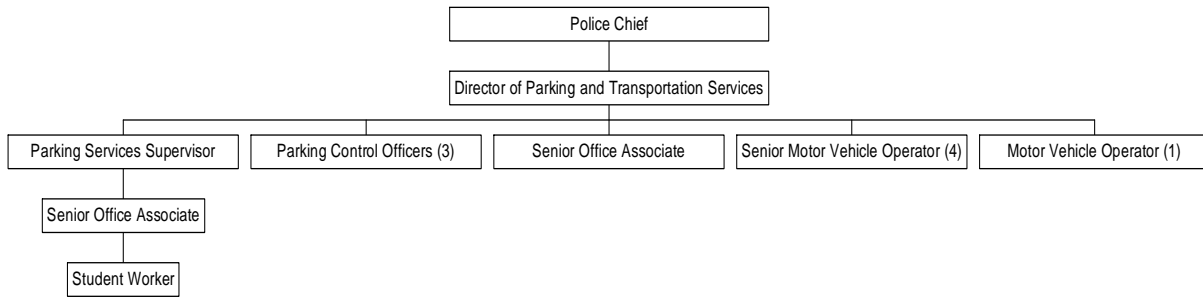
Exhibit 9

Bus Number	Year	Manufacturer	Capacity	Primary Use
1	1995	Prevost	47	Charter
4	1989	Prevost	47	Charter
7	1987	Prevost	47	Charter
8	1988	International	43	Shuttle
9	1989	International	47	Shuttle
10	1999	Spartan	40	Shuttle

Service Delivery

The Parking and Transportation Office reports to the Department of Public Safety. It has a complement of 12 full-time employees. Exhibit #10 reflects the current table of organization.

Exhibit 10



The Office oversees vehicle registration, parking permit issuance, daytime and evening shuttle service, maintenance of fleet, parking enforcement, and parking space allocation.

Prior to the issuance of a parking permit, the applicant must first register their vehicle(s) using the Parking Management Program (PMP). This third-party software is designed to interface with the University’s program for class registration and personal account information management. Once registered in PMP, the applicant may request a permit. Pre-printed hangtag permits are then issued to the individual. The fee for student permits is currently \$30.00 for an academic year. There is no fee for faculty, staff, or visitors.

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The permit owner may then park his/her vehicle in a lot authorized for the type of permit issued. Most lots are designated for a particular group (residents, employees, commuters). A few lots have multiple designations depending upon the time of day. Any vehicle with a valid permit may park in a General lot. Most parking lot restrictions do not apply during weekends.

For special events, no parking fee is charged. Based upon the anticipated attendance, Police and parking staff control parking and traffic for special events.

The three enforcement personnel issue parking citations for violations of campus parking regulations. Fines for citations range from \$15.00 (meter violation) to \$100.00 (possessing a stolen/altered/missing permit). These employees work Monday-Friday. During the evenings, nights, and weekends, members of the University Police perform parking enforcement.

During the summer months, parking supply far exceeds demand so parking enforcement is not a priority. During these months, enforcement personnel perform a number of maintenance duties such as line striping, curb painting, etc.

Citation appeals are initiated at the Parking and Transportation Office by completing a form. The staff attaches the citation appeal form, enters the appeal request into PMP, and forwards the form. A subcommittee of Student Government hears the actual appeal.

The primary Shuttle Service is provided each weekday during the fall and winter semesters. The White Route operates from Stratton Building → Keene Hall → Keen Johnson → Walters Hall → Telford Hall → Wallace Building → Stratton Building. The Maroon Route travels from the Alumni Coliseum Lot → New Brockton Lot → Ashland Lot → Keen Hall → Student Services Building → Alumni Coliseum Lot.

The Student Government Association recommended the current shuttle schedules. Since the Monday-Wednesday-Friday class times are different from the Tuesday-Thursday class times, the shuttle schedule for each route varies to reflect differences in the class schedule. Departure times are shown in Exhibit #11.

Exhibit #11

Bus 1 – Monday/Wednesday/Friday

Stratton Building	Keene Hall	Keen Johnson	Walters Hall	Telford Hall	Wallace Building
7:05 am	7:20 am	7:35 am	7:38 am	7:43 am	7:46 am
8:15 am	8:30 am	8:45 am	8:48 am	8:53 am	8:56 am
9:20 am	9:35 am	9:50 am	9:53 am	9:58 am	10:01 am
10:25 am	10:40 am	10:55 am	10:58 am	11:01 am	11:06 am
11:30 am					
12:35 pm	12:50 pm	1:05 pm	1:08 pm	1:13 pm	1:16 pm
1:40 pm	1:55 pm	2:10 pm	2:13 pm	2:18 pm	2:21 pm
2:50 pm	3:05 pm	3:20 pm	3:23 pm	3:28 pm	3:31 pm
3:50 pm					

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Bus 2 – Monday/Wednesday/Friday

Alumni Coliseum	New Brockton Lot	Ashland Lot	Keene Hall	Student Services
7:05 am	7:20 am	7:25 am	7:28 am	7:35 am
8:15 am	8:30 am	8:35 am	8:38 am	8:45 am
9:20 am	9:35 am	9:40 am	9:42 am	9:50 am
10:25 am	10:40 am	10:45 am	10:48 am	10:55 am
11:30 am				
12:35 pm	12:50 pm	12:55 pm	12:58 pm	1:05 pm
1:40 pm	1:55 pm	2:00 pm	2:03 pm	2:10 pm
2:50 pm	3:00 pm	3:05 pm	3:08 pm	3:15 pm
3:50 pm				

Bus 1 – Tuesday/Thursday

Stratton Building	Keene Hall	Keen Johnson	Walters Hall	Telford Hall	Wallace Building
7:05 am	7:20 am	7:35 am	7:38 am	7:43 am	7:46 am
8:40 am	8:55 am	9:10 am	9:13 am	9:18 am	9:21 am
10:10 am	10:25 am	10:40 am	10:43 am	10:48 am	10:51 am
11:40 am	11:55 am	12:10 pm	12:13 pm	12:18 pm	12:21 pm
1:10 pm	1:25 pm	1:40 pm	1:43 pm	1:48 pm	1:51 pm
2:40 pm	2:55 pm	3:10 pm	3:13 pm	3:18 pm	3:21 pm

Bus 2 – Tuesday/Thursday

Alumni Coliseum	New Brockton Lot	Ashland Lot	Keene Hall	Student Services
7:05 am	7:20 am	7:25 am	7:28 am	7:35 am
8:40 am	8:55 am	9:00 am	9:03 am	9:10 am
10:10 am	10:25 am	10:30 am	10:33 am	10:40 am
11:40 am	11:55 am	12:00 pm	12:03 pm	12:10 pm
1:10 pm	1:25 pm	1:30 pm	1:33 pm	1:40 pm
2:40 pm	2:55 pm	3:00 pm	3:03 pm	3:10 pm

The primary shuttles serve the campus from approximately 7:00 AM to 3:30 PM. There is an evening shuttle that operates from 6:00 PM to 2:00 AM Sunday through Thursday. This is an on-demand service that students or employees may use by calling a phone number or using a call box located throughout the campus. An on-demand escort service is also available at any time.

Another important service is the management of vehicles for student and employee activities. Requests for the use of vehicles are made to the Parking and Transportation Office and they are processed on a first-come, first-served basis. Each application is reviewed for the type of activity, the number of people, and the distance to be traveled. For trips requiring a bus, a driver is provided. Fees for the use of vehicles are listed in Exhibit #12.

Exhibit 12

Vehicle Type	Per Mile Charge
Sedan	\$0.32
Mini Van	\$0.32
15 Passenger Van	\$0.37
School Bus	\$1.25
Coach Bus	\$1.40

Future Conditions

With a general understanding of the existing conditions, we now examine future conditions.

Capital Projects

Recently, the University completed the renovation of Combs Hall and the construction of the Health and Wellness Center. Phase 1 of the Business and Technology Center is under construction. Phase 2 of that complex is scheduled to commence in the near future. Over the next six years, a number of other capital projects are envisioned. We reviewed the Campus Master Plan for projects that will likely impact parking and/or transportation services. These projects are commitments of the University but subject to funding.

- Construction of a new Science Building – This building will increase parking demand (more staff) and, depending upon the site selection, will likely require the expansion of the shuttle service to serve this building.
- Renovation of Donovan/Donovan Annex/Mattox Hall – The renovation of Mattox Hall will likely require the relocation of the Model School busses and increase the number of faculty and/or staff assigned to those buildings. Both consequences will adversely impact the parking supply in an area already suffering from a serious parking shortage.
- Renovation of Resident Halls (exact Halls to be determined) – The loss of resident rooms may require more students to commute.
- Expand Ashland Building – Parking spaces could be lost if the expansion occupies the adjacent parking lot.
- Provide a vehicle/pedestrian bridge over Eastern By-Pass – This is a project to provide safer and more efficient passage across the By-Pass.
- Construct a new Health Science Building – Depending upon the final site location, this project may reduce parking in the area but it could also provide an opportunity to incorporate new parking.

Of course, the fruition of these capital projects will require appropriate funding. The University submits projects to the State, which are then evaluated by a legislative process and funded in a manner that is sometimes not predictable. All projects should be reviewed from a parking and transportation perspective before implementation/construction.

Parking Services

Currently, there is a practical surplus of 350 parking spaces. This surplus enables the University to conduct regional activities and special events. More importantly, it reduces the amount of time searching for available parking. As renovations and new construction are realized and enrollment increases, the demand for parking will certainly escalate, thus eliminating the current surplus. To maintain the same level of service, it is important to preserve a surplus of parking.

Enrollment is estimated to increase annually by 1.5 to 2.5%. For this study, we will assume a 2% annual increase in students. The number of employees is estimated to increase by .75% annually.

Exhibit #13 projects the number of students and employees that must be considered in determining future parking demand.

Exhibit 13

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Commuter ¹	6,394	6,522	6,652	6,785	6,921
Employee	2,027	2,042	2,057	2,073	2,088
Residents ²	4,314	4,400	4,488	4,578	4,669
TOTAL	12,735	12,964	13,197	13,436	13,678

1. Reflects number of commuters on Tuesdays and Thursdays
2. Reflects number of employees on Tuesdays and Thursdays

Applying the percentage of permits that each group typically receives, Exhibit #14 shows the future parking demand over the next four academic years.

Exhibit 14

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Commuter	3,645	3,718	3,792	3,868	3,945
Residents	3,365	3,432	3,500	3,571	3,642
Employee	1,641	1,654	1,666	1,679	1,691
Visitor	<u>50</u>	<u>50</u>	<u>55</u>	<u>55</u>	<u>60</u>
TOTAL	8,701	8,854	9,013	9,173	9,338

From a planning perspective, the practical surplus of parking will be eliminated by the fall of 2007. At that time, finding a vacant space in a preferred lot will be more difficult and the time searching for parking will increase. More will be forced to park on the General Lots.

Phase 1 of the new Business and Technology Center will add 133 spaces to the parking supply. Those spaces should be available for the 2006-2007 academic year, perhaps even earlier. These spaces will offset the increased demand but only for one year.

Phase 2 of the Center is planned to increase the parking supply by 500⁺ spaces. This building, however, will include conferencing and performing arts activities that will generate additional parking demand. Consequently, the net increase in parking supply will likely only satisfy parking demand through the 2008-2009 year. Additional parking will be needed after that time. Exhibit #15 provides a general formula for meeting future parking demand.

Exhibit 15

For Each Additional	Provide
Commuter	.50 space
Resident	.75 space
Employee	.80 space

Transportation Services

As new spaces are provided, the quantity of parking will remain adequate but because of their location across the Eastern By-Pass, they will not be considered convenient for most students and employees. As more classrooms are constructed south of the By-Pass, more students and professors will need to traverse the busy highway. Walking, for many, is not an option due to time constraints and/or physical ability. Driving from one lot to another is an option for some but it only adds to the overall parking problem on campus. The shuttle bus system has the potential to significantly improve the quality of parking on campus but it will require major changes in the type of vehicles used and their scheduling. Recommendations regarding campus transportation services will be presented later in this study.

More changes in the shuttle bus system will be required in the future as the Business and Technology Center opens. If the proposed Health Sciences Building is constructed in the future, the shuttle bus routes will again require adjustments. In short, as the campus expands southward, the shuttle service will play a more vital role in linking the campus community.

To meet the parking and transportation challenges of the future, the University must be able to respond to the changes in enrollment and infrastructure expansion. These changes will likely increase expenses thereby requiring additional funding.

Stakeholder Input

An important component of any parking and transportation analysis is to address the problems reported and consider any suggestions offered by those most affected by the study – the users. As part of our effort to solicit stakeholder input, a survey was posted on the University’s web site. Three open forums were also conducted. In addition, meetings were held with the University President, Parking Advisory Committee, representatives of user groups (Students, Staff, Faculty), and those responsible for the delivery of parking and transportation services. We will present the input received and offer a summary at the conclusion.

Parking Survey

The survey generated 2,387 responses. The number of responses far exceeded our expectations. The volume of responses indicates a genuine interest in parking and transportation issues. We will present important results of the survey. *Comments regarding the survey results are in italics.*

One question asked for participants to rate the University’s parking services on a scale of 1 to 10, with 10 being the highest rating. Only .5% gave the parking services a rating of 10 with 79% of respondents rating the parking services at 5 or less.

Using the same scale to rate the transportation services, 64% rated it 5 or less. Only 2.1% gave the transportation services a rating of 10.

Exhibit #16 shows the responses to the question: What time of the day do you most frequently arrive to park at EKU?

Exhibit 16

Time Period	Percentage
6:00 AM to 7:59 AM	24.4
8:00 AM to 9:59 AM	43.8
10:00 AM to 11:59 AM	15.3
12:00 PM to 1:59 PM	4.6
2:00 PM to 3:59 PM	2.2
4:00 PM to 5:59 PM	4.3
6:00 PM to 7:59 PM	1.9
8:00 PM to 11:59 PM	3.1
12:00 AM to 5:59 AM	.4

The fact that 15% of respondents arrive between 10:00 AM and 12 noon indicates the need to monitor parking space capacity throughout the morning.

Exhibit #17 reports the responses to the question: What time of the day do you normally leave EKU?

Exhibit 17

Time Period	Percentage
6:00 AM to 9:59 AM	.5
10:00 AM to 11:59 AM	2.3
12:00 AM to 1:59 AM	12.6
2:00 PM to 3:59 PM	28.2
4:00 PM to 5:59 PM	34.7
6:00 PM to 7:59 PM	9.8
8:00 PM to 9:59 PM	10.0
10:00 PM to 11:59 PM	1.5
12:00 AM to 5:59 AM	.4

Exhibit #18 shows the replies to the following question: Once you enter a lot, how quickly are you normally able to find a space?

Exhibit 18

Length of Time	Percentage
Less than one minute	16.2
One to three minutes	22.7
Four to six minutes	16.6
Seven to nine minutes	10.6
More than nine minutes	33.8

About 39% find parking within three minutes. Nearly 34% take longer than nine minutes. The remaining users, about 27%, require three to nine minutes.

Exhibit #19 responds to the question: Once you enter the lot or location, how quickly are you normally able to get to your destination?

Exhibit 19

Length of Time	Percentage
Five minutes or less	27.4
Six to ten minutes	36.0
Eleven to fifteen minutes	28.7
More than fifteen minutes	7.9

Over 60% reach their destination within ten minutes once they park.

Exhibit #20 reflects the answers to the question: Are there times when you cannot find a space in the lot where you preferred to park? As a follow-up question for those responding in the affirmative, we asked: How frequently are you unable to find a space? The results are in Exhibit #21.

Exhibit 20

	Percentage
Yes	90.8
No	9.2

Exhibit 21

Frequency	Percentage
Every day	35.8
Twice a week	36.8
Once a week	17.9
Once a month	5.9
Less than once a month	3.7

Over one-third of respondents reported not being able to park in the lot of their preference everyday.

Exhibit #22 reported on the following: What is a reasonable price to pay for parking for an academic year?

Exhibit 22

Parking Fee	Percentage
\$0.00	16.2
\$1 to \$29	31.3
\$30 to \$39	30.3
\$40 to \$49	9.5
\$50 to \$59	7.2
\$60 to \$75	3.2
Over \$75	2.4

Over 77% of the respondents recommend an annual fee less than \$40.00.

When asked for recommendations to improve parking services:

- 69.1% supported better signage for the lots,
- 99.5% supported adding more spaces,
- 97.1% supported better enforcement of parking lots,
- 99.7% supported improved lighting levels on the lots,
- 95.5% supported better cleaning of the lots,
- 98.8% supported better permit issuance,
- 99.6% supported a garage closer to classrooms.

Exhibit #23 reports on: How often do you use the campus bus system?

Exhibit 23

Frequency	Percentage
Everyday	1.0
Twice a week	2.7
Once a week	2.3
Once a month	2.8
Less than once a month	6.4
Never	84.8

The overwhelming majority of respondents (84.8%) never ride the shuttle busses.

When asked for suggestions to improve the shuttle bus system:

- 98.3% recommended more frequent service,
- 99.1% recommended more frequent stops,
- 97.9% recommended better busses,
- 99.3% recommended more busses,
- 98.5% recommended improving the on-time arrival rate.

About 14% of respondents reported that their vehicle had been damaged or an item removed from the vehicle while parked at EKU. *During the first two months of this academic year, only four reports of vehicle damage or break-ins were filed with the University Police Department.*

Nearly 70% disapproved of the concept of charging different parking fees for lots based upon their proximity to the heart of the campus.

Only .3% of respondents reported using a bicycle on campus. If bicycle paths and lockers were provided, however, nearly 9% replied that they would most likely use a bicycle and another 20% indicated that they would be somewhat likely to use a bicycle.

Open Forums

We conducted three open forums, each two hours in duration. The forums were scheduled for different days of the week at different times of the day to provide an opportunity for as many people as possible to attend.

A summary of the comments and suggestions presented at each forum is presented in Exhibit #24. Only those comments that are related to the scope of this Master Plan are included.

Exhibit 24

Issue/Comment	Forum #1	Forum #2	Forum #3
Not enough parking for Student Services Building	X		
More parking enforcement needed	X	X	X
More enforcement of handicap parking spaces	X		
Consider gated entrances to prevent unauthorized vehicle from entering a lot	X		
Provide advance notice for parking restrictions		X	
Prohibit freshmen from having cars on campus	X	X	X
Continue free parking for employees	X		X
Improve shuttle system	X		
Move resident parking to remote lots	X		
Deny parking for students in remedial programs	X		
Tow more cars in violation	X		
Ban Resident Hall Counselors from having more than one reserved parking space	X		
Consider the location of parking, not just the number of spaces on the lots	X	X	
Build parking garages	X		X
Provide shuttle to Wal-Mart		X	
Provide some 15-30 minute spaces throughout campus		X	
Provide more parking for commuters			X
Use stickers instead of hang-tags			X
Maintain restrictions for commuters in employee lots			X
Verify applications for handicapped parking			X
Modify traffic pattern in Alumni Coliseum Lot		X	

Meetings

We also participated in a series of meetings with individuals representing various University groups. The people at the meetings represented students, administration, faculty, and staff. Most were one-on-one meetings thus allowing a more candid exchange of ideas. The following are summaries of the comments made during those meetings.

- Improve lot signage
- Since the Fall 2004 term, it takes between 20 to 50 minutes to find a parking space
- Upgrade technology used by Parking Office
- More regulated short-term parking
- Enforce access zones adjacent to handicapped parking spaces
- Evaluate the need for Service Permits
- Faculty/staff have earned the right to park next to where they work
- Daniel Boone Lot floods in heavy rain near the drains
- Repercussions for parking violations insufficient for many students
- Add more parking
- Improve shuttle service from Perkins and Stratton to main campus
- Re-evaluate handicap qualifications for each applicant
- No parking fees for employees
- Consider the fact that faculty must often carry a load of books, laptop, equipment, and papers
- Repaint directional arrow in parking lots
- Change shuttle schedule to increase usage
- The parking problem is really a perception problem

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- Faculty cannot use existing shuttle busses
- A number of students and faculty must leave campus for university-related business during the day and find parking very difficult upon returning
- Increase parking enforcement
- Create opportunities for bike and walk paths
- Relocate University vehicles from Ault Lot
- Students park illegally in Alumni House Lot
- Have parking stickers located on front and rear bumpers
- There is an insufficient number of parking spaces for Service vehicles
- Maintain green space
- Ensure campus aesthetics for any garage
- Build parking garages
- Improve condition of shuttle busses
- Tents for special events block parking
- More towing of parking violators
- Add more metered spaces
- Inadequate faculty parking on north end of campus
- Students park in employee spaces on Crabbe Street and University Drive
- Students being permitted to park in employee lots in the evening present a parking problem for faculty members
- Do not issue employee parking tags to student workers
- Increase fines for parking violations

Summary of Stakeholder Input

The primary issues we gathered from the stakeholder input include:

- Strong dissatisfaction with existing parking and transportation services,
 - 85% never use the shuttle service
 - 35% are unable to find a parking space in a desired location everyday
 - 33% take more than nine minutes to locate a parking space
 - 99.6% recommend a garage closer to classrooms
- Strong opposition to imposing parking fees for faculty and staff,
- Parking fee for a year should not exceed \$39.00,
- There is modest support for bicycle enhancements,
- Improve the quality of parking, not just quantity.

Most often reported recommendations include:

- More enforcement of parking regulations,
- Better signage,
- Improved pedestrian mobility,
- More frequent shuttle service with better busses,
- Add more parking: garages and regulated short-term spaces.

Comparisons

In this section of the analysis, we present available information reported in other studies and surveys. This data serves as one tool in the development of ECU's Parking and Transportation Master Plan.

University Transportation Survey – May 2002

The University of Colorado conducted and published a survey of the transportation practices on campuses. Some of the results that relate to this study include the following:

- Nearly 35% of the universities restrict some members of the campus communities (mostly freshmen) from having vehicles on campus.
- Some (18%) offer cash-out programs. Under such a program, the university provides a direct payment to students or employees for not bringing a vehicle on campus.
- Parking fees for campus groups are shown below in Exhibit #25. (Note: these fees are per semester, not per year.)

Exhibit 25

Campus Group	Lowest Fee per Semester	Highest Fee per Semester	Mean Parking Fee per Semester
Residents	\$23	\$318	\$91.06
Commuters	\$14	\$310	\$83.43
Employees	\$35	\$327	\$125.81

Benchmarking the Parking Profession – June 2004

The International Parking Institute is the largest parking organization in the country. Members include universities, airports, medical centers, municipalities, and many other parking providers and affiliates. The organization released a survey of its members in June 2004. The survey reflected data gathered during 2003. Some of the questions were general in nature and applied to nearly all members. Specific questions related to each membership group were also part of the survey.

The survey reported on the organization of university parking programs.

- Over 54% of the university parking operations are separate Departments reporting directly to the Administration - an increase of 2% since 2001,
- Nearly 12% of the parking operations report directly to the Police Department – a decrease of 9% since 2001,
- Almost 8% report to the campus Facilities Services Department – an increase of 3% since 2001,
- The remaining 26% report to other agencies – an increase of 4% since 2001.

Other survey items included the following:

- The majority (90%) of university parking organizations are financially self-supporting. The other 10% generate some parking revenue but also require a General Fund subsidy.
- Most students (85.3%) use the campus shuttle service.
- Most (62.9%) perform all services in-house while 32.9% contract some part of their operation to a private firm.

Exhibit #26 displays parking rates for different members of the campus community. For comparison purposes, we included the data from the 2001 survey.

Exhibit 26

Campus Group	Low	High		Low 2001	High 2001
Visitor (lot)	\$1.39 per hour	\$2.96 per hour		\$1.36	\$2.26
Staff (lot)	\$252 per year	\$354 per year		\$189	\$294
Faculty (lot)	\$264 per year	\$364 per year		\$205	\$311
Off-street meters	\$0.91 per hour	\$1.43 per hour		\$0.72	\$1.00

For students, the survey reported an average annual surface lot parking fee of \$232 for full-time students and \$204 for part-time students.

Kentucky Universities

We conducted a survey of universities within the Commonwealth. Universities contacted included Northern Kentucky (NKU), Western Kentucky (WKU), University of Kentucky (UK), Louisville (UL), and Morehead State (MS). Exhibit #27 (next page) displays the results.

Exhibit 27

	EKU	NKU	WKU	UK	UL	MS
Enrollment ¹	14,000	14,000	18,500	26,900	20,000	9,500
# Parking Spaces ²	8,200	6,400	6,300	16,000	6,150	4,900
Approximate ratio of parking spaces to students	1:2	1:2	1:3	1:2	1:3	1:2
Fee for students ³	\$30	\$96	\$65	\$164	\$72-278	\$20-\$40
Fee for employees ³	\$0.00	\$192	\$65-\$130	\$270	\$206	\$20 - \$40
Fee for visitors	\$0.00	\$0.00	\$0.00	\$0.00-\$8.00	\$2.00-\$5.00	\$0.00
Parking reports to	Safety Services	Bursar ⁴	Safety ⁵	Administration	Public Safety	Police

1. Represents total student enrollment
2. Omits parking spaces located on branch campuses
3. At some Universities, price is based upon location. Pricing for reserved parking was not included.
4. Enforcement performed by Police
5. Intend to operate Parking as a separate auxiliary service on 7/1/05

Summary of Comparisons

The survey data suggests the following:

- The parking fees at ECU are very reasonable when compared to national and regional universities. Only Morehead State offered a lower fee (\$20) for remote parking.
- All users (students, faculty, and staff) of parking services usually pay for that service. In most instances, faculty and staff pay more than students.
- Nationally, just over half of the campus parking operations function as a separate department but most are financially self-sufficient. Of the Kentucky universities contacted, most parking operations report to the Safety Department but Western intends to establish a separate Parking and Transportation Department effective July 1, 2005. They recently hired a Director to implement that transformation.

Observations

As part of our study, we observed the delivery of parking and transportation services. Our observations took place on different weeks, on different days of the week, and at different times.

Parking Space Occupancy

We observed the occupancy patterns of a number of lots each morning. Exhibit #28 reflects the percentage of occupancy at different times on a Monday.

Exhibit 28

Lot	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM
D. Boone (employee)	10	60	90	100	100	100	100
Case	95	100	100	100	100	100	100
Martin	50	90	100	100	100	100	100
Mattox	10	90	100	100	100	100	100
Visitor	20	40	60	70	80	90	90
Alumni Coliseum (west)	20	100	100	100	100	100	100
Alumni Coliseum (east)	5	25	60	90	90	90	85
Alumni Coliseum (employees)	5	10	40	50	50	50	50
Van Hoose	20	50	75	80	90	90	90
New Brockton	15	40	60	75	80	90	90
Rowlett	25	50	60	75	80	80	85

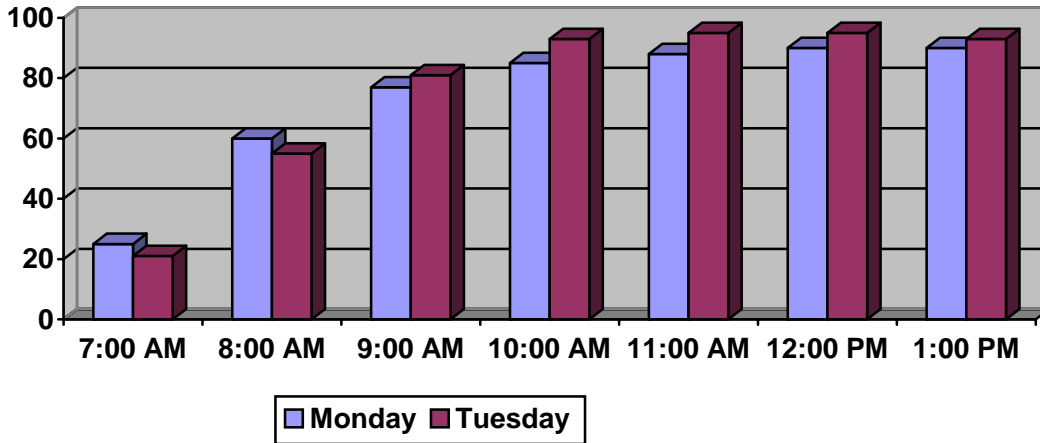
Exhibit #29 reports on the occupancy of the same lots on a Tuesday.

Exhibit 29

Lot	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM
D. Boone (employees)	5	70	100	100	100	100	100
Case	60	95	100	100	100	100	100
Martin	25	95	100	100	100	100	100
Mattox	20	60	90	100	100	100	100
Visitor	5	20	60	100	100	100	95
Alumni Coliseum (west)	50	95	100	100	100	100	100
Alumni Coliseum (east)	5	20	70	100	100	100	95
Alumni Coliseum (employees)	5	10	50	60	70	70	60
Van Hoose	30	60	80	90	90	95	95
New Brockton	15	50	70	95	95	100	95
Rowlett	10	25	70	80	85	85	85

Exhibit #30 shows the occupancy rate for both days at the selected lots in graphic form.

Exhibit 30



Other observations related to occupancy include the following:

- We observed little turnover of spaces in the lots dedicated to residents. Those lots essentially remained at 100% capacity throughout the day. The only exception was the Lancaster Lot where we did observe a 5% vacancy rate at 11:00 AM one day.
- The Alumni House Lot peaked at 95% occupancy on Monday but reached the 100% level on Tuesday.
- The Ashland Lot had never exceeded 10% occupancy.
- On the morning of September 20, Alumni Coliseum Lot (east commuter section) had several tents blocking spaces. Barricades and a fire truck also occupied spaces. All but one tent was removed or relocated by 1:00 PM.
- The City Lot on Crabbe Street, where parking is \$1.00 per day, was filled each day. Approximately 10% of the vehicles in that lot had an EKU permit displayed.

Shuttle Bus Operation

We had an opportunity to review the campus shuttle system, inspect the busses, and ride the routes on September 28 and 29, 2004. During those days we learned of the gradual expansion of the shuttle program over the past several years as well as the route and vehicle condition with representatives of the Parking and Transportation Office. While riding the busses, we met the two bus drivers and discussed their observations about the shuttle service.

The shuttle bus fleet is summarized in Exhibit #31.

Exhibit 31

Equipment No.	Year	Capacity	Mileage
Bus 8	1988	43	93,000
Bus 9	1989	47	115,000
Bus 10 *	1999	40	16,000

*Bus 10 is equipped with a handicap lift at the rear of the bus. The bus is used infrequently because the overhang behind the rear axle requires the bus to swing wide on turns making it difficult to operate on campus.

The busses are all painted white and are standard school bus bodies. None of the shuttle busses are air-conditioned. The current bus fleet is apparently well maintained considering its age.

Eastern Kentucky University also owns vehicles to provide over-the-road transportation service to sports teams, bands, and other groups associated with the University. There are three motor coaches that provide that service. These busses are driven by the same drivers that drive the on-campus shuttle busses.

The over-the-road coaches represent 1987, 1988 and 1995 models. They have mileage ranging from 250,000 to 400,000.

During our visit, only one of the coaches was present. The other two were out for repairs. One bus (# 7) was having air-conditioning repairs completed and the other bus (# 4) was awaiting an engine replacement.

While riding the shuttle busses on the two routes, three facts became very apparent. First, the shuttles are underutilized. Second, the busses currently in use are not the ideal vehicles for this type of service. Third, the schedule currently in use is not meeting the needs of the potential riders and is a slight disservice to those who do ride the bus.

A review of ridership records indicate that total ridership varies by route, but generally average less than 10 riders per hour per bus. This indicates that the service is not meeting the needs of the campus community.

The seating arrangement, consisting of tightly configured row style vinyl seats, is not conducive to shuttle service. The current seating arrangement makes it difficult for students with backpacks or book bags to get seated.



The current schedule operates while classes are in session, rather than between classes. Also, the current schedule has too much dead or wait time at each stop. This delay extends the total trip time making the service too long for many riders of the bus. For example, if a student enters the bus at the first stop and needs to exit at the fourth stop, there is significant wait time at the second and third stop. This wait time is built into the current schedule. It could be reduced to permit more frequent service.

Review of the shuttle stops currently in use indicates that signage improvements are needed. The current signage resembles a data table. There is need for far more distinctive signage and a bus shelter, or at least a waiting bench, at each designated stop to add more definition to the stop.

The routes currently in use represent a challenge for the drivers due to the size and maneuverability of the busses. When approaching Keene Hall, the bus must make a very sharp left turn, followed by an immediate right turn, and followed almost immediately by another sharp left turn. In some locations, such as at Stratton Hall, the busses arriving at Stratton were affected by illegally parked cars on the end of one or more parking rows.

ADA Compliance

In July of 2004, the United States Access Board released new design guidelines for people with disabilities. This is the first revision of the guidelines since 1991. Currently, these guidelines are being review by the U.S. Departments of Justice and Transportation. It is anticipated that new Federal regulations that incorporate the revised guidelines will be released in 2006. Until that time, the current regulations remain enforceable.

The changes impacting parking services contained in the revised guidelines appear minor. There are some changes in regard to the number of van accessible spaces and accessible paths but the formula to calculate the quantity of accessible spaces has not been modified. Our comments, therefore, will be based upon current application of the ADA regulations, but it is highly probable that they will remain valid once the new regulations are approved.

Regulatory requirements for accessibility may be found in the ADA Standards for Accessibility Design (28 CFR Part 36). Implementing guidelines for accessible parking have been issued by the United States Access Board in their publication *Technical Bulletin: Parking*. The next several paragraphs reflect the current guidelines in general terms.

The number of accessible spaces is determined by the following formula as shown in Exhibit #32.

Exhibit 32

Number of Spaces in Facility	Number of Assessable Spaces Required
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2% of total
1001 and over	20 plus 1 for every 100 spaces over 1000

One out of every eight accessible spaces must be designated for van accessibility. If there are fewer than eight accessible spaces, at least one must be van accessible.

Each standard accessible space must have at least one 60-inch wide access aisle adjacent to it. For each van-accessible space, the access aisle must be at least 96” in width. In order to accommodate vans, the vertical clearance must be at least 98”.

The accessible spaces must be designated with the international symbol of accessibility in such a way as not to be obscured by a vehicle parked in the space. Van accessible spaces must also be marked with a “van accessible” notice. The designation need not be a sign on a post (but it usually is) but may be mounted on an adjacent wall. While signs are not required, they must clearly distinguish the accessible spaces from other parking spaces.

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The accessible spaces must be located in the shortest accessible route to an accessible entrance. Accessible routes are to be free from curbs, stairs, or other obstacles.

Accessible spaces may be clustered in one or more lots if the relocation creates equivalent or greater accessibility in terms of distance to the accessible entrance. The minimum number of spaces, calculated on a lot-by-lot basis, must still be provided.

Exhibit #33 (next two pages) shows the number of spaces on each lot, the required number of accessible spaces, and the number of accessible spaces currently provided. Currently, there is shortage of 91 accessible parking spaces on campus.

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Exhibit 33

ZONE/LOT	Number of Spaces	Number of Accessible Spaces	Required Number of Accessible Spaces
<i>Commuter – Zone A</i>			
1. Alumni Coliseum Lot	1,120	8	22
2. New Brockton Lot	670	0	14
3. Summit Lot	108	0	5
4. Van Hoose Lot	289	6	7
5. University Drive (2 way)	38	0	2
6. Stratton Lot	221	2	7
7. Van Hoose Drive	23	1	1
<i>Subtotal – Commuter Zone A</i>	<i>2,469</i>		
<i>Residential - Zone B</i>			
1. Brockton (overflow) Lot	226	0	7
2. Burnam Lot	129	7	5
3. Clay Lot	54	3	3
4. Commonwealth Lot	247	5	7
5. Daniel Boone	114	0	5
6. Keene Lot	304	4	8
7. Kit Carson Lot	347	0	8
8. Kit Carson Drive	72	0	3
9. Lancaster Lot	529	0	11
10. Madison Lot	112	6	5
11. Madison Drive	34	0	2
12. Teleford Lot	281	3	7
13. Walters Lot	91	0	4
14. Park Drive	14	4	1
15. Powell East	24	0	1
<i>Sub-Total – Residential Zone B</i>	<i>2,578</i>		
<i>Zone C1 & C2</i>			
1. Brockton	254	4	7
<i>Sub-Total – Zone C1 & C2</i>	<i>254</i>		
<i>Employee – Zone E</i>			
1. Alumni House Lot	136	2	5
2. Alumni Coliseum Lot	142	7	5
3. Case Lot	65	4	3
4. Combs Residence Lot	3	0	1
5. Crabbe Street	35	0	2
6. Daniel Boone Lot	120	0	5
7. Dizney/Rowlett Lot	186	8	6
8. Funderburk Lot	154	6	6
9. Jones Lot	62	6	3
10. Leak Lot	10	0	1
11. Martin Lot	197	8	6
12. Model Lot	55	12	3
13. Model Service Drive	5	2	1
14. Park Drive	24	3	1

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ZONE/LOT	Number of Spaces	Number of Accessible Spaces	Required Number of Accessible Spaces
15. Facilities Services	72	1	3
16. Powell West Lot	26	0	2
17. Ramsey Lot	8	1	1
18. University Drive	110	22	5
19. Van Hoose Drive	8	0	1
20. Thompson Lot (DOCJT Dorm)	248	7	7
21. Carter Lot	10	1	1
22. Ashland Lot	10	1	1
23. Health & Wellness Lot	68	0	3
<i>Sub-total – Employee Zone E</i>	<i>1,754</i>		
<i>General Parking – All Permits</i>			
1. Perkins Lot	498	8	9
2. Ashland Lot	348	0	8
3. Van Hoose Drive	53	0	3
4. Carter Lot	140	1	5
<i>Sub-total – General Parking</i>	<i>1,039</i>		
<i>Department of Criminal Justice Training</i>			
1. Funderburk (Back Lot)	64	0	3
2. McKinney Skills Complex	80	2	4
<i>Subtotal of DOCJT</i>	<i>144</i>		
<i>Summary:</i>			
<i>Commuter Zone A</i>	<i>2,469</i>		
<i>Residential Zone B</i>	<i>2,578</i>		
<i>Brockton Zone C1 & C2</i>	<i>254</i>		
<i>Employee Zone E</i>	<i>1,754</i>		
<i>General Parking</i>	<i>1,039</i>		
<i>DOCJT</i>	<i>144</i>		
TOTAL	8,238		
Accessible Spaces		155	246

The Parking and Transportation Office is not handicapped accessible. To reach the entry door, one must negotiate a curb and twelve steps before reaching the door that can only be opened by turning a door handle and pushing the door.

Parking Enforcement

There are three employees assigned to perform parking enforcement duties. One primarily enforces parking activities on and near the Jones Lot. Another will drive a shuttle bus whenever one of the regular shuttle bus drivers is absent. So, in actuality, there are only about 1.75 employees performing enforcement duties.

The citations are issued by hand. Information about the location, date, time, vehicle license plate, violation code, etc. must be written for each violation. The paper citation is placed on the windshield where it is subject to disintegration in inclement weather.

Since each citation is manually written, the data must be manually entered into the campus computer system using a third-party interface program referred to in this report as Parking Management Program or (PMP). This is a time-consuming process and invites errors.

There are two small pick-up trucks available for enforcement duties. These vehicles are also utilized for parking meter collection and general maintenance.

We did not observe any towing of vehicles.

The manual that governs parking enforcement was last issued in 1995.

Of the dozen parking meters that remain in operation, all have faded dome glass making its display difficult to read. Some are mounted on bent poles. When collected, no revenue information is gathered to verify the revenue since the staff does not have a data collector for the meters.

Parking Management Software

The PMP program is not providing the University with the parking management tools necessary to operate efficiently. Data entry is often a prolonged process and reports are unreliable.

When the license plate of an unregistered vehicle is inputted into the data entry screen, the PMP informs the user that the vehicle cannot be associated with a student or employee. The user then acknowledges this fact and the system will continue to search other databases to find a record to associate the license plate. Each time, the user must acknowledge the failure. This cycle repeats 24 times before the program will stop searching and allow another license plate to be entered.

Many individuals pay their parking citations in person or by mail. Payments are made at the University's Finance Department. The University's software system accepts the payment but it doesn't always record the citation as being paid. As a result, PMP continues to report the citation as unpaid. So while person's account shows a zero balance, his/her vehicle is subject to towing for nonpayment of citations. To remove the citation from the delinquent file, the Parking Office staff must actually void or waive the citations.

Some accounts in the University's software system have a surplus of funds available for future purchases. If a citation is entered as a charge against the account, the citation is automatically paid. The system, however, does not always apply the payment against the citation. It simply reduces the account by the fine amount. The University's software system does not notify PMP that the citation is paid so, for enforcement purposes, the citation is unpaid. The unreliability of the data has forced the Parking and Transportation Office to tow only in instances of safety.

Some students pay a citation and then decide to appeal it. As previously mentioned, some citations are paid automatically in the University's software system. Whenever an account shows a positive balance, PMP will not allow an appeal to be entered by staff.

The reporting capability of PMP is not reliable. Decisions based upon its data should be avoided at this time. We observed this condition when seeking enforcement data. The employees who enforce parking indicated that 500 citations a day is not unusual. At that rate, the total number of citations for a year would be nearly 90,000 (500 a day for 20 days a month for 9 months). Due to illness and the requirement to occasionally perform other duties, not every enforcement person writes citations on a full-time basis so we reduced that total by 25% revising the number of citations to 67,500. A report totaling the number of citations issued for that year was only 33,953. With such a large discrepancy between the number of citations reported to be issued by the staff and the number actually reported in PMP, we conducted a data accuracy test.

We requested a report with the number of citations issued between September 14 and September 20, 2004. The report indicated a total of 819 citations. We then hand counted the copies of the citations for the same period. We counted 1,099 citations - a difference of 280 for just that one week. Either the citation data is not being correctly entered, the program only accepts selected data, or the report generator is not programmed correctly.

According to the staff, the original PMP software was installed about three years ago. This version of the software contained customized features for ECU. After three years of frustration with the customized version, the staff installed the standard version this past summer hoping that the difficulties would cease. This has not been the case. The same problems continue.

Parking Space Configuration

While observing parking conditions, we noticed several lots with wide aisles and/or wide parking stalls. We examined these locations for the possibility of altering the overall parking layout to increase the number of spaces.

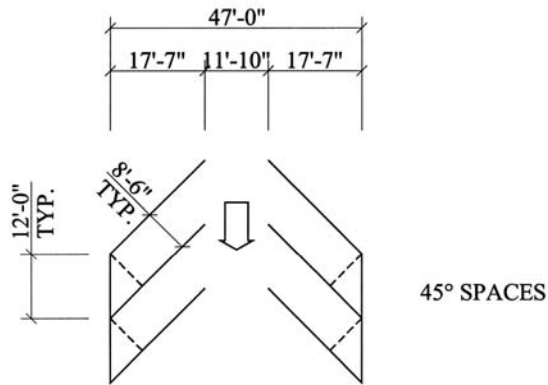
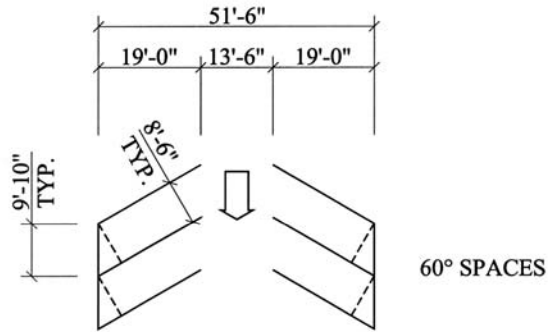
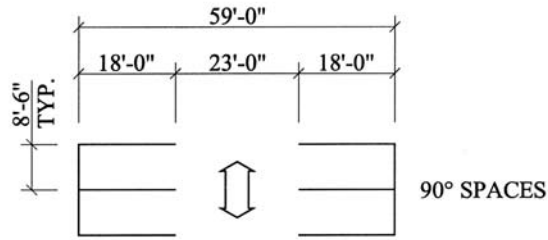
We first looked at the Lancaster Lot. The two driving aisles of the lot appeared wide so we explored the possibility of a different design for that lot to increase the number of spaces. The entire width of the lot is 125 feet. With standard ninety degree parking, a typical parking row of cars with parking on both sides requires 59 feet. The Lancaster Lot can accommodate two such rows with seven feet remaining. Seven feet will not even accommodate a row with parking on only one side. With angle parking, the width of each row is reduced since traffic becomes one way. At 60 degrees, a row with parking on both sides requires only 51.5 feet. Two double rows then require 103 feet with 22 feet remaining. The 22 feet is obviously insufficient to add a double row requiring 51.5 feet and it is 10 feet short of allowing an additional a row with parking on one side. At 45 degrees, each row with parking on both sides requires 47 feet so the Lancaster Lot will easily accommodate two such rows with 31 feet remaining. This distance will permit another row with parking on one side. So using 45 degree parking, the Lot will hold five rows of parking (two double rows and one single row). Angled parking spaces, however, are usually less efficient in terms of overall square feet per space. For a space with a width of 8.5 feet, only 8.5 feet of land space is needed at ninety degrees. At 60 degrees, the same size parking space requires 9'10" of land and at 45 degrees, 12 feet of land is needed. See Exhibit #34 on the next page.

The Lancaster Lot currently has 529 spaces in four rows so each row has about 132 spaces. The spaces are 9 feet wide so the length of the lot is approximately 1,188 feet. At 45 degrees, each space will require 12 feet so each row can accommodate 99 vehicles. With five rows, the lot can hold 495 spaces. This total is less than the current capacity of 529 so the angle parking will not increase the capacity of the lot.

Several other lots were also checked and each time the existing configuration provided more parking spaces.

We also looked at the streets on campus that currently have parking in an effort to increase the supply by using angle parking on one side of the street. While most campuses preferred to reduce vehicular traffic through the campus and to eliminate on-street parking, given the existing conditions at ECU, eliminating on-street parking may not be a step the University can take at this time. Crabbe Street, Park Drive, Kit Carson Drive, and University Drive all have on-street parking. Angle parking is a safe option on one-way streets with a low volume of traffic. Kit Carson, Crabbe, and Park do not lend themselves to angle parking since they are two-way streets and the observed volume of vehicles is moderate. University Drive, however, is a one-way street and the observed traffic was low since only employees can park on that street. Moreover, part of the street is already angled parking.

Exhibit 34



University Drive is 32 feet wide so it can accommodate a single row of 60 degree angle parking. Between Burnham Hall and the alley just east of the Crabbe Library, University Drive bends. Placing angle parking on the bend would restrict the visibility of drivers backing out of the spaces so no angle parking is recommended for that section of the road. From that alley towards Lancaster Avenue, there are 43 parking spaces, 19 on the south side and 24 on the north side. The north side of that section of University Drive has both parking and crosswalks in this configuration:

220 feet of parking – crosswalk – 136 feet of parking – crosswalk – 88 feet of parking – crosswalk – 88 feet of parking

With 60 degree angle parking, the existing parking areas could accommodate 53 vehicles, an increase of 10 spaces. Thirteen of the existing 43 spaces, however, are dedicated to those with disabilities. These spaces will require access aisles in accordance with ADA regulations. The space required for the aisles would negate any real increase in the number of spaces. So unless the accessible spaces were relocated to a location that provided equal or greater accessibility, there is no advantage to re-stripe that section of University Drive.

There are, however, several opportunities to increase the number of parking spaces by applying a uniform size to the individual parking stalls. Exhibit #35 records the stall widths we observed.

Exhibit 35

Lot	Space Width
Alumni Hall	9 feet
Lancaster	9 feet
New Brockton	10 feet
Alumni Coliseum	8.5 feet
Rowlett	9.25 feet
Daniel Boone	8.75 feet

The industry standard for student and employee parking is a space with an 8.25 to 8.5 feet width. We prefer the 8.5 feet width. For short-term visitor parking, the standard is 9 feet.

By adopting these standards on existing lots, more spaces can be added to the parking supply without any capital expense. For example, New Brockton Lot has 670 spaces in 13 rows or 51 spaces per row. By reducing the spaces by 1.5 feet, another 76.5 feet or 9 additional spaces per row become available. With 13 rows, the total increase is 117 spaces. A similar calculation shows Lancaster Lot can add 28 spaces by using the industry standard of 8.5 feet.

We do not recommend trying to hide existing line marking and painting new ones. This often results in confusion over the correct lines particularly at night and in inclement weather. The best time to re-stripe is when the lot has been resealed so the previous line markings are no longer visible.

Potential Garage

While the quantity of parking is sufficient at this time and for the next several years, the issue of parking quality remains. The existing practice of meeting increased parking demand by supplying spaces in remote sites without any dependable transport system is not tolerable by many in the campus community. The survey revealed significant dissatisfaction with the status quo. An improved shuttle system will help the quality of parking, but more is possible. Another option is to construct parking garages near important destinations. An overwhelming majority of survey respondents (99.6%) supported the concept of a parking garage nearer to classrooms.

As with any new structure on campus, a parking garage must be evaluated in terms of aesthetics, safety, functionality, access control, and cost. This study is not intended to address all of those important considerations. Our purpose is to point out that parking garage(s) can improve many of the quality of parking issues on campus. Moreover, if the garage is part of a larger improvement, the enhancement to the campus is even greater.

Space Allocation

Overall, the Parking and Transportation Office has done a very good job of allocating spaces based upon the demand for parking from the various members of the campus community. In some locations, such as the Martin Lot, there is a strong demand for both employee and resident parking. Meeting the demand for that lot is impossible.

We did observe several conditions that impact space allocation. They include:

- Many of the University vehicles parked in the Ault are not moved for days. This lot, although not very large, could better accommodate employee, commuter, and residents.
- The on-street resident parking prevents the proper cleaning of the street. Leaves and debris cannot be efficiently removed since the vehicles remained parked for extended periods of time. This can result in street flooding. In addition, the removal of snow cannot be accomplished with vehicles parked on the street overnight.

- In an effort to accommodate the needs of many with the spaces for a few, the Parking and Transportation Office often splits designations in some lots. So while these lots are normally allocated to one group, during some hours, other groups may also park on these lots. The regulations regarding these hybrid employee lots are found in the University's Vehicle Parking Regulations.

“Parking is controlled in the Case Lot, Jones Lot, and a section of the Martin Lot from 2:00 AM through 9:00 PM, Monday through Friday and is restricted to employee use only. All other yellow posted lots are controlled from 2:00 AM through 7:00 PM, Monday through Friday. Registered commuters may use these lots from 4:30 PM to 7:00 PM, Monday through Friday, with the exception of the three lots previously mentioned. Permits are not required from 7:00 PM (9:00 PM for those lots mentioned above) through 2:00 AM, Monday through Friday and all day Saturday and Sunday. Van Hoose Drive employee housing parking is controlled 24 hours a day, 7 days a week.”

These regulations are confusing and, based upon comments received, are a source of irritation with employees. Many employees must park in locations away from their classroom when they arrive after 9:00 AM. Prior to their evening class, they prefer to move their vehicle closer to their office or classroom. With the commuters permitted to park in areas for employees, this is not always possible.

The regulations authorize non-employees to park on the Case, Jones, and a section of the Martin Lot between the hours of 9:00 PM to 2:00 AM. We did not observe any significant demand for parking on those lots during those hours for other members of the campus community.

- The only visitor spaces are located on the Jones Lot and behind the Student Services Building. These spaces are difficult to find. For the Student Services Building, a sign informs users that they must obtain a permit from the “SSB Receptionist.” A visitor is not likely to know who that person is or where he/she is located.
- We did not observe any dedicated carpool spaces.
- The Parking Office issued 840 temporary permits in the month of September 2004, an average of more than 40 per workday. Each permit is manually issued and requires record keeping.

Signage

There is no standard for parking signs. Some omit any reference to EKU and many are faded or modified with decals.



Lot Conditions

Most of the lots are in fair condition. Alumni Coliseum Lot is in need of crack sealing, surface rehabilitation, and resealing.



Bicycle Usage

We observed bicycles parked at racks and, where racks were not available, railings.



Service Enhancements

The enhancements recommended reflect the input of stakeholders, comparison data, observations of existing conditions, analysis of financial and planning documents, and industry standards as contained in our guiding principles. They are designed to improve the existing and future parking and transportation services at EKU. The implementation of some enhancements is dependent upon the achievement of others. Since the enhancements require change, it is important to proceed cautiously and ensure that all parties understand the reason for the changes.

Parking Permits and Enforcement

1. The existing Parking Management Program (PMP) must be repaired or replaced. It is essential that the Parking and Transportation staff have a parking asset program that minimizes manual data entry, allows users to conduct business on-line, and generates accurate reports. The reports will allow parking management to monitor permit and citation issuance; note trends in parking usage; allow more efficient scheduling of personnel; and enable increased revenue generation. With accurate data, trends can be observed allowing better planning of resources. Besides PMP, at least three other vendors offer products that are compatible with the University's software system. At a minimum, the software must sell permits, integrate with electronic handheld citation issuing units, allow on-line appeals of citations, permit payment of fines, and accurately track the status of each citation.

Once a user registers a vehicle, the permits can be printed on demand or preprinted permits can be mailed. (On-demand permits can have a bar coded number that links the permit with a vehicle and user.) The permits can then be mailed or delivered eliminating permit pick-ups at the Parking Office.

2. To complement the upgraded or new software, handheld citation issuers are recommended. These units eliminate the manual data entry and errors associated with manual citations. At the end of the day, citation data is downloaded for processing. At the same time, the unit is recharged and the list of vehicles with multiple citations is uploaded daily allowing enforcement personnel to know which vehicles have multiple delinquent citations. The citations are more weather resistant and can be placed in an envelope to facilitate payment.
3. Permits for current employees should be issued every other year to reduce the administrative work associated with the permits. Permit renewal for employees could be scheduled for November (or some other month) to avoid the fall peak time. Of course, permits for new employees or replacement of lost permits would continue year round.

4. Currently, the University may deny parking privileges for anyone with seven or more citations within an academic year. We recommend a progressive program to modify inappropriate parking behavior. The first step is to immobilize (boot) vehicles with four citations. Vehicles with seven or more should then be towed and have parking privileges revoked.
5. If an employee or student files an appeal for parking citations issued to an unregistered vehicle, the fact that the vehicle is unregistered should be brought to the attention of the Citation Appeals Board. The Board, regardless of any other action they take, should require the owner to register the vehicle prior to any appeal decision.
6. The criteria for issuing Service Permits should be examined. Once new standards are adopted, only those meeting the revised criteria should receive a permit. Annual reviews of applications are also recommended to ensure continued compliance with the standards. Exceptions should only be granted by the University's Parking Committee.
7. During the first month of the academic year, grant each student and employee the ability to waive one parking citation for non-safety related parking violations.
8. At least once a month, and early in the fall semester, a concentrated effort should be made to enforce employee lots in the morning. Enforcement personnel should maintain a high profile as employees arrive to work.
9. The manual for parking enforcement should be reviewed and updated. An update should be reviewed every other year.

Parking Space Management

10. At the forums, many in attendance were not aware that they could park in a "General Lot." To better promote their use, we recommend changing the name of the General Lots to "All Permits Lot," "Overflow," or "Additional Parking Lot."
11. The conversion of the Ault Lot to residential parking would improve parking conditions in the area. This conversion, however, will require the construction of a new storage facility for the fleet. The new storage facility, if funding becomes available, should be secured (fenced, illuminated, and monitored by CCTV), permit refueling, and provide approved electrical connections for engine block heaters.
12. To increase the number of spaces, re-stripe lots to standard size (8.5' wide) after resealing.

13. The University should review the location of the current visitor parking behind the Student Services Building after consulting with campus groups.
14. Increase the number of accessible spaces. Prior to establishing the additional spaces, seek input from the University's ADA Accessibility Committee to discuss alternate locations that will grant greater access to buildings.
15. Provide short-term, regulated parking in front of the Library, resident buildings, and some classroom buildings. These spaces will provide temporary parking for those dropping off or picking up people and/or goods. The location of the regulated spaces, however, must not restrict accessibility for those with disabilities.
16. Since faculty and staff members may work non-standard hours, the lots assigned to them should remain dedicated to those groups during the entire workweek (Monday – Friday).
17. Dedicate some spaces (start with 20 to gauge interest) in the Alumni Coliseum Lot (north section near handicapped parking) for commuters who carpool.
18. Commuters and employees arriving after 8:30 AM are never sure what parking lots are available. In the survey, many report taking more than nine minutes to find a space. To reduce the search time, parking availability information could be provided by current technology with no additional cost to the University.

Parking Planning

19. The parking lots should be placed on a regular maintenance schedule. This will preserve the long-term use of the lots and reduce walking hazards. The schedule should be a cooperative effort with Facilities Services.
20. Establish a standard space size (8.5' by 17' recommended) for all parking spaces except visitor spaces (9' by 17½' recommended) and ADA compliant spaces. Apply the standards to all new parking locations and existing lots when resealed.
21. The staff of the Parking and Transportation Office indicated that they have had limited opportunity to review capital projects and class scheduling changes that impact parking and transportation. We recommend that all capital projects and class scheduling modifications be transmitted to the Parking and Transportation staff in order to better prepare for the changes resulting from them. This is particularly true as the expansion to the South continues in the future.

Parking and Transportation Organization

22. The use of technology will reduce manual tasks and save time in performing routine assignments. As a result, the existing office staff should be able to provide a higher level of service. While no office/administrative staffing increases are anticipated, we do recommend more training for staff members. Membership in professional organizations, attendance at regional and national conferences, and perhaps enrollment in professional certification programs are strongly encouraged.
23. We recommend reviewing the accessibility of the Parking and Transportation Office.
24. Currently, some Departments will take steps to block parking spaces without notifying the Parking Office. We recommend that only the Parking and Transportation Office grant all requests for parking exemptions. Once approved, that agency should notify affected members of the campus.
25. The Parking Advisory Committee should continue to provide a communication link between the Parking and Transportation Office. We recommend a review of their advisory role, however, to ensure that their function remains appropriate for the current and future parking and transportation goals of the University.
26. The enhancements will be implemented over the course of several years. Prior to each year, goals and methods to monitor progress of meeting the goals should be developed. Over the course of the year, regular measurements of achievements should be made.

Parking Garages

27. We recommend the University commence exploring the advantages of constructing a parking garage in the near future and consider additional garages as demand for parking increases with future growth. While the parking supply is currently adequate in terms of quantity, and land is available for additional surface parking, parking conditions are not adequate in terms of quality. The current allocation of spaces requires the use of on-street parking in the middle of campus. Parking is spread out among some 52 sites. A moderate sized facility (say 500 spaces) will eliminate the need for on-street parking and make it easier for many to find parking. With no parking on the streets, traffic will be reduced, making the campus more pedestrian-friendly and allowing the creation of bike lanes. A garage significantly improves the quality of parking on campus, reduces future increases to shuttle services, minimizes air quality concerns, and saves land for future development or preservation as greenspace.

With an increasing number of students, there will likely be a need for more residential housing units in the future. We encourage the incorporation of parking into any future residential structure.

Signage

- 28. Develop a standard signage package for use at all parking lots. This would include an entrance sign and a single space designation sign. Replace all existing signs with new ones. A template for such a uniform signage package is shown as Exhibit #36.

Exhibit 36





Shuttle/Transportation

The transportation system of Eastern Kentucky University should be convenient, dependable, and comfortable. As with the parking services, transportation services are provided by a dedicated team of professionals but they need better tools to meet the needs of the students, staff, and faculty. This is particularly true for the shuttle system. We refer to our transportation plan as the “*Colonel Connection.*”

29. The need for transportation across the By-Pass is growing. We recommend a shuttle bus route dedicated to transporting people between the Stratton Building, Perkins Lot, and the Student Services Building. This “express” bus would not have a set schedule. It would run continuously providing service every seven to ten minutes. Each of the three stops would be clearly signed and the Perkins stop would have a shelter. The continuous rotation service is in place at other institutions and is generally well accepted if it is properly announced and explained at the introduction of service. When the Business and Technology Center opens, the express route will need to incorporate a stop at that location. Another bus or two (depending on passenger volume) will be required then to maintain continuous service. As the campus continues to expand in the future, additional adjustments will likely be necessary. A second express route directly linking specific areas to the Student Services building may be required.

30. With the express shuttle serving as a bridge across the By-Pass, another shuttle will serve as a connector between campus buildings and other remote parking areas (Ashland and Carter Lots). Prior to 9:00 AM, the route could skip the remote lots. The proposed route would commence at the Student Services Building and travel to Lancaster Avenue using Park Drive. Turning right onto Lancaster, the bus would travel to University Drive and then to Kit Carson Drive. It then follows Kit Carson Drive to across the By-Pass to the remote lots. After leaving the lots, it would

provide service to Keene Hall, and then return to the Student Services Building. The route would also be on a continuous operation, providing service every ten to fifteen minutes. To provide that level of service, two busses should operate on this route. One would operate at all times. The other would run about 15 minutes prior to the start of classes to 10 minutes after the start of classes. In between the class periods, when shuttle demand is significantly reduced, the bus driver can perform enforcement duties.

31. Signs should indicate which bus (express or connector) uses the stops. The sign should indicate the frequency of the service along with a map showing its route. Shelters and/or benches can be used to further encourage the shuttle system usage.

More frequent service will increase ridership and earn customer loyalty. As awareness of the shuttle system grows, more will use it. Remote lots will be seen as a viable option. Since EKU is paying the drivers on an hourly basis, there is no more cost to run the routes continuously other than some slight increase in fuel consumption.

32. We also recommend that the Student Services Building act as a transfer point for all shuttles. Establishing a transfer point would facilitate the rapid movement of students between campus locations on either side of the By-Pass and assist transportation from Student Services to other educational buildings or residential halls.
33. In addition, we recommend replacing the current fleet of shuttle busses as soon as it is feasible. We propose air-conditioned busses that offer more comfort and maneuverability around campus. We suggest that perimeter style seating be required on all new busses, with a few row style seats as needed over the wheel well housing. This style of interior will be far more accommodating to riders easily gaining entry and getting seated to allow the bus to move on to its next stop. Each new bus should be ADA compliant. We are confident that new vehicles and a service schedule that more closely matches students' needs will improve service.

When considering new busses, there are many options and a widely varying cost of acquisition. Appendix A of this report provides some guidelines and product brochures.

One option to consider is the outsourcing of the shuttle system. This option limits the capital outlay for bus replacement and places the responsibilities for staffing, liability, DOT compliance, fuel purchase, and fleet maintenance with the company. The contractor would have direct contact with bus manufacturers to get the best possible pricing and delivery times on new busses. As ridership increases, the contractor would be required to acquire larger vehicle(s) or additional vehicles to add to the routes as appropriate to meet the demand. Firms of this nature are often able to negotiate better terms for vehicles since they purchase in larger quantities.

There are three possible out-sourcing scenarios. One is awarding the shuttle program to a private firm. The other is to partner with the Foothills Express. The third is some mix of the two other scenarios.

34. We encourage exploring the partnering with the Foothills Express. We reviewed two previous studies (Richmond Circulator Service Study – October 1990 and Richmond Transit Study Project – May 2000). Both studies indicate a demand for an improved regional transit program. We spoke to a representative of the organization (Kentucky River Foothills Development Council) and they are interested in discussing transportation options with the University. There may even be an opportunity to join with the City of Richmond in providing a regional transportation network with links to the downtown and commercial activity along the By-Pass. Students, based upon input received at the forums, would welcome a twice-weekly service to shopping areas. By combining the financial resources of the entities, more may be accomplished for the entire region. A joint effort of this nature is often favorably viewed by those responsible for issuing federal and state grants for transportation programs.
35. We recommend continuing the motor coach transportation system at this time. The coaches are well maintained, require no capital outlay, and based upon our observation of the one coach available to inspect, are comfortable. It is likely that replacement of these vehicles, however, will be required over the next three to five years. At that time, we recommend comparing the cost of purchasing, operating, and maintaining the coaches with the cost of contracting that service.
36. Currently, the state provides vehicles under a leasing program. The cost of these vehicles is increasing as the state seeks to strengthen its financial resources. There are vehicle rental agencies that could provide a fleet of vehicles or, perhaps even more cost-effective, an on-demand service. To maximize budget resources, the University should conduct a cost comparison of the state program and local rental companies.

If the shuttle service is contracted, the drivers could be reassigned to enforcement duties and the operation of the motor coaches. The motor coaches and fleet maintenance would remain the responsibility of the current person performing those duties. In addition, he/she would provide a direct link between the shuttle operator and the University.

Fees

The decision to impose fees, and to what extent the fees should recoup the cost of parking and transportation services, are ones that each University must make considering the goals and practices of the University.

37. We recommend an annual review of the existing rate structure for parking and transportation services.
38. For special events, such as large sporting activities, we recommend the establishment of a fee that reflects the cost of lot cleaning, lighting, and any traffic/security. The proceeds from the fee could be divided between the Athletic, Facility Services, and Parking Departments.
39. We previously made some enhancement recommendations regarding enforcement. We also recommend increasing the fine for violation of safety regulations and the fine for misuse of accessible spaces or aisles.
40. We recommend a review of the current per mile fee for use of the motor coaches. The current hourly fee of \$1.45 is lower than private service providers. Rates should be adjusted every six months due to fluctuations in fuel and maintenance costs. In establishing this fee, it is also important to consider its impact on other University programs.
41. When it is time to seek replacement, the cost of new busses should be compared with the cost of chartering busses. Price quotes can be obtained from regional providers.

Pedestrian Mobility

42. The University should establish the goal of eliminating all on-street parking within five years. This action will improve pedestrian access and allow more of the picturesque campus to be seen. This recommendation must be phased-in over a period of time as more off-street parking options become available.
43. The University has identified many of the pedestrian mobility issues.
 - Trimming shrubbery to increase sidewalk capacity and eliminate hiding locations (We recommend plantings not to exceed three feet in height.)
 - Crack and pothole repairs on lots

Eastern Kentucky University – Proposed Parking and Transportation Master Plan

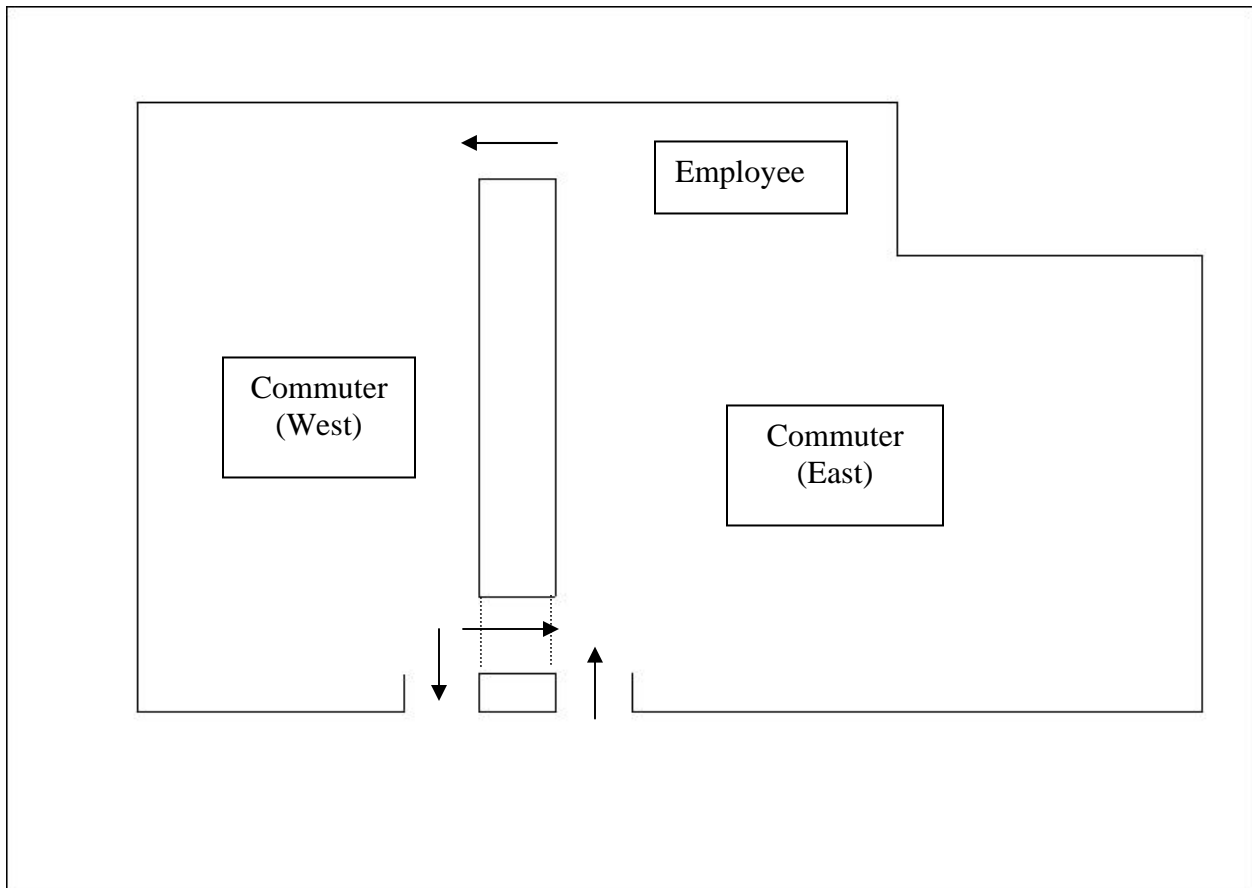
- Trimming trees to provide more visibility of traffic signals
- A formal lighting study of each lot
- Sidewalk repairs to eliminate tripping hazards
- Safety railing adjacent to parking spaces on Lot #10
- Additional call boxes (We suggest the locations indicated by **CB** on Exhibit #37.)

Exhibit 37



- Either modify the vehicular traffic pattern on Alumni Coliseum Lot or install signs and arrows to instruct users on the correct traffic pattern. One option, shown below as Exhibit #38, prohibits left turns into the East Section of the Lot near the entrance. Entry to the East Section could only be made from the north end of the Lot. Other options include moving the entrance further westward and adding an entrance and/or exit from Kit Carson Drive.

Exhibit #38



We encourage continuation of the University’s plan in addressing these issues.

Bicycle

44. We recommend taking steps to increase the use of bicycles on campus. The creation of a bicycle user group would be a great start. Based upon survey results, the University should provide more racks. As on-street parking is eliminated, designated bike routes should be established on campus.

Enhancement Costs

Exhibit #39 summarizes our service enhancement recommendations and estimated cost of each.

Exhibit 39

#	Enhancement	Minimum	Maximum	Notes
1	Repair or replace parking management software	\$500	\$55,000	1
2	Purchase four handheld citations issuing devices	\$25,000	\$30,000	2
3	Issue permits for employees every other year			3
4	Acquire twelve vehicle immobilizers	\$4,800	\$6,000	
5	Revise citation appeal process related to unregistered vehicles			3
6	Update requirements for Service permits			3
7	Consider a program to waive citations for first month of academic year			3
8	Perform additional enforcement of employee lots			3
9	Update enforcement manual			3
10	Change designation of General lots to All Permit lots	\$1,000	\$2,000	4
11	Convert Ault Lot to resident parking after providing new facility for fleet	\$79,500	\$127,750	
12	Re-stripe lots after resealing to standard size			5
13	Review the location of the visitor parking behind the Student Services Building	\$1,500	\$2,000	
14	Increase the number of ADA-compliant spaces	\$3,000	\$8,000	6
15	Add short-term regulated parking where indicated	\$1,000	\$6,500	
16	Simplify restrictions on parking lots and maintain employee lots for employees at all times	\$3,000	\$4,000	4
17	Dedicate spaces for carpool/vanpool participants	\$2,000	\$2,500	4
18	Provide parking availability information to those arriving to campus in the morning			3
19	Implement lot maintenance schedule	\$35,000	\$45,000	7
20	Establish a parking stall size standard			3
21	Require Parking and Transportation Office to review all capital plans			3
22	Develop and implement a training program for parking staff	\$5,000	\$9,000	8
23	Review accessibility of the Parking Office			3
24	Require all parking and transportation exceptions to be approved by the Parking and Transportation Office			3
25	Redefine role of the Parking Advisory Committee			3

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26	Establish annual goals to monitor progress			3
27	Consider the use of one or more parking garages to improve the quality of parking on campus			
28	Adopt a new signage package	\$75,000	\$125,000	
29	Create an express shuttle route to connect the North and South segments of the campus			
30	Make changes to shuttle routes			3
31	Replace shuttle route signage and add shelters	\$20,000	\$47,000	9
32	Make Student Services Building a shuttle transfer point			3
33	Acquire four shuttle busses or contract service	\$400,000	\$500,000	10
34	Explore transportation options with Foothills Express and City			3
35	Maintain current motor coach program			
36	Compare state program and private leasing firms for vehicle rental			3
37	Review fees for parking and transportation services			
38	Adopt fee for special event parking			
39	Adjust fines for citations			
40	Review fees for motor coach usage			3
41	Prior to purchasing new coaches, compare cost to leasing on an as-needed basis			
42	Establish a goal of eliminating all on-street parking within five years			
43	Continue the University’s plan to address pedestrian mobility issues	\$60,500	\$112,000	11
44	Create bike routes on campus and add bike racks	\$3,000	\$4,000	12

1. The lower cost represents a minor repair fix. The higher cost represents new software with handheld units included. Expect about \$6,000 annually for maintenance, support, and supplies with a new system.
2. These costs represent the cost of the handhelds using existing software.
3. Estimated costs are under \$500.
4. This cost reflects sign changes.
5. This cost included with lot resurfacing.
6. This is an estimate for signage and re-striping.
7. This is an annual budget estimate.
8. This annual amount includes memberships, travel, and training time.
9. The lower cost reflects the cost of benches while the higher estimate represents shelters.
10. Assumes a purchase. Lease options are available to reduce capital outlay.
11. Covers the sidewalk repairs, lighting study, shrubbery, call boxes, and railing installation.
12. For signage and racks

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The total estimated cost for the service enhancements ranges from \$718,800 to \$1,085,750. For estimating purposes, we will use the average of those two number or \$902,275. Most of the enhancements will be implemented over a three year period so about \$300,758 per year is required.

We estimated the cost for providing the existing level of parking and transportation services is \$1,407,200. We will add \$100,000 to that total to account for another shuttle bus driver and other expenses.

So with the current operating expenses of \$1,507,200 and the average annual cost of enhancements of \$300,758, there is a total requirement of \$1,807,958 annually to implement the proposed Parking and Transportation Master Plan.

Parking and Transportation Strategy

The program enhancements recommended, when implemented in a practical and logical order, become a Parking and Transportation Strategy for the University. The enhancements cannot be implemented at one time so we have organized them over a five-year period in Exhibit #40 below. Of course, unforeseen conditions may arise that will require modifications to the strategy.

Exhibit 40

Academic Year	Item #	Enhancement Recommendation
Annual	12	Restripe lots to a standard size after sealing
	21	Parking and Transportation Office to review campus capital plans
	24	Parking and Transportation Office approves all requests for exceptions to parking regulations
	26	Establish annual goals to monitor implementation progress
	37	Review fees for parking and transportation services
	39	Review fines for parking violations
	40	Review fees for motor coach and fleet services
	43	Continue efforts to improve pedestrian mobility
	27	Consider the use of garages to enhance the quality of parking
2005-2006	1	Repair or replace parking management software
	2	Purchase four (4) handheld citation issuing devices
	9	Update parking enforcement manual
	8	Increase enforcement of employee lots
	23	Review accessibility of Parking and Transportation Office
	34	Explore transportation options with FootHills Express
	10	Change designation of General lots to All Permit lots
	16	Modify restrictions on lots to better serve employees
	5	Revise appeal process for unregistered vehicles
	35	Maintain current motor coach program for several years
	20	Establish a standard parking stall size
2006-2007	33	Purchase four (4) new shuttle busses
	29	Create an express route to better connect the campus across the By-Pass
	30	Make changes to shuttle service
	31	Replace shuttle signage and improve stops
	32	Make the Student Services Building a central transfer point for the shuttle busses

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	14	Increase number of ADA-compliant spaces
	22	Develop a training program for employees of the Parking and Transportation Office
	25	Review role of Parking Advisory Committee
	4	Purchase twelve (12) vehicle immobilizers
	15	Add short-term regulated parking
	6	Update requirements for Service Permits
	19	Implement a lot maintenance schedule
2007-2008	17	Create carpool program
	18	Provide parking availability information to arriving students and employees
	28	Install new signs
	3	Commence issuing employee permits biennially
	13	Review location of visitor parking
2008-2009	41	Purchase or contract new motor coaches
	38	Adopt fee for special event parking
	7	Consider program to waive citations during first month of fall semester
	36	Compare state program and private leasing offers for fleet
2009-2010	11	Convert Ault Lot to residential parking
	42	Eliminate all on-street parking
	44	Create bike routes

Appendix A

The following is offered as guidance in purchasing new shuttle busses.

Any new bus purchase must be fully compliant with the Americans With Disabilities Act. The liability for failing to fully comply with this law is significant and ECU could face a challenge on this issue, not just from a student or faculty member, but also from any ADA advocate.

Low-floor busses are now preferred since they allow easy access to all users, including those with disabilities. Many in the industry consider a new low-floor bus, manufactured by Gillig Corporation, as the “Cadillac” of transit busses. Its status is reflected in its price tag (somewhere near \$275,000) and an order backlog of nearly eighteen months. Thankfully, there are options from other manufacturers that are now offering low-floor or accessible vehicles at more reasonable prices and much shorter lead times.

The following information illustrates just a few of the options that are available in the bus industry today. We included a listing of bus manufacturers and their websites to allow your fleet personnel to look at the many options available today.

The brochures included are examples of the types of vehicles that may be better suited to ECU’s shuttle service. These are examples only and are not meant to endorse a particular vehicle or manufacturer. The brochures, however, show the type of vehicle that could maneuver the campus more easily and also illustrate the various seat configurations that are available. We recommend a combination of perimeter and row style seating to best serve ECU’s needs and allow for adequate seating capacity.

The first example shows a Titan series bus. It is available in a number of wheelbase lengths and offers ADA accessibility. In a bus more than twenty-two (22) feet in length, at least two tie-down positions must be included for ADA compliance. There are a number of interior configurations illustrated on the brochures. Busses similar to this vehicle are available from a number of manufacturers. A detailed specification of desired features should be prepared and issued to bus suppliers when ECU is ready to acquire new vehicles, to allow for competitive bidding. Expected retail pricing for busses of this type would be in the \$70,000 to \$75,000 range. Lease options would typically be available for around \$1,800 per month for a fixed term with a mileage cap. Lease prices would of course vary depending on total vehicle price with options, length of the lease, total mileage allowed and interest rates at the time of lease inception.

The second example shows a low-floor model called the Easy On. This vehicle minimizes step height for easier access and makes ADA accessibility easier to accomplish. Again, many interior configurations are available from a number of manufacturers that would allow EKU to select from a number of vendors to obtain competitive pricing. It would be expected that a typical retail price for a low floor bus of this type would be in the \$120,000 to \$130,000 range. A lease option would be found for something around \$2,300 per month for a fixed term with a mileage cap. Again, lease prices would vary depending on total vehicle price with options, length of the lease, total mileage allowed and interest rates at the time of lease inception.

The price estimates provided are intended for budgetary estimates only. Competitive bidding is the best method of vehicle acquisition, through stringent and detailed specifications issued to a number of qualified manufacturers. The specifications would note the exact type of bus, the type of fuel (clean diesel or CNG), color schemes (interior and exterior), engine size, transmission, and the seating configuration required. We also recommend that each bus be equipped with working radio communication to allow driver-to-base communication as well as driver-to-driver communication. This could be done by cell phones that offer paging from phone-to-phone. This ability to communicate could be used for many purposes and even to the extent of requesting a special stop at a certain building or notification of illness on the bus or mechanical failure.

Bus Manufacturer Contact Information

This is a partial list of bus suppliers that EKU should investigate as potential suppliers of new vehicles.

- ABC BUS, www.abc-bus.com
- ASHOK LEYLAND, www.ashokleyland.com
- Beaver Motor Coaches, www.beavermotorcoaches.com
- Blue Bird Corporation, www.blue-bird.com
- Collins Bus Corporation, www.collinsbus.com
- Complete Coach Works, www.completecoach.com
- Designline, www.designline.co.nz
- Eldorado National, www.enconline.com
- Federal Coach, www.federalcoach.com

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- Glaval Bus, www.glavalbus.com
- Goshen Coach, www.goshencoach.com
- ISE Research Corporation, www.isecorp.com
- Mid Bus, www.midbus.com
- Motor Coach Industries International, www.tran-star.com
- NABI, www.nabiusa.com
- New Flyer, www.newflyer.com
- Nova Bus Corporation, www.novabus.com
- Optima Bus Corporation, www.optimabus.com
- Scania, www.scania.se
- Sitcar SPA, www.sitcar.com
- Thomas Built Buses, Inc., www.thomasbus.com
- Turtle Top – Specialty Product Division, www.turtletop.com
- World Trans, Inc., www.wtrans.com