Executive Summary

Indiana University is projected to grow significantly over the next decade, and campus transportation infrastructure must keep pace in order for IU to retain its character and beauty. The University’s spatial expansion and student population increases have created obstacles in the development of effective, safe and sustainable transportation solutions for all members of the community. Dependence on single-occupant-car driving poses a challenge for campus planning and negatively affects transit efficiency, while requiring valuable space be designated for parking. Increasing the viability of alternative transportation will require a shift from the current paradigm of relatively cheap on-campus parking and rush-hour gridlock to a system that makes it convenient, quick and safe for students, faculty, staff and visitors to access transit, carpool, ride a bike, or walk. Based on the 2008 Transportation Survey conducted by Michael Steinhoff and Julie Harpring, with information and proposals from the IU Sustainability Task Force’s Transportation Assessment, this report sets out recommendations for improving alternative transportation options at Indiana University-Bloomington. Topics highlighted in this report include:

- Improving transit routes and accessibility throughout campus
- Altering parking-cost structure and permitting program
- Implementing and advertising a comprehensive carpool initiative
- Creating bike-friendly streets and paths
- Increasing bike-rack availability and improving design
- Slowing automobile traffic in high pedestrian-traffic locations
Introduction

An effective and sustainable transportation system is critical for a campus of over 30,000. Providing equitable and functional transportation alternatives for students, faculty, staff, and visitors must be a priority as the university begins to fulfill its expansion objectives and fuel prices continue to rise. Moving from heavily subsidized motorized vehicle parking on campus to a model of cost-effective and efficient alternative transportation will allow all members of the academic community to take advantage of the many opportunities available at IU. Human health and safety, along with the environmental impacts of growth, are paramount considerations for a campus that strives to create a beautiful and safe environment for the academic community.

The recently completed Campus Master Plan addresses some of the infrastructure growth demands and transportation requirements that Indiana University will require in the coming decades. However, there are few codified objectives that outline specific environmental, structural, and transportation considerations to guide development as the campus builds new academic facilities and expands into previously open areas. University officials are currently in a unique position to enact policies similar to those of Herman B. Wells, that retain campus’ character, environment, and accessibility during expansion.

Herman B. Wells’ legacy on the Bloomington campus is difficult to understate. His commitment to retaining the natural environment and green space throughout campus has routinely placed IU as one of the top five most beautiful campuses in the nation. Yet his goals have never been made an official part of IU’s policies concerning development. Subsequently, his legacy is consistently threatened as the campus focuses on growth. The University should define and codify their goals for the future of the Bloomington campus, including its desired modal split of transportation methods (Figure 1). With specific objectives for the future appearance and layout of campus and detailed goals for its transportation system in documented policy, an effective transportation management strategy can be designed and enacted.
Figure 1. Design and implementation process for transportation initiatives

Implementation of many of the following recommendations will require extensive dialog and deliberation between various stakeholder groups within the community. Included here are a wide range of options and alternatives that would likely shift the model split of transportation away from single-occupancy cars, while responding to an increased demand for transit, carpool programs, bike-commuting and walking. Alongside previous studies and reports completed by Indiana University students, it is hoped that this report will contribute to the implementation of a sustainable transportation strategy for the Bloomington campus.
Recommendations

While it is important to understand the short-term prevalence of single-occupant vehicles on campus, it is also important for the university to emphasize and expand upon other forms of transportation and recognize their role in creating a sustainable campus. The recommendations contained within this report are based on areas of concern generated through observations on campus, including input from university students, as well as the results of the data collection and survey conducted by Michael Steinhoff (Figure 2).

![IU Bloomington Modal Split](image)

**Figure 2.** IU Bloomington modal split for transportation to campus
Transit

- A major component in reducing the number of vehicles on campus is to provide remote parking away from congested areas and shuttle drivers into the heart of campus on IU buses. Expanding upon the highly effective stadium park and ride into other areas of the city will provide greater accessibility to these services. Possibilities for location of park and ride lots include College Mall, near Bryan Park, and the Fountain Park apartment complex area. Reducing or eliminating parking fees in these lots would help increase ridership.

- Improving stadium park and ride facilities and making shuttle routes more efficient is important for retaining the high ridership of this service. Installing a traffic signal at the stadium parking lot exit on Dunn Street would reduce the amount of time buses wait to exit, and would provide a safer crosswalk for pedestrians. A larger bus shelter at the stadium would provide restroom facilities for bus drivers, while protecting transit riders from the weather. Finally, opening Woodlawn Avenue across the railroad tracks at 12th Street would increase operational efficiency of the shuttle route by creating a bus corridor from the stadium to the Memorial Union.
• Advertising, expanding, and incorporating the Midnight Special bus service into the IU bus system would increase ridership and provide a safe way for IU students to get home after regular bus service has stopped on Thursday, Friday, and Saturday nights. Advertising the schedule and routing of late-night services would improve accessibility and ridership. Utilizing IU buses and drivers would reduce the cost of operating the routes.

• Creating small transit stations around campus (Figure 3) would provide riders with shelter from the weather, while allowing for additional information to be posted and new technologies to be implemented. Posting bus schedules and rider information would make the transit system more effective and transparent. Interfacing bus GPS units with automatic timing displays at the bus shelters would alert riders when the next bus will arrive. Locations of these stations could include 3rd Street at Jordan Hall, Sample Gates, corner of Woodlawn Avenue and 7th Street, Memorial Stadium park and ride, and the Memorial Union shuttle stop, in addition to the current shelter at the Wells Library.

• Continue to monitor and evaluate current bus routes to reflect changing demand and conditions. Implement new routes or alter existing routes to ensure efficiency and effectiveness of the IU bus system.

Figure 3. Wells Library bus shelter
Single-Occupant Automobile

- Increasing parking garage rates would deter students, faculty, and staff from using on-campus parking structures, while mitigating the need for constructing new parking facilities (Figure 4). Implementing a cost structure that charges higher rates for short-term and high-volume lots would shift parking demand from congested areas to satellite facilities.

- Parking permit prices should be increased in order to reduce the number of single-occupancy vehicles on campus and lower demand for on-campus parking. This will reduce congestion in high-traffic areas and will reduce the overall burden that cars place on campus infrastructure. Shifting permit prices to be more in line with other Big 10 institutions should provide a framework for the fee structure of parking permits.

- Implement occasional-use parking permits and lot-specific permits to better manage parking demand and management. The occasional-use permits could only be used specified days of the week or a finite number of days per month. As the number of days the permit can be used increases, the price of the permit also increases. Lot-specific permits would charge higher prices for more congested and centrally located lots, while under-utilized lots on the periphery of campus would have lower permit prices (Figure 4). These two changes to permitting would give drivers more options when deciding the most cost- and time-effective use of their resources, while reducing the average number of vehicles on campus.

Figure 4. Under-utilized Atwater/Fess parking structure
• Limiting or halting the increase in number of parking spaces on-campus would reduce supply over time, while ensuring that green space and ecological health will remain priorities as the University expands into undeveloped areas. Institutionalizing a limit on the number of parking spaces that can be incorporated into new building construction and codifying the maximum number of parking spaces that can located on campus are good ways to help ensure the modal split of single-occupant vehicles decreases over time.

**Carpool and Rideshare**

• To reduce the total number of automobiles on campus, the current carpool program should be more widely advertised and promoted. Publishing information in the Indiana Daily Student, Herald Times, and the transportation website about carpool incentives and permit prices would increase the initiative’s visibility and increase participation.

• Offering low-cost parking permits with restricted premium parking spaces to registered 3+ occupancy vehicles will help increase program participation. Providing carpoolers with designated spaces on the ground-level of centrally-located parking structures will also make the program more visible to other drivers.

• Continue the guaranteed free ride home policy for carpool participants. This program allows registered carpoolers to receive a free ride to their residence if the vehicle in their carpool has left campus. While this program is currently in place, additional advertisement would boost participation.

• Testing the Zimride rideshare software for one year will give university administrators information about the feasibility and number of participants in a rideshare program at IU. The software allows registered users to create transportation profiles that other users can see, and enables communication and carpooling between users with similar routes.

• Conducting a survey and evaluation of carsharing opportunities in Bloomington will advance the goal of reducing the number of cars in the city. Participants pay a monthly fee to have access to a fleet of vehicles that are owned and maintained by the university or city.
Bike

- Increasing the number of off-street bike trails and paths in Bloomington and around campus will reduce the number of automobiles on the road by providing feasible commuter options to bikers. These paved and marked trails will reduce the number of bikers on streets and sidewalks, thereby improving safety and accessibility. As proposed road construction begins on 10th Street and the bypass, commuter bike trails should be incorporated into the design.

- Improving bike signage in high-traffic pedestrian areas will reduce the number of pedestrian/bike conflicts allow bikers to travel faster. Separating bikers from pedestrians in areas such as the arboretum, Dunn Woods, and 10th Street on campus would increase safety by informing users about the proper uses of paths and trails.

- Delineating and signing bike routes around and through campus will decrease the number of automobile/bike conflicts, and will allow bikers to travel faster. Painting shared-lane markings on major biking streets (3rd, 7th, 10th, Atwater, Indiana) will inform bikers about the proper place to ride in the street, and will alert drivers to watch for bikers (Figure 5). These markings are a cost-effective way to create bike routes without the need for widening roads or constructing new trails.

Figure 5. Shared-lane markings for urban street
• Analyzing and surveying locations of high bike-parking demand, and increasing the number of bike racks at high-traffic locations, such as the Wells Library and Ballantine Hall, will promote biking and provide safe and secure locking structures.

• Improving the design of bike racks to accommodate high densities of bikes, while providing safe and secure locking structures, will make bike rack areas more visually appealing and more functional. Standardizing bike rack styles across campus will help ensure uniformity in bike security.

• Incorporating bike lockers into new campus construction projects will reduce the cost of locker construction, while providing a secure place for riders to keep their bikes. Commuters weary about riding high-end bikes to campus will have a safe location for their bikes, which will increase the number of bike commuters to campus. Including commuter showers in new construction projects will also increase the number of bike commuters, by allowing them to change clothes and refresh themselves after riding.

### Pedestrian

• Delineating crosswalks at high-traffic locations such as 3rd Street, 7th Street, 10th Street, Jordan Avenue, Fee Lane, and Atwater Street will increase pedestrian safety.

• Analyzing and surveying locations of fast automobile traffic will provide information about locations of potential pedestrian/automobile conflicts. Installing traffic-calming devices and signage at major crossings will increase the number of people that walk to and around campus. Slowing automobile traffic on campus will increase safety for both drivers and pedestrians, while creating further disincentives to drive.

• Reducing speed limits or slowing traffic on 3rd Street, 10th Street, Fee Lane, and Atwater Street will make pedestrians and bikers more safe. Planting street-trees and creating raised crosswalks are proven methods of reducing traffic speeds without changing speed limits.

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Conclusions

Indiana University has the opportunity to create a sustainable transportation system that meets the current and future demands of the growing campus. Shifting the modal split of transportation away from single-occupancy vehicles will be a difficult transition for the university and Bloomington to make, yet the signs of change are already apparent. Implementing the recommendations set out in this report will help move the campus towards expanding alternative transportation options, while helping to preserve the beauty and character of the university.

Shifting away from policies that increase the amount of parking on campus and grant hidden subsidies to automobiles should be reconsidered. Increasing transit services and accessibility, promoting ridesharing, creating new bike infrastructure, and making pedestrians safer are all steps towards strengthening and diversifying transportation options at IU. Students, faculty, staff, and visitors will all benefit from the efforts and investments we make in a sustainable transportation future.
References

- Steinhoff, Michael and Harpring, Julie. 2008. Transportation and Sustainability on the Indiana University, Bloomington Campus. Bloomington, IN.