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Bloomington Public
Transportation Corporation

Transit Development
Program Update

Final Report

September 2009

Excellence in
  Transportation
  Planning

Bloomington Public Transportation Corporation

Transit Development Program Update

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1. Introduction

Located in southern Indiana, the city of Bloomington had an estimated population of 69,247 in 2006. The population has experienced modest increases in the last decade and is projected to continue the up trend in next 25 years. The city is home to Indiana University (IU) with over 5,000 employees and almost 40,000 students, a major employer and traffic and transit ridership generator.

The Bloomington Public Transportation Corporation (BPTC) provides public transit services, including both fixed route bus service and BT Access, a specialized van service for persons with disabilities, to Bloomington residents. In addition to Bloomington Transit, IU operates its own transit system within the campus serving internal trips of students and employees and Rural Transit offers bus service in the county connecting rural communities to the city of Bloomington.

Following the 2002 Transit Development Program Update, ridership has grown significantly with more than a 40 percent increase from 2002 to 2008. This remarkable growth is attributable to many factors including rising fuel prices, new development within the city, and increased IU student and faculty/staff ridership. In addition, land use and travel demand have also experienced significant changes since the 2002 update.

The Fixed Route Operational Analysis Study completed in 2007 recommended a five-year service plan for the period of 2009 to 2013. The plan requires four additional vehicles and proposes significant increases in service hours (26 percent) and operating budget (57 percent) compared to the base year of 2007 to respond to the continuing increase in transit demand.

The objective of this study is to develop a longer-term plan for Bloomington Transit to accommodate the city's growth and reflect the change of land use and travel patterns in the next five to 10 years (2014 to 2018). To develop the Transit Development Plan, it is critical to understand what has worked in the existing system and how to expand services without disrupting the recent success. This means understanding the dynamics of the routes and the customers they serve, and developing expansion plans that preserve the integrity of the existing successful routes, while still allowing new routes and services along with needed changes to be fully integrated into the existing system.

This report presents an overall review of the existing transit services, summaries of the consultation with the public and key stakeholders, market analysis results, identified needs and opportunities, a series of service alternatives and recommended five to 10 year service plan.

The recommended five to 10 year service plan includes significant changes in service levels with additional service area, increased service frequency and extended service span in most service periods. The plan would require significant investment in transit in the next five to 10 years with an additional nine vehicles and approximately 41,000 service hours compared to 2008 operations or an additional five vehicles and approximately 27,000 service hours compared to the proposed five-year service plan.

2. Existing Transit Services

This section presents existing transit characteristics, and reviews the performance of the existing fixed route service and BT Access service. These observations form the basis for the development of five to 10 year service strategies.

2.1 Fixed Route Service

2.1.1 Service Characteristics

Bloomington Transit is currently providing fixed route service in the city of Bloomington, serving a population of approximately 70,000. The fixed route bus service consists of nine bus routes with a focus on downtown Bloomington and the Indiana University campus.

The base service generally operates between 6:30 a.m. to 11:30 p.m., Monday to Friday with reduced service on routes serving the IU campus including Routes 6, 7 and 9 during the summer. Most routes operate at a service frequency of 30 minutes or less while Routes 1N, 4, 5 and 8 operate at 60 minutes headway. Saturday service is available on most routes between 7:30 a.m. to 7:00 p.m., but operates at a reduced service frequency on Routes 1S, 2, 3W, 6 and 9. Sunday service is very limited and available only on two routes: Route 6 operates between 10:00 a.m. to 9:30 p.m. at a headway of 60 minutes and Route 9 operates between 10:30 a.m. to 11:00 p.m. at a headway of 40 minutes.

Revenue hours of the fixed route bus service have increased to 87,774 in 2008, while the annual ridership reached a record high in excess of 2.8 million passenger trips with total revenue of $1.5 million. There are approximately 14,500 passenger trips on a typical weekday, 3,500 on Saturday and 950 on Sunday during the school year. Approximately two thirds of the total ridership are IU students. As a result, ridership is significantly lower during the school breaks.

2.1.2 Route Performance

Exhibit 1 shows that the individual route performance in terms of boardings per hour by route direction and time periods of a typical weekday based on the most recent passenger on/off counts (fall 2006). It should be noted that the objective of this study is not to identify solutions to individual routes and areas, but to develop a strategic plan for the next five to 10 years. A detailed review of each individual route has recently been completed by the Fixed Route Operational Analysis study dated December 2007.

As shown in Exhibit 1, the best performing routes tend to be IU campus focused services including Routes 9, 6 and 7 with boardings per hour above the system average of 37. These routes operate at higher service frequencies (20 minutes or less) when compared to other routes in the system and carry approximately 70 percent of the total ridership.

Routes 1, 4, 5 and 8 rate significantly below the system average. This level of performance is to be expected, since these routes (with exception of Route 1S) serve the areas with less student population and operate at 60 minutes service frequency.

Exhibit 1 – Route Performance Summary

Route	Direction	Before 9:00	9:00-14:00	14:00-18:00	After 18:00	Pass./Total by Direction	Pass./Total by Route
Route 1-N	Outbound	21.0	23.6	17.0	11.7	17.5	
	Inbound	17.3	18.0	45.5	3.2	20.0	18.8
Route 1-S	Outbound	27.7	13.8	32.9	11.9	19.9	
	Inbound	24.0	16.9	16.8	3.2	15.7	17.5
Route 2-S	Outbound	32.3	35.5	42.1	16.9	32.9	
	Inbound	41.6	31.8	24.7	4.2	26.6	29.4
Route 2-W	Outbound	37.2	46.8	63.8	18.0	43.9	
	Inbound	26.0	22.5	21.4	4.4	19.5	27.5
Route 3-E	Outbound	24.0	35.8	53.0	15.0	32.4	
	Inbound	59.3	40.3	34.0	11.1	32.8	32.6
Route 3-W	Outbound	18.0	16.4	26.0	8.0	17.6	
	Inbound	27.0	12.6	22.0	5.7	16.6	17.1
Route 4-N	Outbound	6.6	11.2	15.2	17.7	12.9	
	Inbound	22.4	14.3	7.8	3.4	12.0	12.4
Route 4-W	Outbound	19.7	29.0	33.6	9.7	22.2	
	Inbound	55.5	47.6	16.9	3.9	28.9	25.6
Route 5	Outbound	3.1	9.1	36.7	6.6	14.5	
	Inbound	37.7	26.7	14.0	26.7	24.9	19.9
Route 6	Westbound	58.1	54.4	56.2	23.6	48.3	
	Eastbound	34.9	53.5	72.6	34.5	51.3	49.8
Route 7	Outbound	37.6	51.8	43.3	24.1	41.4	
	Inbound	61.5	46.9	17.1	4.4	32.7	37.6
Route 8	Outbound	20.0	13.6	14.5	2.0	13.5	
	Inbound	0.0	9.2	9.5	0.0	8.4	11.0
Route C9	Outbound	7.8	107.9	95.0	51.9	83.3	
	Inbound	88.9	41.9	81.9	26.7	56.4	69.4
Total		37.2	42.5	45.7	18.5	37.3	

2.1.3 Transit Supply and Ridership

Exhibit 2 presents a summary of the fixed route transit ridership and service supply in terms of passenger trips and bus trips respectively between the central downtown and IU campus area and the outlying areas of the city.

As shown in Exhibit 2, 63 percent of total passenger trips are from the east and carried by 34 percent of bus trips. This is expected due to the high student population and activities in this area. Based on our observations, buses are often crowded on routes serving this area, which indicates that the service may not provide sufficient capacity to match the strong transit demand in this area. However, in the south, approximately one third of the total bus trips generate only 20 percent of the total ridership, which indicates that the service may oversupply the demand. The transit ridership, as well as service supply, is relatively low in the rest of the city, especially the southwest with only 6 percent of the total ridership.

Exhibit 2 – Transit Supply and Ridership
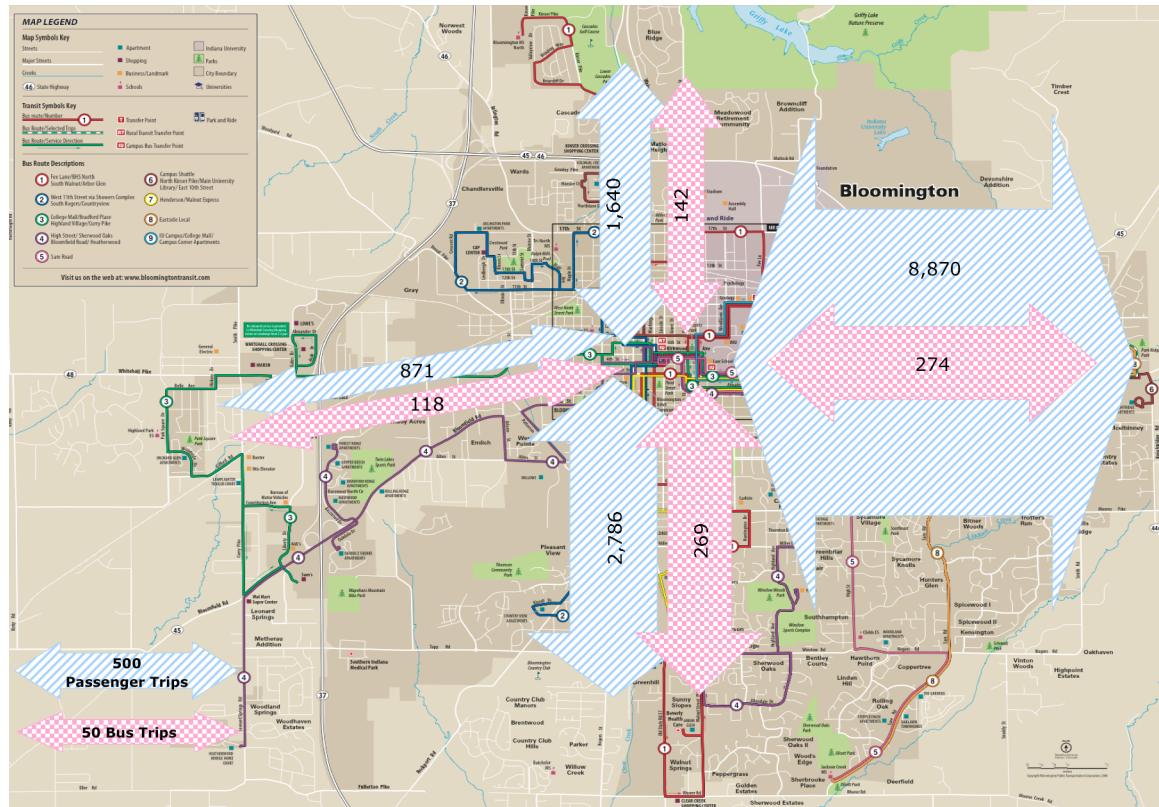
2.1.4 Fleet and Facilities

The fixed route bus fleet currently totals 45 vehicles with the general characteristics as summarized in Exhibit 3. The fleet is mixed in size consisting of four 25-foot, seven 30-foot, 21 35-foot and 13 40-foot buses. All buses are accessible and equipped with wheelchair ramps or lifts and have two wheelchair spaces. With the exception of two hybrid-diesel buses, all buses are diesel-powered. The average age of the fleet is at approximately eight years. Eight buses are beyond their life cycle while 11 buses are near the life cycle. A total of 29 buses are required for peak hour service during weekdays, which leaves a spare ratio (number of spare buses/total number of buses) of 55 percent. Considering the seven buses that are beyond their service life, the spare ratio would be calculated at 28 percent.

The administrative building and maintenance facility for Bloomington Transit is located at 130 West Grimes Lane. The facility was built by BT on a parcel of land owned by Indiana University that is approximately 4.5 to 5.0 acres bounded by a city developed bike/walking trail on the west side of the property, Grimes Lane to the south, two viable business enterprises to the east and an auto scrap yard to the north.

Exhibit 3 – BT Fixed Route Fleet

BT Vehicle Number	Length	Year	Life Cycle	Vehicle Type	Seating Capacity/ Wheelchairs	Vehicle Manufacturer	Engine Type
8901	35'	1989	20	HDV	37/2	ORION	Diesel
8902	35'	1989	20	HDV	37/2	ORION	Diesel
9003	35'	1990	20	HDV	37/2	ORION	Diesel
9004	35'	1990	20	HDV	37/2	ORION	Diesel
9513	35'	1995	12	HDV	37/2	GILLIG	Diesel
9514	35'	1995	12	HDV	37/2	GILLIG	Diesel
9515	35'	1995	12	HDV	37/2	GILLIG	Diesel
9516	35'	1995	12	HDV	37/2	GILLIG	Diesel
9720	30'	1997	12	HDV	30/2	GILLIG	Diesel
9721	30'	1997	12	HDV	30/2	GILLIG	Diesel
9722	30'	1997	12	HDV	30/2	GILLIG	Diesel
9723	35'	1997	12	HDV	37/2	GILLIG	Diesel
9724	35'	1997	12	HDV	37/2	GILLIG	Diesel
9725	35'	1997	12	HDV	37/2	GILLIG	Diesel
9737	35'	1997	12	HDV	35/2	NOVA/RTS	Diesel
9738	35'	1997	12	HDV	35/2	NOVA/RTS	Diesel
9839	35'	1998	12	HDV	35/2	NOVA/RTS	Diesel
0136	25'	2001	5	LDV	20/2	FORD/SUPREME	Diesel
0240	25'	2002	5	LDV	20/2	FORD/SUPREME	Diesel
0241	40'	2002	12	HDV	40/2	GILLIG	Diesel
0242	40'	2002	12	HDV	40/2	GILLIG	Diesel
0243	40'	2002	12	HDV	40/2	GILLIG	Diesel
0344	40'	2003	12	HDV	40/2	GILLIG	Diesel
0345	40'	2003	12	HDV	40/2	GILLIG	Diesel
0346	40'	2003	12	HDV	40/2	GILLIG	Diesel
0347	40'	2003	12	HDV	40/2	GILLIG	Diesel
0348	40'	2003	12	HDV	40/2	GILLIG	Diesel
0349	30'	2003	12	HDV	29/2	GILLIG	Diesel
0350	30'	2003	12	HDV	29/2	GILLIG	Diesel
0551	40'	2005	12	HDV	40/2	GILLIG	Diesel
0552	40'	2005	12	HDV	40/2	GILLIG	Diesel
0553	40'	2005	12	HDV	40/2	GILLIG	Diesel
0554	40'	2005	12	HDV	40/2	GILLIG	Diesel
0555	40'	2005	12	HDV	40/2	GILLIG	Diesel
0656	25'	2006	5	LDV	20/2	FORD/SUPREME	Diesel
0657	30'	2006	12	HDV	29/2	GILLIG	Hybrid Diesel
0658	30'	2006	12	HDV	29/2	GILLIG	Hybrid Diesel
0659	25'	2007	5	LDV	20/2	FORD/SUPREME	Diesel
0760	35'	2007	12	HDV	34/2	GILLIG	Diesel
0761	35'	2007	12	HDV	34/2	GILLIG	Diesel
0762	35'	2007	12	HDV	34/2	GILLIG	Diesel
0763	35'	2007	12	HDV	34/2	GILLIG	Diesel
0864	35'	2008	12	HDV	34/2	GILLIG	Diesel
0865	35'	2008	12	HDV	34/2	GILLIG	Diesel
0866	35'	2008	12	HDV	34/2	GILLIG	Diesel

Vehicle Type Abbreviations:
HDV - Heavy Duty Vehicle   MDV - Medium Duty Vehicle   LDV - Light Duty Vehicle

The facility is currently shared with the IU campus bus system. The maintenance building which is located along the Morton Street side of the property consists of nine bays shared with the IU campus bus system who currently occupy five bays on the north end of the building. Four bays to the south are used for BT buses. Bus washing activities are also carried out within this facilities "footprint".

The administration building for both Bloomington Transit and the IU campus bus system is located immediately south of the maintenance facility. The main employee parking lot is located south of the administration building with additional parking spaces positioned along the property perimeter on the north side and along the west side of the administration building and the employee parking lot. The remainder of the property is devoted primarily to bus storage and circulation.

Bus storage is provided in three covered sheds. The most northerly shed is used by the University fleet of more than 30 40-foot buses while the two southerly sheds are used by the Bloomington Transit fleet. Bloomington Transit's sheds only provide cover for approximately two-thirds of its present fleet.

The main transit terminal is located at the northwest corner of the intersection of 4th Street and Washington Street serving as a major transfer point. An indoor waiting area is provided in the building at the terminal. Currently five BT routes including Routes 1, 2, 3, 4 and 5 meet at the terminal using 4th Street and Washington Street for layovers. Bloomington Transit has secured property for the development of new downtown passenger facility that is currently in the design phase with construction expected to be finished in 2010.

2.2 BT Access Service

In addition to the fixed route service, Bloomington Transit provides curb-to-curb specialized van service to people with disabilities who are unable to use BT's fixed route service. The service is currently operated by a private contractor using a fleet of 10 accessible vans owned by the contractor, under contract to Bloomington Transit. The service is only available to those who meet the eligibility criteria and for trips by eligible persons whose origins and destinations are within the city limits.

BT Access service operates between 6:10 a.m. to 9:30 p.m. Monday to Friday and 7:30 a.m. to 7:30 p.m. on Saturdays anywhere within the city's limits. Weekday service is provided after midnight during the IU fall and spring semesters within three quarters of a mile of the fixed Routes 6 and 9. Sunday service is only available between 9:30 a.m. to 9:30 p.m. during the IU fall and spring semesters to origins and

destinations within three quarters of a mile of Route 6 and also between 10:30 a.m. to 11:10 p.m. to origins and destinations within three quarters of a mile of Route 9.

BT Access trip reservations can be made Monday through Sunday between 8:00 a.m. to 5:00 p.m. Riders are required to schedule their trips by 5:00 p.m. the day before they travel and the service can be scheduled only within Bloomington's city limits. Trip reservations can be cancelled at least two hours in advance of a scheduled trip. BT Access sometimes accepts standing orders for recurring trips on the same day.

The fare to use the service is $2.00 each way. Personal care attendants, if required, may accompany BT Access users at no charge. However, any other companions are required to pay the full fare.

In 2008, BT Access carried approximately 31,500 passenger trips. With 18,900 revenue hours provided, this represents approximately 1.7 passengers per hour.

3. Customer Surveys

Three different types of surveys, including an on-board passenger survey, BT Access riders' survey and an online survey were conducted for this study and all survey results are summarized in this section.

3.1 On-Board Passenger Survey

The goal of the survey was to provide accurate and representative data of BT fixed route riders' demographics, travel patterns, levels of satisfaction regarding their bus services and opinions of future improvements. A copy of the on-board passenger survey is also included in Appendix A

3.1.1 Survey Methodology

An on-board passenger survey was conducted on April 9 and 10, 2008. The process required that a surveyor or driver distribute a questionnaire to passengers on the bus. Upon completion, questionnaires were returned to the surveyor or driver. A total 671 completed questionnaires representing approximately 4.7 percent of the weekday ridership or approximately 9 percent of total users (assuming an average of two trips per passenger on a typical weekday) were returned and processed.

The sample size collected provides the statistically sound results that represent a confidence level of 95 percent and a confidence interval of less than 4 percent based on the recent weekday ridership data.

Surveys were also collected on all BT fixed routes to ensure the survey covers the majority of BT users and the results are representative. Completed surveys were relatively evenly distributed on each BT bus route as shown in the following table.

Route	Surveys	Weekday Ridership	Percentage
1	52	809	6.4%
2	37	822	4.5%
3	65	1565	4.2%
4	47	803	5.9%
5	14	318	4.4%
6	137	3175	4.3%
7	74	1124	6.6%
8	9	116	7.8%
9	236	5551	4.3%
Total	671	14283	4.7%

3.1.2 Summary of the Survey Results

The following is the summary of the survey results presenting the overall weighted percentage responses to the questions on the survey:

Demographic Profile

Age – The majority of BT riders are between 18 and 44 years old with approximately 62 percent of total riders falling between 18 and 24 years old and approximately 28 percent of total riders falling between 25 and 44 years old. Only 1 percent of riders are under 18 years old while approximately 2.3 percent are seniors (60+).

Age		
□ under 18 1.0%	■ 18-24 61.9%	□ 25-44 27.9%
□ 45-59 6.7%	■ 60-75 1.6%	■ 75+ 0.7%
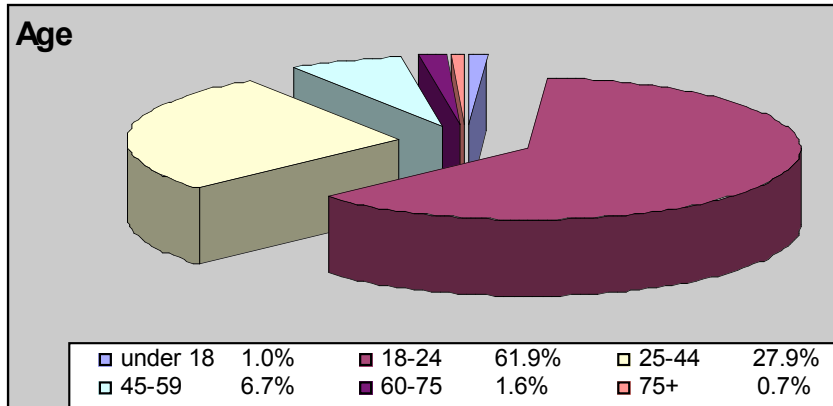
Sex – 45 percent of riders are male and 55 percent are female.

Race –Whites comprise the largest group of BT fixed route riders (70 percent) followed by Asians (13 percent), African-Americans/Blacks (11 percent), Hispanics (3 percent) and others (3 percent).

Race		
□ White 69.5%	■ African American/Black 10.7%	
□ Hispanic 3.3%	□ Asian 13.2%	
■ Native American Indian 0.3%	□ Other 3.0%	
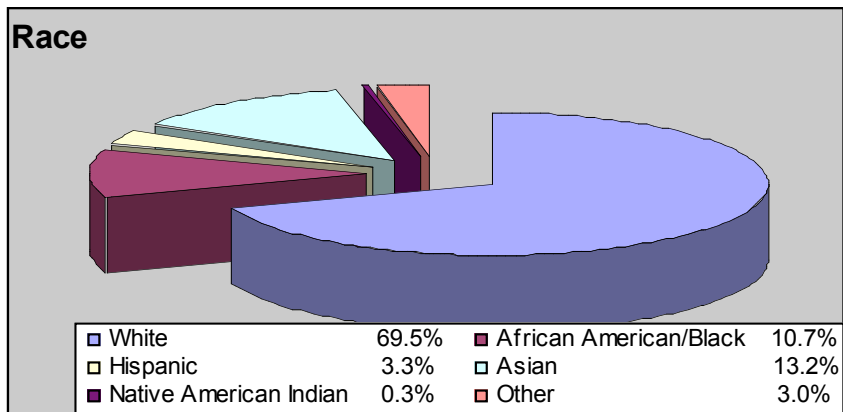
Household Income – Over 70 percent of riders have an annual household income less than $25,000 while approximately 10 percent of riders have an annual household income over $85,000. Further investigation indicated that most of these riders are students.

Household Income

☐ <$10,000 46.4%	■ $10,000-$25,000 25.6%
☐ $25,000-$40,000 7.4%	☐ $40,000-$55,000 4.1%
■ $55,000-$70,000 4.0%	■ $70,000-$85,000 2.6%
■ $85,000 + 9.8%	
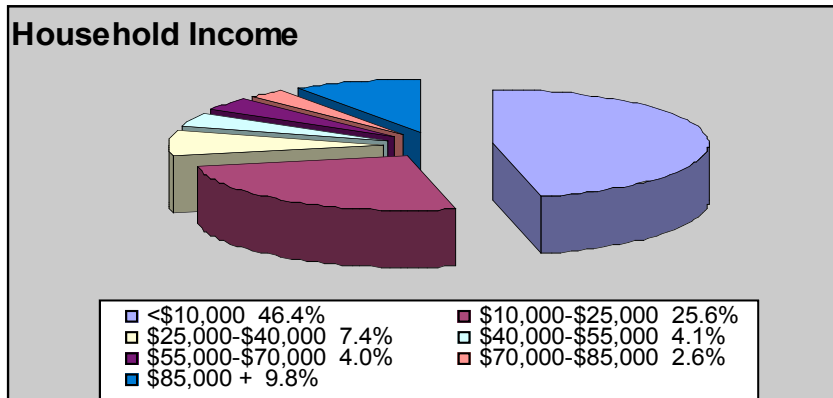
Occupation – Over 70 percent of riders are students followed by employees in service (7 percent), education/health (5 percent), retail (4 percent), professional (3 percent) and others.
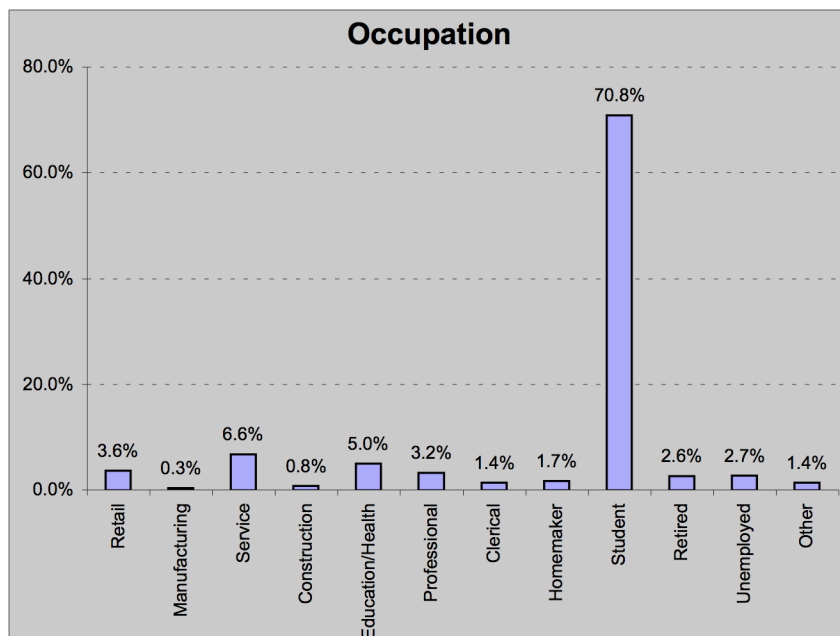
Travel Characteristics

Years Using Transit – Approximately 34 percent of riders are first year transit users followed by one to two year users (31 percent) and three to five year users (21 percent). In contrast, only 14 percent have been using BT service for five years or more.

Years Using Transit

☐ <1 year 34.4%		☐ 1-2 years 30.6%
☐ 3-5 years 20.7%		☐ 5 years + 14.3%
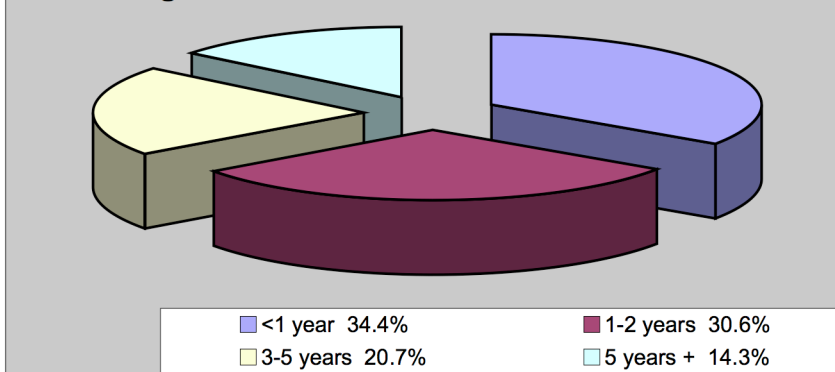
Frequency of Use per Week – Most riders are frequent BT users (59 percent for five or more days per week, 19 percent for four days per week and 12 percent for three days per week). Only 11 percent of riders are infrequent users (two days or less per week). The mean usage of BT fixed route riders is over four days per week.

Frequency of Use per Week

☐ <1 2.7%		☐ 1 1.8%		☐ 2 6.2%	
☐ 3 11.7%		☐ 4 18.8%		☐ 5+ 58.9%	
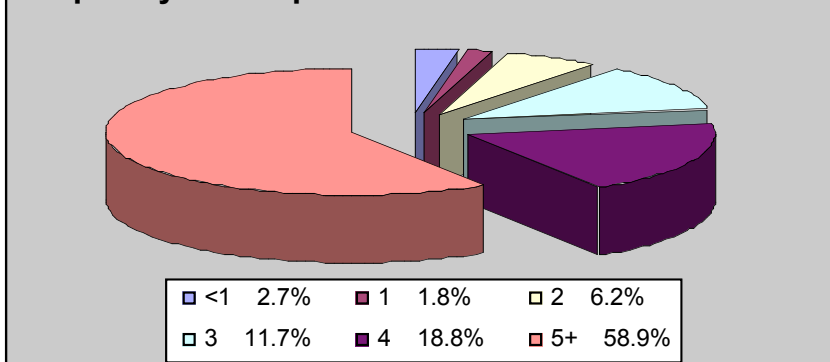
Reason for Using Transit – Approximately 41 percent of riders use the service due to the lack of access to vehicles and 25 percent consider parking a problem. Approximately 27 percent of riders selected positive aspects of bus service as the most important reason for using the service, including service convenience (20 percent) and lower cost (14 percent). Other reasons are mainly related to the environment.

Reason for Using Transit

☐ I don't have a car 40.7%		☐ I am not able to drive 5.2%
☐ Parking is problem 25.1%		☐ Bus is more convenient 20.1%
☐ Bus is cheaper 7.0%		☐ Other 1.8%
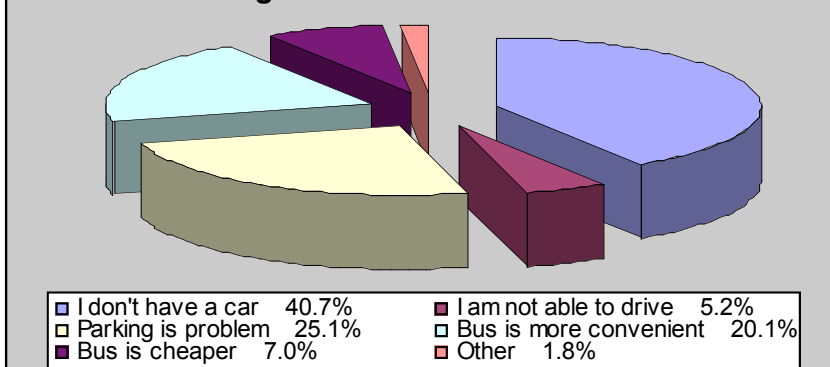
Origin and Destination – Over 75 percent of total trips are classified as home-based trips. Of these home-based trips, home to Indiana University trips (54 percent of total trips) including both students (45 percent) and employees (9 percent) are most common for BT fixed route riders. Home to other workplace trips (6 percent) and home shopping trips (5 percent) are the second and third most common home-based trip, respectively. In addition to home-based trips, approximately 13 percent of total trips are made within Indiana University while approximately 5 percent are IU to shopping trips. In terms of purpose of transit trips, over 60 percent of total trips are made for school (59 percent for Indiana University and 2 percent for other schools) followed by work trips (17 percent) and shopping (9 percent). Other trip destinations and purposes are mostly for visiting friends and accessing services.

	Trips	Percentage of Total Trips
Home-based	**494**	**75.8%**
IU (Student)	56	45.2%
IU (Other)	5	8.6%
Other School	37	0.8%
Other Workplace	32	5.7%
Shopping	5	4.9%
Medical	64	0.8%
Other	56	9.8%
Others	**158**	**24.2%**
Within IU	87	13.3%
IU – Shopping	34	5.2%
Other	37	5.7%

Trip Purpose

- School - IU 58.9%
- School -Other 1.5%
- Work 17.0%
- Shopping 8.9%
- Medical 1.2%
- Other 12.5%
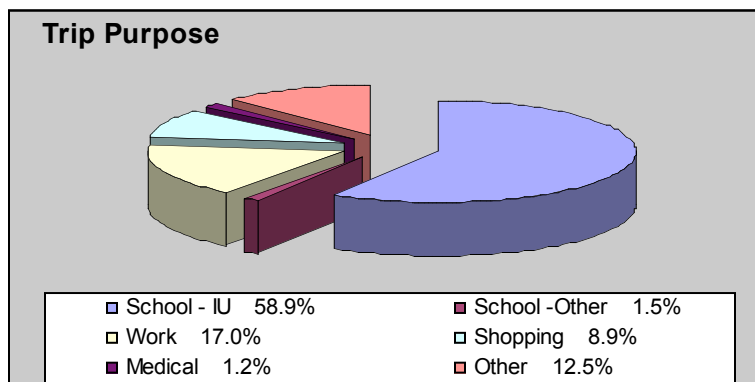
Access/Egress Mode and Time – Approximately 95 percent of BT riders walk to their bus stop as well as their final destination while only 2 percent of riders drive. The remaining riders either bike or use other means of transportation such as being a passenger in a vehicle or using wheelchair. The average time BT riders spend to access bus stops or from bus stops to their final destinations is approximately five minutes.

Access/Egress Mode

☐ Walk 95%	☐ Bike 1%	☐ Drive 2%	
☐ Drop-off 1%	☐ Other 1%		

Access/Egress Time
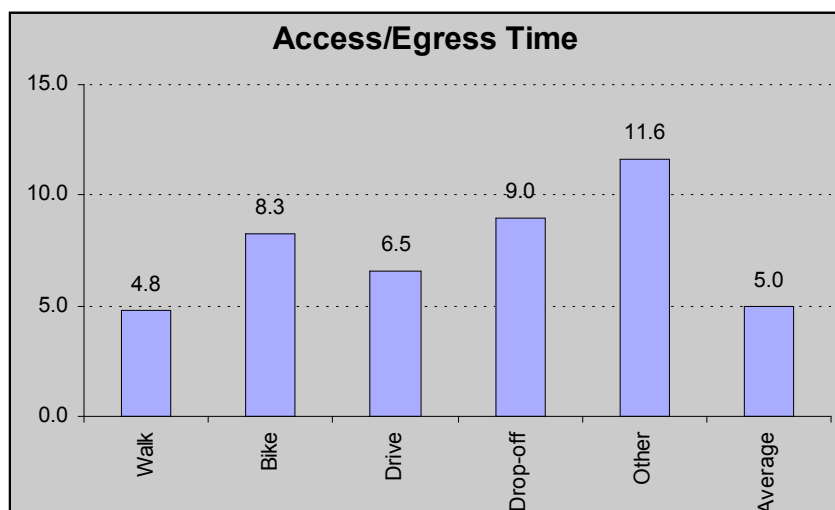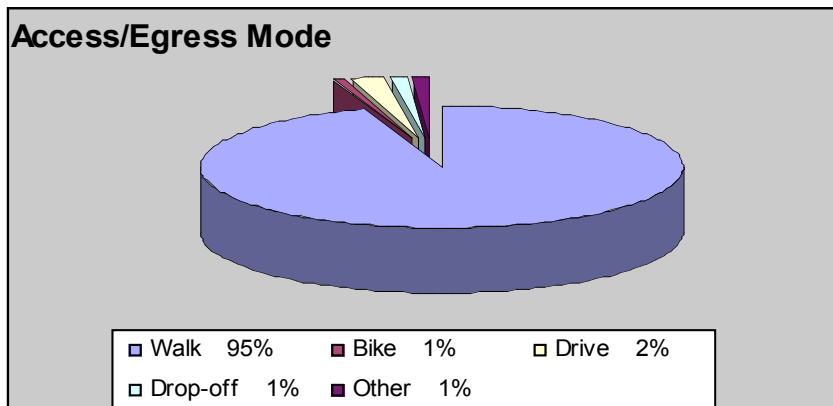
Transfer – Approximately 21 percent of riders use more than one bus and approximately 3 percent use more than three or more buses for their one-way trip. Of these transferring riders, most riders (84 percent) transfer from or to BT Routes 1, 2 and 3. In addition to BT service, other public transportation systems used in the course of one-way trips are IU campus bus (seven riders) and Rural Transit (two riders).

Route	1	2	3	4	5	6	7	8	9	Total
1	1	5	7						2	15
2	4	1	14	2	1		1		2	25
3	5	2	5	3		1		1	1	18
4	1	2	9						2	14
5			1						1	2
6		2				1			2	5
7				1						1
8			6	2						8
9		1				4	1		1	7
Total	11	13	42	8	1	6	2	1	11	95

One-way Trip Time – Most riders (86 percent) spend 30 minutes or less for their one-way trip while 11 percent spend 30 to 60 minutes. Only 2 percent of total riders spend over one hour for their one-way trip.

One-way Trip Time

□ <=15 minutes 45.6%	■ 15-30 minutes 40.6%	
□ 30-60 minutes 11.4%	□ >60 minutes 2.4%	
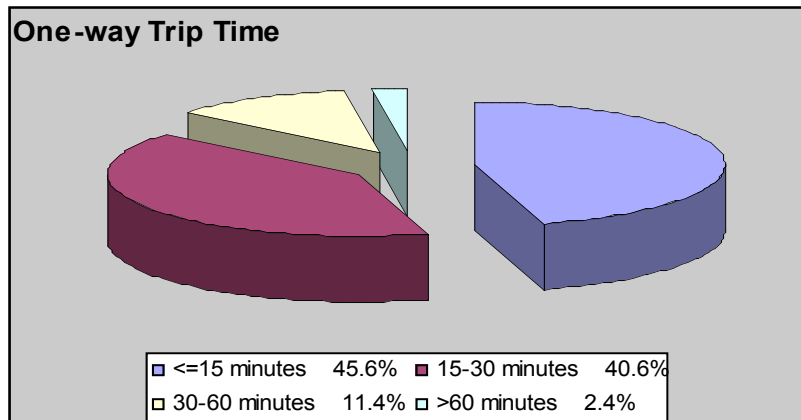
Pedestrian and Bike Access and Egress

Experience of Pedestrian Access and Egress – Pedestrian access and egress experience is considered excellent (20 percent), good (52 percent) or acceptable (25 percent) to the majority of riders while only 3 percent of total riders have a poor or terrible access and egress experience to and from their bus stops.

Experience of Pedestrian Access and Egress

□ Terrible 0.5%	■ Poor 2.9%	□ Acceptable 24.5%
□ Good 52.3%	■ Excellent 19.8%	
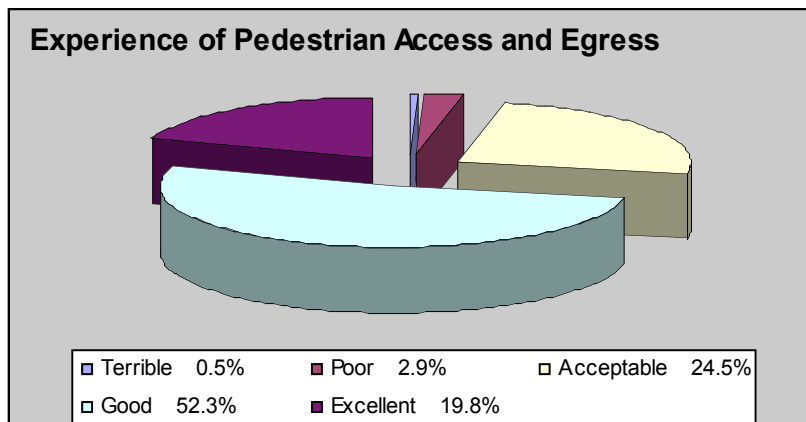
Bike Use of BT Riders – Approximately 8 percent of BT riders have used a bike to access or egress bus stops. Of these riders, only 13 percent are frequently or always riding their bikes to and from their bus stops while most riders (87 percent) are rarely or sometimes using bikes to and from their bus stops. The most common reason for not using a bike more often is that riders can not or do not like to ride a bike (46 percent), followed by other reasons (39 percent), no good bike storage at bus stops (9 percent), unsafe or uncomfortable route to bus stops (4 percent) and lack of complementary facilities (2 percent).

Bike Use Frequency

□ Rarely 42.3%	■ Sometimes 44.2%
□ Frequently 9.6%	□ Always 3.8%

Reason for not Using Bike More Frequently

□ I can not or do not like to ride bike 45.6%
■ The routes to the bus stop are unsafe/uncomfortable 4.1%
□ No good place to store my bike at the bus stop 9.0%
□ Lack of complementary facilities at destination 2.2%
■ Other 39.1%
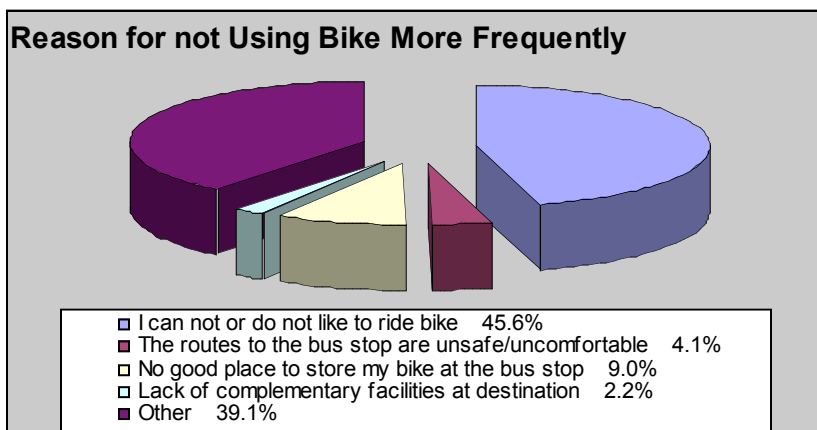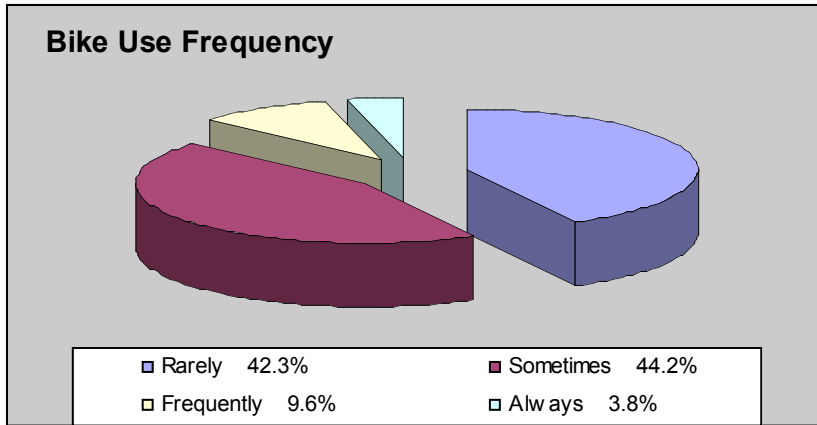
Maximum Walking Distance – Almost 30 percent of riders don't want to walk more than 100 feet while only 5 percent are willing to walk more than 3,000 feet. The average maximum walking distance that all riders are willing to walk is 923 feet, or 0.17 miles.

Maximum Walking Distance
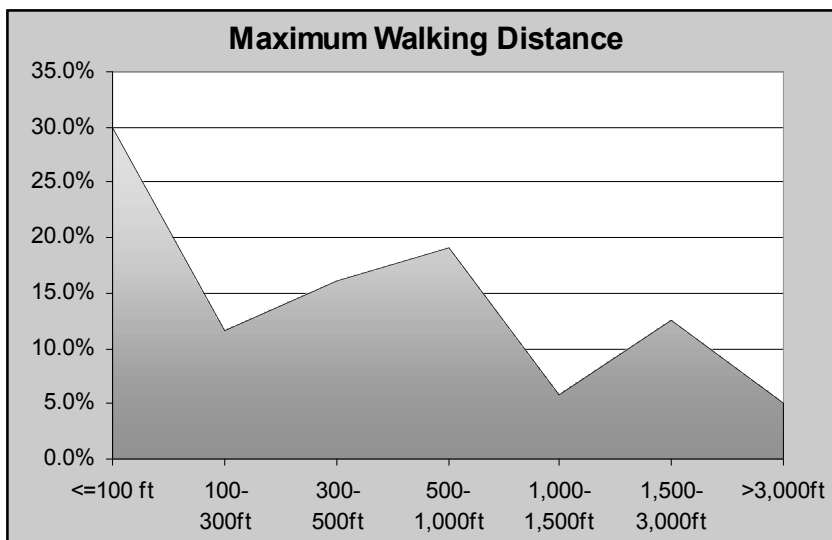
Service Satisfaction and Future Improvement

Satisfaction with BT Bus Service – Route information access, walking distance to bus stops, safety, fare, bus cleanliness, route convenience, driver friendliness and transfer are rated as most satisfactory by the BT fixed route riders. Service frequency, hours of service, travel time on bus, schedule reliability and seat availability are found to be rated as least satisfactory by the BT fixed route riders. Overall, only 3 percent of riders are not satisfied with BT fixed route service while over 85 percent are satisfied or very satisfied with the overall service of Bloomington Transit.
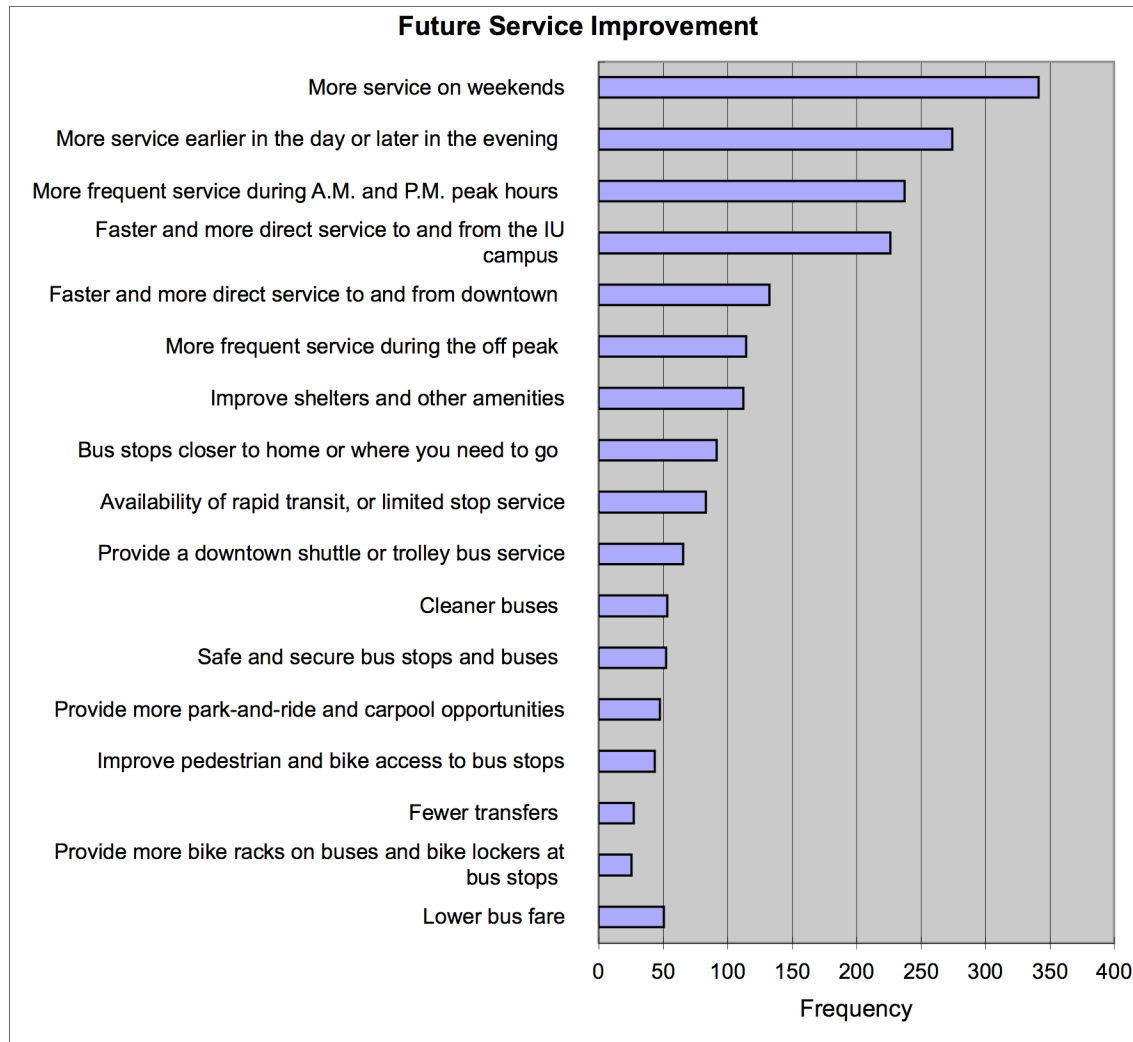
	Very Dissatisfied	-		Very Satisfied		Average Satisfaction
	1	2	3	4	5	
Access to the route information	0.3%	3.8%	12.0%	33.5%	50.4%	4.3
Walking distance to bus stops	0.8%	4.0%	14.6%	39.2%	41.5%	4.2
Safety	0.6%	2.8%	11.9%	41.9%	42.7%	4.2
Cost of fare	1.8%	4.2%	18.1%	25.4%	50.4%	4.2
Clean buses	1.1%	4.1%	15.0%	41.1%	38.6%	4.1
Friendly drivers	1.7%	4.6%	17.9%	38.8%	37.0%	4.0
Convenience of routes	1.1%	6.0%	20.7%	40.3%	31.9%	4.0
Ease of transfer	1.0%	2.7%	24.8%	34.9%	36.5%	4.0
Availability of seats	1.3%	6.9%	22.6%	39.4%	29.8%	3.9
Reliable schedules	3.2%	8.6%	19.3%	37.4%	31.5%	3.9
Travel time on bus	2.1%	8.7%	23.3%	41.3%	24.6%	3.8
Hours of service	2.2%	11.6%	24.3%	35.4%	26.5%	3.7
Service frequency	4.1%	13.7%	24.6%	36.2%	21.4%	3.6
Overall BT service	0.5%	2.4%	12.0%	53.5%	31.6%	4.1

Future Service Improvements – Based on the overall frequency of selection of service improvements, the top three ways to improve BT service are more service on weekends, more service earlier in the day or later in the evening, and more frequent service during A.M. and P.M. peak hours. Other frequent selections of service improvements include faster and more direct service to the IU campus and downtown area, more frequent off-peak service and improving shelters and other amenities.

Future Service Improvement

Category	Frequency
More service on weekends	340
More service earlier in the day or later in the evening	275
More frequent service during A.M. and P.M. peak hours	235
Faster and more direct service to and from the IU campus	225
Faster and more direct service to and from downtown	130
More frequent service during the off peak	115
Improve shelters and other amenities	110
Bus stops closer to home or where you need to go	90
Availability of rapid transit, or limited stop service	85
Provide a downtown shuttle or trolley bus service	65
Cleaner buses	55
Safe and secure bus stops and buses	55
Provide more park-and-ride and carpool opportunities	45
Improve pedestrian and bike access to bus stops	45
Fewer transfers	25
Provide more bike racks on buses and bike lockers at bus stops	25
Lower bus fare	50

Frequency

3.2 BT Access Survey

Similar to the on-board passenger survey, the BT Access survey was to provide accurate and representative data of BT Access riders on their demographics, travel characteristics, levels of satisfaction regarding their bus services and opinions of future improvements. A copy of the BT Access survey is also included in Appendix A.

3.2.1 Survey Methodology

Considering the difficulty and the amount of time to distribute surveys on BT Access vehicles, the BT Access surveys were mailed out to all active registrants provided by Bloomington Transit. The completed surveys were returned via BT Access drivers, U.S. mail or a toll free fax number as per instructions included in the survey.

A total of 386 surveys were mailed out on April 9, 2008, and approximately 112 completed surveys, representing approximately 29 percent of total active BT Access registrants were returned by May 1, 2008.

3.2.2 Summary of the Survey Results

The following is the summary of the survey results presenting the overall weighted percentage responses to the questions on the survey:

Demographic Profile

Age – Most BT Access riders (71 percent) are seniors over 60 years old and more than half of the total riders are over 75 years old (52 percent). The age of the rest of the riders ranges from 18 to 60 years old.

Age

- 18-24 3.7%   ■ 25-44 11.0%   □ 45-49 14.7%
- 60-75 18.3%   ■ 75+ 52.3%
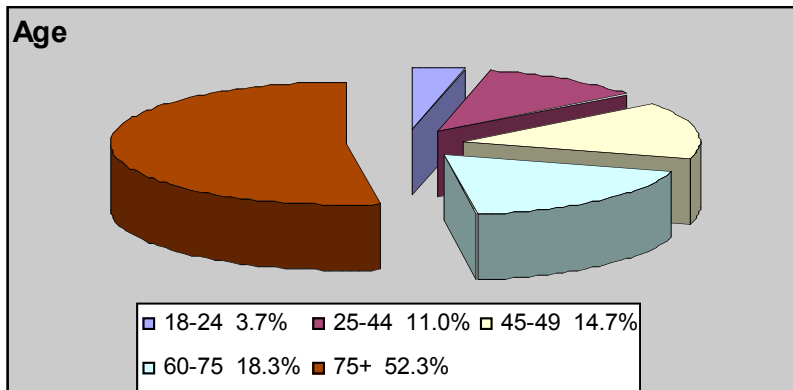
Sex – The majority of BT Access riders are female (74 percent) and only 26 percent of riders are male.

Race – Whites comprise the largest group of BT Access riders (91 percent) followed by Asians (3 percent), African-Americans/Blacks (3 percent), others (3 percent) and Hispanics (1 percent).

Race

- □ White 90.8%   ■ African American 2.8%
- □ Hispanic 0.9%   □ Asian 2.8%
- ■ Other 2.8%
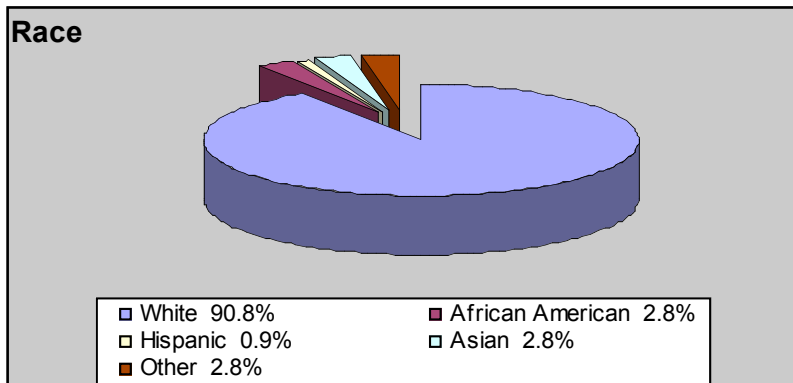
Household Income – Most BT Access riders (71 percent) have an annual household income less than $25,000 while only 6 percent of riders have an annual household income over than $55,000.

Household Income

☐ <$10,000 34.0%	■ $10,000-$25,000 37.2%
☐ $25,000-$40,000 16.0%	☐ $40,000-$55,000 6.4%
■ $55,000-$70,000 1.1%	■ $70,000-$85,000 1.1%
■ $85,000+ 4.3%	
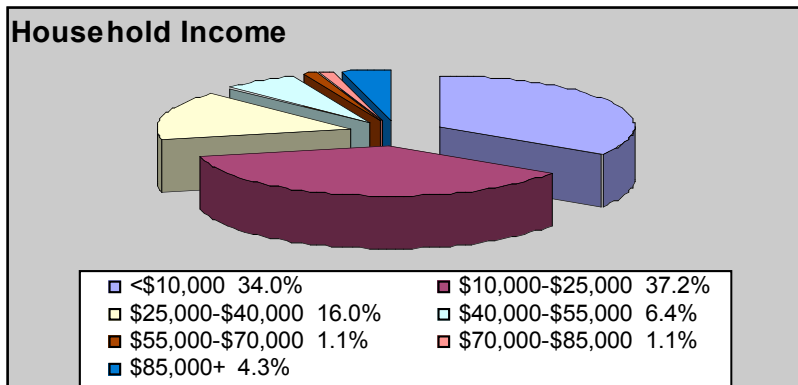
Occupation – Most BT Access riders are retired (62 percent) followed by unemployed and disabled (15 percent), service (7 percent), homemaker (5 percent) and others.
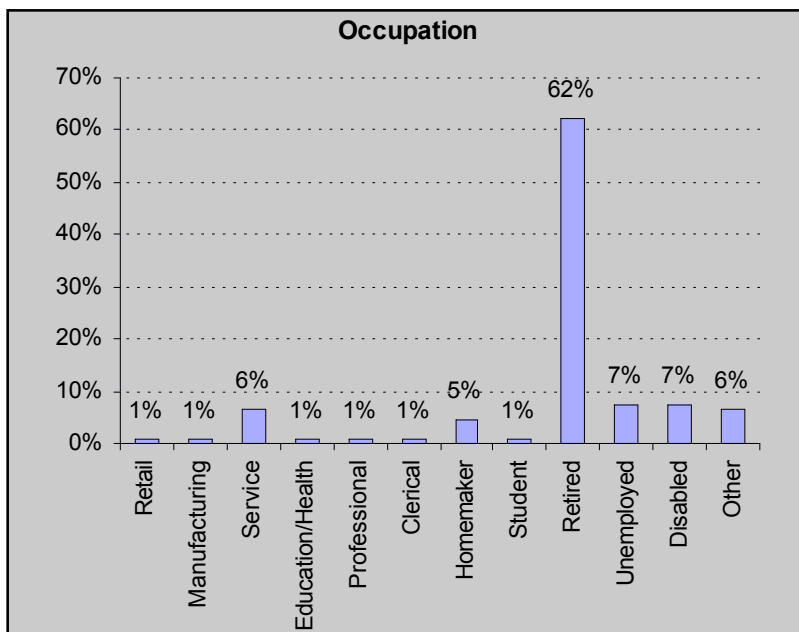
BT Access Service Related Questions

Trip Booking – Approximately 79 percent of riders book their trips by themselves while 21 percent of riders book through their relatives and caseworkers. Most riders (71 percent) have no access to the Internet. As a result, over 80 percent of total riders are not willing to book their trips via an online trip booking system if it is available in the future.

Service Use – In terms of the frequency of use, approximately 38 percent of total riders use the service less than three times per month and the use of service by rest of riders is relatively evenly distributed between one and five times per week (18 percent for one time per week, 23 percent for two to three times per week, and 21 percent for four to five times per week). When asked what proportion of the total trips are made by using BT Access, 37 percent of riders are using BT Access service for almost all of their trips while 43 percent are using the service for only 25 percent or less of their total trips.

Frequency of BT Access Use

- 4-5 times per week   21.0%
- 2-3 times per week   22.9%
- 1 time   per week   18.1%
- < 3 times per month   38.1%

BT Access Trips / Total Trips

- Almost 100%   37.0%
- 75%   8.0%
- 50%   12.0%
- <=25%   43.0%
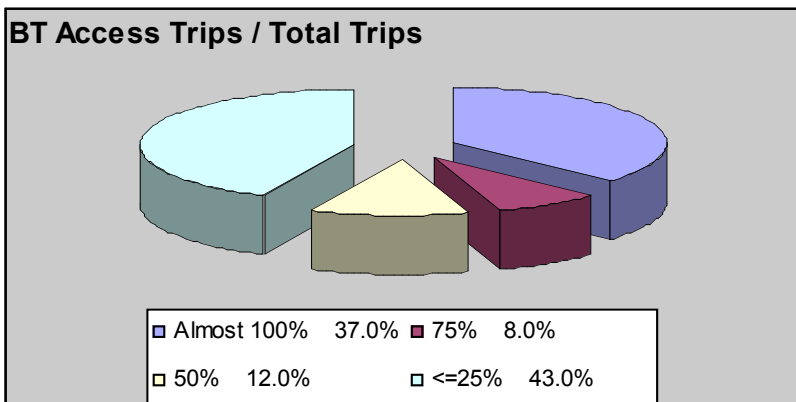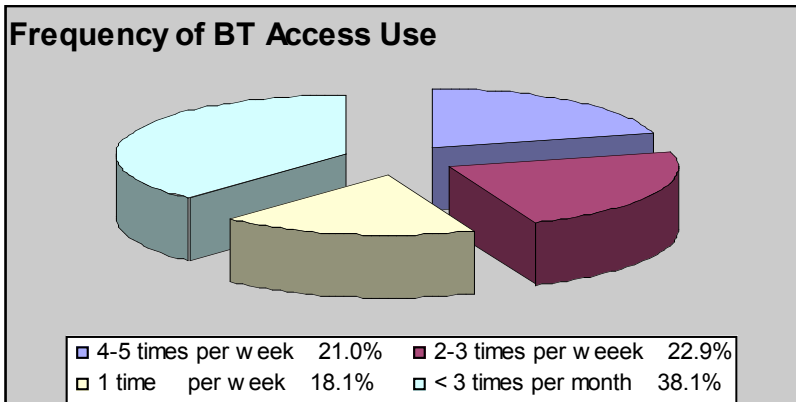
One-way Trip Time – Most riders (78 percent) spend 30 minutes or less for their one-way trip while 11 percent spend 30 to 60 minutes and 12 percent spend over one hour for their one-way trip.

BT Access Trip Time

- <15   minutes   21.6%
- 15-30 minutes   55.9%
- 30-45 minutes   3.9%
- 45-60 minutes   6.9%
- 60-90 minutes   5.9%
- >90   minutes   5.9%
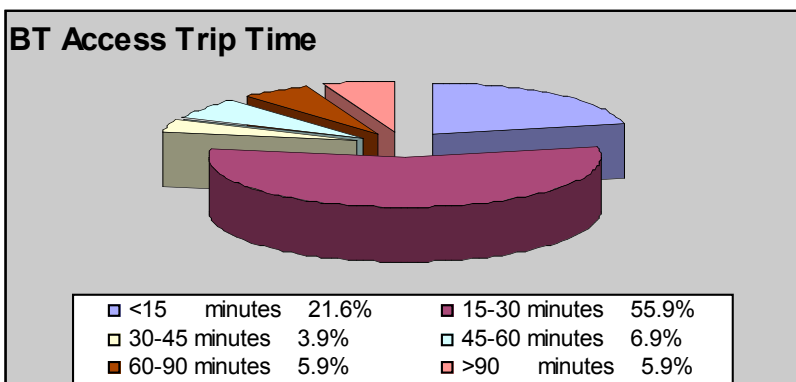
Satisfaction with BT Access Service – Most BT Access riders (93 percent) are satisfied or very satisfied with the service while less than 4 percent are not satisfied with the overall service of the BT Access service.

Overall Satisfaction of BT Access Service

- □ Very satisfied 55.1%
- ■ Satisfied 38.3%
- □ Neither satisfied nor dissatisfied 2.8%
- □ Very dissatisfied 3.7%
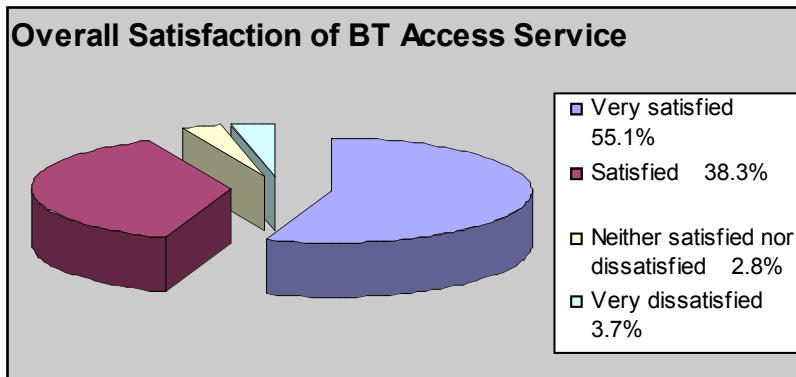
Use of Fixed Route Service – Approximately 39 percent of riders have used the fixed route service.
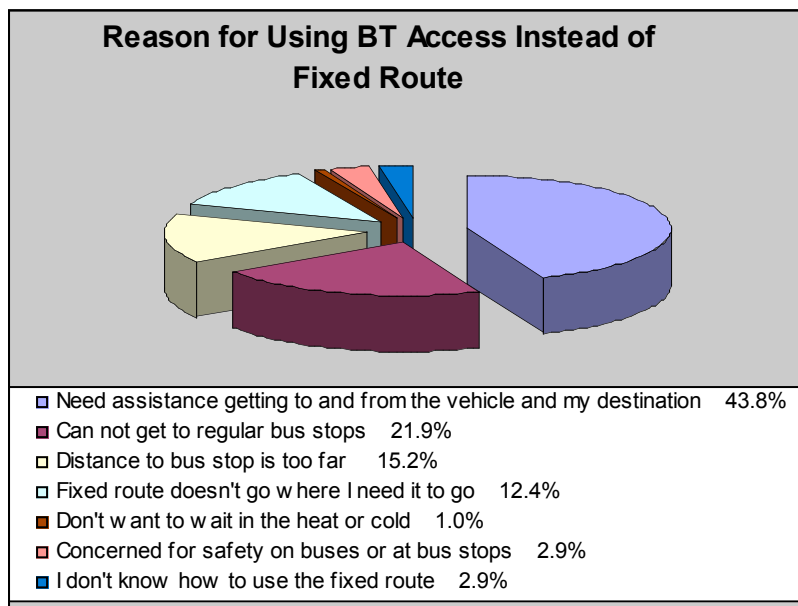
Reason for Using BT Access – Most riders use BT Access service instead of fixed route service because they need assistance for their trips (44 percent) or are not able to get to regular bus stops (22 percent). Other main reasons for using BT Access service are that distance to bus stop is too far (15 percent) and fixed route does not go where I need it to go (12 percent).

Reason for Using BT Access Instead of Fixed Route

- □ Need assistance getting to and from the vehicle and my destination 43.8%
- ■ Can not get to regular bus stops 21.9%
- □ Distance to bus stop is too far 15.2%
- □ Fixed route doesn't go where I need it to go 12.4%
- ■ Don't want to wait in the heat or cold 1.0%
- ■ Concerned for safety on buses or at bus stops 2.9%
- ■ I don't know how to use the fixed route 2.9%

Travel Training – Approximately 7 percent of total riders would take advantage of the travel training opportunity that will assist them with using regular fixed route services.

Attitude of BT Access Service – Most BT Access riders strongly agree that the service is good in terms of driver and reservation personnel's attitude and assistance, driving safety, service availability, trip reservation and drop-off time. However, BT Access riders are less satisfied with the overall trip time and pick-up time. Approximately 85 percent of riders do not mind being ready to go 10 minutes before their scheduled pick-up time while approximately 26 percent consider the online trip booking will be helpful.

	Strongly Disagreed - Strongly Agree					Average
	1	2	3	4	5	
Reservation personnel are normally courteous and helpful	2.2%	0.0%	3.3%	22.2%	72.2%	4.6
Drivers are normally polite and helpful	3.4%	2.2%	2.2%	20.2%	71.9%	4.6
Drivers normally drive safely	3.3%	1.1%	2.2%	18.9%	74.4%	4.6
I can usually get through on the phone to schedule a reservation	3.5%	1.2%	5.9%	24.7%	64.7%	4.5
I am usually able to schedule trips when I need them	4.8%	1.2%	7.1%	17.9%	69.0%	4.5
I usually get to my appointment at the scheduled drop-off time	2.3%	2.3%	9.1%	19.3%	67.0%	4.5
The vehicles usually arrive to pick me up at the scheduled pick-up time	2.2%	2.2%	5.4%	32.6%	57.6%	4.4
I don't mind being ready to go 10 minutes before my scheduled pick-up time	3.4%	2.3%	9.2%	21.8%	63.2%	4.4
The length of time I have to ride the bus is typically satisfactory	2.4%	3.6%	10.7%	33.3%	50.0%	4.3
Scheduling trips on Internet would be helpful	65.2%	3.0%	6.1%	7.6%	18.2%	2.1

Future Service Improvements – Based on the overall frequency of selection of future service improvements, the highest ranked improvements include driver should offer assistance to get on and off the bus, have night run and emergency run, improve quality of buses and use same drivers for the same routes. A number of riders have indicated that installing a step stool is necessary on all buses. Sunday service as well as service in the area outside the city boundary is also of concern to of some riders.
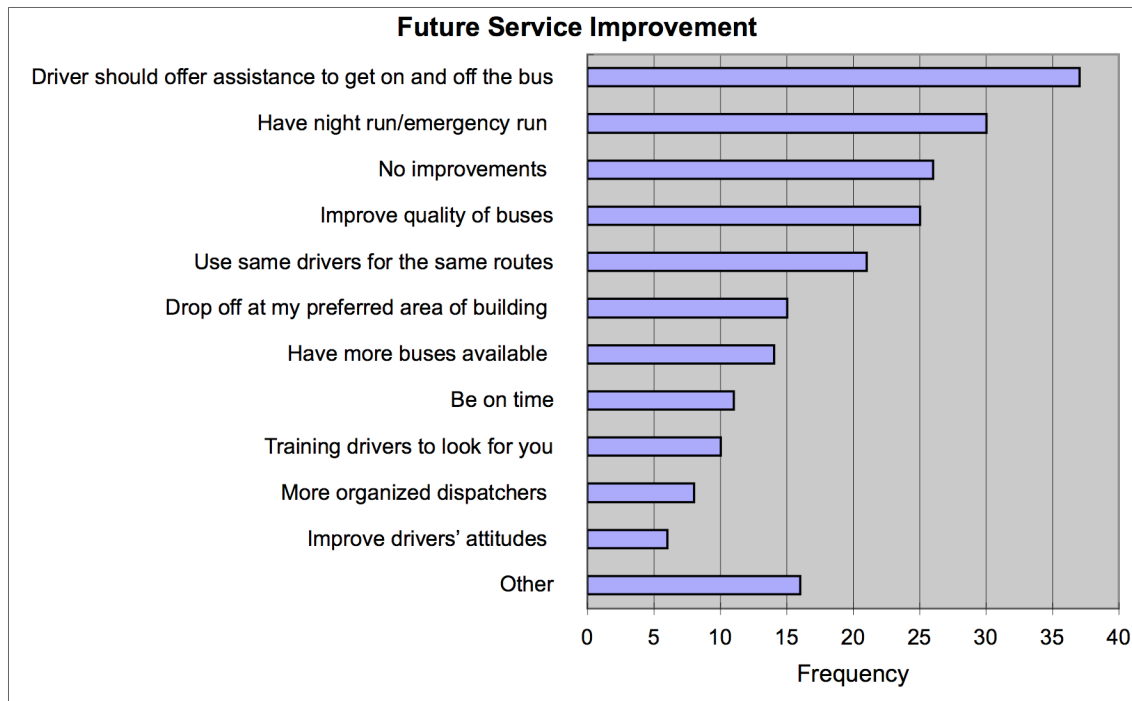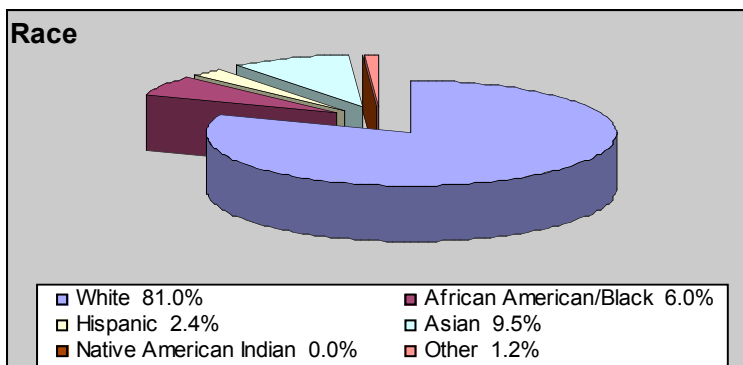
3.3 Online Passenger Surveys

Online passenger surveys were designed for both users and non-users. During a four-week period, a total of 114 surveys were collected including 87 user surveys and 27 non-user surveys. The following summarizes the results from the online survey and details of the survey results are included in Appendix B and Appendix C.

3.3.1 User Survey

Demographic Profile

Results from the online user survey show that more than 57 percent of respondents are between 25 and 59 years old with relatively fewer students (58 percent), a higher portion of white people (81 percent) and a higher household income.

Age

■ Under 18 1.1%	■ 18-24 40.2%
□ 25-44 44.8%	□ 45-49 12.6%
■ 60-75 1.1%	□ 75+ 0.0%

Household Income

■ <$10,000 20.0%	■ $10,000-$25,000 34.1%
□ $25,000-$40,000 18.8%	□ $40,000-$55,000 4.7%
■ $55,000-$70,000 9.4%	■ $70,000-$85,000 5.9%
■ $85,000+ 7.1%	

Race

□ White 81.0%	■ African American/Black 6.0%
□ Hispanic 2.4%	□ Asian 9.5%
■ Native American Indian 0.0%	■ Other 1.2%

Occupation

Category	Percentage
Retail	1.2%
Manufacturing	0.0%
Service	3.5%
Construction	0.0%
Education/Health	8.2%
Professional	17.6%
Clerical	4.7%
Homemaker	2.4%
Student	57.6%
Retired	0.0%
Unemployed	1.2%
Other	3.5%

Travel Characteristics

Similar to the on-board passenger survey, the most frequent trip destination is the IU campus (70 percent) followed by other workplaces (12 percent) and shopping (10 percent). Approximately 58 percent of respondents selected transit as their usual form of transportation while approximately 30 percent selected drive or carpool.

Trip Destination

- Indiana University 70.1%
- Other School 0.0%
- Other Workplaces 11.5%
- Shopping 10.3%
- Medical Place 1.1%
- Other 6.9%

Form of Transportation

- Drive a car without passenger 17.6%
- Drive a car with one passenger 5.9%
- Drive a car with two or more Passenger 3.5%
- I am a passenger in a car 2.4%
- Take transit 57.6%
- Bike 3.5%
- Walk 5.9%
- Taxi 0.0%
- Other 3.5%
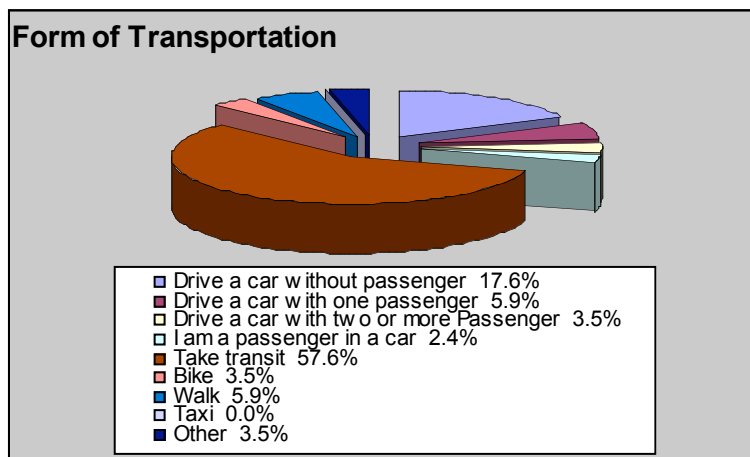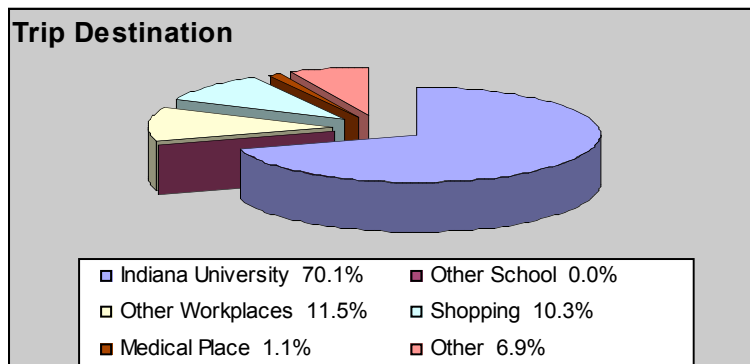
Compared to the on-board passenger survey results, the riders that participated in the online survey are relatively infrequent users (over 25 percent use transit one day or less per week). Surprisingly, more than 10 percent of respondents expressed that environmental concern is one of their reasons to use transit.

Days of Use per Week

☐ Less 1 17.1%	◼ 1 day 8.5%
☐ 2 days 4.9%	
☐ 3days 11.0%	◼ 4 days 12.2%
◼ 5+ days 46.3%	

Reason for Using Bloomington Transit

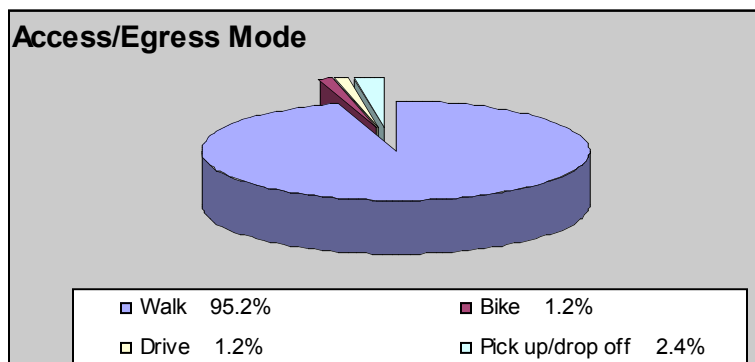|	
☐ I don't have a car 29.3%	◼ I'm not able to drive 3.7%
☐ Parking is a problem 17.1%	☐ Bus is more convenient 13.4%
◼ Bus is cheaper 18.3%	☐ Other 18.3%
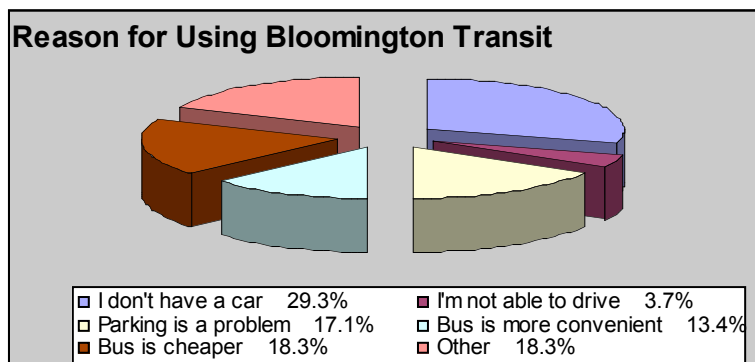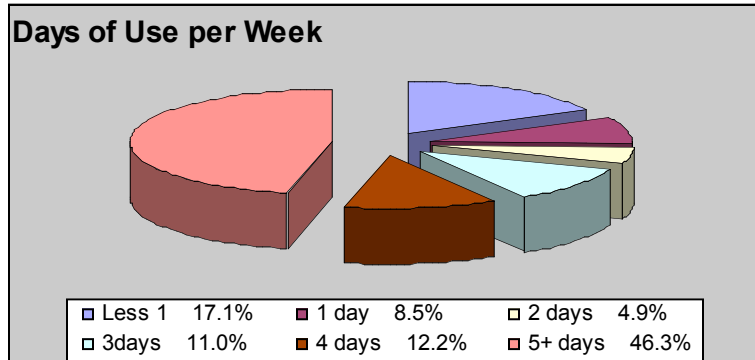
Pedestrian and Bike Access and Egress

Compared to the on-board passenger survey results, more riders used their bikes to get to the bus stops, but less frequently.

Access/Egress Mode

|	
☐ Walk 95.2%	◼ Bike 1.2%
☐ Drive 1.2%	☐ Pick up/drop off 2.4%

Service Satisfaction and Future Improvement

Similar to the on-board passenger surveys, safety, bus cleanliness, fare, route information access and walking distance to bus stops are rated as most satisfactory while service frequency, hours of service, travel time on bus and schedule reliability are rated as least satisfactory by BT riders.

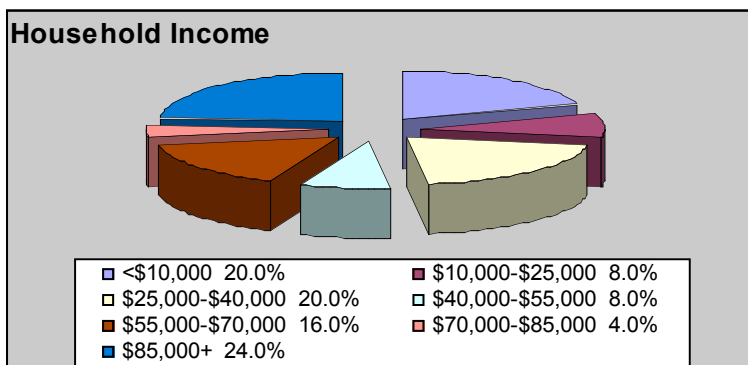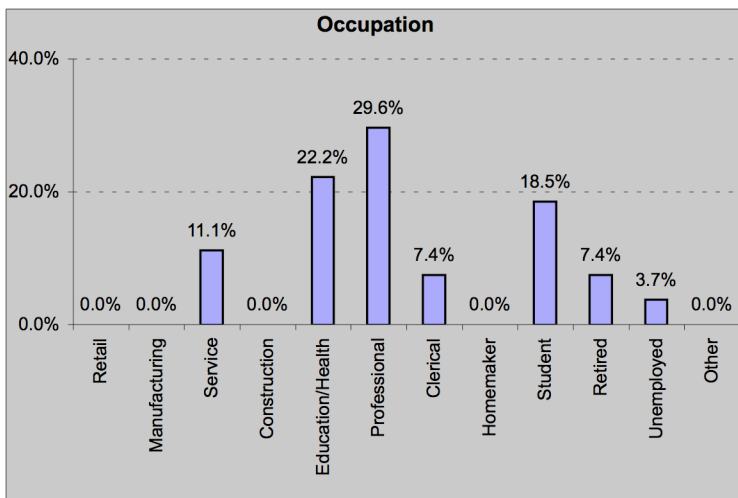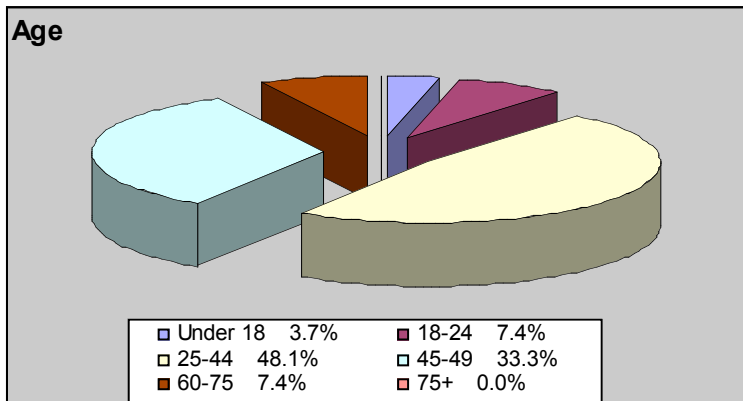|	Strongly Disagreed				Strongly Agree	Average
	1	2	3	4	5	
Friendly drivers	6.0%	4.8%	25.3%	47.0%	16.9%	3.64
Safety	1.2%	2.4%	11.0%	43.9%	41.5%	4.22
Availability of seats	3.6%	7.2%	19.3%	39.8%	30.1%	3.86
Access to the route information	4.9%	3.7%	19.5%	34.1%	37.8%	3.96
Clean buses	1.2%	3.7%	14.6%	41.5%	39.0%	4.13
Convenience of routes	2.4%	15.9%	28.0%	35.4%	18.3%	3.51
Travel time on bus	3.7%	14.6%	23.2%	36.6%	22.0%	3.59
Service frequency	21.3%	22.5%	27.5%	17.5%	11.3%	2.75
Hours of service	7.6%	25.3%	22.8%	34.2%	10.1%	3.14
Walking distance to the bus stop	4.9%	4.9%	18.3%	45.1%	26.8%	3.84
Reliable schedules	6.1%	20.7%	22.0%	34.1%	17.1%	3.35
Ease of transfer	2.7%	8.1%	37.8%	35.1%	16.2%	3.54
Cost of fares	4.0%	1.3%	25.3%	28.0%	41.3%	4.01
Overall service of Bloomington Transit	2.4%	2.4%	24.4%	52.4%	18.3%	3.82

The top three ways to improve BT service identified through the online survey are identical with the results of the on-board passenger survey. These include more service on weekends, more service earlier in the day or later in the evening and more frequent service during A.M. and P.M. peak hours.

Future Service Improvement
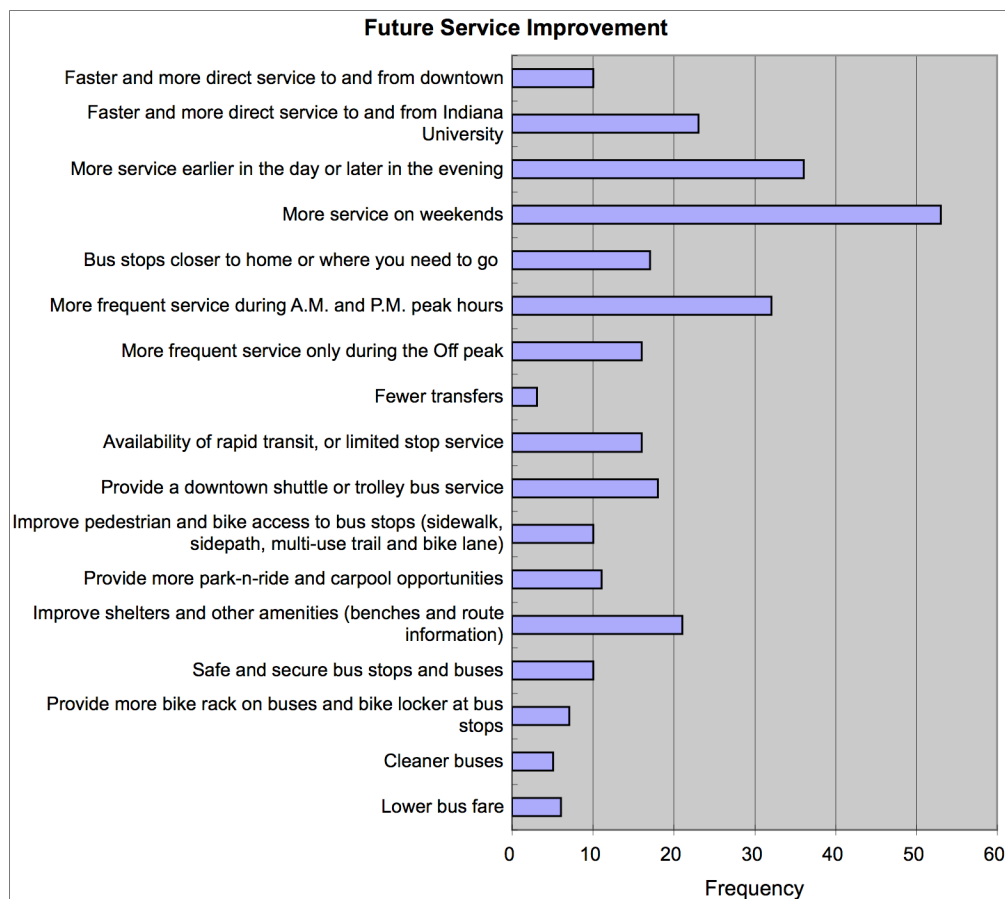
3.3.2 Non-User Survey

Demographic Profile

Most of respondents (81 percent) are 24 to 59 years old and 52 percent are male. All respondents but one indicated they are white. More than 70 percent of respondents selected their occupation as professional, education and health, service and clerical while only 19 percent are students. The average household income of non-users is much higher than the average of users (52 percent selected annual household income more than $40,000 per year).

Age

■ Under 18	3.7%	■ 18-24	7.4%
□ 25-44	48.1%	□ 45-49	33.3%
■ 60-75	7.4%	■ 75+	0.0%

Occupation

Household Income

■ <$10,000	20.0%	■ $10,000-$25,000	8.0%
□ $25,000-$40,000	20.0%	□ $40,000-$55,000	8.0%
■ $55,000-$70,000	16.0%	■ $70,000-$85,000	4.0%
■ $85,000+	24.0%		

Travel Characteristics

The IU campus is still the most frequent trip destination (44 percent) followed by other workplaces (16 percent) and shopping (16 percent). Most respondents (85 percent) selected driving as their usual form of transportation. When asked what they would use BT service for if they were to use the service, approximately 32 percent would use the service to and from the IU campus, 27 percent would use the service for work other than the IU campus while 23 percent would use the service for shopping.
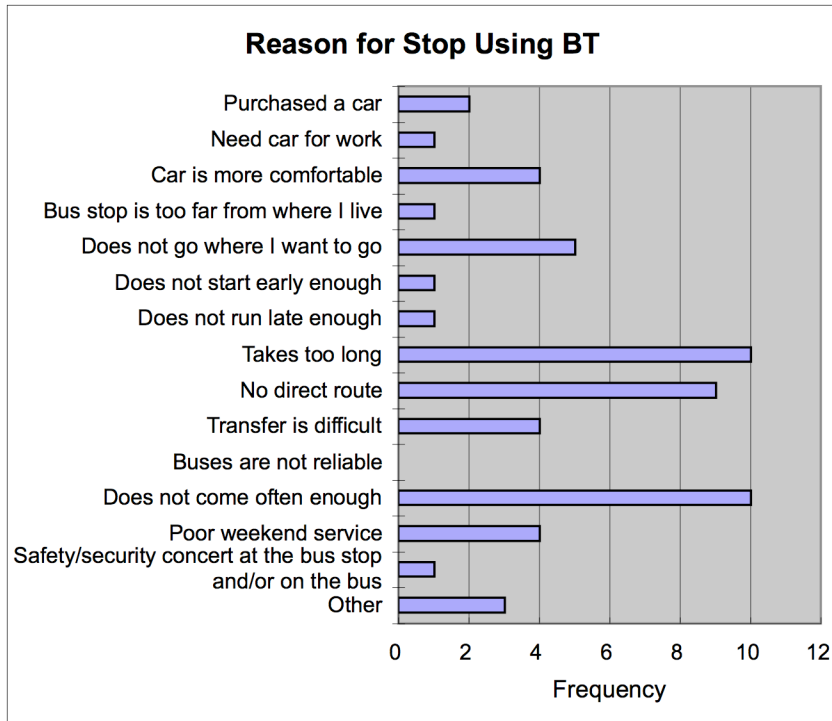
Trip Destination

- ☐ Indiana University 44.0%
- ☐ Other School 0.0%
- ☐ Other Workplaces 16.0%
- ☐ Shopping 16.0%
- ☐ Medical Place 8.0%
- ☐ Other 16.0%

Form of Transportation

- ☐ Drive a car without passenger 63.0%
- ☐ Drive a car with one passenger 18.5%
- ☐ Drive a car with two or more Passenger 3.7%
- ☐ I am a passenger in a car 0.0%
- ☐ Take transit 3.7%
- ☐ Bike 7.4%
- ☐ Walk 3.7%
- ☐ Taxi 0.0%
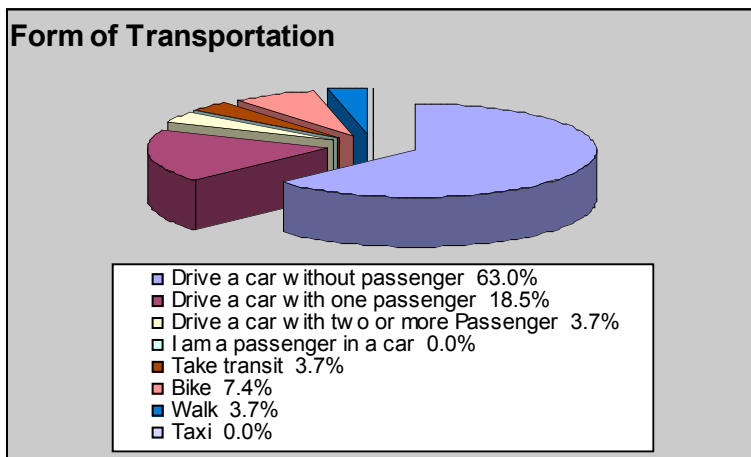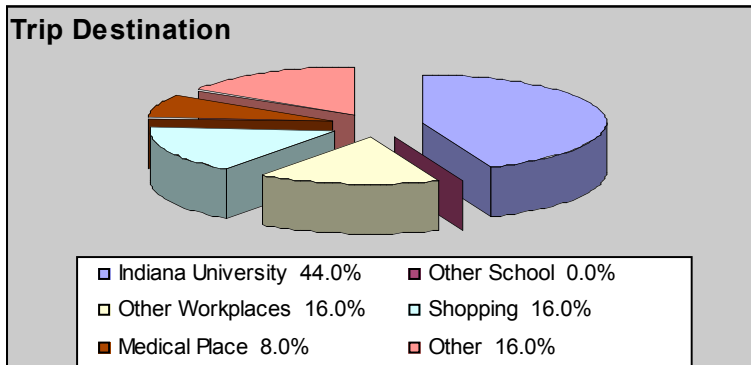
Comments on BT Service

Over 58 percent of non-users that participated in the online survey have used BT service before and most of them (86 percent) used the service in the last two years. Approximately 87 percent of responses rated BT service as good (60 percent) or excellent (27 percent) while the rest of respondents rated the service as somewhat good.

The main reasons that they stopped using the service include low service frequency (53 percent), long travel time (53 percent) and indirect route (47 percent).

Reason for Stop Using BT

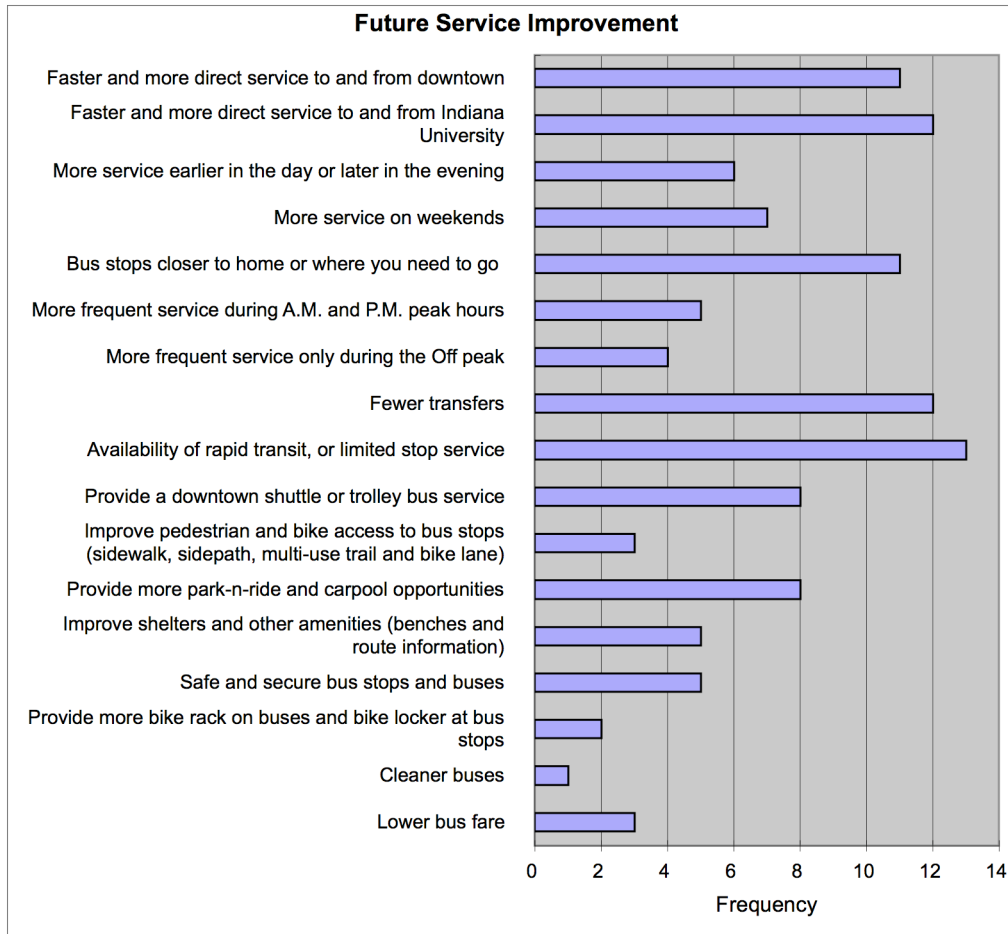| Reason	Frequency
Purchased a car	2
Need car for work	1
Car is more comfortable	4
Bus stop is too far from where I live	1
Does not go where I want to go	5
Does not start early enough	1
Does not run late enough	1
Takes too long	10
No direct route	9
Transfer is difficult	4
Buses are not reliable	0
Does not come often enough	10
Poor weekend service	4
Safety/security concert at the bus stop and/or on the bus	1
Other	3

Most respondents agree that air quality and conserving energy are important and public transit can help on the environment. All respondents prefer a short travel time when they make their trips while approximately 59 percent agree driving is stressful. Most respondents agree that public transit is import to the local economy and BT's role should be more than serving those people without access to a vehicle or who cannot drive.

Approximately 63 percent of respondents agree that BT is doing an effective job serving the city while only 17 percent will resist to use the service even if the service fits all their needs.

	Strongly Disagreed - Strongly Agree					Average
	1	2	3	4	5	
Air quality and conserving energy are important to me	4.2%	4.2%	0.0%	16.7%	75.0%	4.54
Public transit can help to reduce air pollution and save energy	8.3%	0.0%	0.0%	12.5%	79.2%	4.54
When I'm going someplace, I think about how quickly I can get there	0.0%	0.0%	0.0%	54.2%	45.8%	4.46
Even if Bloomington Transit fit all my needs, I would still rather drive	33.3%	29.2%	20.8%	12.5%	4.2%	2.25
Driving is more stressful than riding the bus	4.2%	16.7%	20.8%	29.2%	29.2%	3.63
Bloomington Transit's main role should be to provide transportation for people without a car or people who cannot drive	16.7%	50.0%	4.2%	12.5%	16.7%	2.63
Transit fares should be as low as possible to provide mobility to all residents	4.2%	12.5%	0.0%	37.5%	45.8%	4.08
Public transit is important to the local economy and Bloomington as a whole	8.3%	0.0%	0.0%	20.8%	70.8%	4.46
Overall, I think Bloomington Transit is doing an effective job serving the city	4.2%	8.3%	25.0%	54.2%	8.3%	3.54

Future Improvement

Based on the survey results, the top three ways to encourage non-users to use BT service are availability of rapid transit or limited stop service (54 percent), faster and more direct service to and from the IU campus (50 percent) and fewer transfers (50 percent). Other improvements that could attract non-users include faster and more direct service to and from downtown, bus stops closer to home or where you need to go, provide a downtown shuttle or trolley bus service, provide more park-and-ride and carpool opportunities and more service on weekends.

Future Service Improvement

Category	Frequency
Faster and more direct service to and from downtown	11
Faster and more direct service to and from Indiana University	12
More service earlier in the day or later in the evening	6
More service on weekends	7
Bus stops closer to home or where you need to go	11
More frequent service during A.M. and P.M. peak hours	5
More frequent service only during the Off peak	4
Fewer transfers	12
Availability of rapid transit, or limited stop service	13
Provide a downtown shuttle or trolley bus service	8
Improve pedestrian and bike access to bus stops (sidewalk, sidepath, multi-use trail and bike lane)	3
Provide more park-n-ride and carpool opportunities	8
Improve shelters and other amenities (benches and route information)	5
Safe and secure bus stops and buses	5
Provide more bike rack on buses and bike locker at bus stops	2
Cleaner buses	1
Lower bus fare	3

When asked how likely they would use BT service if BT were able to make the changes they suggested, more than 83 percent responses selected very likely while only 4 percent selected not very likely.

Likelihood Of Using BT after Improvement

- Very likely 83.3%
- Somew hat likely 12.5%
- Not very likely 4.2%
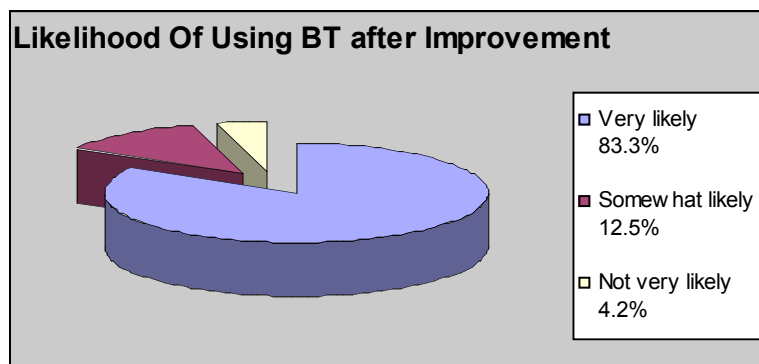
4. Public Consultantation

Public consultation is an essential tool that ensures that transit services are reviewed and implemented in a manner that best meets the needs of the community. Consultation feedback can be used to develop services that are effective, increasing the relevance of transit to the community. The following feedback was obtained through the public and stakeholder consultation sessions and will be considered in developing the future service strategies.

4.1 Stakeholder Consultation

As part of the data collection process for the study, ENTRA met with a variety of stakeholders to gain their insight and comment on the role and future of transit in Bloomington, as well as any specific intelligence related to their area of expertise.

In addition to the Project Steering Committee comprising members of the Board and the Monroe County MPO, ENTRA met with:

- Members of Bloomington City Council
- Bloomington Economic Development Commission President Ron Walker
- County Commissioner Iris Kiesling
- Indiana University Student Transportation Board
- Indiana University Administration – Lynn Coyne, Vice President of Real Estate
- Jim Murphy – CFC
- Monroe County Council Member Sophia Travis
- Bloomington/Monroe County Chamber of Commerce - Christy Gillenwater, President/CEO
- Bloomington Hospital – Bruce Wade

Throughout each of these discussions, there were several common themes, including:

- the increasing role for transit in the community in the face of environmental concerns and rising gas prices
- the opportunity and need for some form of unification of the IU Transit and Bloomington Transit systems
- the need to address the legislative restriction on Bloomington Transit's operating area which limits access to key destinations in the County, especially Ivy Tech Community College

With respect to transit service, there was considerable discussion on the opportunities for park-and-ride, and the current operations at the stadium parking lot at IU, the conference center parking facility for County employees and the remote parking for hospital employees. There was also discussion of the need for faster and more direct service, improved evening, weekend and Sunday service, and consistent 30-minute service throughout the day.

Long-term issues facing transit were discussed, including growth in the County, and the increasing number of people commuting to Bloomington from the outlying communities, the distribution of student housing increasingly throughout the city and in new areas, the relocation of the hospital to the North Park area, increasing employment and residential development in the west areas of the city, and the need for transit to take an increasing role as a viable transportation choice in the region.

4.2 Community Charrette

To solicit input from the general public and other stakeholders, a separate Community Charrette was held in the County Library in the evening from 7:00 p.m. to 9:00 p.m. on April 10, 2008. The meeting was advertised in advance on the BT website and in the local newspaper. The Charrette was well attended and group discussions were facilitated by ENTRA, BT and City Planning Department staff.

BT staff and ENTRA provided a short presentation with an overview of the study and the current and future travel patterns in Bloomington. This was followed by the participants convening at workshop tables with four different topics including big moves, great ideas, smart stuff and pizzazz.

Big moves provides opportunities for the group to apply a "blank slate" approach in developing a new transit system in the community without any constrains. Great ideas focuses on the improving the service by bridging the existing gaps, improving corridor service, providing park-and-ride locations and adding express or shuttle service. Smart stuff discusses all kinds of technologies such as bus, fuel, customer communication, fare and other intelligent transportation systems (ITS) while pizzazz covers all others such as marketing programs, promotions and incentives.

Each group was given a half-hour for discussion on their group topic and then switched topics allowing additional areas for discussion. Thus, all participants had the opportunity to provide their opinions on two different topics.

The following summarizes the comments from the public including comments received via email from 35 people who were unable to attend the consultation session:

- provide more service on Sundays and Saturdays for working, shopping and church activities

- provide service to the areas outside of the city boundary, especially the Ivy Tech Community College and the Batchelor middle school

- improve service frequency on weekdays, especially during the summer

- unify transit systems in the city (BT and IU) or county (BT, IU and Rural)

- develop Bus Rapid Transit (BRT) service on 3rd Street, 10th Street and College Avenue/Walnut Street corridors and provide signal priority for transit vehicles

- provide park-and-ride locations at shopping centers and large churches and operate express bus services from park-and-ride locations to the IU campus and downtown area

- better serve the Henderson Street corridor north of Grimes Lane

- improve passenger amenities such as bus shelters, stop signs and lighting at bus stops

- provide more bike racks on buses to accommodate additional bike users

- smaller buses should be used on some low-ridership routes

- expand the AVL capability of Bloomington Transit to include web-based vehicle tracking, next bus announcements and electronic notification of system delays

- develop an improved website with trip planning capabilities (currently under development with Google®)

- provide more information at bus stops such as schedules and destinations

- develop more marketing and promotional programs such as "ride the bus to work" week, seasonal promotions, new riders' brochure and more friendly online user interface

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5. Market Analysis

The section is to define the characteristics of the community as well as existing travel patterns, to describe the future developments and to identify future travel patterns in the community. Demographic, employment and travel data used in this study were provided by the Planning Department of the City of Bloomington. This data includes information regarding car ownership, household income, population and employment distributions by traffic zone and travel Origin/Destination (OD) matrices by travel type.

5.1 Demographic Characteristics

As of the 2000 census, there were 69,291 people and 26,468 households residing in the city of Bloomington of which approximately half are IU students. The median income for a household in the city was $25,377 and each household owned an average of more than 1.5 vehicles. The relatively low household income was the result of the large proportion of student population in Bloomington.

Typically, an area with more than three household units or four jobs per acre is considered transit supportive. However, the demand and service design varies among individual communities depending on their operating environment, demographics, geography, political climate and a variety of other factors. These thresholds for transit services should be considered as reference only and actual service design should be based on the historical experience and local environment.

5.1.1 Population Growth

From a transit perspective, population density (number of residents per square mile) is a strong indicator of the potential transit market. Exhibit 4 shows population density in Bloomington for the base year (2000) and the future year (2030), the most applicable years for which information is available. Areas in the map become darker as the population density increases. This illustration helps to understand the distribution of population as well as the intensity of current development.

A shown in Exhibit 4, the majority of the residents currently live in the central area of the city. There is also a significant number of residents in the outlying areas west of SR 37 and in the areas east of the by-pass/College Mall road where the majority of residents are IU students. However, the population in the west mostly spreads out in large areas resulting in relatively lower densities that are not supportive of transit services. As shown in Exhibit 4, it is clear that most growth within the city limits is in the southwest part of the city and the areas south of Hillside Drive. Strong growth is expected in the west and north areas beyond the city boundary. The growth in most developed areas such as the central and east is not significant. With the future growth patterns, it would provide opportunities in the west to support better transit services.

These population trends will have important implications for transit. As the population shifts, the markets for transit service will also change. In the new growth area, improved service or new service needs to be provided to serve these potential transit markets.

5.1.2 Employment Growth

Employment distribution is also important for understanding the potential demand for transit service. If the beginning of the trip (residential area) can be connected with the trip destination (employment or other destination), it is more likely that transit will be successful.

Current and projected employment figures were reviewed and employment densities for the base year and future year are shown in Exhibit 5. Most jobs are currently located in the central area including downtown Bloomington and the IU campus. Other significant employment areas include the area along Henderson Street south of Hillside Drive and major commercial development areas such as College Mall and the rapid growing area west of SR 37.

Growth in employment provides an indicator of potential transit markets in the future. While downtown Bloomington and the IU campus area within the city will still account for a significant portion of total jobs, most job growth is anticipated in areas west of SR 37 beyond the current city limits. This trend will significantly affect the future travel patterns in the city and its surrounding areas, especially the rapidly growing areas west of SR 37. Along with population growth, this will have important implications to the transit service in next 20 years.

Based on the existing ridership statistics, employees and commuters are not currently a major market for transit. Given the current traffic condition and parking supply, transit use of commuters is limited to the captive market and the service is mainly focused on the IU campus due to the high demand of the student market. With the future increasing traffic and cost of transportation as well as changes in parking supply, however, this potential transit market can generate significant new ridership for Bloomington Transit in addition to the well-served student market. Potential transit riders are most likely to use the service due to their job pay and location such as those employed in the service, retail, clerical and customer-service sectors.

5.1.3 Household Income and Car Ownership

Given the high costs of owning, operating and maintaining a vehicle, low-income families often rely on transit for their transportation. Adequate transit service is particularly important for low-income families and people without access to vehicles. Thus, household income and car ownership are also indicators of existing and potential new transit markets.

As shown in Exhibit 6, low-income households are located in central Bloomington along College Avenue and 3rd Street as well as in the southwest areas of the city and areas with a large student population such as the campus corner area. Most households with less than one car are located in the central areas along College Avenue and 3rd Street.

Exhibit 4 – Population Density Map (2000 – 2030)

Population per Sq Mile (2000)
- 10,000 to 50,000 (25)
- 5,000 to 10,000 (34)
- 2,500 to 5,000 (51)
- 1,000 to 2,500 (42)
- 500 to 1,000 (20)
- 0 to 500 (161)

Population per Sq Mile (2030)
- 10,000 to 50,000 (30)
- 5,000 to 10,000 (32)
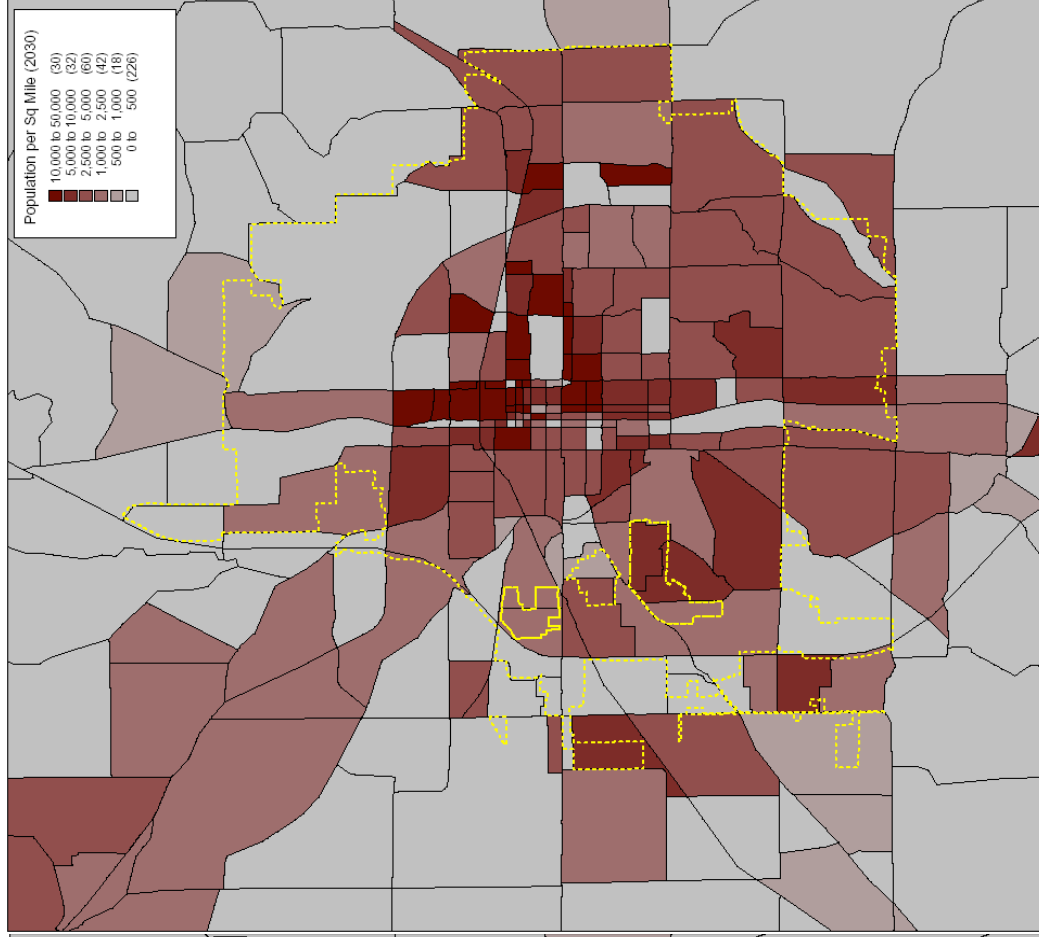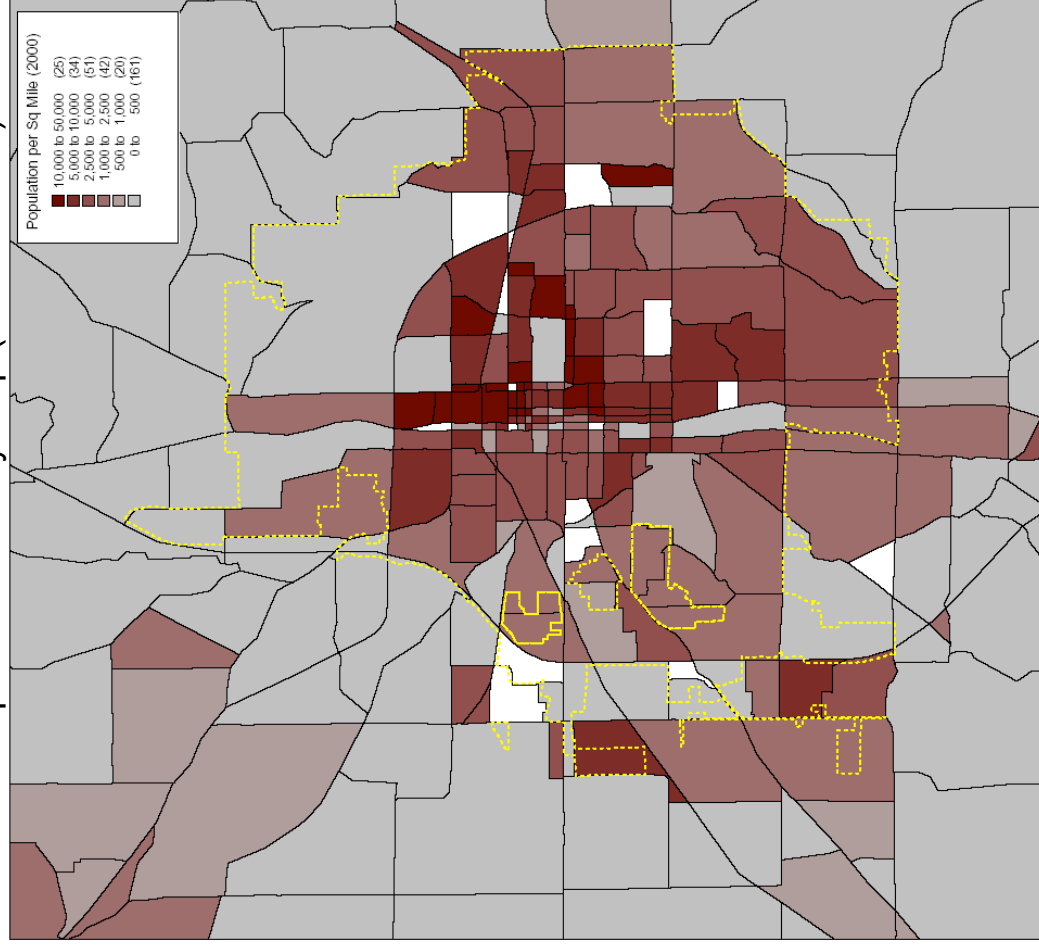- 2,500 to 5,000 (60)
- 1,000 to 2,500 (42)
- 500 to 1,000 (18)
- 0 to 500 (226)

Exhibit 5 – Employment Density Map (2000 – 2030)

Employment per Sq Mile (2000)

10,000 and more	(38)
5,000 to 10,000	(17)
2,500 to 5,000	(28)
1,000 to 2,500	(38)
500 to 1,000	(25)
0 to 500	(160)

Employment per Sq Mile (2030)

10,000 and more	(43)
5,000 to 10,000	(21)
2,500 to 5,000	(37)
1,000 to 2,500	(33)
500 to 1,000	(29)
0 to 500	(245)

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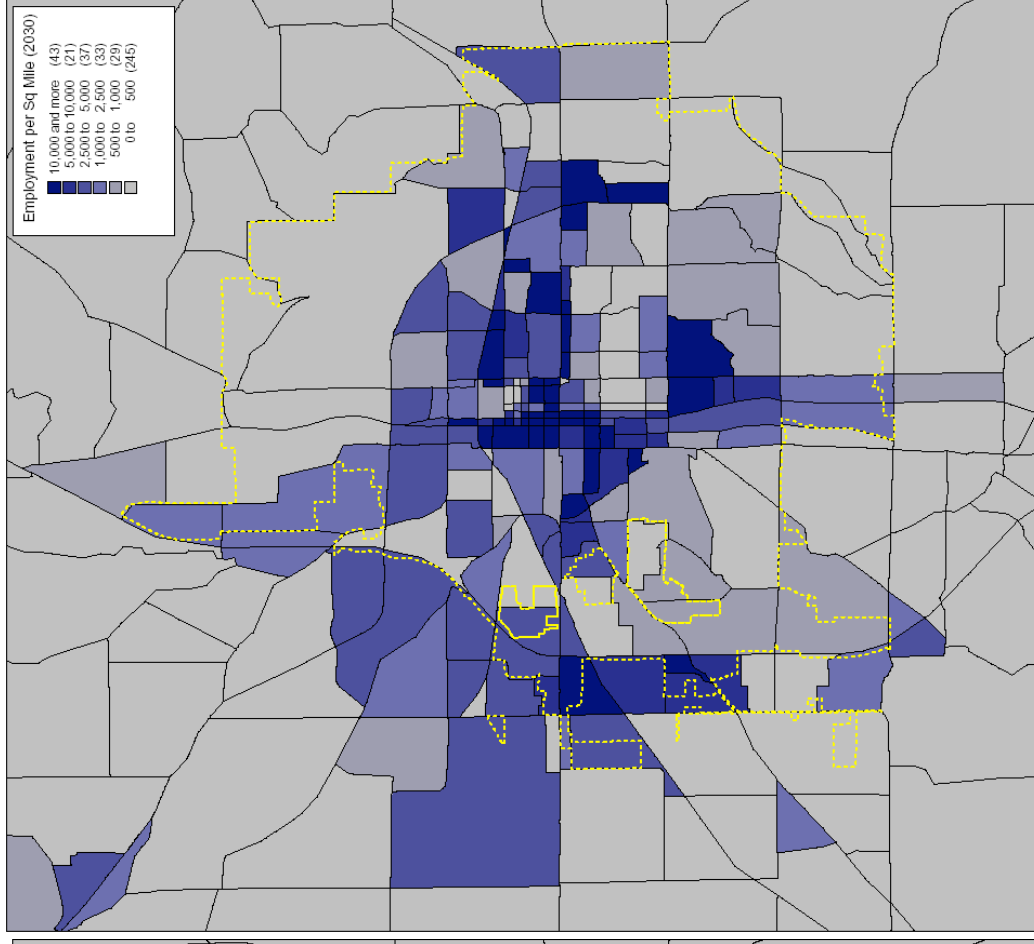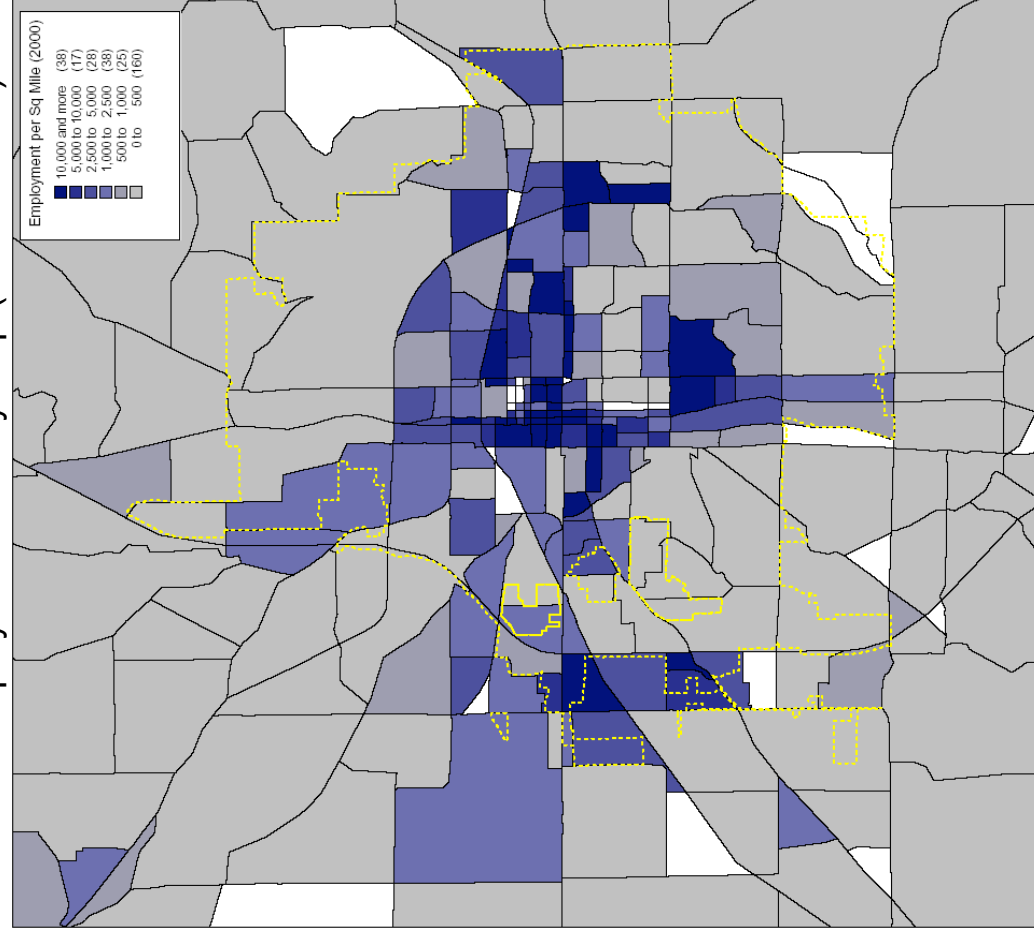
Exhibit 6 – Household Income and Vehicle Ownership (2000)

Vehicle per Household (2000)

0 to 1	(8)
1 to 2	(190)
2 to 3	(132)
3 to 4	(1)

Household Income (2000)

0 to	10,000	(2)
10,000 to	20,000	(23)
20,000 to	35,000	(73)
35,000 to	50,000	(74)
50,000 to	65,000	(126)
65,000 to	80,000	(16)
80,000 to	150,000	(16)
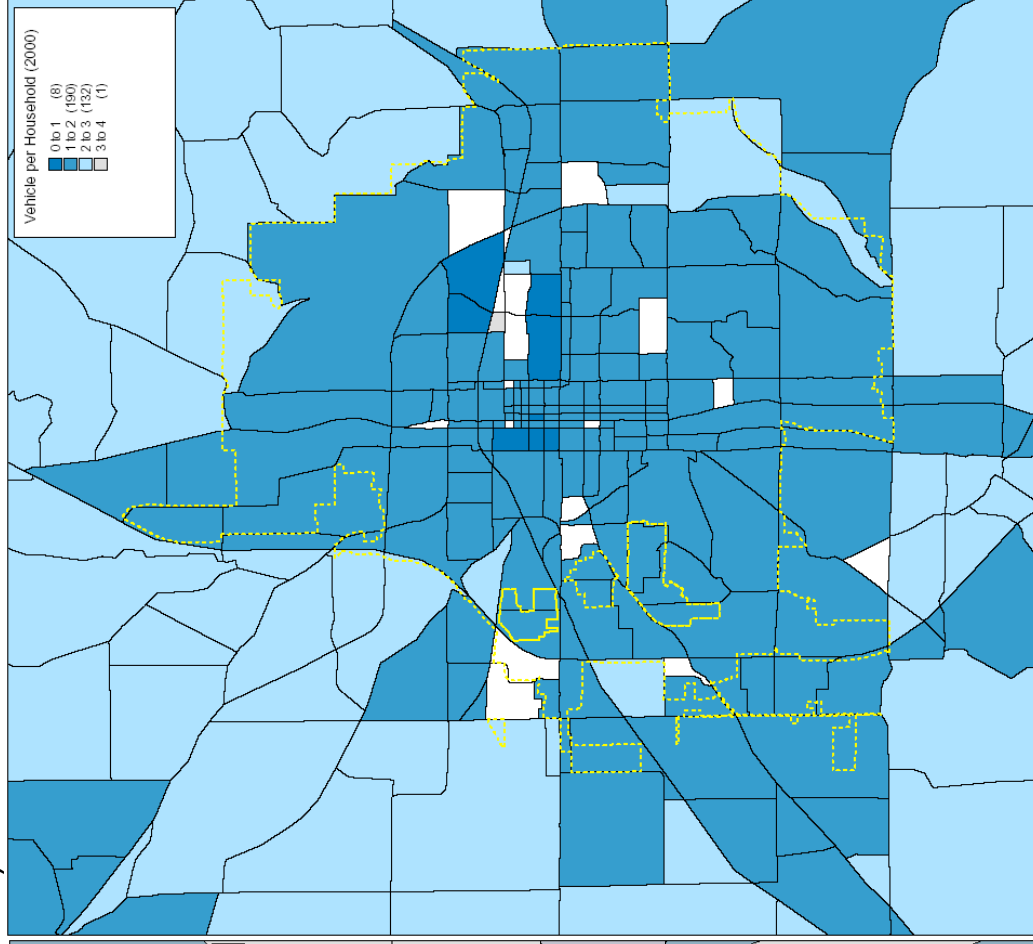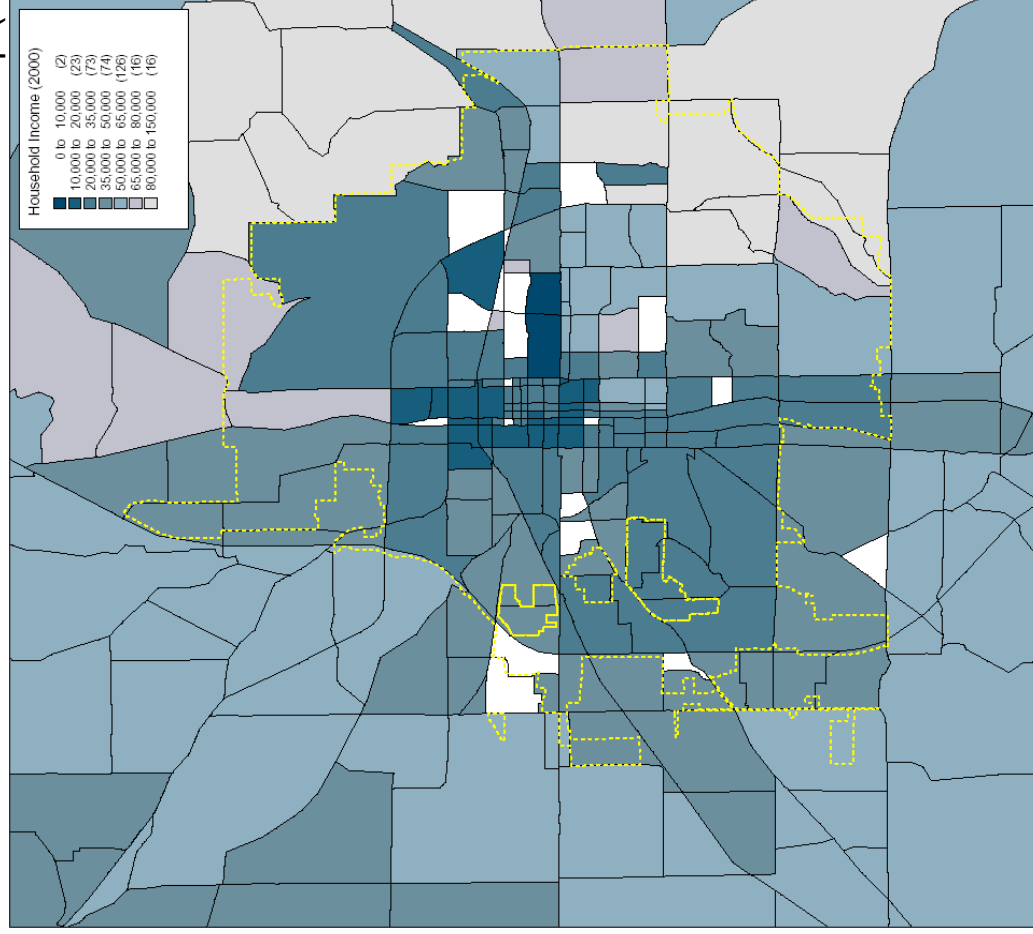
5.2 Existing and Future Travel Patterns

For the purpose of the transit planning analysis, the county's 349 traffic zones were aggregated to 28 zones as shown in Exhibit 7. The base year and future year travel demand in terms of total person trips provided by the city of Bloomington were reviewed and used to identify the existing and future travel patterns in the city.
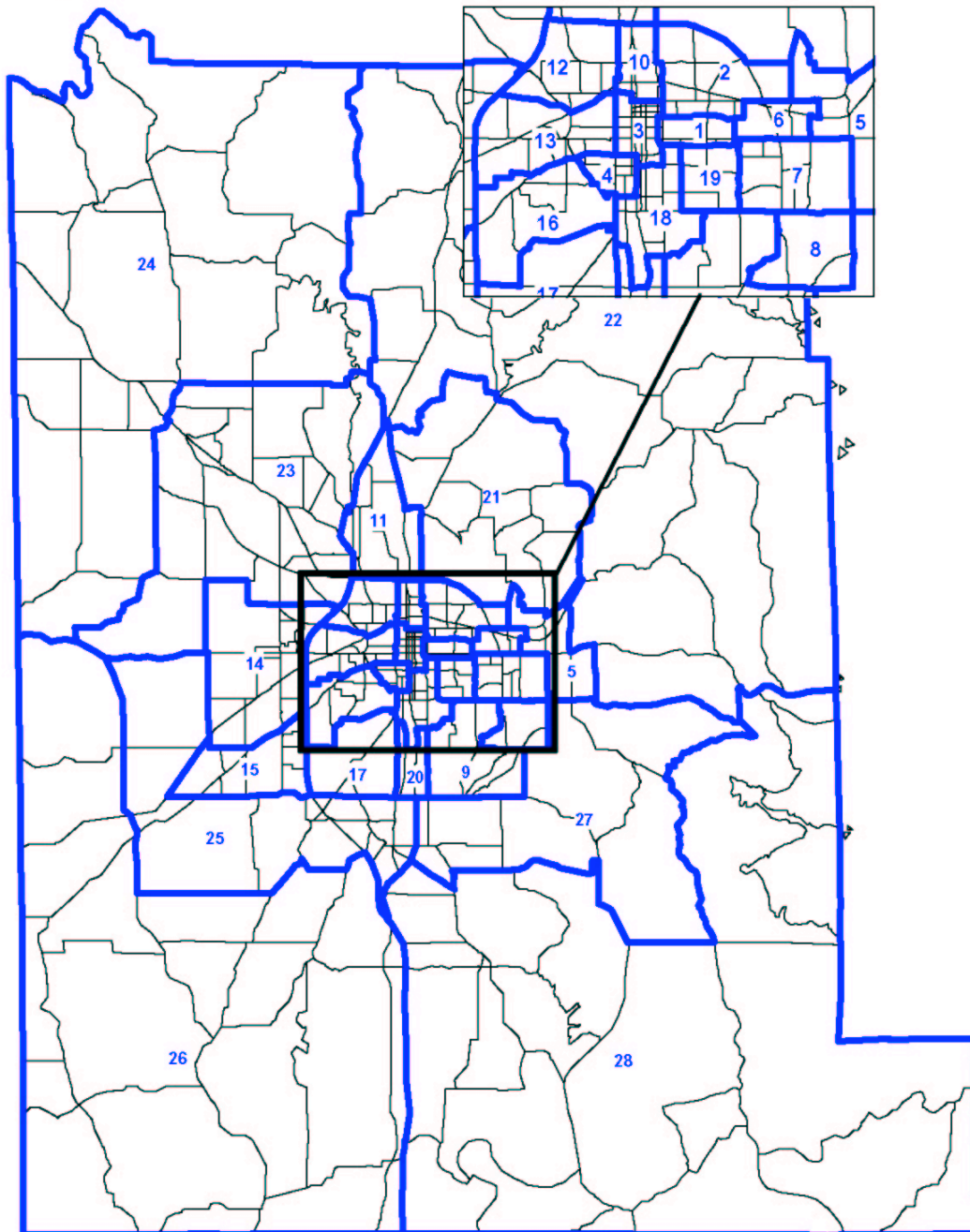
Exhibit 7 – Aggregated Zone Map

Exhibit 8 shows the existing and projected total person trips to and from each aggregated zone. The main trip destinations in the city are zones 1, 2, 3, 7, 14 and 18 where significant employment, major schools, large shopping centers and other activity centers such as Indiana University, downtown, College Mall, Eastland Plaza, Ivy Tech Community College and Bloomington High School are located. As expected, the future travel demand projections indicate the significant growth in total person trips will occur in the area west of SR 37 both within and beyond city limits. This is mainly because of the continuing growth in both population and employment in this area. Travel demand in the southwest part of the city will also experience great increases due to the proposed new development. The rest areas of the city will have moderate increases in travel demand.

Travel patterns are based on where people live and where their main activities such as work, school and shopping are located. Transit routes that follow popular travel patterns are most likely to attract riders and perform well. Exhibit 9 and Exhibit 10 illustrate the existing and projected travel patterns in Bloomington. This map shows the total person trips of the most popular trips between aggregated zones within Bloomington and nearby urbanized areas. The thicker lines represent greater travel demand.

Not surprisingly the greatest density of trips are to and from the IU campus and downtown Bloomington with far fewer trips between surrounding communities. However, urban growth and a changing economy have created additional travel patterns in Bloomington and surrounding urbanized areas. The following summarizes the existing travel patterns and the anticipated future trends:

- Central focused traditional travel patterns will continue to be strong as the downtown and IU campus area continues to be a major destination for students, commuters and transfers. However, recent new developments in outlying communities provide additional trip destinations for Bloomington residents.

- Some emerging trends such as the focus on zone 14 and a major new development area are already clear in 2000 and will be further strengthened in 2030 as significant travel demand to and from this area increases in the future.

- The growth of outlying areas has created a demand for direct travel between these communities. Currently, travelers have to make lengthy trips into central area to make transfers. The time and distance required discourages riders from using transit.

- Strong travel demand can be found between zone 23, where significant new developments are proposed, and downtown Bloomington, the IU campus and zone 14. This is not shown on the map since zone 23 is located beyond the city limits. However, the city boundary issue limits the service expansion to these areas.

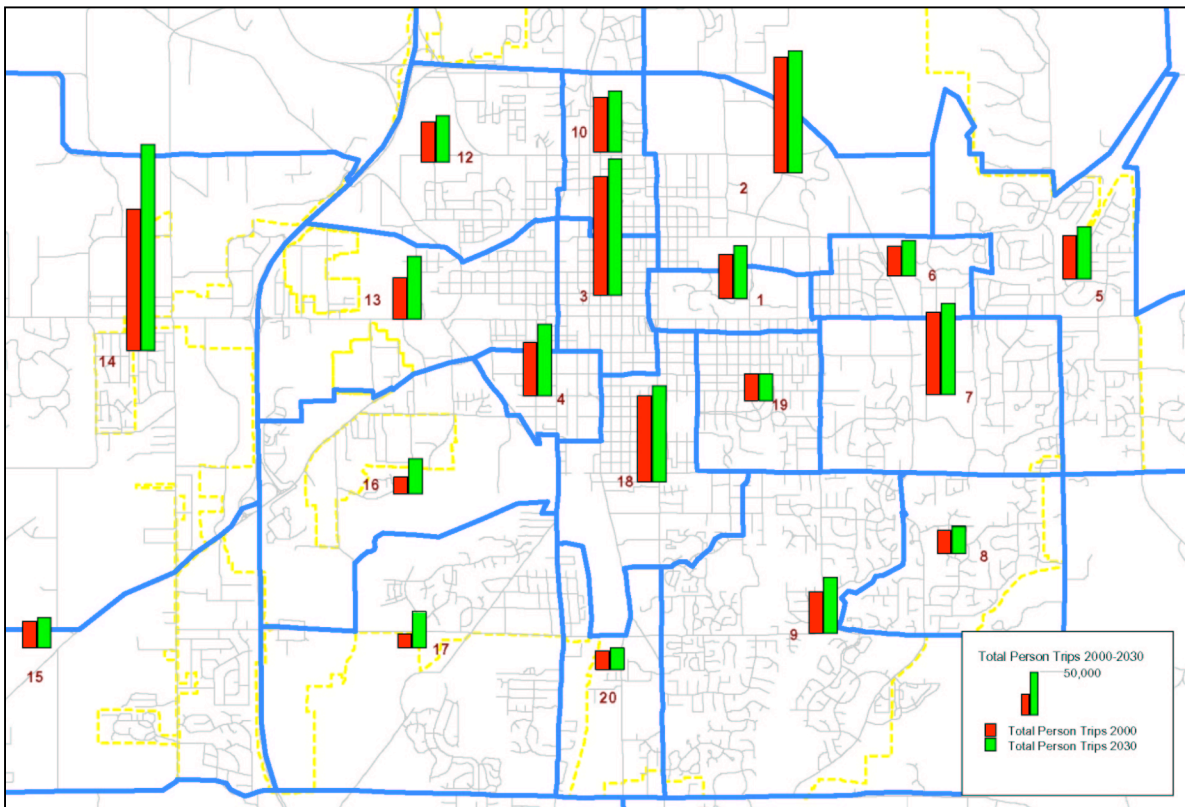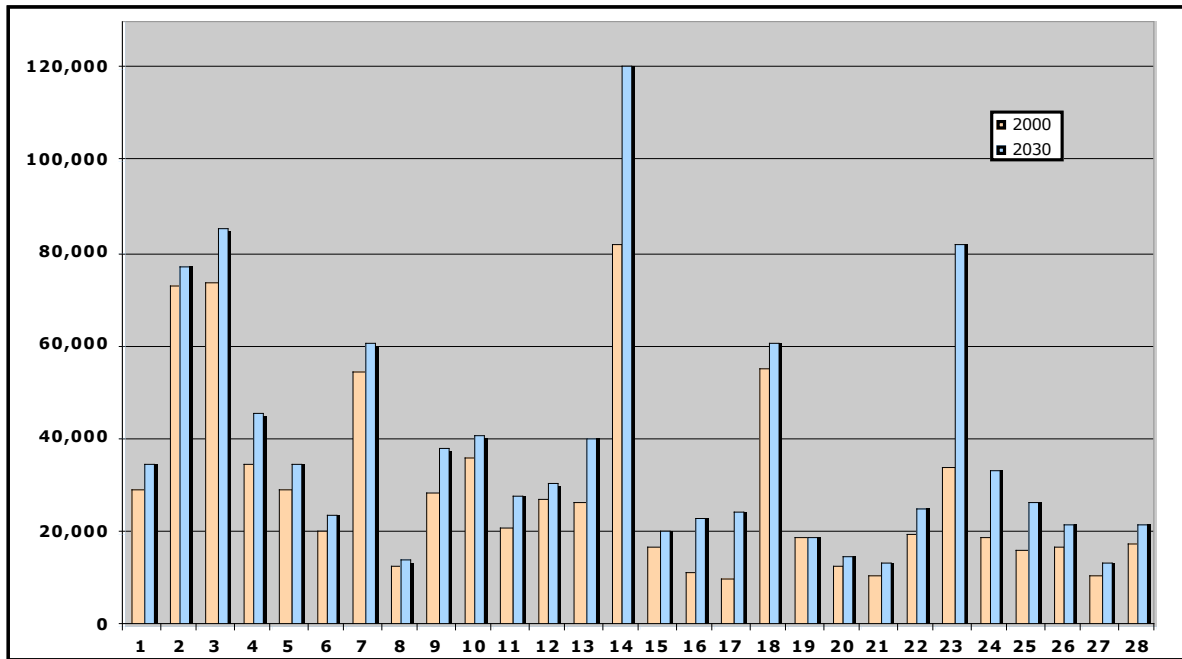# Exhibit 8 – Travel Activities (2000 – 2030)

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Exhibit 9 – Travel Patterns in 2000

Total Person Trips (24 hours)
7,000 and more (1)
5,500 to 7,000 (3)
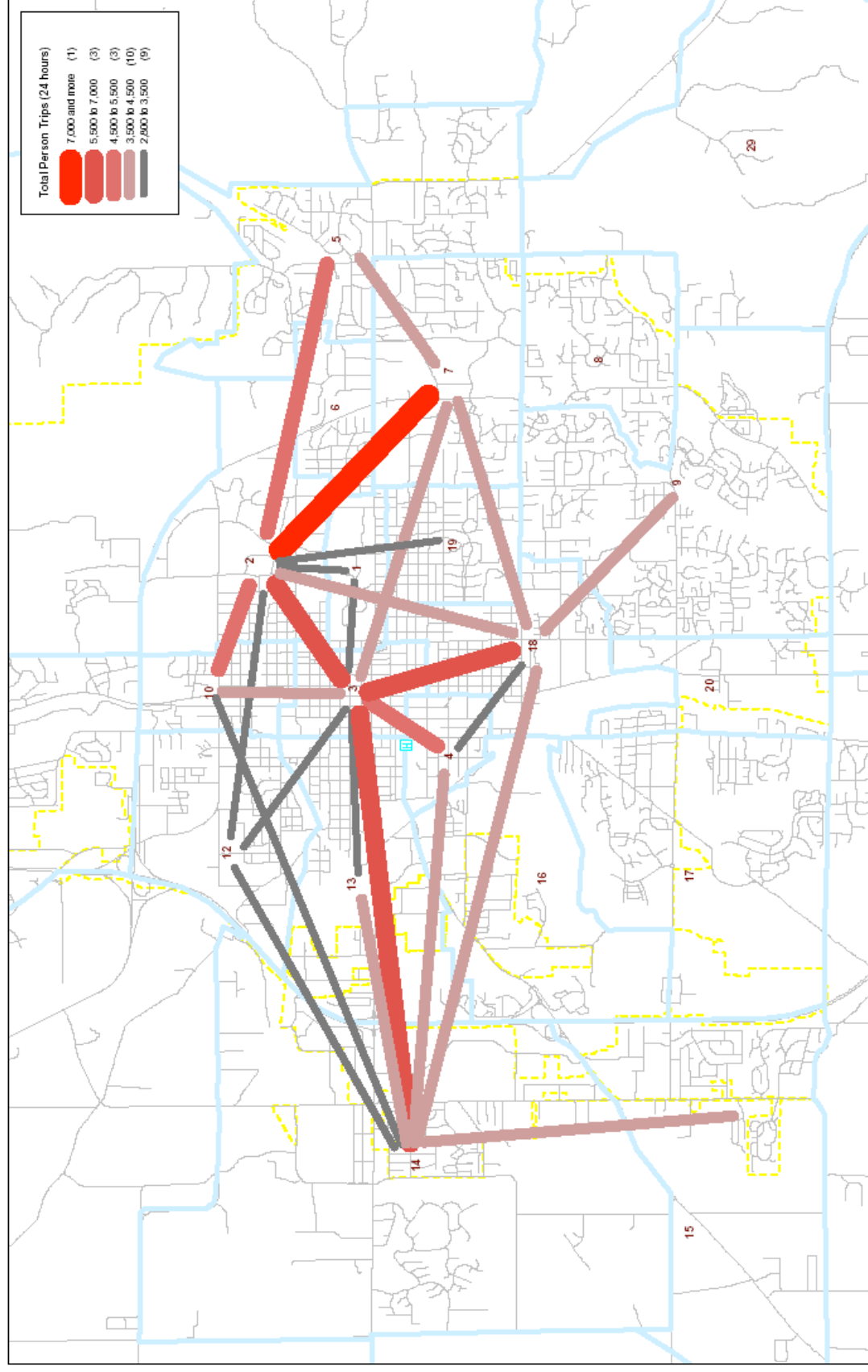4,500 to 5,500 (3)
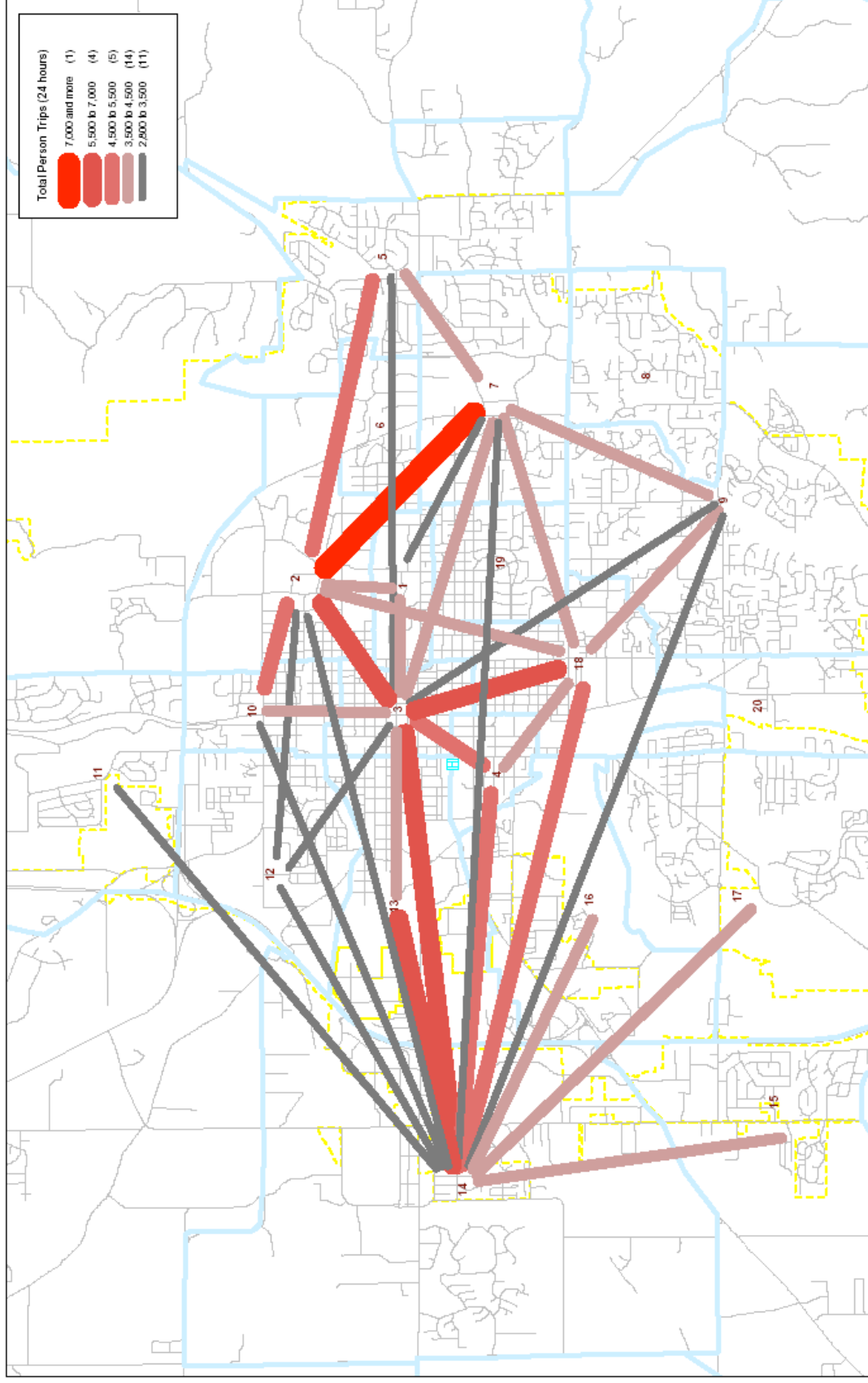3,500 to 4,500 (10)
2,800 to 3,500 (9)

Exhibit 10 – Travel Patterns in 2030

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6. Needs and Opportunities

This section summarizes the existing and anticipated transit service gaps and needs for the future service improvements based on the market and service analysis and the survey results as well as the stakeholder and public consultations. This forms the base for the service strategy development in the next phase of the study. The needs identified in this section include those required to better serve people who are dependent on transit due to lack of access to vehicles and also needs to attract choice riders who have other transportation alternatives, but prefer to use transit due to cost, convenience, environmental concerns and other reasons.
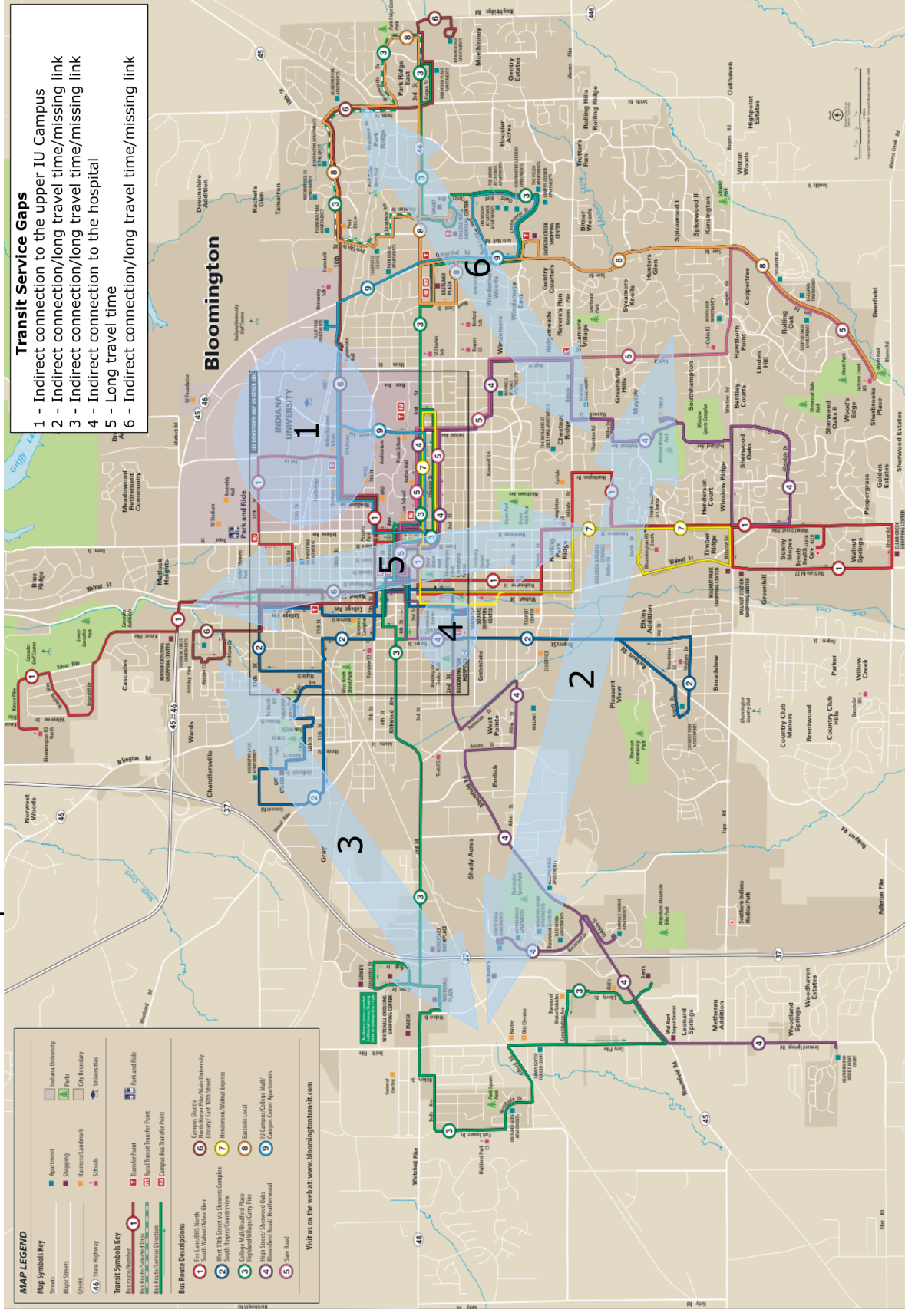
The main service gaps are shown in Exhibit 11 and include:

1. The travel demand is expected to experience a significant increase between the IU campus north zone, where main destinations for the IU students such as the IMU building and the IU library are located, and the south, north and west areas of the city. However, the existing transit service is indirect and lengthy from these areas to the upper IU campus.

2. Based on a comparison of overall travel patterns it is clear that BT provides a good service to and from the central downtown and IU campus area. However, as significant travel growth is projected between the outlying communities, especially between the west and south, the emerging patterns are not well served. A direct transit connection would be required to meet the future travel demand within and between these areas.

3. There is no direct transit connection between major destinations in the west and the north of the city and no service is provided to the rapidly growing communities northwest of SR 37 beyond the city boundary.

4. A transfer is required to the Bloomington Hospital from most areas in the city, especially from the east including the upper IU campus.

5. Service along the main north-south travel corridor is lengthy and indirect due to service diversion to the IU campus and currently low service frequency (60 minutes) on Route 1N.

6. There is no direct transit service from the south area of the city to the east where there is a substantial density of shopping and commercial development.

In addition to the service gaps listed above, other identified improvement needs of the BT service include:

- Sunday service is only available on Routes 6 and 9 serving a very limited area in the city. Most residents who are dependent on transit for their mobility are not able to use the service for their transportation needs on Sundays. The Sunday service needs to be expanded to provide basic mobility to those transit dependent riders as well as to attract choice riders who are willing to use the service. Saturday service also needs to be more frequent to meet the significant transit activities such as shopping, socializing and working.

Exhibit 11 – Transit Service Gaps

Transit Service Gaps

1 - Indirect connection to the upper IU Campus
2 - Indirect connection/long travel time/missing link
3 - Indirect connection/long travel time/missing link
4 - Indirect connection to the hospital
5 - Long travel time
6 - Indirect connection/long travel time/missing link

MAP LEGEND

Map Symbols Key
Streets
Major Streets
Creeks
46 State Highway

Apartment
Shopping
Business/Landmark
Schools

Indiana University
Parks
City Boundary
Universities

Transit Symbols Key
Bus route/Number
Bus Route/Selected Trips
Bus Route/Service Direction

Transfer Point
Retail Transit Transfer Point
Campus Bus Transfer Point

Park and Ride

Bus Route Descriptions
1 Fee Lane/IMS North
  South Walnut/Arbor Glen
2 West 11th Street via Showers Complex
  South Rogers/Countryview
3 College Mall/Bradford Place
  Highland Village/Curry Pike
4 High Street/Sherwood Oaks
  Bloomfield Road/Weathermed
5 Sam Road

6 Campus Shuttle
  North Kinser Pike/Main University
  Library/ East 10th Street
7 Henderson/Walnut Express
8 Eastside Local
9 IU Campus/College Mall/
  Campus Corner Apartments

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Bloomington

INDIANA UNIVERSITY

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- Recently, evening service has extended to 11:30 p.m., which received very positive responses from BT fixed route riders. However, the passenger survey results indicate that more service would also be required early in the morning to meet the travel needs for early commuters.

- A minimum service frequency of 30 minutes needs to be implemented on all weekday routes to make the service more attractive to existing and potential riders, particularly to those choice riders who have other transportation alternatives, but are willing to use the service.

- BT is currently providing service only within the city limits. However, an increasing number of Bloomington residents need to travel to schools and employment and shopping areas outside of the city limits such as Ivy Tech Community College and the Batchelor Middle School. In addition, the main facility of the hospital with approximately 3,000 employees is also proposed in the area outside of the city boundary. Many Bloomington residents are facing transportation challenges because of lack of transit connections to these major trip destinations.

- Further service coordination between BT and IU campus bus towards a complete and unified system would utilize the resource more efficiently and maximize funding opportunities.

- Major service gaps currently within the city limits such as the Henderson Street corridor north of Grimes Lane and the Tapp Road area need to be filled to improve the transit service coverage in the city.

- The BT Access survey indicates that more drivers' assistance is needed for BT Access riders when they get on and off the vehicle in addition to improving the quality of the vehicle and installing equipment such as step stool to assist riders on and off the vehicle. A training program needs to be provided to BT Access drivers and riders to improve the service quality and communications between them. Training needs to be considered to provide opportunities to those riders who are willing to try the fixed route service.

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7. Service Concepts

Three base route network concepts were developed based on the results from the existing service review, stakeholder and public consultations, the public online survey, the passenger on-board survey and the market analysis.

Building on the strengths of the existing transit system, all three concepts were developed to bridge specific service gaps, especially some developed areas and proposed large new developments located outside of the city boundary. The common new destinations in all three route network concepts include:

- Ivy Tech Community College

- the possible future new location for a regional hospital

- the rapidly growing employment area west of SR 37

- the Batchelor Middle School

- the Henderson Street corridor north of Grimes Lane

- the proposed new developments in the southwest areas of the city

The identified travel patterns in the city of Bloomington and outlying communities were used to restructure the routes in each concept. Additional transit connections were introduced to the system to meet the travel needs of the community while good transit connections were maintained between major destinations within city limits, especially between the major student residences and the Indiana University (IU) campus.

It should be noted that these concepts are developed for the purpose of examining various route network alternatives. Individual routes of each concept were developed to show how the various route networks could be potentially structured. The actually routing of the future services would be the decision of Bloomington Transit staff and policy makers based on the actual development patterns and transit demand in each service area.

7.1 Concept 1 – Radial System with Cross-Town Service

This concept was developed based on the existing route structure to maintain the existing radial system while providing services to the new areas. In this concept, a cross-town route is proposed to directly connect the rapidly growing communities in the west to the north and south areas of the city. A map showing all proposed services is included in Exhibit 12.

Concept 1 has the following key features:
- more direct routes in the main south-north and east-west corridors (Route 1 on the Walnut/College corridor and Route 3 on the 3rd Street corridor)

- consistent weekday service frequency of 30 minutes on all routes except Route 9 (nine minutes), Route 8 (60 minutes) and Route 10 (60 minutes)

- the downtown terminal is maintained as an important focus of the transit services with all Bloomington Transit routes connecting at the terminal to facilitate passenger transfers

- improved weekend services with extended service coverage on Sundays

- enhanced transit connection to the existing hospital with four different routes serving the Bloomington Hospital

- enhanced two-way service connections in the southwest areas of the city

- extended service coverage and improved level of service in the west

- direct transit connections from the south and the north to the major developments west of SR 37

- direct transit connection from the south to the major shopping areas in the east

- improved service connections from the major student residences and shopping center in the east to downtown Bloomington

- express service between the downtown terminal and a possible future regional hospital facility and employment areas in the west

- minimal impact on the existing riders since the existing route structure is largely maintained

7.2 Concept 2 – Grid-Like Route Network

Concept 2 has a grid-like base route network connecting major destinations with a more straight route structure. To establish the grid-like route network, the system would require more transfer connections while some routes would skip the downtown terminal. A map showing all proposed services is included in Exhibit 13.

This concept has following key features:
- a grid-like network with more direct routes in the main corridors including Walnut Street/College Avenue, Henderson Street/Indiana Avenue, 3rd Street, 10th Street, Tapp Road and Bloomfield Road

- consistent weekday service frequency of 30 minutes on all routes except Route 9 (nine minutes), Route 8 (60 minutes) and Route 10 (60 minutes)

- improved weekend services with extended service coverage on Sundays

- enhanced two-way service connections in the southwest areas of the city

- extended service coverage and improved level of service in the west

- direct transit connections from the south and the north to the major developments west of SR 37

- direct transit connection from the south to the major shopping areas in the east

- direct connections from the south to the IU campus

- improved service connections from the major student residences in the east to the IU campus

- express service between the downtown terminal and a possible future regional hospital facility and employment areas in the west

7.3 Concept 3 – Corridor Based Route Network

Concept 3 enhances the transit service on main travel corridors with direct and frequent service connecting main destinations along four corridors:

- the main north-south corridor (Walnut Street/College Avenue)

- the main east-west corridor (3rd Street/Kirkwood Avenue/Atwater Street)

- the east-west IU campus corridor (10th Street)

- the south-north IU campus corridor (College Mall Road/SR 45/46)

In addition to the corridor services, local services are provided to cover the rest areas of the city as well as the major developments outside of the city limit. These local routes connect the residential and employment areas and major shopping, education, medical and recreation facilities in the rest of the city and beyond to the corridor services, the downtown terminal and the IU campus. A map showing all proposed services is included in Exhibit 14.

This concept has following key features:

- direct and frequent services (20 minutes or less) along main corridors connecting downtown Bloomington, the IU campus, major shopping centers and student residences

- all Bloomington Transit routes connect at the downtown terminal to facilitate passenger transfers

- improved weekend services with extended service coverage on Sundays

- direct transit connections from the south and the north to the major developments west of SR 37

- direct transit connection from the south to the major shopping areas in the east

- improved service connections from the major student residences in the east to the IU campus and downtown Bloomington

- extended service coverage and improved level of service in the west

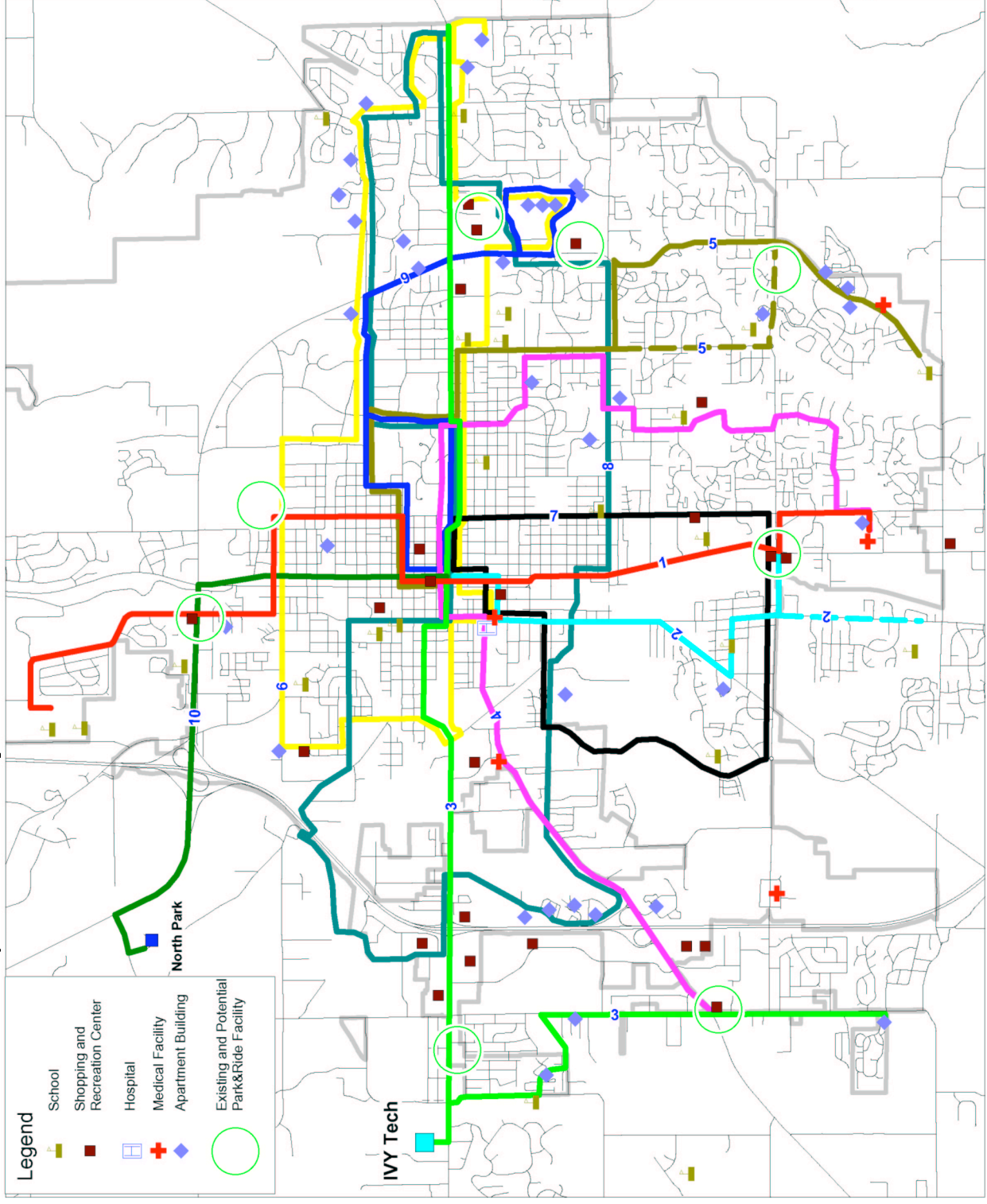# Exhibit 12 – Concept 1 – Radial System with Cross-Town Service

Legend

School	
Shopping and Recreation Center	
Hospital	
Medical Facility	
Apartment Building	
Existing and Potential Park&Ride Facility	

North Park

IVY Tech

Exhibit 13 – Concept 2 – Grid-Like Route Network

Legend

School
Shopping and Recreation Center
Hospital
Medical Facility
Apartment Building
Existing and Potential Park&Ride Facility

North Park

IVY Tech

9/4/2009

ENTRA Consultants
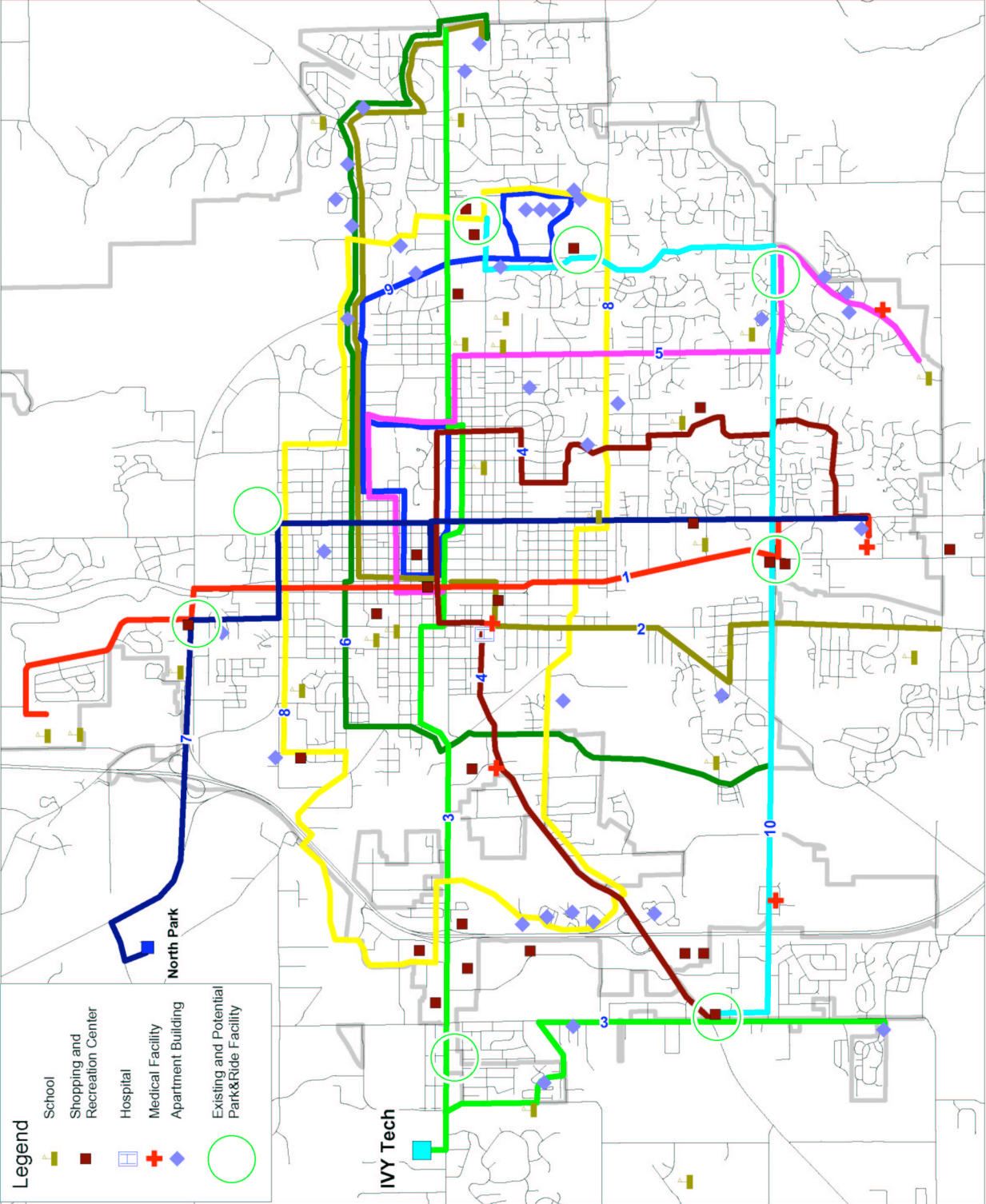
Exhibit 14 – Concept 3 – Corridor Based Route Network

Legend

School
Shopping and Recreation Center
Hospital
Medical Facility
Apartment Building
Existing and Potential Park&Ride Facility

North Park

IVY Tech

9/4/2009
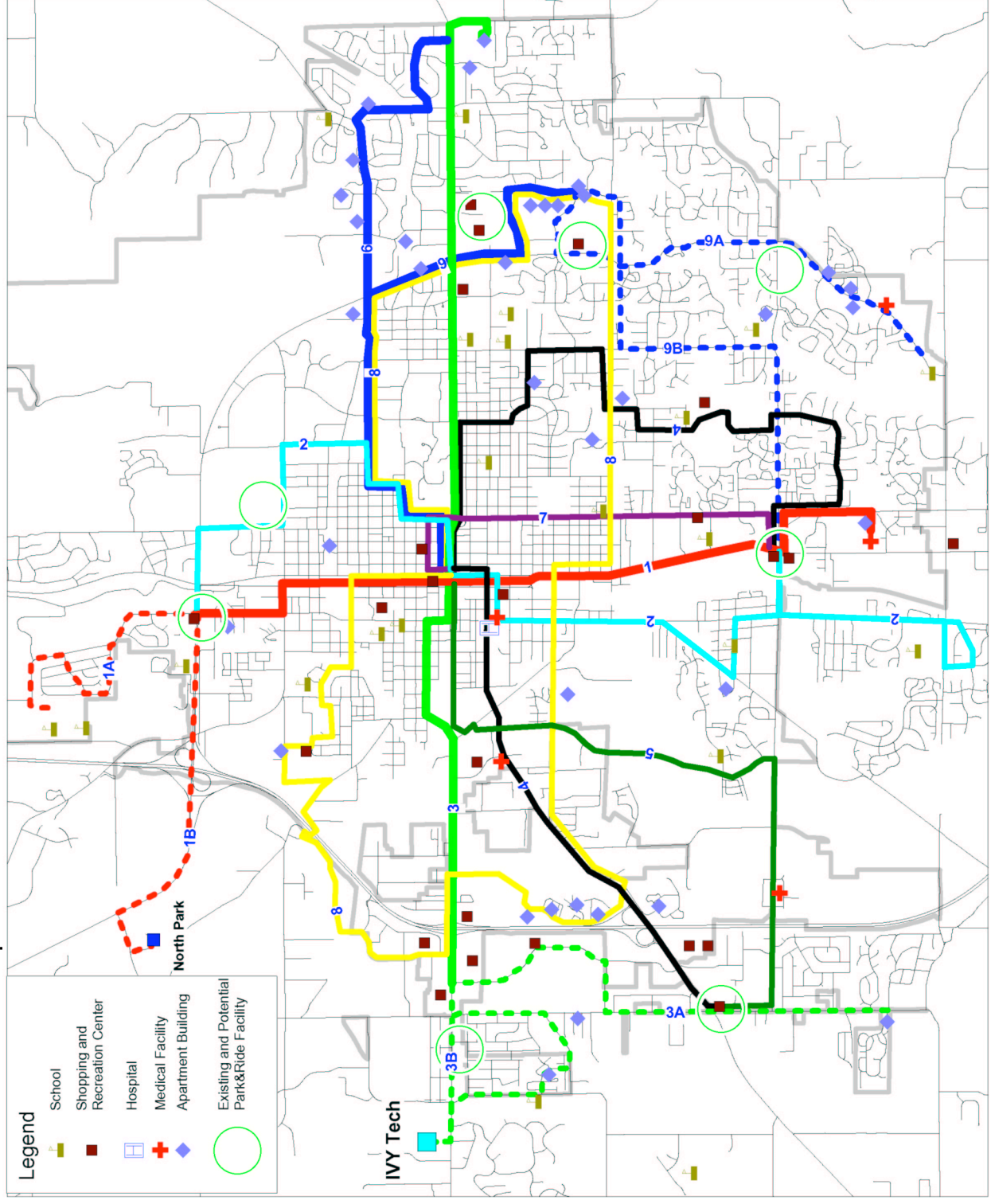
7.4 Potential Park-and-Ride Shuttle Service

Potential Park-and-Ride locations were examined at shopping centers and churches to facilitate transit use by residents living in the outlying communities where transit service cannot be reached by foot. The Park-and-Ride shuttle service is proposed to directly connect these potential locations to the downtown terminal and the IU campus, which makes the service more attractive to choice riders who have access to a vehicle, but are potentially willing to use transit for various reasons. These remote parking facilities could help reduce traffic congestion along the major travel corridors as well as the parking requirements in the central areas of the city and the IU campus.

In most cases, these potential locations are well served in all three concepts, as shown in Exhibit 12 to Exhibit 14. However, these routes are regular fixed route service with frequent stops and operate at a relatively low speed and, therefore, would not have a significant impact on the ridership, especially choice riders. The proposed Park-and-Ride shuttle service provides a more direct and express connection from the potential Park-and-Ride locations to downtown Bloomington and the IU campus with limited stops at the major destinations.

As shown in Exhibit 15, there are eight existing and potential Park-and-Ride locations located at the shopping centers and churches in the outlying communities. The proposed shuttle services would require three buses to provide a service frequency of 30 minutes connecting these facilities to the downtown terminal and IU campus. The service would operate during the peak periods on weekdays.

The Park-and-Ride shuttle service could complement each of the three route network concepts to further enhance the transit services in Bloomington.

Exhibit 15 – Potential Park-and-Ride Shuttle Service

Legend

School	
Shopping and Recreation Center	
Hospital	
Medical Facility	
Apartment Building	
Existing and Potential Park&Ride Facility	

North Park

IVY Tech

9/4/2009

ENTRA Consultants
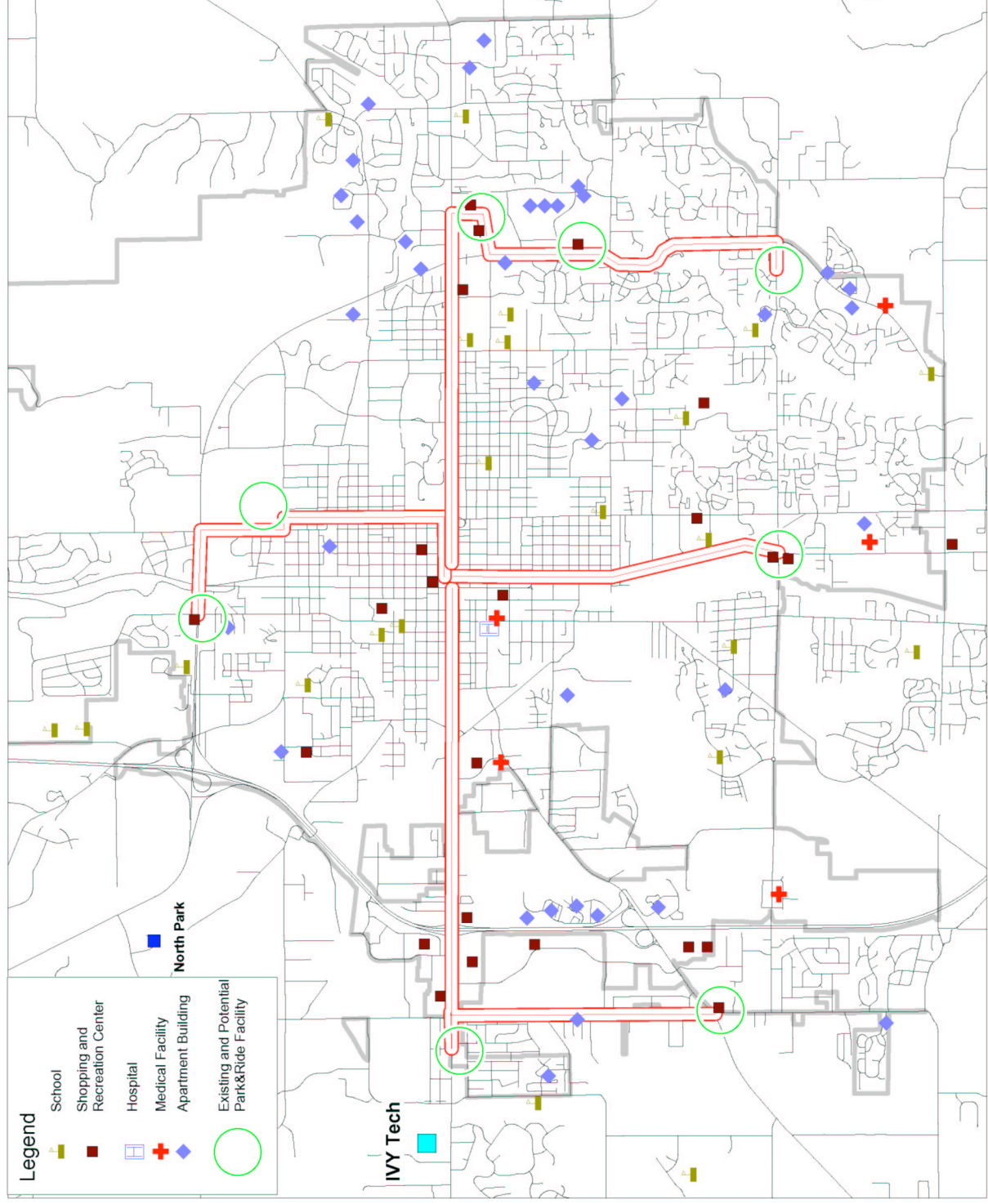
7.5 Summary

As described previously, all concepts include enhanced transit connections at major destinations and provide a better service coverage in the new development areas, particularly in the west. All three concepts were developed to meet the travel needs of the community and bridge the service gaps identified in the Needs Assessment report.

Concept 1 and Concept 2 provide extensive service coverage and consistent service frequencies towards a more balanced system serving both the city and the outlying communities. Concept 1 has a service focus at downtown Bloomington with all routes connecting at the downtown terminal while Concept 2 focuses on the IU campus with direct connections from most areas within the city as well as in the outlying communities to the campus. Concept 3 is a corridor based system with direct and frequent service along major travel corridors connecting major destinations such as downtown Bloomington and the IU campus.

The Park-and-Ride shuttle service provides direct and express connections from the Park-and-Ride locations in the outlying communities to downtown Bloomington and the IU campus to attract new riders, particularly choice riders.

7.6 Capital and Operating Requirements

With consideration of the Park-and-Ride shuttle service in each route network concept, there are a total of six options. The following table summarizes the vehicle and operating requirements for each alternative.

Exhibit 16 – Summary of Capital and Operating Requirements

	Peak Vehicle Requirements	Weekday Revenue Hours	Saturday Revenue Hours	Sunday Revenue Hours
Existing	24	334	127	22
Concept 1	27	409	210	100
Concept 1 with Park-and-Ride	30	427	210	100
Concept 2	27	409	225	100
Concept 2 with Park-and-Ride	30	427	225	100
Concept 3	26	380	210	110
Concept 3 with Park-and-Ride	29	398	210	110

Due to the improved service coverage and service frequency, Concept 1 and Concept 2 would require 27 buses or 30 buses (with Park-and-Ride shuttle service) during the peak periods on weekdays. Concept 3 would require 26 or 29 buses (with Park-and-Ride shuttle service) additional buses for the increased service frequency along major corridors as well as for the new service coverage in the west.

As shown in Exhibit 16, all three concepts require a significant increase in service hours during all service periods, particularly on weekends. Concept 2 has the highest operating cost and requires an additional 75 to 93 vehicle hours on weekdays, 98 hours on Saturdays and 78 hours on Sundays. Concept 2 has a similar operating requirement with Concept 1 with less vehicle hours on Saturdays while Concept 3 has the lowest operating cost and requires an additional 46 to 64 vehicle hours on weekdays, 83 hours on Saturdays and 88 hours on Sundays.

7.7 Travel Time Comparisons

The travel time for typical transit trips within the city are estimated and compared between selected major origins and destinations. Selected origins include Campus Corner, Park Ridge/Park Ridge East, Henderson Court, Highland Park and Cascades and selected major destinations including the IU campus, downtown, College Mall and the Whitehall shopping area.

The travel time was estimated based on the route structure and service schedules between each pair of the origin and destination points for the existing and each proposed service concept. Service frequency between each pair of origins and destinations was based on the proposed headway of each route.

With all service concepts, the travel time as well as the service frequency to all major destinations included in this analysis has been improved in most cases. As shown in Exhibit 17, Concept 1 has the shortest average travel time of 21 minutes, a reduction of approximately 13 percent compared to the existing system while Concept 3 provides the most frequent service between all pairs of origins and destinations.

Exhibit 17 – Travel Time and Service Frequency Comparisons

		Existing		Opt1		Opt2		Opt3	
		travel time (min)	headway (min)	travel time (min)	headway (min)	travel time (min)	headway (min)	travel time (min)	headway (min)
IU Campus	Campus Corner	22	9	22	9	22	9	22	10
	Park Ridge/Park Ridge East	12	20	12	20	12	15	12	15
	Henderson Court	15	18	10	30	10	30	13	15
	Highland Park	27	30	27	30	27	30	27	40
	Cascades	12	60	8	30	15	30	12	30
	Average	18	27	16	24	17	23	17	22
Downtown	Campus Corner	16	30	16	30	26	9	26	10
	Park Ridge/Park Ridge East	24	30	15	30	15	30	15	15
	Henderson Court	10	18	10	15	10	15	10	12
	Highland Park	22	30	22	30	22	30	22	40
	Cascades	23	60	12	30	8	30	8	40
	Average	19	34	15	27	16	23	16	23
College Mall	Campus Corner	3	7	3	7	3	8	3	10
	Park Ridge/Park Ridge East	11	60	8	20	20	15	20	15
	Henderson Court	35	18	28	30	20	30	20	30
	Highland Park	40	30	37	30	37	30	37	40
	Cascades	37	60	30	30	30	30	30	20
	Average	25	35	21	23	22	23	22	23
Whitehall	Campus Corner	37	30	35	20	35	20	35	12
	Park Ridge/Park Ridge East	42	30	32	60	35	30	35	20
	Henderson Court	30	30	30	30	30	30	30	20
	Highland Park	5	30	7	30	7	30	7	40
	Cascades	43	60	32	30	32	30	32	20
	Average	31	36	27	34	28	28	28	22
Average		23	33	20	27	21	24	21	23

8. Summary of Recommendations

This section provides summaries of recommendations on the service improvement plan, vehicle and infrastructure plan and other supporting elements as well as a financial and implementation plan that would ensure the success of the recommended service plan.

8.1 Preferred Service Improvement Plan

8.1.1 Fixed Route Service

The preliminary service alternatives were reviewed with the Steering Committee and the general public through a Community Charrette held in the County Library. The preferred service improvement plan is a hybrid version of three concepts developed based on the results of the alternative analysis and the comments received from the Steering Committee and the general public.

The recommended base network concept plan, as shown in Exhibit 18, includes significant service improvements to address the existing service gaps and meet the projected future transit demand. The plan recommends Bloomington Transit to provide enhanced service during all periods on weekdays, Saturdays and Sundays by 2018.

As shown in Exhibit 18, the proposed corridor service covers major transportation corridors in the city connecting to the downtown-IU core. The corridor service would be operated at the headways outlined below:

- Weekday peak periods: 20 minutes or less

- Weekday off-peak periods and Saturdays: 30 minutes or less

- Sundays: 60 minutes or less

The local service covers most area of the city connecting the outlying communities to the downtown-IU core or the corridor service. The local service would be operated at the headways outlined below:
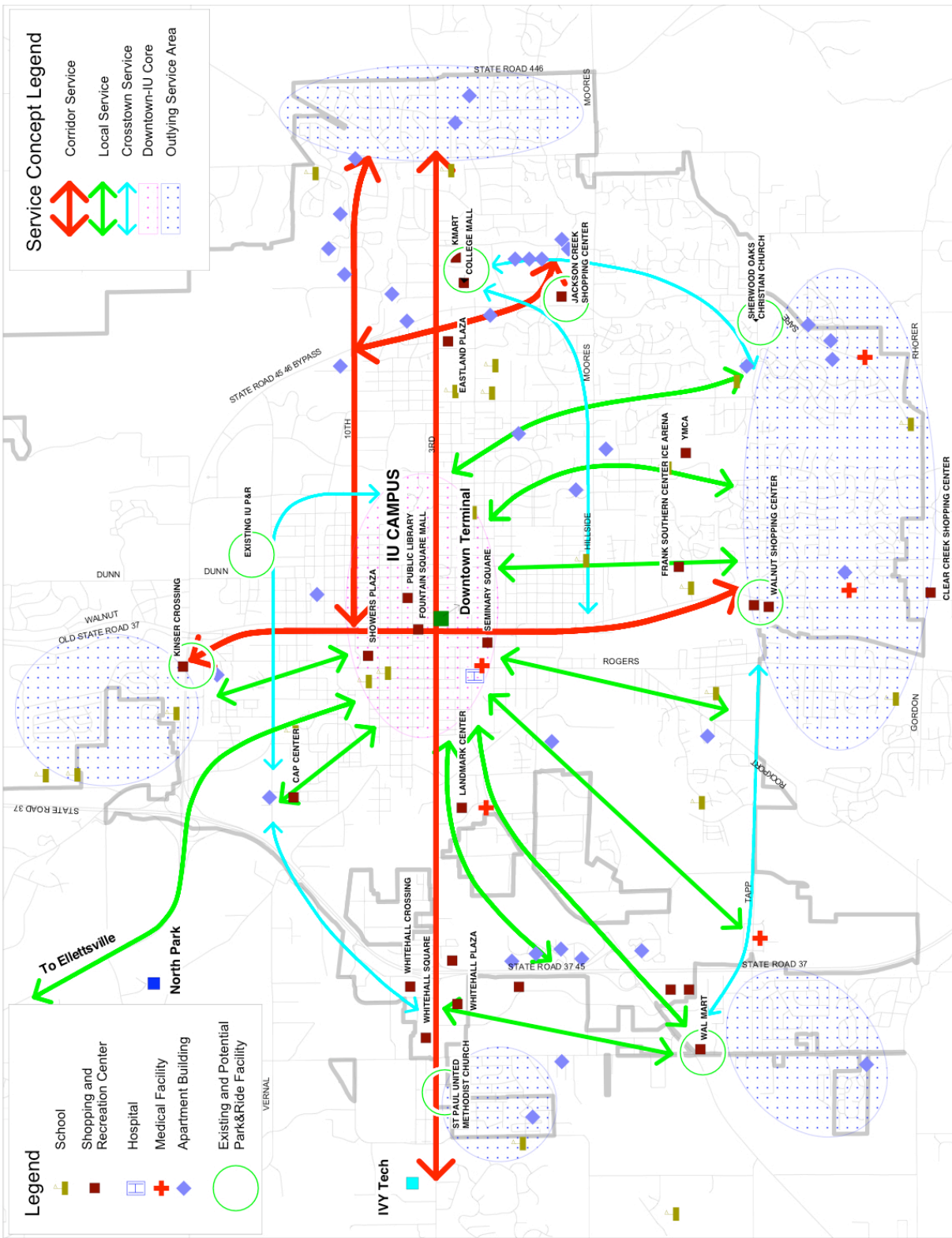
- Weekday peak periods: 30 minutes

- Weekday midday: 30 minutes

- Weekday evenings and Saturdays: 60 minutes

- Sundays: 60 minutes

The crosstown service would provide direct connections to transit destinations outside of the downtown core with a purpose of minimizing transfer requirements and reducing the overall travel time. These routes would be operated at a headway of 60 minutes or less during all service periods including Saturday and Sunday. Service in outlying communities could be provided through extensions of corridor/local or crosstown services or a local community feeder route and would be operated at a maximum headway of 60 minutes.

The proposed service improvements will ensure that public transit is a competent transportation alternative to residents in Bloomington. The plan requires a significant increase in both vehicle requirements and service hours in the next five to 10 years. ENTRA recommends that Bloomington Transit implement the framework of service changes over the next five to 10 years as development occurs within the city and as resources become available.

It should be noted that some roadways in the city that could be potentially served by transit vehicles are lacking sidewalks and pedestrian crosswalks. This is often not conducive to transit riders who board and alight buses along these roads and cross these roads to access destinations. Without dramatic changes to this as-built environment, the proposed service improvements will not be practical in many areas of the city and the residents living in these neighbourhoods would not benefit from the proposed service changes.

Exhibit 18 – Preferred Service Improvement Plan

Legend

- School
- Shopping and Recreation Center
- Hospital
- Medical Facility
- Apartment Building
- Existing and Potential Park&Ride Facility

■ North Park

Service Concept Legend

- Corridor Service
- Local Service
- Crosstown Service
- Downtown-IU Core
- Outlying Service Area

Park-and-Ride Shuttle Service

With the recommended route structure and increased service frequencies, especially on main corridors including 3rd/Atwater and Walnut/College, most Park-and-Ride locations will be well served by Bloomington Transit routes directly connecting to downtown and the campus.

Though the Park-and-Ride express shuttle service is not shown on the preferred option, we would recommend a pilot Park-and-Ride express route from one of the Park-and-Ride locations operating at a 15-minute headway during the peak periods. Kinser Crossing at Kinser Pike and By-pass would be a good candidate since it would attract commuters from Ellettsville and Forest Park Heights. Through the pilot Park-and-Ride express route, the service will be examined to see if it is more attractive to choice riders or if the regular routes could fulfill this gap efficiently.

Downtown Shuttle Service

Opportunities for a downtown shuttle service were discussed during the public consultation and further examined by the project team. ENTRA understands that the City may provide funding for purchasing a vehicle, but without new funding sources its operation would cause additional operating deficit to Bloomington Transit. Considering the current funding constraint experienced by Bloomington Transit as well as the potential that the service would contribute to the system, the downtown shuttle service is identified as a low priority compared to other service improvements and is not included in our preferred service improvement plan. Potential funding opportunities for its operation should be further discussed with other agencies and organizations such as the downtown businesses.

8.1.2 BT Access Service

Under the requirements of the American with Disabilities Act (ADA: 1990), Bloomington Transit is required to provide accessible service parallel to its fixed route service, within three-quarters of a mile of fixed route services. BT Access is not limited to this restriction, offering service between any points within the municipal boundary. This is a common practice of paratransit systems in similar communities across the country, and provides an invaluable service to residents.

A review of the BT Access service and survey results reveals common concerns among registrants and riders and typical challenges for the service provider. As with most paratransit service providers, BT Access is constantly challenged with improving efficiency and performance.

Bloomington Transit should continue to improve and promote the accessibility of its fixed route system to divert as many trips as possible to the fixed route service. This has the advantage of:

• providing customers with more flexible, spontaneous travel opportunities

• reducing the cost of transportation for these customers

• making resources available to provide BT Access trips to additional customers

Blooming Transit has initiated programs to increase the use of the fixed-route service. These programs include travel training, trip planning integration between the fixed-route system and BT Access and free travel on Bloomington Transit for registered BT Access riders. In addition to these programs, the following initiatives should be considered to further improve use of the fixed-route system:

- Continuing to work with City of Bloomington staff to improve accessibility of stops and neighborhood access – additional sidewalk connections, accessible pathways etc.

- Expanded use of communication technology, such as automatic vehicle location (AVL) with on-board mobile data terminals (MDT) that can enhance responsiveness of the system, increase efficiency and improve on-time performance. Systems such as interactive voice response (IVR) can be used to improve customer communication, provide automatic trip confirm/cancel capability and even automated telephone booking for customers. While not all customers are able or willing to use these services, they can provide another option for customer convenience. IVR systems can also provide automated reminder calls to customers, which can reduce customer no-shows – in Reno NV, for example, a recent installation for $80,000 immediately reduced no-shows by almost 25 percent, with an estimated payback of less than two years.

8.1.3 Service Coordination with IU Campus Bus

Service coordination with IU Campus transit services arose as an issue during the timeframe of this study, though it was not identified as an issue in the mandate of this long-term strategic review. Various stakeholders have identified the potential opportunity to increase ridership-based State funding if Campus transit ridership were to be included as part of the municipal transit ridership calculations.

It was beyond the scope of this review to fully examine the implications of some sort of amalgamation of the two services on State funding, but it is clear that this would not be simply a matter of amalgamating the systems and submitting combined ridership numbers with the expectation of corresponding increases in State support. It is worthwhile however, to further explore this issue over time, and ensure that the two systems take advantage of the best funding opportunities available to them.

From a service perspective, it was also not in the scope of this review to examine the effectiveness and efficiency of the Campus system, nor to develop a long-term strategy for those services. However, an overview of the relationship between the two services was completed, with the following observations.

- IU Campus transit serves primarily on-campus travel, including transfers from remote parking locations, with little overlap with BT routes.

- Exceptions to this are overlaps with Route 1 on Fee Lane, and with several routes serving the 10th Street and 3rd Street corridors. These services however, serve considerably different markets and converge in these key corridors, thus not actually representing duplication of services.

- IU Campus transit services do not connect to the BT downtown terminal, but only one downtown-based route (Route 2) does not serve some portion of the campus.

- Many BT services serve the 3rd Street corridor including Routes 3, 4, 5 and 7, and only three routes (Routes 1, 6 and 9) penetrate the campus. These three routes serve major campus and city destinations.

- BT Route 9 and Route 6 do not connect to the downtown terminal, leaving Route 1 as the only route to connect from the downtown terminal to the central campus area.

It is ENTRA's opinion that an amalgamation of transit services would not lead to significant rationalization of services between the two systems. Some students may benefit from improved connections between the downtown terminal and the central campus area. While this would be a convenience to users, it is not clear if it would lead to increased ridership.

With respect to operations, the two systems already share facilities and resources in the Grimes Lane operations center. Many of the human resources at the center are based on levels of service (mechanics, service staff and such) and therefore would not be reduced in an administrative amalgamation. Similarly, effective use is made of the physical plant at the center.

8.2 Vehicle and Infrastructure Plan

8.2.1 Vehicle Replacement and Expansion

We recommend that Bloomington Transit should continue replacing the older vehicles as they reach their lifespan to maintain the fleet in a reasonable service condition with sufficient spare vehicles to ensure a reliable system. According to the preferred service improvement plan, nine additional vehicles will be required in the five to 10 year timeframe compared to the existing fleet.

As a means of reducing fuel use and improving transit environmental performance and image, hybrid buses should be considered for new purchases. The current premium for hybrid technology is approximately $150,000 to $200,000 per vehicle, and may not be recovered in fuel savings alone over the life of the vehicle, depending on the future of diesel prices. However, many transit systems in the country are adopting the technology for its environmental benefits, and future hybrid technology prices are also likely to decline in real terms as the technology becomes more prevalent.

Articulated buses may be used to provide additional capacity on high intensity routes such as Route 9 and Route 6. However, the current service frequency may not be warranted given the additional capacity articulated buses would provide on these routes. In addition, articulated buses would require an alternative design of the proposed downtown terminal and current storage and maintenance facility. ENTRA recommends that Bloomington Transit should consider using articulated buses if the ridership on a bus route warrants a service frequency of less than 10 minutes.

The 10th Street railroad underpass is an obstacle that prevents the use of hybrid or articulated buses in this major transit corridor. With the proposed expansion of the hybrid

bus fleet as well as the potential use of articulated buses, it becomes critical that the 10th Street underpass needs to be improved to accommodate the higher clearance necessary for both hybrid and articulated vehicles. However, since the university is considering an extension of Law Lane, this could potentially provide an alternative for 10th Street transit routes to bypass the underpass without significant investment on the structure improvement.

Exhibit 19 shows the vehicle purchase plan in the next five to 10 years.

Exhibit 19 – Vehicle Replacement and Expansion Plan

Model Year	2007	2013*	2014	2015	2016	2017	2018
1989	2						
1990	2						
1995	4						
1997	8						
1998	1						
2001	1						
2002	4	3					
2003	7	7	7	3			
2005	5	5	5	5	5		
2006	3	2	2	2	2	2	
2007	5	4	4	4	4	4	4
2008	3	3	3	3	3	3	3
2009		9	9	9	9	9	9
2010		5	5	5	5	5	5
2011		3	3	3	3	3	3
2012		2	2	2	2	2	2
2013		3	3	3	3	3	3
2014			5	5	5	5	5
2015				5	5	5	5
2016					4	4	4
2017						5	5
2018							2
Total	45	46	48	49	50	50	50

Note: * 2013 plan is based on Fixed Route Operational Analysis Study (2007) with adjustments based on the existing fleet information.

8.2.2 Transit Facilities

Bloomington Transit currently has a maintenance bay to bus ratio of 1:11, but if Bloomington were able to acquire one more bay by changing sides of the maintenance facility with the University bus service, the ratio would be reduced to 1:9 which provides a better bay to bus ratio for vehicle maintenance. The University, with approximately 30 buses and four maintenance bays would still have an acceptable bay to bus ratio of 1:8.

It is our understanding that Bloomington Transit is currently in discussions with the University to provide full servicing to the University transit fleet. This would provide nine

bays to service the combined University and Bloomington fleets (approximately 75 vehicles) and a bay to bus ratio of 1:8. Based on the service improvement plan, the Bloomington Transit fleet is to be expanded by another nine vehicles in the next 10 years which will reduce the ratio to 1:9 which is still in the acceptable range for bus maintenance.

Bus storage, as previously noted, is currently beyond capacity and there is no opportunity to practically extend the existing storage sheds either north or south. However if the land immediately north of East Davis Street and east of the existing property line could be secured, an additional drive through storage shed could be constructed with minimal effect on existing servicing functions and impact on internal bus circulation. This will also meet the increasing on-site parking demand for both University and Blooming Transit employees. The estimated cost for additional bus storage sheds and on-site parking area would be approximately $550,000 plus the land acquisition cost.

The office space for operations and administration is currently near capacity. With possible in-house operations of the BT Access service along with the anticipated growth of administration office space requirement, additional office space will be required at the current site. The existing administration building could be expanded to the parking lot south of the building to meet the future office space requirement. As discussed previously, staff parking could be accommodated with the bus storage expansion.

8.2.3 Downtown Terminal

The downtown Passenger Transfer Facility Location Analysis (2006) confirmed the need for a downtown passenger transfer facility to meet both current and future mobility needs. Bloomington Transit has recently purchased the property located at the southeast corner of South Walnut and 3rd Street for the development of such a facility in 2009. The proposed service improvement plan was based on the assumption that the passenger transfer facility will be in place before the implementation of the proposed service plan.

8.2.4 Park-and-Ride Facilities

As discussed previously, to facilitate transit use by residents living in the outlying communities as well as to attract choice riders, potential Park-and-Ride locations need to be considered in the future. Potential Park-and-Ride locations are shown in the preferred service improvement plan and most of these locations will be well covered by the regular fixed routes.

It is recommended that Bloomington Transit should discuss the opportunities with the shopping centers and churches who own the land to designate certain parking spaces for transit riders. As an initial stage of developing the Park-and-Ride facilities, a pilot site should be considered to include passenger loading area, passenger pick-up and drop-off area and on-site passenger amenities such as bus shelters. Once the Park-and-Ride express shuttle service is deemed more attractive to commuters. More facilities should be developed at other sites to encourage transit use in the outlying communities, especially the choice riders.

8.2.5 Transit Stops and Shelters

The need for increased transit shelters was highlighted in the consultation sessions and the online survey. ENTRA recommends that Bloomington Transit review shelter options with a view to increasing the overall number of shelters throughout the city, including key route stops. The estimated cost for additional bus stops and shelters would be approximately $250,000 per year.

8.3 Other Supporting Elements

8.3.1 Transit Priority Opportunities

Key corridor services could be enhanced in Bloomington with the provision of transit priority measures, such as transit signal priority, dedicated lanes, and lane segments, or queue-jump lanes.

These features have the effect of speeding up buses, making travel times shorter and more attractive to the passenger, and making service more reliable – a benefit both to passengers and transit operations.

During the course of the consultation for this study, the issue was raised of closing roads for exclusive transit use, with offsetting conversion of one-way streets to two-way status. Examples included suggestions to close 10th Street to auto traffic in the campus area and dedicate the facility exclusively to transit with possible offsetting improvements to 7th Street, or closing 3rd Street to auto traffic (from Jordan Road to Indiana Avenue) and making Atwater Street open to two-way traffic.

These types of changes would have an extensive impact on traffic patterns in the campus area, and would require detailed analysis that is well beyond the mandate of this study. However, while these types of measures would represent significant support for transit services in the community, and would benefit transit services and ridership overall, it is unlikely that the changes would be acceptable to the community at large without a large scale assessment of the complete traffic network in the city.

There are no readily available examples of similar intervention in the road networks for university communities of this size and scope. As an alternative, ENTRA recommends more detailed analysis to assess the opportunities for transit priority measures in key corridors.

Proposed Corridors

Principal candidates for these features include:

- 10th Street from Woodlawn to the By-pass, and further to Smith Road

- 3rd Street from downtown to High Street and further to Smith Road

- 3rd Street from downtown to Curry Pike

- Walnut Street, from downtown to Grimes Lane

- College Avenue, from downtown to Walnut Street

- Walnut Street, from downtown to 17th Street

- College Avenue, from downtown to 17th Street

In many of these areas, 10th Street on the IU campus for example, available right-of-way precludes any feature requiring road widening. In all of these areas however, signal priority can still be a benefit. Simple technology providing a consistent active priority call (not linked to schedule) and activated by upstream loop detectors (or an AVL geo-fence) could be used to extend greens or truncate side-street reds. Given the service frequencies in these corridors, the impact on progression or side street delay should be minimal, but specific timings would need to be set on an intersection-by-intersection basis, with consideration for pedestrian crossing times.

As an example, Exhibit 20 shows the suggested corridors and segments and number of signals in each. The section of 10th Street west of the by-pass includes six signals, and carries up to 15 buses per hour in each direction. If each bus were to save 10 seconds at each signal, cycle times in this segment could be reduced by up to two minutes. While this is not sufficient to alter the schedule, it can make a significant contribution to schedule reliability. Furthermore, with a reduction of 30 vehicle minutes per hour, if each vehicle carries 30 passengers on average of the length of the corridor, the aggregate passenger timesavings is more than 15 hours per peak hour.

Even without dedicated rights-of-way for buses, transit signal priority can still be very effective when properly configured to eliminate traffic queues in front of buses, allowing quick access to a near side bus stop, or through the intersection to a far-side stop.

Exhibit 20 shows the potential road segments along with a suggested priority for implementation, based on the level of transit service, the urban conditions and a qualitative assessment of traffic conditions.

Transit signal priority installations with simple loop detection could cost from $15,000 to $35,000 per intersection, depending on the existing controller equipment.

Exhibit 20 – Potential Transit Priority Corridors

Road Segment	From	To	Signals	Cost	Priority
10th Street	Woodlawn	Bypass	6	$90-200k	High
10th Street	Bypass	Smith	1	$15-35k	Low
3rd Street	Walnut	Bypass	9	$135-300k	High
3rd Street	Bypass	Smith	4	$60-120k	Med
3rd Street/ 5th Street	Walnut	Adams	5	$75-160k	Med
3rd Street	Adams	SR 37	5	$75-160k	Med
3rd Street	SR 37	Daniels	4	$60-120k	Low
Walnut	3rd Street	Grimes	4	$60-120k	Med
College	3rd Street	Walnut/ Grimes	4	$60-120k	Med
Walnut	3rd Street	17th Street	6	$90-200k	High
College	3rd Street	17th Street	7	$100-245k	High

Right-Turn Queue-Jump Lanes

Even in areas of restricted right-of-way, bus stops in right-turn lanes can be used in conjunction with transit signal priority to create a queue-jump lane. When entering the right-turn lane/bus bay, the vehicle triggers a truncated green signal, and boards and alights passengers on the red signal. When ready to proceed, the bus advances to the stop bar, and at the beginning of the green phase, is given a two or three second advance (with a transit only signal) to enter into the intersection ahead of the queue of traffic waiting in the through lane. Even without the truncate feature, a simpler system of detection and advance transit signal can still provide an advantage to random buses encountering the red light when ready to depart the stop. This feature can be installed for a fraction of the cost of full signal priority.

Dedicated Transit Lanes

Dedicated transit lanes will likely have little potential in Bloomington, since their best potential for application is in areas where right-of-way restrictions are severe. In areas where right-of-way clearance exists, operating conditions are typically such that a dedicated lane would provide little advantage, and would not warrant the cost.

Another option for dedicated transit facilities is to eliminate auto traffic from sections of transit routes, and focus those cars on other routes. An example would be to close sections of 10th Street to auto traffic, forcing autos to alternate routes such as 7th Street.

Another option is to convert one-way pairs of streets to alternating bus-roadways and two-way traffic. Local access is provided by permitting "one-block" auto travel on the bus-only street, allowing cars to access from the adjacent side street.

Technically, there is little preventing this type of arrangement on a variety of streets. However, considerable detailed analysis of traffic flows, pedestrian impacts and access implications would need to be completed, along with extensive public consultation to identify appropriate roadways and locations.

8.3.2 Information Technology

As noted in the section addressing opportunities for BT Access, similar opportunities exist for Bloomington Transit's fixed route service. BT has already begun working with Google® to provide trip planning capabilities through Google Transit and this type of trip planner can enhance customer convenience and information on the system, and should continue to be developed.

IVR systems can also be used in fixed route transit to provide scheduled and real time information to customers over the phone. Bloomington Transit already has automatic vehicle location capabilities for the fixed route system, currently used by the dispatchers. Information from this system can also be made available to the public in a variety of ways, through next-bus announcements at stops, next-stop announcements on-board buses, and public access to information through websites, kiosks or personal communication devises such as cellular phones.

Bloomington Transit should continue to incrementally explore opportunities to expand information technology applications throughout the system. A nominal budget allocation has been included in the financial plan for this purpose, without consideration of any specific project.

8.3.3 Regional Transit Authority Potential

The issue of regional services also arose during the course of this study, primarily in the form of questions from riders and residents – why does BT not go to Ivy Tech? This question, repeated with a variety of destinations in the Monroe County, reveals considerable public frustration with the boundary issue related to Bloomington Transit services.

Bloomington Transit was precluded from operating outside of its municipal boundaries prior to July 2009 when the state law has changed to allow public transit corporation to serve all areas within their county boundaries. Given nature of the municipal boundary, particularly on the west side where there are several discontinuous areas of County jurisdiction within the city, there is often confusion and frustration over BT's inability to service major destinations such as Ivy Tech, or WalMart.

With changes of the State law changed, the only remaining legislative issue is to get City Council approval to expand the service area. However, additional funding resources are required by Bloomington to provide both fixed route and BT Access services to cover these major destinations and areas beyond the municipal boundaries.

Rural Transit, operated by the Area 10 Agency on Aging, provides a variety of services for the general public throughout Monroe County, (plus Lawrence and Owen counties) including a connection to Bloomington Transit services at the downtown terminal (extra

fare required). This provides the ability to make connections to Ivy Tech from most areas of the city, but connections are more expensive and often less than convenient.

As more funding for transit operations becomes available, one possible alternative would be to establish a 'buffer' area around the city within which Bloomington Transit could provide service. This could eliminate the discontinuous service areas and allow major service connections that would service Bloomington residents.

Other solutions, such as a regional authority or coordinating body, would be more difficult to accomplish and will require concerted effort, which may not be worth the additional service convenience that it would offer residents over and above a buffer area.

8.4 Financial Plan

Exhibit 21 shows the projected five-to 10-year financial summary for the preferred service plan and implementation. Financial figures for 2013 were based on the Fixed Route Operational Analysis Study (2007). Ridership was estimated based on the existing trend and the proposed future service improvements. As shown in Exhibit 21, ridership increases were calculated to allow for a lag in rider response to service increases, so key performance indicators decline slightly in the initial years.

An average inflation rate of three percent was assumed to calculate the passenger revenue and operating cost with consideration of the anticipated fuel saving due to the use of the hybrid vehicles.

Exhibit 21 – Financial Plan

	2008	2013 (1)	2014	2015	2016	2017	2018
Operating Cost and Revenue							
Operating Cost							
Total Vehicle-hours	88,000	102,000	108,000	114,000	120,000	126,000	129,000
Cost/hr (2)	$58	$71	$72	$74	$76	$78	$80
Operating Costs	$5,135,429	$7,220,000	$7,827,000	$8,475,000	$9,143,000	$9,837,000	$10,321,000
Ridership and Revenue							
Annual Ridership	2,829,950	3,353,000	3,512,000	3,742,000	4,005,000	4,220,000	4,376,000
Average Fare (3)	$0.54	$0.62	$0.64	$0.66	$0.68	$0.70	$0.72
Passenger Fare Revenue	$1,514,682	$2,080,474	$2,245,000	$2,463,000	$2,715,000	$2,947,000	$3,148,000
Performance Indicators							
Passengers per Hour	32.2	32.9	32.5	32.8	33.4	33.5	33.9
Cost Recovery	29%	29%	29%	29%	30%	30%	31%
Net Operating Cost	$3,620,747	$5,139,526	$5,582,000	$6,012,000	$6,428,000	$6,890,000	$7,173,000
Federal Share - 25% (5)			$1,396,000	$1,503,000	$1,607,000	$1,723,000	$1,793,000
State Share - 45% (5)			$1,675,000	$1,804,000	$1,928,000	$2,067,000	$2,152,000
Local Share - 30% (5)			$2,512,000	$2,705,000	$2,893,000	$3,101,000	$3,228,000
Capital Cost							
Vehicles							
Expansion Vehicles			2	1	1		
Expansion Vehicle Cost (4)			$1,100,000	$550,000	$550,000		
Replacement Vehicles			3	4	3	5	2
Replacement Vehicle Cost (4)			$1,650,000	$2,200,000	$1,650,000	$2,750,000	$1,100,000
Other Capital Costs							
ITS			$100,000	$100,000	$100,000	$100,000	$100,000
Transit Priority Measures			$100,000	$100,000	$100,000	$100,000	$100,000
Park and Ride Facilities (6)			$50,000	$25,000	$25,000	$25,000	$50,000
Bus Stops/Shelters			$25,000	$25,000	$25,000	$25,000	$25,000
Bus Storage Expansion (7)			$300,000	$250,000			
Total Capital Costs			$3,325,000	$3,250,000	$2,450,000	$3,000,000	$1,375,000
Federal Share - 80% (5)			$2,660,000	$2,600,000	$1,960,000	$2,400,000	$1,100,000
Local Share - 20% (5)			$665,000	$650,000	$490,000	$600,000	$275,000

Notes:
(1) 2013 estimates are based on the Fixed Route Operational Analysis Study (2007) with an adjusted average fare to include a 3% annual inflation rate
(2) Operating cost estimated based a assumed 3% annual inflation rate with consideration of fuel savings due to use of hybrid vehicles
(3) Budget price for hybrid vehicle estmated at $550,000
(4) Average fare includes an assumed inflation rate of 3%
(5) The assumptions of operating and capital cost contributions by each level of government are based on Fixed Route Operational Analysis Study (2007)
(6) cost includes passenger pick-up/drop-off, bus stops/shelters, signs and pavement marking
(7) excluding land acquisition cost

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Appendices

A. Survey Samples

B. Summary of Online BT User Survey Results

C. Summary of Online Non-user Survey Results

Excellence in
Transportation Planning

Appendix A

Survey Samples

1. How old are you?
Under 18 ○   18 – 24 ○   25 – 44 ○   45 – 59 ○   60 – 75 ○   75+ ○

2. Are you: Male ○   Female ○

3. Do you consider yourself:
White ○   African American/Black ○   Hispanic ○   Asian ○
Native American Indian ○   Other _____

4. What is your occupation?
Retail ○   Manufacturing ○   Service ○   Construction ○   Education/Health ○
Professional ○   Clerical ○   Homemaker ○   Student ○   Retired ○
Unemployed ○   Other _____

5. What is the range of your total household income?
Less than 10,000 ○   10,000 – 25,000 ○   25,000 – 40,000 ○   40,000 – 55,000 ○
55,000 – 70,000 ○   70,000 – 85,000 ○   85,000 or higher ○

6. How long have you been using Bloomington Transit?
Less than 1 Year ○   1-2 Years ○   3-5 Years ○   More than 5 Years ○

7. How many days a week do you use Bloomington Transit?
Less than 1 ○   1 ○   2 ○   3 ○   4 ○   5 + ○

8. What is your reason for using Bloomington Transit?
I don't have a car ○   I'm not able to drive ○   Parking is a problem ○
Bus is more convenient ○   Bus is cheaper ○   Other _____

9. Where did you start this trip?
Home ○   Indiana University ○   Other Schools ○   Other Workplaces ○
Shopping ○   Medical Place ○   Other _____
9a. Where is this located (nearest intersection/landmark)?
_____

10. How did you get to your initial bus stop?
Walk ○   Bike ○   Drive ○   Drop-off ○   Other _____
10a. How long did it take to get to your initial bus stop? _____ Minutes

11. What time did you board your initial bus? _____ AM ○   PM ○

12. Did you transfer to this bus from another route?   Yes ○   No ○
If yes, specify route number _____

13. Where is your final destination?
Home ○   Indiana University ○   Other Schools ○   Other Workplaces ○
Shopping ○   Medical Place ○   Other _____

14. Will you transfer to another route from this bus?   Yes ○   No ○
If yes, specify route number _____

15. How many buses do you use for this trip?   1 ○   2 ○   3+ ○

16. How will you get to your final destination after getting off the bus?
Walk ○   Bike ○   Drive ○   Drop-off ○   Other _____
16a. How long will this take you? _____ Minutes

17. Please estimate how long this entire bus trip will take you from the starting point to your final destination _____ Minutes

18. Which of the following describes your experience accessing or exiting Bloomington Transit on foot (sidewalk, bus stop, etc.)?
Terrible ○   Poor ○   Acceptable ○   Good ○   Excellent ○

19. What is the maximum distance you are willing to walk to get to a bus stop?
_____ Feet

20. Have you ever ridden a bike to access Bloomington Transit?   Yes ○   No ○
20a. If yes, how often?
Rarely ○   Sometimes ○   Frequently ○   Always ○

21. Why don't you use a bike more often to access BT (check all that apply)?
I can't or don't like to ride a bike   ○
The routes to the bus stop are unsafe/uncomfortable   ○
There is not a good place to store my bike at the bus stop   ○
Lack of complementary facilities at destination (showers, lockers, etc.)   ○
Other options are more appealing (walk, drive, pick-up/drop-off)   ○

There are more questions on the back, please turn the survey over and complete them. Thank you.

Bloomington Transit On-Board Rider Survey

Bloomington Transit is conducting this survey as part of a program to identify new and revised services to better serve our customers. Please take a few minutes to answer this brief questionnaire to help plan the future of Bloomington Transit.

If you haven't answered this survey on another trip, please complete your questionnaire during your trip and return it to the on-board surveyor or drop-boxed at terminal and transfer points.

Thank you.

22. Can you rate your level of satisfaction with Bloomington Transit service? Please use the following scale: 5 – Very Satisfied, 4 – Satisfied, 3 – Neither Satisfied nor Dissatisfied, 2 – Dissatisfied, 1 – Very Dissatisfied

	5	4	3	2	1
Friendly drivers					
Safety					
Availability of seats					
Access to the route information					
Clean buses					
Convenience of routes					
Travel time on bus					
Service frequency					
Hours of service					
Walking distance to bus stops					
Reliable schedules					
Ease of transfer					
Cost of fare					
Overall service of Bloomington Transit					

23. Please identify the top three ways to improve Bloomington Transit?

○ Faster and more direct service to and from downtown

○ Faster and more direct service to and from the Indiana University Campus

○ More service earlier in the day or later in the evening

○ More service on weekends

○ Bus stops closer to home or where you need to go

○ More frequent service during A.M. and P.M. peak hours

○ More frequent service during the Off peak

○ Fewer transfers

○ Availability of rapid transit, or limited stop service

○ Provide a downtown shuttle or trolley bus service

○ Improve pedestrian and bike access to bus stops (sidewalk, sidepath, multi-use trail and bike lane)

○ Provide more park-n-ride and carpool opportunities

○ Improve shelters and other amenities (benches and route information)

○ Safe and secure bus stops and buses

○ Provide more bike racks on buses and bike lockers at bus stops

○ Cleaner buses

○ Lower bus fare

Please return this survey to the surveyor or drop-boxed at terminal and transfer points. Thank you!

BT Access Rider Survey

BT *Bloomington Transit*

Bloomington Transit is conducting this survey as part of a Transit Program Update study to better serve our customers. Please take a few minutes to answer this brief questionnaire to help plan the future of Bloomington Transit services.

1. How old are you?
   Under 18 ○   18 – 24 ○   25 – 44 ○   45 – 59 ○   60 – 75 ○   75 + ○

2. Are you: Male ○   Female ○

3. Do you consider yourself:
   White ○   African American/Black ○   Hispanic ○   Asian ○
   Native American Indian ○   Other_____

4. What is your occupation?
   Retail ○   Manufacturing ○   Service ○   Construction ○   Education/Health ○
   Professional ○   Clerical ○   Homemaker ○   Student ○   Retired ○
   Unemployed ○   Other_____

5. What is the range of your total household income?
   Less than 10,000 ○   10,000 – 25,000 ○   25,000 – 40,000 ○   40,000 – 55,000 ○
   55,000 – 70,000 ○   70,000 – 85,000 ○   85,000 or higher ○

6. Who normally book your trips?   Yourself ○   Relative or caseworker ○

7. Do you have Internet access?   Yes ○   No ○

8. If online trip booking was available, would you use it?   Yes ○   No ○

9. How often do you use BT Access service?
   Four to five times per week   ○   Two to three times per week   ○
   One time per week   ○   Less than three times per month   ○

10. What proportion of all your trips outside your home are made by using BT Access service?
    Almost all of them ○   Three quarters ○   Half of my trips ○   One quarter or less ○

11. How long does your average trip on BT Access service take?
    Under 15 minutes ○   15 to 30 minutes ○   30 to 45 minutes ○
    45 to 60 minutes ○   60 to 90 minutes ○   Over 90 minutes ○

12. Overall, how satisfied are you with BT Access service?
    Very satisfied   ○   Satisfied   ○   Neither satisfied nor dissatisfied ○
    Dissatisfied   ○   Very dissatisfied   ○

13. Have you ever used BT's regular bus (fixed route service)?   Yes ○   No ○

Please turn the survey over and complete the questions on the back.

14. What is the main reason for using BT Access service instead of the fixed route bus service?

Need assistance getting to and from the vehicle and my destination	❍
Can't get to and from regular bus stops (physical barriers)	❍
Distance to bus stops is too far for me	❍
Fixed route doesn't go where I need it to go	❍
Don't want to wait in the heat or cold outside for the regular bus	❍
Hours are not compatible to my needs	❍
Concerned for safety on buses or at bus stops	❍
I don't know how to use the fixed route	❍

15. If travel training were offered to assist you with using regular fixed route services, would you take advantage of this opportunity?   Yes ❍   No ❍

16. Using a 1 to 5 scale, where 1 means you strongly disagree and 5 means you strongly agree, please rate the following statements about the paratransit service.

Statements about the paratransit service	Scale
I can usually get through on the phone to schedule a reservation	
Reservation personnel are normally courteous and helpful	
I am usually able to schedule trips when I need them	
Scheduling trips on Internet would be helpful for me	
Drivers are normally polite and helpful	
Drivers normally drive safely	
The vehicles usually arrive to pick me up at the scheduled pick-up time	
I usually get to my appointment at the scheduled drop-off time	
I don't mind being ready to go 10 minutes before my scheduled pick-up time	
The length of time I have to ride the bus while picking up and dropping others off on the way to my destination is typically satisfactory	

17. What changes should BT Access service make that would help meet your travel needs?

No improvements	❍	Be on time	❍
Have more buses available	❍	Improve drivers attitudes	❍
Improve quality of buses	❍	Use same drivers for the same routes	❍
Training drivers to look for you	❍	Drop off at my preference area of building	❍
Have night run/emergency run	❍	Driver should offer assistance to get on/off the bus	❍
More organized dispatchers	❍		

Other: _____

_____

Thank you very much for your time and participation in this survey.

Please seal this survey in the enclosed envelope and return it to the driver when you make your next trip with BT Access or return it by toll free fax (1-888-959-3400). Thank you.

Appendix B

Summary of Online BT User Survey Results

Bloomington Transit

1. How old are you?

		Response Percent	Response Count
Under 18		1.1%	1
18-24		40.2%	35
25-44		**44.8%**	39
45-59		12.6%	11
60-75		1.1%	1
75 or more		0.0%	0
		answered question	**87**
		skipped question	**0**

2. Are you:

		Response Percent	Response Count
Male		48.8%	42
Female		**51.2%**	44
		answered question	**86**
		skipped question	**1**

3. Do you consider yourself:

	Response Percent	Response Count
White	**81.0%**	68
African American/Black	6.0%	5
Hispanic	2.4%	2
Asian	9.5%	8
Native American Indian	0.0%	0
Other	1.2%	1
Other (please specify)		2
answered question		**84**
skipped question		**3**

4. What is your ocupation?

	Response Percent	Response Count
Retail	1.2%	1
Manufacturing	0.0%	0
Service	3.5%	3
Construction	0.0%	0
Education/Health	8.2%	7
Professional	17.6%	15
Clerical	4.7%	4
Homemaker	2.4%	2
Student	**57.6%**	49
Retired	0.0%	0
Unemployed	1.2%	1
Other	3.5%	3
Other (please specify)		8

	answered question	85
	skipped question	2

5. What is the range of your total household income?

		Response Percent	Response Count
Less than 10,000		20.0%	17
10,000-25,000		**34.1%**	29
25,000-40,000		18.8%	16
40,000-55,000		4.7%	4
55,000-70,000		9.4%	8
70,000-85,000		5.9%	5
85,000 or higher		7.1%	6
	answered question		85
	skipped question		2
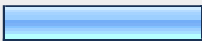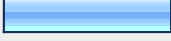
6. What is the nearest major intersection or cross-street to your home?

	Response Count
	85
answered question	85
skipped question	2
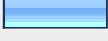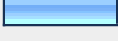
7. What is your most frequent trip destination?

		Response Percent	Response Count
Indiana University		**70.1%**	61
Other Schools		0.0%	0
Other Workplaces		11.5%	10
Shopping		10.3%	9
Medical Place		1.1%	1
Other		6.9%	6
Other (please specify)			10
	answered question		87
	skipped question		0

8. Where is this trip destination located (nearest intersection/landmark)?

	Response Count
	78
answered question	78
skipped question	9

9. What is your usual form of transportation?

		Response Percent	Response Count
Drive a car without passenger		17.6%	15
Drive a car with one passenger		5.9%	5
Drive a car with two or more passengers		3.5%	3
I am a passenger in a car		2.4%	2
Take transit		**57.6%**	49
Bike		3.5%	3
Walk		5.9%	5
Taxi		0.0%	0
Other		3.5%	3
Other (please specify)			5
		answered question	**85**
		skipped question	**2**

10. Have you used the Bloomington Transit system in the last three months for at least three trips?

		Response Percent	Response Count
Yes		**100.0%**	87
No		0.0%	0
		answered question	**87**
		skipped question	**0**

11. How long have you been using the Bloomington Transit system?

		Response Percent	Response Count
Less than 1 year		21.7%	18
1-2 years		**36.1%**	30
3-5 years		24.1%	20
More than 5 years		18.1%	15
	answered question		83
	skipped question		4

12. How many days a week do you use Bloomington Transit?

		Response Percent	Response Count
Less than 1		17.1%	14
1 day		8.5%	7
2 days		4.9%	4
3 days		11.0%	9
4 days		12.2%	10
5+ days		**46.3%**	38
	answered question		82
	skipped question		5

13. What do you primarily use Bloomington Transit for?

		Response Percent	Response Count
To and from Indiana University		**64.6%**	53
To and from other schools		0.0%	0
To and from other workplaces		13.4%	11
To and from shopping		13.4%	11
To and from medical place		0.0%	0
Other		8.5%	7
	Other (please specify)		9
	answered question		82
	skipped question		5

14. What is your reason for using Bloomington Transit?

		Response Percent	Response Count
I don't have a car		**29.3%**	24
I'm not able to drive		3.7%	3
Parking is a problem		17.1%	14
Bus is more convenient		13.4%	11
Bus is cheaper		18.3%	15
Other		18.3%	15
	Other (please specify)		18
	answered question		82
	skipped question		5

15. Do you regularly need a transfer to get to your final destination?

		Response Percent	Response Count
Yes		25.6%	21
No		**74.4%**	61
If yes, how many buses (routes) do you take? (please specify)			20
		answered question	**82**
		skipped question	**5**

16. How do you normally get to your bus stop?

		Response Percent	Response Count
Walk		**97.6%**	81
Bike		1.2%	1
Drive		1.2%	1
Drop off		0.0%	0
Other		0.0%	0
Other (please specify)			0
		answered question	**83**
		skipped question	**4**
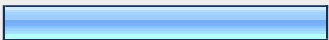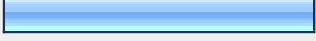
17. How do you normally get to your final destination from the bus stop?

		Response Percent	Response Count
Walk		**95.2%**	79
Bike		1.2%	1
Drive		1.2%	1
Pick up/drop off		2.4%	2
Other		0.0%	0
Other (please specify)			0
	answered question		83
	skipped question		4

18. Which of the following describes your experience accessing or exiting Bloomington Transit on foot (sidewalk, bus stop, etc.)?

		Response Percent	Response Count
Terrible		3.6%	3
Poor		3.6%	3
Acceptable		24.1%	20
Good		**47.0%**	39
Excellent		21.7%	18
	answered question		83
	skipped question		4

19. What is the maximum distance you are willing to walk to get to a bus stop (please specify in feet)?

		Response Count
		69
	answered question	69
	skipped question	18

20. Have you ever ridden a bike to access Bloomington Transit?

		Response Percent	Response Count
Yes		22.9%	19
No		**77.1%**	64
	answered question		83
	skipped question		4

21. If yes, how often do you ride a bike to access Bloomington Transit?

		Response Percent	Response Count
Rarely		**82.8%**	24
Sometimes		6.9%	2
Frequently		10.3%	3
Always		0.0%	0
	answered question		29
	skipped question		58

22. Why don't you use a bike more often to access BT? (check all that apply)

		Response Percent	Response Count
I can't or don't like to ride a bike		**35.5%**	27
The routes to the bus stop are unsafe/uncomfortable		6.6%	5
There is not a good place to store my bike at the bus stop		18.4%	14
Lack of complementary facilities at destination (showers, lockers, etc.)		5.3%	4
Other options are more appealing (walk, drive, pick-up/drop-off)		34.2%	26
		answered question	76
		skipped question	11

23. Can you rate your level of satisfaction with Bloomington Transit service? Please use the following scale: 5 – Very Satisfied, 4 – Satisfied, 3 – Neither Satisfied nor Dissatisfied, 2 – Dissatisfied, 1 – Very Dissatisfied

	5	4	3	2	1	Rating Average	Response Count
Friendly drivers	16.9% (14)	**47.0% (39)**	25.3% (21)	4.8% (4)	6.0% (5)	3.64	83
Safety	41.5% (34)	**43.9% (36)**	11.0% (9)	2.4% (2)	1.2% (1)	4.22	82
Availability of seats	30.1% (25)	**39.8% (33)**	19.3% (16)	7.2% (6)	3.6% (3)	3.86	83
Access to the route information	**37.8% (31)**	34.1% (28)	19.5% (16)	3.7% (3)	4.9% (4)	3.96	82
Clean buses	39.0% (32)	**41.5% (34)**	14.6% (12)	3.7% (3)	1.2% (1)	4.13	82
Convenience of routes	18.3% (15)	**35.4% (29)**	28.0% (23)	15.9% (13)	2.4% (2)	3.51	82
Travel time on bus	22.0% (18)	**36.6% (30)**	23.2% (19)	14.6% (12)	3.7% (3)	3.59	82
Service frequency	11.3% (9)	17.5% (14)	**27.5% (22)**	22.5% (18)	21.3% (17)	2.75	80

Hours of service	10.1% (8)	**34.2% (27)**	22.8% (18)	25.3% (20)	7.6% (6)	3.14	79
Walking distance to the bus stop	26.8% (22)	**45.1% (37)**	18.3% (15)	4.9% (4)	4.9% (4)	3.84	82
Reliable schedules	17.1% (14)	**34.1% (28)**	22.0% (18)	20.7% (17)	6.1% (5)	3.35	82
Ease of transfer	16.2% (12)	35.1% (26)	**37.8% (28)**	8.1% (6)	2.7% (2)	3.54	74
Cost of fares	**41.3% (31)**	28.0% (21)	25.3% (19)	1.3% (1)	4.0% (3)	4.01	75
Overall service of Bloomington Transit	18.3% (15)	**52.4% (43)**	24.4% (20)	2.4% (2)	2.4% (2)	3.82	82
						answered question	83
						skipped question	4

24. Please identify the top three ways to improve Bloomington Transit?

		Response Percent	Response Count
Faster and more direct service to and from downtown		12.0%	10
Faster and more direct service to and from Indiana University		27.7%	23
More service earlier in the day or later in the evening		43.4%	36
More service on weekends		**63.9%**	53
Bus stops closer to home or where you need to go		20.5%	17
More frequent service during A.M. and P.M. peak hours		38.6%	32
More frequent service only during the Off peak		19.3%	16
Fewer transfers		3.6%	3
Availability of rapid transit, or limited stop service		19.3%	16
Provide a downtown shuttle or trolley bus service		21.7%	18

		Response Percent	Response Count
Improve pedestrian and bike access to bus stops (sidewalk, sidepath, multi-use trail and bike lane)		12.0%	10
Provide more park-n-ride and carpool opportunities		13.3%	11
Improve shelters and other amenities (benches and route information)		25.3%	21
Safe and secure bus stops and buses		12.0%	10
Provide more bike rack on buses and bike locker at bus stops		8.4%	7
Cleaner buses		6.0%	5
Lower bus fare		7.2%	6
Other (please specify)			25
	answered question		83
	skipped question		4

25. If you were to use Bloomington Transit, what do you think you would primarily use it for?

		Response Percent	Response Count
To and from Indiana University		0.0%	0
To and from other schools		0.0%	0
To and from other workplaces		0.0%	0
To and from shopping		0.0%	0
To and from medical place		0.0%	0
Other		0.0%	0
Other (please specify)			0
	answered question		0
	skipped question		87

26. If you were to use Bloomington Transit, what is the maximum distance you are willing to walk to get to a bus stop (please specify in feet)?

	Response Count
	0
answered question	0
skipped question	87

27. Have you ever used Bloomington Transit service?

	Response Percent	Response Count
Yes	0.0%	0
No	0.0%	0
answered question		0
skipped question		87

28. If yes, when was the last time you rode Bloomington Transit?

	Response Percent	Response Count
Less than 1 year	0.0%	0
1-2 years	0.0%	0
3-5 years	0.0%	0
More than 5 years	0.0%	0
answered question		0
skipped question		87

29. What was your opinion of the service?

	Response Percent	Response Count
Excellent	0.0%	0
Good	0.0%	0
Somewhat good	0.0%	0
Poor	0.0%	0
Very poor	0.0%	0
Comments		0
answered question		0
skipped question		87

30. Why did you stop using Bloomington Transit? (check all that apply)

	Response Percent	Response Count
Purchased a car	0.0%	0
Need car for work	0.0%	0
Car is more comfortable	0.0%	0
Bus stop is too far from where I live	0.0%	0
Does not go where I want to go	0.0%	0
Does not start early enough	0.0%	0
Does not run late enough	0.0%	0
Takes too long	0.0%	0
No direct route	0.0%	0
Transfer is difficult	0.0%	0
Buses are not reliable	0.0%	0
Does not come often enough	0.0%	0
Poor weekend service	0.0%	0
Safety/security concert at the bus	0.0%	0

Other		0.0%	0
Other (please specify)			0
	answered question		**0**
	skipped question		**87**

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31. Would you agree or disagree with the following statements?

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Rating Average	Response Count
Air quality and conserving energy are important to me	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Public transit can help to reduce air pollution and save energy	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
When I'm going someplace, I think about how quickly I can get there	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Even if Bloomington Transit fit all my needs, I would still rather drive	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Driving is more stressful than riding the bus	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Bloomington Transit's main role should be to provide transportation for people without a car or people who cannot drive	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Transit fares should be as low as possible to provide mobility to all residents	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Public transit is important to the local economy and Bloomington as a whole	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Overall, I think Bloomington Transit is doing an effective job serving the city	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
					answered question		**0**
					skipped question		**87**

32. What would encourage you to use public transit more often? (choose top three)

		Response Percent	Response Count
Faster and more direct service to and from downtown		0.0%	0
Faster and more direct service to and from Indiana University		0.0%	0
More service earlier in the day or later in the evening		0.0%	0
More service on weekends		0.0%	0
Bus stops closer to home or where you need to go		0.0%	0
More frequent service during A.M. and P.M. peak hours		0.0%	0
More frequent service only during the Off peak		0.0%	0
Fewer transfers		0.0%	0
Availability of rapid transit, or limited stop service		0.0%	0
Provide a downtown shuttle or trolley bus service		0.0%	0
Improve pedestrian and bike access to bus stops (sidewalk, sidepath, multi-use trail and bike lane)		0.0%	0
Provide more park-n-ride and carpool opportunities		0.0%	0
Improve shelters and other amenities (benches and route information)		0.0%	0
Safe and secure bus stops and buses		0.0%	0
Provide more bike rack on buses and bike locker at bus stops		0.0%	0
Cleaner buses		0.0%	0
Lower bus fare		0.0%	0

		Response Percent	Response Count
Other		0.0%	0
Other (please specify)			0
	answered question		0
	skipped question		87

33. If Bloomington Transit were able to make the changes you suggested, how likely you would use Bloomington Transit service?

		Response Percent	Response Count
Very likely		0.0%	0
Somewhat likely		0.0%	0
Not very likely		0.0%	0
Not at all likely		0.0%	0
	answered question		0
	skipped question		87

Appendix C

Summary of Online Non-user Survey Results

Bloomington Transit

1. How old are you?

		Response Percent	Response Count
Under 18		3.7%	1
18-24		7.4%	2
25-44		**48.1%**	13
45-59		33.3%	9
60-75		7.4%	2
75 or more		0.0%	0
		answered question	27
		skipped question	0

2. Are you:

		Response Percent	Response Count
Male		**51.9%**	14
Female		48.1%	13
		answered question	27
		skipped question	0

3. Do you consider yourself:

	Response Percent	Response Count
White	96.3%	26
African American/Black	0.0%	0
Hispanic	3.7%	1
Asian	0.0%	0
Native American Indian	0.0%	0
Other	0.0%	0
Other (please specify)		0
answered question		**27**
skipped question		**0**

4. What is your ocupation?

	Response Percent	Response Count
Retail	0.0%	0
Manufacturing	0.0%	0
Service	11.1%	3
Construction	0.0%	0
Education/Health	22.2%	6
Professional	**29.6%**	8
Clerical	7.4%	2
Homemaker	0.0%	0
Student	18.5%	5
Retired	7.4%	2
Unemployed	3.7%	1
Other	0.0%	0
Other (please specify)		0

		answered question	27
		skipped question	0

5. What is the range of your total household income?

		Response Percent	Response Count
Less than 10,000		20.0%	5
10,000-25,000		8.0%	2
25,000-40,000		20.0%	5
40,000-55,000		8.0%	2
55,000-70,000		16.0%	4
70,000-85,000		4.0%	1
85,000 or higher		**24.0%**	6
		answered question	25
		skipped question	2

6. What is the nearest major intersection or cross-street to your home?

		Response Count
		23
	answered question	23
	skipped question	4

7. What is your most frequent trip destination?

		Response Percent	Response Count
Indiana University		44.0%	11
Other Schools		0.0%	0
Other Workplaces		16.0%	4
Shopping		16.0%	4
Medical Place		8.0%	2
Other		16.0%	4
	Other (please specify)		7
		answered question	25
		skipped question	2

8. Where is this trip destination located (nearest intersection/landmark)?

		Response Count
		23
	answered question	23
	skipped question	4

9. What is your usual form of transportation?

		Response Percent	Response Count
Drive a car without passenger		**63.0%**	17
Drive a car with one passenger		18.5%	5
Drive a car with two or more passengers		3.7%	1
I am a passenger in a car		0.0%	0
Take transit		3.7%	1
Bike		7.4%	2
Walk		3.7%	1
Taxi		0.0%	0
Other		0.0%	0
	Other (please specify)		1
	answered question		**27**
	skipped question		**0**

10. Have you used the Bloomington Transit system in the last three months for at least three trips?

		Response Percent	Response Count
Yes		0.0%	0
No		**100.0%**	27
	answered question		**27**
	skipped question		**0**

11. How long have you been using the Bloomington Transit system?

	Response Percent	Response Count
Less than 1 year	0.0%	0
1-2 years	0.0%	0
3-5 years	0.0%	0
More than 5 years	0.0%	0
answered question		0
skipped question		27

12. How many days a week do you use Bloomington Transit?

	Response Percent	Response Count
Less than 1	0.0%	0
1 day	0.0%	0
2 days	0.0%	0
3 days	0.0%	0
4 days	0.0%	0
5+ days	0.0%	0
answered question		0
skipped question		27

13. What do you primarily use Bloomington Transit for?

	Response Percent	Response Count
To and from Indiana University	0.0%	0
To and from other schools	0.0%	0
To and from other workplaces	0.0%	0
To and from shopping	0.0%	0
To and from medical place	0.0%	0
Other	0.0%	0
Other (please specify)		0
answered question		0
skipped question		27

14. What is your reason for using Bloomington Transit?

	Response Percent	Response Count
I don't have a car	0.0%	0
I'm not able to drive	0.0%	0
Parking is a problem	0.0%	0
Bus is more convenient	0.0%	0
Bus is cheaper	0.0%	0
Other	0.0%	0
Other (please specify)		0
answered question		0
skipped question		27

15. Do you regularly need a transfer to get to your final destination?

	Response Percent	Response Count
Yes	0.0%	0
No	0.0%	0
If yes, how many buses (routes) do you take? (please specify)		0
answered question		0
skipped question		27

16. How do you normally get to your bus stop?

	Response Percent	Response Count
Walk	0.0%	0
Bike	0.0%	0
Drive	0.0%	0
Drop off	0.0%	0
Other	0.0%	0
Other (please specify)		0
answered question		0
skipped question		27

17. How do you normally get to your final destination from the bus stop?

	Response Percent	Response Count
Walk	0.0%	0
Bike	0.0%	0
Drive	0.0%	0
Pick up/drop off	0.0%	0
Other	0.0%	0
Other (please specify)		0
answered question		0
skipped question		27

18. Which of the following describes your experience accessing or exiting Bloomington Transit on foot (sidewalk, bus stop, etc.)?

	Response Percent	Response Count
Terrible	0.0%	0
Poor	0.0%	0
Acceptable	0.0%	0
Good	0.0%	0
Excellent	0.0%	0
answered question		0
skipped question		27

19. What is the maximum distance you are willing to walk to get to a bus stop (please specify in feet)?

	Response Count
	0
answered question	0
skipped question	27

20. Have you ever ridden a bike to access Bloomington Transit?

	Response Percent	Response Count
Yes	0.0%	0
No	0.0%	0
answered question		0
skipped question		27

21. If yes, how often do you ride a bike to access Bloomington Transit?

	Response Percent	Response Count
Rarely	0.0%	0
Sometimes	0.0%	0
Frequently	0.0%	0
Always	0.0%	0
answered question		0
skipped question		27

22. Why don't you use a bike more often to access BT? (check all that apply)

		Response Percent	Response Count
I can't or don't like to ride a bike		0.0%	0
The routes to the bus stop are unsafe/uncomfortable		0.0%	0
There is not a good place to store my bike at the bus stop		0.0%	0
Lack of complementary facilities at destination (showers, lockers, etc.)		0.0%	0
Other options are more appealing (walk, drive, pick-up/drop-off)		0.0%	0
		answered question	**0**
		skipped question	**27**

23. Can you rate your level of satisfaction with Bloomington Transit service? Please use the following scale: 5 – Very Satisfied, 4 – Satisfied, 3 – Neither Satisfied nor Dissatisfied, 2 – Dissatisfied, 1 – Very Dissatisfied

	5	4	3	2	1	Rating Average	Response Count
Friendly drivers	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Safety	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Availability of seats	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Access to the route information	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Clean buses	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Convenience of routes	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Travel time on bus	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Service frequency	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Hours of service	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Walking distance to the bus stop	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Reliable schedules	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Ease of transfer	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0

Cost of fares	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
Overall service of Bloomington Transit	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
						answered question	**0**
						skipped question	**27**

24. Please identify the top three ways to improve Bloomington Transit?

		Response Percent	**Response Count**
Faster and more direct service to and from downtown		0.0%	0
Faster and more direct service to and from Indiana University		0.0%	0
More service earlier in the day or later in the evening		0.0%	0
More service on weekends		0.0%	0
Bus stops closer to home or where you need to go		0.0%	0
More frequent service during A.M. and P.M. peak hours		0.0%	0
More frequent service only during the Off peak		0.0%	0
Fewer transfers		0.0%	0
Availability of rapid transit, or limited stop service		0.0%	0
Provide a downtown shuttle or trolley bus service		0.0%	0
Improve pedestrian and bike access to bus stops (sidewalk, sidepath, multi-use trail and bike lane)		0.0%	0
Provide more park-n-ride and carpool opportunities		0.0%	0
Improve shelters and other amenities (benches and route information)		0.0%	0

		0.0%	0
Safe and secure bus stops and buses		0.0%	0
Provide more bike rack on buses and bike locker at bus stops		0.0%	0
Cleaner buses		0.0%	0
Lower bus fare		0.0%	0
Other (please specify)			0
	answered question		**0**
	skipped question		**27**

25. If you were to use Bloomington Transit, what do you think you would primarily use it for?

		Response Percent	Response Count
To and from Indiana University		**31.8%**	7
To and from other schools		4.5%	1
To and from other workplaces		27.3%	6
To and from shopping		22.7%	5
To and from medical place		0.0%	0
Other		13.6%	3
Other (please specify)			5
	answered question		**22**
	skipped question		**5**

26. If you were to use Bloomington Transit, what is the maximum distance you are willing to walk to get to a bus stop (please specify in feet)?

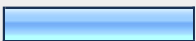|		Response Count
		22
	answered question	**22**
	skipped question	**5**
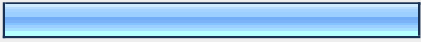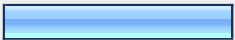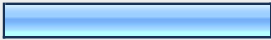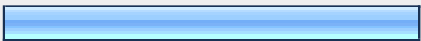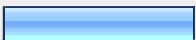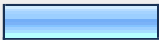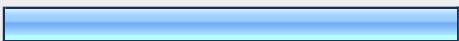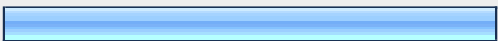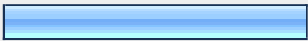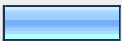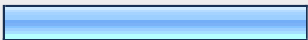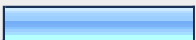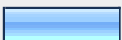
27. Have you ever used Bloomington Transit service?

		Response Percent	Response Count
Yes		**58.3%**	14
No		41.7%	10
	answered question		24
	skipped question		3

28. If yes, when was the last time you rode Bloomington Transit?

		Response Percent	Response Count
Less than 1 year		**50.0%**	7
1-2 years		35.7%	5
3-5 years		7.1%	1
More than 5 years		7.1%	1
	answered question		14
	skipped question		13

29. What was your opinion of the service?

		Response Percent	Response Count
Excellent		26.7%	4
Good		**60.0%**	9
Somewhat good		13.3%	2
Poor		0.0%	0
Very poor		0.0%	0
	Comments		6
	answered question		15
	skipped question		12

30. Why did you stop using Bloomington Transit? (check all that apply)

		Response Percent	Response Count
Purchased a car		10.5%	2
Need car for work		5.3%	1
Car is more comfortable		21.1%	4
Bus stop is too far from where I live		5.3%	1
Does not go where I want to go		26.3%	5
Does not start early enough		5.3%	1
Does not run late enough		5.3%	1
Takes too long		**52.6%**	10
No direct route		47.4%	9
Transfer is difficult		21.1%	4
Buses are not reliable		0.0%	0
Does not come often enough		**52.6%**	10
Poor weekend service		21.1%	4
Safety/security concert at the bus stop and/or on the bus		5.3%	1
Other		15.8%	3
	Other (please specify)		9
	answered question		19
	skipped question		8

31. Would you agree or disagree with the following statements?

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Rating Average	Response Count
Air quality and conserving energy are important to me	**75.0% (18)**	16.7% (4)	0.0% (0)	4.2% (1)	4.2% (1)	4.54	24
Public transit can help to reduce air pollution and save energy	**79.2% (19)**	12.5% (3)	0.0% (0)	0.0% (0)	8.3% (2)	4.54	24
When I'm going someplace, I think about how quickly I can get there	45.8% (11)	**54.2% (13)**	0.0% (0)	0.0% (0)	0.0% (0)	4.46	24
Even if Bloomington Transit fit all my needs, I would still rather drive	4.2% (1)	12.5% (3)	20.8% (5)	29.2% (7)	**33.3% (8)**	2.25	24
Driving is more stressful than riding the bus	**29.2% (7)**	**29.2% (7)**	20.8% (5)	16.7% (4)	4.2% (1)	3.63	24
Bloomington Transit's main role should be to provide transportation for people without a car or people who cannot drive	16.7% (4)	12.5% (3)	4.2% (1)	**50.0% (12)**	16.7% (4)	2.63	24
Transit fares should be as low as possible to provide mobility to all residents	**45.8% (11)**	37.5% (9)	0.0% (0)	12.5% (3)	4.2% (1)	4.08	24
Public transit is important to the local economy and Bloomington as a whole	**70.8% (17)**	20.8% (5)	0.0% (0)	0.0% (0)	8.3% (2)	4.46	24
Overall, I think Bloomington Transit is doing an effective job serving the city	8.3% (2)	**54.2% (13)**	25.0% (6)	8.3% (2)	4.2% (1)	3.54	24
					answered question		**24**
					skipped question		**3**

32. What would encourage you to use public transit more often? (choose top three)

		Response Percent	Response Count
Faster and more direct service to and from downtown		45.8%	11
Faster and more direct service to and from Indiana University		50.0%	12
More service earlier in the day or later in the evening		25.0%	6
More service on weekends		29.2%	7
Bus stops closer to home or where you need to go		45.8%	11
More frequent service during A.M. and P.M. peak hours		20.8%	5
More frequent service only during the Off peak		16.7%	4
Fewer transfers		50.0%	12
Availability of rapid transit, or limited stop service		**54.2%**	13
Provide a downtown shuttle or trolley bus service		33.3%	8
Improve pedestrian and bike access to bus stops (sidewalk, sidepath, multi-use trail and bike lane)		12.5%	3
Provide more park-n-ride and carpool opportunities		33.3%	8
Improve shelters and other amenities (benches and route information)		20.8%	5
Safe and secure bus stops and buses		20.8%	5
Provide more bike rack on buses and bike locker at bus stops		8.3%	2
Cleaner buses		4.2%	1
Lower bus fare		12.5%	3

Other		0.0%	0
Other (please specify)			5
		answered question	**24**
		skipped question	**3**

33. If Bloomington Transit were able to make the changes you suggested, how likely you would use Bloomington Transit service?

		Response Percent	Response Count
Very likely		**83.3%**	20
Somewhat likely		12.5%	3
Not very likely		4.2%	1
Not at all likely		0.0%	0
		answered question	**24**
		skipped question	**3**