

# BGSU

**Bowling Green State University**



***“On the Move: 2015-2045 Transportation Plan”***

**Wood County Survey Assessment**

**Bowling Green State University**

**Master of Public Administration Program**

*conducted by*

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# On the Move

## 2015-2045 Transportation Plan



## **Introduction**

The Toledo Metropolitan Area Council of Governments (TMACOG) is the agency responsible for transportation planning, utilizing the community to create broad-based ideas. Currently working on a transportation plan for 2015-2045, entitled “On the Move,” TMACOG is responsible for allocating federal funding spanning over Lucas, Wood and southern Monroe counties. TMACOG determines resource allocation on the basis of the following transportation goals:

1. Improve safety measures; reduce fatalities and injuries
2. Improve the condition of existing infrastructure
3. Reduce congestion on National Highway System
4. Increase reliability and improve overall transportation efficiency
5. Increase access to trade markets to improve economic development by supporting freight movement
6. Increase environmental sustainability
7. Expedite project delivery
8. Improve multiple modes of personal mobility, including bicycle paths/lanes, sidewalks, public transit, and passenger rail

TMACOG developed a partnership with students in the Master of Public Administration Program at Bowling Green State University to conduct an assessment of transportation needs in Wood County as part of their POLS 6900: Public Administration Capstone course. Five students developed, administered and collected data to further evaluate the transportation needs unique to this region.

The survey group further elicited answers regarding the question: “What are the public’s concerns?” as one step in assessing the transportation needs of citizens in Wood County. The goal was to collect data concerning community-identified problems in an effort to help TMACOG prioritize and strategize goals for their long-term plan. The information collected furthers TMACOG’s mission in targeting transportation efforts to the genuine opinions and experiences of community members.

## **Methodology**

### *Constructing the Survey*

As part of survey research, the student representatives for TMACOG transportation plan survey contacted point-person Diane Reamer-Evans to request previous survey data. This data was reviewed by all group members and were subsequently asked to draft three to four survey questions for the capstone version of the transportation needs survey. These questions were compiled and revised. Members of the survey group met to discuss survey questions in person; discussion resulted in the compilation of survey questions founded in the TMACOG goals for their current transportation plan.

### *Survey Distribution*

#### Online Survey

In the past TMACOG utilized Survey Monkey to distribute surveys online. However, the group decided to use Qualtrics as the database for online survey completion. Qualtrics is research software that allows for data collection and analysis used for research and has features for evaluation accessible to BGSU students. While the public was able to easily access the survey, this particular software allowed for the group to increase the quality and accuracy of the information obtained from completed survey questions.

#### Print Survey

The print survey debuted at the TMACOG Transportation Needs Public Forum that took place at the Holiday Inn Express on Monday, February 24. Further, during normal workplace hours, survey distribution occurred at the Bowling Green Community Center, Grounds for Thought, and the Department of Political Science hallway in Williams Hall on the Bowling Green State University Campus. In sum, the surveys were available to the public from February 24 – March 27, 2014. A total of 223 surveys were collected.

### *Survey Promotion*

Flyers promoting distribution were put up at community locations (Appendix A), including a take-with-you strip with the survey link and contact information if they would like to print the survey. A QR code was also provided for persons with Smartphone technology for added convenience. Links and information regarding the survey also appeared in the Campus Update email to BGSU personnel. A general inbox was created for survey questions, comments, etc., but the group did not receive any messages.

### *Analytical Approach*

The majority of responses to survey questions were aggregated and analyzed using Qualtrics analysis tools. For the open-ended questions, the group developed an inductive coding scheme (Appendix) to classify each open-ended response. Of the 223 surveys collected, 84 had open-ended responses. The group chose a sample of the open-ended surveys to generate the codes for content. These coding standards were used as a template to code all open-ended questions of all 223 surveys. The group entered the codes into Qualtrics in order to generate the number of each category to determine respondent's opinions about transportation weaknesses in Wood County.

### *Limitations of the Survey*

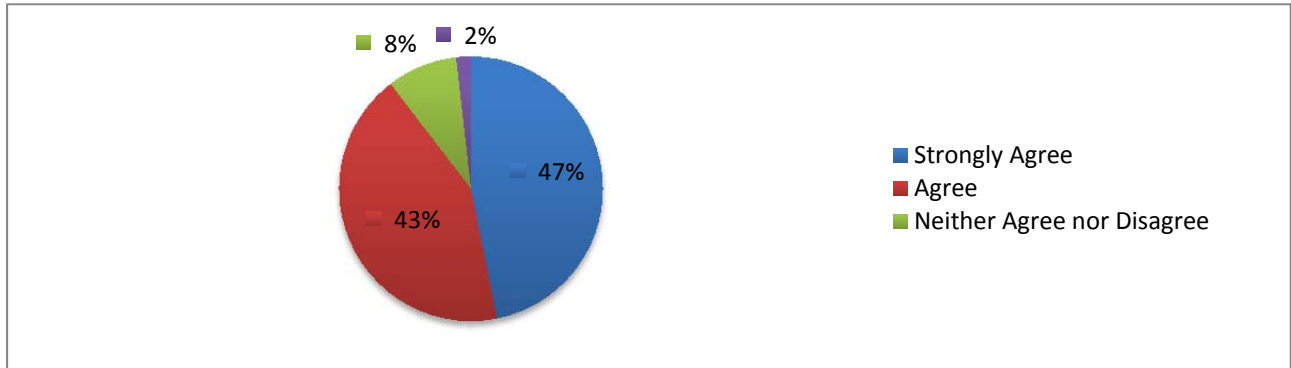
The overwhelming majority of respondents are college students, which may skew the results towards a focus on student transportation needs. Second, the survey's income question may be skewed as we did not include a category for an income level of \$0-\$15,000. Furthermore, despite respondents expressing economic development in infrastructure as a vital component to transportation in Wood County, the survey does not explore exactly what types of transportation improvements to consider.

## Analysis of Results

### Safety of Existing Transportation System

The results presented in Figure 1 illustrate that the majority of respondents who reside in or travel to Wood County via automobile feel city streets are safe. Forty-seven percent of respondents strongly agree city streets are safe. Forty-three percent of respondents simply agree city streets are safe. Ten percent of respondents neither agreed nor disagreed city streets were safe.

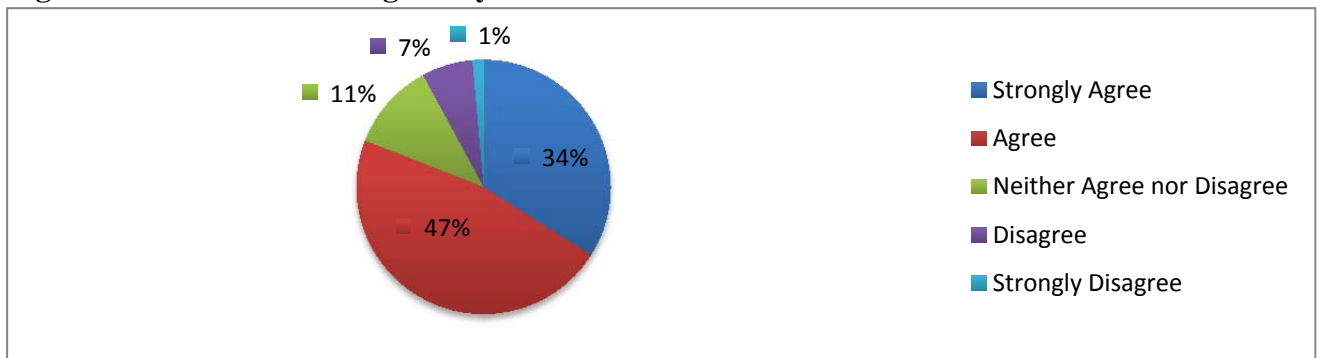
**Figure 1: Perceived Driving Safety**



n=220

Figure 2 illustrates that the majority of respondents also indicated that they feel safe while walking in their neighborhoods. Forty-seven percent feel safe while walking, and 34 percent feel very confident that they are safe while walking. Eleven percent of people neither agreed nor disagreed that streets were safe. Seven percent disagreed, and 1 percent strongly disagreed that streets were safe.

**Figure 2: Perceived Walking Safety**



n=215

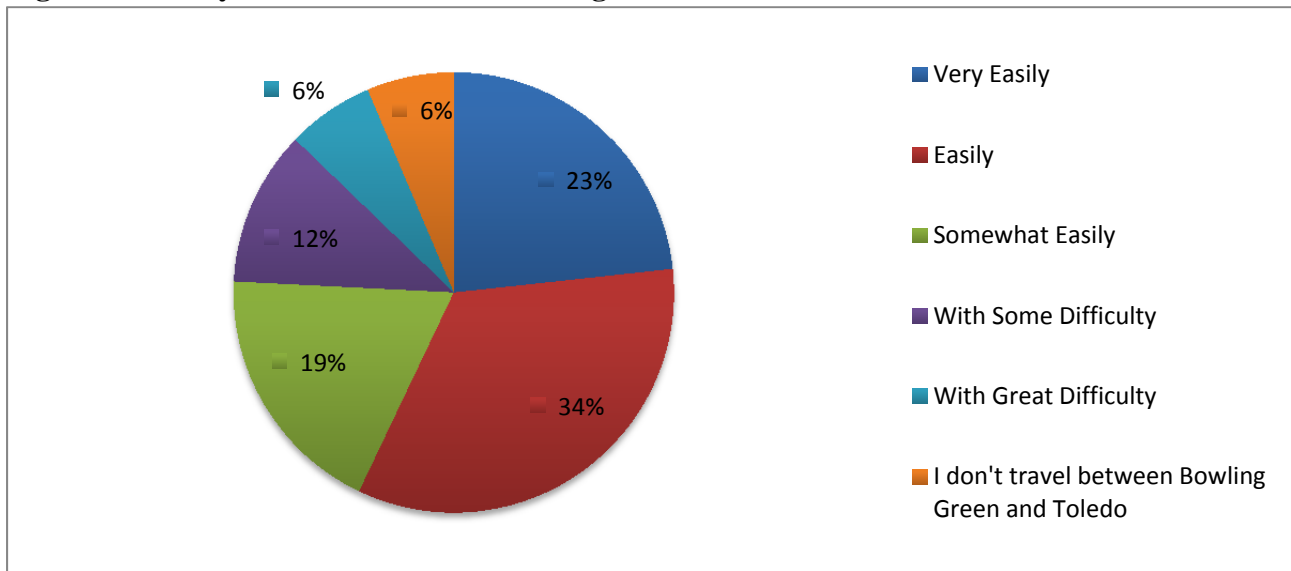
A minority of survey respondents (8 total) expressed transportation concerns related to limited sidewalks and crosswalks, and issued complains concerning unsafe roads due to j-walkers, which may indicate the need for increased safety measures of existing structures.

Survey responses also indicate that Wood County residents are concerned with road maintenance, especially during the winter season. Not surprisingly, due to recent weather patterns, road maintenance is indicated as a safety concern.

### Accessibility of Existing System

The lack of public transportation was identified as a significant transportation need in Wood County. As shown in Figure 3, 76 percent of respondents indicated they can “Easily,” “Very Easily,” or “Somewhat Easily” travel between Bowling Green and Toledo. Responses to whether or not individuals would use a bus service between Bowling Green and Toledo are more evenly distributed. Twelve percent of respondents indicated they could travel between Bowling Green and Toledo with “Some Difficulty,” and 6 percent indicated they could travel between with “Great Difficulty.” Six percent of respondents did not travel between Bowling Green and Toledo.

**Figure 3: Ability to Travel between Bowling Green and Toledo**



n=219

### Existing Modal-Use

As demonstrated in Table 1, fifty-three percent of respondents stated they walk every day. A similar percentages of respondents indicated that they utilize an automobile for transportation every day. Sixty-nine percent of respondents also reported carpooling at least once a month. These figures confirm Wood County is very reliant on both personal cars and walking as primary forms of transportation.

Thirty-eight percent of respondents indicated that they use public transit once a month or more while another 57 percent indicate that they never use public transit. This information certainly tells us that there is a need for public transportation as it relates to buses (between Bowling

Green and Toledo). Not only will this contribute to the reduction of congestion on the national highway system with fewer private cars on the road, but will also improve access to multiple modes of personal mobility – both of which are TMACOG’s goals.

The results presented in Table 1 indicate that Wood County is automobile-dominant. Most survey respondents use automobiles as their primary mode of transportation. As a town comprised with many university students, the City of Bowling Green is also comprised of a high population of people who choose to use walking as their primary transportation mode.

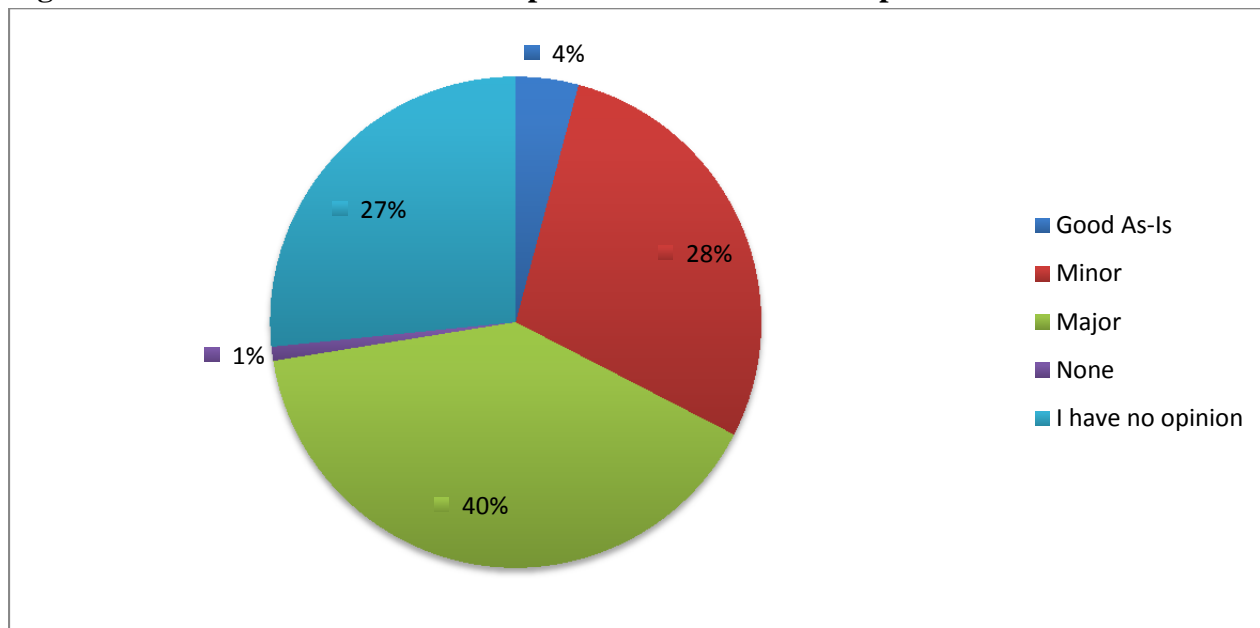
**Table 1: Transportation Mode Frequency of Use**

<b>How often do you use the following types of transportation?</b>	<b>Every Day</b>	<b>3 or 4 Times a Week</b>	<b>1 or 2 Times a Week</b>	<b>1 or 2 Times a Month</b>	<b>Never</b>	<b>Total Responses</b>
<b>Car (Private)</b>	115	37	29	18	19	218
<b>Carpool</b>	5	14	62	68	65	214
<b>Bicycle</b>	8	19	21	36	129	213
<b>Rollerblade/Skateboard</b>	1	1	0	11	199	212
<b>Taxi (Private)</b>	0	0	4	20	189	213
<b>Public Transit</b>	5	13	20	53	123	214
<b>Walk</b>	116	34	38	17	12	217

### **Infrastructure Improvements Needed**

The results illustrated in Figure 4 suggest that over 68 percent of respondents stated Wood County’s existing infrastructure needs improvements to increase economic development. Furthermore, 40 percent of respondents said the improvements need to be “major.” This indicates economic development-related transportation improvements are a concern for citizens and priority in Wood County.

**Figure 4: Perceived Infrastructure Improvements Needed to Improve Economic Growth**



n=219

Further research needs to be conducted to study community needs in development-oriented infrastructure improvements, as respondents did not identify the specific types of economic development-related improvements that they would like to see implemented in Wood County.

The survey results indicate improving road maintenance is of high concern among respondents and a key investment in the contributing to economic growth to enhance access to trade markets and support freight movement. Open-ended survey responses also indicated levels of concern for transportation aspects that contribute to overall economic growth, including easy access to airports, passenger rail, and the environment (air pollution).

#### **Overall Assessment of Transportation Needs in Wood County**

Table 2 presents the top transportation concerns identified by respondents. Survey respondents were asked to identify the level of concern in relation to a list of 14 categories. Survey respondents are most concerned about the cost of transportation (68 percent) and the availability of public transportation (63 percent). Respondents were also concerned about improving road maintenance (60 percent). Bicycle lanes on streets were also a concern (59 percent) as well as the lack of parking spaces (59 percent). Survey respondents are least concerned the adequacy of road signs (24 percent) and about transportation to regional airports by shuttle or other means (26 percent).

**Table 2: Percentage of Concern toward Transportation Modes**

	<b>Very Concerned</b>	<b>Concerned</b>	<b>Total % Concerned</b>
Cost of Transportation (gas / service)	24%	43%	68%
Air pollution	14%	43%	57%
Traffic noise	6%	22%	28%
Availability of public transportation	31%	32%	63%
Availability of bicycle paths (off street)	26%	30%	57%
Bicycle lanes (on street)	28%	31%	59%
Inadequate road signs	6%	17%	24%
Parking spaces	22%	37%	59%
Improving road maintenance	15%	45%	60%
Traffic congestion	9%	29%	38%
Access to airports (Toledo Express)	10%	17%	26%
Access to information on freeway conditions	9%	28%	37%
Access to transportation for those with disabilities, low income earners and seniors	22%	32%	54%
Access to passenger rail	15%	25%	40%



**Table 3: Ranking of Top Transportation Concerns**

Top 10 Transportation Concerns (when Ranked as “Highest” Priority)	
<b>1</b>	Availability of Public Transportation
<b>2</b>	Cost of Transportation
<b>3</b>	Lack of Parking Spaces
<b>4</b>	Improving Road Maintenance
<b>5</b>	Availability of Bike Lanes (on street)
<b>6</b>	Availability of Bike Paths (off street)
<b>7</b>	Traffic Congestion
<b>8</b>	Air Pollution
<b>9</b>	Accessibility (ADA, Senior Citizens, Low Income Earners)
<b>10</b>	Access to passenger rail

Respondents were then asked to rank their top 4 concerns (Table 3). Here, the availability of public transportation was ranked as the highest priority concern by survey respondents. Additionally, respondents ranked the cost of transportation and the lack of parking spaces as priority concerns. When combined, the availability of on street and off street bike paths were a major concern of respondents.

Respondents were asked to identify the major transportation weaknesses through an open-ended survey question. The research team collapsed the responses into four categories (Coding Scheme in Appendix A).

- *Accessibility*  
Responses in this category concerned the need for more public transportation (especially busses), more bike lanes, and need for walking paths for pedestrians.
- *Cost of Transportation*  
Responses in this category concerned the need for reduced transportation costs both in terms of monetary costs but also environmental costs.
- *Infrastructure Maintenance*  
Responses in this category focused on the need to fix roads, fill pot holes, clear ice and snow off road (particularly during the winter months).
- *Congestion/Parking*  
Responses in this category centered on traffic congestion and parking problems both on and off campus (not enough parking spaces).

**Figure 5: Perceived Weaknesses to Transportation System**

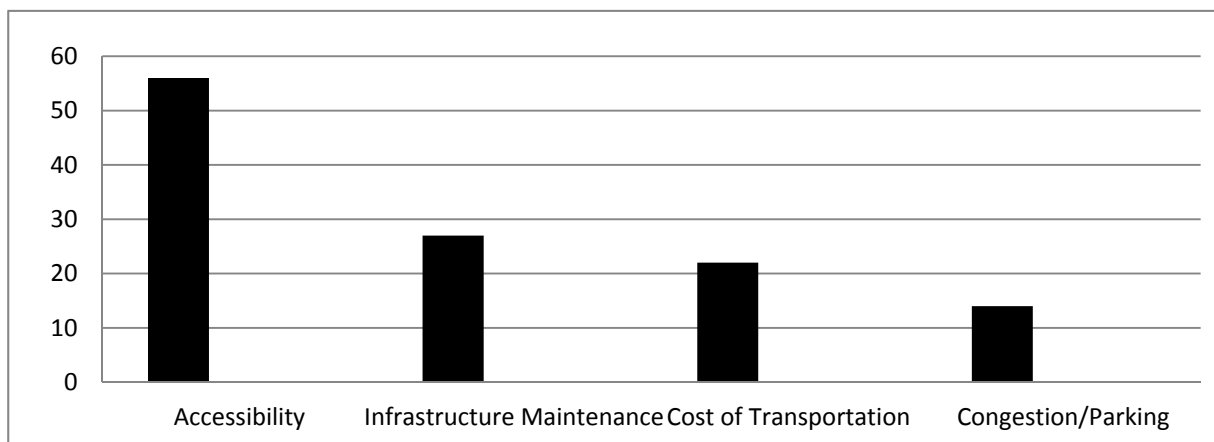


Figure 5 illustrates that accessibility to additional modes of transportation through bike lanes or public transportation was identified as the major weakness of the current transportation system in Wood County (25 percent). Additionally, 12 percent of respondents indicated that the lack of maintenance on existing infrastructure is a weakness of the current transportation system.

### Demographic Information

Information on the employment status of respondents is illustrated in Figure 6. Of the total 223 participants, 118 participants (52.9 percent) identified themselves as a student. Seventy-three participants (32.7 percent) identified themselves as full-time employees. Sixteen participants (7.2 percent) identified as part-time employees. Additionally, only 8 respondents identified themselves as retired while another 2 indicated that they are unemployed.

**Figure 6: Occupational Status of Respondents**

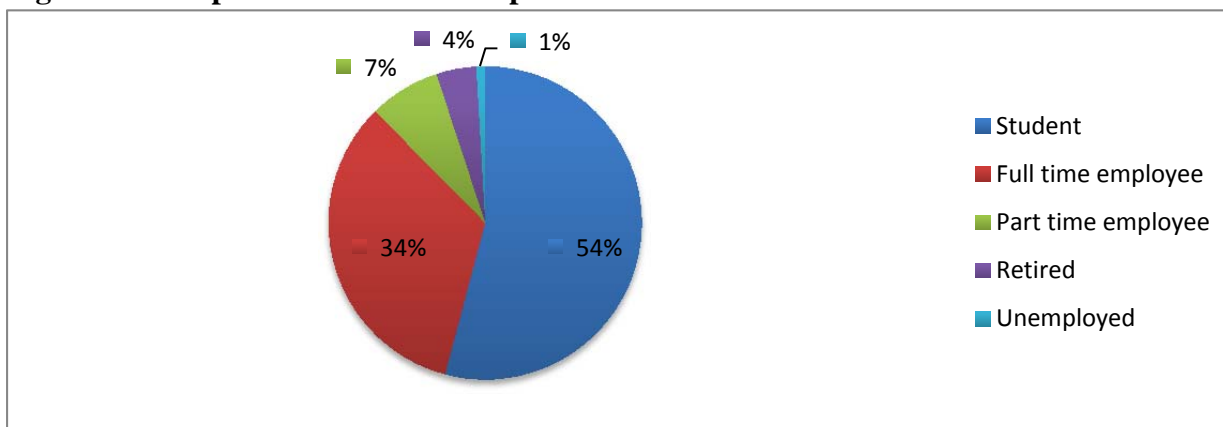
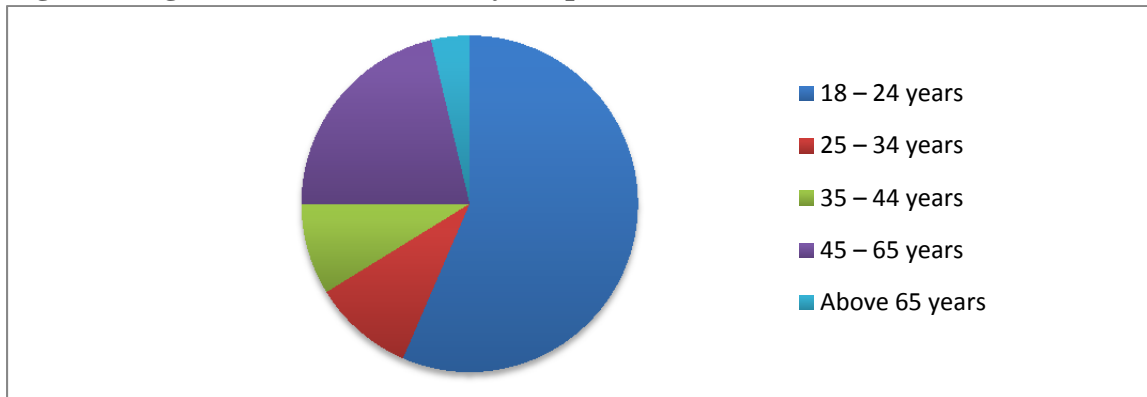


Figure 7 illustrates the age distribution of the survey respondents. Fifty-six percent of respondents were 18- 24 years old. The 45-64 age bracket represented 21 percent of respondents while ten percent were in the 25-34 age bracket. The age groups of 35-44 years old represented 9

percent, while the 65 plus population represented 4 percent of the survey data.

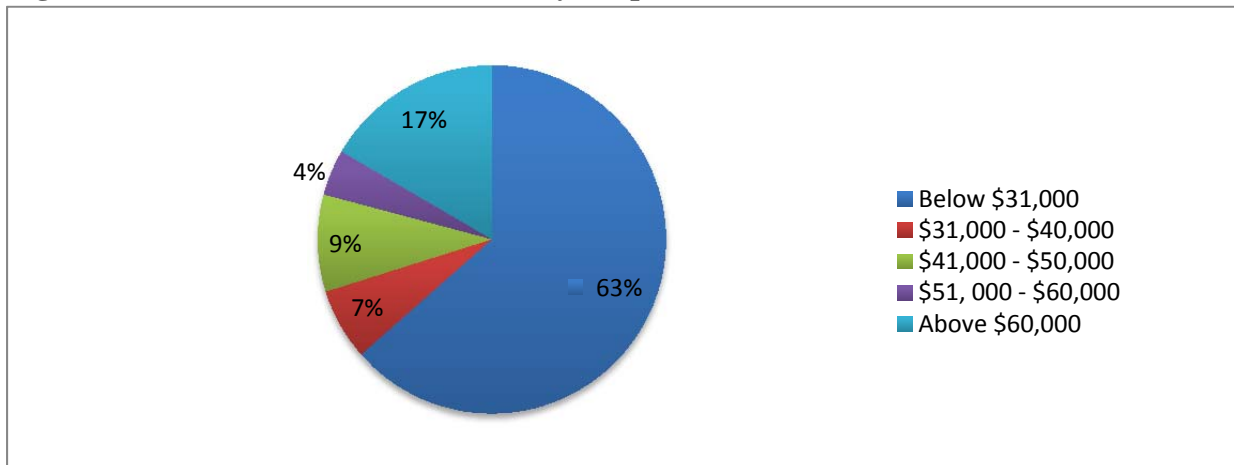
**Figure 7: Age Distribution of Survey Respondents**



n=219

The data presented in Figure 8 shows that the majority of respondents (63 percent) have a yearly income of \$15,000-\$30,000. Seven percent of respondents reported a \$31,000-\$40,000 dollar income. Nine percent reported \$41,000-\$50,000. Four percent reported \$51,000-\$60,000. Thirty-five respondents (17 percent) reported receiving above a \$60,000 dollar yearly income.

**Figure 8: Annual Income Level of Survey Respondents**



n=219

**Recommendations**

**Make major improvements to infrastructure.**

Sixty-eight percent of survey respondents indicated that improvements needed to be made to infrastructure in order to support economic development in the next 5-10 years. Sixty percent of

that same group of respondents indicated that those investments had to be "major." Furthermore, "Improving road maintenance" was ranked fourth highest concern among BG residents.

### **Invest in bicycling infrastructure.**

The current number of frequent bicyclists in Bowling Green is low, with only about 39 percent of respondents stating that they bicycle once a month or more. This indicates that with the current state of bicycle infrastructure in BG, bicycling is not a feasible mode of transportation for most people. However, it is evident from the data in this report that a critical concern of BG residents is the lack of bicycle paths and bicycle lanes. This indicates that while bicycling is not currently a feasible option, more residents would bicycle if improvements were made. Since many residents chose Bicycle paths as one of their top concerns, it can be assumed that the people of BG find increased bicycle infrastructure a transportation need in the community.

### **Increase availability and accessibility of public transit.**

While many respondents indicated that they drive their own cars every day (53 percent) and can easily travel between Bowling Green and Toledo (76 percent), accessibility and availability of public transportation is still a key issue of concern for Bowling Green residents. Availability of public transportation was ranked the highest priority concern for survey respondents, and "access to transportation for those with disabilities, low income earners and seniors" was in the top ten concerns for residents. This indicates that while many residents are not in need of public transportation, they would use it if was more available. Also, most people know individuals that are disabled, senior citizens, or low-income earners. A sense of community responsibility for these individuals may also be behind the high concern for accessibility and availability of public transportation.

### **Conclusion**

The results of the survey can be utilized in order to determine the strategy for the "On the Move: 2015-2045 Transportation Plan" to best meet the transportation needs of those specifically in Wood County. As part of TMACOG's transportation goals, the survey results will allow TMACOG to further enhance transportation in Wood County especially as they relate to improved safety measures and condition of existing infrastructure.

**Appendix Table 1: Open Ended Question Coding Structure**

<b>"A" Need for More Accessibility</b>	
<b>A1</b>	need more public transportation between cities (especially buses)
<b>A2</b>	need more trains/coach between cities
<b>A3</b>	need more bike lanes/bike paths, promote biking
<b>A4</b>	need more interchanges
<b>A5</b>	need more walking paths for pedestrians (for students, for disabled, for elderly)
<b>A6</b>	need more crossings over bridges/roads
<b>"B" Need for Sustainable Transportation</b>	
<b>B1</b>	public transportation is costly/ there is no free public transportation
<b>B2</b>	too many private vehicles/ cause lots of pollution/ should promote electronic cars
<b>"C" Need for Increased Maintenance</b>	
<b>C1</b>	fix road/ pot holes
<b>C2</b>	clear ice and snow off the road
<b>C3</b>	bridge maintenance
<b>"D" Other</b>	
<b>D1</b>	traffic problems/ traffic jam
<b>D2</b>	parking problems (both in BGSU and other towns), no enough space for parking
<b>D3</b>	truck traffic
<b>D4</b>	need more U turns
<b>"E" means there is no response.</b>	
<b>"F" means fail to recognize the writing or incomplete answers.</b>	

Survey



Bowling Green State University



Transportation Needs Survey

You are invited to participate in a survey being conducted by Bowling Green State University (BGSU) in collaboration with The Toledo Metropolitan Area Council of Governments (TMACOG). The purpose of the survey is to better understand the transportation needs of those in the Wood County community in accordance with "On the Move: 2015-2045" plan. All of your answers will be kept confidential. Your participation in the survey is completely voluntary; however, your opinions are highly valued. By returning a completed questionnaire, you may be entered into a drawing for a chance to win a \$25.00 gift card to Amazon.com.

**How would you respond to the following statements as it relates to movement and travel (via car/bus/walking or other) in Wood County?**

1) Please indicate how you would rate your ability to get around Bowling Green.

	Strongly Agree	Agree	Neither Agree/Disagree	Disagree	Strongly Disagree
a) It is easy to walk around Bowling Green.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) My neighborhood is a good place for walking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I feel safe while driving in Bowling Green.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Bowling Green roads are well maintained in the summer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Bowling Green roads are well maintained in the winter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2) I am able to travel between Bowling Green and Toledo

- Very easily
- Easily
- Somewhat easily
- With some difficulty
- With great difficulty
- I don't travel between Bowling Green and Toledo

### Distribution Locations

<b>Distribution Locations</b>	
<b>Flyer</b>	<b>Survey</b>
On-Campus Academic/Public Buildings	Bowling Green Community Center
Bowling Green Community Center	Grounds for Thought
Wood County District Public Library	Wood County District Public Library
Grounds for Thought	Williams Hall - BGSU
Panera Bread	
Woodland Mall	