

SOUTHERN BRIDGE POPULATION ANALYSIS

BROWN COUNTY PLANNING COMMISSION MAY 2001

The first step in determining if the southern bridge's target construction date (2020) is still valid is to identify the amount of population growth that occurred around the bridge and bypass corridor between 1990 and 2000. The population analysis can be conducted now because the 2000 United States Census block data were recently distributed to government agencies. The area's employment growth, which is the other component of the analysis, will be completed when this information is available in the future.

Urban Population Analysis

The urban population analysis was done using 1990 and 2000 United States Census data and the computer traffic model that was used to estimate the number of vehicles that would use a new bridge south of De Pere in the *Brown County Year 2020 Land Use and Transportation Plan*. This model, which is used by state and metropolitan planning agencies throughout the country to plan and design streets, is intended to help analysts predict the streets people will use to drive from place to place in the future.

The traffic model assigns vehicle trips to the street system by identifying the fastest route between two points. The number of trips assigned to each street is also determined by the number of people that are expected to live and work within specific groups of census blocks, or Traffic Analysis Zones, in a future year. The streets and bridges that provide the fastest trips between the Traffic Analysis Zones with the most people and jobs are assigned most of the vehicle trips by the model. Therefore, to complete the population analysis, staff used the model to identify the Traffic Analysis Zones that will generate trips on the southern bridge. Once these zones were identified, staff determined if enough population growth occurred within the zones over the last decade to justify building the southern bridge before 2020. This process is summarized below.

Step 1: Identify the Traffic Analysis Zones (TAZs) that will contribute traffic to the southern bridge in 2020.

The first step in the population analysis was to identify the TAZs from which the model assigns trips to the southern bridge. This was done by choosing several trip starting points on the east side of the Fox River and finding what the model believed to be the fastest routes to a single destination half way between the two bridges on the west side of the river (see Figure 1). After this analysis was also completed for several west side starting points and a single east side destination between the bridges (see Figure 2), a line was inserted to separate the trips that the model assigned to the southern bridge from the trips assigned to the Claude Allouez bridge in downtown De Pere (see Figure 3). This line was then used to identify the TAZs that will generate trips on the southern bridge and that need to attain the population projected for 2020 to justify the bridge's early construction. These TAZs are identified in Figure 4.

Step 2: Identify and compare the base, current, and projected year populations for the TAZs in the southern bridge trip generation area.

Next, staff identified the base (1990), current (2000), and projected (2020) populations for each TAZ in the southern bridge trip generation area. This information was then used to determine how much population growth occurred in the last decade and if the growth warranted the acceleration of the southern bridge’s construction schedule.

As Figure 4 demonstrates, the line between the southern bridge and Claude Allouez bridge trip generation areas does not completely follow the TAZ boundaries. Therefore, to enable an equal population comparison to occur between the three population periods, the population growth for the seven split zones was included entirely within the southern bridge generation area. The population figures for each TAZ in the generation area are summarized below.

Southern Bridge Traffic Analysis Zone	1990 Population	2000 Population	2020 Projected Population
51 (split)	130	164	246
92 (split)	1,001	1,035	1,076
93	131	135	238
94	41	112	40
95 (split)	14	609	843
96	75	128	386
132 (split)	473	398	965
133 (split)	190	350	1,619
134	65	79	1,091
204	54	52	116
205 (split)	35	53	159
206 (split)	1,311	1,267	2,375
TOTAL	3,520	4,382	9,154

Sources: 1990 & 2000 United States Census of the Population, Brown County Planning Commission Tranplan Traffic Model Database.

According to the traffic model, the population within the TAZs that will generate trips on the southern bridge will have to increase by approximately 160 percent between 1990 and 2020 before the population criterion for bridge construction is satisfied. However, the 2000 U.S. Census figures indicate that the population within these TAZs only increased 25 percent during the first ten years of this period.

The results of this analysis strongly suggest that the construction schedule of the southern bridge should not be accelerated based on urban population growth because the bridge will not attract enough traffic to justify its early construction.

Rural Population Analysis

Once the urban population analysis was completed, staff studied the population changes that occurred between 1990 and 2000 in the rural area south of the bridge and bypass corridor. The rural study area extends south to a point approximately half way between the southern bridge corridor and Wrightstown bridge and includes all of the census blocks in Brown County south of the Claude Allouez bridge traffic generation area (see Figure 5 for details). Staff assumed that motorists outside of this area would choose either the Claude Allouez bridge or Wrightstown bridge to cross the Fox River.

According to the census figures, the population within the rural study area grew from 1,716 to 2,713 between 1990 and 2000. If this population growth is added to the growth within the urban TAZs, the total population growth for the entire southern bridge and bypass area is still far below the 2020 population projection for the urban TAZs alone.

Conclusions

The analysis found that the population growth between 1990 and 2000 in the urban and rural portions of the southern bridge area was well below the growth projected for 2020 in the urban area alone. This occurred even though the population growth in the seven TAZs that would generate traffic on both bridges was entirely attributed to the southern bridge trip generation area. These findings strongly suggest that the southern bridge will not generate enough trips to justify constructing it earlier than the current planning target year of 2020.

Recommendation

Based on the results of the population analysis, staff believes that the southern bridge should not be constructed before 2020. Staff will, however, study employment growth in the area when this information is available to determine if the employment projections for 2020 have been attained. Staff will also periodically examine the southern bridge area in the future to determine if population growth has accelerated.

Figure 1: East Side Trip Generation Analysis

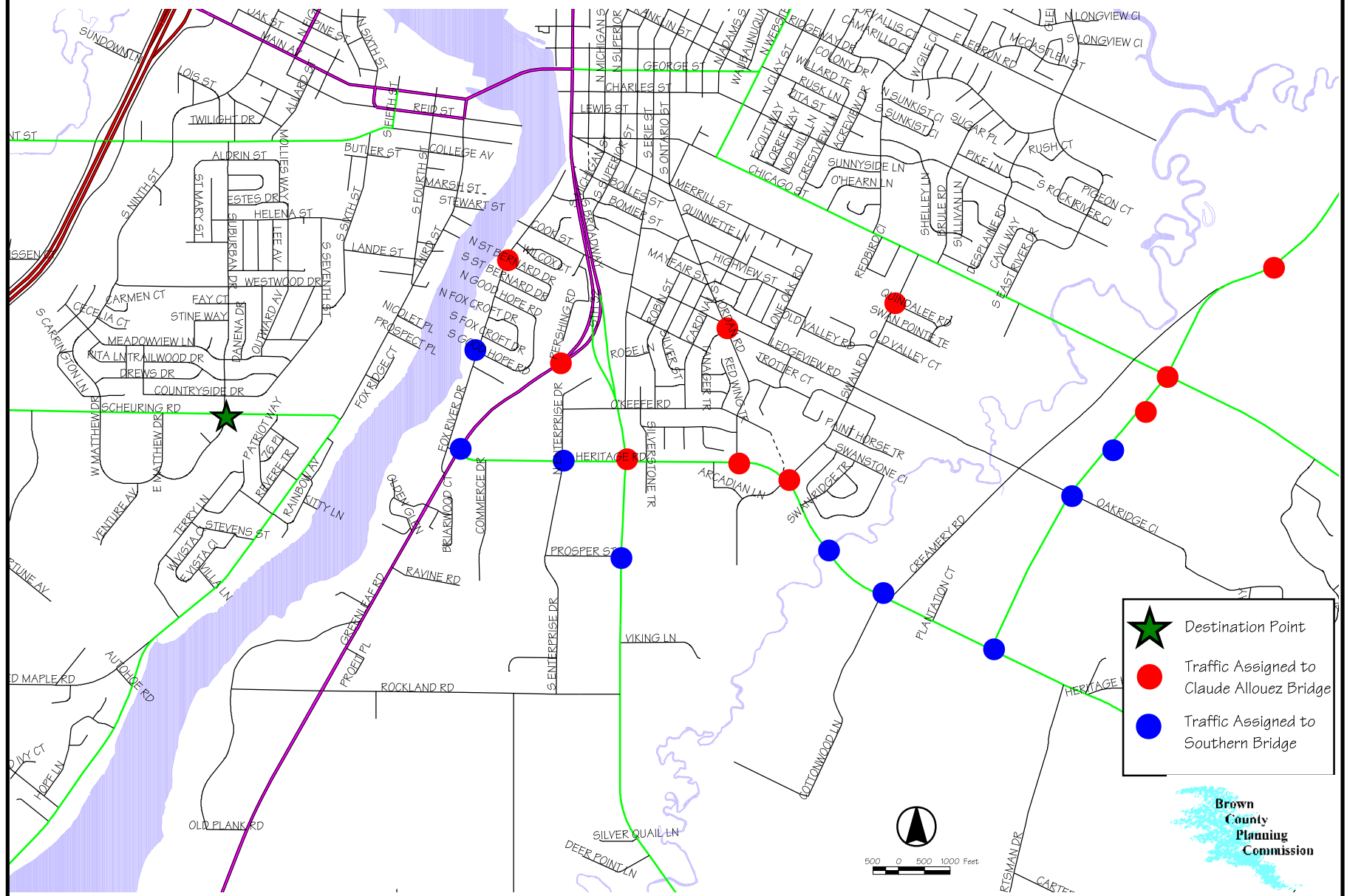


Figure 4: Traffic Analysis Zones In and Around Southern Bridge Traffic Generation Area

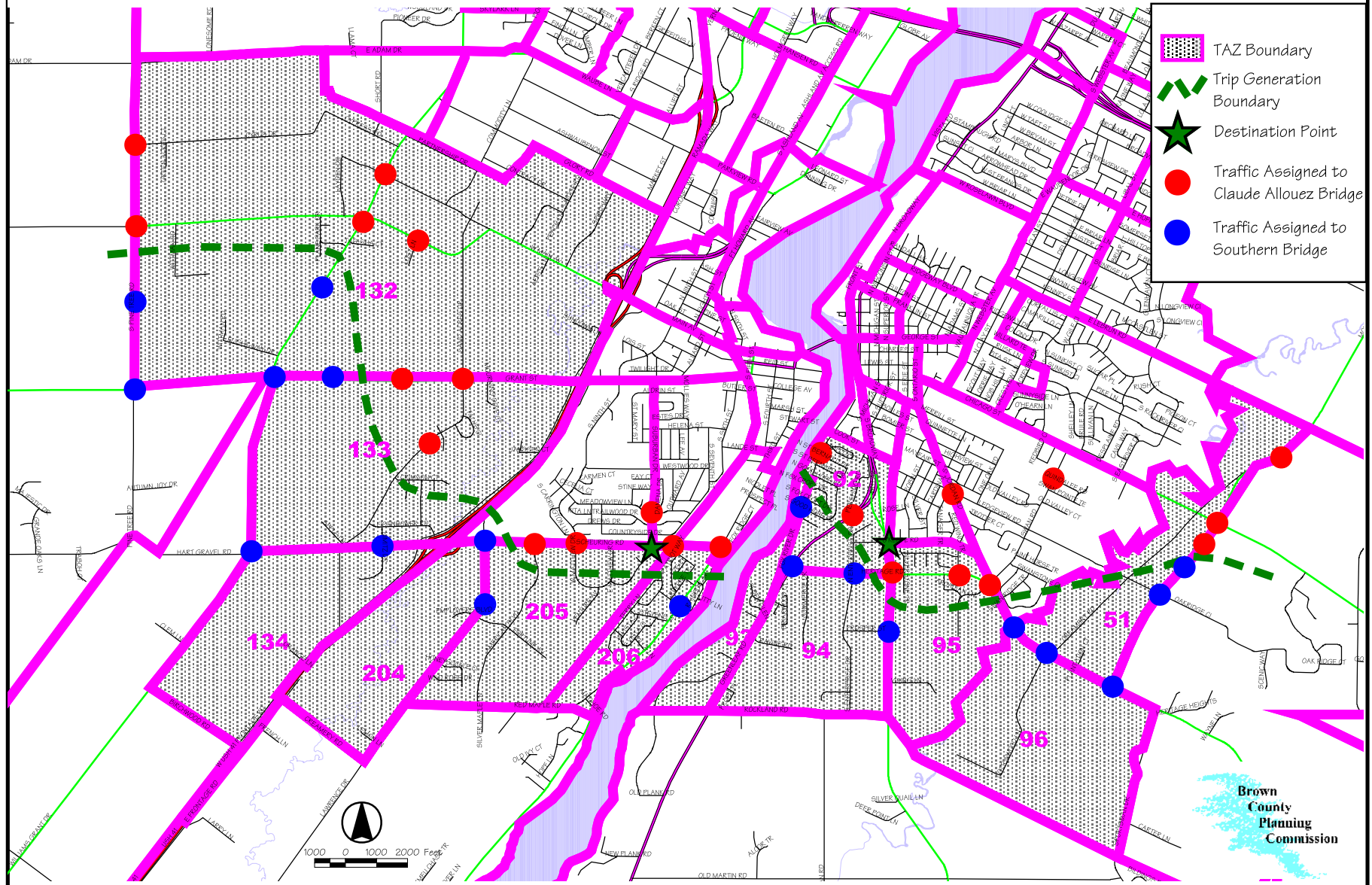


Figure 3: Claude Allouez and Southern Bridge Trip Generation Areas

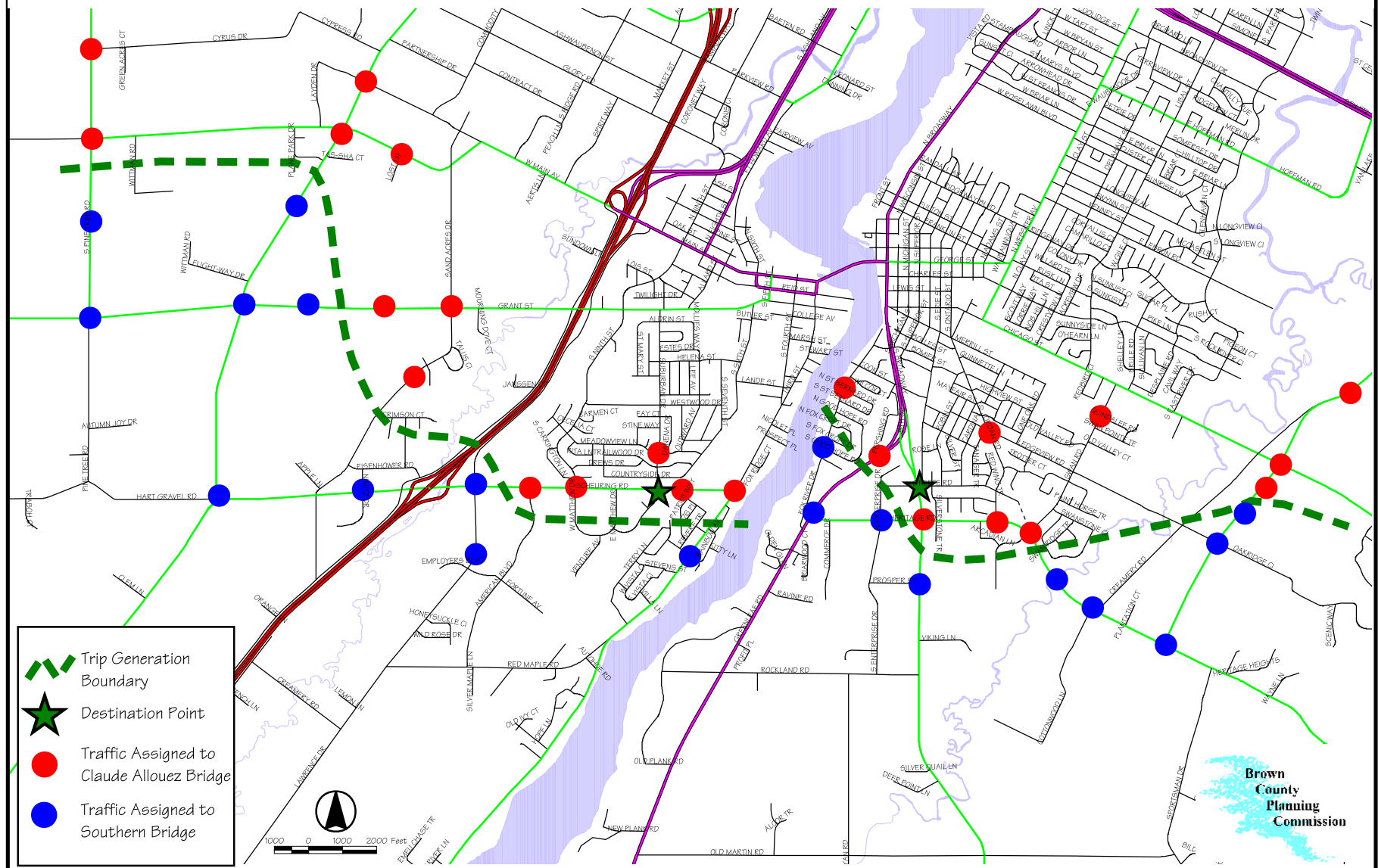
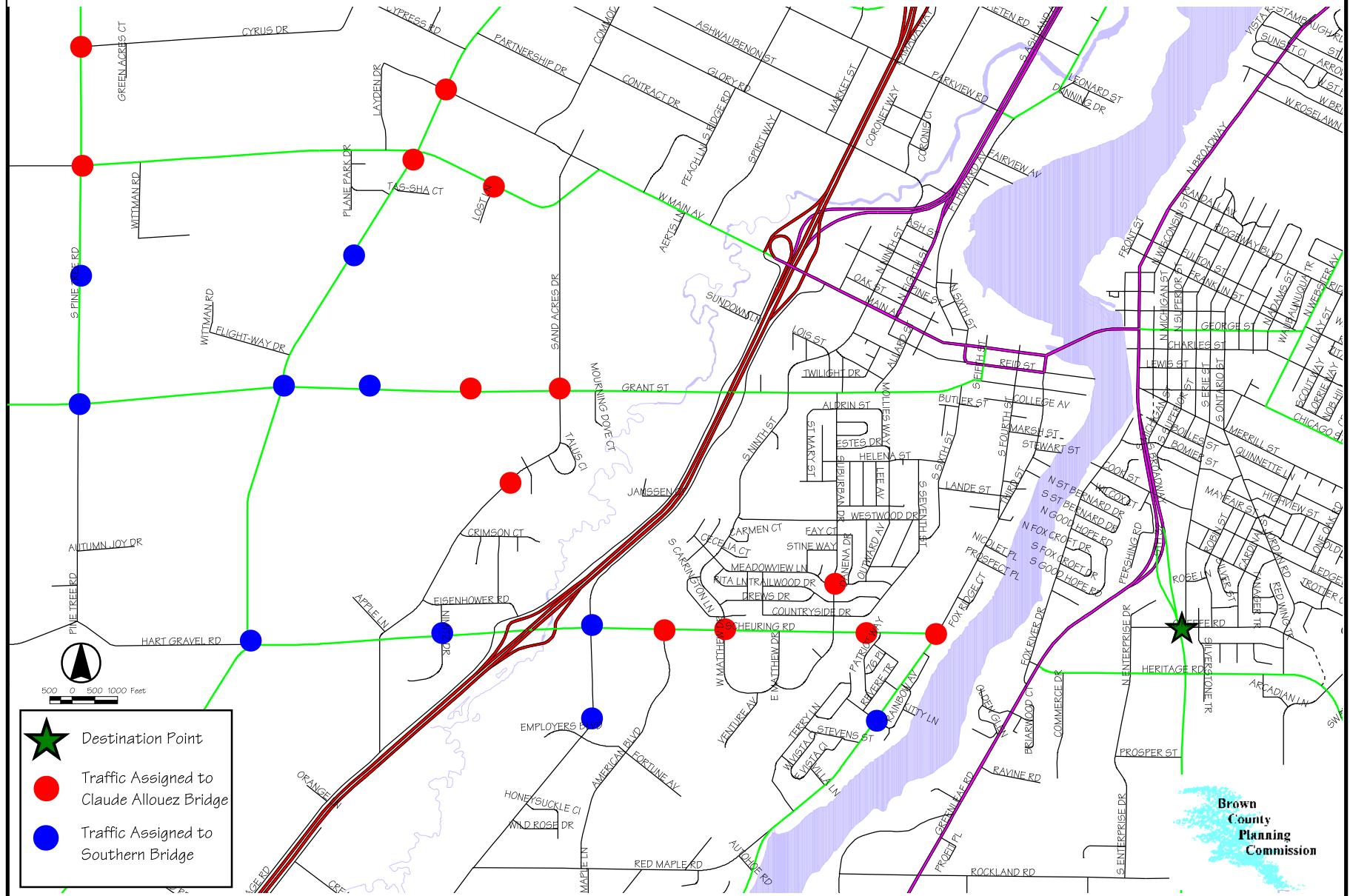


Figure 2: West Side Trip Generation Analysis



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Figure 5: Rural Population Study Area Around the Southern Bridge Traffic Generation Area

